Hurricane Relocation Planning for Aransas, Kenedy, Kleberg, Nueces, Refugio, and San Patricio Counties

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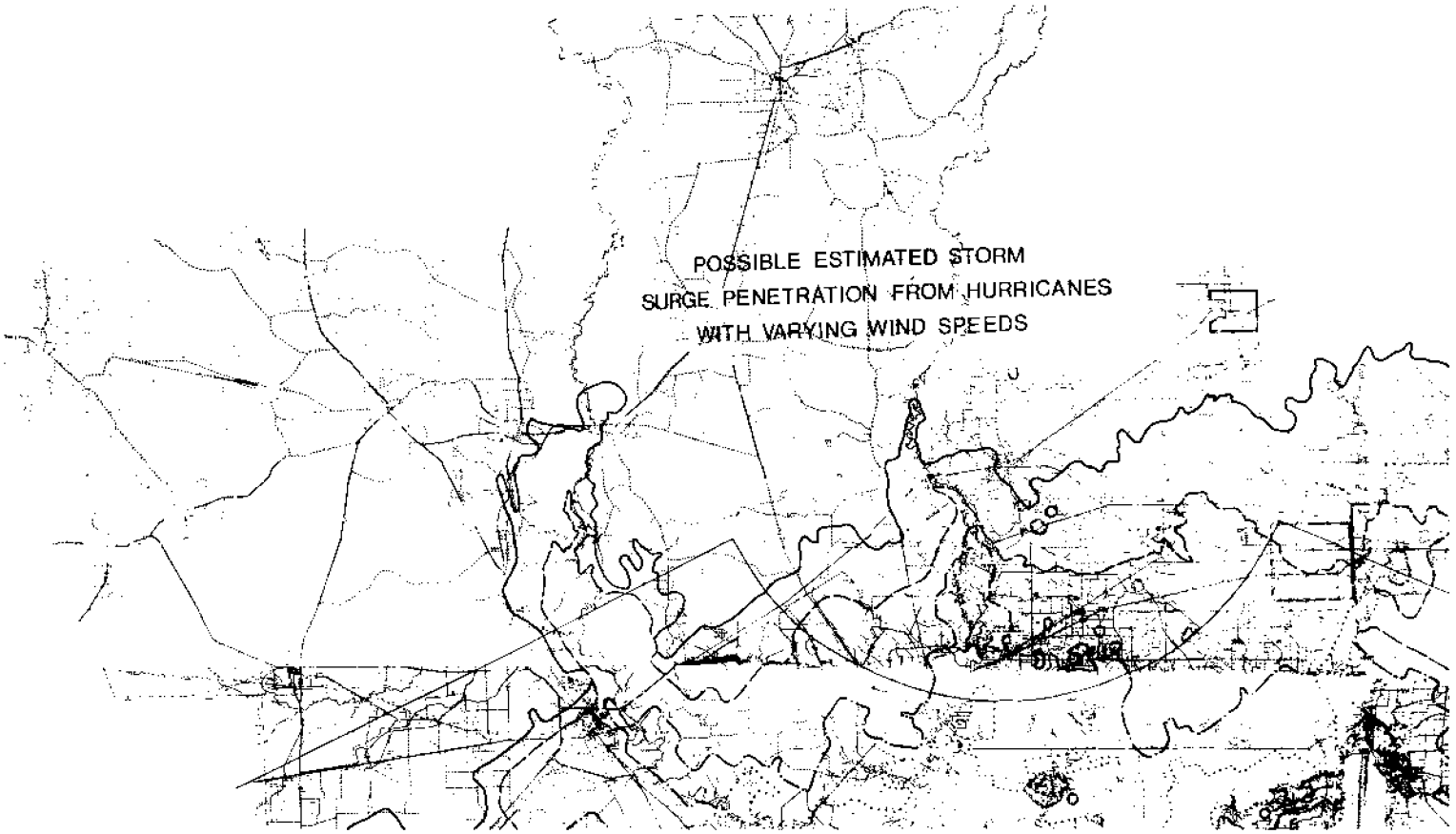
Sea Grant College Program

College Station, TX 77843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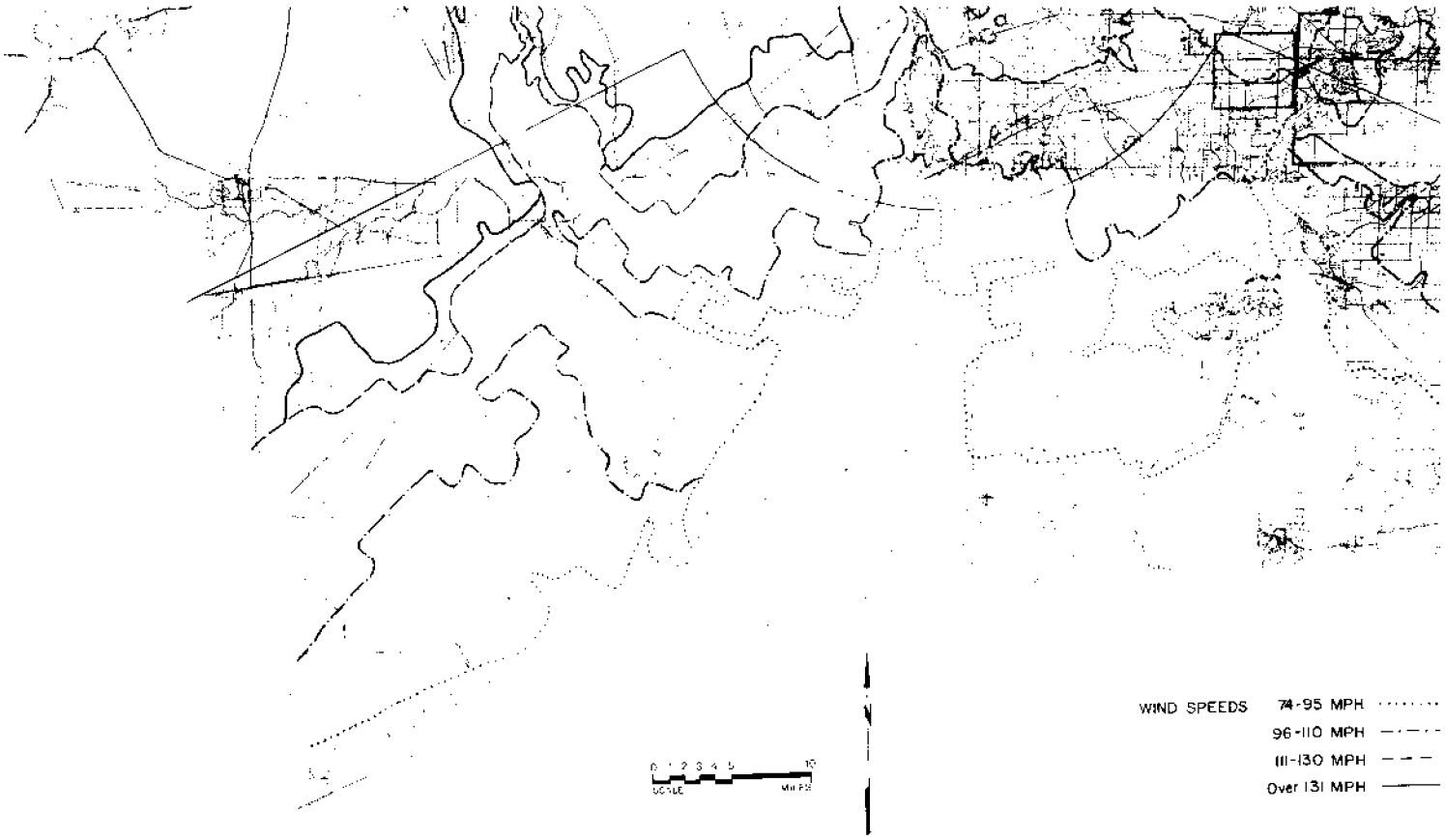
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Over 131 MPH
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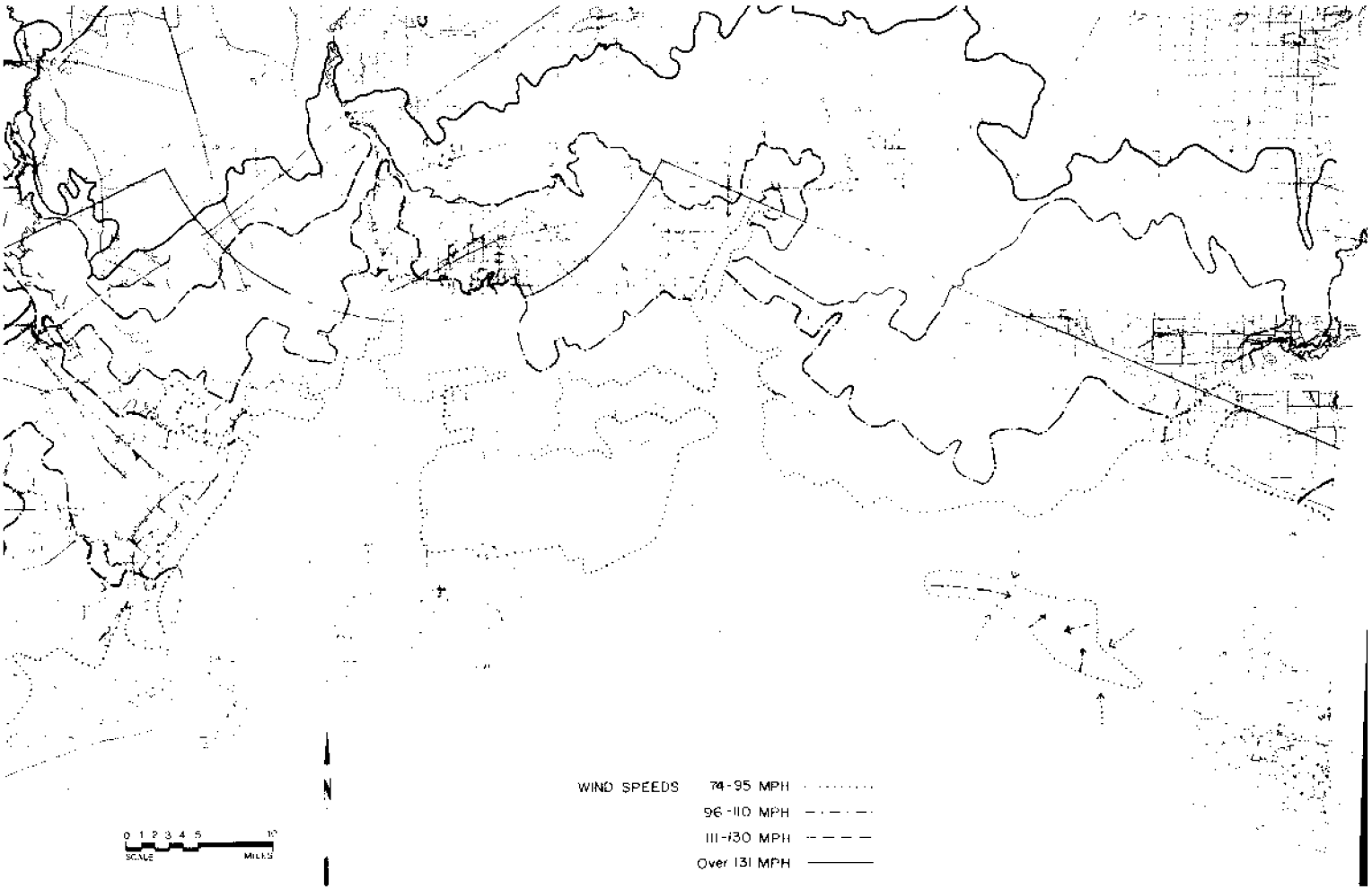
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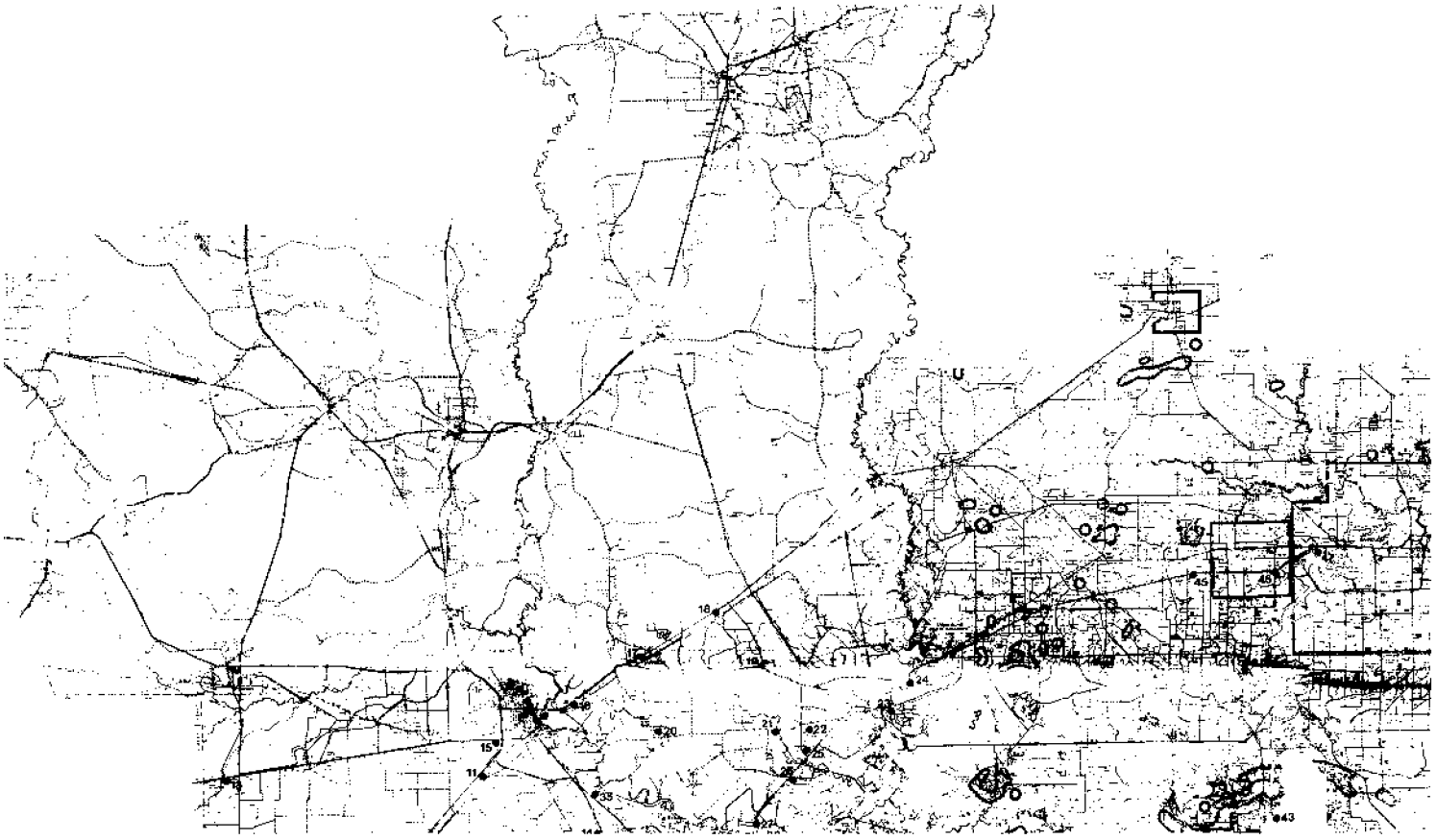

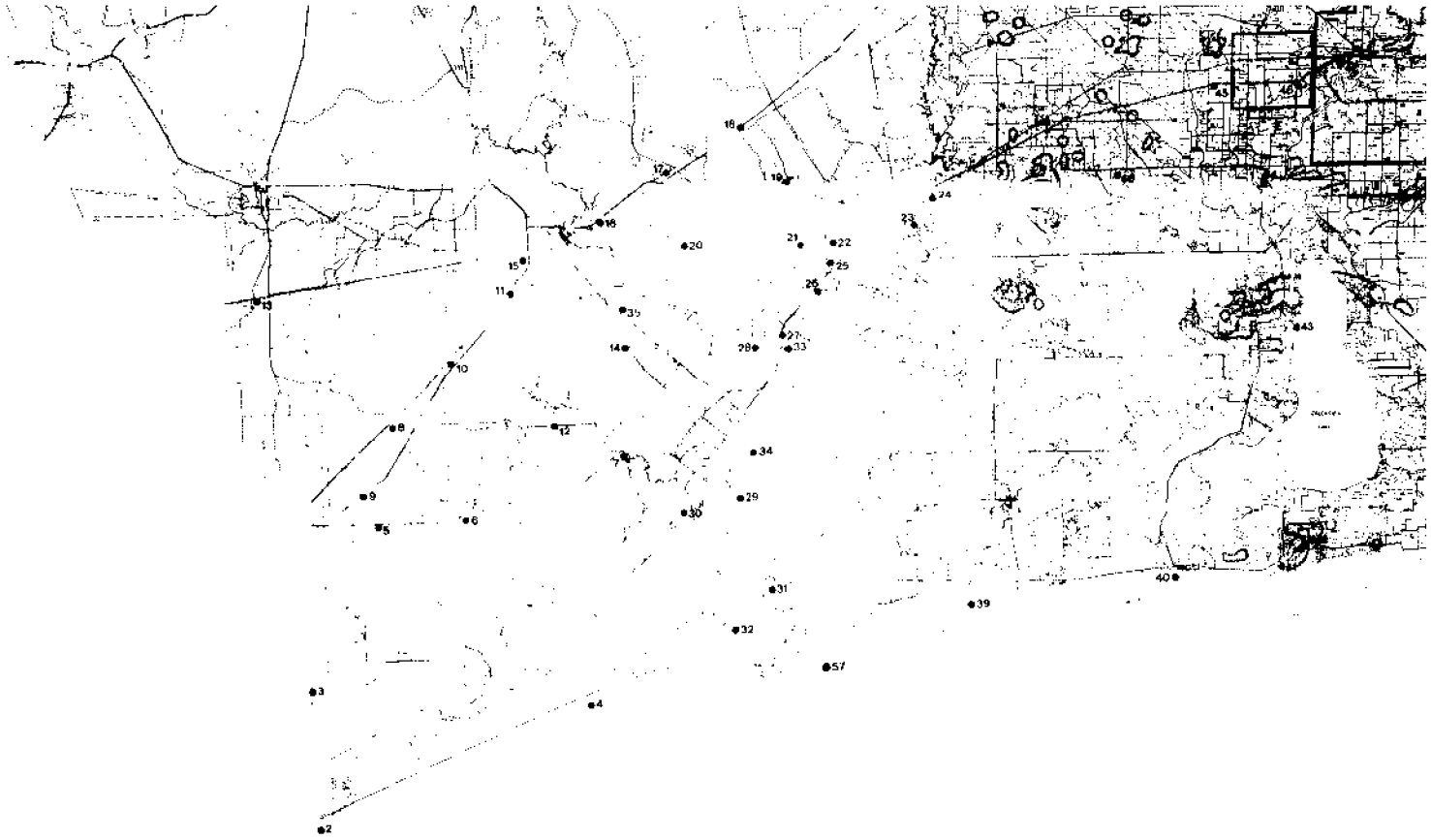
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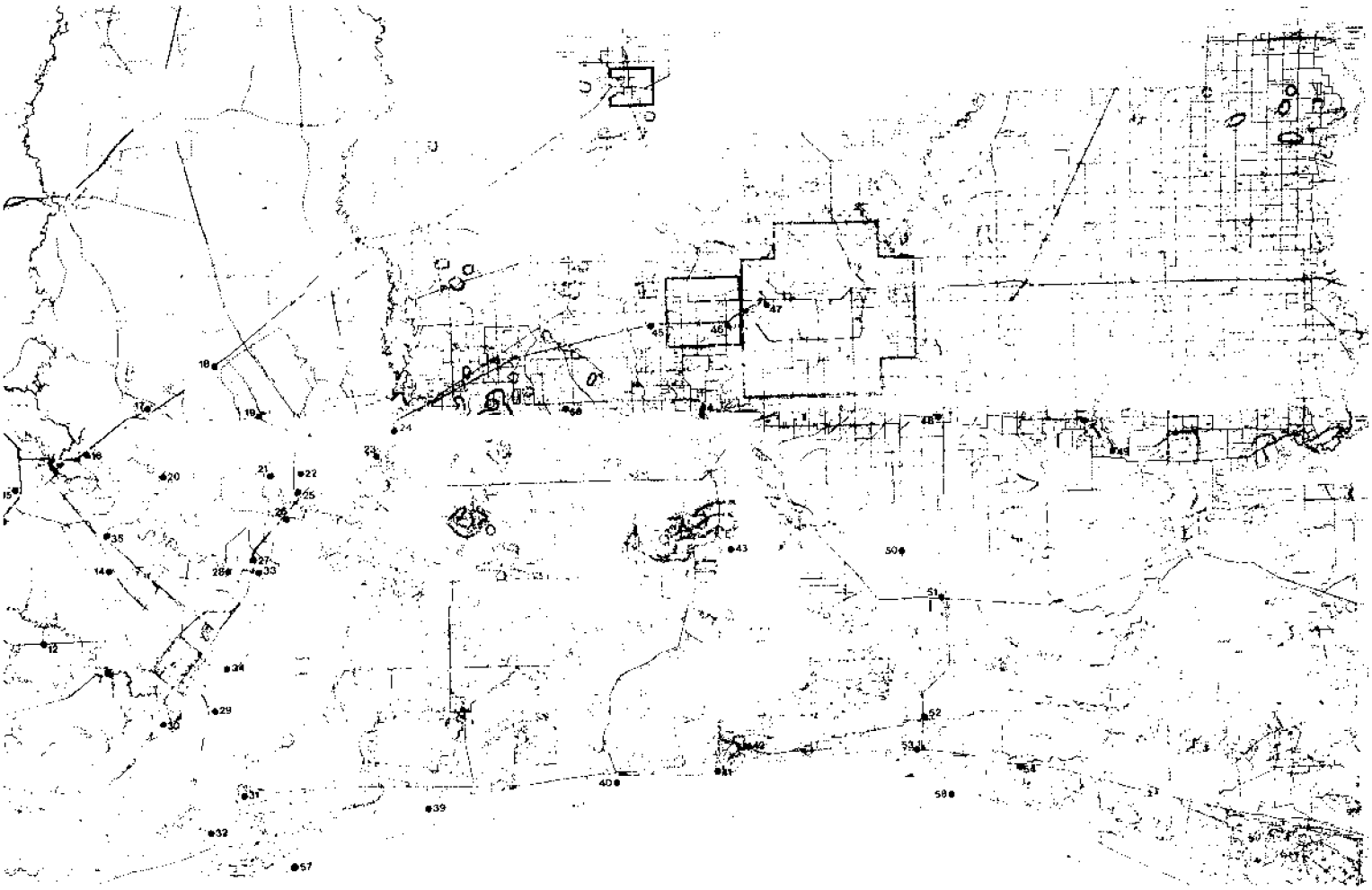

HURRICANE RELOCATION PLANNING

FOR

ARANSAS, KENEDY, KLEBERG, NUECES, REFUGIO, AND SAN PATRICIO COUNTIES

by
Carlton Ruch, DED
Project Leader

Study Prepared by the Research Center,
College of Architecture and Environmental Design
Texas A&M University
College Station, Texas

June 1983
TAMU-SG-83-606

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This study is to be used as a planning tool or handbook for government officials. It is not a policy document. As such, when properly consulted, it may serve as a guide for providing officials with "worst case" situations so that they may determine when and how protective and/or evacuation measures should begin. It is designed for no other purpose.

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Carlton Ruch

Principal Investigator

June 1983

INTRODUCTION

The Governor's Division of Emergency Management has been active in preparing coastal areas for the impact of hurricanes. The Gulf Coast is divided into five areas: Brownsville, Corpus Christi, Matagorda, Houston-Galveston, and Beaumont-Port Arthur-Orange. To date, a relocation/evacuation study has been completed for the Houston-Galveston area; the present Corpus Christi area study is the second completed. The Division of Emergency Management intends to follow these studies with vulnerability studies and, later, with contingency planning studies. Funding for the present study was made available by the State of Texas through the Governor's Division of Emergency Management.

Brochures based on this study are available through the Governor's Division of Emergency Management (DEM). There also is a computer-based ESTEDCC program for Estimating Safe Time before Evacuation Decisions (Corpus Christi) operational in the DEM (see Appendix E). Section Five, Evacuations indicates how these times can be estimated manually. (See also Appendix D.)

To ensure that the results of the study would be acceptable to the users, three advisory groups were established:

State and Subnational Advisory Committee
Robert Lansford, State Coordinator
Governor's Division of Emergency Management
Texas Department of Public Safety

Robert Halverson, Assistant Coordinator (Operations)
Governor's Division of Emergency Management
Texas Department of Public Safety

Larry Mooney
National Weather Service
Southern Regional Headquarters

Regional Advisory Committee

Rupert Gamble, Region 3 Liaison Officer
Governor's Division of Emergency Management
Texas Department of Public Safety

Bill Hare, Meteorologist in Charge
National Weather Service
Corpus Christi Area

Jim Tait, Manager
American Red Cross
Coastal Bend Chapter

Captain Charles Gunn
Region 3
Texas Department of Public Safety

Harold Zuhlke, Maintenance Engineer
District 16
Texas Department of Highways and Public Transportation

Municipal and County Advisory Committee

Arthur L. Roberts
American Red Cross
Corpus Christi, Texas

Richard Bullock, Director of Planning
Coastal Bend Council of Governments

Max Hancock, Chief Ranger
Padre Island National Seashore

Michael Gunning, Senior Transportation Planner
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City of Corpus Christi

Mike Ellis, Executive Director
Disaster Resources Services
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Bishop Emergency Management

Hector Reyes, Coordinator
Robstown Emergency Management

Mitchell Ammons, Coordinator
Aransas County Emergency Management

Bob DeWolfe, Coordinator
Aransas Pass Emergency Management

Walter Hill, Coordinator
Sinton Emergency Management

Hector L. Lopez, Coordinator
Kingsville-Kleberg County Emergency Management

Homer E. McCullough, Coordinator
San Patricio County Emergency Management

Harold White, Coordinator
Portland Emergency Management

The study area consisted of six counties (Kenedy, Kleberg, Nueces, San Patricio, Aransas and Refugio) with an area of approximately 4,000 square miles containing a population of about 370,000 persons.

Hurricanes are classified by wind speed ranges (see Appendix A). For the purpose of this report, we will consider the following types of hurricanes:

WIND SPEED (MPH)	TYPE HURRICANE
74- 95	A
96-110	B
111-130	C
131 and over	D

Table I-1[1] illustrates a chronology of hurricanes during the 20th Century in the six coastal counties within the study area. The frequency of hurricane landfall has been erratic. There were six hurricanes in the ten-year period between 1909 and 1919, but only six during the next 40-year period (1920-1960). In the next ten-year period (1961-1971), there were four hurricanes, while there was only one during the next decade (1972-1982).

This study is primarily designed to provide data for decision making regarding when evacuations need to be recommended. The information also can be used to update county and municipal plans, however, and as a guide for the district disaster committees. The American Red Cross can also use it to determine shelter needs for particular areas. Table I-2 indicates these and other relationships.

The data to assist in decision making consist of the following key items:

Possible surge penetration for hurricanes of varying intensities (see surge map inside back cover).

Critical locations in the area are given along with data that will indicate road cutoff times by hurricane type for both surge penetration and wind intensity. This will be given in hours plus or minus anticipated time of storm center landfall (see Appendix B).

Hurricane-prone areas that probably should evacuate for most storms. These areas are shown as low-lying areas subject to surge penetration and are the most vulnerable parts of the evacuation zones (see fold-out zone map bound as last page).

Areas subject to evacuation in moderate hurricanes (winds 130 mph or less). These areas are divided into evacuation zones by county (see zone map).

The number of hours it would take to evacuate all persons residing in these areas (see zone map).

The first section of this report describes the methodology used (SLOSH data, the survey and determination of evacuation times). The remaining sections are SLOSH Data, Zone Delineations, Survey Results and Evacuations.

Endnotes:

In this study, tables and figures will always be grouped at the end of each section or part.

TABLE I-1

HISTORY OF HURRICANE ACTIVITY IN THE STUDY AREA, BY TYPE, 1900-1982

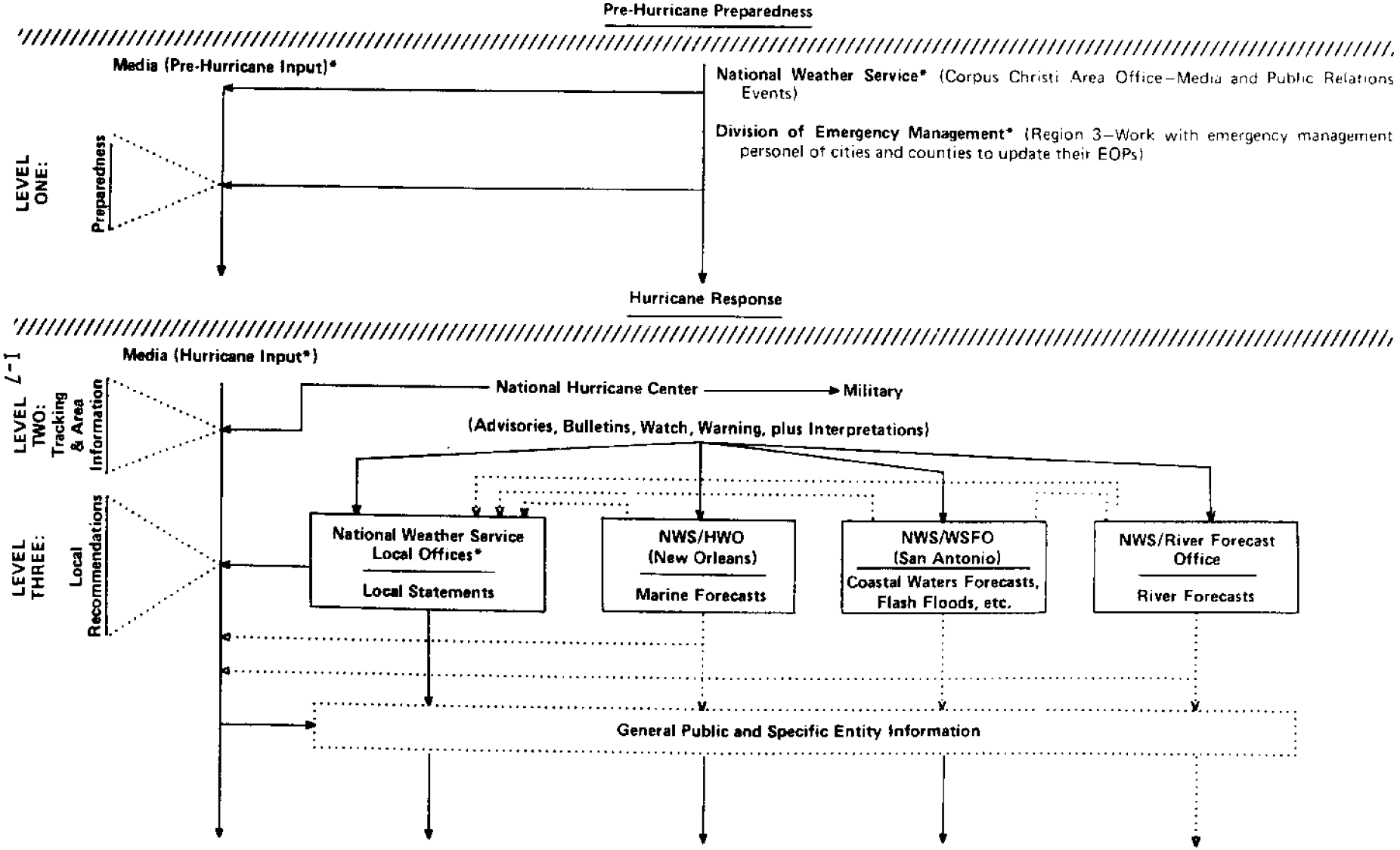
Year	County						Name
	Kenedy	Kleberg	Nueces	San Patricio	Aransas	Refugio	(After 1950 only)
1909	(B)						
1910	B	B	(B)	(B)			
1912	(A)	A	A	A			
1913	A	A	A	A	(A)	(A)	
1916	C	C	C	(C)			
1919	D	D	D	D	D	D	
1929					(A)	(A)	
1933	B, C						
1934			B	B	B	B	
1936		(A)	A	A	A	A	
1942			(C)	(C)	C	C	
1945			B	B	B	B	
1961			(D)	(D)	D	D	Carla
1967	C	C	C	(C)	(C)	(C)	Beulah
1970	(C)	(C)	C	C	C	C	Celia
1971	(A)	(A)	A	A	A	A	Fern
1980	(C)	(C)	(C)	(C)	(C)	(C)	Allen

*( ) indicate indirect hit; all others, direct hit. A=74-95 MPH; B=96-110 MPH; C=111-130 MPH; and, D=131 MPH and over.

Source: Texas Architectural Research Center, Texas A&M University, College Station, Texas and Hebert, Paul J. and Glenn Taylor, Hurricane Experience Levels of Coastal Populations from Texas to Maine, National Hurricane Center, Miami, 1975.

TABLE I-2

HURRICANE RESPONSE AND "THE MODEL
HURRICANE FLOOD EMERGENCY RELOCATION PLAN"



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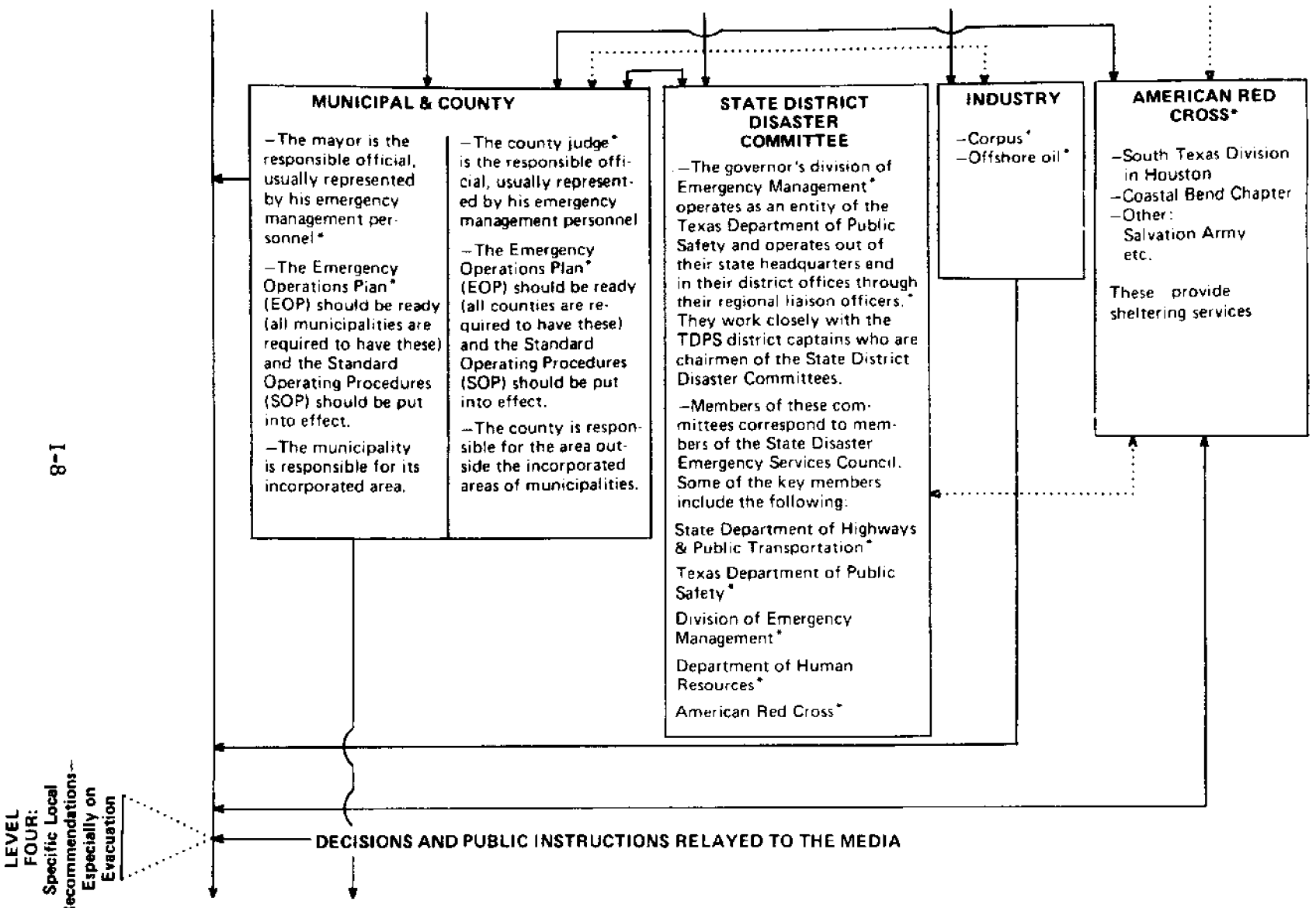


*Suggested places where the "Hurricane Flood Emergency Relocation Plan" can provide information for decision making.

Section One
METHODOLOGY

Three primary methodologies are used in this study. The first discussion is on the SLOSH model and how it operates to produce simulated hurricane wind speeds and storm surge (Part A). Part B details the survey used to develop estimates of persons and vehicles leaving certain areas for particular destinations, as well as estimates of shelter needs. The methods used to determine evacuation times are indicated in Part C.

Part A: SLOSH

SLOSH (Sea, Lake and Overland Surges from Hurricanes) was developed for the Corpus Christi region of Texas in 1982. It is a computer model designed to project (or output) from given information (input data) the flow of surges over seas, lakes and land (taking into consideration water depths, land elevations and man-made constraints such as roads).

The input data for the model consist of:

Initial meteorological conditions that define a hurricane in terms of time, storm location (latitude and longitude), storm intensity in millibars (ambient less central pressure of storm), and storm radius in statute miles (distance from storm center to maximum winds).

Future storm conditions (at six-hour intervals out to 72 hours[1] that provide information on location, intensity and size. Implicit in the storm track is the storm location for landfall and the speed and direction of storm movement.[2]

Initial water heights for Corpus Christi Bay and the Gulf of

Mexico. These levels are relative to mean sea level. An initial height of 1.5 feet above mean sea level was used for the simulated hurricane runs.

Based on this input, the SLOSH model numerically solves certain equations of motion to compute surge.[3] This surge is calculated on a computational polar grid (see Figure 1-1).[4] Strategic placement of this grid over the Corpus Christi region allows for fine spacing of grid points over heavily populated areas and coarse spacing over the Gulf of Mexico. The grid consists of 70 squares at the top and 59 at the side. The model contains 4,130 (59 x 70) grid squares or data points. The initial size of the grid square is 0.6 mile in the more critical areas and 3.7 miles at the extremities. This gives greater accuracy in the more critical areas and less accuracy in the Gulf of Mexico. Each grid point can be identified by coordinate numbers.

Using X and Y coordinates, 60 grid squares or data points were identified as critical areas requiring more detailed data. These grid points are listed in Table 1-1.[4]

Based on the input data, SLOSH produces the following output: A forward projection in time of the surge envelope[5] (penetration and height) at the time of landfall.

A composite of these surge envelopes that shows the maximum surge penetrations and heights for the entire time period.

For each of the 60 selected data points, SLOSH projects the surge height, wind speed and wind direction in ten-minute intervals for about 18 or more hours (depending on movement speed) before landfall and 12 hours after landfall.

Interpretation of the model output must be considered in view of the following constraints:

Given accurate input data for the storm's track and meteorological parameters, the computed surges are estimated

to be within plus or minus 20 percent of the observed water levels. That is, if surge is predicted to be 10 feet in a certain data point, the actual surge could range from 8 to 12 feet. With inaccurate forecasting of movement speed, direction, wind speed and point of landfall, the error level could be greater.

Terrain features of the Corpus Christi region were taken from storm evacuation maps prepared by the National Ocean Survey and topographical charts of the U.S. Geological Survey. The land elevations determined by the U.S. Geological Survey are based on 1972 field-edited data. Additionally, critical areas were field surveyed by National Hurricane Center personnel in 1982.

The forecast water height for each grid point represents an average condition over a grid square. Water depths above ground level for specific areas of each grid must be determined from a knowledge of the terrain heights in each specific grid square.

The model does not consider:[6]

- Wind-generated waves;
- Rainfall generated by the storm;
- Astronomical tidal effects;
- River flooding.

The wind speeds indicated in the ten-minute intervals are ten-minute sustained winds. For areas in proximity to the coast, these ten-minute sustained winds were translated into gusting by multiplying them by 1.69 and, for areas inland, by 1.3.

Table 1-2 lists simulated storms run through SLOSH. Their tracks are displayed in Figure 1-2.

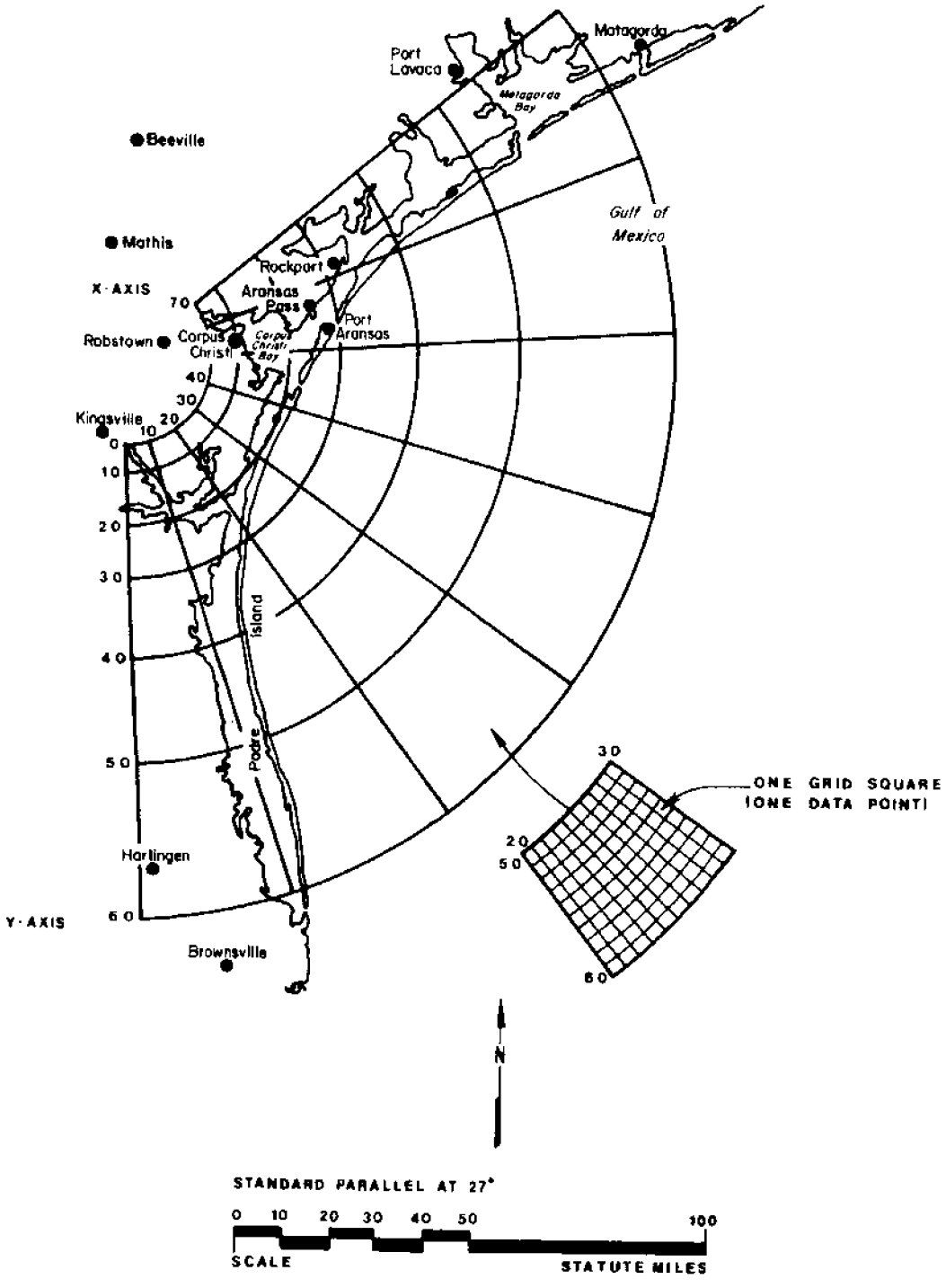
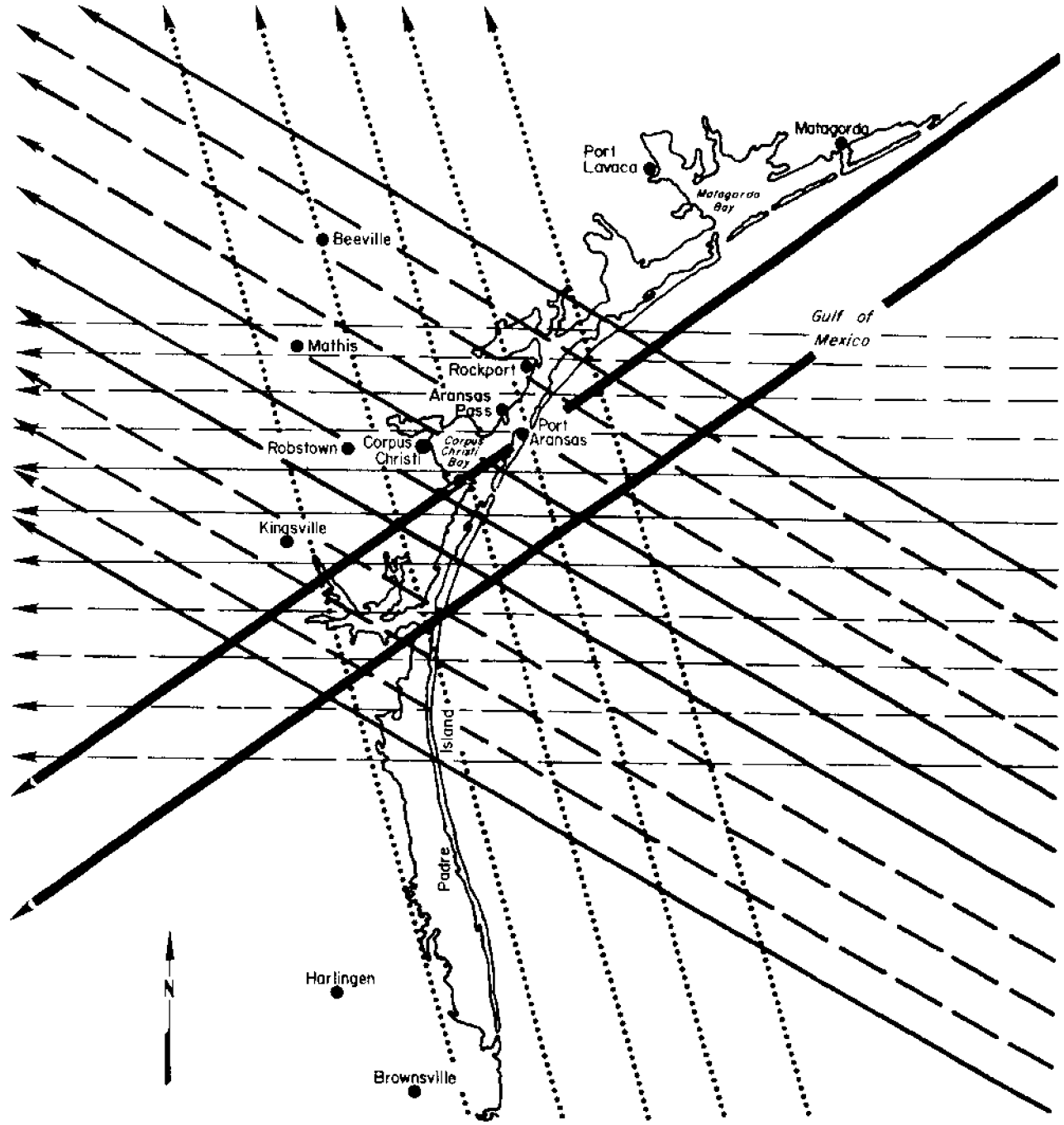


FIGURE 1:1 POLAR GRID



STANDARD PARALLEL AT 27°

0 10 20 30 40 50 100

SCALE STATUTE MILES

WIND SPEED (MPH)	TYPE HURRICANE
74 - 95	A
96 - 110	B
111 - 130	C
131 - 155	D
155 & OVER	E

270° Type A through E at 10 mph
270° Type A through E at 5 & 20 mph also
300° Type A through E at 10 mph
300° Type A through E at 5 & 20 mph also
345° Type A through C at 5,10 & 20 mph
235° Type A & B at 10 mph

FIGURE 1-2: SIMULATED HURRICANE TRACKS

TABLE 1-1

SLOSH DATA POINTS

Point Number	Code Name	Y,X	Elevation[1]	Location
1 E	77SARMSTRO	39,2		77 South of Armstrong (off grid)
2 E	77NSARITA	19,3		77 North of Sarita (off grid)
3 W	70PETRCKBR	2,26		70 and Petronild Creek Bridge
4 E	244OSOCK	11,40	11	244 and Oso Creek
5 E	P53BRP22DD	24,42	7 5	P 22 to JFK Causeway (P 53 Bridge between Padre and Mustang)
6 E	JFKCAUSEW	21,43	5	John F. Kennedy Causeway
7 E	358OSOBABR	17,44	14 12	358 and Oso Bay Bridge (at Exit)
8 E	P53MUSTAN	25,45	7	P 53 South Mustang
9 E	OCDRNALAIR	20,46	17	Ocean Drive by Naval Air Station
10 E	OCDROSOBRR	17,47	20 3	Ocean Drive and Oso Bay Bridge (at Gulfside approach)
11 E	GP53MIDMUS	28.49	6	Gulfside of P 53 at Mid Mustang Island
12 E	BF53MIDMUS	27,50	6	Bayside of P 53 at Mid Mustang Island
13 E	35COENTCA	13,55	4	35 at Corpus Entrance to Causeway
14 E	35PORENTCA	16,57	6	35 at Portland Entrance to Causeway
15 E	35ARANPASS	28,57	3	35 at Aransas Pass
16 E	1069AND35	30,58	6	1069 and 35
17 E	35WEST1069	25,59	10	35 West of 1069
18 E	35ROCKPORT	33,60	6	35 at Rockport
19 E	881PORTBAY	28,62	8	881 at Port Bay
20 E	35BRCOPFBR	35,63	14 4	35 Bridge on Capano Bay (Fulton Beach Road)
21 E	136COPANBA	28,66	3	136 at Copano Bay
22 E	35CAVASCK	39,66	8	35 at Cavasso Creek

TABLE 1:1 (continued)

SLOSH DATA POINTS

Point Number	Code Name	Y,X	Elevation	Location
23 E	2040NBOURD	45,66	9	2040 and North Boundary Road
24 E	185SEADRIF	47,67	11	185 at Seadrift
25 E	2678MULBIO	31,68	11	2678 and Mullen Bayou
26 E	774AUSTWEL	45,68	21	774 at Austwell
27 E	37AND77	2,69	14	37 and 77 (off grid)
28 W	43AND286	7,44		43 and 286 by Cabaniss Airport
29 W	MIDCORPUS	11,49		Middle of Corpus
30 W	44CCINTAIR	2,53		44 at Corpus Christi International Airport
31 T	SANFECKNAS	3,2		San Fernando Creek South of Kingsville Naval Air Station
32 E	361SARAPAS	26,56	5	361 South of Aransas Pass
33 T	LAGUMADRE1	48,8		Laguna Madre One
34 T	LAGUMADRE2	37,8		Laguna Madre Two
35 T	LAGUMADRE3	28,16		Laguna Madre Three
36 T	LAGUMADRE4	20,30		Laguna Madre Four
37 T	LAGUMADRE5	19,40		Laguna Madre Five
38 T	PADREISLA1	48,11		Padre Island One
39 T	PADREISLA2	39,13		Padre Island Two
40 T	PADREISLA3	34,16		Padre Island Three
41 T	PADREISLA4	29,20		Padre Island Four
42 T	PADREISLA5	25,27		Padre Island Five
43 T	PADREISLA6	24,35		Padre Island Six
44 T	CORPUSBAY1	12,53		Corpus Christi Bay One
45 T	CORPUSBAY2	21,55		Corpus Christi Bay Two
46 T	CORPSHIPCH	31,53		Aransas Pass Channel

TABLE 1:1 (continued)

SLOSH DATA POINTS

Point Number	Code Name	Y,X	Elevation	Location
47 T	NUECESBAY1	10,57		Nueces Bay One
48 W	37WIND	2,58		37 West of Corpus
49 T	STJOSEPH1	34,56		St. Joseph One
50 T	STJOSEPH2	39,59		St. Joseph Two
51 T	SMATAGORDA	45,61		South Matagorda
52 P	100ELOSFRE	8,5		100 East of Los Fresnos
53 P	HORSEISLAN	54,8		Horse Island at Mouth of Colorado
54 P	100WPTISAB	58,8		100 West of Port Isabel
55 P	SPADREISBA	58,10		South Padre Island (Barrier)
56 P	MATBAYCHAN	54,63		Matagorda Bay Channel
57 P	MIDMATISBA	58,63		Mid Matagorda Island (Barrier)
58 P	185TOPTOCO	53,64		185 to Port O'Connor
59 P	35PALACIOS	58,66		Before 35 to Palacios
60 P	PTLAVCAUSE	53,70		Port Lavaca Causeway

[1]The elevation is of the specific location in the grid square.

E = Grid points identified as useful for determining Evacuation route cutoff times

W = Grid points identified as useful for determining Wind speeds

P = Grid points normally not usable, but could have Potential use if nothing better is available

T = Primarily for Tidal surge

TABLE 1-2

SIMULATED SLOSH HURRICANES (239),
BY MILES RIGHT OR LEFT OF PORT ARANSAS

Point of Landfall	Movement Speeds (Miles per Hour)	Direction (In Degrees)	Categories (Saffer-Simpson Scale)	Radii of Maximum Winds	Pressure Drops (Millabars)	Cumulative Number of Runs
30 Right	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(5)
20 Right	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(10)
10 Right	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(15)
Pt.Aran.	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(20)
10 Left	5,10,20	270°	1	20	30	(23)
10 Left	5,10,20	270°	2	20	40	(26)
10 Left	5,10,20	270°	3	20	60	(29)
10 Left	5,10,20	270°	4	20	80	(32)
10 Left	5,10,20	270°	5	10	100	(35)
20 Left	5,10,20	270°	1	20	30	(38)
20 Left	5,10,20	270°	2	20	40	(41)
20 Left	5,10,20	270°	3	20	60	(44)
20 Left	5,10,20	270°	4	20	80	(47)
20 Left	5,10,20	270°	5	10	100	(50)
30 Left	5,10,20	270°	1	20	30	(53)
30 Left	5,10,20	270°	2	20	40	(56)
30 Left	5,10,20	270°	3	20	60	(59)
30 Left	5,10,20	270°	4	20	80	(62)
30 Left	5,10,20	270°	5	10	100	(65)
40 Left	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(70)
50 Left	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(75)
60 Left	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(80)
70 Left	10	270°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(85)
30 Right	5,10,20	300°	1	20	30	(88)
30 Right	5,10,20	300°	2	20	40	(91)
30 Right	5,10,20	300°	3	20	60	(94)
30 Right	5,10,20	300°	4	20	80	(97)
30 Right	5,10,20	300°	5	10	100	(100)
20 Right	10	300°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(105)
10 Right	10	300°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(110)
Pt.Aran.	10	300°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(115)

(continued)

TABLE 1-2: SIMULATED SLOSH HURRICANES (239), BY MILES RIGHT OR LEFT OF PORT ARANSAS (continued)

Point of Landfall	Movement Speeds (Miles per Hour)	Direction (In Degrees)	Categories (Saffer-Simpson Scale)	Radii of Maximum Winds	Pressure Drops (Millabars)	Cumulative Number of Runs
10 Left	5,10,20	300°	1	20	30	(118)
10 Left	5,10,20	300°	2	20	40	(121)
10 Left	5,10,20	300°	3	20	60	(124)
10 Left	5,10,20	300°	4	20	80	(127)
10 Left	5,10,20	300°	5	10	100	(130)
20 Left	5,10,20	300°	1	20	30	(133)
20 Left	5,10,20	300°	2	20	40	(136)
20 Left	5,10,20	300°	3	20	60	(139)
20 Left	5,10,20	300°	4	20	80	(142)
20 Left	5,10,20	300°	5	10	100	(145)
30 Left	5,10,20	300°	1	20	30	(148)
30 Left	5,10,20	300°	2	20	40	(151)
30 Left	5,10,20	300°	3	20	60	(154)
30 Left	5,10,20	300°	4	20	80	(157)
30 Left	5,10,20	300°	5	10	100	(160)
40 Left	10	300°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(165)
50 Left	10	300°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(170)
60 Left	10	300°	1,2,3,4,5	20,20,20,20,10	30,40,60,80,100	(175)
70 Left	5,10,20	300°	1	20	30	(178)
70 Left	5,10,20	300°	2	20	40	(181)
70 Left	5,10,20	300°	3	20	60	(184)
70 Left	5,10,20	300°	4	20	80	(187)
70 Left	5,10,20	300°	5	10	100	(190)
20 Right	5,10,20	345°	1	20	30	(193)
20 Right	5,10,20	345°	2	20	40	(196)
20 Right	5,10,20	345°	3	20	60	(199)
Pt. Aran.	5,10,20	345°	1	20	30	(202)
Pt. Aran.	5,10,20	345°	2	20	40	(205)
Pt. Aran.	5,10,20	345°	3	20	60	(208)
20 Left	5,10,20	345°	1	20	30	(211)
20 Left	5,10,20	345°	2	20	40	(214)
20 Left	5,10,20	345°	3	20	60	(217)
50 Left	5,10,20	345°	1	20	30	(220)
50 Left	5,10,20	345°	2	20	40	(223)
50 Left	5,10,20	345°	3	20	60	(226)
150 Left	5,10,20	345°	1	20	30	(229)
150 Left	5,10,20	345°	2	20	40	(232)
150 Left	5,10,20	345°	3	20	60	(235)
Pt. Aran.	10	235°	1,2	20,20	30,40	(237)
40 Left	10	235°	1,2	20,20	30,40	(239)

Part B: Survey

A copy of the survey questionnaire is shown as Figure 1-3, while the accompanying directions are reprinted as Figure 1-4. This was a telephone survey that used a minimum number of questions to obtain the necessary information. The questionnaire was pretested for clarity. The sample was selected through the services of Metromail.[7] Since it was necessary to select the survey sample before SLOSH information was available, the area to be surveyed was overestimated.

It was estimated that there were 61,151 family units with telephones in more vulnerable areas. From these family units (selected using Metromail data), 2,314 names were chosen. This constituted a sample of approximately one out of every 26 families or 3.8 percent of the family units in this critical area.[8] Metromail was able to select approximately every 26th name in this area, and provided names, telephone numbers, addresses and zip codes. In less critical areas, 500 names were chosen in the same manner. It was estimated that there were 21,222 family units in this area. The sample, therefore, consisted of about one in 42, or 2.4 percent.[9] An additional 160 names were randomly chosen from telephone directories in order to improve the response totals in certain critical areas.[10]

Training sessions were held to instruct volunteers on correct telephone interviewing techniques. In order to avoid a survey bias that could be created by phoning only at certain times of the day, attempts were made to reach each household during three different time periods (morning, afternoon and evening or weekend) before they were labeled

"unable to contact." Of the 2,974 questionnaires, 1,700 were completed.[11] This represented a response rate of 57.2 percent.

Questionnaires were sorted into their respective zip code areas. If response totals for any given areas were less than 20, the responses for contiguous zip code areas were averaged with those of the given area to obtain an estimate. It was assumed that the values obtained for each zip code were representative of individual census tracts within each zip code area.[12]

A computer program was written to evaluate the survey data. The following estimates for each census tract within the study area were determined:

Percent of total households evacuating.

Percent of total households (of those not evacuating) staying in a local shelter.

Average number of vehicles per evacuating household.

Percent of total evacuating households that are seeking shelter in a particular city.

Percent of total vehicles proceeding in each evacuation direction (see Figure 1-5 for direction of evacuation).

The total 1980 population and occupied household census counts projected to 1985 were then applied to the survey results to obtain the following estimates by census tract:[13]

Number of households evacuating.

Number of vehicles from evacuating households by direction of evacuation (see Figure 1-5 for direction of evacuation).

Number of persons staying in a local shelter.

Number of persons seeking shelter, by specific cities.

These census tract estimates were then grouped into evacuation and contingency zones[14] (see Section Three, Zone Delineations for a detailed discussion of evacuation and contingency zones).

Attempts Made:

____ Morning

____ Afternoon

____ Evening or Weekend

EVACUATION SURVEY

Is this (telephone number)? *If a child answers, ask for a parent.*

* * * * * * *

This is (name of person calling) from (organization or institution). We are making a survey to determine what people's intentions are regarding hurricane evacuation. This information will be used to help develop a long range evacuation plan for (name of county) county. Would you be willing to answer a few questions? *If "yes" proceed; if "no" thank them for their time and proceed to the next call.*

* * * * * * *

If the local authorities recommend that you evacuate, would you leave?

If "yes" ask	*If "no" ask*
To what area would you evacuate?	What would you do?
Would you plan to stay: ___ with friends ___ in a motel, or ___ in a shelter if available	
What form of transportation would you use?	
(If by own vehicle ask: Would you be taking more than one vehicle? Yes___ No___*)*	

Conclude call and thank them for their time.

FIGURE 1-3: EVACUATION SURVEY

DIRECTIONS

1. Each telephone number should be called at least three times before it is placed in a no-answer category. One contact should be during a morning hour, one during an afternoon hour, and one during a night or weekend time. The order of morning, afternoon, and night or weekend can be changed to night, morning, afternoon, and so forth. If we do not follow this procedure, will will have a bias survey of people who are home at certain times of the day. Please check the forms to indicate each time contact was attempted. This will enable us to know that each non-contacted number was tried three different times.

2. The telephone number is the key to the proper source of information. Even if the name of the people at that telephone number is different, the number determines the correctness of the call.

3. The names on the questionnaires such as "Charles Black" or "John Doe" merely indicate the names as they are listed in the telephone directory. Do not ask for "Charles" or "John;" otherwise we will find out only what the males think. Rather, talk to the person answering the phone if possible (unless a child answers).

4. Try not to influence the answers people give. We are not interested in convincing them about what is right or wrong (at this point), but merely trying to discover what they think. Otherwise the survey will be invalid.

5. What you are to ask on the phone is in normal type; directions are in italics.

6. If the family cannot speak English and can only understand Spanish, write SPANISH on the top of the questionnaire and return it. They will later be contacted by someone fluent in Spanish.

7. In the event of a hurricane in the Gulf of Mexico, do not make phone calls to an area under a hurricane "watch" or "warning."

8. The label on the questionnaire on front is coded as follows:

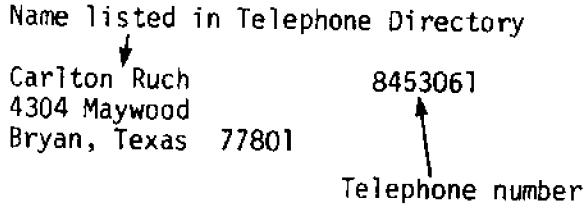


FIGURE 1:4 SURVEY DIRECTIONS

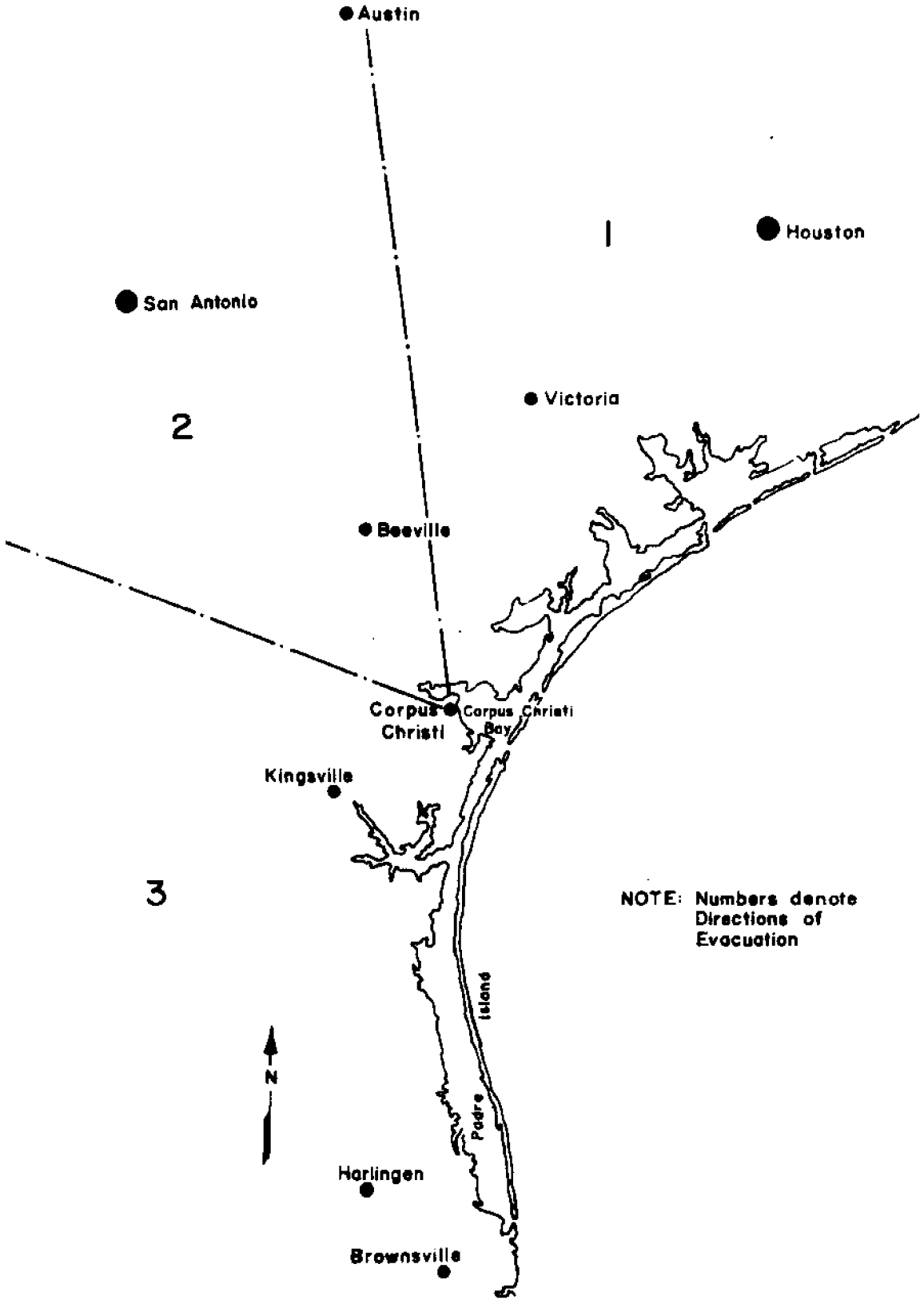


FIGURE 1-5: DIRECTIONS OF EVACUATIONS

Part C: Evacuation Times

Evacuation times were based on estimates of the amount of time it would take for evacuating vehicles to travel the available routes. These routes are indicated on the evacuation and contingency zone map inside the back cover of this report.

The evacuation route capacity estimates[15] are based on a 20 percent reduction of the estimated route capacity under ideal conditions. As a general rule, the following capacity estimates have been used (the quantities are vehicles per lane per hour in a single direction):

Freeway (limited access) facilities	1,600
Two-lane facilities (one lane each direction)	800
Local streets (in small communities)	600

Overall operating speeds under evacuation conditions on freeway facilities were assumed to be between 20 and 30 miles per hour in the absence of other constraints. Within this range, variations in operating speed would have no significant impact on capacity because vehicle spacing tends to "close up" as speed decreases. Similar speeds should prevail on other routes through rural areas.

Overall operating speeds on uncontrolled access facilities through urbanized areas are nearly impossible to estimate under evacuation conditions because of the numerous possible interacting and conflicting flows. Effective speeds of 10 miles per hour or less were assumed.

After determining the evacuation route capacities, evacuation times were determined by taking the total number of vehicles that will be evacuating each zone and dividing that number by the number that can be evacuated over the controlling evacuation routes for that zone in an

hour. This indicates the number of hours it could take to evacuate each zone. It was further assumed in these estimates that persons would take alternate routes if they found their desired evacuation route too crowded.

Three differing conditions were considered to arrive at the number of evacuating vehicles per zone:

Total evacuation of areas with flooding potential by evacuation zones.

Total evacuation of areas with flooding potential and, in the remainder of the evacuation zone, evacuation of only those indicating they would evacuate if so advised.

Total evacuation of all evacuation and contingency zones.

The first two conditions would be utilized when hurricane winds would be 130 mph or less, while the latter would be for hurricanes with winds in excess of 130 mph.

To estimate the number of vehicles evacuating from each zone, the survey results were utilized in conjunction with 1980 census data projected to 1985 (based on trends from 1970 to 1980). Only the positive growth trends were utilized in these projections.

To estimate the number of vehicles for a 100 percent evacuation, the total number of family units in the zone (or low-lying part of the zone) was multiplied by the average number of evacuating vehicles per family in that zone (based on survey results). Only those families who indicated they would evacuate if so advised were counted to estimate partial evacuation.

Estimates of the total number of evacuating vehicles for North

Padre and Mustang Islands were obtained by estimating both the projected 1985 population and the number of vehicles per household (permanent island residents plus the tourist population). Population totals for 1985 were estimated from past growth trends. Vehicles per resident household were estimated by responses to a questionnaire survey as indicated in Section Four, Survey Results (1.59 vehicles per household). The tourist population for a typical day in July or August 1985 was estimated to be 35,000.[16] It was further estimated that 35 percent of the tourists would stay on the barrier islands until told to evacuate.[17] It was then assumed that there are 3.5 tourists per vehicle.[18]

To obtain the total number of evacuating vehicles for the resident population of the islands, therefore, the number of 1985 estimated occupied households was multiplied by the estimated number of vehicles per household (1,800 x 1.59 = 2,862). To obtain the total number of evacuating vehicles for the tourists, the total number of tourists estimated to remain on the islands was divided by the number of tourists per vehicles (.35 x 35,000 / 3.5 = 3,500). Thus, the total estimated number of evacuating vehicles for Mustang and Padre Islands in 1985 equals the total number of evacuating vehicles for the resident population plus the total number of vehicles for the tourists (2,862 + 3,500 = 6,362).

Endnotes:

[1]A 36-hour mode is possible.

[2]Additional technical details of the storm model are contained in Jelesnianski and Taylor, 1973: A Preliminary View of Storm Surges Before and After Storm Modifications. NOAA Technical Memorandum, ERL WMPO-3, Washington, D.C.

[3]The model numerically solves a set of partial differential equations of motion. Except for the additional inclusion of the finite amplitude effect and horizontal viscosity, the equations are given by Jelesnianski, Weather Review, 95, 740-756. Coefficients for surface drag, eddy viscosity and bottom slip are exactly the same as used in the SPLASH (Special Program to List the Amplitudes of Surges from Hurricanes) model by Jelesnianski, 1972: I. Landfall Storms. NOAA Technical Memorandum, NWS TDL-46, Washington, D.C. There is no calibration or tuning to force agreement between observed and computed surges that is, the coefficients are universally set as constants, once and for all, and not varied locally for a particular geographical region. The model is used in a forecast mode; there is no requirement for input boundary values during surge activity (e.g., tide gauge readings or computed boundary surge values from an alternate surge model).

[4]In this study, the tables and figures will always be grouped at the end of each section or part.

[5]The surge envelope is produced on nine pages of computer printouts that, when taped together, show the surge height for each of the 4,130 data points. The surge height for each point is then subtracted from the land elevation to give surge penetration and height.

[6]The added depth waves can add to surge was figured for key causeways. Interpretive methods for the critical data points address the astronomical tidal effects by adding one foot for high tide and subtracting one foot for low tide.

[7]A division of Metromedia, Inc., 11 Eisenhower Lane South, Lombard, Illinois 60148.

[8]The critical areas included: Refugio County with zip codes 77950, 77990, 78340; San Patricio County with zip codes 78336, 78359, 78370, 78374; Nueces County with zip codes 78347, 78373, 78401, 78402, 78404, 78407, 78408, 78409, 78410, 78411, 78412, 78413, 78415, 78417, 78418, 78419; and Kenedy County with zip code 78385.

[9]Non-critical zip code areas included: Nueces County with zip codes 78330, 78339, 78343, 78351, 78380, 78405, 78416; San Patricio County with zip codes 78352, 78368, 78387, and 78390.

[10]The additional names were chosen in the following zip code areas: 78358, 78382, 78373, 78359, 78340, 77950 and 77990.

[11]Of the 1,700 completed questionnaires, 1,678 were in zip code areas located within the study area.

[12]If a census tract was split by a zip code area boundary, then tract households were apportioned to zip code areas based on the distribution and density of households. This was done with the use of local street and land use maps.

[13]Census of Population and Housing, 1980: Summary Tape File 1A, Bureau of the Census, Washington, D.C., 1981. Projections were based on trends from 1970 to 1980 with no negative trend projections used.

[14]If a census tract boundary was split by an evacuation or contingency zone boundary, then the census tract households were apportioned to zones based on the distributional density of households. The apportionment was done by using local street and land use maps.

[15]Evacuation route capacity is defined as the maximum number of vehicles that can pass over a given section of roadway during a given time period.

[16]City of Corpus Christi Department of Parks and Recreation, tourist population has been growing at a rate of about 10 percent annually. As such, the projected 1985 tourist population for these islands is 35,000.

[17]Ken Keller, Division of Emergency Management, Port Aransas, Texas, November 1982.

[18]Ken Pagens, Recreation Specialist, Texas A&M University Marine Advisory Service, Corpus Christi, Texas, November 1982.

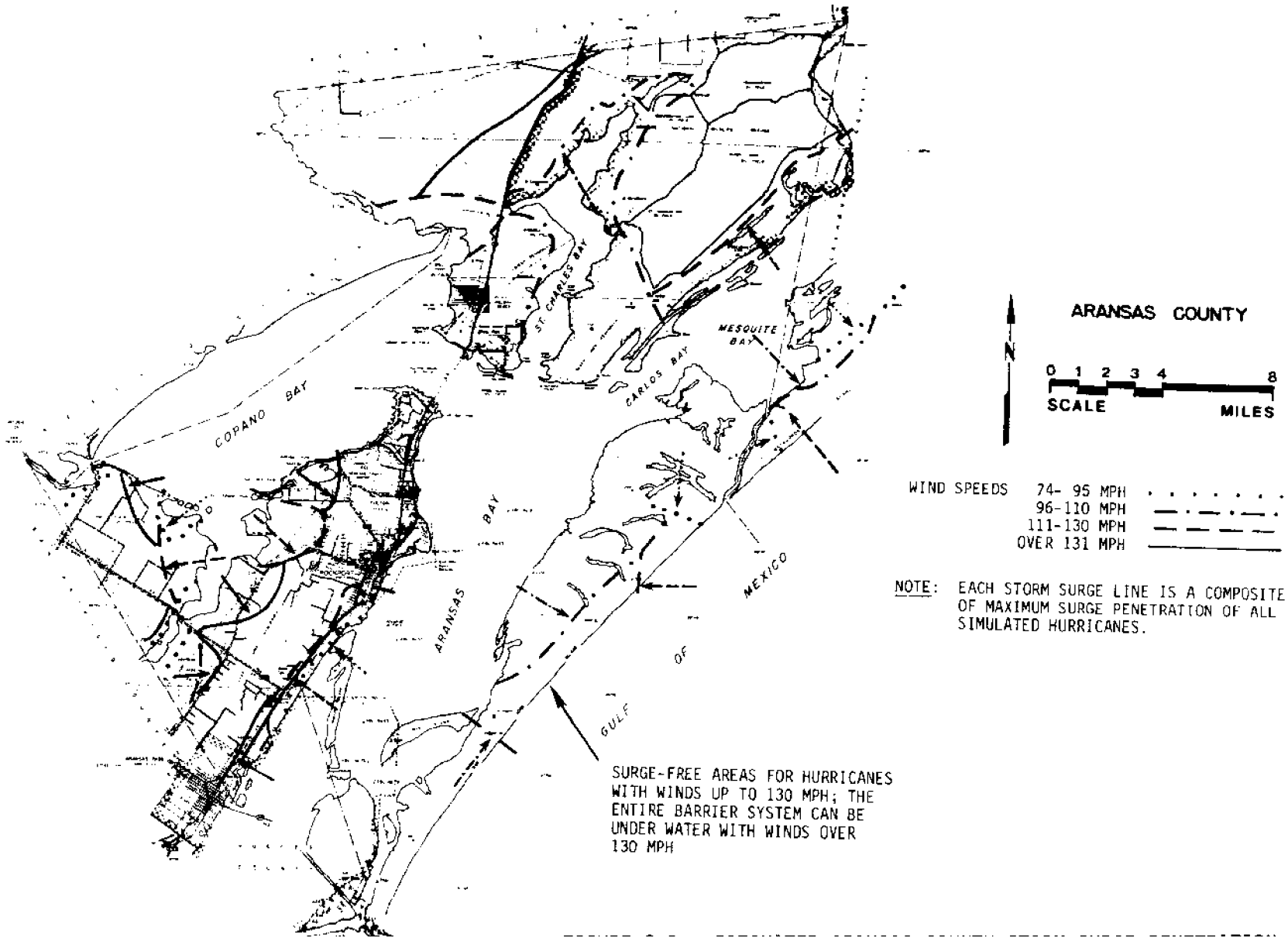
Section Two
SLOSH DATA

The SLOSH data presented in this section describe wind and surge threats posed by various types of hurricanes. These data should assist in necessary decision making when hurricanes pose threats to the study area. There are three parts to this section. The first contains the estimated maximum surge penetration possible for various storm intensities. The second contains the use of additional information supplied by selected data points. Finally, the third part contains the use of hourly tidal and gusting data.

Part A: Maximum Surge Penetration

Maximum surge penetration for each wind speed classification represents a composite of all simulated hurricanes with similar wind speeds. The windspeeds are grouped into four classifications: 74 to 95 mph; 96 to 110 mph; 111 to 130 mph; and 131 or greater mph. It is important to note that no single hurricane in any of these classifications will produce the maximum surge.

Surge lines are drawn from the midsections of grid squares. Surge penetration is shown when the average land elevation of a grid square is less than the SLOSH projected surge elevation of that grid square. Since projected surge elevation can be plus or minus 20 percent of the actual surge elevation, the surge line projections must be interpreted accordingly. Estimated surge penetrations are displayed, by county, in Figures 2-1 through 2-6. A composite map of these counties is included in the back cover of this report.


ARANSAS COUNTY
N
0 1 2 3 4 8
SCALE MILES
WIND SPEEDS 74- 95 MPH
96-110 MPH
111-130 MPH
OVER 131 MPH
NOTE: EACH STORM SURGE LINE IS A COMPOSITE OF MAXIMUM SURGE PENETRATION OF ALL SIMULATED HURRICANES.
COPANO BAY
ST CHARLES BAY
CARLOS BAY
MESQUITE BAY
ARANSAS BAY
GULF OF MEXICO
SURGE-FREE AREAS FOR HURRICANES WITH WINDS UP TO 130 MPH; THE ENTIRE BARRIER SYSTEM CAN BE UNDER WATER WITH WINDS OVER 130 MPH

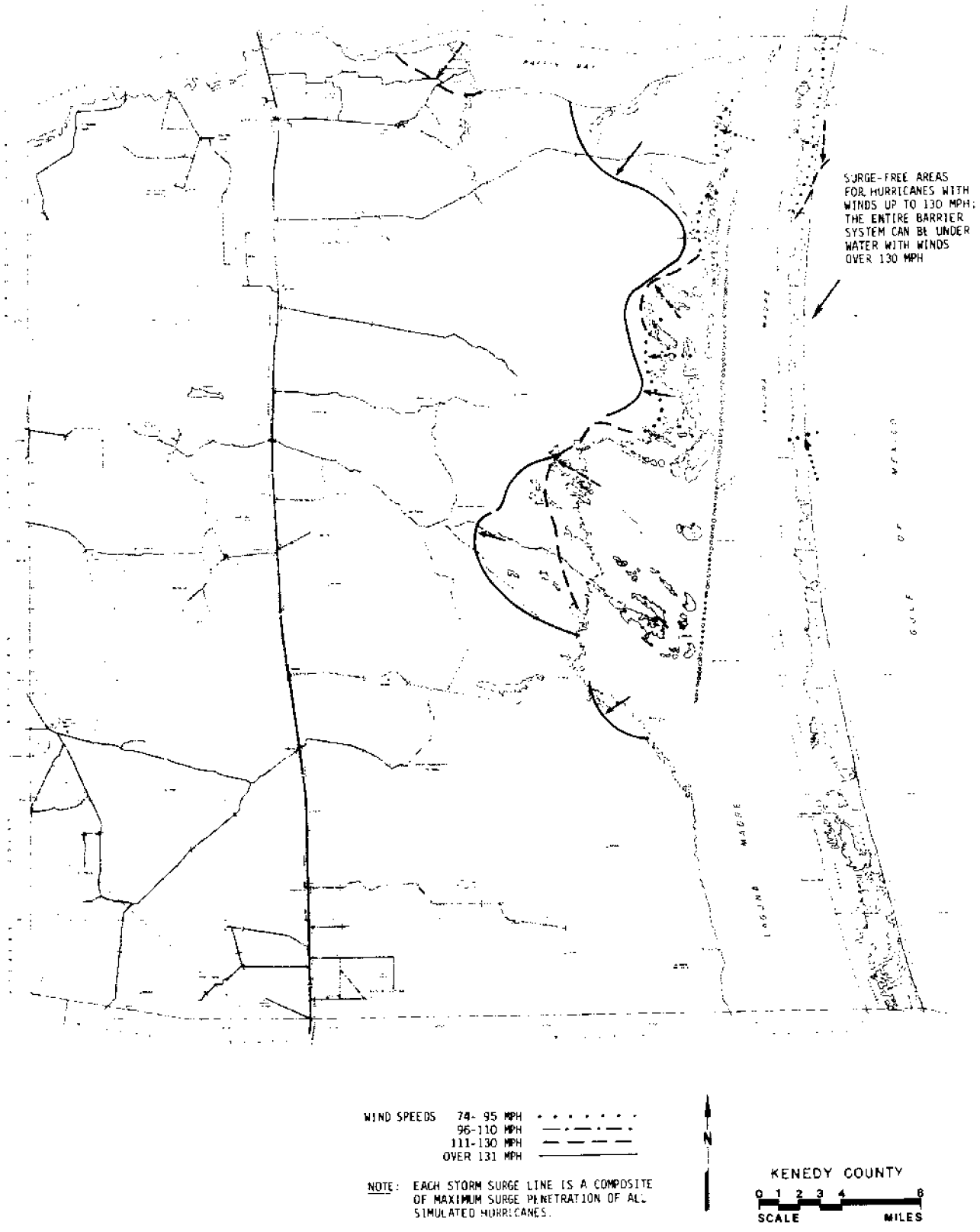


FIGURE 2-2: ESTIMATED KENEDY COUNTY STORM SURGE PENETRATION

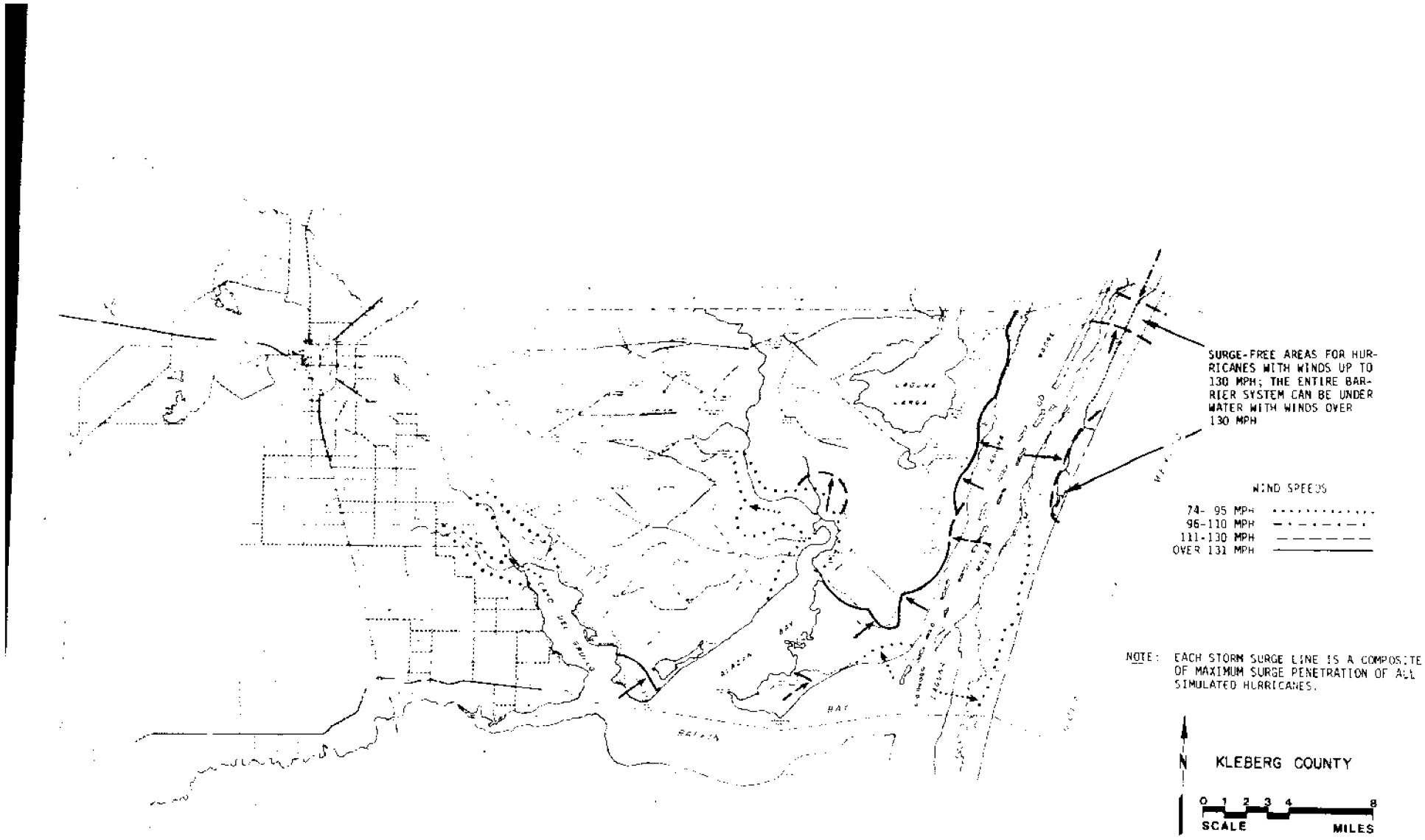


FIGURE 2-3: ESTIMATED KLEBERG COUNTY STORM SURGE PENETRATION

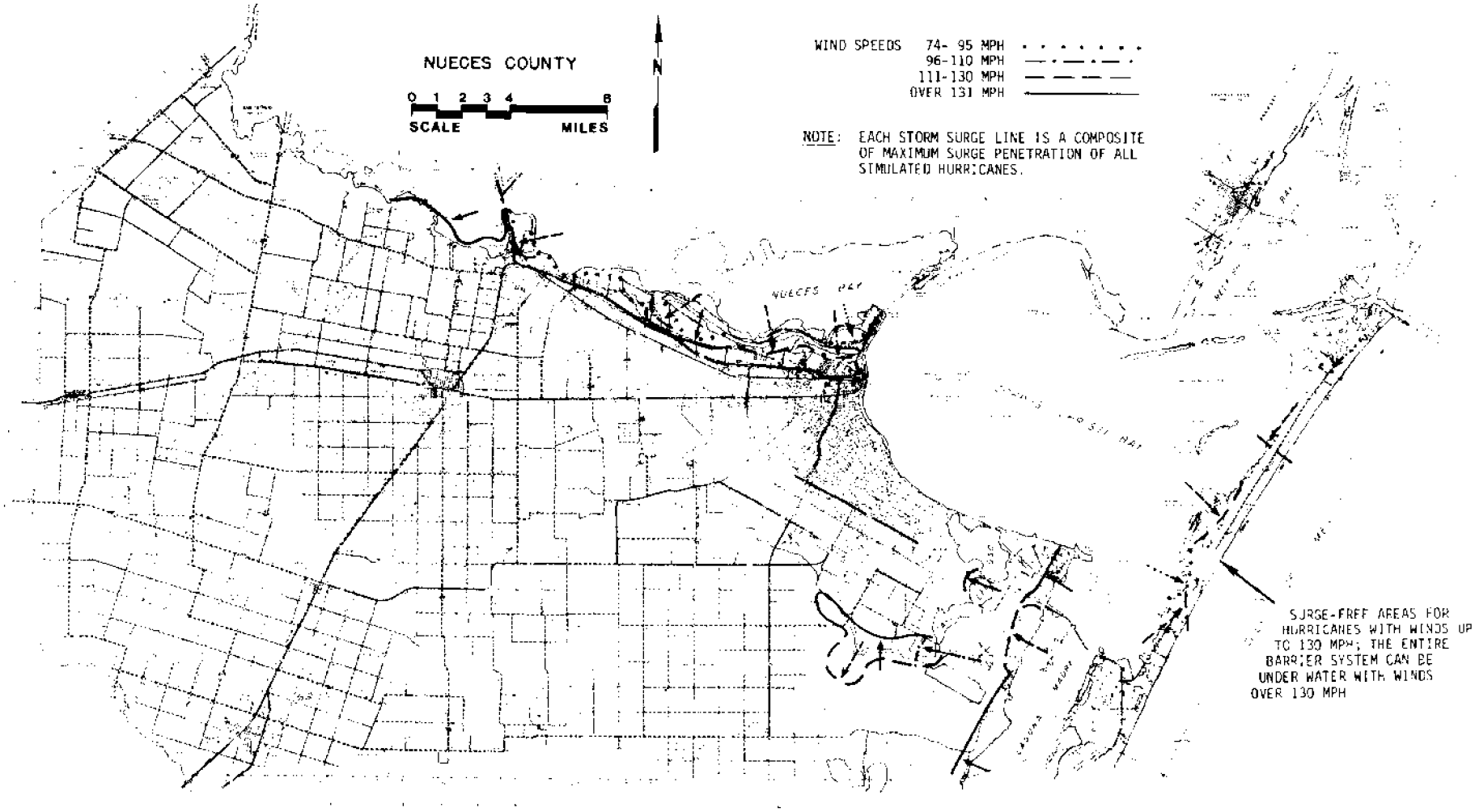


FIGURE 2-4: ESTIMATED NUECES COUNTY STORM SURGE PENETRATION

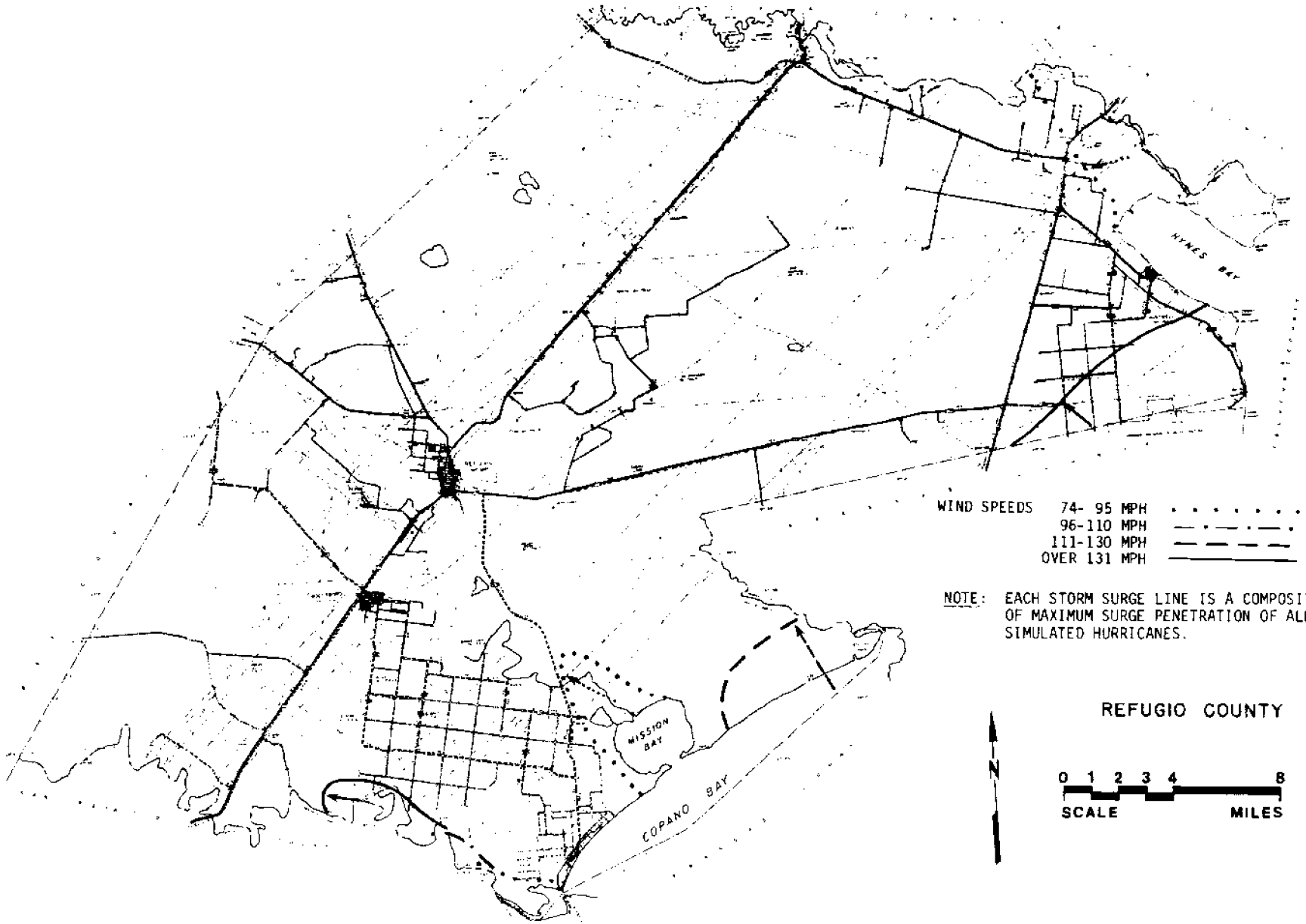


FIGURE 2-5: ESTIMATED REFUGIO COUNTY STORM SURGE PENETRATION

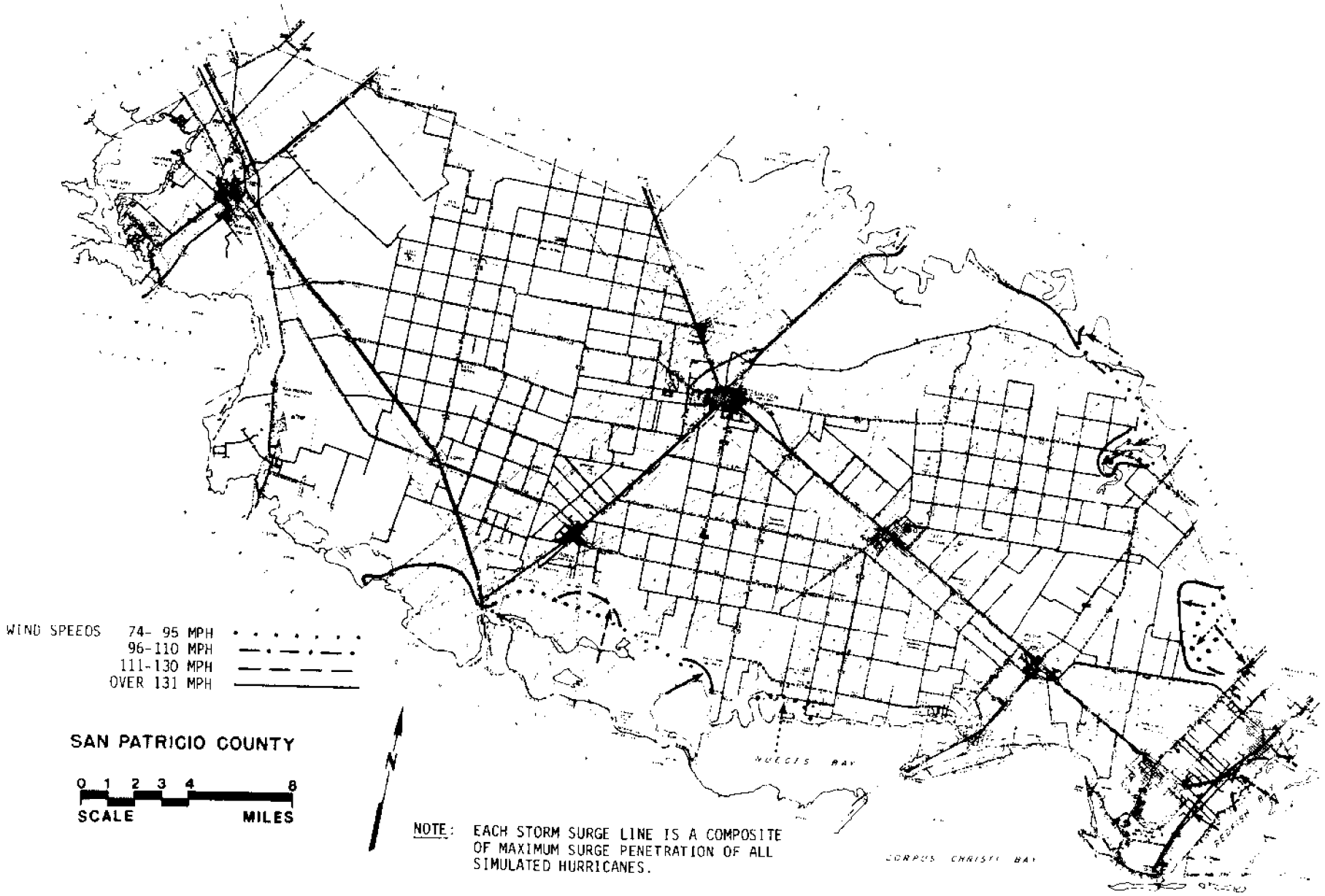


FIGURE 2-6: ESTIMATED SAN PATRICIO COUNTY STORM SURGE PENETRATION

Part B: Data Points

More specific information has been extracted from selected SLOSH simulated hurricanes for 30 critical evacuation route locations from the 60 data points[1] (see Table 1-1 for a listing of data point locations). These locations are displayed by county in Figures 2-7 through 2-12. Figure 2-13 shows the locations of data points outside the study area.

Appendix B contains one page of data for each of the 30 selected data points that displays the decision-making information calculated for 78 different hurricane types. When a hurricane enters the Gulf, an estimate can be made as to which of the 78 hurricane types it will most closely resemble. The interpretive information for that particular hurricane can then be used to obtain the general estimates required for initial decision making.

The 78 key hurricane types displayed for each of the 30 selected data points in Appendix B are based on the following rationale:

> The main focus should be on the Corpus Christi area. It was discovered that, in some cases, the greatest threat to the area was posed by hurricanes with a point of landfall 20 miles left (southwest) of Port Aransas, while in other cases it was 30 miles to the left of Port Aransas. In order to arrive at maximum possible conditions, information was calculated for both points of landfall (20 and 30 miles left of Port Aransas). These data were then condensed into one condition that reflected the worst conditions of both points of landfall.
>
> With these worst conditions, two different directions were calculated (300° and 270°) for four different forward movement speeds (5 mph, 10 mph, 15 mph and 20 mph). This resulted in eight hurricanes for each wind speed category.
>
> The wind speed categories normally would be classified according to the Saffir-Simpson scale of:
>
> 74- 95 mph
> 96-110 mph
> 111-130 mph

131-155 mph
Over 155 mph

The simulated hurricanes indicated that, for most conditions, hurricanes with wind speeds of 131 to 155 mph produced greater surge conditions than hurricanes with wind speeds in excess of 155 mph. This anomaly was caused by the smaller radius of maximum winds (10 miles) for hurricanes with wind speeds in excess of 155 mph than was used for hurricanes with wind speeds of 131 to 155 mph (20 miles). Wind speeds in excess of 155 mph do not permit the development of as large a radius of maximum winds. As a result of this anomaly, data were generated for both wind speed categories (131-155 mph and over 155 mph) and then collapsed into one category (131 mph and over), using the maximum conditions for both categories.

Because the point of landfall that produces maximum conditions for the Corpus Christi area does not produce maximum conditions in the outlying areas, two additional points of landfall were chosen--one approximately 50 miles to the left of that point that produces the maximum for Corpus Christi (70 miles left of Port Aransas) and one approximately 50 miles to the right of that point (30 miles right of Port Aransas). These hurricane types (at 300°) not only indicate maximum type conditions for areas on either side of Corpus Christi, but these two landfall locations (70 miles left of Port Aransas and 30 miles right of Port Aransas) can also be used to estimate conditions in the Corpus Christi area should a hurricane make landfall 50 miles left or 50 miles right of the point of landfall that produces worst case conditions for the Corpus Christi area.

Because of the potential of hurricanes paralleling the coast, parallel moving hurricanes were considered from the Northeast and from the South. Since it would be rare to have a parallel hurricane moving from the Northeast (235°), only one forward movement speed was considered (10 mph). Only wind speeds of 110 mph or lower were considered as possible for hurricanes of this type. Of the two points of landfall for which simulated hurricanes of this type were run, those landfalling 40 miles left of Port Aransas proved to be the greatest threat to the Corpus Christi area. Because parallel hurricanes are more probable from the South (345°), differing movement speeds were run for five different points of landfall for hurricanes with windspeeds up to 130 mph (the probable maximum wind speed for this type of parallel hurricane). Those landfalling 50 miles left of Port Aransas created the worst conditions for the Corpus Christi area.

The following types of data are given for each hurricane:

The number of hours before (or after, in a few cases) the time of landfall when wind gusts (50 to 55 mph) could tip trucks, buses, vans or recreational vehicles, along with the direction the wind would be blowing at that point in time. Also, the estimated number of hours these gusting conditions would continue if the forward movement speed is constant. The identical information is then repeated for the wind gust conditions (65 to 70 mph) that could tip automobiles.

The number of hours before (or after, in a few cases) the time of landfall when storm surge can block egress routes. These times are given for low tide, MSL and high tide conditions.

The maximum high tide surge that can be anticipated at that location.

The following cautions are given at the beginning of Appendix B:

Caution 1: Wave action (except for the JFK Causeway and the Corpus Christi side of the Nueces Bay Causeway-181) and rainfall not included in calculation.

Caution 2: Errors of plus or minus 20 percent possible for peak surges with accurate initial data. For estimating, this error range can be generalized to other data.

Caution 3: Forward movement speeds of 15 mph are based on averaging the 10 mph and the 20 mph conditions.

High and low tide calculations were based on a one-foot increase above mean sea level and a one-foot decrease from mean sea level. Since tides vary at different times and in different places, actual estimates for low or high tide variations should be adjusted accordingly. An example follows.

	Data Based on Tidal Variation of 1.0 Feet	Actual Tidal Variation of .5 Feet
Low Tide Flooding FTOL	-2.0 (hours)	-3.0
MSL Flooding FTOL	-4.0 (hours)	-4.0
High Tide Flooding FTOL	-6.0 (hours)	-5.0
Maximum High Tide Surge	10 feet	9.5

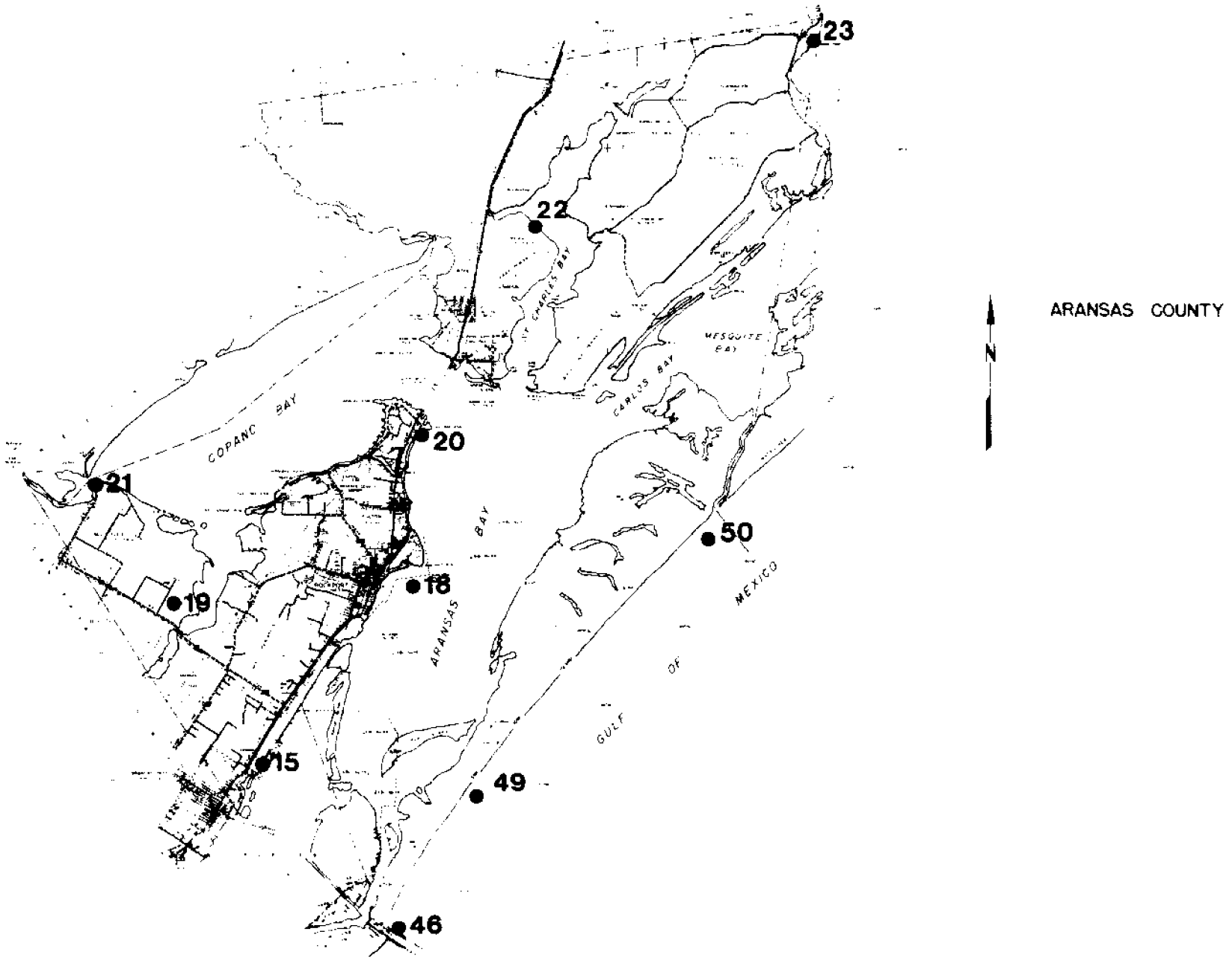


FIGURE 2-7: ARANSAS COUNTY DATA POINT LOCATIONS (See Table 1-1 for point identification)

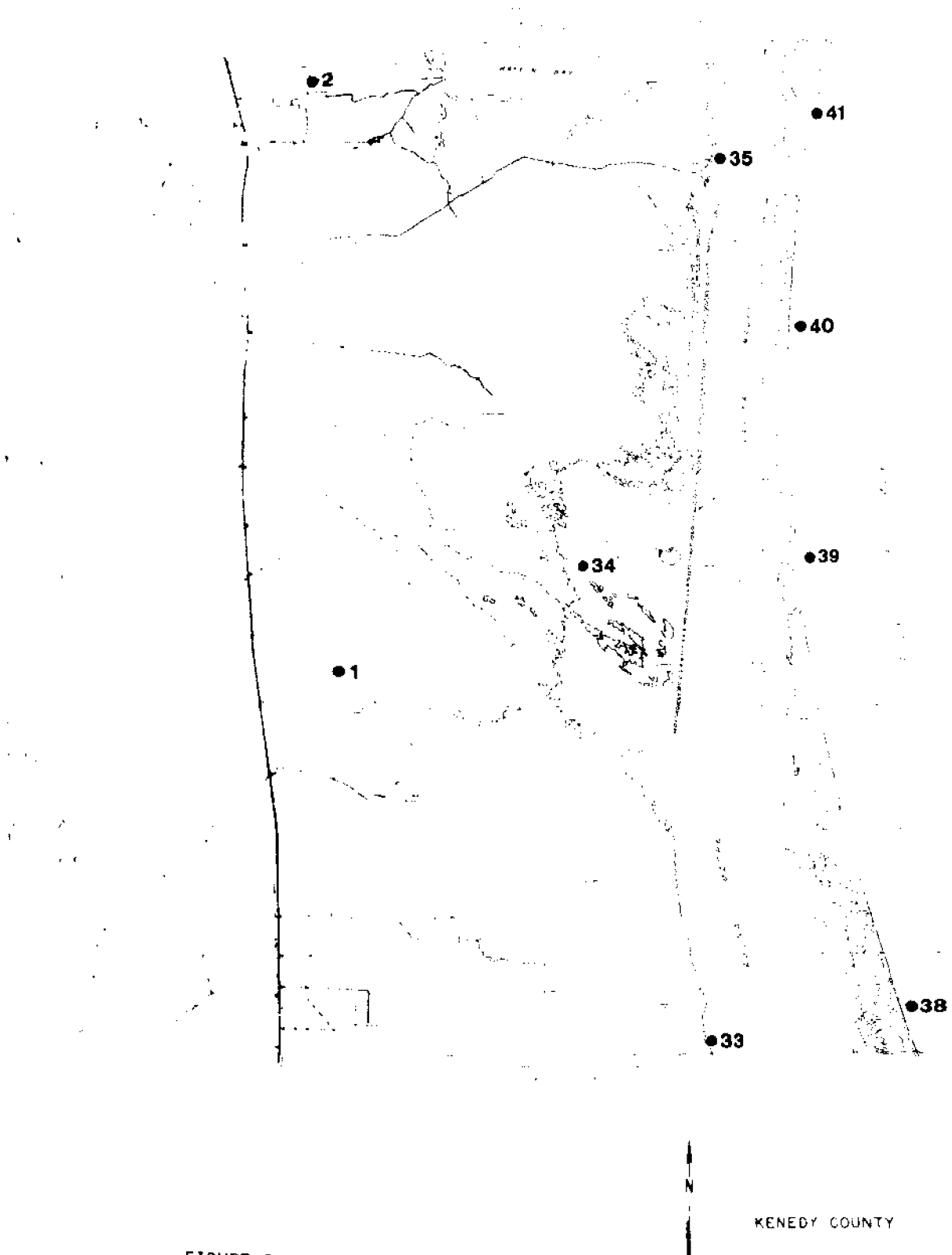


FIGURE 2-8: KENEDY COUNTY DATA POINT LOCATIONS
(See Table 1-1 for point identification)

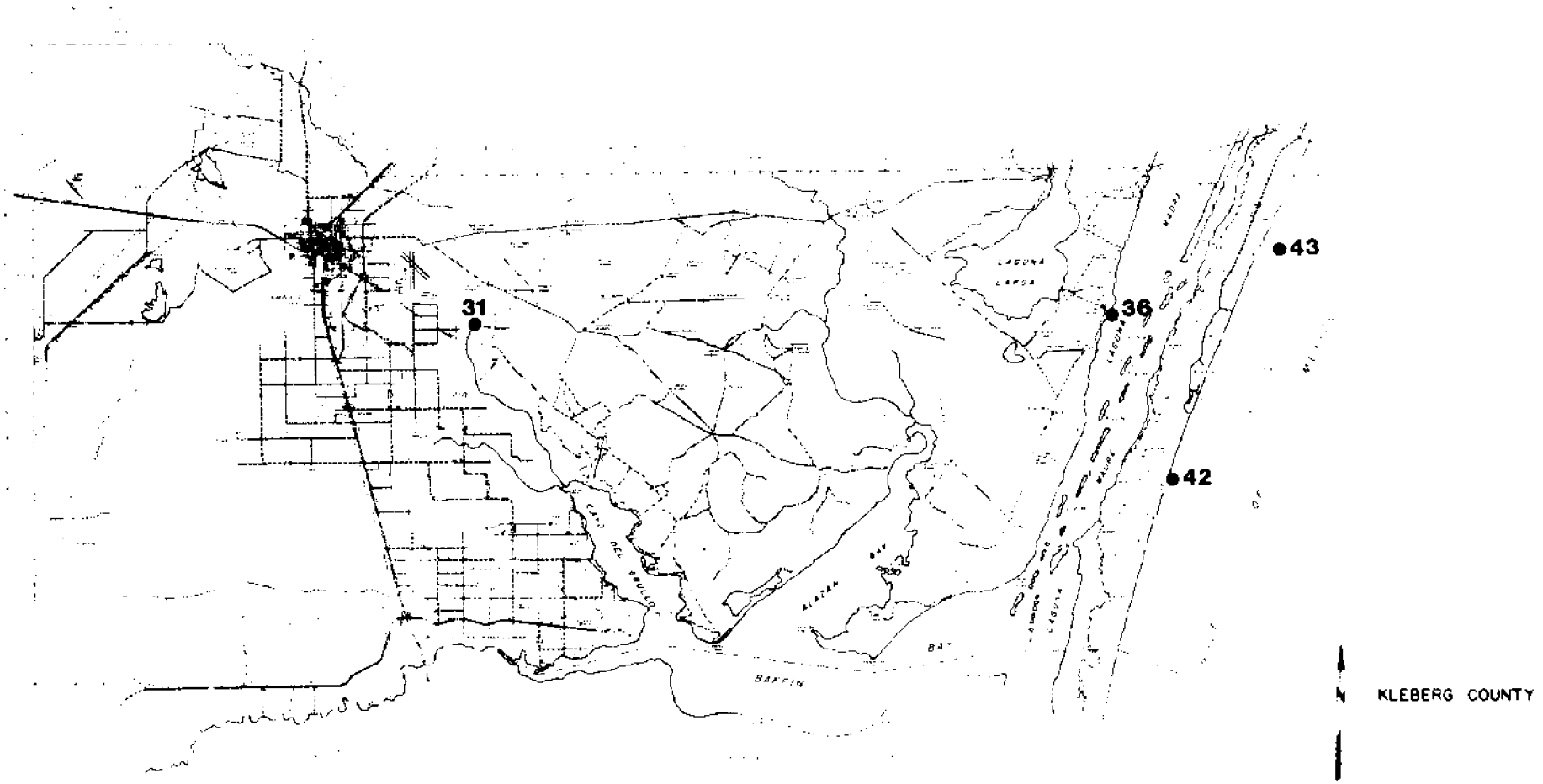


FIGURE 2-9: KLEBERG COUNTY DATA POINT LOCATIONS
(See Table 1-1 for point identification)

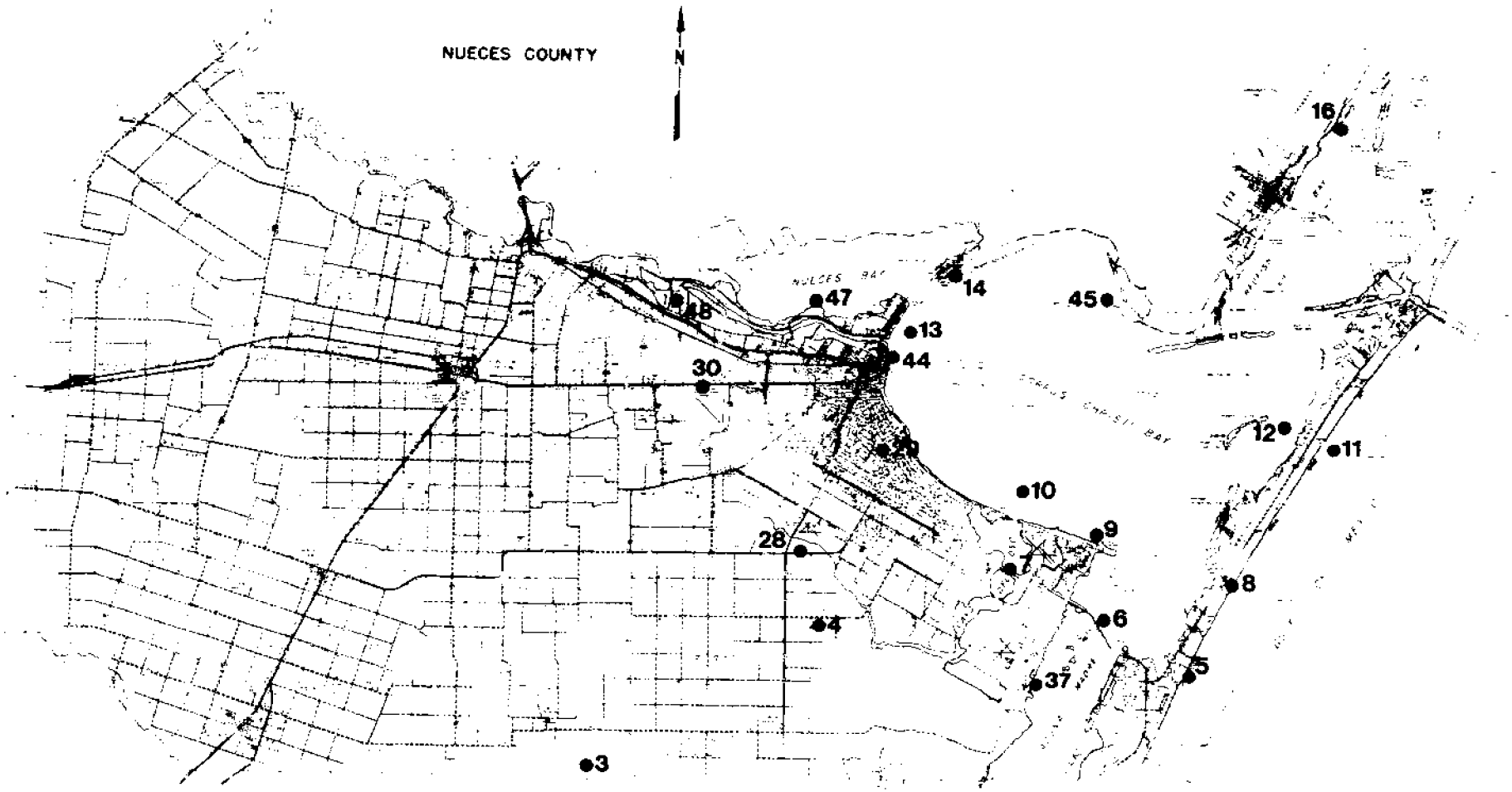


FIGURE 2-10: NUECES COUNTY DATA POINT LOCATIONS
(See Table 1-1 for point identification)

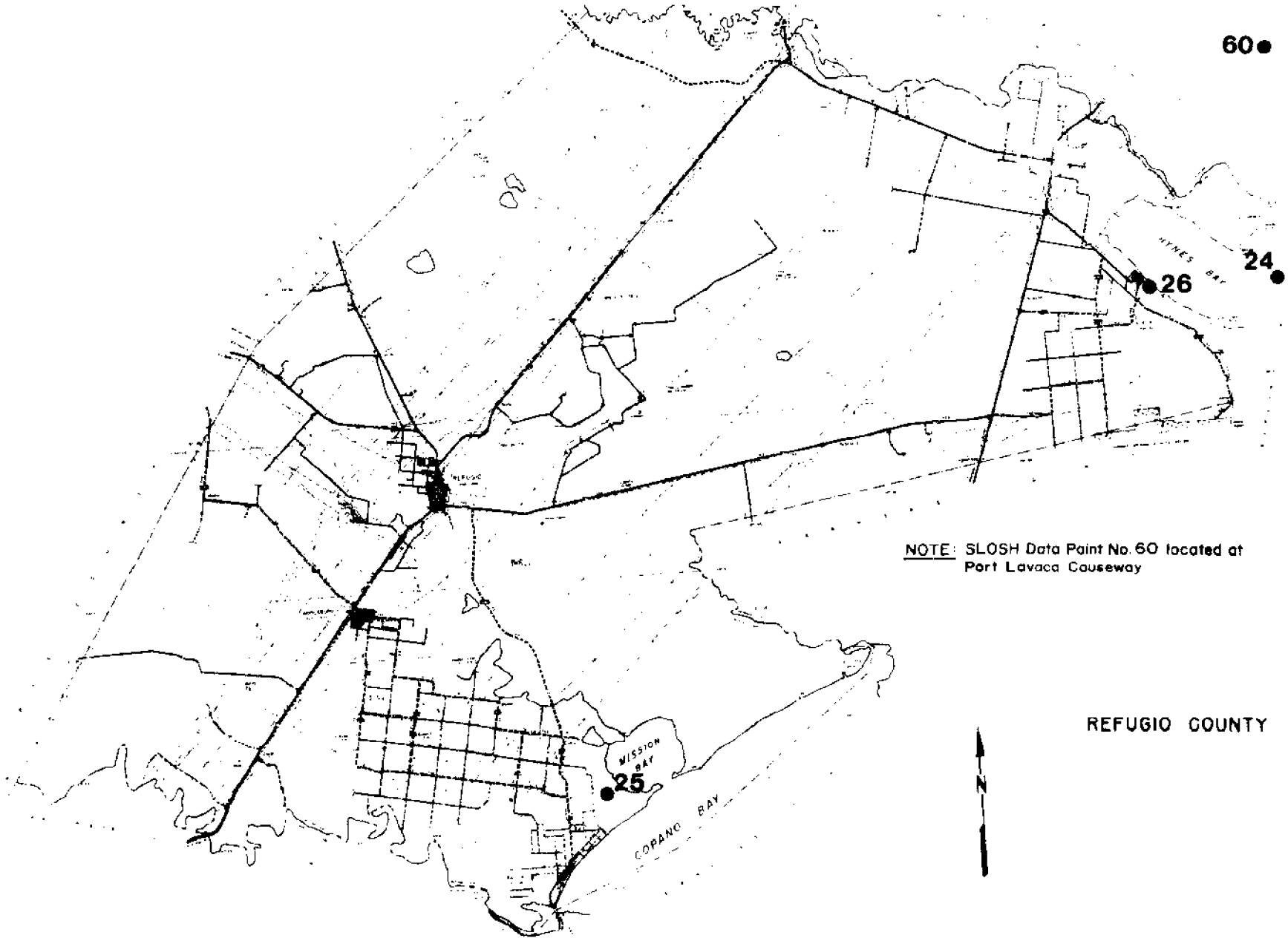


FIGURE 2-11: REFUGIO COUNTY DATA POINT LOCATIONS (See Table 1-1 for point identification)

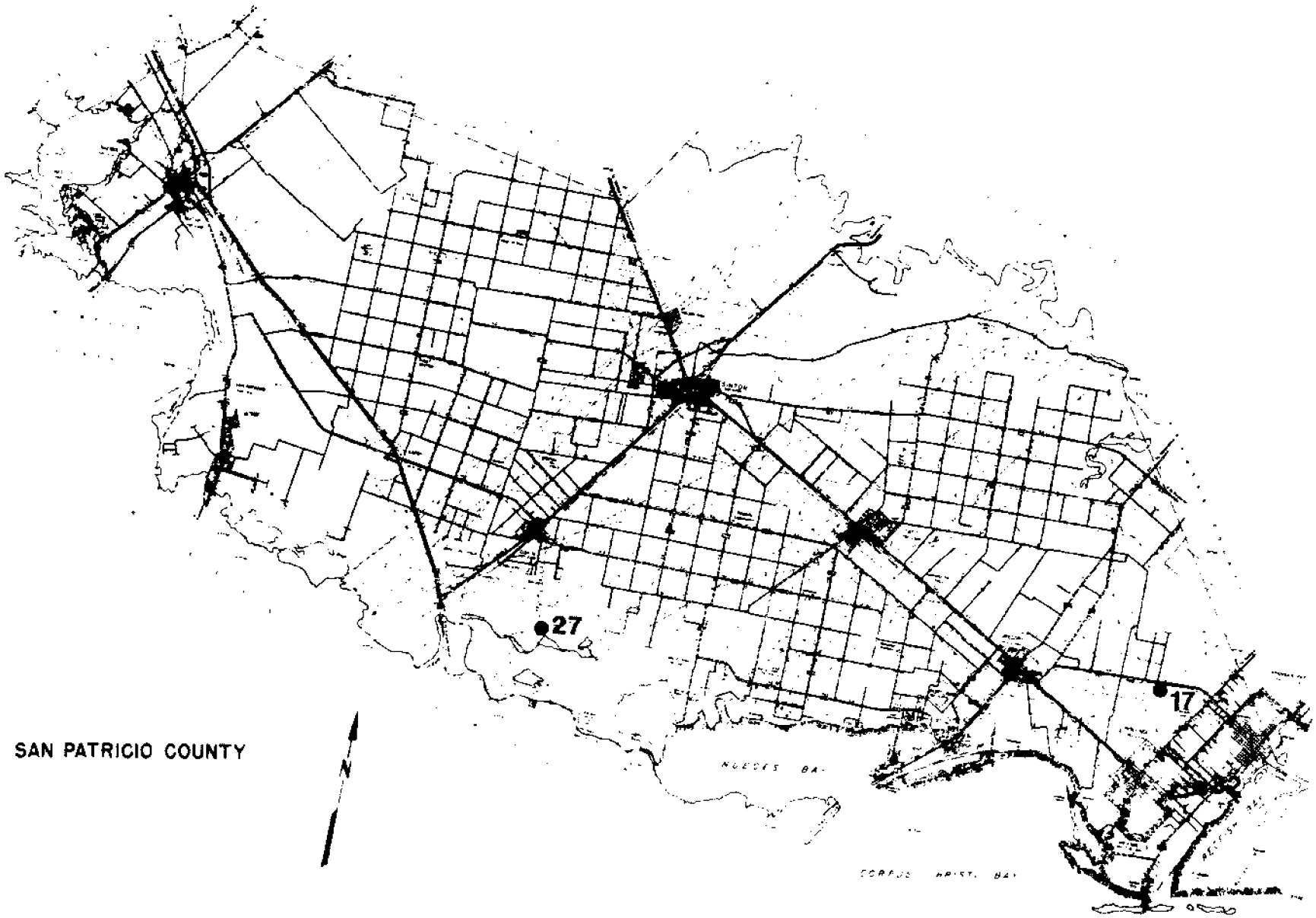


FIGURE 2-12: SAN PATRICIO COUNTY DATA POINT LOCATIONS (See Table 1-1 for point identification)

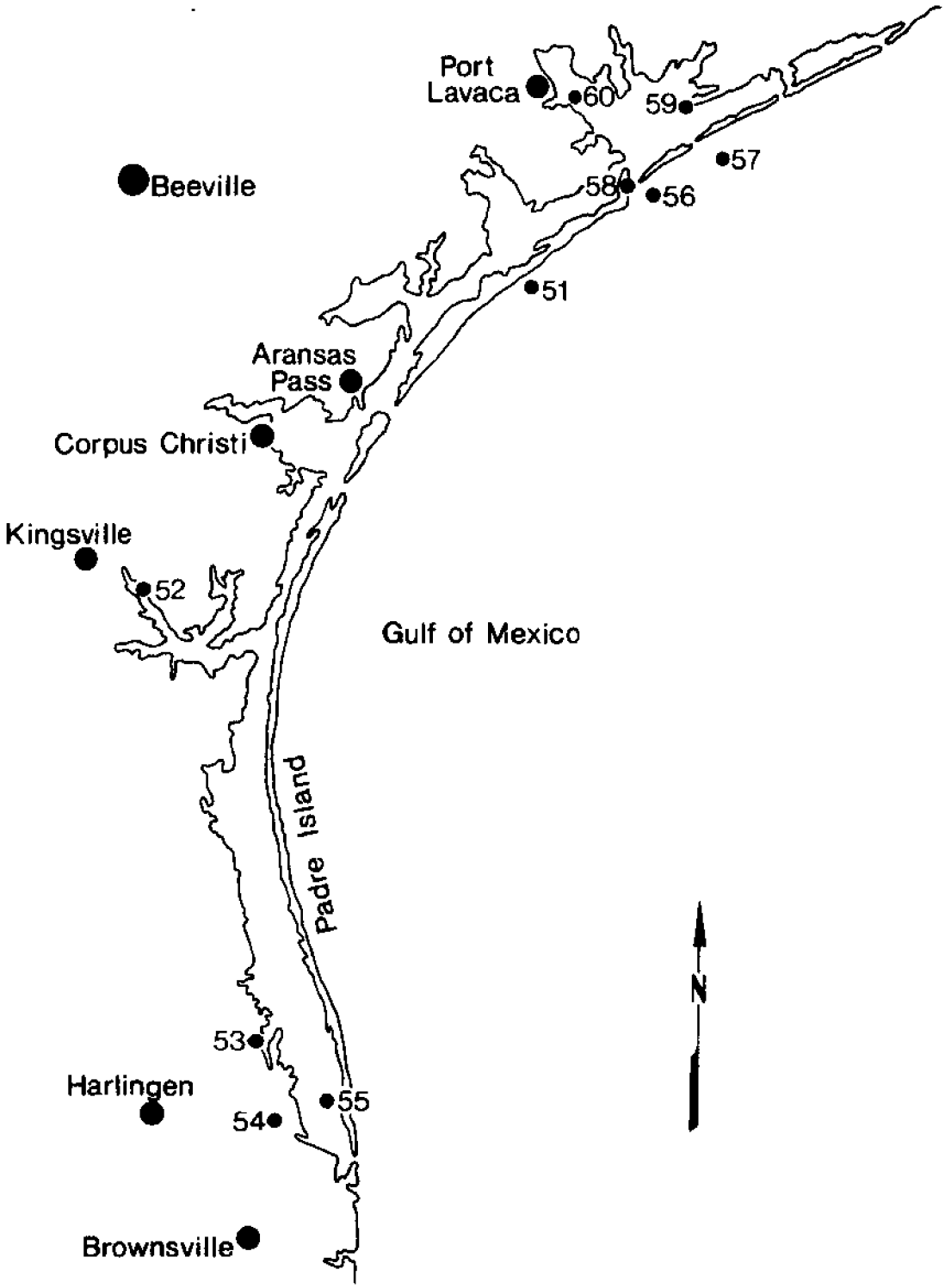


FIGURE 2-13: LOCATIONS OF DATA POINTS OUTSIDE STUDY AREA

Part C: Hourly Tidal and Wind Speed Data

In order to obtain a perspective on the impact of a hurricane, it is useful to know the anticipated tidal and wind speed conditions before the time of landfall and after the time of landfall. The first data in Appendix C list hourly tidal height 24 hours before (or when the data begin) and 12 hours after the anticipated time of landfall. The maximum highest anticipated surge above MSL also is indicated. This information is displayed for 22 different hurricanes (with varying intensities) for seven data points along the Gulf Coast and in Nueces Bay. The six data points on the Gulf Coast can give an array of hourly surge conditions, while the data point in Nueces Bay can be used to portray hourly surge conditions above MSL to indicate potential surge threats to industrial sites on the bay.

The next array of data is for individual data points located near two causeways and one bridge. The final array involves hourly sustained wind speed conditions for a data point located in Corpus Christi.

Endnotes:

[1] 1, 2, 3, 5a, 5b, 6, 7, 8, 10, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 30, 32 (15 data), 48, 58 and 60. Some data points are used for more than one critical location, i.e., 5a and 5b.

Section Three
ZONE DELINEATIONS

This section contains a rationale for zone delineations (Part A), the zone delineations themselves (Part B) and a description of these zones by boundaries (Part C).

Part A: Rationale

The purpose for zone delineation is to identify areas that are threatened by hurricane winds and storm surge. Once the threatened areas are identified, zones are delineated on the basis of roads, shorelines and/or county and municipal boundaries.

In the Corpus Christi area, with the exception of Padre and Mustang Islands and portions of Aransas and Kenedy Counties, storm surge stops near the coastline due to high ground elevation and the depth of the water. High winds are still a potential threat to human life and buildings, however.

A study sponsored by the National Science Foundation illustrates the potential casualties and building damage as a result of high winds. Table 3-1 indicates the most likely percentage of value lost to affected buildings by wind gusting, and Table 3-2 indicates the casualty factor for population related to magnitude of wind gusting. Deaths are estimated at 3.5 percent of the casualties.

It was decided by the municipal and county advisory committee that the destructive effects of both wind and surge should be incorporated

when establishing zone boundaries. With this in mind, proposed zones were divided into evacuation zones and contingency zones. Evacuation zones were based on the information indicated in Figure 3-1. This figure shows that the average reduction in wind damage potential (not wind speed) is approximately 50 percent at ten kilometers inland (from six to seven miles). This does not mean that the damage potential cannot exceed 50 percent beyond six to seven miles inland but that merely, on the average, it is reduced by 50 percent. In fact, high winds can proceed a great distance inland to the right (looking toward land) of the path of the hurricane.

From this perspective, it seemed reasonable to evacuate many areas within about seven miles of the coast for storms with winds up to 130 mph. Zones in that six- to seven-mile coastal area were labeled as "evacuation" zones. It should be kept in mind that zones, or sections of zones, can be evacuated as the need arises. The "up-to-130 mph" category, for instance, merely indicates that it may be unsafe to remain in that area if sustained winds of approximately 130 mph are anticipated. In this manner, it would be possible to call for the evacuation of Corpus Christi if it were anticipated that sustained wind speeds would exceed 105 mph (the building code requirement for Corpus Christi) or 120 mph on North Padre Island (the code requirement for North Padre Island). It would be inadvisable, however, to delay evacuation until sustained winds of 120 mph became probable on North Padre Island since storm surge from hurricanes with sustained winds from 96 to 110 mph could flood the area. Combined surge and wind conditions can threaten the entire barrier system for storms with winds up to the

130 mph level. Likewise, Port Aransas could be flooded by a hurricane of almost any size.

With this concept, evacuation could be recommended for the entire area or for each separate zone or for low-lying areas within particular zones.

To provide a further buffer for hurricanes with winds in excess of 130 mph, contingency zones were designated. These zones extend inland from 10 to 20 miles from the coast. It is anticipated that chances for major structural damage would be substantially diminished beyond that distance inland.

Figures 3-2 to 3-7 illustrate the location, by county, of these evacuation and contingency zones (Part B). A composite map of these counties is included as the last page of this report. A detailed boundary description of each zone follows the figures (Part C).

TABLE 3-1

MOST LIKELY PERCENTAGE OF VALUE LOST TO AFFECTED BUILDINGS

Maximum Wind Speed in Grid Area (Peak Gust)	Single-Unit Residential	Other Residential	Non-Residential
40 mph	1.0%	0.5%	0.4%
60	1.7	0.9	0.8
80	2.9	1.8	1.7
100	3.9	2.4	2.3
120	5.5	3.5	3.4
140	9.3	6.0	5.9
160	16.0	11.0	10.9

Source: Friedeman, D.G., Computer Simulation in Natural Hazard Assessment, University of Colorado Press, Boulder, Colorado, 1975.

TABLE 3-2

CASUALTY FACTOR FOR POPULATION RELATED TO MAGNITUDE OF HURRICANE WIND SPEEDS

Maximum Wind Speed (Peak Gust)	Number of Casualties per Number of Persons
40 mph	1 per 5,000,000
60	1 per 300,000
80	1 per 50,000
100	1 per 11,000
120	1 per 3,000
140	1 per 1,000
160	1 per 400

Source: Friedeman, D.G., Computer Simulation in Natural Hazard Assessment, University of Colorado Press, Boulder, Colorado, 1975.

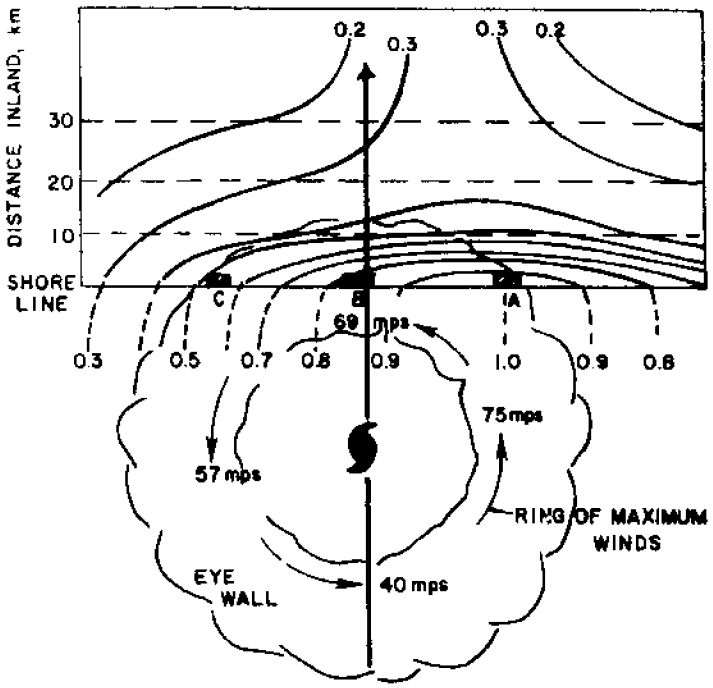


FIGURE 3-1: WIND DAMAGE POTENTIAL RELATED TO SURFACE LAYER WINDS

Source: Simpson, Robert H. and Herbert Riehl, The Hurricane and Its Impact, Louisiana State University Press, Baton Rouge, Louisiana, 1981.

Part B: Zone Delineation Maps by County

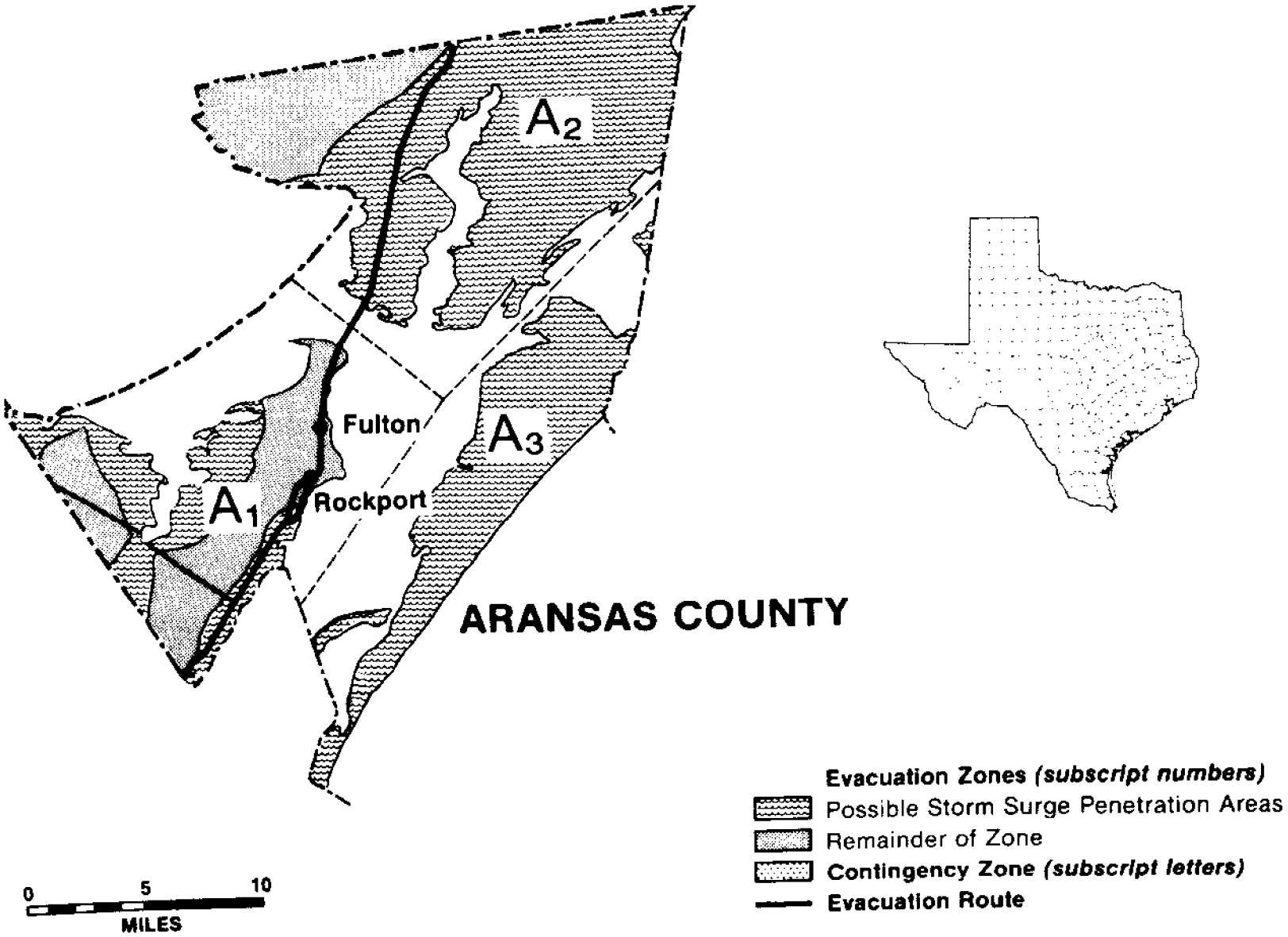


FIGURE 3-2: EVACUATION AND CONTINGENCY ZONES FOR ARANSAS COUNTY

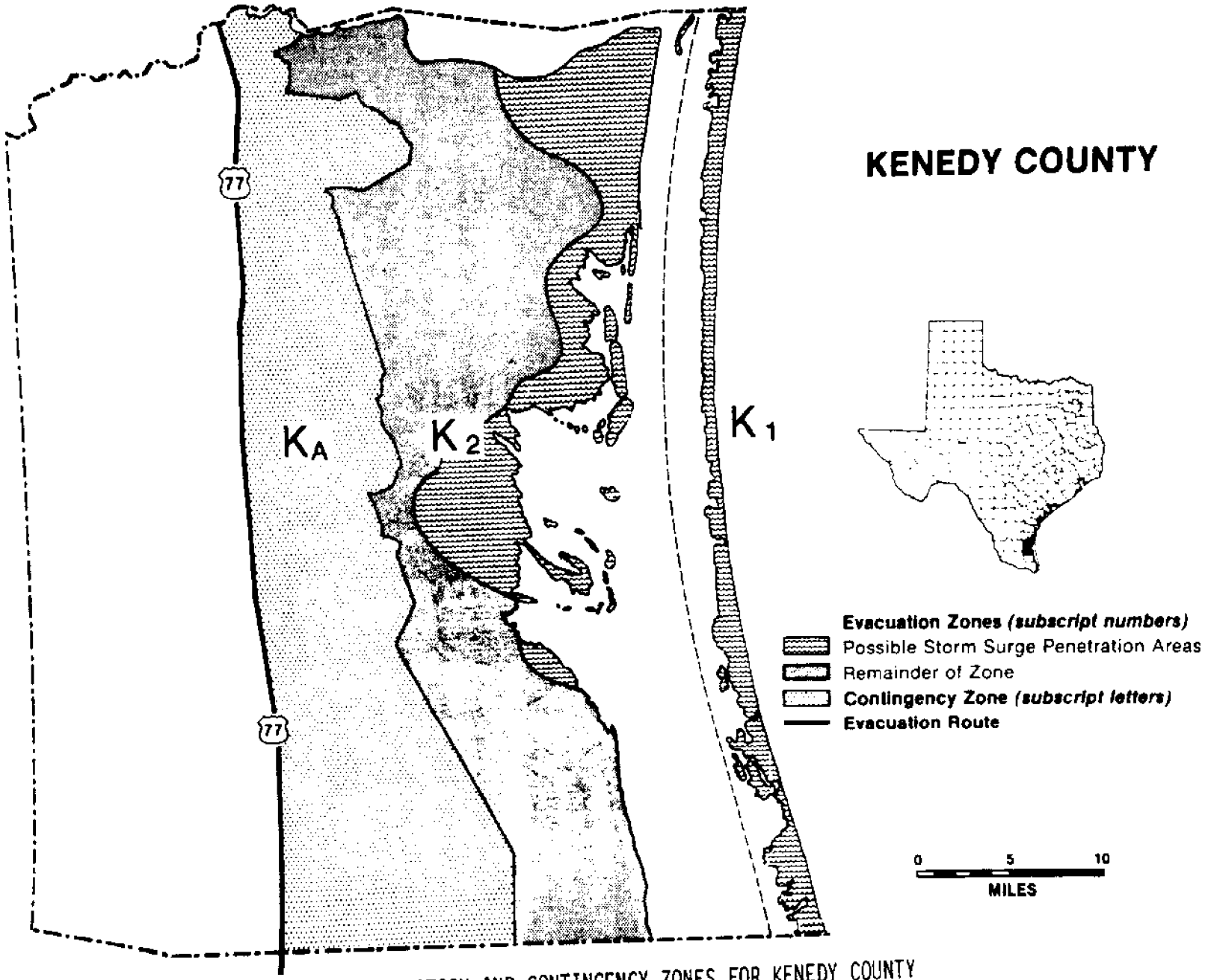


FIGURE 3-3: EVACUATION AND CONTINGENCY ZONES FOR KENEDY COUNTY

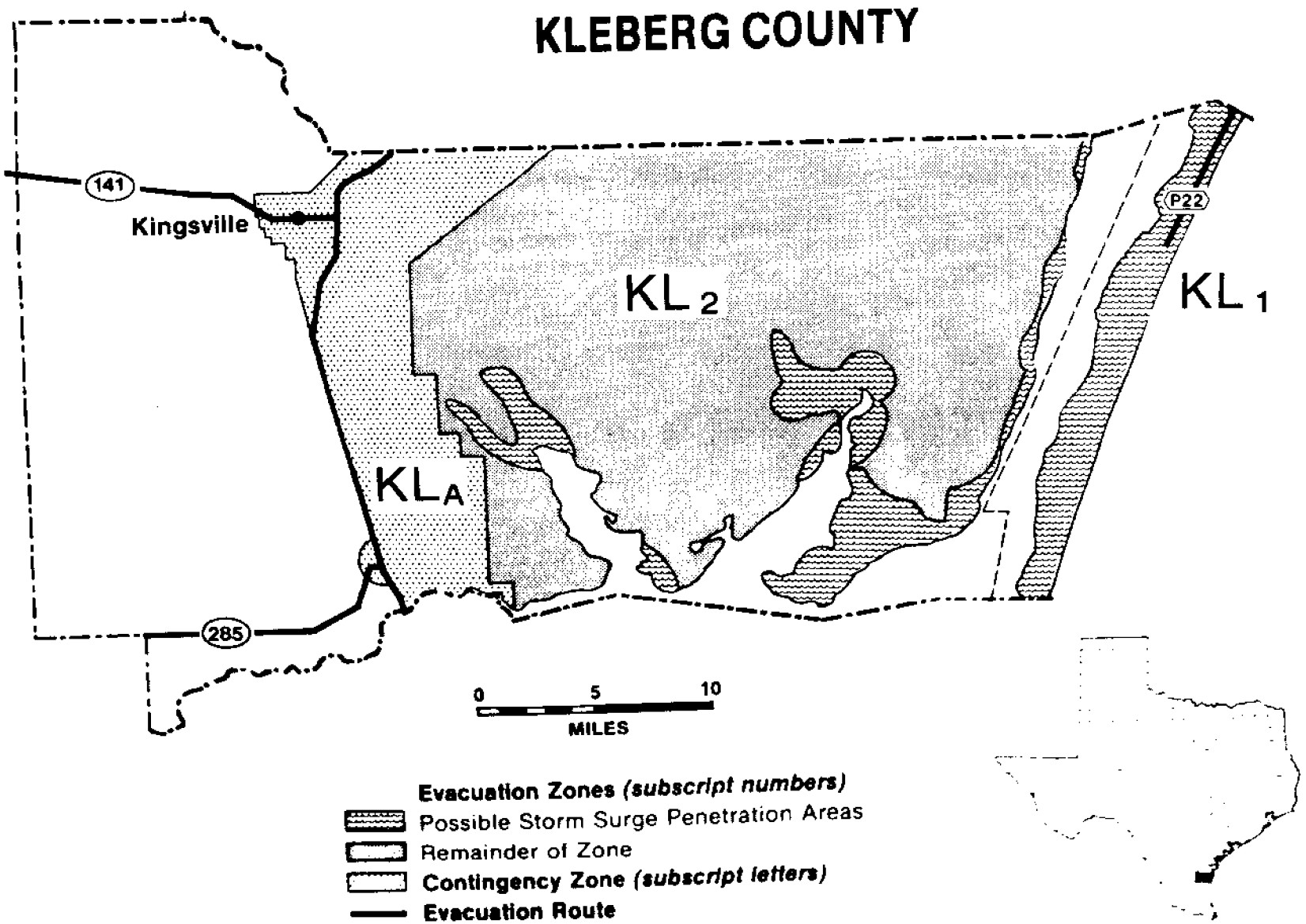


FIGURE 3-4: EVACUATION AND CONTINGENCY ZONES FOR KLEBERG COUNTY

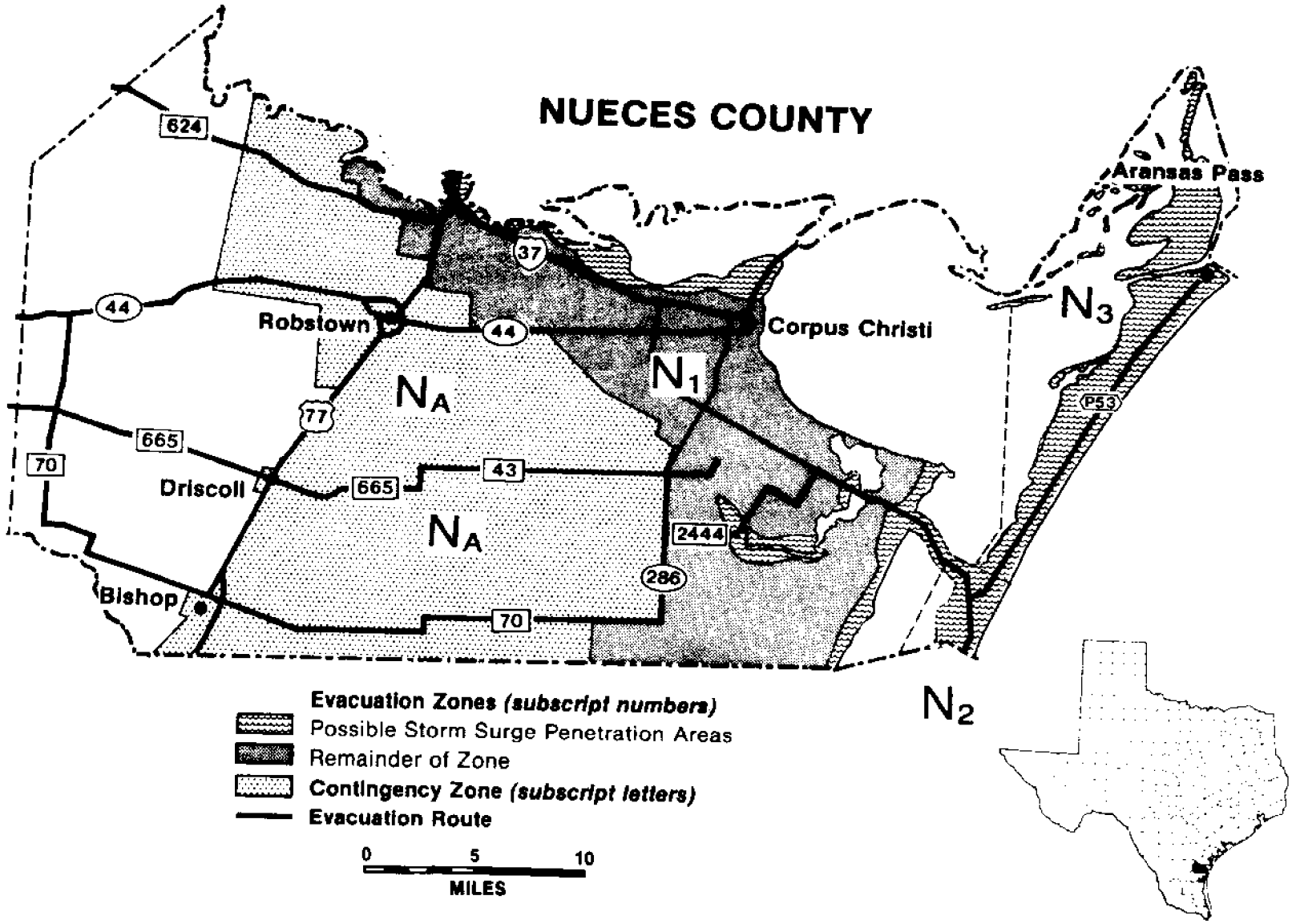


FIGURE 3-5: EVACUATION AND CONTINGENCY ZONES FOR NUECES COUNTY

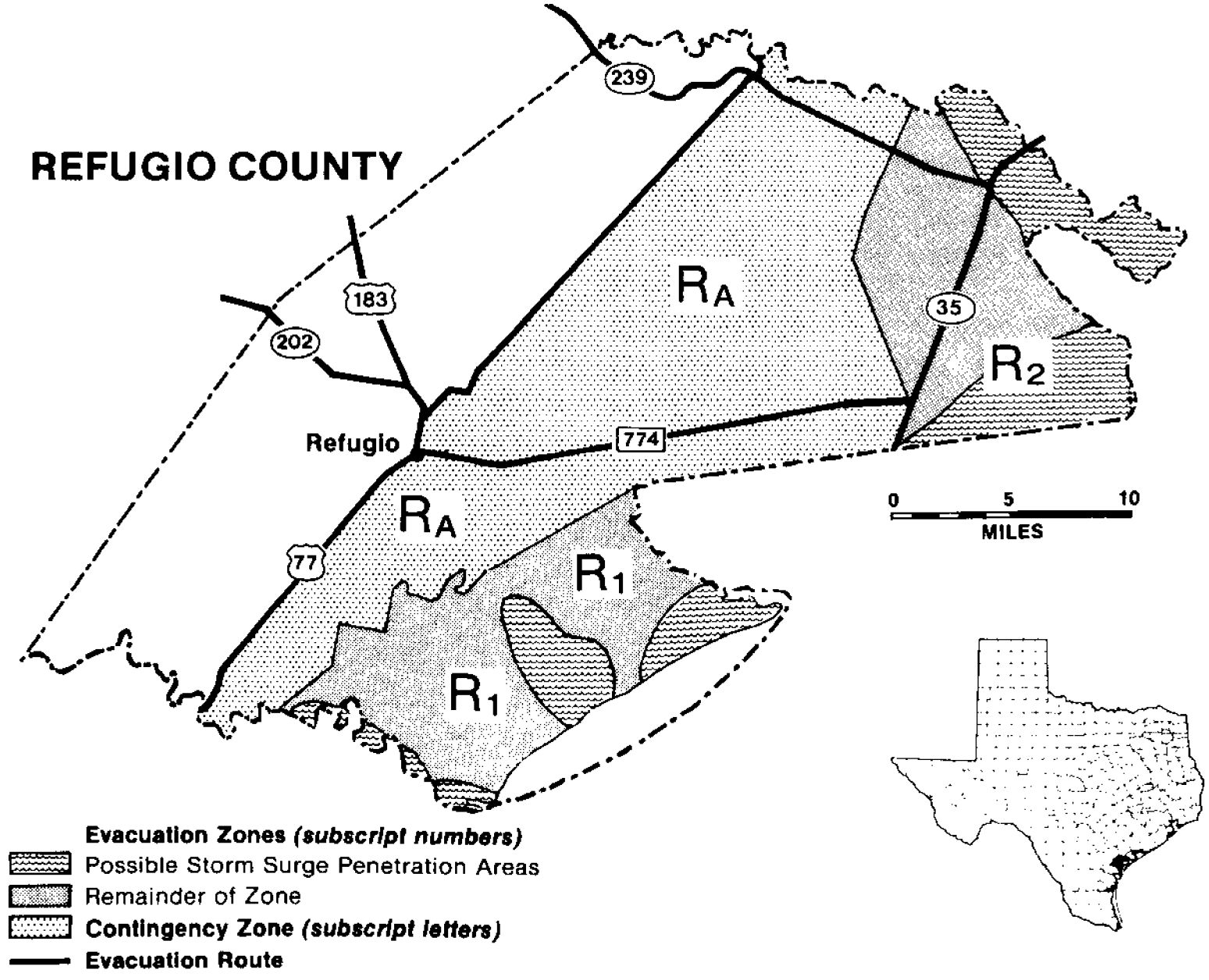


FIGURE 3-6: EVACUATION AND CONTINGENCY ZONES FOR REFUGIO COUNTY

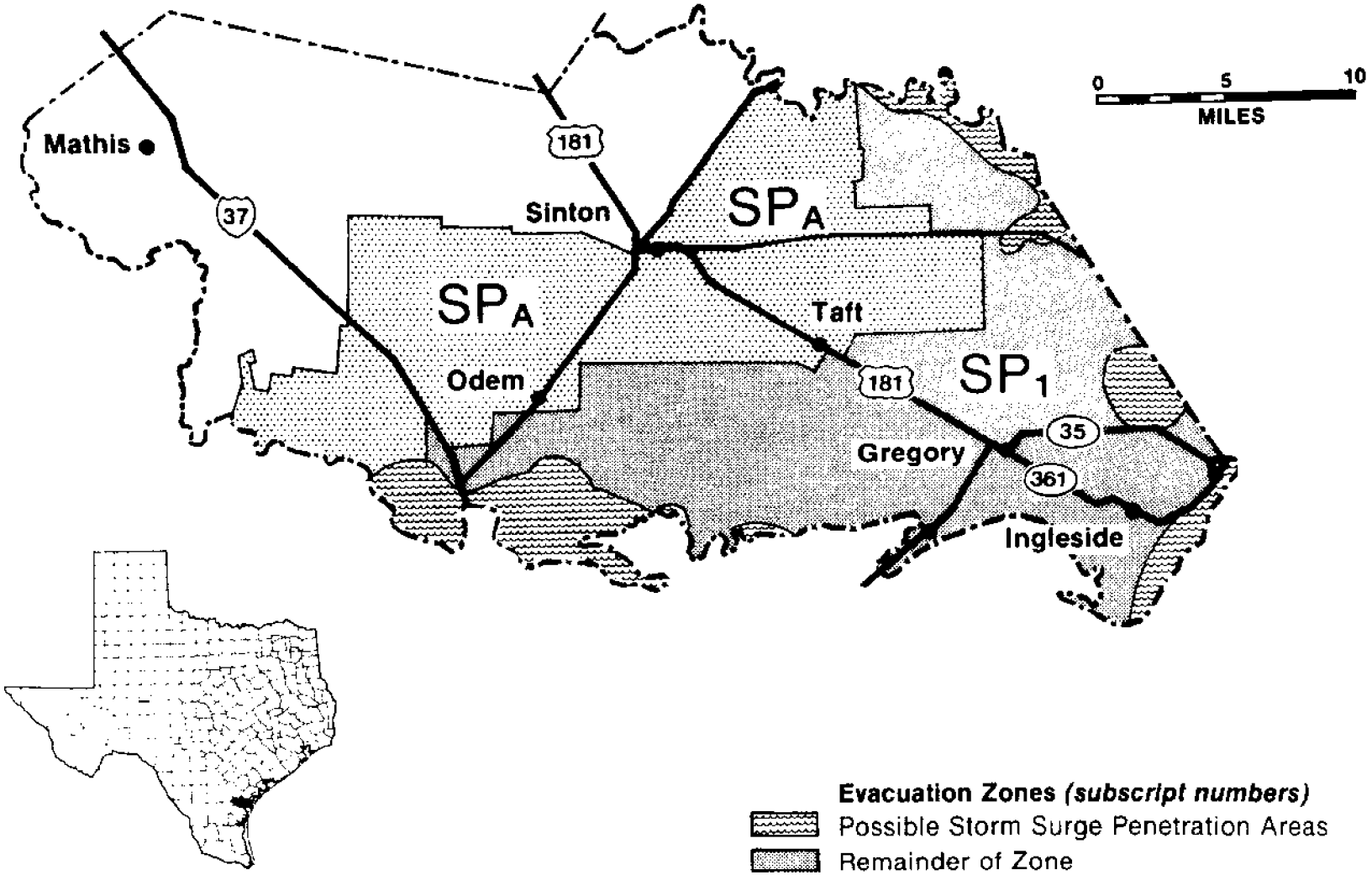


FIGURE 3-7: EVACUATION AND CONTINGENCY ZONES FOR SAN PATRICIO COUNTY

Part C: Boundary Descriptions by County

ARANSAS COUNTY

Evacuation Zones

Zone A1:

The northwestern boundary begins at a point on the Aransas River where Refugio, San Patricio and Aransas Counties all meet.

Southeast then northeast along the boundary of Aransas and Refugio Counties to a point in Copano Bay which is approximately 3.75 miles northeast of the center of the bridge which spans the channel between Copano Bay and Aransas Bay.

The northeastern boundary begins at a point on the county line 3.75 miles northwest of the center of the bridge.

Southeast 4.75 miles beyond the center of the bridge to a point in Aransas Bay on the Gulf Intracoastal Waterway.

The southeastern boundary begins at a point in Aransas Bay 4.75 miles southeast of the center of the bridge on the Gulf Intracoastal Waterway.

Southwest 13 miles along Aransas Bay and across the southernmost tip of Traylor Island to a point on the boundary of Aransas and Nueces Counties.

North northwest 2.5 miles along the boundary of Aransas and Nueces Counties to the Gulf Intracoastal Waterway.

South southwest 2.5 miles along the Gulf Intracoastal Waterway to the boundary of Aransas and San Patricio Counties.

The southwestern boundary begins where the Gulf Intracoastal Waterway intersects the boundary of Aransas and San Patricio Counties.

Northwest 14.25 miles to a point where Aransas, San Patricio and Refugio Counties meet.

Zone A2:

The northern boundary begins at the extreme northwestern corner of the county where the county boundary meets Copano Creek.

East 20.5 miles along the boundary between Aransas and Refugio Counties to the shore.

The southeastern boundary begins where the boundary between Aransas and Refugio counties meets the shore.

South 9 miles to a point in Ayres Bay.

Southwest 11.5 miles to a point in Aransas Bay on the Gulf Intracoastal Waterway 4.75 miles southeast of the center of the bridge which spans the channel between Copano Bay and Aransas Bay.

The southwestern boundary begins at a point in Aransas Bay on the Gulf Intracoastal Waterway 4.75 miles southeast of the center of the bridge.

Northwest 8.5 miles through the center of the bridge to a point on the boundary of Aransas and Refugio Counties.

Northeast 3.75 miles then north 1 mile along the boundary of Aransas and Refugio Counties to the outlet of Copano Creek.

Northwest along Copano Creek to the northwest corner of Aransas County.

Zone A3:

The northwestern boundary begins at a point on the border of Aransas and Nueces Counties .25 mile south of the southern tip of Traylor Island.

Northeast 13 miles to a point in Aransas Bay on the Gulf Intracoastal Waterway 4.75 miles southeast of the center of the bridge which spans the channel between Copano and Aransas Bays.

Northeast 11.5 miles to a point on the boundary of Aransas and Calhoun Counties near the center of Ayres Bay.

The southeastern boundary begins at a point on the boundary of Aransas and Calhoun Counties near the center of Ayres Bay and continues south across Mesquite Bay to the northern end of Cedar Bayou.

South along Cedar Bayou to the Gulf of Mexico.

Southwest 19.5 miles along the shore of San Jose Island to its southernmost tip.

The southwestern boundary begins at the southernmost tip of San Jose Island.

It then follows the boundary of Aransas and Nueces Counties 1.75 miles northwest, then 1 mile north, then 4.5 miles north northwest, to a point .25 mile south of the southern tip of Traylor Island.

KENEDY COUNTY

Evacuation Zones

Zone K1:

The northern boundary begins where the boundary of Kenedy and Kleberg Counties crosses the western boundary of the Padre Island National Seashore and continues easterly 3 miles along the county boundary to the eastern boundary of the Padre Island National Seashore.

The eastern boundary begins where the boundary of Kenedy and Kleberg Counties crosses the eastern boundary of the Padre Island National Seashore and continues southerly along the boundary 49.5 miles to the boundary of Kenedy and Willacy Counties.

The southern boundary begins where the boundary of Kenedy and Willacy Counties crosses the eastern boundary of the Padre Island National Seashore and continues westerly 3 miles along the county boundary to the western boundary of the Padre Island National Seashore.

The western boundary begins where the western boundary of the Padre Island National Seashore crosses the boundary of Kenedy and Willacy Counties and continues northerly along the boundary 49.5 miles to the boundary of Kenedy and Kleberg Counties.

Zone K2:

The northern boundary begins at a point in the Laguna De Los Olmos 1 mile northeast of the oil refinery on the Santa Oil Field Road.

East along the boundary between Kenedy and Kleberg Counties to the western boundary of the Padre Island National Seashore.

The eastern boundary begins at a point of the intersection of the boundary between Kenedy and Kleberg Counties and the western boundary of the Padre Island National Seashore.

South along the western boundary of the Padre Island National Seashore to the boundary of Kenedy and Willacy Counties.

The southern boundary begins at the intersection of the boundary between Kenedy and Willacy Counties and the west boundary of Padre Island National Seashore.

West along the boundary between Kenedy and Willacy Counties to a point 4 miles south of the eastern end of the Rosita Lake Road.

The western boundary begins at a point on the boundary of Kenedy and Willacy Counties 4

as south of the eastern end of the Rosita Lake Road.
North 4 miles to the eastern end of the Rosita Lake Road.
North northwest 13 miles to a [illegible] bladed earth roads which lies 1 .5 miles west of Cayo Soledad.
North northwest 7.5 miles along the road to the San Pedro Ranch.
East then North 8 miles along the road past the San Pedro Ranch to the Marana Camp.
North northwest 7.5 miles to the southern end of the road to the east of the El Paistle Oil Field.
North northwest 2 miles along the road to the Carnestolendas Ranch Road.
East 2 miles then east northeast 3 miles along the Carnestolendas Ranch Road to the La Parra Ranch Road.
Northwest 5.5 miles along the La Parra Ranch Road to the La Parra Ranch.
West 4 miles along the La Parra Ranch Road to the Sarita Oil Field.
North and west 2 miles then east northeast 1.5 miles along the Sarita Oil Field Road to the oil refinery.
Northeast 1 mile to a point in the Laguna De Los Olmos which is the point of beginning.

Contingency Zones

Zone KK:
The northern boundary begins where Highway 77 crosses Los Olmos Creek and continues east along the creek and through the Laguna De Los Olmos to a point in the lagoon approximately 1 mile northeast of the oil refinery on the Sarita Oil Field.
The eastern boundary begins in the Laguna De Los Olmos approximately 1 mile northeast of the oil refinery on the Sarita Oil Field Road and continues south to the La Parra Ranch Road.
East 4 miles along the La Parra Ranch Road to a bladed earth road.
Southeast 5 miles along the road to the Carnestolendas Ranch Road.
Southwest 3 miles then west 2 miles along the road to a bladed earth road on the east edge of the El Paistle Oil Field.
South 2 miles to the end of the road.
South southwest 7.5 miles from the end of the road to the Marana Camp.
South then west 7.5 miles along the road between the Marana Camp and the San Pedro Ranch to a bladed earth road.
South 8.5 miles along the road to the intersection of another bladed earth road 1.5 miles west of the Cayo Soledad.
South southeast 13 miles to the eastern end of the road which passes just south of Rosita Lake.
South 4 miles to the boundary of Kenedy and Willacy Counties.
The southern boundary begins approximately 4 miles south of the eastern end of the Rosita Lake Road at a point on the boundary of Kenedy and Willacy Counties.
West 13 miles to a point where the boundary of Kenedy and Willacy Counties intersects Highway 77.
The western boundary follows Highway 77 north from where it crosses the boundary between Kenedy and Willacy Counties to the Sarita city boundary.
Along the western city boundary of Sarita in an approximate .5 mile radius half circle back to Highway 77.
North along Highway 77 to the Los Olmos Creek.

KLEBERG County

Evacuation Zones

Zone KL1:
The northern boundary begins where the boundary of Kleberg and Nueces Counties crosses the western boundary of the Padre Island National Seashore and continues 3.5 miles easterly along the county boundary to the eastern boundary of the Padre Island National Seashore.
The eastern boundary begins where the boundary of Kleberg and Nueces Counties crosses the eastern boundary of the Padre Island National Seashore and continues southerly 23 miles along the boundary to the boundary of Kleberg and Kenedy Counties.
The southern boundary begins where the boundary of Kleberg and Kenedy Counties crosses the eastern boundary of the Padre Island National Seashore and continues westerly along the county boundary 3 miles to the western boundary of the Padre Island National Seashore.
The western boundary begins where the boundary of Kleberg and Kenedy Counties crosses the western boundary of the Padre Island National Seashore and continues northerly 21 miles along the boundary to the boundary of Kleberg and Nueces Counties.

Zone KL2:
The northern boundary begins at a point on the boundary of Kleberg and Nueces Counties 8.75 miles east of Highway 628 and continues east along the boundary 22.5 miles to the edge of the Laguna Madre.
East northeast 3.5 miles along the county boundary to the Gulf Intracoastal Waterway.
The eastern boundary begins where the county boundary crosses the Gulf Intracoastal Waterway.
South southwest 18.25 miles along the Gulf Intracoastal Waterway.
East 1 mile then south 4 miles along the Padre Island National Seashore boundary to the boundary of Kleberg and Kenedy Counties.
The southern boundary begins where the county boundary intersects the Padre Island National Seashore boundary.
West 20.5 miles along to county boundary to a point .25 mile south of the southern end of County Road 1120 S.
The western boundary begins at a point on the county boundary .25 miles south of the southern end of County Road 1120 S and continues north 1.5 miles to County Road 2340.
West 1 mile on County Road 2340 to County Road 1110 S.
North 3 miles along County Road 1110 S to Highway 628.
North 4 miles and west 2 miles along Highway 628 to Highway 1118.
North 2 miles then west 1 mile along Highway 1118 to County Road 1080 N.
North 4.75 miles along County Road 1080 N crossing Santa Gertrudis Creek to the southeast corner of Kingsville Naval Air Station at San Fernando Creek.

Northwest 7.5 miles to a point on the boundary of Kenedy and Nueces Counties 8.25 miles east of where the boundary crosses Highway 428.

Contingency Zones

Zone K1A:

The northern boundary begins at the northwest corner of the Kingsville city boundary and proceeds east 2.25 miles to Highway 428.
Northeast 2.25 miles along Highway 428 to the boundary of Kleberg and Nueces Counties.
East 8.25 miles along the boundary of Kleberg and Nueces Counties to a point.
The eastern boundary begins at a point on the boundary of Kleberg and Nueces Counties 8.25 miles east of the intersection of the county boundary and Highway 428.
Southwest 7.5 miles to a point due north of the intersection of County Road 2080 E and County Road 1080 N at the southern boundary of the Kingsville Naval Air Station.
South 4.75 miles along County Road 1080 N and across Santa Gertrudis Creek to Highway 1118.
East 1 mile then south 2 miles along Highway 1118 to Highway 772.
South 4 miles and east 2 miles along Highway 772 to Highway 628.
South 3 miles along County Road 1110 S to County Road 2340.
East 1 mile along County Road 2340 to Highway 2510.
South 1.5 miles along Highway 2510 and County Road 1120 S to the southern end of County Road 1120 S.
South .25 mile to the boundary of Kleberg and Kenedy Counties.
The southern boundary begins at a point on the boundary of Kleberg and Kenedy Counties .25 mile south of the southern end of County Road 1120 S and continues west along the county boundary (Los Olmos Creek) to Highway 77.
The western boundary begins where Highway 77 crosses Los Olmos Creek and continues 1 mile north northwest to the city boundary of Riviera.
Along the western boundary of Riviera back to Highway 77.
North northwest 7.5 miles along Highway 77 to the city boundary of Ricardo.
Along the western boundary of Ricardo back to Highway 77.
North northwest 1.75 miles along Highway 77 to Highway 428.
North 3 miles along Highway 428 to Highway 1356.
West .5 mile then north .75 mile along 1356 to where the Kingsville city boundary turns to head west.
North and west along the Kingsville city boundary to the northwest corner of the Kingsville city boundary.

NUECES COUNTY

Evacuation Zones

Zone N1:

The northern boundary begins at a point on the Nueces River 1 mile northeast of the northern end of County Road 72.
East along the Nueces River to Nueces Bay.
East along the northern shore of Nueces Bay and Corpus Christi Bay to a point 4.75 miles south southwest of the southern boundary of the city of Aransas Pass where the shoreline turns to head northeast.
The eastern boundary then heads due South to the northern boundary of Corpus Christi 7 miles north northeast of the northern tip of Padre Island.
South southwest 7 miles along the city boundary to the northern tip of Padre Island.
West northwest 1.25 miles along the boundary.
South southwest 4.75 miles to a point on the boundary of Nueces and Kleberg Counties at the Gulf Intracoastal Waterway.
The southern boundary begins at the point where the Gulf Intracoastal Waterway intersects the boundary of Nueces and Kleberg Counties.
West 11 miles to County Road 51.
The western boundary begins where County Road 51 crosses the boundary of Nueces and Kleberg Counties.
North along County Road 51 1.75 miles to Highway 70.
East 3 miles along Highway 70 to Highway 286.
North 7 miles then north northeast 1.25 miles along Highway 286 to the Corpus Christi city boundary.
Northwest 8.25 miles along the Corpus Christi city boundary to Highway 44.
West 3.5 miles along Highway 44 to Highway 24.
North 1.75 miles along Highway 24 to County Road 44.
West 2.5 miles along County Road 44 to Highway 77.
North northeast then north 1.5 miles along Highway 77 to County Road 48.
West 1.75 miles along County Road 48 to Highway 1889.
North 1.75 miles along Highway 1889 to Highway 624.
West northwest 2.25 miles along Highway 624 to County Road 75.
North 1 mile along County Road 75 to County Road 56.
West 1 mile along County Road 56 to County Road 72.
North 1 mile along County Road 72 to its end.
Northeast 1 mile from the end of County Road 72 along a double pipeline to the Nueces River.

Zone N2:

The northern boundary begins at a point 1.25 miles west northwest of the northernmost tip of Padre Island and continues 3 miles east southeast to the eastern shore of Padre Island .5 mile south of Newport Pass.
The eastern boundary begins at a point on the eastern shore of Padre Island .5 mile south of Newport Pass and continues south along the shore 4 miles to the boundary of Nueces and Kleberg Counties.
The southern boundary begins where the boundary of Nueces and Klebry Counties crosses the eastern boundary of the Padre Island National Seashore and continues westerly 3.5 miles along the county boundary to the western boundary of the Padre Island National Seashore.
The western boundary begins where the boundary of Nueces and Kleberg counties crosses the western boundary of the Padre Island National Seashore and continues north beyond the northern boundary of the Padre Island National Seashore to a point 1.25 miles west northwest of the northernmost tip of Padre Island.

Zone N3:

The northwestern boundary begins at a point on the shore of Corpus Christi Bay 4.75 miles south southwest of the southern boundary of the city of Aransas Pass where the shoreline begins to turn to head north northeast.

North northeast 12 miles along the shoreline to where the boundary of Nueces and Aransas Counties heads south southeast to cross Redfish Bay.

The northeastern boundary continues south southeast 7 miles then south southwest 1 mile along the boundary of Nueces and Aransas Counties across Redfish Bay to the Aransas Channel.

Southeast 1 mile along the Aransas Channel to the eastern shore of Mustang Island.

The southeastern boundary continues southwest 18 miles along the eastern shore of Mustang Island to a point .5 mile south of Newport Pass.

The southwestern boundary begins at a point on the eastern shore of Mustang Island .5 mile south of Newport Pass.

West northwest 1.5 miles to a point on the Corpus Christi city boundary.

North northeast 2.25 miles along the Corpus Christi city boundary.

Due north 11.25 miles across Corpus Christi Bay to point of beginning.

Contingency Zones

Zone NA:

The northern boundary begins where Highway 666 crosses the boundary of Nueces and San Patricio Counties (here, the Nueces River).

East along the boundary of Nueces and San Patricio Counties to a point 1 mile northeast of the northern end of County Road 72 where 2 pipelines cross the Nueces River.

The eastern boundary begins at a point 1 mile northeast of the northern end of County Road 72 where 2 pipelines cross the Nueces River.

Southwest 1 mile to the end of County Road 72.

South 1 mile along County Road 72 to County Road 56.

East 1 mile along County Road 56 to County Road 75.

South 1 mile along County Road 75 to Highway 624.

Southeast 1 mile then east 1.25 miles along Highway 624 to Highway 1889.

South 1.75 miles along Highway 1889 to County Road 48.

East 1.75 miles along County Road 48 to Highway 77.

South .75 mile then southwest .5 mile along Highway 77 to County Road 44.

East 2.5 miles along County Road 44 to Highway 24.

South 1.75 miles along Highway 24 to Highway 44.

East 3.5 miles to the Corpus Christi city boundary.

Southeast 8.25 miles along the Corpus Christi city boundary to Highway 286.

South 8.5 miles along Highway 286 to Highway 70.

West 3 miles along Highway 70 to County Road 51.

South 1.75 miles along County Road 51 to the boundary of Nueces and Kleberg Counties.

The southern boundary begins where the boundary of Nueces and Kleberg Counties crosses County Road 51 and continues west 20 miles along said boundary to Highway 428.

The western boundary begins where the boundary of Nueces and Kleberg Counties crosses Highway 428 and continues northeast 1.75 miles to the Bishop city boundary.

West .75 mile along the boundary to a point where the boundary turns to head north.

North 1.5 miles along the boundary to a point where the boundary turns to head east.

East 1 mile along the boundary to Highway 77.

North 5.25 miles along Highway 77 to the southern boundary of Driscoll.

West .5 mile along the boundary to a point where the boundary turns to head north.

North 1.25 miles along the boundary to a point where the boundary turns to head east.

East .75 mile along the boundary to Highway 77.

Northeast 5 miles along Highway 77 to Highway 2826.

West 1 mile along Highway 2826 to County Road 77.

North 4 miles along County Road 77 to County Road 40.

West 5.25 miles along County Road 40 to Highway 666.

North 9.5 miles along Highway 666 to the Nueces River.

REFUGIO COUNTY

Evacuation Zones

Zone R1:

The northeastern boundary begins at the confluence of Copano and Alameda Creeks and continues southeast along the Copano Creek to Turtle Pen Point.

The southeastern boundary begins at Turtle Pen Point and continues southwest 17.5 miles along the boundaries of Refugio and Aransas Counties to the point where the Aransas River flows into Copano Bay.

The southwestern boundary begins at the point where the Aransas River flows into Copano Bay and continues west northwest along the Aransas River to a point on the river 3 miles southwest of where Highway 1360 turns east.

The northwestern boundary then heads 3 miles northeast to where Highway 1360 turns east.

North 2 miles along Highway 1360 to Highway 3037.

East 2 miles along Highway 3037 to Highway 629.

North 1.5 miles along Highway 629 to Highway 136.

North .5 mile to the Mission River.

East 5.5 miles along the Mission River to a point on the river 8.5 miles west southwest of the confluence of Copano and Alameda Creeks.

East northeast 8.5 miles to the confluence of Copano and Alameda Creeks.

Zone R2:

The northeastern boundary begins at a point on the San Antonio River 4.25 miles northwest of the intersection of Highway 239 and Highway 35 in Tivoli and continues east along the San Antonio River to the Guadalupe River.

East along the Guadalupe River to Guadalupe Bay.

South along the shore of Guadalupe Bay to Hynes Bay.

Around Hynes Bay along the shore to the boundary of Refugio and Aransas Counties.

The southern boundary begins at a point where the boundary of Refugio and Aransas Counties

intersects the shore of San Antonio Bay and continues 9.5 miles west along the county boundary to the intersection of the county boundary with Highway 35.

The western boundary begins at the intersection of the county boundary with Highway 35 and continues north northeast 2 miles along Highway 35 to Highway 774.

North northwest 6.5 miles to a point near the southern end of a private paved road where the road turns west.

North northeast 4.5 miles along the road to Highway 239.

North northeast 1.75 miles to a point on the San Antonio River which is the point of beginning.

Contingency Zones

Zone RA:

The northern boundary begins where Highway 77 crosses the San Antonio River and continues east along the San Antonio River to a point on the river 4.25 miles northwest of the intersection of Highway 35 and Highway 239 in Tivoli.

The eastern boundary continues 1.75 miles south southwest to the intersection of Highway 239 and a private paved road.

South southwest 4.5 miles along the road to a point where the road turns west.

South southeast 6.5 miles to the intersection of Highway 774 and Highway 35.

South southwest 2 miles along Highway 35 to the boundary of Refugio and Aransas Counties.

The southern boundary begins where Highway 35 intersects the boundary of Refugio and Aransas counties and continues 10.75 miles west along the county boundary to the confluence of Alameda and Copano Creeks.

West southwest 8.5 miles to the Mission River.

West along the Mission River to a point .75 mile north of the intersection of Highway 136 and Highway 629.

South 1.5 miles along Highway 629 to Highway 3037.

West 2 miles along Highway 3037 to Highway 1360.

South 2 miles along Highway 1360 to a point where Highway 1360 turns east.

Southwest 3 miles to the Aransas River.

West along the Aransas River to Highway 77.

The western boundary begins where Highway 77 crosses the Aransas river and continues northeast along Highway 77 9.5 miles to the southern city boundary of Woodsboro.

Northwest .5 mile along the city boundary of Woodsboro to where the boundary turns to head northeast.

Northeast .5 mile along the boundary to where the boundary turns to head east.

East .5 mile along the boundary to Highway 77.

Northeast 4.75 miles along Highway 77 to the southern city boundary of Refugio.

West .25 mile then north .5 mile along the city boundary of Refugio to County Road 108.

West .25 mile then north .25 mile along County Road 108 to County Road 109.

West .25 mile along County Road 109 to County Road 111.

North .6 mile along County Road 111 to County Road 107.

West .5 mile then north 1 mile along County Road 107 to County Road 111.

East .5 mile along County Road 111 to the corner where County Road 111 turns south.

Southeast 1.25 miles to a point where the northern boundary of Refugio crosses Highway 77.

Northeast 21 miles along Highway 77 to the San Antonio River.

SAN PATRICIO COUNTY

Evacuation Zones

Zone SP1:

The northeastern boundary begins at a point on the boundary of San Patricio and Refugio Counties (the Aransas River) which is approximately due north of the intersection of Highway 631 and the Marathon Oil Company Road.

East then Southeast along the boundaries of San Patricio and Refugio then San Patricio and Aransas counties through the city of Aransas Pass to the shore of Redfish Bay.

The southern boundary begins where the boundary of San Patricio and Aransas Counties intersects the shore of Redfish Bay.

Southwest 7 miles along the shore of Redfish Bay to where Highway 1069 intersects the shoreline.

West along the northern shores of Corpus Christi Bay and Nueces Bay to the Nueces river.

West along the Nueces River to a point on the river due south of the intersection of Highway I-37 and County Road 54.

The northwestern boundary begins at a point on the river due south of the intersection of Highway I-37 and County Road 54.

North to the intersection of Highway I-37 and County Road 54.

Southeast 1.75 miles along Highway I-37 to a point on Highway I-37 due west of the end of County Road 56.

East 1.75 miles to the intersection of County Road 56 and County Road 35.

North 1.5 miles along County Road 35 to County Road 54.

East 1.25 miles along County Road 54 to the Odem city boundary.

East along the southern Odem city boundary to Highway 631.

East 1.25 miles along Highway 631 to County Road 53.

North 2 miles along County Road 53 to Highway 1944.

East 8.75 miles along Highway 1944 to County Road 78.

Southeast .5 mile along County Road 78 to Ioland Avenue.

Northeast .5 mile along Ioland Avenue to the Taft city boundary.

Southwest along the Taft city boundary to where the boundary turns northeast.

Northest along the city boundary to the Southern Pacific rail line.

Southwest along the Southern Pacific rail line to Highway 631.

Northeast 1.25 miles along Highway 631 to County Road 102.

East 5 miles along County Road 102 to County Road 86.

North 4 miles along County Road 86 to Highway 881.

West 2 miles along Highway 881 to County Road 81.

North 1 mile along County Road 81 to County Road

92.
West 3 miles on County Road 92 to Highway 631.
North 3 miles along Highway 631 to the Marathon Oil Company Road.
North to the boundary of San Patricio and Refugio Counties (the Aransas River).

Contingency Zones

Zone SPA-
The northern boundary begins at the northwest corner of the San Patricio city boundary.
East then south along the San Patricio city boundary to County Road 21.
East and north along County Road 21 to Highway 234.
North 6 miles along County Road 21 to Highway 881.
East 11.5 miles along Highway 881 to the Sinton city boundary.
East along the northern Sinton city boundary to Highway 77.
Northeast 8 miles along Highway 77 to the boundary between Refugio and San Patricio Counties (the Aransas River).
East along the Aransas River to a point which is approximately due north of the intersection of the Marathon Oil Company Road and Highway 63.
The eastern boundary begins at that point.
South to the intersection of the Marathon Oil Company Road and Highway 631.
South along Highway 631 to County Road 92.
East 3 miles along County Road 92 to County Road 81.
South 1 mile along County Road 81 to Highway 881.
East 2 miles along Highway 881 to County Road 85.
South 4 miles along County Road 85 to County Road 102.
The southern boundary begins at the intersection of County Road 85 and County Road 102 and continues west 5 miles along County Road 102 to Highway 631.
Southwest along Highway 631 1.25 miles to the Southern Pacific rail line.
Northwest along the Southern Pacific rail line to the Taft city boundary.
Southwest along the Taft city boundary to where the city boundary turns northwest.
Northwest along the city boundary to Toland Avenue.
Southwest along Toland Avenue to County Road 78.
Northwest along County Road 78 to Highway 1944.
West 9 miles along Highway 1944 to County Road 53.
South 2 miles along County Road 53 to Highway 631.
West 1.5 miles along Highway 631 to the southern Odem city boundary.
West along the Odem city boundary to County Road 54.
West 1 mile along County Road 54 to County Road 35.
South 1.5 miles along County Road 35 to County Road 56.
West 1.5 miles along County Road 56 to Highway I-37.
Northwest 1.75 miles along Highway I-37 to County Road 54.
Due south 4.75 miles to the boundary of San Patricio and Nueces Counties.
West along the boundary of San Patricio and Nueces Counties (the Nueces River) through the city of San Patricio to the western boundary of the city of San Patricio.
The western boundary begins at the intersection of the boundary of San Patricio and Nueces Counties (the Nueces River) and the western boundary of the city of San Patricio and proceeds north to the northwestern corner of the boundary of the city of San Patricio.

Section Four
SURVEY RESULTS

The results of the survey (described in Section One, Methodology) are divided into the potential number of vehicles evacuating (Part A) and where people will be seeking shelter (Part B).

Part A: Potential Number of Evacuating Vehicles

In order to determine evacuation times, estimates need to be made of the number of vehicles that will be using the available evacuation routes for each zone. Three estimates were made, where applicable, for each zone:

> If 100 percent of the population evacuated the low-lying areas near the coast that had a potential of storm surge flooding. These areas are either parts of, or are complete, evacuation zones (see Figures 3-2 through 3-7).
>
> If the remaining population in those portions of the evacuation zones not counted above evacuated according to the percentage who indicated on the survey that they would evacuate if so requested. The total vehicles per evacuation zone would then add this number to the figure for areas that had the potential of storm surge flooding
>
> If 100 percent of the population were to evacuate from all evacuation and contingency zones. This condition might be necessary for severe hurricanes (winds in excess of 130 mph).

It should be noted that vehicle estimates are based on 1985 population projections. The information can be seen by county in Tables 4-1 through 4-6. The directions indicated are based on destinations indicated on the survey (see Figure 1-5).

TABLE 4-1

POTENTIAL NUMBER OF EVACUATING VEHICLES FOR ARANSAS COUNTY
BY ZONE AS INDICATED IN THE SURVEY

Evacuation Zones	Evacuation Rates	Evacuating Vehicles per Household	Number of Evacuating Vehicles, by Direction (1)	(2)	(3)	Totals
A_1	100%	1.40	709*	2,510*	---	3,219*
	100% + 90%	1.40	1,659**	5,880**	---	7,540**
	100%	1.40	1,765***	6,262***	---	8,027***
A_2	100%	1.40	90*	280*	---	370*
	100% + 92%	1.40	293**	1,035**	---	1,328**
	100%	1.40	312***	1,105***	---	1,417***
A_3	----	----	---	---	---	---
			---	---	---	---
			---	---	---	---
		TOTALS	799*	2,790*		3,859*
			1,952**	6,915**		8,868**
			2,077***	7,367***		9,444***

*One-hundred percent evacuation in inundated areas.
**One-hundred percent evacuation in inundated areas plus evacuation rate percentage in remainder of evacuation zones.
***One-hundred percent evacuation in evacuation and contingency zones.

TABLE 4-2

POTENTIAL NUMBER OF EVACUATING VEHICLES FOR KENEDY COUNTY
BY ZONE AS INDICATED IN THE SURVEY

Evacuation Zones	Evacuation Rates	Evacuating Vehicles per Household		Number of Evacuating Vehicles, by Direction (1)	(2)	(3)	Totals
K_1 (Padre Island National Seashore)							
K_2	100%	1.26		1*	15*	5*	21*
	100% + 56%	1.26		1**	18**	7**	26**
	100%	1.26		1***	22***	9***	32***
Contingency Zones							
K_A	100%	1.26		---	---	---	---
	100% + 56%	1.26		---	---	---	---
	100%	1.26		2***	52***	20***	74***
			TOTALS	1	15	5	21
				1	18	7	26
				3	74	29	106

*One-hundred percent evacuation in inundated areas.
**One-hundred percent evacuation in inundated areas plus evacuation rate percentage in remainder of evacuation zone.
***One-hundred percent evacuation in evacuation and contingency zones.

TABLE 4-3

POTENTIAL NUMBER OF EVACUATING VEHICLES FOR KLEBERG COUNTY
BY ZONE AS INDICATED IN THE SURVEY

Evacuation Zone	Evacuation Rates	Evacuating Vehicles per Household		Number of Evacuating Vehicles, by Direction (1)	(2)	(3)	Totals
KL_1 (Padre Island National Seashore)							
KL_2	100%	1.26		1*	39*	7*	47*
	100% + 93%	1.26		8**	216**	39**	263**
	100%	1.26		8***	230***	42***	280***
Contingency Zone							
KL_A	100%	1.17		---	---	---	---
	100% + 56%	1.17		---	---	---	---
	100%	1.17		---	8,146***	1,437***	9,583***
			TOTALS	1*	39*	7*	47*
				8**	216**	39**	263**
				8***	8,376***	1,479***	9,863***

*One-hundred percent evacuation in inundated areas.
**One-hundred percent evacuation in inundated areas plus evacuation rate percentage in remainder of evacuation zone.
***One-hundred percent evacuation in evacuation and contingency zones.

TABLE 4-4

POTENTIAL NUMBER OF EVACUATING VEHICLES FOR NUECES COUNTY
BY ZONE AS INDICATED IN THE SURVEY

Evacuation Zone	Evacuation Rates	Evacuating Vehicles per Household	Number of Evacuating Vehicles, by Direction			Totals
			(1)	(2)	(3)	
N_1	100%	1.27	287*	2,047*	172*	2,866*
	100% + 60%	1.27	6,178**	51,900**	3,708**	61,786**
	100%	1.27	10,270***	86,626***	6,162***	103,058***
N_2	100%****	---*****	---	3,435*	---	3,425*
			---	3,435**	---	3,435**
			---	3,435***	---	3,435***
N_3	100%	---*****	---	2,927*	---	2,927*
			---	2,927**	---	2,927**
			---	2,927***	---	2,927***
		SUBTOTALS	287*	8,769*	172*	9,228*
			5,774**	58,262**	3,708**	68,148**
			9,598***	92,988***	6,165***	109,420***

(continued)

TABLE 4-4 (continued)

Evacuation Zone	Evacuation Rates	Evacuating Vehicles per Household		Number of Evacuating Vehicles, by Direction (1)	(2)	(3)	Totals
Contingency Zone							
N_A	100%	1.14		---	---	---	---
	100% + 68%	1.14		---	---	---	---
	100%	1.14		260***	6,931***	1,473***	8,664***
			TOTALS	287*	8,769*	172*	9,228*
				5,774**	58,262**	3,708**	68,148**
				9,858***	99,919***	7,635***	118,084***

*One-hundred percent evacuation in inundated areas.
**One-hundred percent evacuation in inundated areas plus evacuation rate percentage in remainder of evacuation zone.
***One-hundred percent evacuation in evacuation and contingency zones.
****Zones N_2 and N_3 (Padre and Mustang Barrier Islands) are considered to be completely inundated by surge from both moderate and severe hurricanes. Therefore, these zones are assumed to experience a 100% evacuation for all three options.
*****Evacuating vehicles totals are based on estimated 1985 occupied households of the resident population and tourist estimates for zones N_2 and N_3.

TABLE 4-3

POTENTIAL NUMBER OF EVACUATING VEHICLES FOR REFUGIO COUNTY
BY ZONE AS INDICATED IN THE SURVEY

Evacuation Zones	Evacuation Rates	Evacuating Vehicles per Household		Number of Evacuating Vehicles, by Direction (1)	(2)	(3)	Totals
R_1	100%	1.91		15*	53*	---	68*
	100% + 65%	1.91		77**	275**	---	352**
	100%	1.91		110***	392***	---	502***
R_2	100%	1.91		43*	181*	---	224*
	100% + 57%	1.91		70**	297**	---	367**
	100%	1.91		91***	390***	---	481***
			SUBTOTALS	58*	234*	---	292*
				147**	572**	---	719**
				201***	782***	---	983***
Contingency Zones							
R_A	44%	1.91		---	---	---	---
	100% + 44%	1.91		---	---	---	---
	100%	1.91		613***	2,614***	---	3,227***
			TOTALS	58*	234*	---	292*
				147**	572**	---	719**
				814***	3,396***	---	4,210***

*One-hundred percent evacuation in inundated areas.
**One-hundred percent evacuation in inundated areas plus evacuation rate percentage in remainder of evacuation zone.
***One-hundred percent evacuation in evacuation and contingency zones.

TABLE 4-6

POTENTIAL NUMBER OF EVACUATING VEHICLES FOR SAN PATRICIO COUNTY
BY ZONE AS INDICATED IN THE SURVEY

Evacuation Zone	Evacuation Rates	Evacuating Vehicles per Household	Number of Evacuating Vehicles, by Direction (1)	(2)	(3)	Totals
SP_1	100%	1.35	3*	34*	4*	41*
	100% + 78%	1.35	1,209**	9,012**	770**	10,990**
	100%	1.35	1,541***	11,488***	981***	14,010***
Contingency Zone						
SP_A	100%	1.12	---	---	---	---
	100% + 62%	1.12	---	---	---	---
	100%	1.12	548***	6,166***	137***	6,851***
		TOTALS	3*	34*	4*	41*
			1,209**	9,012**	770**	10,990**
			2,089***	17,654***	1,118***	20,861***

*One-hundred percent evacuation in inundated areas.
**One-hundred percent evacuation in inundated areas plus evacuation rate percentage in remainder of evacuation zone.
***One-hundred percent evacuation in evacuation and contingency zones.

Part B: Shelter Data

The information on shelter requirements resulting from the survey data should be useful for the American Red Cross and other groups providing shelters. The data in this section merely indicate the intention of survey respondents to seek shelter in various areas. No consideration was given to the availability of shelters in these areas or to the advisability of seeking shelter in these areas.

The number of persons seeking shelter were based on 1980 census data projected to 1985. These figures do not include persons who indicated that they would seek shelter with friends or in a motel, but only those who indicated that they would plan to stay in a shelter in that area if available.

The estimated number of persons seeking shelter, by county and zone, are displayed in Tables 4-7 through 4-12. The categories indicated are described below:

> Number of persons seeking local shelter: This is based on the percent of non-evacuating households who indicate that they would stay in local shelters.
>
> Number of persons seeking shelter in cities in study area: This is based on the percent of evacuating households who indicated they would stay in shelters in cities in the study area.
>
> Number of persons seeking shelter outside the study area: This is based on the percent of evacuating households who indicated that they would stay in shelters in cities outside of the study area.

The shelter requirements for the key cities (if there are any) are indicated at the bottom of these tables by source (local, from evacuation zones and from contingency zones).

A composite of these tables for all counties is displayed in Table 4-13. An indication of the number of persons who would seek shelter in cities outside the study area is shown in Table 4-14.

These shelter figures indicate sheltering needs for moderate-type hurricanes. For hurricanes with winds in excess of 130 mph, it would be anticipated that those seeking local shelter or shelter in some other city in the study area would be greatly reduced because of the hazard of staying in these areas, while at the same time, a major hurricane (with winds in excess of 130 mph) would generate a near 100 percent evacuation of the study area. This would increase the number of persons who would be seeking shelter in cities outside the study area.

TABLE 4-7

EVACUATION RATES AND SHELTER DEMAND
FOR ARANSAS COUNTY

Evacuation Zone	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
A_1	90%	---	170	681
A_2	92%	---	---	---
A_3	---	---	---	---
	TOTALS	---	170	681

TABLE 4-8

EVACUATION RATES AND SHELTER DEMAND
FOR KENEDY COUNTY

Evacuation Zone	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
K_1 (Padre Island National Seashore)				
K_2	56%	---	---	---
Contingency Zone				
K_A	56%	---	3	9
	TOTALS	---	3	9

TABLE 4-9

EVACUATION RATES AND SHELTER DEMAND
FOR KLEBERG COUNTY

Evacuation Zone	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
KL_1 (Padre Island National Seashore)				
KL_2	93%	---	10	40
Contingency Zone				
KL_A	56%	3,032	373	1,302
	TOTALS	3,032	383	1,342

Key City Shelter Requirements	Number of Local Persons	Number of Persons from Evacuation Zones	Number of Persons from Contingency Zones	Total Shelter Requirements
Kingsville	3,032	177	---	3,209
TOTALS	3,032	177	---	3,209

TABLE 4-10

EVACUATION RATES AND SHELTER DEMAND
FOR NUECES COUNTY

Evacuation Zone	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
N_1	60%	24,707	110	6,896
N_2	100%*	---	---	94
N_3	100%*	---	---	81
	SUBTOTALS	24,707	110	7,071
Contingency Zone				
N_A	68%	1,128	---	---
	TOTALS	25,835	110	7,071

(continued)

TABLE 4-10(continued)

Evacuation Zone	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
Key City Shelter Requirements	Number of Local Persons	Number of Persons from Evacuation Zones	Number of Persons from Contingency Zones	Total Shelter Requirements
Bishop	11	21	376	408
Corpus Christi	25,037	---	---	25,037
Driscoll	117	---	---	117
Robstown	670	---	---	670
TOTALS	25,835	21	376	26,232

* Only total evacuation rates were considered in zones subject to total potential storm surge flooding.

TABLE 4-11

EVACUATION RATES AND SHELTER DEMAND
FOR REFUGIO COUNTY

Evacuation Zones	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
R_1	65%	---	---	---
R_2	57%	232	---	---
	SUBTOTALS	232	---	---
Contingency Zone				
R_A	44%	1,366	---	---
	TOTALS	1,598	---	---

Key City Shelter Requirements	Number of Local Persons	Number of Persons from Evacuation Zones	Number of Persons from Contingency Zones	Total Shelter Requirements
Austwell-Tivoli	232	---	---	232
Refugio	780	---	---	780
Woodsboro	586	141	---	727
TOTALS	1,598	141	---	1,739

TABLE 4-12

EVACUATION RATES AND SHELTER DEMAND
FOR SAN PATRICIO COUNTY

Evacuation Zone	Evacuation Rates	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in the Study Area	Number of Persons Seeking Shelter Outside Study Area
SP_1	78%	2,012	170	2,182
Contingency Zone				
SP_A	62%	2,200	---	1,152
	TOTALS	4,212	170	3,334

Key City Shelter Requirements	Number of Local Persons	Number of Persons from Evacuation Zones	Number of Persons from Contingency Zones	Total Shelter Requirements
Ingleside	221	---	---	221
Odem	275	---	---	275
Portland	1,638	121	---	1,759
Sinton	92	---	---	92
Taft	1,986	---	---	1,986
TOTALS	4,212	121	---	4,333

TABLE 4-13

COMPOSITE SHELTER DEMAND FOR SIX-COUNTY STUDY AREA

County	Number of Persons Seeking Local Shelter	Number of Persons Seeking Shelter in Cities in Study Area	Number of Persons Seeking Shelter Outside Shelter Area
Aransas			
Evacuation Zones	---	170	681
Contingency Zones	---	---	---
Totals	---	170	681
Kenedy			
Evacuation Zones	---	3	9
Contingency Zones	---	---	---
Totals	---	3	9
Kleberg			
Evacuation Zones	---	10	40
Contingency Zones	3,032	373	1,302
Totals	3,032	383	1,342
Nueces			
Evacuation Zones	24,707	110	7,071
Contingency Zones	1,128	---	---
Totals	25,835	110	7,071
Refugio			
Evacuation Zones	232	---	---
Contingency Zones	1,366	---	---
Total	1,598	---	---
San Patircio			
Evacuation Zones	2,012	170	2,182
Contingency Zones	2,200	---	1,152
Total	4,212	170	3,334

TABLE 4-14

NUMBER OF PERSONS SEEKING SHELTER
IN CITIES OUTSIDE OF STUDY AREA

City	Contingency Zones	Evacuation Zones	Total
Austin	725	730	1,455
Beeville		183	183
Freer		285	285
Goliad		142	142
Houston		142	142
Kenedy	267	142	409
Lockhart		183	183
San Antonio	1,204	7,542	8,746
San Marcos		288	288
Seguin	267		267
Uvalde		154	154
Wimberly		183	183

Section Five
EVACUATIONS

In this section, Part A details evacuation times for zones for three different scenarios, Part B indicates how these evacuation times can be used to estimate the time when evacuation may need to be recommended, and Part C discusses evacuation routes and capacities.

Part A: Evacuation Times for Zones

Tables 5-1 through 5-3 indicate the minimum time (in hours) required to evacuate vehicles within each evacuation and contingency zone in the study area for three scenarios:

100 percent evacuation in areas of potential surge flooding in evacuation zones (see Table 5-1).

100 percent evacuation in areas of potential surge flooding in evacuation zones plus the percentage of these who indicated they would evacuate if requested in the remaining portions of these zones (see Table 5-2).

100 percent evacuation in all evacuation and contingency zones (see Table 5-3).

The first two scenarios are for hurricanes with winds of 130 mph or less, while the last is for hurricanes with winds in excess of 130 mph.

Two cautions must be made about the calculation of the minimum evacuation times. First, the minimum times assume the full utilization of evacuation routes over the entire evacuation time. If routes are not fully utilized at the beginning of the evacuation time, then the total time required will be greater. Second, the model assumes that there are no other vehicles on the roadway going in the same direction as the evacuating vehicles.

TABLE 5-1

SCENARIO I: ONE HUNDRED PERCENT EVACUATION IN INUNDATED AREAS

County and Zone	Total Vehicles		Evacuation Time
Aransas			
A_1	3,219	3,589	4.5 hours
A_2	370		
A_3	0.1		0.1 hours
Kenedy			
K_A	---		---
K_1	(Padre Island National Seashore; evacuation route is through N_2; times identical to N_2)		
K_2	21		0.1 hours
Kleberg			
KL_A	---		---
KL_1	(Padre Island National Seashore; evacuation route is through N_2; times identical to N_2)		
KL_2	47		0.1 hours
Nueces			
N_A	---		---
N_1	2,866		0.5 hours
N_2	3,435	6,362	10.5 hours
N_3	2,927		
Refugio			
R_A	---		---
R_1	68		0.1 hours
R_2	224		0.5 hours
San Patricio			
SP_A	---		---
SP_1	4		0.1 hours

Note: Evacuating vehicles use the same routes for the zones within brackets.

TABLE 5-2
SCENARIO II: ONE HUNDRED PERCENT EVACUATION IN INUNDATION AREAS
PLUS PERCENT EVACUATION IN EVACUATION ZONES

County and Zone	Total Vehicles		Evacuation Time
Aransas			
A_1	7,540	8,868	11.0 hours
A_2	1,328		
A_3	0.1		0.1 hours
Kenedy			
K_A	---		---
K_1	(Padre Island National Seashore; evacuation route is through N_2; times identical to N_2)		
K_2	26		0.1 hours
Kleberg			
KL_A	---		---
KL_1	(Padre Island National Seashore; evacuation route is through N_2; times identical to N_2)		
KL_2	263		0.2 hours
Nueces			
N_A	---		---
N_1	61,786		14.0 hours
N_2	3,435	6,362	10.5 hours
N_3	2,927		
Refugio			
R_A	---		---
R_1	352		0.5 hours
R_2	367		0.5 hours
San Patricio			
SP_A	---		---
SP_1	10,990		7.0 hours

Note: Evacuating vehicles use the same routes for the zones within brackets.

TABLE 5-3
SCENARIO III: ONE HUNDRED PERCENT EVACUATION IN EVACUATION AND CONTINGENCY ZONES

County and Zone	Total Vehicles		Evacuation Time
Aransas			
A_1	8,027	9,444	12.0 hours
A_2	1,417		
A_3	0.1		0.1 hours
Kenedy			
K_A	74		0.1 hours
K_2*	32		0.1 hours
Kleberg			
KL_A	9,583	9,863	6.0 hours
KL_2*	280		
Nueces			
N_A	8,664		3.5 hours
N_1	103,058		23.5 hours
N_2	3,435	6,362	10.5 hours
N_3	2,927		
Refugio			
R_A	3,227	3,729	1.5 hours
R_1	502		
R_2	481		0.5 hours
San Patricio			
SP_A	6,851	20,861	13.0 hours
SP_1	14,010		

Note: Evacuating vehicles use the same routes for the zones within brackets.
*KL_1 and K_1 are part of Padre Island National Seashore.

Part B: Use of Evacuation Time to Estimate When to Recommend an Evacuation

After it has been determined that, because of potential surge penetrations or potential high winds, it may be necessary to recommend an evacuation in various zones (or parts of zones), it is important to know the safe time remaining before that decision must be made.

The amount of safe time remaining should be calculated for each hurricane advisory issued after the hurricane enters the Gulf of Mexico. That is, each hurricane advisory beings new information that can be used to estimate the safe period remaining.

For instance, the evacuation time for zone N_2 is 10.5 hours in all three scenarios. The idea is to determine, after each advisory is issued, how much safe time remains before it would be too late to get the people evacuated before evacuation routes are blocked either by wind gusting or storm surge flooding. The following steps can be utilized to figure the remaining safe time for Zone N_2:

Step One: Calculate the number of hours it would take for the eye of the hurricane to cross land 25 miles to the left of Port Aransas (the location that can produce the maximum conditions for that zone). For example, if the eye of the hurricane is 300 miles from that point and is moving at 10 mph, it would be 30 hours.

Step Two: Determine which data point in Appendix B controls the potential evacuation route blockage by either wind or surge for that zone. In this particular case, it would be point 6 (JFK Causeway).

Step Three: Locate in this data point information on the particular hurricane that most closely resembles the one in the Gulf of Mexico. This may be done locating the particular wind speed ranges on the left hand side. For a hurricane with sustained winds of 97 mph the second wind range would be used (96 to 110 mph). Next you would check at the top to find the applicable column. Three conditions determine which column to use: (1) direction of movement to point of land-

fall in degrees; (2) location of point of impact; and (3) forward movement speed in mph (5, 10, 15, 20).

Step Four: Locate the specific information that applies to that particular hurricane. For a hurricane moving at 10 mph with a wind speed of 97 mph moving directly west, truck-tipping gusting conditions would begin approximately 9.0 hours before the time of landfall and car-tipping gusting would begin approximately 6.5 hours before the time of landfall.

Step Five: In order to have 10.5 hours evacuation time before the route is blocked (which can take place 6.5 hours before time of landfall for car-tipping gusting), the 6.5 hours (or the truck-tipping gusting time, or the surge flooding time for low, MSL or high tide conditions) should be added to the 10.5 hours. This gives a total of 17 hours.

Step Six: Since people do not begin evacuation as soon as the decision to recommend one is made, three hours are added to the 17 hours (for a total of 20 hours) to provide time for the decision to be communicated to people and for people to get packed and begin evacuating.

Step Seven: The 20 hours is then subtracted from the estimated 30 hours before the hurricane would make landfall. This would leave 10 hours before a decision would need to be made before it would be too late. In this case, you would wait for the next advisory and refigure the safe time.

Standard operating procedures (SOP) for estimating the safe time remaining before a decision to evacuate needs to be made after each advisory is issued can be found in Appendix D. A description of the ESTEDCC computer program that figures these times is in Appendix E.

Part C: Principal Evacuation Routes and Capacities

This part includes a description of the principal evacuation routes and route capacities. The Evacuation and Contingency Zone map in the back of this report illustrates the principal evacuation routes of the highway network.

Corpus Christi and Vicinity (Zones N_1 and N_A)

Interstate 37 is a four-lane (two in each direction) highway. The major capacity constraint is the intersection with U.S. 77 at Calallen that normally reduces northbound traffic to a single lane. This location can be expanded in an emergency to provide two through lanes northbound, but such an expansion would severely restrict northbound movement on U.S. 77. The northbound capacity of Interstate 37 with the emergency expansion is approximately 3,200 vehicles per hour. A permanent expansion to six lanes (three in each direction) is in the planning stage for that part of Interstate 37 north of Calallan where it shares the same right-of-way with U.S. 77, but this is not scheduled for completion until 1988. The permanent expansion also will expand the normal northbound width (one lane) of Interstate 37 to two through lanes without the need for special emergency measures that would interrupt the single through lane for U.S. 77.

U.S. 181 is, for the most part, a four-lane facility with a mixture of limited and uncontrolled access. The major capacity constraint on U.S. 181 is the approach to Sinton, which has a short section with only two lanes (one in each direction) and local intersecting traffic on a longer four-lane section. These conditions in and near Sinton limit the capacity of U.S. 181 as a through evacuation route to about 800 vehicles

per hour. Planned improvements in the Sinton area will ultimately increase the capacity in that vicinity. Another capacity constraint is the intersection of U.S. 181 and Texas 35 at Gregory, which normally restricts northbound traffic to a single lane with a capacity of about 1,600 vehicles per hour under evacuation conditions. This route capacity was not used to calculate evacuation times for zones N_1 and N_A because of its heavy use for San Patricio County.

Texas 44 is a four-lane facility with generally uncontrolled access from Corpus Christi west to Alice, after which it narrows to two lanes. The major capacity constraints are the local intersections in Corpus Christi and Robstown that restrict the effective capacity of the route to approximately 1,200 vehicles per hour. The section west of Alice would have a capacity of only about 800 vehicles per hour, but this section is not believed to be a critical constraint as many vehicles could be expected to turn off Texas 44 onto other routes before reaching that point.

F.M. 665 and the combination of Texas 286 and F.M. 70 (with possible minor variations on both routes) are two-lane routes extending to the west from the southern portion of Corpus Christi. The major capacity constraints on these routes under evacuation conditions would be their respective intersections with U.S. 77 at Driscoll and Bishop. While the rural portion of each of these routes could handle approximately 800 vehicles per hour, any significant traffic on these routes through Driscoll and Bishop would be at the expense of traffic on U.S. 77. Since U.S. 77 traffic is likely to be restricted under evacuation conditions by the intersection with Interstate 37 at Calallen, capacities of

approximately 600 vehicles per hour each on the F.M. 665 and Texas 286-F.M. 70 routes are probably attainable. Maximum use of these two routes would probably occur only under desperate conditions or if evacuating traffic from Padre and Mustang Islands were diverted to these routes. Moreover, as a result of hurricane rainfall, F.M. 665 and F.M. 70 could be inundated by flood waters of Petronila Creek. This route capacity was not counted for Zones N_1 and NA because of its use for Zones N_2 and N_3.

Padre Island and Mustang Island (Zones N_2, N_3, KL_1 and K_1)

The JFK Causeway between the mainland and Padre Island is a four-lane facility. P.R. 53 from near the causeway to Port Aransas is a two-lane facility. P.R. 53 has an evacuation capacity of approximately 800 vehicles per hour. While the causeway has a capacity of up to 3,200 vehicles per hour from the island to the mainland, the effective evacuation capacity of the route is limited by the urban traffic in Corpus Christi along Padre Island Drive and on routes leading out of the city. In an emergency, traffic from the causeway could be diverted on Texas 357 and F.M. 2444 to Texas 286 and F.M. 70, or on other routes around Corpus Christi. Such diversions would provide an effective evacuation capacity from the islands of at least 600 vehicles per hour up to a maximum of about 1,200 vehicles per hour. F.M. 70 could be inundated by flood waters of Petronila Creek as a result of hurricane rainfall, however.

Texas 361 is a two-lane facility between Aransas Pass and the Port Aransas ferry. The ferry has a capacity of 300 vehicles per hour, but is not operated under adverse weather conditions (four foot or greater tides or hurricane force winds).

Southern San Patricio County (Zones SP_1 and SP_A)

Texas 35, Aransas Pass to Gregory, and Texas 361, Ingleside to Gregory. The current effective capacity of these routes leading to Gregory and then proceeding to Sinton on U.S. 181 is limited to 800 vehicles per hour because of conditions in Sinton as discussed previously.

F.M. 3284, F.M. 136 and variations. These are two-lane facilities with several possible routing variations. The capacity of all the routes is limited by the section of F.M. 136 in the vicinity of Copano Bay, which has an evacuation capacity of approximately 800 vehicles per hour. The elevation of the route is as low as three feet in the vicinity of the Copano Bay bridge and the route is therefore subject to early closing.

Aransas County (Zones A_1, A_2 and A_3)

Texas 35 (north). Texas 35 is effectively a two-lane facility (some sections are wider) with an evacuation capacity of approximately 800 vehicles per hour. The elevation of the route is as low as six feet at Rockport and on the Lamar Peninsula.

F.M. 881 is a two-lane facility. The capacity under evacuation conditions would be constrained by other evacuating traffic in Sinton. The route is as low as six feet in elevation in the mud flats area near the intersection with F.M. 136. Maximum evacuation capacity would not exceed 800 vehicles per hour because of conditions at Sinton. Use of this route from points in Aransas County other than in the immediate vicinity of Aransas Pass should be discouraged because of the capacity constraint at Sinton and the requirement for extensive use of the route by vehicles evacuating from the southern portion of San Patricio County.

The capacity of this route was therefore not calculated for zones A_1, A_2 and A_3.

Kleberg County (Zones KL_2 and KL_A)

Texas 141 (west) is a two-lane facility running west from Kingsville. The current effective capacity of the route is approximately 800 vehicles per hour.

U.S. 77 (south) and Texas 285 (west). The current effective capacity of the route is limited to 800 vehicles per hour because Texas 285 has only two lanes (one in each direction).

Refugio County (Zones R_1, R_2 and R_A)

Use of Texas 239 (west) from points in northeastern Refugio County should be encouraged. Texas 239 is effectively a two-lane facility with an evacuation capacity of approximately 800 vehicles per hour.

U.S. 77 (north) and Texas 202 (west) out of Refugio. U.S. 77 is primarily rural and could handle 800 vehicles per hour. Texas 202 has an effective capacity of approximately 800 vehicles per hour.

F.M. 2441 (west) out of Woodsboro. F.M. 2441 is a two-lane facility with an evacuation capacity of approximately 800 vehicles per hour. F.M. 774 (west) out of the northeastern portion of Refugio County, through the town of Refugio and to points west, is a two-lane facility with an evacuation capacity of approximately 800 vehicles per hour.

Kenedy County (Zones K_2 and K_A)

Both U.S. 77 (north) and Texas 285 (west) are two-lane facilities south of Kingsville. This route has an effective capacity of approximately 800 vehicles per hour.

U.S. 77 (south) is a two-lane facility with a capacity of approximately 800 vehicles per hour.

APPENDIX A
Hurricane Categories

(Developed by Herbert Saffir, Dade County, Florida, consulting engineer, and Dr. Robert H. Simpson, former National Hurricane Center director)

FORCE ONE--Winds of 74 to 95 miles per hour. Damage primarily to shrubbery, trees, foliage, unanchored mobile homes and, possibly, poorly constructed signs.

OR--Storm surge four to five feet above normal. Low-lying coastal roads inundated, minor pier damage, some small craft in exposed anchorages torn from moorings.

FORCE TWO--Winds of 96 to 110 miles per hour. Considerable damage to shrubbery and tree foliage, some trees blown down. Major damage to exposed mobile homes and poorly constructed signs. Some damage to roofs, windows and doors. No major damage to buildings.

OR--Storm surge six to eight feet above normal. Coastal roads and low-lying escape routes cut by rising water two to four hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded and small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

FORCE THREE--Winds of 111 to 130 miles per hour. Foliage torn from trees, large trees blown down. Practically all poorly constructed signs blown down and mobile homes destroyed. Some damage to roofs, windows and doors and some structural damage to small buildings.

OR--Storm surge nine to 12 feet above normal. Serious flooding at coast and many smaller structures near coast destroyed. Larger struc-

tures battered by waves and floating debris. Low-lying escape routes cut by rising water three to five hours before hurricane center arrives. Flat terrain five feet or less above sea level flooded eight miles inland or more. Evacuation of low-lying residences within several blocks of shoreline possibly required.

FORCE FOUR--Winds of 131 to 155 miles per hour. Shrubs and trees blown down, all signs down. Extensive damage to roofs, windows and doors. Complete destruction of mobile homes.

OR--Storm surge 13 to 18 feet above normal. Flat terrain ten feet or less above sea level flooded as far as six miles inland. Major damage to lower floors of structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes cut by rising water three to five hours before hurricane center arrives. Major erosion of beaches. Massive evacuation of all residences within 500 yards of shore possibly required, and of single-story residences on low ground within two miles of shore.

FORCE FIVE--Winds greater than 155 miles per hour. Shrubs and trees blown down and complete destruction of mobile homes. Extensive shattering of glass in windows and doors and complete failure of roofs on many residences and industrial buildings. Small buildings overturned or blown away.

OR--Storm surge greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level within 500 yards of shore. Low-lying escape routes cut by rising water three to five hours before hurricane center arrives. Massive evacuation of low-lying residential areas within five to ten miles of shore possibly required.

APPENDIX B
Key Data Points by Hurricane Type

An interpretation of the data point information can be found in Part B: Data Points of Section Two, SLOSH Data. The locations of the 30 key data points included in this appendix are displayed by county in Figures 2-7 through 2-12. Details of these points are also indicated in Table 1-1.

The following cautions should be kept in mind when interpreting the data in this appendix:

Caution 1: Wave action (except for the JFK Causeway and the Corpus Christi side of the Nueces Bay Causeway-181) and rainfall are not included in calculations.

Caution 2: Errors of plus or minus 20 percent are possible for peak surges with accurate initial data. For estimating, this error range can be generalized to other data.

Caution 3: Forward movement speeds of 15 mph are based on averaging the 10 mph and the 20 mph conditions.

Interpretive items to remember are:

FTOL stands for From Time Of Landfall.

Time is recorded in hour and half-hour units.

Maximum high tide surge is given in feet.

NA stands for Not Applicable.

77 S. OF ARMSTRONG (77ARMSTRO) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-6.5	-3.0	-2.5	-1.5	-1.5	-	-	-	-0.5	0.0	NC	-	-	-	-	-	-1.5	-12.0	-6.0	-4.5	-3.0
DIRECTION OF WIND	N	N	N	N	NW	-	-	-	W	W	NC	-	-	-	-	-	W	N	N	N	N
DURATION IN HOURS	9.5	8.0	6.0	4.5	2.5	-	-	-	5.0	3.5	NC	-	-	-	-	-	4.5	15.5	8.0	6.0	4.0
65-70 MPH W GUSTS FTOL	-3.5	-1.5	-1.5	-1.0	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-8.0	-4.0	-3.0	-2.0
DIRECTION OF WIND	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	W	N	N	N	N
DURATION IN HOURS	5.0	2.5	2.0	1.5	-	-	-	-	-	-	-	-	-	-	-	-	2.0	9.0	4.0	2.5	0.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																						
50-55 MPH W GUSTS FTOL	-9.0	-4.5	-3.5	-2.0	-7.5	-3.5	-2.5	-1.5	-4.5	-2.0	-1.5	-1.0	-	-	-	-	-2.5	-14.5	-7.0	-5.5	-3.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	W	W	W	W	-	-	-	-	W	N	N	N	N
DURATION IN HOURS	13.0	10.0	8.0	5.5	12.0	6.0	4.0	2.5	10.0	6.5	5.0	3.5	-	-	-	-	8.0	19.5	10.5	8.0	5.5
65-70 MPH W GUSTS FTOL	-5.5	-2.5	-2.0	-1.5	-	-	-	-	-	-	-	-	-	-	-	-	-1.0	-10.5	-5.5	-4.0	-2.5
DIRECTION OF WIND	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	W	N	N	N	N
DURATION IN HOURS	8.0	4.0	4.0	4.0	-	-	-	-	-	-	-	-	-	-	-	-	4.0	13.5	7.0	5.0	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																						
50-55 MPH W GUSTS FTOL	-12.5	-6.5	-5.0	-3.0	-12.5	-6.0	-4.5	-3.0	-9.0	-4.5	-3.5	-2.0	-	-	-	-	-	-18.5	-9.0	-7.0	-4.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-	N	N	NC	NE
DURATION IN HOURS	24.5	14.0	10.5	7.0	20.0	10.5	8.0	5.0	19.5	11.0	8.0	5.5	-	-	-	-	-	26.5	14.0	10.5	7.0
65-70 MPH W GUSTS FTOL	-9.0	-4.5	-3.5	-2.0	-7.5	-3.5	-2.5	-1.5	-4.5	-2.0	-1.5	-1.0	-	-	-	-	-	-14.5	-7.0	-5.5	-3.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	W	W	W	W	-	-	-	-	-	N	N	N	N
DURATION IN HOURS	18.0	10.5	8.0	5.5	11.0	6.0	4.0	2.5	11.5	6.5	4.5	3.0	-	-	-	-	-	19.5	10.0	7.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																						
50-55 MPH W GUSTS FTOL	-16.0	-8.0	-6.0	-4.0	-16.5	-8.0	-6.0	-4.0	-12.5	-6.0	-4.5	-3.0	-	-	-	-	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-	-	-	-	-
DURATION IN HOURS	NC	15.0	12.0	8.0	23.0	12.0	9.0	6.5	23.5	12.5	9.5	6.5	-	-	-	-	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-11.5	-5.5	-4.5	-3.0	-11.0	-5.5	-4.0	-2.5	-7.5	-3.5	-3.0	-2.0	-	-	-	-	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	W	W	NC	NW	-	-	-	-	-	-	-	-	-
DURATION IN HOURS	21.5	11.5	9.0	6.0	14.5	8.0	6.0	4.0	14.5	8.0	6.0	4.5	-	-	-	-	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

77 S. OF ARMSTRONG 1 E

77 N. OF SARITA (77NSARITA) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-3.5	-1.5	-1.5	-1.0	-5.5	-2.5	-2.0	-1.5	-4.5	-2.5	-2.0	-1.0	-	-	-	-	-3.0	-7.0	-3.5	-2.5	-1.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	NW	N	N	N	N
DURATION IN HOURS	8.0	7.5	6.5	5.0	11.0	7.0	5.0	3.5	8.5	6.0	5.0	4.5	-	-	-	-	9.0	12.0	7.5	5.5	4.0
65-70 MPH W GUSTS FTOL	-0.5	0.0	-0.5	-0.5	-2.0	-0.5	-0.5	-0.5	-1.5	-0.5	-0.5	-0.5	-	-	-	-	-1.5	-3.5	-1.5	-1.0	-1.0
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	W	N	N	N	N
DURATION IN HOURS	4.0	3.0	3.0	3.0	4.0	2.5	1.5	1.0	4.0	2.5	2.0	1.5	-	-	-	-	3.5	5.5	3.0	2.0	1.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-6.0	-3.0	-2.5	-1.5	-8.0	-4.0	-3.0	-2.0	-7.0	-3.5	-2.5	-2.0	-	-	-	-	-4.5	-9.0	-4.5	-3.5	-2.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	NW	N	NE	NE	NE
DURATION IN HOURS	11.0	10.0	8.0	6.5	14.5	9.0	7.0	5.0	11.5	9.5	7.5	5.5	-	-	-	-	10.5	15.5	9.5	7.5	5.5
65-70 MPH W GUSTS FTOL	-2.5	-1.0	-1.0	-1.0	-4.5	-2.0	-1.5	-1.0	-3.5	-2.0	-1.5	-1.0	-	-	-	-	-2.5	-6.0	-3.0	-2.0	-1.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	NW	N	N	N	N
DURATION IN HOURS	6.5	4.5	4.5	4.5	8.5	5.5	4.0	3.0	7.0	4.5	4.0	3.5	-	-	-	-	7.0	9.5	6.5	5.0	3.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-9.5	-5.0	-3.5	-2.5	-12.0	-6.0	-4.5	-3.0	-10.5	-5.5	-4.0	-2.5	-	-	-	-	-	-13.0	-6.5	-5.0	-3.5
DIRECTION OF WIND	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	-	-	-	-	-	NE	NE	NE	NE
DURATION IN HOURS	NC	14.0	10.5	7.5	23.5	13.0	10.0	7.0	NC	13.5	10.5	7.0	-	-	-	-	-	24.5	13.5	10.5	7.0
65-70 MPH W GUSTS FTOL	-5.5	-3.0	-2.0	-1.5	-8.0	-4.0	-3.0	-2.0	-5.5	-3.5	-2.5	-1.5	-	-	-	-	-	-9.0	-4.5	-3.5	-2.5
DIRECTION OF WIND	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-	N	N	NC	NE
DURATION IN HOURS	11.5	10.5	8.0	5.5	16.5	9.0	7.0	5.0	15.0	10.0	7.5	5.5	-	-	-	-	-	18.0	10.0	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-12.5	-6.5	-5.0	-3.5	-14.5	-7.5	-5.5	-4.0	-14.0	-7.0	-5.0	-3.5	-5.0	-2.0	-1.5	-1.0	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	NC	15.5	12.0	8.5	26.0	14.5	11.0	7.5	NC	15.0	11.5	8.0	6.0	3.0	2.0	1.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-8.5	-4.0	-3.0	-2.0	-10.5	-5.0	-4.0	-2.5	-9.5	-4.5	-3.5	-2.5	-	-	-	-	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	-	-	-	-	-	-	-	-
DURATION IN HOURS	19.5	12.0	9.0	6.5	19.5	11.0	8.5	6.0	20.0	11.5	8.5	6.0	-	-	-	-	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

70 & PETRONILD CREEK BRIDGE (70 PETRCK BR)

ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-1.5	-0.5	-1.0	-1.0	-6.5	-3.5	-2.5	-1.5	-7.0	-3.5	-2.5	-2.0	-	-	-	-	-5.0	-4.5	-2.0	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	9.0	7.0	5.5	4.5	9.0	8.5	6.5	4.5	9.5	9.0	7.0	5.0	-	-	-	-	9.0	8.0	4.5	4.5	4.5
65-70 MPH W GUSTS FTOL	-	2.0	1.0	0.0	-3.5	-2.0	-1.5	-1.0	-4.0	-2.0	-1.5	-1.0	-	-	-	-	-3.5	-1.0	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	1.5	2.0	3.0	5.0	2.5	2.0	1.5	5.5	3.0	3.0	3.5	-	-	-	-	6.0	4.0	2.5	2.0	1.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-4.0	-2.0	-1.5	-1.5	-9.0	-4.5	-3.5	-2.5	-9.0	-4.5	-3.5	-2.0	-	-	-	-	-6.0	-6.5	-3.5	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	13.0	9.0	7.0	5.5	12.0	10.5	8.0	6.0	12.0	10.5	8.5	6.0	-	-	-	-	11.5	10.5	10.0	8.0	6.0
65-70 MPH W GUSTS FTOL	0.0	0.0	0.0	-0.5	-5.5	-3.0	-2.0	-1.5	-6.0	-3.0	-2.0	-1.5	-	-	-	-	-4.5	-3.5	-1.5	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	9.0	5.0	4.5	4.0	8.0	4.0	4.0	4.5	8.0	7.5	6.0	4.5	-	-	-	-	8.0	6.5	4.0	4.0	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-8.0	-4.0	-3.5	-2.5	-12.5	-6.5	-5.0	-3.0	-13.0	-6.5	-5.0	-3.5	-6.0	-3.0	-2.0	-1.5	-	-10.5	-5.0	-4.0	-2.5
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	NC	13.0	10.0	7.5	NC	14.0	11.0	7.5	25.0	14.5	11.0	7.5	13.0	7.0	5.0	3.5	-	NC	14.0	10.5	7.5
65-70 MPH W GUSTS FTOL	-4.0	-2.0	-1.5	-1.0	-9.0	-4.5	-3.5	-2.0	-9.0	-4.5	-3.5	-2.5	-	-	-	-	-	-6.5	-3.5	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-	NE	NE	NE	NE
DURATION IN HOURS	13.5	9.0	7.0	5.0	18.0	10.5	8.0	6.0	19.0	10.5	8.0	6.0	-	-	-	-	-	10.5	10.5	8.0	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-11.5	-6.0	-4.5	-3.0	-15.5	-8.0	-6.0	-4.0	-16.0	-8.0	-6.0	-4.0	-10.0	-5.0	-3.5	-2.5	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	NC	14.5	11.0	8.0	NC	15.5	12.0	8.5	NC	16.5	12.5	8.5	16.0	9.0	6.5	4.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-6.5	-3.5	-2.5	-2.0	-11.0	-5.5	-4.5	-3.0	-11.5	-6.0	-4.5	-3.0	-4.0	-1.5	-1.0	-0.5	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	17.5	10.0	8.0	6.0	22.0	12.0	9.0	6.5	22.0	12.0	9.5	6.5	5.0	2.5	2.0	1.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

P 22 TO JFK CAUSEWAY (P 53 BR 22DD) ELEVATION: 7.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-8.0	-4.5	-3.5	-2.5	-14.5	-7.5	-5.5	-4.0	-16.0	-8.0	-6.0	-4.0	-10.0	-5.0	-4.0	-2.5	-9.5	-9.0	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	17.5	11.0	9.0	6.5	24.5	14.0	10.5	7.5	25.0	14.0	11.0	7.5	17.5	9.5	6.5	4.0	14.0	20.0	13.0	10.0	7.5
65-70 MPH W GUSTS FTOL	-1.0	-0.5	-1.0	-1.0	-10.0	-5.0	-4.0	-2.5	-11.5	-6.0	-4.5	-3.0	-2.5	0.0	NC	-	-7.0	-4.0	-2.0	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	W	W	NC	-	NW	NE	NE	NE	NE
DURATION IN HOURS	5.0	4.0	4.0	3.5	16.0	9.5	7.5	5.0	17.5	9.5	7.5	5.0	6.0	1.0	NC	-	10.0	10.0	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-11.5	-6.0	-5.0	-3.5	-17.5	-9.0	-6.5	-4.5	-19.0	-9.5	-7.5	-5.0	-13.5	-7.0	-5.0	-3.5	-11.0	-11.5	-6.0	-4.5	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	22.5	14.0	11.0	8.0	28.5	16.0	12.5	8.5	29.0	16.0	12.5	9.0	22.5	12.5	9.0	6.0	16.5	NC	15.0	12.0	8.5
65-70 MPH W GUSTS FTOL	-5.0	-2.5	-2.5	-2.0	-12.5	-6.5	-5.0	-3.0	-13.5	-7.0	-5.5	-3.5	-7.5	-3.5	-2.5	-1.5	-8.5	-6.5	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	10.5	7.5	6.5	5.0	19.5	11.5	9.0	6.0	20.5	11.5	9.0	6.5	12.5	6.5	4.5	3.0	12.0	13.5	10.0	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	NC	0.0	-	-	NC	0.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-1.0	-1.0	-0.5	-	-1.0	-1.0	-0.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	7.1	7.5	8.0	-	7.6	7.9	8.2	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-17.0	-8.5	-6.5	-4.5	-22.0	-11.0	-8.5	-5.5	-23.5	-12.0	-9.0	-6.0	-19.0	-9.5	-7.0	-5.0	-	-16.5	-8.5	-6.5	-4.5
DIRECTION OF WIND	N	N	NC	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	NC	18.0	14.0	10.0	NC	20.0	15.0	10.5	NC	20.0	15.5	10.5	31.0	17.0	12.5	8.5	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-10.0	-5.0	-4.0	-3.0	-16.0	-8.0	-6.0	-4.0	-17.5	-9.0	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-	-10.5	-5.0	-4.0	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	19.5	11.5	9.0	6.5	27.0	14.5	11.0	8.0	27.0	14.5	11.0	8.0	20.5	10.5	8.0	5.5	-	NC	14.0	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-0.5	-1.0	-1.0	-0.5	-	-1.0	-1.0	-0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	NC	0.5	-3.5	-2.0	-2.0	-1.5	-3.0	-2.0	-1.5	-0.5	-	-	-	-	-	-	-	NC	1.0
HIGH TIDE FLOODING FTOL	-	-	NC	-0.5	-6.0	-3.5	-2.5	-1.5	-5.0	-3.0	-2.0	-1.0	-	-	-	-	-	-0.5	-1.0	-0.5	-0.5
MAXIMUM HIGH TIDE SURGE	-	-	NC	8.0	9.0	9.5	10.0	10.5	8.7	10.2	10.4	10.7	-	-	-	-	-	7.8	7.8	7.9	8.1
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-20.5	-11.0	-8.5	-5.5	-27.0	-13.0	-10.0	-6.5	-27.5	-14.0	-10.5	-7.0	-23.5	-11.5	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	NC	20.0	15.5	10.5	NC	22.0	16.5	11.5	NC	22.0	16.5	11.5	NC	18.5	14.0	9.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-13.5	-7.0	-5.5	-3.5	-19.0	-9.5	-7.5	-5.0	-20.5	-10.5	-8.0	-5.0	-15.5	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	23.5	13.0	10.0	7.5	30.5	16.0	12.0	8.5	30.5	16.0	12.0	8.5	24.0	12.5	9.5	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	NC	-0.5	-5.0	-2.5	-2.0	-1.0	-4.0	-2.5	-1.5	-1.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	NC	-0.5	-6.5	-3.0	-2.5	-1.5	-6.0	-3.0	-2.0	-1.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	0.0	-1.0	-1.0	-1.0	-8.0	-4.0	-3.0	-2.0	-8.0	-4.0	-2.5	-1.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	7.1	7.5	8.6	9.7	10.8	11.6	12.1	12.6	10.6	12.4	12.5	12.7	-	-	-	-	-	-	-	-	-

P 53 BRIDGE BETW. PADRE & MUSTANG (P53BRP2200) ELEVATION: 5.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-8.0	-4.5	-3.5	-2.5	-14.5	-7.5	-5.5	-4.0	-16.0	-8.0	-6.0	-4.0	-10.0	-5.0	-4.0	-2.5	-9.5	-9.0	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	17.5	11.0	9.0	6.5	24.5	14.0	10.5	7.5	25.0	14.0	11.0	7.5	17.5	9.5	6.5	4.0	14.0	20.0	13.0	10.0	7.5
65-70 MPH W GUSTS FTOL	-1.0	-0.5	-1.0	-1.0	-10.0	-5.0	-4.0	-2.5	-11.5	-6.0	-4.5	-3.0	-2.5	0.0	NC	-	-7.0	-4.0	-2.0	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	W	W	NC	-	NW	NE	NE	NE	NE
DURATION IN HOURS	5.0	4.0	4.0	3.5	16.0	9.5	7.5	5.0	17.5	9.5	7.5	5.0	6.0	1.0	NC	-	10.0	10.0	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-0.5	-	-1.0	-1.0	-0.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	NC	0.0	-4.5	-2.5	-2.0	-1.5	-4.0	-2.5	-2.0	-1.0	-	-	-	-	-1.5	0.5	0.5	0.5	0.0
MAXIMUM HIGH TIDE SURGE	-	-	NC	5.4	5.5	6.0	6.4	6.7	5.4	6.3	6.5	6.7	-	-	-	-	5.7	5.1	5.2	5.4	5.6
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-11.5	-6.0	-5.0	-3.5	-17.5	-9.0	-6.5	-4.5	-19.0	-9.5	-7.5	-5.0	-13.5	-7.0	-5.0	-3.5	-11.0	-11.5	-6.0	-4.5	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	22.5	14.0	11.0	8.0	28.5	16.0	12.5	8.5	29.0	16.0	12.5	9.0	22.5	12.5	9.0	6.0	16.5	NC	15.0	12.0	8.5
65-70 MPH W GUSTS FTOL	-5.0	-2.5	-2.5	-2.0	-12.5	-6.5	-5.0	-3.0	-13.5	-7.0	-5.5	-3.5	-7.5	-3.5	-2.5	-1.5	-8.5	-6.5	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	10.5	7.5	6.5	5.0	19.5	11.5	9.0	6.0	20.5	11.5	9.0	6.5	12.5	6.5	4.5	3.0	12.0	13.5	10.0	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-1.0	-1.0	-0.5	-	-1.0	-1.0	-0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	NC	0.0	-4.0	-2.5	-2.0	-1.0	-3.0	-2.0	-1.5	-1.0	-	-	-	-	-1.5	0.5	0.5	0.5	0.0
HIGH TIDE FLOODING FTOL	-	-	NC	-1.0	-7.0	-3.5	-2.5	-1.5	-7.0	-3.5	-2.5	-1.5	-	-	-	-	-2.0	-2.5	-1.5	-1.0	-0.5
MAXIMUM HIGH TIDE SURGE	-	-	NC	6.3	6.6	7.1	7.6	8.0	6.5	7.6	7.9	8.2	-	-	-	-	6.8	6.0	6.1	6.4	6.6
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-17.0	-8.5	-6.5	-4.5	-22.0	-11.0	-8.5	-5.5	-23.5	-12.0	-9.0	-6.0	-19.0	-9.5	-7.0	-5.0	-	-16.5	-8.5	-6.5	-4.5
DIRECTION OF WIND	N	N	NC	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	NC	18.0	14.0	10.0	NC	20.0	15.0	10.5	NC	20.0	15.5	10.5	31.0	17.0	12.5	8.5	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-10.0	-5.0	-4.0	-3.0	-16.0	-8.0	-6.0	-4.0	-17.5	-9.0	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-	-10.5	-5.0	-4.0	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	19.5	11.5	9.0	6.5	27.0	14.5	11.0	8.0	27.0	14.5	11.0	8.0	20.5	10.5	8.0	5.5	-	NC	14.0	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	NC	-0.5	-6.0	-3.0	-2.0	-1.5	-5.0	-3.0	-2.0	-1.0	-	-	-	-	-	-0.5	-1.0	-0.5	-0.5
M.S.L. FLOODING FTOL	-	-0.5	-1.0	-1.0	-8.0	-4.0	-3.0	-2.0	-8.0	-3.5	-2.5	-1.5	-	-	-	-	-	-3.5	-1.5	-1.5	-1.0
HIGH TIDE FLOODING FTOL	-4.5	-3.5	-2.5	-1.5	-12.0	-5.5	-4.0	-2.5	-13.0	-5.0	-3.5	-2.0	-	-	-	-	-	-6.0	-3.0	-2.5	-2.0
MAXIMUM HIGH TIDE SURGE	5.9	6.2	6.7	8.1	9.0	9.5	10.0	10.5	8.7	10.2	10.5	10.7	-	-	-	-	-	7.8	7.8	8.0	8.1
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-20.5	-11.0	-8.5	-5.5	-27.0	-13.0	-10.0	-6.5	-27.5	-14.0	-10.5	-7.0	-23.5	-11.5	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	NC	20.0	15.5	10.5	NC	22.0	16.5	11.5	NC	22.0	16.5	11.5	NC	18.5	14.0	9.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-13.5	-7.0	-5.5	-3.5	-19.0	-9.5	-7.5	-5.0	-20.5	-10.5	-8.0	-6.0	-15.5	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	23.5	13.0	10.0	7.5	30.5	16.0	12.0	8.5	30.5	16.0	12.0	8.5	24.0	12.5	9.5	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	0.0	-1.0	-1.0	-1.0	-8.0	-4.0	-3.0	-2.0	-8.0	-4.0	-2.5	-1.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-4.5	-3.0	-2.5	-1.5	-11.0	-5.0	-3.5	-2.0	-12.0	-4.5	-3.5	-2.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-10.0	-6.5	-4.0	-2.0	-15.5	-7.0	-5.0	-2.5	-16.0	-6.0	-4.0	-2.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	7.1	7.5	8.6	9.6	10.8	11.6	12.1	12.6	10.6	12.4	12.6	12.7	-	-	-	-	-	-	-	-	-

JOHN F. KENNEDY CAUSEWAY (JFKCAUSEW) — ELEVATION: 5.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	10 MPH	5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-7.5	-4.0	-3.5	-2.5	-14.0	-7.0	-5.5	-3.5	-15.0	-7.5	-6.0	-4.0	-9.5	-4.5	-3.5	-2.5	-9.5	-8.5	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	17.0	11.0	9.0	6.5	24.0	13.5	10.5	7.5	25.0	14.0	10.5	7.5	17.5	9.5	6.5	4.0	14.0	19.5	13.0	10.0	7.5
65-70 MPH W GUSTS FTOL	-0.5	0.0	-0.5	-1.0	-9.5	-5.0	-3.5	-2.5	-10.5	-5.5	-4.0	-3.0	-4.0	0.0	NC	-	-7.0	-4.0	-2.0	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NC	N	N	N	N	N	N	N	N	N	W	W	NC	-	NW	NE	NE	NE	NE
DURATION IN HOURS	4.5	4.0	4.0	3.5	16.0	9.5	7.5	5.0	16.5	9.5	7.5	5.0	7.0	0.5	NC	-	10.0	9.0	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-3.0	-	-	-	-4.0	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-5.5	-2.5	-1.5	-1.0	-6.5	-2.5	-2.0	-1.0	-	-	-	-	-3.0	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-8.5	-3.5	-2.5	-1.5	-9.5	-4.0	-3.0	-1.5	-	-	-	-	-4.0	0.0	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	7.2	7.0	6.9	6.9	7.3	7.2	7.1	7.1	-	-	-	-	6.3	5.5	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-11.0	-5.5	-4.5	-3.0	-17.0	-8.5	-6.5	-4.5	-18.0	-9.0	-7.0	-5.0	-13.0	-6.5	-5.0	-3.0	-10.5	-11.0	-6.0	-4.5	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	22.0	13.5	10.5	8.0	28.0	15.5	12.0	8.5	29.0	16.0	12.5	9.0	22.0	12.0	9.0	6.0	16.0	NC	15.0	11.5	8.5
65-70 MPH W GUSTS FTOL	-4.0	-2.0	-2.0	-1.5	-11.5	-6.0	-4.5	-3.0	-13.0	-6.5	-5.0	-3.5	-6.5	-3.0	-2.5	-1.5	-8.0	-6.0	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	10.5	7.5	6.0	5.0	19.0	11.0	8.5	6.0	20.0	11.5	8.5	6.0	11.5	6.5	4.5	3.0	12.0	12.0	10.5	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-5.5	-2.5	-1.5	-1.0	-6.5	-2.5	-2.0	-1.0	-	-	-	-	-3.0	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-8.0	-3.5	-2.5	-1.5	-9.0	-3.5	-2.5	-1.5	-	-	-	-	-3.5	0.0	-	-	-
HIGH TIDE FLOODING FTOL	-2.5	0.0	0.0	0.0	-11.0	-4.5	-3.5	-2.0	-12.0	-5.0	-3.5	-2.0	-	-	-	-	-4.5	-3.5	-1.0	-0.5	0.0
MAXIMUM HIGH TIDE SURGE	5.5	5.2	5.3	5.4	8.3	8.2	8.0	7.9	8.3	8.2	8.2	8.2	-	-	-	-	7.2	6.3	5.7	5.6	5.5
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-16.0	-8.5	-6.5	-4.5	-21.5	-11.0	-8.0	-5.5	-23.0	-11.5	-9.0	-6.0	-18.0	-9.0	-7.0	-4.5	-	-16.0	-8.0	-6.0	-4.0
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.5	13.5	10.0	NC	20.0	15.0	10.5	NC	20.0	15.5	10.5	NC	16.5	12.5	8.5	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-9.0	-4.5	-3.5	-2.5	-15.5	-7.5	-6.0	-4.0	-16.5	-8.5	-6.5	-4.5	-11.5	-5.5	-4.5	-3.0	-	-10.0	-5.0	-4.0	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	19.0	11.5	9.0	6.5	26.5	14.5	11.0	7.5	27.0	14.5	11.0	8.0	20.0	10.5	8.0	5.5	-	NC	14.0	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-8.5	-3.5	-2.5	-1.5	-9.5	-4.0	-2.5	-1.5	-	-	-	-	-	-2.0	-	-	-
M.S.L. FLOODING FTOL	-4.5	-1.0	-0.5	0.0	-11.5	-5.0	-3.5	-2.0	-12.5	-5.0	-3.5	-2.0	-	-	-	-	-	-4.5	-1.0	-0.5	0.0
HIGH TIDE FLOODING FTOL	-10.0	-3.5	-2.5	-1.5	-15.0	-6.0	-4.5	-2.5	-15.5	-6.0	-4.5	-3.0	-	-	-	-	-	-8.5	-3.0	-2.0	-1.0
MAXIMUM HIGH TIDE SURGE	7.0	6.5	6.4	6.3	9.2	8.9	9.1	9.3	10.2	9.9	9.7	9.6	-	-	-	-	-	7.7	7.1	6.8	6.6
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-20.5	-10.5	-8.0	-5.5	-26.0	-13.0	-9.5	-6.5	-27.0	-13.5	-10.5	-7.0	-22.5	-11.5	-8.5	-5.5	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	NC	20.0	15.5	10.5	NC	22.0	16.5	11.5	NC	22.0	16.5	11.5	NC	18.5	14.0	9.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-12.5	-6.5	-5.0	-3.5	-18.5	-9.0	-7.0	-4.5	-20.0	-10.0	-7.5	-5.0	-15.0	-7.5	-5.5	-3.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	23.5	12.5	10.0	7.5	30.0	15.5	12.0	8.5	30.5	16.0	12.0	8.5	23.5	12.0	9.0	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-4.5	-1.0	-0.5	0.0	-11.5	-5.0	-3.5	-2.0	-11.5	-4.5	-3.5	-2.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-9.5	-3.5	-2.0	-1.0	-14.5	-6.0	-4.5	-2.5	-14.5	-5.5	-4.0	-2.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-14.5	-5.5	-4.0	-2.0	-18.0	-7.5	-5.5	-3.5	-17.5	-7.5	-5.5	-3.5	-11.5	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	7.6	7.5	7.4	7.3	12.9	12.1	12.2	12.4	14.2	15.0	13.9	12.8	5.5	-	-	-	-	-	-	-	-

358 AND OSO BAY BRIDGE (358OSOBABR) — ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-6.5	-3.5	-3.0	-2.0	-13.0	-6.5	-5.0	-3.5	-14.5	-7.5	-5.5	-4.0	-8.5	-4.0	-3.0	-2.0	-9.5	-8.0	-4.0	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	16.5	11.0	8.5	6.5	23.5	13.5	10.5	7.5	24.0	14.0	10.5	7.5	17.0	9.0	6.5	4.0	14.0	15.5	13.0	10.5	7.5
65-70 MPH W GUSTS FTOL	0.0	0.0	-0.5	-0.5	-8.5	-4.5	-3.5	-2.5	-9.5	-5.0	-4.0	-2.5	-0.5	-	-	-	-7.0	-3.5	-2.0	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	W	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	5.0	4.0	4.0	3.5	14.5	9.0	7.0	5.0	16.0	9.5	7.0	5.0	4.0	-	-	-	10.0	8.0	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-10.0	-5.5	-4.0	-3.0	-16.0	-8.0	-6.0	-4.0	-17.5	-8.5	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-10.5	-11.0	-5.5	-4.5	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	21.5	13.5	10.5	8.0	28.0	16.0	12.0	8.5	28.5	16.0	12.0	8.5	21.5	12.0	9.0	6.0	16.0	NC	15.0	11.5	8.5
65-70 MPH W GUSTS FTOL	-3.5	-2.0	-1.5	-1.5	-11.0	-5.5	-4.0	-3.0	-12.0	-6.0	-4.5	-3.0	-5.5	-2.5	-2.0	-1.0	-8.0	-5.5	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	10.0	7.0	6.0	5.0	18.5	11.0	8.5	6.5	19.0	11.5	8.5	6.0	10.5	6.0	4.5	2.5	11.5	11.0	10.0	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-15.5	-8.0	-6.0	-4.0	-20.5	-10.5	-8.0	-5.5	-22.0	-11.0	-8.5	-5.5	-17.5	-8.5	-6.5	-4.5	-	-15.5	-8.0	-6.0	-4.0
DIRECTION OF WIND	N	N	NC	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.5	13.5	9.5	NC	19.5	15.0	10.5	NC	20.0	15.0	10.5	NC	16.5	12.5	8.5	-	NC	19.0	15.0	10.5
65-70 MPH W GUSTS FTOL	-8.5	-4.5	-3.5	-2.5	-14.5	-7.5	-5.5	-3.5	-16.0	-8.0	-6.0	-4.0	-10.5	-5.0	-4.0	-2.5	-	-9.5	-5.0	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	19.0	11.5	9.0	6.5	26.0	14.5	11.0	7.5	26.5	14.5	11.0	8.0	19.5	10.5	7.5	5.0	-	NC	14.0	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-19.5	-10.0	-7.5	-5.5	-24.5	-12.5	-9.5	-6.5	-26.5	-13.0	-10.0	-6.5	-22.0	-11.0	-8.0	-5.5	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	NC	20.0	15.0	10.5	NC	22.0	16.5	11.5	NC	22.0	16.5	11.5	NC	18.5	14.0	9.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-12.0	-6.0	-5.0	-3.5	-17.5	-9.0	-6.5	-4.5	-19.0	-9.5	-7.5	-5.0	-14.0	-7.0	-5.5	-3.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	23.0	12.5	10.0	7.5	29.5	15.5	12.0	8.5	30.0	16.0	12.0	8.5	23.5	12.0	9.0	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

P 53 SOUTH MUSTANG (P53MUSTAN) ELEVATION: 7.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-7.5	-4.0	-3.5	-2.5	-14.5	-7.5	-5.5	-4.0	-16.0	-8.0	-6.5	-4.5	-11.0	-5.5	-4.0	-2.5	-10.0	-8.0	-4.0	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	16.5	10.5	8.5	6.5	24.5	14.0	10.5	7.5	25.0	14.0	10.5	7.5	19.0	10.0	7.5	4.5	14.5	19.5	13.0	10.0	7.5
65-70 MPH W GUSTS FTOL	-	0.5	0.0	-1.0	-10.0	-5.0	-4.0	-2.5	-11.5	-6.0	-4.5	-3.0	-4.5	-2.0	NC	-	-7.5	-3.5	-2.0	-1.5	-1.0
DIRECTION OF WIND	-	E	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NC	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	2.0	2.5	3.0	16.0	9.5	7.5	5.0	17.0	10.0	7.5	5.5	8.0	4.0	NC	-	10.0	10.0	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	NC	0.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	NC	7.0	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-11.0	-6.0	-4.5	-3.5	-17.5	-9.0	-6.5	-4.5	-19.0	-9.5	-7.5	-5.0	-14.0	-7.0	-5.5	-3.5	-11.0	-11.0	-5.5	-4.5	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	21.5	13.0	10.5	8.0	28.5	16.0	12.5	8.5	29.5	16.0	12.5	9.0	13.5	12.5	9.5	6.5	16.5	NC	15.0	11.5	8.5
65-70 MPH W GUSTS FTOL	-4.0	-2.0	-2.0	-1.5	-12.5	-6.0	-4.5	-3.0	-14.0	-7.0	-5.5	-3.5	-8.0	-4.0	-3.0	-2.0	-8.5	-5.5	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	9.5	7.0	5.5	4.5	19.5	11.5	8.5	6.0	20.5	11.5	9.0	6.5	13.5	7.5	5.5	3.5	12.0	13.5	10.0	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	NC	0.0	-	-	NC	-0.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-1.0	-1.0	-0.5	-	-1.5	-1.0	-0.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	7.4	7.8	8.3	-	7.9	8.1	8.4	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-16.5	-8.5	-6.5	-4.5	-22.0	-11.0	-8.5	-5.5	-24.0	-12.0	-9.0	-6.0	-19.5	-9.5	-7.0	-5.0	-	-16.0	-8.0	-6.0	-4.0
DIRECTION OF WIND	N	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.5	13.5	9.5	NC	20.0	15.0	10.5	NC	20.0	15.5	10.5	NC	17.0	13.0	9.0	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-9.0	-5.0	-4.0	-2.5	-16.0	-8.0	-6.0	-4.0	-17.5	-9.0	-6.5	-4.5	-12.5	-6.0	-4.5	-3.0	-	-9.5	-5.0	-4.0	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	18.5	11.0	8.5	6.5	27.0	14.5	11.0	8.0	27.0	14.5	11.0	8.0	21.5	11.0	9.5	8.0	-	NC	13.5	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-1.0	-1.0	-0.5	-	-1.5	-1.0	-0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-3.5	-2.0	-1.5	-1.0	-4.0	-2.0	-1.5	-1.0	-	-	-	-	-	-	-	NC	1.0
HIGH TIDE FLOODING FTOL	-	-	NC	0.0	-6.0	-3.0	-2.0	-1.5	-6.0	-3.0	-2.0	-1.5	-	-	-	-	-	-0.5	0.5	0.5	0.0
MAXIMUM HIGH TIDE SURGE	-	-	NC	7.5	8.9	9.8	10.4	11.0	10.3	10.6	10.9	11.2	-	-	-	-	-	7.5	7.6	7.9	8.3
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-21.0	-10.5	-8.0	-5.5	-26.0	-13.0	-10.0	-6.5	-28.0	-14.0	-11.0	-7.5	-23.5	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	19.5	15.0	10.5	NC	22.0	16.5	11.5	NC	22.0	17.0	12.0	NC	19.0	14.5	10.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-13.0	-6.5	-5.0	-3.5	-19.0	-9.5	-7.0	-5.0	-21.0	-10.5	-8.0	-5.5	-16.0	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	22.5	12.5	9.5	7.0	30.5	15.5	12.0	8.5	30.5	16.0	12.5	8.5	25.0	13.0	10.0	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	NC	0.5	-5.0	-2.5	-2.0	-1.0	-5.0	-2.5	-2.0	-1.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	NC	-0.5	-6.0	-3.0	-2.5	-1.5	-7.0	-3.5	-2.5	-1.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	0.0	-0.5	-1.0	-8.0	-4.0	-3.0	-2.0	-9.0	-4.0	-3.0	-1.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	7.0	8.1	9.2	11.0	12.0	12.6	13.3	11.1	13.1	13.2	13.3	-	-	-	-	-	-	-	-	-

OCEAN DRIVE AND OSO BAY BRIDGE-GULFSIDE APPROACH (OCDROSOBBR) ELEVATION: 3.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-6.0	-3.0	-2.5	-2.0	-13.0	-6.5	-5.0	-3.5	-14.0	-7.5	-5.5	-4.0	-8.5	-4.5	-3.5	-2.0	-9.0	-7.5	-4.0	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	15.5	10.5	8.5	6.5	23.5	13.5	10.5	7.5	24.0	13.5	10.5	7.5	17.0	9.5	7.0	4.5	14.0	17.0	13.0	10.0	7.5
65-70 MPH W GUSTS FTOL	2.0	0.5	0.0	-0.5	-8.5	-4.5	-3.5	-2.5	-9.5	-5.0	-4.0	-2.5	-2.0	-0.5	NC	-	-7.0	-3.0	-1.5	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	-	NW	NE	NE	NE	NE
DURATION IN HOURS	1.5	3.5	3.5	3.5	14.0	9.5	7.0	5.0	15.5	9.5	7.0	5.0	6.0	2.5	NC	-	9.5	8.0	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-3.5	-1.0	NC	-	-4.5	-1.0	NC	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-1.0	-	-	-	-8.0	-2.5	-2.0	-1.0	-8.5	-3.0	-2.0	-1.0	-	-	-	-	-2.5	-2.5	0.0	0.5	0.5
HIGH TIDE FLOODING FTOL	-18.0	-7.0	-4.5	-2.5	-19.0	-7.5	-5.5	-3.5	-17.5	-6.5	-4.5	-2.5	-10.5	-	-	-	-4.0	-16.5	-6.5	-4.5	-2.5
MAXIMUM HIGH TIDE SURGE	4.2	4.0	3.9	3.8	6.0	5.3	5.1	4.9	6.0	5.5	5.1	4.8	3.0	-	-	-	4.6	4.8	4.5	4.3	4.2
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-9.5	-5.0	-4.0	-3.0	-15.5	-8.0	-6.0	-4.0	-17.0	-8.5	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-10.5	-10.0	-5.0	-4.0	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	20.5	13.0	10.5	7.5	27.5	15.5	12.0	8.5	28.0	15.5	12.0	8.5	21.5	12.0	9.0	6.5	16.0	NC	15.0	11.5	8.5
65-70 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.5	-10.5	-5.5	-4.0	-3.0	-12.0	-6.0	-4.5	-3.0	-6.0	-3.0	-2.0	-1.5	-8.0	-5.0	-2.5	-2.0	-1.5
DIRECTION OF WIND	N	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	8.5	6.5	5.5	5.0	18.0	11.0	8.5	6.5	19.5	11.0	8.5	6.0	11.5	6.5	5.0	3.0	11.5	11.0	10.0	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-5.5	-2.0	-1.5	-0.5	-6.0	-2.0	-1.5	-0.5	-	-	-	-	-1.0	0.0	1.0	NC	-
M.S.L. FLOODING FTOL	-5.5	-1.0	-0.5	0.5	-10.5	-3.5	-2.5	-1.5	-10.0	-3.5	-2.5	-1.5	-	-	-	-	-3.0	-5.5	-1.5	-1.0	0.0
HIGH TIDE FLOODING FTOL	-23.0	-9.0	-6.5	-3.5	-20.0	-8.5	-6.5	-4.0	-19.0	-7.0	-5.0	-3.0	-4.0	-	-	-	-4.0	-22.0	-8.5	-6.0	-3.5
MAXIMUM HIGH TIDE SURGE	4.8	4.5	4.4	4.3	6.7	6.1	5.8	5.6	6.9	6.4	5.9	5.4	3.2	-	-	-	5.3	5.8	5.1	4.9	4.8
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-15.0	-7.5	-6.0	-4.0	-20.5	-10.0	-7.5	-5.0	-22.0	-11.0	-8.5	-5.5	-17.5	-8.5	-6.5	-4.5	-	-15.0	-7.5	-6.0	-4.0
DIRECTION OF WIND	N	N	NC	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.5	13.5	9.5	NC	19.5	15.0	10.5	NC	20.0	15.0	10.5	NC	17.0	13.0	8.5	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-7.5	-4.0	-3.0	-2.5	-14.5	-7.0	-5.5	-3.5	-16.0	-8.0	-6.0	-4.0	-10.5	-5.0	-4.0	-2.5	-	-9.0	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	18.0	11.0	8.5	6.5	26.0	14.5	11.0	7.5	26.5	14.5	11.0	8.0	20.0	10.5	8.0	5.5	-	NC	14.0	10.5	7.5
LOW TIDE FLOODING FTOL	-3.5	0.0	0.5	1.0	-9.0	-3.0	-2.0	-1.0	-8.5	-3.0	-2.0	-1.0	-	-	-	-	-	-4.5	-1.0	-0.5	0.0
M.S.L. FLOODING FTOL	-11.5	-4.0	-2.5	-1.0	-14.5	-5.5	-4.0	-2.5	-13.0	-4.5	-3.0	-2.0	-	-	-	-	-	-11.0	-3.5	-2.5	-1.0
HIGH TIDE FLOODING FTOL	-30.0	-13.0	-9.0	-5.0	-25.5	-10.5	-8.0	-5.5	-22.0	-8.0	-6.0	-4.0	-18.0	-	-	-	-	-29.5	-12.0	-8.5	-5.0
MAXIMUM HIGH TIDE SURGE	5.9	5.5	5.3	5.2	9.2	7.9	7.3	6.8	9.7	9.4	8.5	7.6	3.5	-	-	-	-	7.1	6.6	6.2	5.9
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-19.5	-10.0	-7.5	-5.0	-24.5	-12.0	-9.0	-6.0	-26.0	-13.0	-10.0	-6.5	-21.5	-6.0	-6.0	-5.5	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	NC	19.5	15.0	10.5	NC	21.5	16.5	11.0	NC	22.0	16.5	11.5	NC	12.0	11.0	10.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-11.5	-6.0	-4.5	-3.0	-17.5	-8.5	-6.5	-4.5	-19.0	-9.5	-7.0	-5.0	-14.0	-7.0	-5.5	-3.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	22.5	12.0	9.5	7.0	29.0	15.5	12.0	8.5	30.0	15.5	12.0	8.5	24.0	12.5	9.5	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-7.5	-2.0	-1.0	0.0	-11.5	-4.5	-3.0	-1.5	-10.5	-3.5	-2.5	-1.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-15.5	-5.5	-4.0	-2.0	-17.5	-6.5	-4.5	-2.5	-15.0	-5.5	-4.0	-2.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-35.5	-15.5	-11.0	-6.0	-27.5	-11.5	-9.5	-7.0	-23.5	-9.0	-6.5	-4.5	-21.0	-5.5	-4.0	-3.0	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	6.4	6.1	6.0	5.9	12.5	10.9	10.1	9.4	13.6	13.9	12.3	10.8	3.6	3.1	3.0	3.0	-	-	-	-	-

GULFSIDE OF P 53 AT MID MUSTANG IS.(GP53MIDMUS) ELEVATION: 6.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-6.0	-3.5	-3.0	-2.5	-14.5	-7.5	-6.0	-4.0	-16.5	-8.5	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-10.5	-7.0	-3.5	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	14.5	9.5	7.5	6.0	24.5	14.0	10.5	7.5	25.0	14.0	10.5	7.5	20.5	11.0	8.5	5.5	14.5	NC	12.5	10.0	7.5
65-70 MPH W GUSTS FTOL	-	-	NC	-0.5	-10.0	-5.0	-4.0	-3.0	-12.0	-6.0	-5.0	-3.5	-6.5	-3.0	-2.5	-1.5	-8.0	-2.0	-1.5	-1.0	-1.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	W	NW	NW	NW	NW	E	E	E	E
DURATION IN HOURS	-	-	NC	2.0	16.0	9.5	7.5	5.5	17.5	9.5	7.5	5.5	11.0	5.5	4.0	2.5	10.0	9.5	8.0	6.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	NC	0.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-0.5	-0.5	-0.5	-	-1.5	-1.5	-1.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	6.0	6.4	6.8	-	6.6	6.8	7.1	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-10.0	-5.5	-4.5	-3.0	-17.5	-9.0	-7.0	-4.5	-19.5	-10.0	-7.5	-5.0	-15.0	-7.5	-5.5	-3.5	-12.0	-10.0	-5.0	-4.0	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	NW	NE	NE	NE	NE
DURATION IN HOURS	19.5	12.0	10.0	7.5	28.5	16.0	12.5	9.0	29.5	16.0	12.5	9.0	24.5	13.0	10.0	7.0	17.0	NC	14.5	11.5	8.5
65-70 MPH W GUSTS FTOL	-2.0	-1.0	-1.5	-1.5	-12.5	-6.5	-5.0	-3.5	-14.5	-7.5	-5.5	-4.0	-9.5	-4.5	-3.5	-2.0	-9.5	-4.5	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	6.5	5.0	4.5	4.0	19.5	11.5	9.0	6.5	20.5	11.5	9.0	6.5	15.0	8.5	6.0	4.0	12.0	13.5	9.5	8.0	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	NC	0.0	-	-	NC	-0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-1.0	-1.0	-0.5	-2.0	-2.0	-1.5	-1.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-4.5	-2.5	-2.0	-1.0	-5.5	-3.0	-2.0	-1.5	-	-	-	-	-2.5	-	-	NC	1.0
MAXIMUM HIGH TIDE SURGE	-	-	-	-	6.8	7.2	7.7	8.2	7.0	7.9	8.2	8.5	-	-	-	-	6.7	-	-	NC	6.5
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-16.0	-8.5	-6.5	-4.5	-22.0	-11.0	-8.5	-5.5	-24.5	-12.5	-9.5	-6.5	-20.0	-10.0	-7.5	-5.0	-	-15.0	-7.5	-6.0	-4.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.0	13.0	9.5	NC	20.0	15.0	10.5	NC	20.0	15.5	10.5	NC	18.0	13.5	9.0	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-8.0	-4.5	-3.5	-2.5	-16.0	-8.0	-6.0	-4.0	-18.5	-9.0	-7.0	-4.5	-13.5	-6.5	-5.0	-3.5	-	-8.5	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	16.0	10.0	8.0	6.0	26.5	14.5	11.0	8.0	27.5	14.5	11.0	8.0	23.0	12.0	9.0	6.5	-	NC	13.5	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-4.0	-2.0	-1.5	-1.0	-5.0	-3.0	-2.0	-1.0	-	-	-	-	-	-	-	NC	1.5
M.S.L. FLOODING FTOL	-	-	NC	0.5	-6.0	-3.0	-2.0	-1.5	-7.5	-3.5	-2.5	-1.5	-	-	-	-	-	-	1.0	1.0	0.5
HIGH TIDE FLOODING FTOL	-	-	NC	-0.5	-8.0	-4.0	-3.0	-2.0	-10.0	-4.5	-3.0	-2.0	-	-	-	-	-	-1.5	-1.0	-0.5	-0.5
MAXIMUM HIGH TIDE SURGE	-	-	NC	7.0	9.0	9.6	10.2	10.9	9.4	10.6	10.9	11.3	-	-	-	-	-	6.9	7.1	7.5	8.0
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-20.5	-10.5	-8.0	-5.5	-27.0	-13.0	-10.0	-6.5	-28.5	-14.5	-11.0	-7.5	-24.5	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	N	N	NC	NE	N	N	N	N	NW	NW	NC	N	NW	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	19.0	14.5	10.0	NC	21.5	16.5	11.5	NC	22.0	16.5	11.5	NC	20.0	15.0	10.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-12.0	-6.5	-5.0	-3.5	-19.0	-9.5	-7.5	-5.0	-21.5	-11.0	-8.0	-5.5	-16.5	-8.5	-6.5	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	19.5	11.5	9.0	7.0	30.0	15.5	12.0	8.5	31.0	16.0	12.0	8.5	26.5	13.5	10.5	7.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	NC	0.0	-6.5	-3.0	-2.5	-1.5	-8.5	-4.0	-3.0	-1.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	NC	-0.5	-8.5	-4.0	-3.0	-2.0	-10.5	-4.5	-3.0	-2.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-5.0	-2.0	-1.5	-1.5	-11.0	-5.0	-3.5	-2.0	-13.5	-5.5	-4.0	-2.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	6.8	6.8	7.5	8.3	11.2	12.0	12.6	13.2	11.7	13.1	13.4	13.8	-	-	-	-	-	-	-	-	-

35 AT CORPUS ENTRANCE TO CAUSEWAY (35COENTCA) ELEVATION: 4.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-4.0	-2.0	-2.0	-1.5	-11.5	-6.0	-4.5	-3.0	-13.0	-6.5	-5.0	-3.5	-8.0	-4.0	-3.0	-2.0	-9.0	-6.0	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	12.0	9.5	8.0	6.0	22.5	13.5	10.5	7.5	23.0	13.5	10.5	7.5	17.0	10.0	7.0	4.5	13.5	13.5	12.5	10.0	7.0
65-70 MPH W GUSTS FTOL	-	-	NC	0.0	-7.0	-3.5	-3.0	-2.0	-8.0	-4.5	-3.5	-2.5	-1.5	-0.5	-0.5	0.0	-6.5	-1.5	-1.0	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	3.0	13.0	9.0	7.0	5.0	14.5	9.0	7.0	5.0	6.5	4.0	2.5	1.0	9.0	7.5	5.0	5.0	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-0.5	0.5	0.5	0.5	-1.0	0.0	0.5	0.5	-	-	-	-	-	3.0	2.0	1.5	1.5
M.S.L. FLOODING FTOL	-	-	-	-	-2.5	-0.5	0.0	0.0	-2.5	-0.5	0.0	0.0	-	-	-	-	0.5	0.5	1.0	1.0	1.0
HIGH TIDE FLOODING FTOL	-7.0	0.0	0.0	0.5	-6.0	-1.5	-1.0	-0.5	-4.5	-1.0	-0.5	0.0	-	-	-	-	-1.0	-5.0	-1.0	-0.5	0.0
MAXIMUM HIGH TIDE SURGE	4.8	5.1	5.1	5.2	7.6	7.5	7.4	7.4	7.6	7.3	7.0	6.7	-	-	-	-	5.5	6.4	6.5	6.6	6.8
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-7.5	-4.0	-3.5	-2.5	-14.0	-7.0	-5.5	-4.0	-16.0	-8.0	-6.5	-4.5	-11.0	-5.5	-4.0	-3.0	-10.5	-8.5	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	19.0	12.0	10.0	7.5	NC	15.5	12.0	8.5	27.5	15.5	12.0	9.0	21.5	12.0	9.5	6.5	16.0	16.5	15.0	11.5	8.0
65-70 MPH W GUSTS FTOL	-0.5	0.0	-0.5	-1.0	-9.0	-4.5	-3.5	-2.5	-10.5	-5.5	-4.5	-3.0	-5.0	-2.5	-2.0	-1.0	-8.0	-3.5	-2.0	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	5.5	5.5	5.0	4.5	16.5	10.5	8.5	6.5	18.5	11.0	8.5	6.5	11.5	7.0	5.0	3.5	11.5	10.0	9.5	7.5	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-2.0	0.0	0.0	0.5	-1.5	-0.5	0.0	0.5	-	-	-	-	1.0	1.0	1.5	1.0	1.0
M.S.L. FLOODING FTOL	0.5	1.5	1.5	1.5	-3.5	-1.0	-0.5	0.0	-3.0	-0.5	-0.5	0.0	-	-	-	-	-0.5	-1.5	0.0	0.5	0.5
HIGH TIDE FLOODING FTOL	-7.0	-1.5	-1.0	0.0	-8.0	-2.0	-1.0	-0.5	-5.0	-1.5	-1.0	0.0	-	-	-	-	-1.5	-8.5	-2.5	-1.5	-0.5
MAXIMUM HIGH TIDE SURGE	5.9	5.8	5.8	5.9	8.6	8.6	8.5	8.5	8.5	8.6	8.2	7.9	-	-	-	-	6.4	7.6	7.6	7.7	7.9
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-13.0	-7.0	-5.5	-3.5	-19.0	-9.5	-7.0	-5.0	-21.0	-10.5	-8.0	-6.5	-16.0	-8.0	-6.0	-4.0	-	-13.5	-7.0	-5.5	-3.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.0	13.0	9.5	NC	19.5	15.0	10.5	NC	20.5	15.5	10.5	NC	17.0	13.0	9.0	-	NC	19.0	14.5	10.5
65-70 MPH W GUSTS FTOL	-5.5	-3.0	-2.5	-2.0	-13.0	-6.5	-5.0	-3.5	-14.5	-7.5	-5.5	-4.0	-9.5	-5.0	-3.5	-2.5	-	-7.5	-4.0	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	16.0	10.0	8.0	6.0	NC	14.5	11.0	7.5	25.5	14.5	11.0	7.5	20.0	11.0	8.5	5.5	-	19.5	13.5	10.5	7.5
LOW TIDE FLOODING FTOL	-0.5	1.0	1.0	1.0	-2.5	-0.5	-0.5	0.0	-1.5	-0.5	-0.5	0.0	-	-	-	-	-	-2.5	0.0	0.0	0.5
M.S.L. FLOODING FTOL	-4.0	-0.5	0.0	0.5	-5.5	-1.5	-1.0	0.0	-3.5	-1.0	-0.5	0.0	-	-	-	-	-	-5.5	-1.5	-1.0	0.0
HIGH TIDE FLOODING FTOL	-11.5	-3.5	-2.0	-0.5	-11.5	-2.5	-1.5	-0.5	-5.0	-1.5	-1.0	0.0	-	-	-	-	-	-14.0	-4.5	-3.0	-1.5
MAXIMUM HIGH TIDE SURGE	7.2	7.0	7.1	7.2	12.5	11.8	11.2	10.6	12.5	12.7	11.4	10.2	-	-	-	-	-	9.5	9.4	9.5	9.6
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-17.5	-9.0	-7.0	-4.5	-23.0	-11.5	-8.5	-6.0	-25.0	-12.5	-9.5	-6.5	-20.5	-10.0	-7.5	-5.0	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NC	N	NW	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	19.5	14.5	10.0	NC	21.5	16.5	11.0	NC	22.0	16.5	11.5	NC	19.0	14.5	10.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-9.5	-5.0	-4.0	-2.5	-16.0	-8.0	-6.0	-4.0	-18.0	-9.0	-7.0	-4.5	-13.0	-6.5	-5.0	-3.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	20.5	11.5	9.0	7.0	NC	16.0	12.0	8.5	29.0	15.5	12.0	8.5	24.0	12.5	9.5	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-3.0	-0.5	0.0	0.5	-3.5	-1.5	-1.0	0.0	-4.0	-1.0	-0.5	0.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-7.5	-2.0	-1.0	0.0	-5.0	-1.5	-1.0	-0.5	-4.5	-1.0	-0.5	0.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-15.5	-5.0	-3.0	-1.0	-13.5	-3.0	-2.0	-0.5	-5.5	-1.5	-1.0	-0.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	7.4	7.5	7.7	7.9	16.5	15.9	15.1	14.3	17.0	17.7	16.2	14.7	-	-	-	-	-	-	-	-	-

181 AT CORPUS ENTRANCE TO CAUSEWAY 13 E

35 AT ARANSAS PASS (35ARANPASS) — ELEVATION: 3.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.5	-13.0	-7.0	-5.0	-3.5	-15.5	-8.0	-6.0	-4.5	-11.0	-5.5	-4.5	-3.0	-11.0	-4.5	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	9.5	7.0	6.0	5.0	23.0	13.5	10.5	7.5	24.5	14.0	10.5	7.5	21.0	12.0	9.0	6.0	14.0	NC	12.0	9.5	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-8.0	-4.5	-3.5	-2.5	-10.5	-5.5	-4.5	-3.0	-6.5	-3.0	-2.5	-1.5	-8.5	0.0	0.0	-0.5	-0.5
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	15.0	9.0	7.0	5.0	16.0	9.0	7.0	5.0	11.5	6.5	5.0	3.0	9.5	7.5	7.5	6.0	5.0
LOW TIDE FLOODING FTOL	-	-	NC	1.5	-4.5	-2.5	-1.5	-0.5	-5.5	-2.5	-2.0	-1.0	-	-	-	-	-3.0	3.5	2.5	2.0	1.5
M.S.L. FLOODING FTOL	-	-	NC	1.0	-7.5	-3.0	-2.0	-1.0	-9.0	-4.0	-2.5	-1.0	-	-	-	-	-3.5	2.5	2.0	1.5	1.5
HIGH TIDE FLOODING FTOL	-1.5	1.0	0.5	0.5	-11.0	-4.0	-2.5	-1.5	-14.5	-5.0	-3.5	-1.5	-8.5	1.5	1.5	2.0	-5.0	-0.5	0.0	0.0	0.5
MAXIMUM HIGH TIDE SURGE	3.0	3.0	4.0	5.1	7.3	7.7	8.0	8.4	7.4	7.9	8.0	8.2	3.1	3.1	3.0	3.0	6.5	5.2	6.2	6.5	6.8
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-7.0	-4.0	-3.5	-2.5	-16.0	-8.0	-6.0	-4.0	-18.5	-9.5	-7.5	-5.0	-14.0	-7.0	-5.5	-3.5	-12.0	-7.5	-4.0	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	16.0	10.5	8.5	7.0	27.0	15.5	12.0	8.5	28.5	16.0	12.0	8.5	25.0	14.0	11.0	7.5	16.5	NC	14.5	11.0	8.0
65-70 MPH W GUSTS FTOL	-	-	NC	-0.5	-10.5	-5.5	-4.0	-3.0	-13.0	-6.5	-5.0	-3.5	-9.0	-4.5	-3.5	-2.0	-9.5	-2.5	-1.5	-1.0	-1.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	3.0	18.5	10.5	8.5	6.0	19.5	11.5	8.5	6.0	15.5	9.0	7.0	5.0	11.5	11.0	9.5	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	NC	0.5	-6.5	-3.0	-2.0	-1.0	-7.5	-3.5	-2.5	-1.0	-	-	-	-	-3.5	-0.5	0.0	0.0	0.5
M.S.L. FLOODING FTOL	1.5	0.5	0.5	0.0	-10.5	-4.5	-3.0	-1.5	-11.0	-4.5	-3.0	-1.5	-	-	-	-	-4.0	-1.0	0.0	0.0	0.5
HIGH TIDE FLOODING FTOL	-8.0	-2.0	-1.5	-0.5	-14.0	-5.5	-3.5	-2.0	-17.0	-6.0	-4.0	-2.0	-11.5	-	NC	2.0	-4.5	-4.5	-1.0	-1.0	-0.5
MAXIMUM HIGH TIDE SURGE	4.5	4.8	5.2	5.7	8.4	8.7	9.0	9.4	8.3	8.9	9.2	9.5	3.0	-	NC	3.0	7.7	6.2	7.2	7.6	8.0
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-13.5	-7.0	-5.5	-4.0	-20.5	-10.5	-8.0	-5.5	-23.5	-12.0	-9.0	-6.0	-19.0	-9.5	-7.0	-5.0	-	-12.5	-6.5	-5.0	-3.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	25.5	15.5	12.0	9.0	NC	19.5	15.0	10.5	NC	20.0	15.0	10.5	NC	18.5	14.0	9.5	-	NC	18.5	14.5	10.5
65-70 MPH W GUSTS FTOL	-5.0	-2.5	-2.5	-2.0	-14.5	-7.5	-5.5	-4.0	-17.0	-8.5	-6.5	-4.5	-13.0	-6.5	-5.0	-3.5	-	-6.0	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	11.0	7.5	6.5	5.0	25.5	14.0	11.0	7.5	26.5	14.5	11.0	7.5	23.5	13.0	10.0	7.0	-	NC	13.0	10.0	7.5
LOW TIDE FLOODING FTOL	-3.5	-1.5	-1.0	-0.5	-9.5	-4.5	-3.0	-1.5	-10.5	-4.0	-2.5	-1.0	-	-	-	-	-	-4.5	-1.5	-1.0	-0.5
M.S.L. FLOODING FTOL	-9.0	-4.0	-2.5	-1.0	-15.0	-6.0	-4.0	-2.0	-13.5	-5.0	-3.5	-1.5	-	-	-	-	-	-7.5	-2.5	-1.5	-1.0
HIGH TIDE FLOODING FTOL	-15.5	-5.5	-3.5	-1.5	-19.0	-7.0	-5.0	-2.5	-21.0	-7.5	-5.0	-2.0	-16.0	-4.0	NC	-	-	-10.5	-3.5	-2.5	-1.5
MAXIMUM HIGH TIDE SURGE	5.8	5.8	6.4	7.0	10.7	11.4	12.1	12.8	10.5	11.9	12.3	12.7	3.5	3.0	NC	-	-	7.5	8.5	8.9	9.4
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-18.0	-9.0	-7.0	-5.0	-24.5	-12.5	-9.5	-6.5	-28.0	-14.0	-10.5	-7.5	-23.5	-11.5	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	17.5	13.5	9.5	NC	21.5	16.5	11.0	NC	21.5	16.5	11.5	NC	20.5	15.5	10.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-9.5	-5.0	-4.0	-3.0	-17.5	-9.0	-6.5	-4.5	-20.5	-10.5	-8.0	-5.5	-16.0	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	N	N	N	-	-	-	-	-
DURATION IN HOURS	14.5	9.5	7.5	6.0	29.0	15.0	11.5	8.5	30.0	15.5	12.0	8.5	27.5	14.0	11.0	7.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-7.5	-3.5	-2.5	-1.0	-12.5	-5.5	-4.0	-2.0	-12.5	-5.0	-3.5	-1.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-13.5	-5.5	-3.5	-1.5	-17.5	-7.0	-5.0	-2.5	-15.0	-5.5	-4.0	-2.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-20.5	-8.0	-5.5	-2.5	-22.5	-8.5	-6.0	-3.5	-23.5	-9.0	-6.0	-3.0	-19.5	-5.5	NC	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	6.7	6.8	7.3	7.9	13.0	13.9	14.7	15.6	13.4	15.0	15.3	15.7	3.5	3.0	NC	-	-	-	-	-	-

1069 AND 35 (1069AND35) ELEVATION: 6.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-1.5	-1.0	-1.5	-1.5	-13.0	-6.5	-5.0	-3.5	-16.0	-8.0	-6.5	-4.5	-11.5	-6.0	-4.5	-3.0	-11.0	-4.0	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	7.5	6.5	5.5	5.0	23.0	13.5	10.5	7.5	24.5	13.5	10.5	7.5	21.5	12.0	9.0	6.5	14.0	NC	12.0	9.5	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-8.0	-4.5	-3.5	-2.5	-11.0	-5.5	-4.5	-3.0	-7.0	-3.5	-2.5	-1.5	-8.5	0.5	0.0	0.0	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	14.5	9.0	7.0	5.0	16.0	9.0	7.0	5.0	12.5	7.5	5.5	3.5	9.5	7.0	7.0	6.0	4.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	NC	0.5	-	-	NC	0.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	0.5	0.0	0.0	0.0	-	-0.5	-0.5	0.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	6.1	6.5	6.8	7.2	-	6.7	6.8	7.0	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-6.5	-3.5	-3.0	-2.5	-16.0	-8.0	-6.0	-4.0	-19.0	-9.5	-7.5	-5.0	-14.5	-7.5	-5.5	-3.5	-12.5	-7.0	-4.0	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	14.5	10.0	8.0	6.5	27.0	15.5	12.0	8.5	28.5	16.0	12.5	9.0	25.5	14.5	11.0	7.5	16.5	NC	14.0	11.0	8.0
65-70 MPH W GUSTS FTOL	-	-	NC	-0.5	-10.5	-5.5	-4.0	-3.0	-13.5	-7.0	-5.5	-3.5	-9.5	-4.5	-3.5	-2.5	-10.0	-1.5	-1.0	-1.0	-0.5
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	NW	NE	NE	NC	E
DURATION IN HOURS	-	-	NC	2.5	18.0	10.5	8.0	6.0	19.5	11.5	8.5	6.0	16.0	10.5	8.0	5.0	12.0	10.5	9.0	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	NC	0.5	-	-	NC	0.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	0.0	0.0	0.0	0.0	0.0	-1.0	-0.5	0.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-2.0	-1.0	-0.5	0.0	-2.5	-1.5	-1.0	-0.5	-	-	-	-	-1.0	-	-	NC	1.5
MAXIMUM HIGH TIDE SURGE	-	-	-	-	7.2	7.6	8.1	8.6	7.1	7.7	8.1	8.5	-	-	-	-	6.1	-	-	NC	7.0
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-13.5	-7.0	-5.5	-4.0	-20.5	-10.5	-8.0	-5.5	-24.0	-12.0	-9.5	-6.5	-19.5	-9.5	-7.5	-5.0	-	-12.0	-6.0	-5.0	-3.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	25.0	15.0	12.0	8.5	NC	19.5	15.0	10.5	NC	20.5	15.5	10.5	NC	18.5	14.0	10.0	-	NC	18.0	14.0	10.0
65-70 MPH W GUSTS FTOL	-4.0	-2.5	-2.0	-2.0	-14.5	-7.5	-5.5	-4.0	-17.5	-9.0	-7.0	-4.5	-13.0	-6.5	-5.0	-3.0	-	-5.5	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	9.0	6.5	6.0	5.0	25.0	14.0	10.5	7.5	26.5	14.0	11.0	7.5	24.0	13.0	10.0	7.0	-	NC	12.5	10.0	7.0
LOW TIDE FLOODING FTOL	-	-	-	-	-1.0	-0.5	-0.5	0.0	-1.0	-1.0	-1.0	-0.5	-	-	-	-	-	-	-	NC	2.0
M.S.L. FLOODING FTOL	-	-	-	-	-2.5	-1.0	-1.0	-0.5	-3.0	-2.0	-1.5	-0.5	-	-	-	-	-	-	2.5	2.0	1.5
HIGH TIDE FLOODING FTOL	-	-	-	-	-4.0	-2.0	-1.5	-0.5	-5.0	-2.5	-1.5	-1.0	-	-	-	-	-	2.0	1.5	1.5	1.0
MAXIMUM HIGH TIDE SURGE	-	-	-	-	9.1	9.6	10.4	11.2	9.0	10.3	10.5	10.7	-	-	-	-	-	6.5	7.1	7.9	8.7
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-18.0	-9.5	-7.0	-5.0	-24.5	-12.5	-9.5	-6.5	-28.0	-14.5	-11.0	-7.5	-23.5	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	17.0	13.0	9.5	NC	21.5	16.5	11.0	NC	22.0	16.5	11.5	NC	21.0	15.5	10.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-9.0	-5.0	-4.0	-3.0	-17.5	-9.0	-6.5	-4.5	-20.5	-10.5	-8.0	-5.5	-16.5	-8.0	-5.5	-3.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	13.0	9.0	7.5	6.0	29.0	15.0	11.5	8.0	30.0	15.5	12.0	8.5	28.0	14.5	10.5	7.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-3.0	-1.0	-1.0	-0.5	-4.0	-2.0	-1.5	-1.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-4.0	-2.0	-1.5	-0.5	-5.0	-2.5	-2.0	-1.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	NC	0.5	-6.0	-2.5	-2.0	-1.0	-7.0	-3.0	-2.0	-1.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	NC	7.0	11.3	12.3	13.1	14.0	11.8	13.7	14.7	15.7	-	-	-	-	-	-	-	-	-

1069 AND 35 16 E

35 WEST OF 1069 (35WEST1069) — ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-7.5	-4.0	-3.0	-2.0	-9.5	-5.0	-4.0	-3.0	-5.0	-2.5	-2.0	-1.0	-8.0	0.0	0.0	0.0	0.0
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NC	E
DURATION IN HOURS	-	-	-	-	14.0	9.0	7.0	5.0	15.5	9.0	7.0	5.0	10.5	6.5	4.5	3.0	9.0	7.5	7.5	6.0	5.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-4.0	-2.5	-2.0	-1.5	-6.0	-3.5	-2.5	-2.0	-1.0	0.0	NC	-	-6.0	-	2.0	1.0	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	-	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	7.5	5.5	4.5	3.5	9.0	5.5	4.5	3.5	3.0	1.0	NC	-	5.5	-	2.5	2.5	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-	-	NC	-0.5	-9.5	-5.0	-4.0	-2.5	-12.0	-6.0	-5.0	-3.5	-8.0	-4.0	-3.0	-2.0	-9.0	-2.0	-1.0	-1.0	-1.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	3.0	17.5	10.5	8.5	6.0	19.0	11.0	8.5	6.0	14.5	9.0	7.0	4.5	11.5	11.0	9.0	7.5	6.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-6.0	-3.5	-2.5	-2.0	-8.5	-4.5	-3.5	-2.5	-4.0	-2.0	-1.5	-1.0	-7.5	1.5	0.5	0.5	0.0
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	11.5	7.5	6.0	4.5	13.0	8.0	6.0	4.5	8.0	5.5	4.0	2.5	8.0	3.5	5.0	4.5	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-4.0	-2.5	-2.0	-1.5	-13.5	-7.0	-5.0	-3.5	-16.0	-8.0	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-	-6.0	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	11.0	7.5	6.5	5.0	25.0	14.0	11.0	7.5	26.0	14.0	11.0	7.5	23.0	12.5	9.5	6.5	-	NC	13.5	10.5	7.5
65-70 MPH W GUSTS FTOL	-	-	NC	0.0	-9.5	-5.0	-3.5	-2.5	-12.0	-6.0	-4.5	-3.0	-8.0	-4.0	-3.0	-2.0	-	-2.0	-1.0	-1.0	-0.5
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	1.5	18.5	10.5	8.0	5.5	19.0	10.5	8.0	6.0	16.0	9.0	6.5	4.5	-	12.0	9.5	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-8.5	-4.5	-3.5	-2.5	-16.5	-8.5	-6.5	-4.5	-19.5	-10.0	-7.5	-5.0	-15.0	-7.5	-5.5	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	N	N	N	-	-	-	-	-
DURATION IN HOURS	14.0	9.5	8.0	6.0	28.5	15.5	12.0	8.5	29.5	15.5	12.0	8.5	26.5	14.0	10.5	7.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-2.0	-1.0	-1.0	-1.0	-12.0	-6.0	-4.5	-3.0	-14.5	-7.5	-5.5	-4.0	-10.5	-5.0	-4.0	-2.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	2.5	2.0	2.5	3.0	21.5	11.5	9.0	6.5	22.0	12.0	9.0	6.5	20.5	10.5	7.0	3.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

35 AT ROCKPORT (35ROCKPORT) ELEVATION: 6.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	0.0	-0.5	-1.5	-12.5	-6.5	-5.0	-3.5	-16.0	-8.5	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-11.5	-3.0	-2.0	-1.5	-1.0
DIRECTION OF WIND	-	NE	NE	NE	N	N	NC	NE	N	N	N	N	N	N	N	N	NW	NE	E	E	E
DURATION IN HOURS	-	4.0	4.0	4.5	22.5	13.0	10.0	7.0	24.5	13.5	10.5	7.5	22.0	12.5	9.5	6.5	14.0	NC	11.5	9.5	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-7.5	-4.0	-3.0	-2.5	-11.0	-6.0	-4.5	-3.0	-7.5	-3.5	-3.0	-2.0	-9.0	2.0	0.5	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	13.5	8.0	6.5	5.0	15.5	9.0	7.0	5.0	13.0	8.0	6.0	4.0	9.5	4.5	6.5	5.5	4.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-5.0	-3.0	-3.0	-2.5	-15.5	-8.0	-6.0	-4.0	-19.5	-10.0	-7.5	-5.0	-15.0	-7.5	-5.5	-4.0	-13.0	-6.0	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	12.0	8.5	7.5	6.0	26.5	15.0	12.0	8.5	28.5	15.5	12.0	8.5	26.0	14.5	11.5	8.0	17.0	NC	13.5	11.0	8.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-5.5	-4.0	-3.0	-13.5	-7.0	-5.5	-3.5	-10.0	-5.0	-3.5	-2.5	-10.5	-0.5	+0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NC	N	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	17.0	10.5	8.0	6.0	19.5	11.0	8.5	6.0	16.5	10.0	7.5	5.5	11.5	9.5	8.5	7.0	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-12.5	-6.5	-5.0	-3.5	-20.5	-10.5	-8.0	-5.5	-24.5	-12.5	-9.5	-6.5	-19.5	-10.0	-7.5	-5.0	-	-11.0	-6.0	-4.5	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	23.5	14.0	11.0	8.5	NC	19.0	14.5	10.5	36.0	19.5	15.0	10.5	NC	19.0	14.5	10.0	-	NC	18.0	14.0	10.0
65-70 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.5	-14.0	-7.0	-5.5	-4.0	-17.5	-9.0	-7.0	-4.5	-13.5	-7.0	-5.0	-3.5	-	-4.5	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	5.5	4.5	4.5	4.0	24.5	13.5	10.5	7.5	26.0	14.0	11.0	7.5	25.0	13.5	10.5	7.0	-	NC	12.5	9.5	7.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	NC	1.5	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	1.5	1.0	0.5	-	0.5	0.5	0.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	1.0	0.5	0.5	1.0	0.5	0.0	0.0	0.5	-	-	-	-	-	-	-	NC	2.5
MAXIMUM HIGH TIDE SURGE	-	-	-	-	6.4	7.4	7.8	8.3	6.1	7.7	7.7	7.8	-	-	-	-	-	-	-	NC	6.0
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-17.5	-9.0	-7.0	-5.0	-24.5	-12.5	-9.5	-6.5	-28.5	-14.5	-11.0	-7.5	-24.0	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	29.0	15.5	12.5	9.0	NC	21.0	16.0	11.0	NC	21.0	16.0	11.5	NC	21.0	16.0	10.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-8.0	-4.0	-3.5	-2.5	-17.5	-8.5	-6.5	-4.5	-21.0	-10.5	-8.0	-5.5	-16.5	-8.5	-6.5	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	N	NC	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	11.0	7.0	6.0	5.0	28.5	14.5	11.5	8.0	29.5	15.5	12.0	8.5	28.0	15.0	11.5	8.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	0.5	0.5	0.5	0.5	-1.0	-0.5	0.0	0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-0.5	0.0	0.0	0.5	-2.0	-0.5	0.0	0.0	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-1.5	-0.5	0.0	0.0	-3.0	-1.0	-0.5	0.0	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	8.4	9.7	10.4	11.1	8.9	11.9	11.2	10.5	-	-	-	-	-	-	-	-	-

881 AT PORT BAY (881PORTBAY) ELEVATION: 8.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-6.5	-3.5	-3.0	-2.0	-9.5	-5.0	-4.0	-2.5	-5.5	-3.0	-2.0	-1.5	-8.0	1.5	0.5	0.0	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	13.5	8.5	6.5	5.0	14.5	8.5	6.5	5.0	11.0	7.0	5.0	3.5	8.5	6.0	7.0	6.0	4.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-3.0	-2.0	-1.5	-1.0	-5.5	-3.0	-2.5	-1.5	-2.0	-1.0	-0.5	-0.5	-6.0	-	2.5	1.5	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	N	-	E	E	E
DURATION IN HOURS	-	-	-	-	6.5	5.0	4.0	3.0	8.0	5.0	4.0	3.0	4.5	2.5	1.5	1.0	4.5	-	1.5	2.0	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-	-	NC	0.0	-9.0	-5.0	-3.5	-2.5	-12.0	-6.0	-5.0	-3.5	-8.0	-4.0	-3.0	-2.0	-9.5	-1.0	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	2.0	17.0	10.5	8.0	6.0	18.5	11.0	8.5	6.0	15.0	9.0	7.0	5.0	11.5	10.0	9.0	7.0	5.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-5.5	-3.0	-2.5	-1.5	-8.0	-4.5	-3.5	-2.5	-4.5	-2.5	-2.0	-1.0	-7.5	-	1.0	0.5	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	NW	NW	NW	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	10.5	7.0	5.5	4.5	12.5	7.5	6.0	4.5	8.5	6.0	4.5	3.0	7.5	-	4.5	4.0	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.5	-13.0	-7.0	-5.0	-3.5	-16.0	-8.0	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-	-5.0	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	7.0	6.0	5.5	5.0	24.0	14.0	10.5	7.5	25.5	14.0	10.5	7.5	23.5	13.0	10.0	7.0	-	NC	13.0	10.0	7.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-4.5	-3.5	-2.5	-12.0	-6.0	-4.5	-3.0	-8.0	-4.0	-3.0	-2.0	-	-1.0	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	-	-	-	-	18.5	10.0	8.0	5.5	18.5	10.0	8.0	5.5	17.0	10.0	7.5	5.0	-	11.5	9.5	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-7.5	-4.0	-3.0	-2.5	-16.0	-8.0	-6.0	-4.0	-19.5	-10.0	-7.5	-5.0	-15.0	-7.5	-5.5	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	11.5	8.0	6.5	5.5	28.0	15.0	11.5	8.0	29.0	15.0	11.5	8.5	27.0	14.5	11.0	7.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	NC	-1.0	-11.5	-6.0	-4.5	-3.0	-14.5	-7.5	-5.5	-4.0	-11.0	-5.5	-4.0	-2.5	-	-	-	-	-
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	-	-	NC	2.0	21.0	11.5	9.0	6.5	21.0	11.5	9.0	6.5	20.5	11.0	8.5	6.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

35 BRIDGE ON COPANO BAY (35BRCOPFBR) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	NC	-1.0	-11.5	-6.0	-5.0	-3.5	-15.5	-8.0	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-12.0	-2.0	-1.0	-1.0	-1.0
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NE	E	E	E
DURATION IN HOURS	-	-	NC	3.5	21.5	13.0	10.0	7.0	23.5	13.0	10.0	7.0	22.5	13.0	10.0	7.0	14.0	NC	11.0	9.0	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-6.0	-3.5	-3.0	-2.0	-10.5	-5.5	-4.5	-3.0	-7.5	-3.5	-3.0	-2.0	-9.5	-	1.5	1.0	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	12.0	7.5	6.0	4.5	14.5	8.5	6.5	4.5	10.0	8.5	6.5	4.5	8.5	-	6.0	5.0	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-3.0	-2.0	-2.0	-2.0	-14.5	-7.5	-6.0	-4.0	-19.0	-9.5	-7.5	-5.0	-14.5	-7.5	-5.5	-4.0	-13.0	-5.0	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	8.5	7.0	6.5	5.5	25.5	14.5	11.5	8.5	27.5	15.5	12.0	8.5	26.5	15.0	11.5	8.0	16.5	NC	13.5	10.5	8.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-9.0	-5.0	-4.0	-2.5	-13.0	-7.0	-5.5	-3.5	-9.5	-5.0	-3.5	-2.5	-10.5	0.5	0.0	0.0	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	16.0	10.0	8.0	6.0	18.5	10.5	8.5	6.0	15.0	10.5	8.0	5.5	11.0	8.0	8.0	6.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-11.0	-6.0	-5.0	-3.5	-20.0	-10.0	-7.5	-5.0	-24.0	-12.5	-9.5	-6.5	-19.5	-10.0	-7.5	-5.0	-	-10.0	-5.0	-4.0	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	21.0	13.5	10.5	8.0	NC	19.0	14.5	10.0	35.5	19.5	15.0	10.5	NC	19.0	14.5	10.0	-	NC	NC	NC	10.0
65-70 MPH W GUSTS FTOL	-	-	NC	-1.0	-13.0	-7.0	-5.5	-3.5	-17.5	-9.0	-7.0	-4.5	-13.5	-6.5	-5.0	-3.5	-	-3.5	-2.0	-1.5	-1.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	3.5	23.5	13.0	10.0	7.5	25.5	13.5	10.5	7.5	25.0	14.0	11.5	9.0	-	NC	12.0	9.5	7.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-16.0	-8.5	-6.5	-4.5	-24.0	-12.0	-9.0	-6.0	-28.5	-14.5	-11.0	-7.5	-23.5	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	27.0	14.5	11.0	7.0	NC	21.0	16.0	11.0	40.0	21.0	16.0	11.0	NC	21.5	16.0	11.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-6.0	-3.5	-3.0	-2.0	-16.5	-8.5	-6.5	-4.5	-20.5	-10.5	-8.0	-5.5	-16.5	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	7.5	5.0	5.0	4.5	27.0	14.0	11.0	8.0	28.5	15.0	11.5	8.0	28.0	15.0	11.5	8.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

136 AT COPANO BAY (136COPANBA) ELEVATION: 3.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	2.0	0.5	0.0	-1.0	-10.5	-5.5	-4.5	-3.0	-13.5	-7.0	-5.5	-4.0	-9.5	-5.0	-3.5	-2.5	-10.5	-2.5	-1.5	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	21.0	5.0	4.5	4.5	21.0	13.0	10.0	7.5	22.5	13.0	10.0	7.5	20.0	12.0	9.5	6.5	13.0	NC	12.0	9.5	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-5.5	-3.0	-2.5	-1.5	-8.0	-4.5	-3.5	-2.5	-5.0	-2.5	-2.0	-1.0	-8.0	2.5	1.0	0.5	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	12.0	8.0	6.5	5.0	13.3	8.0	6.5	4.5	9.5	7.0	5.5	3.5	8.0	5.0	6.5	5.5	4.5
LOW TIDE FLOODING FTOL	-	-	-	-	4.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-2.0	-1.0	-0.5	-0.5	-1.5	-1.0	-0.5	-0.5	-	-	-	-	-	3.0	2.0	1.5	1.0
HIGH TIDE FLOODING FTOL	-5.0	-1.5	-1.5	-1.0	-8.5	-4.5	-3.5	-2.0	-7.0	-3.5	-3.0	-2.0	-	-	-	-	-4.0	-8.0	-4.0	-2.5	-1.5
MAXIMUM HIGH TIDE SURGE	3.4	3.4	3.5	3.6	5.0	4.7	4.7	4.8	4.5	4.3	4.4	4.6	-	-	-	-	3.4	4.3	4.4	4.5	4.7
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-3.5	-2.0	-2.0	-2.0	-13.5	-7.0	-5.5	-3.5	-16.5	-8.5	-6.5	-4.5	-12.5	-6.5	-5.0	-3.0	-12.0	-5.5	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	11.5	8.5	7.5	6.5	25.0	15.0	11.5	8.5	27.0	15.0	12.0	8.5	24.5	14.5	11.0	7.5	16.0	NC	14.0	11.0	8.0
65-70 MPH W GUSTS FTOL	-	-	NC	0.5	-8.0	-4.0	-3.5	-2.5	-11.0	-5.5	-4.5	-3.0	-7.5	-3.5	-3.0	-2.0	-9.0	0.0	0.0	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	N	N	NC	NE	N	N	N	N	NW	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	0.0	16.0	10.0	8.0	6.0	20.0	10.5	8.0	6.0	13.0	9.0	7.0	5.0	10.5	9.0	9.0	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	0.0	0.5	0.5	0.5	-	-	NC	0.5	-	-	-	-	-	-	-	NC	2.0
M.S.L. FLOODING FTOL	-	-	-	-	-3.5	-2.5	-2.0	-1.0	-3.0	-1.5	-1.0	-1.0	-	-	-	-	-	0.5	0.5	0.5	0.5
HIGH TIDE FLOODING FTOL	-8.0	-3.5	-2.5	-2.0	-10.0	-5.5	-4.0	-3.0	-8.0	-4.0	-3.0	-2.0	-	-	-	-	-4.0	-11.5	-5.0	-4.0	-2.5
MAXIMUM HIGH TIDE SURGE	3.7	3.6	3.6	3.7	5.7	5.3	5.4	5.5	4.9	4.8	4.9	5.1	-	-	-	-	3.7	4.8	5.0	5.1	5.3
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-10.5	-5.5	-4.5	-3.0	-18.5	-9.5	-7.0	-5.0	-22.0	-11.0	-8.5	-6.0	-17.5	-8.5	-6.5	-4.5	-	-10.0	-5.5	-4.0	-3.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	22.5	14.0	11.0	8.5	NC	19.0	14.5	10.5	NC	19.5	15.0	10.5	NC	18.5	14.0	10.0	-	NC	NC	NC	10.0
65-70 MPH W GUSTS FTOL	-0.5	-0.5	-1.0	-1.0	-12.0	-6.0	-5.0	-4.0	-15.0	-7.5	-6.0	-4.0	-11.5	-5.5	-4.5	-3.0	-	-4.0	-2.0	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	NC	NE	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	4.0	4.0	4.0	4.5	23.5	13.5	11.0	8.0	24.5	13.5	10.5	7.5	23.5	13.5	10.0	7.0	-	NC	13.0	10.0	7.0
LOW TIDE FLOODING FTOL	-	-	-	-	-2.5	-1.0	-0.5	0.0	-1.5	-1.0	-0.5	-0.5	-	-	-	-	-	1.5	2.0	1.5	1.0
M.S.L. FLOODING FTOL	-0.5	2.0	1.0	0.5	-6.0	-3.0	-2.0	-1.5	-5.0	-2.5	-2.0	-1.0	-	-	-	-	-	-3.5	-1.0	-0.5	-0.5
HIGH TIDE FLOODING FTOL	-12.5	-6.0	-4.5	-3.0	-12.5	-7.0	-5.0	-3.5	-9.0	-4.5	-3.5	-2.5	-	-	-	-	-	-17.5	-8.0	-6.0	-4.0
MAXIMUM HIGH TIDE SURGE	4.5	4.2	4.1	4.1	7.2	6.3	6.4	6.6	5.6	5.6	5.8	6.1	-	-	-	-	-	6.3	5.9	6.1	6.3
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-15.5	-8.0	-6.0	-4.5	-22.5	-11.5	-8.5	-6.0	-26.0	-13.5	-10.0	-7.0	-22.0	-10.5	-8.0	-5.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	16.5	12.5	9.0	NC	21.5	16.0	11.0	NC	21.0	16.0	11.0	NC	21.0	15.5	10.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-6.0	-3.0	-2.5	-2.0	-15.0	-7.5	-6.0	-4.0	-18.5	-9.5	-7.0	-5.0	-14.5	-7.0	-5.5	-3.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	9.0	6.5	6.0	5.0	27.0	15.0	11.5	8.0	28.5	15.0	11.5	8.0	NC	15.0	11.5	8.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-4.0	-1.5	-1.0	-0.5	-3.0	-1.5	-1.0	-0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-4.0	-0.5	-0.5	-0.5	-7.5	-3.5	-2.5	-1.5	-6.0	-3.0	-2.0	-1.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-15.0	-7.5	-5.5	-4.0	-14.5	-8.0	-6.0	-4.0	-9.5	-5.0	-4.0	-2.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	4.7	4.0	4.2	4.4	8.1	7.4	7.4	7.4	8.1	8.5	7.7	6.9	-	-	-	-	-	-	-	-	-

35 AT CAVASSO CREEK (35CAVASCK) ELEVATION: 8.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-4.0	-2.5	-2.0	-1.5	-10.0	-5.0	-4.0	-3.0	-7.5	-4.0	-3.0	-2.0	-9.5	-	2.5	2.0	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	8.5	6.0	5.0	4.0	12.0	6.5	5.5	4.0	8.5	9.0	7.0	5.0	8.0	-	4.5	4.0	4.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	-	-	-	-	NC	-1.5	-2.5	-2.5	-2.0	-1.0	-7.5	-	-	NC	2.5
DIRECTION OF WIND	-	-	-	-	-	-	-	-	-	-	NC	NE	N	N	N	N	N	-	-	NC	E
DURATION IN HOURS	-	-	-	-	-	-	-	-	-	-	NC	1.5	3.0	3.0	2.0	1.5	3.0	-	-	NC	0.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-	-	-	-	-7.5	-4.0	-3.0	-2.5	-12.5	-6.5	-5.0	-3.5	-9.5	-5.0	-3.5	-2.5	-11.0	3.5	1.0	0.5	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	13.0	8.5	7.0	5.0	17.0	9.5	7.5	5.5	10.0	10.5	8.0	6.0	10.5	2.0	7.0	6.0	5.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-1.5	-1.5	-1.5	-1.0	-7.0	-4.0	-3.5	-2.5	-6.5	-3.5	-2.5	-1.5	-9.0	-	-	NC	1.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	NW	-	-	NC	E
DURATION IN HOURS	-	-	-	-	4.0	4.0	3.5	3.0	7.5	5.0	4.0	3.0	7.5	7.5	6.0	4.5	6.5	-	-	NC	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-	-	NC	-0.5	-12.0	-6.0	-5.0	-3.5	-17.0	-8.5	-6.5	-4.5	-13.5	-6.5	-5.0	-3.5	-	-1.5	-1.0	-1.0	-0.5
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	-	-	NC	1.0	21.0	12.0	9.5	7.0	24.0	13.0	10.0	7.0	25.5	14.0	11.0	7.5	-	NC	11.0	9.0	6.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-7.0	-4.0	-3.0	-2.0	-12.5	-6.5	-5.0	-3.5	-9.5	-5.0	-3.5	-2.5	-	-	2.0	1.0	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	E	E	E
DURATION IN HOURS	-	-	-	-	13.0	8.0	6.0	4.5	16.0	9.0	7.0	5.0	19.0	11.0	8.5	6.0	-	-	6.5	5.5	4.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.5	-15.5	-8.0	-6.0	-4.0	-20.5	-10.5	-8.0	-5.5	-16.5	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	3.0	2.0	2.5	3.0	25.5	13.5	10.5	7.5	26.5	14.5	11.0	8.0	NC	15.5	11.5	8.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.5	-5.5	-4.0	-3.0	-15.5	-8.0	-6.0	-4.0	-12.0	-6.0	-4.5	-3.0	-	-	-	-	-
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	-	-	16.0	9.5	7.5	5.5	19.0	10.5	8.0	6.0	22.5	12.0	9.0	6.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

35 AT CAVASSO CREEK 22 E

2040 & NORTH BOUNDARY ROAD (2040NBOURD) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-	-	-	-	-9.5	-5.5	-4.5	-3.0	-16.5	-8.5	-6.5	-4.5	-13.0	-7.0	-5.0	-3.5	-13.5	2.5	1.0	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	N	NC	NE	N	N	N	N	N	N	N	N	NW	NE	E	E	E
DURATION IN HOURS	-	-	-	-	17.0	10.5	8.0	6.0	21.5	11.5	9.0	6.5	23.5	14.0	10.5	7.5	13.5	7.5	9.0	7.5	6.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	NC	-1.5	-8.5	-5.0	-4.0	-3.0	-8.5	-4.5	-3.5	-2.5	-10.0	-	-	NC	1.5
DIRECTION OF WIND	-	-	-	-	-	-	NC	NE	NE	NE	NC	N	N	N	N	N	NW	-	-	NC	E
DURATION IN HOURS	-	-	-	-	-	-	NC	2.5	6.0	4.5	4.0	3.5	14.5	9.0	7.0	5.0	8.0	-	-	NC	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-	-	NC	-1.0	-13.0	-7.0	-5.5	-4.0	-20.0	-10.5	-8.0	-5.5	-16.0	-8.0	-6.0	-4.0	-15.0	-0.5	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	NC	1.5	22.0	13.0	10.0	7.5	26.0	14.5	11.5	8.0	27.5	15.5	12.0	8.5	16.5	NC	11.0	9.0	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-5.5	-3.5	-3.0	-2.0	-13.0	-7.0	-5.5	-4.0	-11.0	-5.5	-4.0	-3.0	-12.5	-	3.0	2.0	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	9.5	6.5	5.5	4.0	15.5	8.5	6.5	4.5	19.0	11.0	8.5	6.0	10.5	-	3.0	3.5	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-6.0	-4.0	-3.5	-3.0	-19.0	-9.5	-7.5	-5.0	-25.5	-13.0	-10.0	-7.0	-20.5	-10.5	-8.0	-5.5	-	-6.0	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	10.0	8.0	7.0	6.0	30.5	17.5	13.5	9.5	34.5	18.5	14.0	10.0	NC	19.5	15.0	10.5	-	NC	NC	NC	9.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-11.5	-6.0	-4.5	-3.5	-18.5	-9.5	-7.0	-5.0	-14.5	-7.5	-5.5	-4.0	-	2.0	0.5	0.0	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	-	-	-	-	18.5	10.5	8.5	6.0	22.5	12.5	9.5	7.0	26.0	14.5	11.0	7.5	-	8.5	9.5	7.5	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-13.0	-7.0	-5.5	-4.0	-24.0	-12.0	-9.0	-6.0	-30.0	-15.5	-11.5	-8.0	-24.5	-12.5	-9.5	-6.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	16.5	10.5	9.0	7.5	NC	18.5	14.5	10.5	39.0	20.0	15.5	11.0	NC	21.5	16.5	11.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	NC	-1.0	-15.0	-8.0	-6.0	-4.0	-22.0	-11.0	-8.5	-6.0	-17.5	-9.0	-6.5	-4.5	-	-	-	-	-
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	NC	1.0	1.0	2.0	4.5	7.0	26.0	14.0	11.0	7.5	29.5	15.5	12.0	8.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

185 AT SEADRIFT (185SEADRIF) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-8.0	-5.0	-4.0	-3.0	-16.5	-8.5	-6.5	-4.5	-13.0	-6.5	-5.0	-3.5	-14.0	4.5	1.5	1.0	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NE	E	E	E
DURATION IN HOURS	-	-	-	-	15.0	9.5	9.5	9.5	20.0	11.0	8.5	6.0	23.5	13.5	10.5	7.5	13.0	4.0	9.0	7.5	6.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	-	-	-	-	NC	-3.0	-8.5	-4.5	-3.5	-2.5	-11.5	-	-	NC	2.0
DIRECTION OF WIND	-	-	-	-	-	-	-	-	-	-	NC	N	N	N	N	N	NW	-	-	NC	E
DURATION IN HOURS	-	-	-	-	-	-	-	-	-	-	NC	2.5	15.0	9.0	7.0	5.0	7.5	-	-	NC	2.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-	-	-	-	-12.5	-6.5	-5.0	-3.5	-20.0	-10.5	-8.0	-5.5	-15.5	-8.0	-6.0	-4.0	-15.5	0.5	0.0	0.0	-0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	20.5	12.0	9.5	7.0	25.5	14.0	11.0	8.0	27.5	15.5	12.0	8.5	16.0	11.0	10.5	8.5	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-3.0	-2.5	-2.5	-2.0	-12.5	-7.0	-5.5	-4.0	-10.5	-5.5	-4.0	-3.0	-12.5	-	4.5	2.5	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	5.5	5.0	4.5	3.5	12.5	7.5	6.0	4.5	18.5	11.0	8.5	6.0	10.5	-	1.0	2.5	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-3.5	-2.5	-2.5	-2.5	-18.5	-9.5	-7.0	-5.0	-25.5	-13.0	-10.0	-7.0	-20.5	-10.5	-8.0	-5.5	-	-5.0	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	6.0	5.0	5.0	5.5	29.5	16.5	13.0	9.0	34.0	18.0	14.0	10.0	NC	19.5	15.0	10.5	-	NC	NC	NC	9.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-5.5	-4.5	-3.0	-18.0	-9.5	-7.0	-5.0	-14.5	-7.0	-5.5	-3.5	-	-	1.5	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	E	E	E
DURATION IN HOURS	-	-	-	-	17.0	9.5	7.5	6.0	22.0	12.0	9.0	6.5	25.5	14.0	11.0	7.5	-	-	8.0	7.0	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-12.0	-6.5	-5.0	-4.0	-22.5	-11.5	-9.0	-6.0	-30.0	-15.5	-11.5	-8.0	-24.5	-12.5	-9.5	-6.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	14.5	9.0	8.0	6.5	34.0	18.0	14.0	10.0	37.5	20.0	15.5	11.0	NC	21.5	16.5	11.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	NC	-0.5	-14.5	-7.5	-6.0	-4.0	-22.0	-11.0	-8.5	-6.0	-17.5	-8.5	-6.5	-4.5	-	-	-	-	-
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	NC	1.0	19.5	11.5	9.0	6.5	25.5	13.5	10.5	7.5	29.0	15.5	12.0	8.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2678 AND MULLEN BAYOU (2678MULBIO) ELEVATION: 11.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-4.5	-2.5	-2.0	-1.5	-7.5	-4.5	-3.5	-2.5	-5.5	-2.5	-2.0	-1.5	-8.0	4.5	1.5	1.0	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	11.0	7.5	6.0	4.5	12.5	7.5	6.5	5.5	9.0	7.5	5.5	4.0	7.5	2.0	6.5	5.5	4.5
65-70 MPH W GUSTS FTOL	-	-	-	-	0.0	-0.5	-0.5	-0.5	-	-1.5	-1.5	-1.5	-2.0	-1.0	-1.0	-0.5	-	-	-	NC	1.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	-	NE	NC	N	NW	NW	NC	N	-	-	-	NC	E
DURATION IN HOURS	-	-	-	-	2.0	3.5	3.0	2.5	-	2.5	2.5	2.5	4.5	2.5	2.0	1.5	-	-	-	NC	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-7.0	-4.0	-3.0	-2.0	-10.5	-5.5	-5.0	-4.0	-7.5	-4.0	-3.0	-2.0	-9.5	1.0	0.5	0.0	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	-	-	15.0	9.5	7.5	5.5	16.5	10.0	8.0	6.0	12.0	9.5	7.5	5.5	10.5	8.5	8.5	7.0	5.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-2.0	-2.0	-1.5	-1.0	-6.0	-3.5	-3.0	-2.0	-4.5	-2.0	-1.5	-1.0	-7.5	-	2.5	1.5	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	NC	NE	N	N	N	N	N	-	E	E	E
DURATION IN HOURS	-	-	-	-	7.0	6.0	5.0	4.0	9.5	6.0	4.5	2.5	7.5	4.5	4.0	3.5	6.0	-	3.0	3.5	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																						
50-55 MPH W GUSTS FTOL	-	1.5	0.5	-0.5	-11.5	-6.0	-4.5	-3.0	-15.0	-7.5	-6.0	-4.0	-11.5	-5.5	-4.5	-3.0	-	-3.0	-1.5	-1.5	-1.0
DIRECTION OF WIND	-	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	-	1.0	2.0	3.5	20.5	13.0	10.0	7.5	24.0	13.0	10.0	7.0	NC	13.5	10.5	7.0	-	NC	12.5	10.0	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-7.0	-3.5	-3.0	-2.0	-10.5	-5.5	-4.5	-3.0	-7.5	-3.5	-3.0	-2.0	-	2.0	0.5	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	-	-	-	-	15.5	9.0	7.0	5.5	16.0	9.0	7.0	5.5	17.0	10.5	8.0	5.5	-	8.5	8.5	7.0	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																						
50-55 MPH W GUSTS FTOL	-4.5	-2.5	-2.0	-2.0	-14.5	-7.5	-5.5	-4.0	-18.5	-9.5	-7.0	-5.0	-14.5	-7.0	-5.5	-3.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	6.0	5.0	5.0	5.0	26.5	14.5	11.0	8.0	27.5	14.5	11.0	8.0	NC	15.0	11.5	8.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-5.0	-4.0	-2.5	-16.5	-7.0	-5.5	-3.5	-10.0	-5.0	-4.0	-2.5	-	-	-	-	-
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	-	-	19.0	10.5	8.0	6.0	22.0	10.5	8.0	6.0	20.5	11.0	8.5	6.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

774 AT AUSTWELL (774AUSTWEL) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-8.0	-4.5	-4.0	-3.0	-15.5	-8.0	-6.5	-4.5	-12.0	-6.0	-5.0	-3.5	-13.5	3.0	1.0	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NE	E	E	E
DURATION IN HOURS	-	-	-	-	15.5	10.0	8.5	7.0	20.0	11.0	8.5	6.0	22.5	13.5	10.5	7.5	12.5	7.0	9.0	7.5	6.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	NC	-1.0	-	-4.0	-3.5	-3.0	-7.5	-4.0	-3.0	-2.0	-10.5	-	-	NC	2.0
DIRECTION OF WIND	-	-	-	-	-	-	NC	NE	-	NE	NC	N	N	N	N	N	NW	-	-	NC	E
DURATION IN HOURS	-	-	-	-	-	-	NC	2.0	-	2.5	2.5	3.0	13.0	9.5	7.0	5.0	7.5	-	-	NC	3.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-	-	NC	-0.5	-12.0	-6.5	-5.0	-3.5	-19.0	-10.0	-7.5	-5.5	-15.0	-7.5	-6.0	-4.0	-15.0	0.0	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	NE	NC	E
DURATION IN HOURS	-	-	NC	1.0	21.0	12.5	10.0	7.5	25.0	14.0	11.0	8.0	26.5	15.5	12.0	8.5	16.0	NC	11.5	9.0	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-4.0	-3.0	-2.5	-2.0	-11.5	-6.5	-5.0	-3.5	-10.0	-5.0	-4.0	-2.5	-12.0	-	3.0	2.0	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	8.0	6.0	5.0	4.0	13.0	7.5	6.0	4.5	18.0	11.0	8.5	6.0	10.0	-	3.5	4.0	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-4.5	-3.0	-3.0	-2.5	-18.0	-9.0	-7.0	-5.0	-24.5	-12.5	-9.5	-6.5	-19.5	-10.0	-7.5	-5.0	-	-5.5	-3.0	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	8.0	6.5	6.0	6.0	29.5	17.0	13.0	9.5	33.5	18.0	14.0	10.0	NC	19.5	15.0	10.5	-	NC	NC	NC	9.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-5.5	-4.5	-3.0	-17.0	-9.0	-7.0	-4.5	-13.5	-7.0	-5.0	-3.5	-	4.5	1.0	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	-	-	-	-	17.0	10.0	8.0	6.0	21.5	12.0	9.0	6.5	25.5	14.0	11.0	7.5	-	6.5	9.5	7.5	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-12.0	-6.5	-5.0	-4.0	-22.0	-11.5	-8.5	-6.0	-29.0	-15.0	-11.5	-7.5	-23.5	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	15.0	9.5	8.5	7.0	NC	18.5	14.5	10.5	38.0	20.0	15.0	10.5	NC	21.5	16.5	11.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	NC	-0.5	-14.0	-7.5	-5.5	-4.0	-21.0	-10.5	-8.0	-5.5	-16.5	-8.5	-6.5	-4.5	-	-	-	-	-
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	NC	1.0	20.0	12.0	9.5	7.0	25.0	15.0	11.0	7.5	NC	15.5	12.0	8.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

37 AND 77 (OFF GRID) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	NC	0.5	-4.5	-2.5	-2.0	-1.5	-5.5	-3.0	-2.5	-1.5	1.0	0.5	0.5	0.5	-5.5	0.0	0.0	0.0	0.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	3.0	10.0	8.5	6.5	5.0	12.0	8.5	6.5	5.0	3.0	2.5	1.0	0.0	7.5	6.0	4.0	4.5	5.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-1.5	-1.0	-0.5	-0.5	-2.0	-1.5	-1.0	-1.0	-	-	-	-	-	-	1.5	1.0	0.5
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	-	-	-	-	-	-	NE	NE	NE
DURATION IN HOURS	-	-	-	-	4.5	4.0	4.0	3.5	6.0	5.0	4.0	3.5	-	-	-	-	-	-	2.0	1.5	1.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																						
50-55 MPH W GUSTS FTOL	2.0	1.0	0.5	0.0	-6.5	-3.5	-2.5	-2.0	-8.0	-4.0	-3.0	-2.5	-2.5	-1.0	-1.0	-0.5	-6.5	-2.0	-1.0	-1.0	-0.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	3.5	5.0	4.5	4.5	13.5	10.5	8.0	6.0	16.5	10.5	8.0	6.0	9.0	6.5	3.5	1.0	10.0	8.5	5.5	5.5	6.0
65-70 MPH W GUSTS FTOL	-	-	NC	1.5	-3.5	-2.0	-1.5	-1.0	-4.5	-2.5	-2.0	-1.5	-	-	-	-	-4.5	1.0	0.5	0.5	0.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	-	-	-	-	N	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	1.0	7.5	6.5	5.5	4.5	9.5	7.0	5.5	4.5	-	-	-	-	6.0	4.0	3.5	2.5	2.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																						
50-55 MPH W GUSTS FTOL	-3.5	-1.5	-1.5	-1.5	-10.0	-5.0	-4.0	-2.5	-12.0	-6.0	-4.5	-3.0	-7.0	-3.5	-2.5	-1.5	-	-6.0	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	14.5	10.0	8.0	6.0	NC	14.0	10.5	7.5	NC	14.0	10.5	7.5	18.0	10.5	8.0	5.5	-	14.0	13.5	10.5	7.5
65-70 MPH W GUSTS FTOL	-	2.0	1.0	0.0	-6.5	-3.5	-2.5	-2.0	-7.5	-4.0	-3.0	-2.0	-2.5	-1.0	-1.0	-0.5	-	-2.0	-1.0	-1.0	-0.5
DIRECTION OF WIND	-	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	-	3.0	3.0	3.5	16.0	10.5	8.0	6.0	17.5	10.5	8.0	6.0	10.0	6.0	4.5	3.0	-	9.5	10.0	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																						
50-55 MPH W GUSTS FTOL	-7.0	-3.5	-3.0	-2.0	-13.0	-6.5	-5.0	-3.5	-15.0	-7.5	-6.0	-4.0	-10.5	-5.0	-4.0	-2.5	-	-	-	-	-
DIRECTION OF WIND	N	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	19.0	12.0	9.5	7.0	NC	15.5	12.0	8.5	NC	15.5	12.0	8.5	22.5	12.0	9.0	6.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-1.5	-0.5	-1.0	-1.0	-9.0	-4.5	-3.5	-2.5	-10.5	-5.5	-4.0	-3.0	-5.5	-2.5	-2.0	-1.5	-	-	-	-	-
DIRECTION OF WIND	N	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	3.5	5.0	5.0	4.5	20.0	12.0	9.0	6.5	20.5	11.5	9.0	6.5	14.0	8.0	6.0	4.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

43 & 286 BY CABANISS AIRPORT (43 AND 286) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	0.5	0.5	0.0	-0.5	-7.0	-3.5	-3.0	-2.0	-8.0	-4.0	-3.0	-2.0	-	-	-	-	-6.0	-3.0	-1.5	-1.0	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	4.5	5.0	4.5	4.0	10.5	9.0	7.0	5.0	14.5	9.0	7.0	5.0	-	-	-	-	9.5	7.5	4.5	4.5	5.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-4.0	-2.0	-1.5	-1.0	-5.0	-2.5	-2.0	-1.5	-	-	-	-	-4.5	0.0	0.0	0.0	0.0
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	-	-	6.5	3.5	3.5	3.5	8.0	5.5	4.5	3.5	-	-	-	-	6.0	3.5	2.5	2.0	1.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.0	-9.5	-4.5	-3.5	-2.5	-10.5	-5.5	-4.0	-3.0	-3.0	-1.5	-1.0	-0.5	-7.0	-5.0	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	10.0	7.5	6.0	5.0	12.5	10.5	8.5	6.5	18.5	11.0	8.5	6.5	8.0	5.0	3.5	2.0	11.5	10.0	10.0	8.0	6.0
65-70 MPH W GUSTS FTOL	-	1.5	1.0	0.0	-6.0	-3.0	-2.5	-1.5	-7.0	-3.5	-3.0	-2.0	-	-	-	-	-5.5	-2.0	-1.0	-1.0	-0.5
DIRECTION OF WIND	-	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	1.5	2.0	3.0	8.5	7.5	6.0	4.5	12.0	8.0	6.0	4.5	-	-	-	-	8.0	6.0	4.0	4.0	4.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-7.0	-3.5	-3.0	-2.0	-13.0	-6.5	-5.0	-3.5	-14.0	-7.0	-5.5	-3.5	-8.5	-4.0	-3.0	-2.0	-	-9.0	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	19.0	11.5	9.0	6.5	25.0	15.5	11.5	8.0	25.5	14.5	11.0	7.5	17.5	9.5	7.0	4.5	-	15.0	14.0	10.5	7.5
65-70 MPH W GUSTS FTOL	-2.5	-1.0	-1.0	-1.0	-9.0	-4.5	-3.5	-2.5	-10.0	-5.0	-4.0	-2.5	-3.0	-1.5	-1.0	-0.5	-	-5.0	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	10.5	7.0	5.5	4.5	18.5	11.0	8.5	6.0	19.0	11.0	8.5	6.0	8.0	4.5	3.0	2.0	-	10.5	10.5	8.0	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-10.5	-5.5	-4.5	-3.0	-16.0	-8.0	-6.0	-4.0	-17.5	-8.5	-6.5	-4.5	-12.0	-6.0	-4.5	-3.0	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	NC	13.0	10.5	7.5	NC	15.5	12.0	8.5	NC	16.0	12.0	8.5	22.0	11.0	8.5	6.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-5.5	-3.0	-2.5	-1.5	-11.5	-6.0	-4.5	-3.0	-13.0	-6.5	-5.0	-3.5	-7.0	-3.5	-2.5	-1.5	-	-	-	-	-
DIRECTION OF WIND	N	NE	NE	NE	N	N	N	N	NW	NW	NC	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	13.5	8.5	6.5	5.0	22.0	12.0	9.0	6.5	22.5	12.0	9.5	6.5	12.0	6.5	5.0	3.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

44 AT CORPUS CHRISTI INTL AIRPORT (44CCINTAIR) ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	1.5	0.5	0.0	-6.0	-3.0	-2.5	-1.5	-7.0	-3.5	-3.0	-2.0	2.0	-	-	-	-5.5	-1.5	-1.0	-1.0	-0.5
DIRECTION OF WIND	-	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	5.0	4.0	3.5	10.0	8.5	7.0	5.0	13.5	9.0	7.0	5.0	0.5	-	-	-	8.5	7.0	4.5	4.5	4.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-3.0	-2.5	-2.0	-1.0	-3.5	-2.0	-1.5	-1.0	-	-	-	-	-4.0	1.5	0.5	0.5	0.0
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	-	-	-	-	N	NE	NE	NE	NE
DURATION IN HOURS	-	-	-	-	5.0	4.0	3.5	3.5	7.0	5.0	4.5	3.5	-	-	-	-	5.0	2.0	2.5	2.0	1.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-1.0	-0.5	-0.5	-1.0	-8.0	-4.0	-3.0	-2.0	-9.5	-5.0	-3.5	-2.5	-3.0	-1.5	-1.0	-0.5	-7.0	-4.0	-2.0	-1.5	-1.0
DIRECTION OF WIND	N	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	7.5	6.5	5.5	5.0	13.0	10.5	8.5	6.0	17.5	10.5	8.5	6.5	8.5	5.5	4.0	2.5	11.0	9.5	5.5	5.5	6.0
65-70 MPH W GUSTS FTOL	-	-	NC	0.5	-5.0	-2.5	-2.0	-1.5	-6.0	-3.0	-2.5	-1.5	-	-	-	-	-5.0	-0.5	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	-	-	-	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	2.5	8.0	7.0	6.0	4.5	11.0	7.5	6.0	4.5	-	-	-	-	7.5	5.5	3.5	4.0	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-5.5	-3.0	-2.5	-2.0	-12.0	-6.0	-4.5	-3.0	-13.0	-6.5	-5.0	-3.5	-8.0	-4.0	-3.0	-2.0	-	-7.5	-4.0	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	17.5	11.0	8.5	6.5	NC	14.5	11.0	7.5	NC	14.5	11.0	7.5	18.0	10.0	7.5	5.0	-	14.5	13.5	10.5	7.5
65-70 MPH W GUSTS FTOL	-0.5	0.0	-0.5	-0.5	-8.0	-4.0	-3.0	-2.0	-9.0	-4.5	-3.5	-2.5	-3.0	-1.5	-1.0	-0.5	-	-4.0	-2.0	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	7.0	6.0	5.0	4.5	18.0	11.0	8.5	6.0	18.5	10.5	8.0	6.0	9.0	5.0	3.5	2.5	-	10.0	10.5	8.0	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-9.0	-5.0	-4.0	-2.5	-15.0	-7.5	-5.5	-4.0	-16.5	-8.5	-6.5	-4.5	-11.5	-7.5	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	NW	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	NC	13.0	10.0	7.5	NC	16.0	12.0	8.5	NC	15.5	12.0	8.5	22.0	13.5	10.5	7.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-4.0	-2.0	-1.5	-1.5	-10.5	-5.5	-4.0	-2.5	-12.0	-6.0	-4.5	-3.0	-6.5	-3.0	-2.5	-1.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	9.5	7.5	6.0	5.0	21.5	12.0	9.0	6.5	22.0	12.0	9.0	6.5	12.0	7.0	5.5	3.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

361 SOUTH OF ARANSAS PASS (361SARAPAS) ELEVATION: 6.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-2.5	-1.5	-1.5	-1.5	-13.0	-7.0	-5.0	-3.5	-15.5	-8.0	-6.0	-4.5	-11.0	-5.5	-4.5	-3.0	-11.0	-4.5	-2.5	-2.0	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	9.5	7.0	6.0	5.0	23.0	13.5	10.5	7.5	24.5	14.0	10.5	7.5	21.0	12.0	9.0	6.0	14.0	NC	12.0	9.5	7.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-8.0	-4.5	-3.5	-2.5	-10.5	-5.5	-4.5	-3.0	-6.5	-3.0	-2.5	-1.5	-6.5	0.0	0.0	-0.5	-0.5
DIRECTION OF WIND	-	-	-	-	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	15.0	9.0	7.0	5.0	16.0	9.0	7.0	5.0	11.5	6.5	5.0	3.0	9.5	7.5	7.5	6.0	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	NC	0.5	-	-	NC	0.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-1.5	-0.5	-0.5	0.0	-1.5	-1.0	-1.0	-0.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-3.0	-1.5	-1.0	-0.5	-3.5	-1.5	-1.0	-0.5	-	-	-	-	-2.5	-	2.5	2.0	1.5
MAXIMUM HIGH TIDE SURGE	-	-	-	-	7.3	7.7	8.0	8.4	7.4	7.9	8.0	8.2	-	-	-	-	6.5	-	6.2	6.5	6.8
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-7.0	-4.0	-3.5	-2.5	-16.0	-8.0	-6.0	-4.0	-18.5	-9.5	-7.5	-5.0	-14.0	-7.0	-5.5	-3.5	-12.0	-7.5	-4.0	-3.0	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	NW	NE	NE	NE	NE
DURATION IN HOURS	16.0	10.5	8.5	7.0	27.0	15.5	12.0	8.5	28.5	16.0	12.0	8.5	25.0	14.0	11.0	7.5	16.5	NC	14.5	11.0	8.0
65-70 MPH W GUSTS FTOL	-	-	NC	-0.5	-10.5	-5.5	-4.0	-3.0	-13.0	-6.5	-5.0	-3.5	-9.0	-4.5	-3.5	-2.0	-9.5	-2.5	-1.5	-1.0	-1.0
DIRECTION OF WIND	-	-	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	-	-	NC	3.0	18.5	10.5	8.5	6.0	19.5	11.5	8.5	6.0	15.5	9.0	7.0	5.0	11.5	11.0	9.5	7.5	5.5
LOW TIDE FLOODING FTOL	-	-	-	-	-1.5	-0.5	-0.5	-0.5	-1.5	-1.5	-1.0	-0.5	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-3.5	-1.5	-1.0	-0.5	-4.5	-2.0	-1.5	-1.0	-	-	-	-	-2.5	-	2.5	2.0	1.5
HIGH TIDE FLOODING FTOL	-	-	-	-	-4.5	-2.0	-1.5	-0.5	-5.5	-2.5	-1.5	-1.0	-	-	-	-	-3.5	2.5	1.5	1.0	1.0
MAXIMUM HIGH TIDE SURGE	-	-	-	-	8.4	8.7	9.0	9.4	8.3	8.9	9.2	9.5	-	-	-	-	7.7	6.2	7.2	7.6	8.0
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-13.5	-7.0	-5.5	-4.0	-20.5	-10.5	-8.0	-5.5	-23.5	-12.0	-9.0	-6.0	-19.0	-9.5	-7.0	-5.0	-	-12.5	-6.5	-5.0	-3.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	NE	NE	NE	NE
DURATION IN HOURS	25.5	15.5	12.0	9.0	NC	19.5	15.0	10.5	NC	20.0	15.0	10.5	NC	18.5	14.0	9.5	-	NC	18.5	14.5	10.5
65-70 MPH W GUSTS FTOL	-5.0	-2.5	-2.5	-2.0	-14.5	-7.5	-5.5	-4.0	-17.0	-8.5	-6.5	-4.5	-13.0	-6.5	-5.0	-3.5	-	-6.0	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	11.0	7.5	6.5	5.0	25.5	14.0	11.0	7.5	26.5	14.5	11.0	7.5	23.5	13.0	10.0	7.0	-	NC	13.0	10.0	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-3.5	-1.5	-1.0	-0.5	-4.5	-2.5	-1.5	-1.0	-	-	-	-	-	-	2.0	1.5	1.0
M.S.L. FLOODING FTOL	-	-	NC	1.0	-5.5	-2.5	-2.0	-1.0	-6.5	-3.0	-2.0	-1.0	-	-	-	-	-	1.5	1.5	1.0	0.5
HIGH TIDE FLOODING FTOL	-	-	NC	0.0	-7.5	-3.0	-2.0	-1.0	-8.5	-3.5	-2.5	-1.0	-	-	-	-	-	-1.5	-0.5	-0.5	-0.5
MAXIMUM HIGH TIDE SURGE	-	-	NC	7.0	10.7	11.4	12.1	12.8	10.5	11.9	12.3	12.7	-	-	-	-	-	7.5	8.5	8.9	9.4
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-18.0	-9.0	-7.0	-5.0	-24.5	-12.5	-9.5	-6.5	-28.0	-14.0	-10.5	-7.5	-23.5	-11.5	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	NC	17.5	13.5	9.5	NC	21.5	16.5	11.0	NC	21.5	16.5	11.5	NC	20.5	15.5	10.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-9.5	-5.0	-4.0	-3.0	-17.5	-9.0	-6.5	-4.5	-20.5	-10.5	-8.0	-5.5	-16.0	-8.0	-6.0	-4.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	N	N	N	-	-	-	-	-
DURATION IN HOURS	14.5	9.5	7.5	6.0	29.0	15.0	11.5	8.5	30.0	15.5	12.0	8.5	27.5	14.0	11.0	7.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-5.0	-2.5	-2.0	-1.0	-5.5	-3.0	-2.0	-1.0	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	NC	0.0	-7.5	-3.5	-2.5	-1.5	-7.5	-3.5	-2.5	-1.5	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-1.5	-1.0	-0.5	-9.5	-4.5	-3.0	-1.5	-9.5	-4.5	-3.0	-1.5	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	6.8	7.3	7.9	13.0	13.9	14.7	15.6	13.4	15.0	15.3	15.7	-	-	-	-	-	-	-	-	-

37 WEST OF CORPUS (37 WIND) — ELEVATION: N.A.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS				300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS				300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS				235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS			
	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH	5MPH	10MPH	15MPH	20MPH		5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																					
50-55 MPH W GUSTS FTOL	-3.0	-1.5	-1.5	-1.5	-10.0	-5.0	-4.0	-2.5	-11.5	-6.0	-4.5	-3.0	-6.0	-3.0	-2.0	-1.5	-8.5	-5.5	-3.0	-2.5	-1.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	13.5	10.0	8.0	6.5	21.0	13.5	10.5	7.5	22.5	13.5	10.5	7.5	15.0	9.0	6.5	4.0	13.5	12.0	12.5	10.0	7.0
65-70 MPH W GUSTS FTOL	-	2.0	1.0	0.0	-5.5	-3.0	-2.0	-1.5	-6.5	-3.5	-3.0	-2.0	1.0	1.5	NC	-	-5.5	-1.0	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	NE	NE	NE	N	N	N	N	N	N	N	N	NW	W	NC	-	NW	NE	NE	NE	NE
DURATION IN HOURS	-	3.0	3.0	3.5	10.0	8.5	7.0	5.0	13.0	9.0	7.0	5.0	2.5	0.0	NC	-	8.5	6.5	4.5	4.5	5.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																					
50-55 MPH W GUSTS FTOL	-6.5	-3.5	-3.0	-2.0	-13.0	-6.5	-5.0	-3.5	-14.5	-7.5	-5.5	-4.0	-9.0	-4.5	-3.5	-2.5	-9.5	-8.5	-4.5	-3.5	-2.5
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	NC	12.5	10.0	7.5	NC	15.5	12.0	8.5	NC	15.5	12.0	8.5	20.0	10.5	8.5	6.0	15.5	15.5	14.5	11.5	8.0
65-70 MPH W GUSTS FTOL	0.0	0.0	-0.5	-0.5	-7.5	-4.0	-3.0	-2.0	-9.0	-4.5	-3.5	-2.5	-3.0	-1.5	-1.0	-0.5	-7.0	-3.5	-1.5	-1.5	-1.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	NW	NE	NE	NE	NE
DURATION IN HOURS	6.0	6.0	5.5	4.5	13.0	10.5	8.5	6.0	16.5	10.5	8.5	6.0	8.5	6.0	4.5	3.0	11.0	9.0	5.5	5.5	6.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																					
50-55 MPH W GUSTS FTOL	-12.0	-6.5	-5.0	-3.5	-17.5	-9.0	-7.0	-4.5	-19.5	-10.0	-7.5	-5.0	-14.5	-7.0	-5.5	-3.5	-	-13.0	-6.5	-5.0	-3.5
DIRECTION OF WIND	N	N	NC	NE	N	N	N	N	N	N	N	N	NW	NW	NC	N	-	NE	NE	NE	NE
DURATION IN HOURS	NC	17.0	13.5	9.5	NC	19.5	15.0	10.5	NC	19.5	15.0	10.5	NC	16.5	12.5	8.5	-	NC	18.5	14.5	10.5
65-70 MPH W GUSTS FTOL	-5.0	-2.5	-2.0	-1.5	-11.5	-6.0	-4.5	-3.0	-13.0	-6.5	-5.0	-3.5	-8.0	-4.0	-3.0	-2.0	-	-7.0	-3.5	-2.5	-2.0
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	NE	NE	NE	NE
DURATION IN HOURS	16.5	10.5	8.5	6.5	NC	14.0	11.0	7.5	NC	14.0	11.0	7.5	18.5	10.5	8.0	5.5	-	14.5	13.5	10.5	7.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 131-OVER MPH																					
50-55 MPH W GUSTS FTOL	-16.5	-8.5	-6.5	-4.5	-21.5	-11.0	-8.0	-5.5	-23.5	-12.0	-9.0	-6.0	-18.5	-9.5	-7.0	-4.5	-	-	-	-	-
DIRECTION OF WIND	N	N	N	N	N	N	N	N	NW	NW	NC	N	NW	NW	NC	N	-	-	-	-	-
DURATION IN HOURS	NC	19.0	14.5	10.5	NC	21.5	16.5	11.0	NC	22.0	16.5	11.0	NC	18.5	14.0	9.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-8.5	-4.5	-3.5	-2.5	-14.0	-7.5	-5.5	-3.5	-16.0	-8.0	-6.0	-4.0	-11.0	-5.5	-4.0	-2.5	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	NW	NW	NW	-	-	-	-	-
DURATION IN HOURS	20.5	12.5	10.0	7.0	NC	15.5	12.0	8.5	NC	15.5	12.0	8.5	22.0	11.5	9.0	6.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

185 TO PORT O'CONNOR (185TOPTOCO) ELEVATION: 8.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-7.0	-5.0	-4.0	-3.0	-19.5	-10.5	-8.0	-5.5	-15.5	-8.0	-6.0	-4.0	-16.0	-	3.5	2.0	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	7.5	6.0	5.5	4.5	19.0	10.5	8.0	6.0	24.5	13.5	10.5	7.5	14.0	-	2.0	3.0	4.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	-	-	-	-	NC	-4.0	-10.5	-5.5	-4.5	-3.0	-13.5	-	-	-	-
DIRECTION OF WIND	-	-	-	-	-	-	-	-	-	-	NC	NE	NE	NE	NE	NE	NW	-	-	-	-
DURATION IN HOURS	-	-	-	-	-	-	-	-	-	-	NC	2.5	16.0	9.0	7.0	5.0	9.0	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-13.0	-7.0	-5.5	-4.0	-23.0	-12.0	-9.0	-6.5	-18.5	-9.5	-7.0	-5.0	-18.0	4.5	1.0	0.5	0.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	E	E	E	E
DURATION IN HOURS	-	-	-	-	18.0	11.0	8.5	6.5	26.5	14.0	10.5	7.5	28.5	15.5	12.0	8.5	17.0	0.0	7.0	6.0	5.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	NC	-2.0	-5.5	-8.5	-6.5	-4.5	-13.0	-6.5	-5.0	-3.5	-15.0	-	-	-	-
DIRECTION OF WIND	-	-	-	-	-	-	NC	NE	NE	N	N	N	N	N	N	N	NW	-	-	-	-
DURATION IN HOURS	-	-	-	-	-	-	NC	1.0	14.0	6.5	5.5	4.0	19.0	11.0	8.5	6.0	10.5	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NC	0.0	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NC	0.0	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	NC	9.0	-	-	-	-	-
WIND RANGE 111-130 MPH																						
50-55 MPH W GUSTS FTOL	-	-	NC	-2.5	-19.5	-10.0	-8.0	-5.5	-29.5	-15.0	-11.5	-7.5	-23.0	-11.5	-9.0	-6.0	-	-3.0	-2.0	-1.5	-1.5
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	-	-	NC	4.0	28.0	15.5	12.0	9.0	35.0	18.5	14.0	10.0	NC	19.5	15.0	10.5	-	NC	12.5	10.0	8.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-6.0	-4.5	-3.5	-21.5	-11.0	-8.5	-6.0	-17.0	-8.5	-6.5	-4.5	-	-	-	NC	1.0
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	NC	E
DURATION IN HOURS	-	-	-	-	12.5	7.5	6.0	5.0	22.5	12.0	9.0	6.5	26.0	14.0	11.0	7.5	-	-	-	NC	3.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-1.5	-1.0	-0.5	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.0	-1.5	-0.5	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-4.5	-3.0	-2.0	-0.5	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	8.8	12.1	12.4	12.8	-	-	-	-	-
WIND RANGE 131-OVER MPH																						
50-55 MPH W GUSTS FTOL	-11.5	-6.5	-5.5	-4.0	-24.5	-12.5	-9.5	-6.5	-34.5	-17.0	-13.0	-9.0	-27.0	-14.0	-10.5	-7.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	12.5	7.5	6.5	5.5	31.0	17.0	13.5	10.0	39.5	20.5	15.5	11.0	NC	21.5	16.5	11.5	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	-	-	-15.5	-8.0	-6.0	-4.5	-25.5	-13.0	-10.0	-6.5	-20.0	-10.0	-7.5	-5.0	-	-	-	-	-
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	-	-	18.0	10.0	8.0	6.0	25.5	14.0	11.0	8.5	29.5	15.5	11.5	7.5	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-6.0	-3.0	-2.0	-1.0	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-7.0	-3.0	-2.0	-1.0	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-8.0	-4.0	-2.5	-1.0	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	11.5	13.7	14.5	15.4	-	-	-	-	-

PORT LAVACA CAUSEWAY (PTLAVCAUSE) — ELEVATION: 9.0 FT.

CATEGORIES	300 DEGREE, 70 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	270 DEGREE, 20-30 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	300 DEGREE, 30 MILES RIGHT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH	235 DE 40 LPA 10 MPH	345 DEGREES, 50 MILES LEFT OF PORT ARANSAS 5MPH	10MPH	15MPH	20MPH
WIND RANGE 74-95 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-	-	NC	-2.0	-12.0	-7.5	-6.0	-4.5	-11.5	-6.0	-4.5	-3.5	-15.0	-	4.5	3.0	1.5
DIRECTION OF WIND	-	-	-	-	-	-	NC	NE	NE	NE	NC	N	N	N	NC	NE	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	-	-	NC	3.5	8.5	6.0	5.5	4.5	21.5	13.0	10.0	7.0	12.0	-	4.0	4.0	4.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-6.5	-3.5	-3.0	-2.0	-12.0	-	-	-	-
DIRECTION OF WIND	-	-	-	-	-	-	-	-	-	-	-	-	NE	NE	NE	NE	N	-	-	-	-
DURATION IN HOURS	-	-	-	-	-	-	-	-	-	-	-	-	12.5	8.0	6.5	4.5	5.5	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 96-110 MPH																						
50-55 MPH W GUSTS FTOL	-	-	-	-	-7.0	-4.5	-4.0	-3.0	-18.5	-9.5	-7.5	-5.5	-13.5	-7.5	-6.0	-4.0	-17.0	-	2.0	1.5	0.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	NW	-	E	E	E
DURATION IN HOURS	-	-	-	-	12.5	9.0	7.5	6.0	38.0	11.5	9.0	6.5	24.5	15.0	11.5	8.5	15.5	-	8.0	7.0	6.0
65-70 MPH W GUSTS FTOL	-	-	-	-	-	-	-	-	-	-	NC	-3.0	-12.0	-4.5	-3.5	-2.5	-13.5	-	-	NC	2.5
DIRECTION OF WIND	-	-	-	-	-	-	-	-	-	-	NC	NE	N	NE	NE	NE	NW	-	-	NC	E
DURATION IN HOURS	-	-	-	-	-	-	-	-	-	-	NC	1.0	19.0	10.0	8.0	6.0	8.5	-	-	NC	1.5
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WIND RANGE 111-130 MPH																						
50-55 MPH W GUSTS FTOL	-	-	NC	-1.0	-15.0	-8.0	-6.5	-4.5	-25.0	-13.0	-10.0	-7.0	-19.0	-10.0	-7.5	-5.0	-	0.5	-0.5	-0.5	-0.5
DIRECTION OF WIND	-	-	NC	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	E	E	E	E
DURATION IN HOURS	-	-	NC	2.0	24.0	14.0	11.0	8.0	30.0	16.5	13.0	9.0	NC	19.0	14.5	10.0	-	NC	NC	NC	8.5
65-70 MPH W GUSTS FTOL	-	-	-	-	-3.0	-2.5	-2.5	-2.0	-15.5	-8.5	-6.5	-4.5	-13.0	-6.5	-5.0	-3.5	-	-	-	NC	1.5
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	NC	E
DURATION IN HOURS	-	-	-	-	3.5	4.0	4.0	4.0	15.5	8.5	7.0	5.0	23.5	13.5	11.5	9.5	-	-	-	NC	4.0
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	1.0	1.5	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	1.0	1.5	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	0.5	1.0	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	-	14.0	14.9	15.9	-	-	-	-	-
WIND RANGE 131-OVER MPH																						
50-55 MPH W GUSTS FTOL	-4.5	-3.5	-3.0	-3.0	-20.0	-10.5	-8.0	-5.5	-29.5	-15.0	-11.5	-8.0	-23.5	-12.0	-9.0	-6.0	-	-	-	-	-
DIRECTION OF WIND	NE	NE	NE	NE	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	5.0	4.0	4.0	4.0	28.0	15.5	12.5	9.0	34.0	18.5	14.5	10.0	NC	21.0	16.0	11.0	-	-	-	-	-
65-70 MPH W GUSTS FTOL	-	-	-	-	-10.0	-5.5	-4.5	-3.5	-20.5	-10.5	-8.0	-5.5	-16.0	-8.0	-6.5	-4.5	-	-	-	-	-
DIRECTION OF WIND	-	-	-	-	NE	NE	NE	NE	N	N	N	N	N	N	N	N	-	-	-	-	-
DURATION IN HOURS	-	-	-	-	11.5	7.5	6.0	5.0	21.5	11.5	9.0	6.5	27.5	14.5	11.5	8.0	-	-	-	-	-
LOW TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-1.5	-0.5	0.0	1.0	-	-	-	-	-
M.S.L. FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-2.0	-0.5	0.0	1.0	-	-	-	-	-
HIGH TIDE FLOODING FTOL	-	-	-	-	-	-	-	-	-	-	-	-	-2.0	-0.5	0.0	0.5	-	-	-	-	-
MAXIMUM HIGH TIDE SURGE	-	-	-	-	-	-	-	-	-	-	-	-	15.0	19.1	19.6	20.1	-	-	-	-	-

APPENDIX C
Hourly Surge and Wind Conditions

See Part C: Hourly Tidal and Wind Speed Data of Section Two, SLOSH Data for a description of this appendix.

Contents of Appendix C

Hourly tidal approaches to the coastline at six locations plus one in Nueces Bay by hurricane type (C2 through C37):

Locations

Data Point Name	Data Point Number
Padre Island One	38
Padre Island Three	40
Padre Island Five	42
P53 Bridge Between Padre and Mustang	5
Aransas Pass Channel	46
South Matagorda	51
Nueces Bay One	47

Hurricane Types

Point of Impact	Direction	Forward Movement Speeds	Wind Speed
70 Miles L. of P.A.	300°	5,10,20	74- 95 mph 96-110 mph 111-130 mph 131-155 mph Over 155 mph
30 Miles L. of P.A.	300°	5,10,20	74- 95 mph 96-110 mph 111-130 mph 131-155 mph Over 155 mph

(continued next page)

Hurricane Types (continued)

Point of Impact	Direction	Forward Movement Speeds	Wind Speed
30 Miles L. of P.A.	270°	5,10,20	74- 95 mph 96-110 mph 111-130 mph 131-155 mph Over 155 mph
20 Miles L. of P.A.	300°	5,10,20	74- 95 mph 96-110 mph 111-130 mph 131-155 mph Over 155 mph
20 Miles L. of P.A.	270°	5,10,20	74- 95 mph 96-110 mph 111-130 mph 131-155 mph Over 155 mph
30 Miles R. of P.A.	300°	5,10,20	74- 95 mph 96-110 mph 111-130 mph 131-155 mph Over 155 mph
40 Miles L. of P.A.	Parallel- 235°	10	74- 95 mph 96-110 mph
50 Miles L. of P.A.	Parallel- 345°	5,10,20	74- 95 mph 96-110 mph 111-130 mph

Hourly tidal approaches are given by five wind speed classifications for various hurricane types at key bridges (C38 through C52):

- Entrance to Highway 181 Causeway at Corpus Christi
- Highway 35 Bridge on Copano Bay
- Port Lavaca Causeway

Hourly sustained wind speeds are given by five wind speed classifications for mid-Corpus Christi (C53 through C57).

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 70 MILES LEFT OF PORT ARANSAS

Hours Plus or Minus Time of Landfall

SLOSH Estimated Feet of Storm Surge Anticipated at Each Hour

Movement Speed / Direction, Windspeed	Padre #1	Padre #3	Padre #5	PS38RP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38RP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38RP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300° 74-95 MPH							300° 74-95 MPH							300° 74-95 MPH						
-24	2.2	2.0	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6							
-23	2.2	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6							
-22	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6							
-21	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-20	2.4	2.2	2.0	2.0	2.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-19	2.4	2.2	2.1	2.0	2.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-18	2.5	2.3	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5
-17	2.6	2.3	2.2	2.1	2.7	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	2.7	2.4	2.2	2.1	2.1	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	2.9	2.5	2.3	2.2	2.1	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.1	2.6	2.4	2.2	2.2	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.2	2.7	2.4	2.3	2.2	2.0	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	3.4	2.8	2.5	2.3	2.2	2.0	2.0	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.6	2.9	2.6	2.4	2.3	2.0	2.1	2.2	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-10	3.8	3.0	2.7	2.4	2.3	2.0	2.1	2.3	2.1	2.0	2.0	1.9	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6
- 9	3.9	3.2	2.7	2.5	2.4	2.0	2.1	2.4	2.2	2.1	2.0	2.0	1.9	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
- 8	3.9	3.3	2.8	2.5	2.4	2.0	2.2	2.6	2.3	2.2	2.1	2.1	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 7	3.9	3.5	2.9	2.6	2.4	2.0	2.2	2.8	2.5	2.3	2.2	2.1	2.0	1.6	1.9	1.8	1.8	1.8	1.8	1.7	1.6
- 6	3.7	3.6	3.0	2.6	2.5	2.0	2.3	3.1	2.8	2.5	2.4	2.3	2.1	1.8	2.0	1.9	1.9	1.8	1.8	1.8	1.6
- 5	3.4	3.8	3.1	2.7	2.5	2.0	2.4	3.5	3.1	2.7	2.5	2.4	2.1	1.9	2.1	2.0	2.0	1.9	1.9	1.9	1.6
- 4	3.1	4.0	3.3	2.8	2.6	2.0	2.4	3.8	3.4	3.0	2.7	2.5	2.2	1.9	2.3	2.2	2.1	2.1	2.0	1.9	1.7
- 3	2.6	4.2	3.4	2.8	2.6	2.1	2.5	3.9	3.8	3.2	2.9	2.6	2.2	2.0	2.7	2.5	2.4	2.3	2.2	2.1	1.7
- 2	2.1	4.2	3.6	2.9	2.6	2.1	2.6	3.7	4.2	3.5	3.0	2.7	2.2	2.1	3.5	3.3	2.9	2.7	2.5	2.2	1.8
- 1	1.6	4.2	3.7	2.9	2.6	2.1	2.7	3.1	4.6	3.8	3.2	2.8	2.2	2.2	3.6	4.6	3.9	3.3	3.0	2.5	1.9
0	1.1	4.1	3.8	2.9	2.6	2.1	2.7	2.3	4.6	4.0	3.3	2.8	2.2	2.3	2.2	5.5	5.2	4.2	3.3	2.7	2.0
+ 1	0.8	3.7	3.8	3.0	2.7	2.1	2.8	1.7	4.0	3.9	3.3	2.8	2.2	2.4	1.9	3.5	4.5	4.2	3.5	2.6	2.1
+ 2	0.7	3.3	3.7	2.9	2.7	2.2	3.0	1.4	3.1	3.5	3.1	2.7	2.1	2.5	1.8	2.2	2.7	2.9	2.7	2.3	2.1
+ 3	0.6	2.9	3.5	2.9	2.7	2.3	3.1	1.2	2.4	3.0	2.8	2.5	2.1	2.7	1.4	1.7	2.1	2.3	1.8	1.6	2.4
+ 4	0.6	2.5	3.3	2.8	2.6	2.2	3.1	1.0	2.0	2.5	2.6	2.5	2.0	2.8	1.4	1.6	1.7	2.0	2.2	1.9	2.6
+ 5	0.6	2.2	3.0	2.7	2.5	2.2	3.2	0.8	1.7	2.2	2.3	2.3	2.0	2.9	1.4	1.6	1.8	2.0	2.1	2.2	2.7
+ 6	0.6	2.0	2.8	2.6	2.4	2.2	3.3	0.8	1.5	1.9	2.3	2.2	1.9	3.0	1.3	1.5	1.7	1.8	2.0	1.7	2.8
+ 7	0.7	1.8	2.7	2.4	2.3	2.2	3.4	0.7	1.4	1.8	1.9	2.0	1.9	3.1	1.1	1.3	1.2	1.3	1.5	1.6	2.8
+ 8	0.8	1.7	2.5	2.3	2.2	2.3	3.5	0.7	1.4	1.7	1.7	1.9	1.9	3.1	0.9	1.1	1.2	1.3	1.5	1.4	2.8
+ 9	0.9	1.6	2.4	2.2	2.1	2.2	3.5	0.8	1.3	1.7	1.6	1.8	1.8	3.2	1.0	1.4	1.5	1.4	1.5	1.3	2.8
+10	1.1	1.6	2.2	2.1	2.0	2.1	3.5	0.9	1.3	1.7	1.6	1.7	1.9	3.2	1.2	1.5	1.5	1.4	1.5	1.8	2.7
+11	1.2	1.5	2.1	2.0	1.9	2.1	3.6	1.0	1.4	1.7	1.5	1.7	1.9	3.2	1.0	1.3	1.5	1.5	1.8	1.8	2.7
+12	1.3	1.5	2.0	2.0	1.8	2.0	3.5	1.1	1.4	1.7	1.5	1.6	1.8	3.1	1.1	1.4	1.6	1.4	1.5	1.6	2.6
Max.	4.3	4.3	3.8	3.2	2.7	2.3	3.6	4.1	4.7	4.1	3.3	2.8	2.3	3.2	5.1	5.6	5.3	4.4	3.5	2.7	2.8

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH								20 MPH							
Direction, Windspeed			300°		74-95 MPH					300°		74-95 MPH					300°			74-95MPH			
	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	2.2	2.1	2.0	2.0	2.0	1.9	1.6														
-23	2.2	2.1	2.1	2.0	2.0	1.9	1.7														
-22	2.3	2.2	2.1	2.1	2.0	2.0	1.7														
-21	2.4	2.2	2.2	2.1	2.1	2.0	1.7														
-20	2.4	2.3	2.2	2.2	2.1	2.0	1.7														
-19	2.5	2.4	2.3	2.2	2.2	2.1	1.7														
-18	2.6	2.5	2.3	2.3	2.3	2.1	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-17	2.7	2.6	2.4	2.4	2.3	2.1	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.6	1.5	1.5	1.5
-16	2.7	2.6	2.5	2.4	2.4	2.2	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-15	2.8	2.7	2.6	2.5	2.5	2.2	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	2.9	2.8	2.7	2.6	2.5	2.3	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	2.9	2.9	2.7	2.6	2.6	2.3	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	2.9	2.9	2.8	2.7	2.7	2.4	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.9	3.0	2.9	2.8	2.8	2.4	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.6	1.7	1.7	1.6	1.7	1.6	1.6	1.5
-10	2.9	3.0	3.0	2.9	2.9	2.5	2.1	2.1	2.1	2.1	2.0	2.0	2.0	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
- 9	2.8	3.0	3.1	3.0	3.0	2.6	2.2	2.2	2.2	2.2	2.1	2.1	2.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 8	2.7	3.0	3.2	3.2	3.1	2.6	2.3	2.3	2.4	2.4	2.3	2.3	2.2	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 7	2.5	2.9	3.3	3.4	3.4	2.7	2.4	2.4	2.6	2.6	2.5	2.5	2.4	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.6
- 6	2.3	2.8	3.4	3.7	3.6	2.8	2.5	2.5	2.8	2.8	2.7	2.7	2.5	1.8	1.9	1.9	1.9	1.9	1.9	1.8	1.6
- 5	2.0	2.6	3.4	3.9	3.8	2.8	2.6	2.6	2.9	3.0	3.0	2.9	2.6	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.6
- 4	1.8	2.2	3.4	4.2	4.0	2.8	2.7	2.5	3.0	3.2	3.3	3.2	2.8	1.9	2.1	2.2	2.1	2.1	2.1	2.1	1.7
- 3	1.5	1.9	3.3	4.4	4.1	2.8	2.8	2.4	2.9	3.5	3.8	3.7	3.0	2.1	2.2	2.5	2.5	2.5	2.5	2.4	1.8
- 2	1.2	1.5	3.1	4.5	4.2	2.8	3.1	2.1	2.6	3.6	4.4	4.2	3.2	2.2	2.3	2.9	3.2	3.2	3.2	2.9	1.9
- 1	1.0	1.2	3.0	4.5	4.3	2.8	3.3	1.9	2.1	3.5	4.9	4.6	3.2	2.5	2.1	2.9	4.0	4.6	4.0	3.5	2.1
0	0.7	0.9	2.7	4.4	4.2	2.7	3.6	1.6	1.5	3.2	4.9	4.7	3.1	2.7	1.7	3.8	3.8	5.7	3.8	3.8	2.3
+ 1	0.5	0.8	2.4	4.0	4.0	2.7	3.9	1.4	1.3	2.6	4.4	4.3	2.9	2.9	1.4	3.3	2.4	4.3	2.4	3.6	1.9
+ 2	0.4	0.7	2.1	3.7	3.7	2.6	4.3	1.3	1.3	2.2	3.6	3.6	2.6	3.3	1.7	1.7	2.3	3.0	2.3	2.3	2.9
+ 3	0.4	0.8	1.9	3.2	3.4	2.5	4.7	1.2	1.3	2.0	3.0	3.1	2.3	3.9	1.7	1.7	2.0	2.3	2.0	1.7	3.3
+ 4	0.3	0.8	1.8	2.8	3.1	2.5	5.3	1.2	1.3	1.8	2.5	2.6	2.2	4.4	1.5	1.5	1.7	2.1	1.7	2.3	3.5
+ 5	0.3	0.8	1.7	2.5	2.8	2.4	5.5	1.0	1.2	1.6	2.0	2.2	2.0	4.4	1.4	1.5	1.7	1.9	1.7	1.7	3.5
+ 6	0.3	0.9	1.7	2.3	2.5	2.5	5.5	0.9	1.1	1.4	1.8	1.9	1.8	4.4	1.6	1.6	1.6	1.6	1.6	1.6	3.5
+ 7	0.4	1.0	1.7	2.1	2.3	2.2	5.3	0.9	1.1	1.4	1.6	1.8	1.7	4.4	1.3	1.3	1.3	1.5	1.3	1.6	3.5
+ 8	0.5	1.0	1.7	2.0	2.2	2.2	5.2	0.9	1.1	1.4	1.5	1.7	1.7	4.3	1.1	1.3	1.4	1.5	1.4	1.3	3.4
+ 9	0.6	1.1	1.7	1.9	2.0	2.1	5.1	0.9	1.1	1.4	1.4	1.6	1.7	4.2	1.4	1.4	1.3	1.2	1.3	1.3	3.3
+10	0.7	1.2	1.7	1.8	1.9	2.0	5.0	0.9	1.1	1.4	1.4	1.5	1.6	4.1	1.3	1.3	1.3	1.3	1.3	1.7	3.3
+11	0.8	1.2	1.7	1.7	1.8	2.0	4.9	0.9	1.2	1.4	1.4	1.5	1.6	4.0	1.1	1.3	1.5	1.6	1.5	1.6	3.2
+12	0.9	1.3	1.7	1.7	1.7	1.9	4.8	1.0	1.2	1.4	1.4	1.5	1.6	3.9	1.4	1.5	1.5	1.4	1.5	1.3	3.1
Max.	3.1	3.1	3.5	4.5	4.3	2.9	5.5	2.6	3.0	3.7	5.0	4.7	3.3	4.5	2.7	3.1	4.1	5.7	4.1	3.8	3.5

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Hours Left or Right of Landfall	Padre #1	Padre #3	Padre #5	PS3BWP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS3BWP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS3BWP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	270°			74-95 MPH				270°			74-95 MPH				270°			74-95 MPH			
-24	2.0	2.0	1.9	1.9	1.9	2.0	1.5														
-23	2.0	2.0	2.0	2.0	2.0	2.0	1.5														
-22	2.1	2.0	2.0	2.0	2.0	2.0	1.5														
-21	2.1	2.1	2.0	2.0	2.1	2.1	1.5														
-20	2.2	2.1	2.1	2.1	2.2	2.2	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-19	2.2	2.2	2.2	2.2	2.3	2.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-18	2.3	2.3	2.3	2.3	2.4	2.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-17	2.3	2.4	2.4	2.4	2.5	2.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-16	2.4	2.5	2.5	2.5	2.6	2.7	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-15	2.5	2.6	2.6	2.6	2.7	2.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-14	2.6	2.6	2.6	2.7	2.9	3.0	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-13	2.6	2.7	2.7	2.8	3.0	3.1	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	2.7	2.7	2.8	2.8	3.1	3.2	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.7	2.7	2.8	2.9	3.2	3.3	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	2.7	2.7	2.8	3.0	3.4	3.4	1.8	1.8	1.8	1.8	1.8	1.9	2.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 9	2.7	2.7	2.8	3.1	3.6	3.5	1.9	1.9	2.0	2.0	2.0	2.1	2.3	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 8	2.6	2.6	2.8	3.2	3.8	3.5	1.9	2.0	2.1	2.2	2.2	2.3	2.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 7	2.5	2.5	2.8	3.4	4.1	3.5	2.0	2.1	2.2	2.3	2.4	2.6	2.9	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.5
- 6	2.4	2.3	2.7	3.5	4.3	3.4	2.1	2.1	2.3	2.4	2.6	2.9	3.2	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.6
- 5	2.2	2.1	2.6	3.7	4.5	3.4	2.2	2.2	2.4	2.6	2.8	3.2	3.6	1.7	1.7	1.7	1.7	1.7	1.9	2.2	1.6
- 4	1.9	1.8	2.5	4.0	4.7	3.3	2.3	2.2	2.5	2.8	3.2	3.9	3.9	1.7	1.8	1.8	1.8	1.8	1.9	2.2	1.6
- 3	1.7	1.5	2.5	4.2	4.7	3.1	2.5	2.2	2.5	2.9	3.7	4.5	4.1	1.9	1.8	2.0	2.1	2.2	2.5	3.0	1.7
- 2	1.4	1.2	2.5	4.3	4.7	2.9	2.7	2.1	2.3	3.0	4.4	5.1	4.1	2.0	1.9	2.3	2.6	3.0	3.6	4.0	1.8
- 1	1.1	0.9	2.5	4.4	4.5	2.7	2.9	1.9	2.0	3.2	5.0	5.4	3.9	2.2	1.9	2.4	3.1	4.3	5.2	4.5	2.0
0	0.8	0.7	2.5	4.4	4.3	2.6	3.3	1.7	1.7	3.5	5.3	5.2	3.5	2.3	1.7	1.8	3.8	5.7	5.8	4.3	2.0
+ 1	0.6	0.6	2.4	4.1	3.9	2.4	3.6	1.6	1.8	3.4	5.0	4.6	3.0	2.5	1.3	1.9	3.6	5.0	4.7	3.5	1.8
+ 2	0.4	0.6	2.3	3.8	3.6	2.4	4.0	1.6	1.9	3.3	4.4	3.9	2.6	3.0	2.0	2.4	3.2	3.6	3.2	2.5	2.3
+ 3	0.3	0.7	2.2	3.4	3.2	2.2	4.4	1.6	1.9	2.9	3.6	3.3	2.2	3.4	1.9	2.2	2.7	3.0	2.9	2.1	2.7
+ 4	0.2	0.7	2.1	3.0	2.9	2.2	4.8	1.5	1.8	2.5	3.0	2.8	2.0	3.7	1.6	2.0	2.4	2.7	2.7	2.4	2.9
+ 5	0.2	0.8	1.9	2.6	2.6	2.1	5.0	1.4	1.7	2.2	2.5	2.4	1.7	4.0	1.8	2.0	2.2	2.3	2.3	1.9	3.1
+ 6	0.2	0.8	1.9	2.4	2.4	2.1	5.0	1.4	1.6	2.0	2.2	2.1	1.6	4.1	1.9	2.0	2.1	1.9	1.9	1.6	3.2
+ 7	0.2	0.9	1.8	2.2	2.3	2.1	5.0	1.2	1.6	1.8	1.9	1.9	1.6	4.1	1.6	1.7	1.7	1.9	1.9	1.6	3.2
+ 8	0.2	1.0	1.9	2.1	2.2	2.1	5.0	1.2	1.4	1.6	1.7	1.7	1.5	4.1	1.5	1.6	1.7	1.8	1.7	1.4	3.2
+ 9	0.3	1.0	1.8	2.0	2.1	2.1	4.9	1.1	1.3	1.5	1.5	1.6	1.5	4.1	1.7	1.6	1.6	1.5	1.5	1.3	3.2
+10	0.3	1.1	1.8	1.9	2.0	2.0	4.9	1.1	1.2	1.4	1.5	1.5	1.5	4.1	1.6	1.6	1.6	1.6	1.6	1.6	3.2
+11	0.4	1.1	1.8	1.9	1.9	2.0	4.8	1.0	1.2	1.4	1.4	1.5	1.5	4.0	1.4	1.4	1.6	1.7	1.7	1.5	3.1
+12	0.6	1.2	1.8	1.9	1.9	2.0	4.7	1.1	1.2	1.4	1.4	1.5	1.6	3.9	1.6	1.5	1.5	1.4	1.4	1.3	3.1
Max.	2.7	2.8	2.9	4.4	4.7	3.5	5.0	2.2	2.5	3.6	5.3	5.5	4.1	4.2	2.0	2.4	3.8	5.7	5.9	4.6	3.2

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Movement Speed: 5 MPH, 10 MPH, 20 MPH; Direction, Windspeed: 300°, 74-95 MPH

Hours Prior to and After Time of Landfall / SLOSH Estimated Feet of Storm Surge Anticipated at Each Hour

Hour	5 MPH Padre #1	5 MPH Padre #3	5 MPH Padre #5	5 MPH PS300P2200	5 MPH Aransas Pass Channel	5 MPH South Matagorda	5 MPH Nueces Bay #1	10 MPH Padre #1	10 MPH Padre #3	10 MPH Padre #5	10 MPH PS300P2200	10 MPH Aransas Pass Channel	10 MPH South Matagorda	10 MPH Nueces Bay #1	20 MPH Padre #1	20 MPH Padre #3	20 MPH Padre #5	20 MPH PS300P2200	20 MPH Aransas Pass Channel	20 MPH South Matagorda	20 MPH Nueces Bay #1
-24	1.6	1.6	1.6	1.6	1.6	1.6	1.5														
-23	1.7	1.6	1.6	1.6	1.6	1.6	1.5														
-22	1.6	1.7	1.7	1.7	1.7	1.7	1.6														
-21	1.7	1.7	1.7	1.7	1.7	1.8	1.6														
-20	1.8	1.9	1.9	1.8	1.9	1.9	1.6														
-19	2.0	2.0	2.0	2.0	2.0	2.0	1.6														
-18	2.1	2.2	2.2	2.2	2.2	2.2	1.6														
-17	2.2	2.3	2.3	2.3	2.2	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.6	1.5	1.5	1.5
-16	2.3	2.4	2.4	2.3	2.3	2.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-15	2.4	2.5	2.5	2.4	2.4	2.3	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	2.5	2.7	2.6	2.6	2.6	2.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5
-13	2.6	2.7	2.7	2.7	2.7	2.5	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	2.7	2.8	2.8	2.8	2.8	2.6	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.7	2.8	2.8	2.8	2.8	2.6	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.6	1.7	1.7	1.6	1.7	1.6	1.6	1.5
-10	2.7	2.8	2.9	2.9	3.0	2.7	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.5
- 9	2.7	2.8	2.9	3.1	3.1	2.8	2.0	2.1	2.1	2.1	2.1	2.1	2.1	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 8	2.6	2.7	2.9	3.2	3.3	2.9	2.0	2.2	2.3	2.2	2.2	2.3	2.2	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
- 7	2.5	2.6	2.9	3.3	3.6	3.0	2.1	2.3	2.5	2.5	2.5	2.5	2.4	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.6
- 6	2.3	2.4	2.8	3.5	3.8	3.1	2.2	2.4	2.6	2.6	2.7	2.7	2.6	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.6
- 5	2.1	2.2	2.7	3.7	4.1	3.1	2.3	2.4	2.7	2.8	2.9	3.0	2.8	1.8	1.9	1.9	1.9	1.9	1 9	1.9	1.6
- 4	1.8	1.8	2.5	3.8	4.4	3.2	2.5	2.3	2.6	2.9	3.1	3.2	3.0	1.9	2.0	2.1	2.1	2.1	2.1	2.1	1.7
- 3	1.6	1.5	2.3	3.9	4.6	3.2	2.6	2.2	2.5	3.0	3.5	4.0	3.3	2.0	2.1	2 3	2.4	2.4	2.5	2.5	1.8
- 2	1.3	1.1	2.0	3.9	4.8	3.2	2.8	2.1	2.2	2.9	4.0	4.6	3.6	2.2	2.1	2.6	2.9	3.1	3.3	3.1	1.9
- 1	1.0	0.8	1.7	3.7	4.8	3.1	3.0	1.9	1.7	2.5	4.3	5.2	3.8	2.4	2.0	2.4	3.2	4.2	4.8	3.9	2.1
0	0.8	0.6	1.4	3.5	4.6	3.0	3.4	1.6	1.2	2.0	4.1	5.2	3.6	2.7	1.7	1.8	2.5	4.7	6.0	4.4	2.5
+ 1	0.6	0.4	1.2	3.2	4.3	2.9	3.6	1.4	1.1	1.7	3.6	4.6	3.3	2.7	1.4	1.2	1.7	3.5	4.8	3.9	1.9
+ 2	0.5	0.4	1.1	2.9	3.9	2.9	3.8	1.4	1.1	1.6	3.1	3.8	2.8	3.0	1.6	1.6	2.0	2.9	2.8	2.3	2.4
+ 3	0.4	0.5	1.2	2.6	3.5	2.7	4.0	1.3	1.2	1.6	2.7	3.1	2.5	3.2	1.8	1.7	1.9	2.3	2.3	1.9	2.7
+ 4	0.3	0.5	1.2	2.4	3.1	2.6	4.1	1.2	1.1	1.5	2.3	2.6	2.3	3.4	1.5	1.5	1.7	2.1	2.3	2.2	3.0
+ 5	0.3	0.5	1.2	2.1	2.7	2.4	4.2	1.1	1.1	1.4	1.9	2.2	2.0	3.6	1.3	1.5	1.6	1.8	1.9	1.7	3.2
+ 6	0.3	0.6	1.2	1.9	2.4	2.3	4.3	1.0	1.0	1.3	1.7	2.0	1.8	3.7	1.6	1.5	1.5	1.5	1.5	1.6	3.1
+ 7	0.3	0.7	1.3	1.9	2.3	2.2	4.3	0.9	1.0	1.3	1.5	1.7	1.7	3.7	1.4	1.3	1.4	1.6	1.7	1.5	3.1
+ 8	0.4	0.8	1.4	1.8	2.1	2.2	4.2	0.9	1.1	1.3	1.5	1.7	1.6	3.7	1.2	1.3	1.5	1.5	1.5	1.2	3.0
+ 9	0.5	0.9	1.4	1.7	1.9	2.1	4.2	0.8	1.1	1.2	1.4	1.5	1.6	3.6	1.4	1.3	1.2	1.2	1.2	1.2	3.0
+10	0.5	1.0	1.4	1.6	1.8	2.0	4.1	0.8	1.1	1.2	1.3	1.5	1.6	3.5	1.2	1.2	1.3	1.3	1.5	1.6	2.9
+11	0.6	1.0	1.4	1.6	1.7	1.9	4.0	0.8	1.1	1.3	1.3	1.4	1.5	3.5	1.1	1.3	1.5	1.5	1.6	1.6	2.9
+12	0.7	1.1	1.5	1.6	1.7	1.9	3.9	0.9	1.1	1.3	1.3	1.4	1.5	3.4	1.4	1.5	1.5	1.4	1.4	1.2	2.8
Max.	2.7	2.8	3.0	3.9	4.3	3.4	4.3	2.4	2.7	3.0	4.3	5.3	3.8	3.7	2.1	2.6	3.2	4.7	6.0	4.4	3.1

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	270° 74-95 MPH							270° 74-95 MPH							270° 74-95 MPH						
	Padre #1	Padre #3	Padre #5	PS3RRP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS3RRP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS3RRP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	1.5	1.5	1.5	1.5	1.5	1.5	1.6														
-23	1.5	1.5	1.4	1.4	1.4	1.4	1.6														
-22	1.6	1.5	1.5	1.4	1.5	1.5	1.5														
-21	1.6	1.6	1.6	1.6	1.6	1.8	1.5														
-20	1.7	1.8	1.8	1.8	1.9	2.0	1.5														
-19	1.8	1.8	1.9	1.9	1.9	2.1	1.5														
-18	1.8	1.9	1.9	1.9	2.0	2.2	1.5														
-17	1.8	1.9	1.9	1.9	2.1	2.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.9	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-16	1.9	2.1	2.1	2.2	2.3	2.7	1.5	1.6	1.6	1.6	1.5	1.6	1.6	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-15	2.1	2.3	2.3	2.4	2.6	3.0	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-14	2.2	2.4	2.5	2.5	2.7	3.1	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-13	2.3	2.4	2.5	2.5	2.8	3.2	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-12	2.3	2.4	2.5	2.6	2.8	3.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.4	2.5	2.6	2.7	3.0	3.6	1.5	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	2.5	2.6	2.6	2.8	3.3	2.8	1.6	1.7	1.7	1.7	1.7	1.8	1.9	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 9	2.5	2.5	2.6	2.9	3.5	3.9	1.6	1.7	1.8	1.8	1.8	1.8	2.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 8	2.5	2.4	2.5	2.8	3.6	3.9	1.6	1.7	1.8	1.8	1.8	2.0	2.3	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 7	2.4	2.2	2.3	2.8	3.8	4.0	1.7	1.8	2.0	2.0	2.1	2.3	2.8	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
- 6	2.3	2.1	2.2	2.9	4.1	4.0	1.8	1.9	2.1	2.2	2.3	2.7	3.3	1.6	1.7	1.7	1.7	2.6	1.6	1.6	1.5
- 5	2.2	1.9	2.1	3.0	4.4	4.0	1.8	2.0	2.2	2.3	2.5	3.0	3.8	1.6	1.7	1.7	1.7	1.6	1.7	1.7	1.6
- 4	2.0	1.7	1.8	3.1	4.7	3.9	1.9	2.0	2.2	2.3	2.6	3.9	4.2	1.6	1.7	1.7	1.7	1.7	1.8	2.0	1.6
- 3	1.7	1.3	1.5	3.1	4.8	3.6	2.0	2.0	2.1	2.3	2.8	4.2	4.5	1.7	1.7	1.8	1.9	1.9	2.2	2.9	1.6
- 2	1.5	1.0	1.3	3.2	4.9	3.4	2.2	1.9	1.9	2.2	3.3	5.0	4.7	1.9	1.8	2.0	2.2	2.5	3.3	4.3	1.8
- 1	1.2	0.7	1.2	3.3	4.8	3.1	2.4	1.8	1.7	2.1	3.9	5.7	4.6	2.1	1.8	2.1	2.4	3.3	5.1	5.2	2.0
0	1.0	0.5	1.2	3.4	4.6	2.9	2.6	1.7	1.4	2.2	4.3	5.6	4.1	2.1	1.7	1.6	2.3	4.5	6.1	4.8	2.2
+ 1	0.8	0.4	1.2	3.3	4.2	2.7	2.8	1.5	1.4	2.3	4.4	5.0	3.4	2.0	1.3	1.5	2.6	4.5	5.0	3.7	1.3
+ 2	0.6	0.3	1.2	3.1	3.7	2.5	3.2	1.6	1.5	2.4	4.0	4.1	2.9	2.3	1.7	2.1	2.8	3.5	3.3	2.7	2.0
+ 3	0.4	0.3	1.2	2.7	3.3	2.3	3.5	1.5	1.6	2.4	3.5	3.5	2.4	2.9	1.9	2.1	2.5	2.9	3.0	2.4	2.4
+ 4	0.3	0.3	1.2	2.6	3.0	2.2	3.7	1.5	1.6	2.3	3.0	3.0	2.2	3.3	1.6	1.9	2.3	2.7	2.8	2.5	2.7
+ 5	0.2	0.4	1.2	2.3	2.6	2.2	4.0	1.4	1.6	2.0	2.5	2.5	1.9	3.6	1.7	1.9	2.0	2.3	2.3	2.0	2.9
+ 6	0.2	0.4	1.3	2.1	2.4	2.1	4.1	1.3	1.5	1.8	2.2	2.1	1.6	3.8	1.8	1.9	2.0	2.0	1.9	1.6	3.1
+ 7	0.1	0.5	1.3	1.9	2.2	2.0	4.2	1.2	1.4	1.6	1.9	1.9	1.5	3.9	1.6	1.6	1.7	1.8	1.9	1.5	3.1
+ 8	0.1	0.5	1.3	1.8	2.1	2.0	4.3	1.2	1.3	1.5	1.7	1.8	1.5	3.9	1.5	1.6	1.7	1.8	1.8	1.5	3.1
+ 9	0.1	0.6	1.3	1.8	2.0	2.0	4.3	1.1	1.3	1.4	1.5	1.6	1.5	3.9	1.6	1.6	1.6	1.6	1.6	1.4	3.1
+10	0.2	0.7	1.4	1.7	1.9	2.0	4.3	1.1	1.2	1.3	1.4	1.5	1.4	3.9	1.6	1.6	1.6	1.6	1.6	1.6	3.1
+11	0.2	0.8	1.4	1.7	1.9	2.0	4.2	1.0	1.1	1.3	1.3	1.4	1.4	3.8	1.4	1.4	1.5	1.6	1.6	1.4	3.0
+12	0.3	0.9	1.5	1.7	1.8	2.0	4.2	1.0	1.1	1.3	1.3	1.4	1.4	3.7	1.6	1.5	1.4	1.4	1.3	1.2	3.0
Max.	2.5	2.6	2.7	3.4	4.9	4.2	4.3	2.0	2.2	2.5	4.4	5.8	4.8	3.9	2.0	2.1	2.9	4.7	6.1	5.3	3.1

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES RIGHT OF PORT ARANSAS

Hours Time of Landfall / Estimated Feet of Storm Surge Anticipated at Each Hour

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300° 74-95 MPH							300° 74-95 MPH							300° 74-95 MPH						
	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	1.8	1.8	1.8	1.8	1.8	1.8	1.5														
-23	1.9	1.9	1.8	1.8	1.8	1.8	1.5														
-22	1.9	1.9	1.9	1.9	1.9	1.9	1.5														
-21	1.9	1.9	1.9	1.9	1.9	1.8	1.5														
-20	1.9	1.9	1.9	1.9	1.9	1.9	1.5														
-19	1.9	1.9	1.9	1.9	1.9	1.9	1.5														
-18	2.0	2.0	2.0	2.0	2.0	2.0	1.6														
-17	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-16	2.1	2.0	2.0	2.0	2.0	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-15	2.1	2.1	2.0	2.0	2.1	2.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	2.1	2.1	2.1	2.1	2.2	2.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	2.2	2.2	2.2	2.2	2.3	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	2.2	2.2	2.2	2.2	2.3	2.5	1.6	1.7	1.6	1.6	1.6	1.6	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.2	2.2	2.2	2.2	2.4	2.7	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	2.3	2.2	2.2	2.2	2.4	2.8	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 9	2.3	2.2	2.2	2.2	2.4	2.9	1.6	1.7	1.8	1.7	1.7	1.8	1.8	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
- 8	2.3	2.2	2.2	2.2	2.4	3.0	1.6	1.8	1.8	1.7	1.7	1.8	1.9	1.5	1.7	1.7	1.7	1.6	1.6	1.6	1.5
- 7	2.3	2.2	2.1	2.0	2.2	3.1	1.5	1.8	1.8	1.8	1.8	1.9	2.0	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 6	2.3	2.1	1.9	1.9	2.0	3.1	1.5	1.8	1.9	1.9	1.9	2.0	2.3	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 5	2.2	2.0	1.8	1.6	1.8	3.2	1.5	1.9	2.0	2.0	2.0	2.1	2.6	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 4	2.2	1.8	1.6	1.3	1.4	3.2	1.4	1.9	2.0	2.0	2.0	2.2	3.0	1.5	1.7	1.7	1.7	1.7	1.7	1.8	1.6
- 3	2.1	1.6	1.3	1.3	1.1	3.3	1.4	1.9	1.9	1.9	1.9	2.1	3.3	1.5	1.7	1.7	1.7	1.7	1.8	1.9	1.6
- 2	1.9	1.4	1.1	0.7	0.7	3.2	1.3	1.9	1.8	1.7	1.6	1.8	3.6	1.5	1.7	1.7	1.7	1.7	1.9	2.6	1.6
- 1	1.8	1.2	0.8	0.4	0.4	3.1	1.1	1.9	1.6	1.4	1.3	1.3	4.0	1.4	1.7	1.7	1.7	1.7	2.0	3.8	1.7
0	1.6	1.1	0.5	0.2	0.1	3.0	1.0	1.8	1.4	1.2	0.9	1.0	4.1	1.3	1.7	1.6	1.5	1.4	1.5	4.9	1.6
+ 1	1.4	0.8	0.3	-0.1	0.0	2.7	0.8	1.6	1.2	1.0	0.9	1.1	3.8	1.1	1.6	1.3	1.0	1.0	1.6	4.2	1.3
+ 2	1.2	0.7	0.1	-0.1	0.1	2.5	0.6	1.6	1.3	1.1	1.1	1.3	3.2	0.8	1.4	1.1	1.3	1.6	1.9	2.9	0.9
+ 3	1.0	0.5	0.0	-0.2	0.1	2.1	0.4	1.6	1.3	1.1	1.1	1.4	2.6	0.4	1.5	1.7	1.6	1.7	1.9	1.7	0.6
+ 4	0.9	0.4	0.0	0.9	0.2	1.8	0.1	1.5	1.2	1.1	1.1	1.4	2.0	0.2	1.8	1.6	1.5	1.5	1.6	2.0	0.8
+ 5	0.3	0.3	-0.1	-0.2	0.2	1.6	-0.1	1.4	1.0	0.9	1.0	1.2	1.7	0.1	1.3	1.3	1.3	1.6	1.9	1.9	0.9
+ 6	0.5	0.2	-0.1	-0.2	0.3	1.4	-0.3	1.3	1.1	0.9	1.0	1.2	1.4	0.1	1.3	1.4	1.5	1.6	1.6	1.8	1.0
+ 7	0.4	0.2	-0.1	-0.1	0.3	1.4	-0.5	1.2	1.0	0.9	1.0	1.1	1.2	0.2	1.7	1.7	1.6	1.5	1.4	0.8	1.0
+ 8	0.3	0.2	0.0	0.0	0.4	1.3	-0.6	1.2	1.0	0.9	1.0	1.1	1.1	0.2	1.5	1.3	1.3	1.3	1.1	1.0	1.0
+ 9	0.2	0.2	0.1	0.1	0.5	1.3	-0.6	1.1	0.9	0.8	0.8	0.9	1.0	0.3	1.2	1.1	0.9	1.1	1.2	1.4	1.1
+10	0.1	0.2	0.2	0.2	0.6	1.3	-0.6	1.0	0.9	0.8	0.8	0.9	1.0	0.4	1.3	1.1	1.3	1.3	1.3	1.4	1.1
+11	0.1	0.2	0.2	0.2	0.6	1.4	-0.6	1.0	0.9	0.8	0.8	0.9	1.0	0.4	1.5	1.6	1.6	1.5	1.5	1.3	1.1
+12	0.1	0.3	0.4	0.4	0.7	1.5	-0.6	0.9	0.9	0.9	0.9	1.0	1.2	0.5	1.4	1.4	1.4	1.3	1.3	1.1	1.1
Max.	2.5	2.2	2.3	2.2	2.4	3.3	1.6	1.9	2.0	2.0	2.0	2.2	4.1	1.6	1.9	1.7	1.7	1.7	2.0	4.9	1.7

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 40 MILES LEFT OF PORT ARANSAS

Hours Plus or Minus Time of Landfall / SLOSH Estimated Feet of Storm Surge Anticipated at Each Hour

	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	235°			74-95 MPH				235°			74-95 MPH				235°			74-95 MPH			
-24								1.5	1.5	1.5	1.4	1.4	1.4	1.5							
-23								1.5	1.5	1.5	1.4	1.4	1.3	1.5							
-22								1.5	1.5	1.5	1.5	1.4	1.4	1.5							
-21								1.5	1.5	1.5	1.5	1.5	1.4	1.5							
-20								1.5	1.5	1.5	1.4	1.4	1.3	1.5							
-19								1.5	1.5	1.4	1.3	1.4	1.3	1.4							
-18								1.5	1.4	1.4	1.3	1.3	1.2	1.4							
-17								1.5	1.4	1.4	1.3	1.3	1.2	1.4							
-16								1.5	1.5	1.4	1.3	1.3	1.1	1.4							
-15								1.5	1.5	1.4	1.2	1.3	1.0	1.4							
-14								1.5	1.4	1.3	1.1	1.1	0.9	1.4							
-13								1.4	1.3	1.3	1.1	1.0	0.8	1.3							
-12								1.4	1.3	1.2	1.1	1.0	0.8	1.3							
-11								1.4	1.3	1.2	1.1	1.0	0.9	1.3							
-10								1.4	1.3	1.2	1.0	1.0	1.0	1.3							
- 9								1.4	1.3	1.2	1.0	1.0	1.4	1.2							
- 8								1.4	1.2	1.1	1.0	1.0	2.1	1.2							
- 7								1.3	1.2	1.1	1.0	1.1	3.0	1.2							
- 6								1.3	1.2	1.1	1.2	1.5	3.3	1.2							
- 5								1.2	1.1	1.0	1.7	2.3	4.5	1.3							
- 4								1.1	1.1	1.2	2.7	3.6	4.5	1.3							
- 3								-0.1	1.1	1.3	2.7	4.5	4.1	1.3							
- 2								0.9	0.9	1.8	3.7	4.8	3.7	1.3							
- 1								0.7	0.9	2.7	4.5	4.6	3.3	1.3							
0								0.6	1.4	3.5	4.7	4.2	3.0	1.4							
+ 1								0.7	2.1	3.9	4.4	3.7	2.7	1.5							
+ 2								0.8	2.4	3.7	3.7	3.2	2.4	1.8							
+ 3								0.9	2.4	3.2	3.1	2.8	2.0	2.1							
+ 4								1.1	2.2	2.7	2.6	2.3	1.9	2.3							
+ 5								1.2	2.1	2.4	2.4	2.2	1.9	2.5							
+ 6								1.2	2.0	2.3	2.3	2.1	1.8	2.7							
+ 7								1.3	1.9	2.1	2.0	1.9	1.7	2.8							
+ 8								1.2	1.7	1.9	1.8	1.7	1.7	2.8							
+ 9								1.1	1.5	1.7	1.7	1.7	1.7	2.9							
+10								1.2	1.6	1.7	1.7	1.6	1.6	2.9							
+11								1.2	1.5	1.7	1.7	1.6	1.7	2.9							
+12								1.2	1.5	1.6	1.6	1.6	1.7	2.8							
Max.								1.6	2.4	3.9	4.7	4.8	4.7	2.9							

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 50 MILES LEFT OF PORT ARANSAS

Hours Prior or After Time of Landfall	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Mesquite	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Mesquite	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Mesquite	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	345°			74-95 MPH				345°			74-95 MPH				345°			74-95 MPH			
-24	2.3	2.0	1.9	1.8	1.8	1.7	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.5							
-23	2.4	2.0	1.9	1.9	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.5							
-22	2.5	2.1	2.0	1.9	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.5							
-21	2.6	2.1	2.0	1.9	1.9	1.8	1.9	1.7	1.7	1.7	1.7	1.6	1.6	1.5							
-20	2.7	2.2	2.0	1.9	1.9	1.8	1.9	1.8	1.7	1.7	1.7	1.6	1.6	1.6							
-19	2.8	2.2	2.0	2.0	1.9	1.8	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-18	3.0	2.3	2.1	2.0	1.9	1.8	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6							
-17	3.2	2.3	2.1	2.0	2.0	1.8	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.6	1.6	1.5	1.5	1.5
-16	3.3	2.4	2.2	2.0	2.0	1.8	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	3.5	2.5	2.2	2.1	2.0	1.8	2.0	2.0	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.7	2.6	2.2	2.1	2.0	1.8	2.1	2.1	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.9	2.7	2.3	2.2	2.1	1.8	2.1	2.1	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-12	3.9	2.9	2.4	2.3	2.2	1.9	2.1	2.3	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.7	2.9	2.5	2.3	2.2	1.9	2.2	2.4	2.1	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
-10	3.6	3.1	2.5	2.2	2.2	1.9	2.2	2.6	2.2	2.0	1.9	1.9	1.8	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
- 9	3.3	2.4	2.8	2.4	2.2	1.9	2.3	3.0	2.3	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 8	2.7	3.5	2.9	2.6	2.5	2.0	2.3	3.3	2.5	2.2	2.1	2.0	1.9	1.8	1.9	1.8	1.8	1.7	1.7	1.7	1.6
- 7	2.2	3.6	3.0	2.5	2.4	2.0	2.4	3.7	2.6	2.3	2.2	2.1	1.9	1.8	2.0	1.9	1.8	1.8	1.7	1.7	1.6
- 6	1.3	3.8	3.2	2.6	2.4	1.9	2.4	4.0	2.9	2.5	2.3	2.1	1.9	1.9	2.2	2.0	1.9	1.8	1.8	1.7	1.6
- 5	0.4	3.8	3.4	2.7	2.5	2.1	2.5	4.0	3.2	2.6	2.4	2.2	1.9	2.0	2.5	2.1	2.0	1.9	1.9	1.8	1.7
- 4	-0.1	3.8	3.7	2.8	2.6	2.2	2.6	2.8	3.5	3.0	2.6	2.4	2.0	2.0	3.2	2.4	2.2	2.1	2.0	1.9	1.7
- 3	-0.5	3.7	4.0	3.0	2.6	2.1	2.7	2.7	3.7	3.0	2.7	2.5	2.1	2.1	4.4	3.0	2.6	2.3	2.1	2.0	1.8
- 2	-0.7	3.2	4.1	3.1	2.7	2.4	2.8	0.9	4.2	3.9	3.2	2.5	2.1	2.2	2.9	3.9	3.3	2.8	2.4	2.1	1.8
- 1	-0.8	2.7	4.2	3.3	2.7	2.5	2.9	0.2	3.0	3.8	3.7	3.2	2.2	2.4	0.3	4.1	3.8	3.3	2.9	2.4	2.0
0	-0.7	2.3	4.3	3.5	2.8	2.5	3.1	0.3	2.3	3.6	3.4	2.9	2.5	2.5	1.5	2.6	4.3	4.0	3.1	2.5	2.1
+ 1	-0.5	1.6	3.9	3.7	2.9	2.8	3.3	-0.4	1.3	3.4	4.2	3.3	2.0	2.7	0.1	0.9	3.0	4.6	3.9	2.6	2.3
+ 2	-0.2	1.1	3.5	3.7	3.0	3.1	3.5	-0.4	0.5	2.2	3.6	3.8	2.9	3.0	0.3	-0.2	0.5	2.9	3.9	3.4	2.4
+ 3	0.1	0.9	3.0	3.6	3.0	3.1	3.6	-0.5	0.6	1.4	3.0	3.5	2.7	3.2	0.7	0.7	0.6	1.1	2.2	2.7	3.1
+ 4	0.6	0.7	2.5	3.3	2.9	3.1	3.9	-0.7	0.7	1.4	2.4	3.4	2.4	3.5	0.1	0.9	1.3	1.8	2.1	1.8	3.0
+ 5	0.8	0.6	2.1	3.1	2.8	3.0	4.0	-0.5	0.5	0.9	1.4	2.6	2.9	3.8	0.4	0.6	0.5	0.9	1.8	2.7	3.0
+ 6	1.0	0.5	1.7	2.9	2.7	2.9	4.2	-0.5	0.6	1.2	1.6	2.2	2.4	3.7	0.3	1.1	1.0	0.9	1.2	1.2	2.9
+ 7	1.2	0.5	1.4	2.7	2.5	2.8	4.3	-0.3	0.9	1.4	1.2	1.6	2.2	3.6	0.1	1.0	1.1	1.1	1.1	1.0	2.8
+ 8	1.3	0.6	1.2	2.5	2.4	2.6	4.3	0.3	0.7	1.2	0.9	1.5	2.7	3.5	0.4	0.8	0.8	0.6	1.2	2.0	2.8
+ 9	1.2	0.6	1.0	2.3	2.3	2.4	4.3	0.4	0.8	1.5	1.2	1.3	2.2	3.3	0.2	1.2	1.5	1.4	1.4	1.0	2.7
+10	1.1	0.7	0.8	2.1	2.2	2.1	4.2	0.9	1.0	1.6	1.1	1.0	2.1	3.2	0.6	1.4	1.6	1.1	1.0	1.2	2.6
+11	0.8	0.7	0.7	2.0	2.1	1.8	4.1	1.5	0.8	1.4	1.1	0.9	2.3	3.1	1.0	1.0	1.1	0.8	1.1	2.0	2.5
+12	0.6	0.9	0.7	1.9	2.1	1.6	3.9	1.5	0.9	1.5	1.4	1.1	2.1	3.0	0.7	1.1	1.6	1.5	1.3	1.3	2.4
Max.	4.4	3.9	4.3	4.1	3.6	3.2	4.3	3.9	4.2	4.2	4.2	3.8	3.4	3.8	4.4	4.2	4.4	4.6	4.2	3.4	3.1

Hours Prior or After Time of Landfall

Hours Estimated Peak of Storm Surge Anticipated at Each Hour

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 70 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300°				96-110 MPH			300°				96-110 MPH			300°				96-110 MPH		
	Padre #1	Padre #3	Padre #5	PS38892200	Aransas Pass Channel	South Mesquite	Rockport Bay #1	Padre #1	Padre #3	Padre #5	PS38892200	Aransas Pass Channel	South Mesquite	Rockport Bay #1	Padre #1	Padre #3	Padre #5	PS38892200	Aransas Pass Channel	South Mesquite	Rockport Bay #1
-24	2.4	2.2	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-23	2.5	2.2	2.1	2.0	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-22	2.5	2.3	2.1	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.6							
-21	2.6	2.3	2.2	2.1	2.1	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6							
-20	2.7	2.4	2.2	2.1	2.1	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.6							
-19	2.8	2.4	2.3	2.2	2.1	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5
-18	2.9	2.5	2.3	2.2	2.2	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-17	3.0	2.6	2.4	2.2	2.2	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.2	2.7	2.5	2.3	2.3	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	3.4	2.8	2.6	2.4	2.3	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.6	3.0	2.7	2.4	2.4	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.8	3.1	2.8	2.5	2.4	2.1	2.1	2.2	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.6	1.7	1.6	1.6	1.5
-12	4.1	3.3	2.9	2.6	2.5	2.2	2.2	2.3	2.1	2.0	2.0	1.9	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
-11	4.3	3.4	3.0	2.7	2.5	2.2	2.2	2.4	2.2	2.1	2.0	2.0	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6
-10	4.5	3.6	3.0	2.7	2.6	2.2	2.3	2.5	2.3	2.2	2.1	2.1	2.0	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6
- 9	4.6	3.7	3.1	2.8	2.6	2.2	2.3	2.7	2.4	2.3	2.2	2.1	2.0	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6
- 8	4.7	3.9	3.3	2.9	2.7	2.2	2.4	2.9	2.6	2.4	2.3	2.2	2.1	1.8	1.9	1.9	1.8	1.8	1.8	1.7	1.6
- 7	4.6	4.2	3.4	2.9	2.7	2.2	2.5	3.2	2.8	2.6	2.5	2.4	2.1	1.9	2.0	1.9	1.9	1.9	1.8	1.8	1.6
- 6	4.5	4.4	3.5	3.0	2.8	2.2	2.5	3.7	3.2	2.9	2.7	2.5	2.2	1.9	2.1	2.0	2.0	1.9	1.9	1.9	1.6
- 5	4.1	4.6	3.7	3.0	2.8	2.2	2.6	4.2	3.6	3.2	2.9	2.7	2.3	2.0	2.3	2.2	2.1	2.0	2.0	1.9	1.7
- 4	3.6	4.9	3.9	3.2	2.9	2.2	2.7	4.6	4.1	3.5	3.1	2.8	2.4	2.1	2.5	2.4	2.3	2.2	2.1	2.1	1.7
- 3	3.0	5.1	4.1	3.3	2.9	2.3	2.8	4.7	4.6	3.8	3.3	2.9	2.4	2.2	3.1	2.8	2.6	2.5	2.4	2.2	1.8
- 2	2.3	5.2	4.3	3.4	2.9	2.3	2.9	4.4	5.2	4.2	3.5	3.0	2.4	2.3	4.2	3.8	3.4	3.1	2.8	2.5	1.9
- 1	1.6	5.2	4.5	3.5	3.0	2.3	3.0	3.7	5.7	4.6	3.8	3.1	2.4	2.4	4.3	5.7	4.7	4.0	3.3	2.8	2.0
0	1.0	5.0	4.6	3.5	3.0	2.3	3.1	2.5	5.7	4.9	3.9	3.2	2.4	2.5	2.4	6.8	6.4	5.0	4.1	3.0	2.1
+ 1	0.7	4.5	4.6	3.6	3.0	2.4	3.2	1.6	4.8	4.7	3.9	3.2	2.4	2.7	2.0	4.2	5.5	5.1	4.1	3.1	2.3
+ 2	0.5	3.9	4.4	3.5	3.0	2.4	3.4	1.4	3.6	4.1	3.6	3.1	2.3	2.8	1.9	2.5	3.0	3.2	3.0	2.6	2.3
+ 3	0.3	3.3	4.1	3.4	3.0	2.5	3.5	1.1	2.7	3.4	3.3	2.9	2.2	3.0	1.4	1.7	2.3	2.5	1.9	1.5	2.7
+ 4	0.3	2.8	3.7	3.3	2.9	2.4	3.6	0.8	2.1	2.8	2.9	2.7	2.1	3.2	1.4	1.6	1.8	2.2	2.4	2.0	2.9
+ 5	0.3	2.4	3.4	3.0	2.7	2.4	3.8	0.7	1.7	2.4	2.5	2.5	2.2	3.3	1.3	1.7	1.9	2.2	2.3	2.3	3.1
+ 6	0.4	2.1	3.0	2.6	2.6	2.3	3.9	0.6	1.5	2.0	2.1	2.3	2.0	3.5	1.2	1.5	1.7	1.9	2.1	1.7	3.2
+ 7	0.4	1.8	2.8	2.4	2.3	2.2	3.9	0.5	1.3	1.8	1.8	2.0	1.9	3.6	1.1	1.2	1.1	1.1	1.4	1.6	3.2
+ 8	0.5	1.7	2.6	2.4	2.3	2.2	4.0	0.5	1.3	1.7	1.7	1.9	1.8	3.6	0.8	1.0	1.1	1.3	1.5	1.2	3.2
+ 9	0.7	1.7	2.6	2.4	2.3	2.3	4.0	0.6	1.3	1.7	1.7	1.9	1.9	3.6	0.8	1.3	1.4	1.4	1.5	1.2	3.1
+10	0.9	1.7	2.5	2.3	2.2	2.3	4.1	0.7	1.4	1.8	1.6	1.8	2.0	3.6	1.2	1.5	1.5	1.4	1.6	1.9	3.1
+11	1.0	1.6	2.3	2.1	2.0	2.2	4.1	0.8	1.3	1.7	1.6	1.7	2.0	3.6	0.9	1.3	1.5	1.6	1.9	1.9	3.0
+12	1.1	1.5	2.1	2.0	1.9	2.1	4.0	1.0	1.3	1.7	1.5	1.6	1.9	3.5	1.1	1.4	1.6	1.4	1.4	1.6	3.0
Max.	5.3	5.3	4.6	3.8	3.1	2.5	4.1	5.0	5.8	5.0	3.9	3.2	2.6	3.6	4.4	6.9	6.6	5.3	4.2	3.1	3.2

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300°			96-110 MPH				300°			96-110 MPH				300°			96-110 MPH			
	Padre #1	Padre #3	Padre #5	PS38WPZ00	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38WPZ00	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38WPZ00	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
-24	2.4	2.3	2.2	2.2	2.1	2.0	1.7														
-23	2.5	2.3	2.3	2.2	2.1	2.0	1.7														
-22	2.6	2.4	2.3	2.2	2.2	2.1	1.7														
-21	2.6	2.5	2.4	2.3	2.3	2.1	1.7														
-20	2.7	2.6	2.4	2.4	2.4	2.2	1.8														
-19	2.9	2.7	2.5	2.5	2.4	2.2	1.8														
-18	2.9	2.8	2.6	2.6	2.5	2.3	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-17	3.0	2.9	2.7	2.6	2.6	2.3	1.9	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.1	3.0	2.8	2.7	2.7	2.4	1.9	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	3.2	3.1	2.9	2.8	2.8	2.5	2.0	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.3	3.2	3.0	2.9	2.9	2.5	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.4	3.3	3.1	3.0	3.0	2.6	2.1	1.9	1.9	1.9	1.9	1.9	1.9	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-12	3.4	3.4	3.2	3.1	3.0	2.6	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-11	3.4	3.5	3.3	3.2	3.2	2.7	2.2	2.1	2.1	2.1	2.1	2.0	2.0	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-10	3.3	3.5	3.4	3.4	3.4	2.8	2.3	2.2	2.3	2.2	2.2	2.2	2.1	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
- 9	3.2	3.5	3.6	3.6	3.6	2.9	2.4	2.4	2.4	2.4	2.3	2.3	2.2	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.6
- 8	3.1	3.5	3.7	3.8	3.8	3.0	2.5	2.5	2.7	2.6	2.6	2.5	2.4	1.7	1.9	1.9	1.8	1.8	1.8	1.8	1.6
- 7	2.8	3.4	3.9	4.1	4.0	3.1	2.6	2.7	2.9	2.9	2.8	2.8	2.6	1.8	1.9	1.9	1.9	1.8	1.9	1.8	1.6
- 6	2.5	3.2	4.0	4.4	4.3	3.2	2.7	2.9	3.2	3.2	3.1	3.1	2.8	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.6
- 5	2.2	2.9	4.1	4.8	4.6	3.3	2.8	2.9	3.3	3.4	3.4	3.3	3.0	1.9	2.1	2.1	2.1	2.0	2.1	2.1	1.7
- 4	1.8	2.5	4.0	5.1	4.8	3.3	3.0	2.8	3.5	3.8	3.9	3.8	3.2	2.1	2.2	2.3	2.3	2.2	2.3	2.3	1.7
- 3	1.5	2.0	3.9	5.4	5.1	3.3	3.2	2.6	3.4	4.2	4.5	4.4	3.5	2.2	2.4	2.7	2.8	2.7	2.8	2.7	1.8
- 2	1.1	1.5	3.7	5.5	5.2	3.3	3.5	2.4	3.0	4.4	5.4	5.2	3.7	2.4	2.5	3.0	3.7	3.6	3.7	3.3	2.0
- 1	0.7	1.0	3.5	5.5	5.2	3.2	3.8	2.0	2.2	4.3	6.0	5.7	3.8	2.7	2.2	2.7	4.7	5.0	5.3	4.1	2.3
0	0.4	0.7	3.2	5.4	5.1	3.2	4.1	1.6	1.5	3.8	6.1	5.8	3.7	3.0	1.7	1.5	4.6	5.6	6.6	4.5	2.5
+ 1	0.2	0.5	2.7	4.9	4.9	3.1	4.5	1.3	1.2	2.9	5.3	5.2	3.3	3.3	1.4	1.1	2.7	4.2	5.7	4.2	1.9
+ 2	0.1	0.4	2.3	4.3	4.5	3.0	5.4	1.3	1.2	2.5	4.4	4.3	3.0	4.5	1.7	1.6	2.6	3.3	3.2	2.5	4.2
+ 3	-0.1	0.5	2.1	3.8	4.0	2.8	6.5	1.1	1.3	2.2	3.5	3.6	2.6	6.0	1.8	1.8	2.2	2.5	2.5	1.8	5.3
+ 4	-0.1	0.6	1.9	3.3	3.6	2.8	6.9	1.0	1.2	1.9	2.8	3.0	2.4	6.2	1.5	1.4	1.8	2.3	2.5	2.5	5.1
+ 5	-0.1	0.6	1.7	2.7	3.1	2.6	6.9	0.9	1.1	1.6	2.2	2.4	2.1	6.1	1.3	1.4	1.7	1.9	2.0	1.8	4.9
+ 6	0.0	0.8	1.7	2.3	2.6	2.4	6.8	0.8	1.0	1.4	1.8	2.0	1.8	6.0	1.6	1.6	1.6	1.5	1.5	1.5	4.8
+ 7	0.1	0.8	1.6	2.1	2.3	2.2	6.5	0.7	1.0	1.3	1.5	1.7	1.7	5.7	1.3	1.2	1.3	1.6	1.6	1.5	4.6
+ 8	0.1	0.8	1.7	2.0	2.2	2.2	6.2	0.7	1.0	1.3	1.5	1.7	1.7	5.4	1.0	1.1	1.4	1.5	1.5	1.1	4.5
+ 9	0.3	1.0	1.7	1.9	2.1	2.2	6.0	0.7	1.0	1.3	1.4	1.6	1.7	5.2	1.4	1.4	1.2	1.0	1.0	1.2	4.3
+10	0.5	1.2	1.8	1.9	2.0	2.2	5.7	0.7	1.1	1.3	1.4	1.6	1.7	5.0	1.2	1.2	1.3	1.3	1.5	1.7	4.2
+11	0.6	1.2	1.8	1.8	1.9	2.1	5.4	0.7	1.1	1.4	1.3	1.5	1.7	4.8	0.9	1.1	1.5	1.6	1.7	1.7	4.0
+12	0.7	1.2	1.7	1.7	1.7	2.1	5.3	0.8	1.1	1.4	1.3	1.4	1.6	4.7	1.4	1.5	1.5	1.4	1.3	1.2	3.9
Max.	3.7	3.6	4.1	5.6	5.2	3.4	6.9	2.9	3.5	4.5	6.1	5.8	3.9	6.2	2.5	3.0	4.0	5.7	6.8	4.6	5.3

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	270° 96-110 MPH							270° 96-110 MPH							270° 96-110 MPH						
	Padre #1	Padre #3	Padre #5	PS 3600/P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS 3600/P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS 3600/P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	2.1	2.1	2.1	2.0	2.1	2.1	1.5														
-23	2.2	2.1	2.1	2.1	2.1	2.2	1.5														
-22	2.2	2.2	2.1	2.1	2.2	2.2	1.5														
-21	2.3	2.2	2.2	2.2	2.2	2.3	1.5														
-20	2.3	2.3	2.3	2.3	2.4	2.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-19	2.4	2.5	2.4	2.5	2.6	2.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-18	2.5	2.6	2.6	2.6	2.7	2.8	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5							
-17	2.6	2.7	2.6	2.7	2.8	2.9	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.5
-16	2.7	2.8	2.7	2.8	3.0	3.1	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-15	2.8	2.9	2.9	3.0	3.1	3.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-14	2.9	3.0	3.0	3.1	3.4	3.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-13	3.0	3.1	3.1	3.2	3.5	3.6	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-12	3.0	3.1	3.2	3.3	3.7	3.7	1.7	1.8	1.8	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.1	3.1	3.2	3.4	3.8	3.9	1.8	1.8	1.8	1.8	1.7	1.8	1.9	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	3.1	3.1	3.2	3.5	4.1	4.0	1.8	1.8	1.9	1.9	1.9	2.0	2.2	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 9	3.1	3.1	3.2	3.7	4.3	4.1	1.9	1.9	2.0	2.1	2.1	2.2	2.5	1.5	1.7	1.6	1.6	1.6	1.6	1.6	1.5
- 8	3.0	3.0	3.2	3.8	4.6	4.2	2.0	2.1	2.2	2.3	2.4	2.6	2.9	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
- 7	2.9	2.8	3.2	4.0	5.0	4.2	2.1	2.2	2.3	2.5	2.6	2.9	3.3	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
- 6	2.6	2.5	3.1	4.3	5.3	4.1	2.2	2.3	2.5	2.7	2.9	3.3	3.8	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
- 5	2.4	2.2	3.0	4.5	5.5	4.0	2.3	2.4	2.5	2.9	3.2	3.9	4.3	1.7	1.8	1.8	1.7	1.7	1.7	1.9	1.6
- 4	2.0	1.9	2.9	4.9	5.8	3.9	2.5	2.3	2.6	3.2	3.8	4.6	4.7	1.8	1.8	1.8	1.8	1.8	2.0	2.3	1.6
- 3	1.7	1.5	2.8	5.2	5.8	3.7	2.7	2.4	2.5	3.4	4.5	5.5	4.9	1.9	1.9	2.1	2.2	2.3	2.7	3.4	1.7
- 2	1.3	1.1	2.8	5.4	5.8	3.4	2.9	2.2	2.2	3.5	5.3	6.3	4.9	2.1	2.0	2.4	2.8	3.3	4.3	4.8	1.9
- 1	0.9	0.7	2.9	5.4	5.6	3.2	3.2	2.0	1.8	3.7	6.2	6.7	4.7	2.3	2.0	2.6	3.5	5.2	6.4	5.5	2.2
0	0.6	0.4	2.9	5.4	5.2	2.9	3.6	1.7	1.4	4.2	6.6	6.5	4.2	2.5	1.7	1.9	4.5	7.0	7.2	5.7	2.2
+ 1	0.3	0.3	2.8	5.0	4.8	2.8	4.1	1.6	1.4	4.1	6.2	5.7	3.5	2.7	1.2	2.0	4.3	6.2	5.7	4.1	1.7
+ 2	0.1	0.3	2.6	5.0	4.3	2.6	5.1	1.7	1.6	3.8	5.3	4.7	3.0	4.1	2.1	2.7	3.7	4.3	3.7	2.8	2.8
+ 3	-0.1	0.4	2.4	3.9	3.8	2.4	6.8	1.6	1.7	3.4	4.4	3.9	2.4	5.8	2.0	2.4	3.1	3.4	3.2	2.4	3.6
+ 4	-0.2	0.4	2.2	3.4	3.4	2.4	6.6	1.5	1.6	2.8	3.5	3.1	2.1	6.2	1.6	2.1	2.7	3.1	3.1	2.7	4.0
+ 5	-0.3	0.5	2.0	2.9	2.9	2.2	6.7	1.4	1.5	2.4	2.7	2.6	1.8	6.2	1.8	2.1	2.3	2.5	2.5	2.0	4.1
+ 6	-0.3	0.6	1.9	2.5	2.5	2.1	6.6	1.3	1.4	2.0	2.3	2.2	1.6	6.0	2.0	2.1	2.2	2.3	2.0	1.6	4.2
+ 7	-0.3	0.6	1.7	2.2	2.3	2.1	6.4	1.2	1.3	1.8	1.9	1.9	1.5	5.8	1.7	1.7	1.8	1.9	2.0	1.6	4.1
+ 8	-0.3	0.7	1.8	2.2	2.2	2.1	6.2	1.1	1.2	1.6	1.7	1.7	1.4	5.6	1.5	1.6	1.8	1.9	1.8	1.4	4.1
+ 9	-0.2	0.8	1.8	2.1	2.2	2.2	6.0	1.0	1.1	1.5	1.5	1.6	1.4	5.4	1.8	1.7	1.6	1.6	1.5	1.1	4.0
+10	0.0	1.0	1.9	2.1	2.1	2.2	5.7	1.0	1.1	1.4	1.5	1.5	1.5	5.2	1.6	1.6	1.7	1.7	1.7	1.6	3.9
+11	0.1	1.1	1.9	2.0	2.1	2.2	5.5	0.9	1.0	1.4	1.4	1.5	1.5	5.0	1.4	1.4	1.6	1.7	1.7	1.5	3.8
+12	0.2	1.1	1.9	2.0	2.0	2.1	5.4	0.9	1.0	1.3	1.3	1.4	1.6	4.9	1.6	1.5	1.5	1.3	1.3	1.2	3.7
Max.	3.2	3.2	3.3	5.5	5.9	4.3	6.7	2.4	2.6	4.3	6.6	6.8	5.0	6.2	2.2	2.7	4.6	7.2	7.3	5.5	4.2

Rows: Hours Plus or Minus Time of Landfall; values: Highest Estimated Feet of Storm Surge Anticipated at Each Hour

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Hours Plus or Minus Time of Landfall / SLOSH Estimated Feet of Storm Surge Anticipated at Each Hour	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300°			96-110 MPH				300°			96-110 MPH				300°			96-110 MPH			
-24	1.7	1.6	1.6	1.6	1.6	1.6	1.5														
-23	1.7	1.7	1.6	1.6	1.6	1.6	1.5														
-22	1.7	1.7	1.7	1.7	1.7	1.7	1.6														
-21	1.7	1.8	1.7	1.8	1.8	1.8	1.6														
-20	1.9	2.0	2.0	1.9	2.0	2.0	1.6														
-19	2.1	2.2	2.2	2.2	2.2	2.2	1.6														
-18	2.3	2.4	2.4	2.4	2.4	2.4	1.6														
-17	2.4	2.6	2.5	2.5	2.5	2.4	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	2.5	2.7	2.6	2.6	2.6	2.5	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	2.7	2.8	2.8	2.7	2.7	2.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	2.8	3.0	3.0	3.0	3.0	2.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.0	3.1	3.1	3.1	3.1	2.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-12	3.1	3.2	3.2	3.2	3.2	3.0	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-11	3.1	3.2	3.2	3.3	3.3	3.0	1.9	2.0	2.0	2.0	2.0	2.0	2.0	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-10	3.1	3.2	3.3	3.4	3.5	3.1	2.0	2.1	2.2	2.1	2.1	2.1	2.1	1.6	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-9	3.1	3.2	3.4	3.6	3.7	3.3	2.1	2.2	2.3	2.3	2.2	2.3	2.2	1.7	1.8	1.8	1.8	1.7	1.7	1.7	1.6
-8	3.0	3.1	3.4	3.8	4.0	3.4	2.2	2.3	2.5	2.5	2.4	2.5	2.4	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.6
-7	2.8	3.0	3.4	4.0	4.3	3.5	2.3	2.5	2.7	2.7	2.7	2.8	2.7	1.7	1.9	1.9	1.9	1.9	1.8	1.8	1.6
-6	2.5	2.7	3.3	4.2	4.6	3.6	2.4	2.6	2.9	3.0	3.0	3.1	3.0	1.8	2.0	2.0	1.9	1.9	1.9	1.9	1.6
-5	2.2	2.4	3.2	4.4	5.0	3.7	3.5	2.7	3.0	3.2	3.3	3.5	3.3	1.9	2.0	2.1	2.0	2.1	2.0	2.0	1.7
-4	1.9	2.0	2.9	4.6	5.4	3.8	2.7	2.6	3.0	3.3	3.7	4.0	3.5	2.0	2.1	2.2	2.2	2.3	2.2	2.3	1.7
-3	1.6	1.5	2.6	4.8	5.7	3.9	2.8	2.5	2.8	3.5	4.3	4.7	3.9	2.2	2.2	2.5	2.6	2.8	2.8	2.8	1.8
-2	1.2	1.0	2.1	4.7	5.9	3.8	3.1	2.3	2.4	3.3	4.9	5.7	4.3	2.4	2.3	2.9	3.3	3.8	3.8	3.6	2.0
-1	0.9	0.5	1.7	4.5	5.9	3.7	3.4	1.9	1.7	2.8	5.2	6.4	4.5	2.7	2.1	2.7	3.6	5.6	5.8	4.7	2.3
0	0.6	0.2	1.3	4.2	5.7	3.6	3.7	1.6	1.1	2.1	5.0	6.4	4.3	2.9	1.7	1.4	2.7	7.0	7.3	5.4	2.7
+1	0.3	0.1	1.2	3.8	5.3	3.5	4.1	1.4	0.9	1.7	4.4	5.6	3.8	3.0	1.3	1.0	1.8	5.2	5.8	4.7	2.0
+2	0.1	0.1	1.1	3.4	4.7	3.3	4.6	1.4	1.0	1.7	3.7	4.6	3.3	3.8	1.6	1.7	2.3	3.4	3.4	2.5	3.3
+3	0.0	0.1	1.0	2.9	4.1	3.1	5.4	1.2	1.1	1.7	3.1	3.7	2.8	5.1	1.8	1.8	2.1	2.6	2.7	2.0	4.5
+4	-0.1	0.2	1.0	2.6	3.5	2.8	5.9	1.1	1.0	1.5	2.6	3.0	2.5	5.5	1.5	1.5	1.8	2.3	3.5	2.5	4.4
+5	-0.1	0.2	1.0	2.2	3.0	2.6	5.8	0.9	0.9	1.3	2.0	2.3	2.0	5.4	1.3	1.5	1.6	2.0	2.0	1.8	4.3
+6	-0.1	0.4	1.2	2.0	2.5	2.4	5.7	0.9	0.9	1.2	1.7	1.9	1.7	5.1	1.7	1.6	1.5	1.5	1.5	1.6	4.2
+7	0.0	0.5	1.2	1.8	2.2	2.2	5.4	0.8	0.9	1.1	1.5	1.7	1.6	4.9	1.3	1.3	1.4	1.4	1.7	1.4	4.1
+8	0.0	0.5	1.2	1.8	2.2	2.2	5.2	0.7	0.9	1.2	1.4	1.6	1.6	4.8	1.1	1.3	1.4	1.5	1.5	1.1	4.0
+9	0.1	0.7	1.3	1.7	2.0	2.2	5.0	0.7	0.9	1.1	1.3	1.5	1.6	4.7	1.4	1.3	1.1	1.1	1.0	1.2	3.9
+10	0.2	0.9	1.4	1.7	1.9	2.1	4.9	0.6	0.9	1.2	1.3	1.5	1.6	4.5	1.2	1.1	1.2	1.3	1.5	1.7	3.7
+11	0.3	1.0	1.5	1.7	1.8	2.0	4.8	0.7	1.0	1.2	1.2	1.4	1.5	4.4	1.0	1.3	1.5	1.6	1.7	1.6	3.6
+12	0.4	1.0	1.5	1.6	1.8	2.0	4.7	0.7	1.0	1.3	1.3	1.4	1.5	4.3	1.4	1.5	1.5	1.3	1.3	1.2	3.5
Max.	3.1	3.3	3.5	4.8	5.8	4.0	5.9	2.7	3.1	3.5	5.2	6.5	4.6	5.5	2.3	2.9	3.7	7.0	7.3	5.4	4.5

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Hours (Plus or Minus Time of Landfall)	Padre #1	Padre #3	Padre #5	PS38W2200	Aransas Pass (Channel)	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38W2200	Aransas Pass (Channel)	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38W2200	Aransas Pass (Channel)	South Matagorda	Matagorda Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	270°			96-110 MPH				270°			96-110 MPH				270°			96-110 MPH			
-24	1.5	1.5	1.5	1.5	1.5	1.4	1.6														
-23	1.5	1.4	1.3	1.3	1.3	1.3	1.6														
-22	1.5	1.5	1.4	1.3	1.4	1.4	1.5														
-21	1.6	1.6	1.6	1.6	1.6	1.8	1.5														
-20	1.7	1.8	1.8	1.9	2.0	2.2	1.5														
-19	1.8	1.9	1.9	2.0	2.0	2.3	1.5														
-18	1.8	2.0	2.0	2.0	2.1	2.4	1.5														
-17	1.9	2.0	2.0	2.0	2.2	2.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.5
-16	2.0	2.3	2.3	2.4	2.6	3.1	1.5	1.6	1.6	1.6	1.5	1.6	1.6	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-15	2.2	2.5	2.6	2.7	2.9	3.4	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-14	2.4	2.7	2.8	2.8	3.1	3.7	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-13	2.5	2.7	2.7	2.8	3.2	3.8	1.5	1.6	1.5	1.5	1.4	1.4	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-12	2.6	2.7	2.8	2.9	3.3	4.0	1.5	1.6	1.6	1.5	1.5	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.7	2.8	2.9	3.1	3.6	4.3	1.5	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	2.8	2.9	3.0	3.3	3.9	4.6	1.5	1.7	1.8	1.8	1.7	1.8	1.9	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
- 9	2.9	2.9	3.0	3.3	4.1	4.7	1.6	1.7	1.8	1.8	1.8	1.9	2.1	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
- 8	2.8	2.7	2.8	3.3	4.3	4.8	1.6	1.8	1.9	1.9	1.9	2.1	2.5	1.5	1.7	1.6	1.6	1.6	1.6	1.6	1.5
- 7	2.7	2.5	2.6	3.3	4.6	4.8	1.7	1.9	2.1	2.1	2.2	2.5	3.2	1.5	1.7	1.7	1.7	1.6	1.6	1.6	1.5
- 6	2.5	2.3	2.5	3.3	5.0	4.9	1.8	2.0	2.3	2.4	2.6	3.0	3.9	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5
- 5	2.4	2.1	2.3	3.5	5.5	4.9	1.8	2.1	2.4	2.6	2.8	3.6	4.6	1.6	1.7	1.7	1.7	1.6	1.6	1.7	1.6
- 4	2.1	1.7	2.0	3.5	5.8	4.7	2.0	2.1	2.3	2.5	3.0	4.1	5.1	1.7	1.7	1.7	1.7	1.6	1.7	2.1	1.6
- 3	1.8	1.2	1.6	3.6	6.0	4.4	2.1	2.0	2.2	2.5	3.3	5.0	5.6	1.8	1.7	1.8	1.9	1.9	2.3	3.2	1.7
- 2	1.4	0.8	1.2	3.8	6.0	4.0	2.3	2.0	2.0	2.4	3.8	6.1	5.8	2.0	1.8	2.0	2.3	2.7	3.7	5.2	1.8
- 1	1.1	0.4	1.1	4.0	6.0	3.8	2.5	1.8	1.6	2.3	4.7	7.0	5.6	2.2	1.8	2.1	2.6	3.9	6.2	6.4	2.2
0	0.8	0.1	1.1	4.0	5.7	3.5	2.7	1.7	1.3	2.4	5.3	6.9	5.0	2.2	1.6	1.5	2.5	5.5	7.5	5.9	2.3
+ 1	0.5	-0.1	1.1	3.9	5.2	3.1	3.0	1.5	1.3	2.6	5.3	6.1	4.1	2.0	1.2	1.4	2.9	5.5	6.1	4.4	2.1
+ 2	0.2	-0.2	1.1	3.6	4.5	2.8	3.8	1.5	1.4	2.8	4.8	5.1	3.3	3.4	1.7	2.2	3.2	4.1	4.0	3.0	2.8
+ 3	0.0	-0.2	1.1	3.2	3.8	2.5	5.1	1.5	1.6	2.7	4.2	4.2	2.8	5.8	2.0	2.3	2.8	3.3	3.2	2.7	3.8
+ 4	-0.1	-0.1	1.1	2.8	3.3	2.4	5.9	1.5	1.7	2.5	3.5	3.5	2.4	6.2	1.5	2.1	2.6	3.1	3.2	2.8	4.0
+ 5	-0.2	0.0	1.1	2.5	2.8	2.3	6.1	1.3	1.5	2.2	2.8	2.8	1.9	6.2	1.7	2.0	2.2	2.5	2.6	2.1	4.1
+ 6	-0.2	0.1	1.1	2.1	2.5	2.1	6.0	1.3	1.4	1.8	2.3	2.2	1.5	6.0	1.9	1.9	2.0	2.1	1.9	1.6	4.2
+ 7	-0.3	0.1	1.0	1.9	2.1	2.0	5.9	1.2	1.3	1.5	1.9	1.9	1.4	5.9	1.6	1.6	1.7	1.9	2.0	1.4	4.1
+ 8	-0.4	0.1	1.1	1.8	2.1	2.0	5.7	1.0	1.2	1.5	1.7	1.7	1.4	5.6	1.4	1.6	1.7	1.9	1.8	1.5	4.1
+ 9	-0.4	0.3	1.2	1.8	2.0	2.1	5.6	1.0	1.2	1.4	1.6	1.6	1.4	5.4	1.7	1.6	1.6	1.6	1.6	1.3	4.0
+10	-0.3	0.5	1.4	1.8	2.0	2.2	5.5	0.9	1.1	1.3	1.4	1.5	1.4	5.2	1.6	1.6	1.6	1.6	1.7	1.6	3.9
+11	-0.2	0.6	1.4	1.8	2.0	2.4	5.3	0.9	1.0	1.2	1.3	1.4	1.3	5.0	1.4	1.4	1.6	1.6	1.7	1.3	3.8
+12	-0.2	0.7	1.4	1.7	1.9	2.1	5.2	0.8	1.0	1.1	1.2	1.3	1.4	4.9	1.6	1.4	1.4	1.3	1.3	1.1	3.7
Max.	2.9	2.9	3.0	4.1	6.0	5.1	6.1	2.1	2.4	2.8	5.3	7.2	5.9	6.2	2.1	2.3	3.3	5.7	7.6	6.5	4.2

(Width Estimated Feet of Storm Surge Anticipated at Each Hour)

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES RIGHT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH							
Direction, Windspeed	300°				96-110 MPH			300°				96-110 MPH			300°				96-110 MPH			
	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Mesquite Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Mesquite Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Mesquite Bay #1
-24	1.9	1.9	1.9	1.9	1.9	1.9	1.5														
-23	2.0	2.0	1.9	1.9	1.9	1.9	1.5														
-22	2.0	2.0	2.0	2.0	2.0	2.0	1.5														
-21	2.0	2.0	2.0	2.0	1.9	1.9	1.5														
-20	2.1	2.0	2.0	2.0	2.0	2.0	1.5														
-19	2.1	2.1	2.0	2.0	2.0	2.0	1.5														
-18	2.1	2.1	2.1	2.1	2.1	2.1	1.5														
-17	2.3	2.2	2.1	2.1	2.1	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.5
-16	2.3	2.2	2.2	2.2	2.2	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-15	2.3	2.2	2.2	2.2	2.2	2.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	2.4	2.3	2.3	2.3	2.3	2.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	2.4	2.4	2.4	2.4	2.5	2.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	2.5	2.5	2.4	2.4	2.6	2.9	1.6	1.7	1.7	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.5	2.5	2.4	2.4	2.6	3.0	1.6	1.8	1.8	1.7	1.8	1.8	1.8	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-10	2.5	2.5	2.4	2.4	2.6	3.2	1.6	1.8	1.8	1.8	1.8	1.8	1.8	1.5	1.7	1.7	1.7	1.7	1.6	1.6	1.5
- 9	2.6	2.5	2.4	2.4	2.7	3.4	1.5	1.8	1.8	1.8	1.8	1.8	1.8	1.5	1.7	1.7	1.7	1.7	1.7	1.6	1.5
- 8	2.6	2.5	2.4	2.3	2.6	3.6	1.5	1.8	1.8	1.8	1.8	1.8	1.9	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 7	2.6	2.4	2.3	2.2	2.5	3.7	1.5	1.9	1.9	1.9	1.9	2.0	2.1	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.6
- 6	2.5	2.3	2.1	1.9	2.2	3.7	1.5	1.9	2.0	2.0	2.0	2.1	2.5	1.5	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 5	2.5	2.1	1.8	1.6	1.8	3.7	1.4	2.0	2.1	2.1	2.1	2.3	3.0	1.5	1.8	1.7	1.7	1.7	1.7	1.8	1.6
- 4	2.4	1.8	1.5	1.2	1.4	3.8	1.3	2.0	2.1	2.1	2.1	2.3	3.4	1.5	1.8	1.8	1.7	1.7	1.7	1.8	1.6
- 3	2.2	1.6	1.2	0.9	0.9	3.9	1.2	2.1	2.0	2.0	1.9	2.2	3.9	1.5	1.8	1.7	1.7	1.7	1.8	2.0	1.6
- 2	2.1	1.3	0.9	0.4	0.4	3.9	1.1	2.0	1.8	1.7	1.6	1.8	4.3	1.5	1.8	1.7	1.7	1.7	1.9	2.8	1.7
- 1	1.9	1.0	0.5	0.0	-0.1	3.7	1.0	1.9	1.6	1.3	1.1	1.2	4.9	1.4	1.8	1.7	1.7	1.7	2.0	4.5	1.7
0	1.6	0.7	0.1	-0.4	-0.4	3.6	0.7	1.8	1.3	1.0	0.7	0.8	5.1	1.2	1.7	1.5	1.4	1.3	1.4	6.1	1.6
+ 1	1.4	0.4	-0.2	-0.7	-0.6	3.2	0.5	1.6	1.1	0.8	0.6	0.8	4.9	0.9	1.5	1.1	0.8	0.7	1.5	4.9	1.2
+ 2	1.1	0.2	-0.4	-0.8	-0.5	2.7	0.2	1.6	1.2	0.9	0.9	1.2	3.9	0.5	1.3	0.9	1.1	1.3	2.0	3.6	0.6
+ 3	0.8	0.0	-0.5	-0.8	-0.5	2.3	-0.1	1.6	1.2	1.0	1.0	1.3	2.9	0.0	1.5	1.6	1.6	2.0	2.2	2.2	0.3
+ 4	0.6	-0.1	-0.6	-0.8	-0.3	1.9	-0.3	1.5	1.1	0.8	0.9	1.3	2.1	-0.4	1.9	1.9	1.8	1.9	1.7	1.7	0.4
+ 5	0.4	-0.3	-0.6	-0.8	-0.3	1.5	-0.5	1.3	0.9	0.7	0.8	1.1	1.6	-0.6	1.5	1.4	1.3	1.2	1.6	1.9	0.6
+ 6	0.2	-0.3	-0.6	-0.7	-0.1	1.2	-0.7	1.3	0.9	0.7	0.8	1.0	1.3	-0.5	1.1	1.0	1.3	1.5	1.6	1.4	0.7
+ 7	0.0	-0.3	-0.5	-0.6	-0.1	1.1	-0.9	1.2	0.9	0.8	0.8	1.0	1.0	-0.4	1.6	1.7	1.5	1.4	1.2	1.0	0.8
+ 8	-0.1	-0.4	-0.5	-0.6	0.0	1.1	-1.0	1.0	0.8	0.8	0.8	0.8	0.9	-0.3	1.9	1.5	1.4	1.5	1.3	0.6	0.8
+ 9	-0.3	-0.4	-0.4	-0.4	0.1	1.2	-1.1	0.9	0.7	0.5	0.6	0.7	0.8	-0.2	1.0	1.1	1.1	1.1	1.2	1.3	0.9
+10	-0.4	-0.3	-0.3	-0.3	0.2	1.3	-1.1	0.9	0.7	0.6	0.5	0.6	0.9	-0.1	1.3	0.9	0.9	1.1	1.2	1.3	0.9
+11	-0.3	-0.2	-0.1	-0.1	0.4	1.3	-1.1	0.8	0.7	0.6	0.6	0.8	0.9	0.0	1.4	1.5	1.4	1.2	1.2	1.1	0.9
+12	-0.4	-0.1	0.1	-0.1	0.5	1.5	-1.1	0.8	0.7	0.7	0.7	0.8	1.0	0.1	1.5	1.3	1.3	1.4	1.4	1.0	0.9
Max.	2.8	2.5	2.5	2.5	2.7	4.0	1.6	2.1	2.1	2.1	2.1	2.3	5.1	1.6	1.9	1.9	1.9	2.1	2.2	6.1	1.7

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 40 MILES LEFT OF PORT ARANSAS

Estimated Feet of Storm Surge Anticipated at Each Hour

	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	235° 96-110 MPH							235° 96-110 MPH							235° 96-110 MPH						
-24								1.5	1.5	1.4	1.4	1.4	1.3	1.5							
-23								1.5	1.5	1.4	1.4	1.3	1.2	1.5							
-22								1.5	1.4	1.4	1.4	1.3	1.3	1.5							
-21								1.5	1.5	1.4	1.4	1.4	1.3	1.5							
-20								1.5	1.5	1.5	1.4	1.4	1.2	1.4							
-19								1.5	1.4	1.4	1.3	1.3	1.1	1.4							
-18								1.4	1.4	1.3	1.2	1.2	1.0	1.4							
-17								1.4	1.4	1.3	1.2	1.2	1.0	1.4							
-16								1.5	1.4	1.3	1.2	1.2	0.9	1.4							
-15								1.5	1.4	1.3	1.2	1.1	0.8	1.3							
-14								1.4	1.3	1.2	1.1	1.0	0.6	1.3							
-13								1.4	1.2	1.1	0.9	0.8	0.4	1.3							
-12								1.3	1.2	1.1	0.9	0.7	0.4	1.2							
-11								1.3	1.2	1.1	0.9	0.7	0.6	1.2							
-10								1.3	1.2	1.1	0.9	0.7	0.8	1.2							
-9								1.3	1.1	1.0	0.8	0.7	1.3	1.1							
-8								1.2	1.0	0.9	0.7	0.7	2.2	1.1							
-7								1.2	1.0	0.8	0.7	0.9	3.5	1.1							
-6								1.1	0.9	0.8	0.7	1.4	4.7	1.1							
-5								1.0	0.8	0.8	1.0	2.6	5.6	1.2							
-4								0.9	0.8	0.9	1.8	4.4	5.6	1.2							
-3								0.8	0.8	1.2	3.0	5.4	5.0	1.2							
-2								0.6	0.6	1.8	4.4	5.8	4.4	1.2							
-1								0.3	0.6	3.1	5.4	5.6	4.0	1.3							
0								0.2	1.2	4.2	5.8	5.1	3.5	1.4							
+1								0.3	2.2	4.7	5.3	4.5	3.1	1.5							
+2								0.5	2.6	4.4	4.5	3.8	2.7	1.9							
+3								0.6	2.6	3.7	3.6	3.1	2.2	2.3							
+4								0.8	2.4	3.0	2.9	2.6	2.1	2.6							
+5								1.0	2.3	2.7	2.7	2.4	1.9	2.9							
+6								1.1	2.1	2.4	2.4	2.3	1.9	3.1							
+7								1.0	1.8	2.1	2.0	1.9	1.7	3.2							
+8								1.0	1.6	1.8	1.8	1.7	1.6	3.3							
+9								1.0	1.5	1.8	1.7	1.7	1.7	3.3							
+10								1.1	1.6	1.9	1.8	1.7	1.8	3.3							
+11								1.2	1.5	1.8	1.8	1.7	1.8	3.3							
+12								1.1	1.4	1.6	1.6	1.5	1.7	3.3							
Max.								1.5	2.6	4.8	5.8	5.9	5.7	3.3							

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 50 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	345°			96-110 MPH				345°			96-110 MPH				345°			96-110 MPH			
	Padre #1	Padre #3	Padre #5	PS3BMP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS3BMP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS3BMP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	2.6	2.2	2.0	2.0	1.9	1.8	1.9	1.7	1.7	1.7	1.7	1.6	1.6	2.5							
-23	2.7	2.3	2.1	2.0	1.9	1.8	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.5							
-22	2.8	2.3	2.1	2.0	2.0	1.8	2.0	1.8	1.8	1.7	1.7	1.7	1.7	1.5							
-21	3.0	2.4	2.1	2.0	2.0	1.8	2.0	1.8	1.7	1.7	1.7	1.7	1.7	1.6							
-20	3.1	2.5	2.2	2.1	2.0	1.8	2.0	1.8	1.8	1.7	1.7	1.7	1.7	1.6							
-19	3.3	2.6	2.2	2.1	2.0	1.9	2.0	1.9	1.8	1.8	1.8	1.7	1.7	1.6							
-18	3.5	2.6	2.3	2.1	2.1	1.9	2.1	1.9	1.8	1.8	1.8	1.8	1.7	1.6							
-17	3.7	2.7	2.3	2.2	2.1	1.9	2.1	2.0	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	4.0	2.9	2.4	2.2	2.1	1.9	2.1	2.1	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	4.2	3.0	2.4	2.3	2.2	1.9	2.2	2.1	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
-14	4.5	3.2	2.5	2.3	2.2	2.0	2.2	2.2	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.5
-13	4.8	3.4	2.6	2.4	2.3	2.0	2.3	2.4	2.1	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-12	4.8	3.7	2.7	2.5	2.4	2.0	2.3	2.5	2.2	2.0	2.0	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-11	4.5	3.8	2.8	2.6	2.4	2.0	2.4	2.7	2.3	2.1	2.0	2.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-10	4.6	4.1	2.8	2.5	2.4	2.0	2.4	3.0	2.4	2.2	2.1	2.0	1.9	1.8	1.8	1.8	1.6	1.8	1.7	1.7	1.6
- 9	4.1	4.5	3.3	2.7	2.5	2.0	2.5	3.5	2.6	2.3	2.2	2.1	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6
- 8	3.3	4.6	3.5	3.0	2.6	2.2	2.6	4.0	2.8	2.5	2.3	2.2	2.0	1.9	2.0	1.9	1.8	1.8	1.7	1.7	1.6
- 7	2.6	4.7	3.5	2.9	2.6	2.2	2.6	4.5	3.0	2.6	2.4	2.3	2.0	2.0	2.2	2.0	1.9	1.9	1.8	1.8	1.6
- 6	1.4	4.7	3.9	3.0	2.6	2.0	2.7	4.8	3.4	2.8	2.5	2.3	2.1	2.0	2.4	2.1	2.0	2.0	1.9	1.8	1.7
- 5	0.2	4.2	4.1	3.2	2.8	2.3	2.8	4.8	3.8	3.0	2.7	2.4	2.1	2.1	2.8	2.3	2.2	2.1	2.0	1.9	1.7
- 4	-0.5	3.8	4.4	3.3	2.9	2.5	2.9	3.2	4.3	3.5	3.0	2.6	2.2	2.2	3.8	2.7	2.4	2.3	2.1	2.0	1.8
- 3	-1.1	3.4	4.9	3.6	3.0	2.4	3.1	3.1	4.6	3.5	3.1	2.8	2.3	2.3	5.5	3.5	2.9	2.6	2.3	2.1	1.8
- 2	-1.5	2.5	5.0	3.7	3.1	2.7	3.2	0.7	5.2	4.8	3.7	2.9	2.3	2.4	3.6	4.8	3.9	3.2	2.7	2.3	1.9
- 1	-1.7	1.6	5.1	3.9	3.2	2.8	3.4	-0.2	3.5	4.7	4.4	3.6	2.5	2.6	-0.2	5.0	4.6	3.9	3.2	2.6	2.1
0	-1.7	0.9	5.2	4.2	3.2	2.7	3.6	-0.1	2.7	4.4	4.1	3.4	2.8	2.8	1.6	2.9	5.2	4.8	3.6	2.8	2.3
+ 1	-1.5	0.5	4.6	4.3	3.4	3.2	3.8	-1.0	1.3	4.0	5.1	4.0	2.2	3.1	-0.4	0.7	3.4	5.6	4.8	3.0	2.6
+ 2	-1.2	0.2	4.1	4.3	3.6	3.4	4.1	-1.0	0.2	2.4	4.3	4.6	3.4	3.4	0.0	-0.8	0.2	3.2	4.8	4.1	2.8
+ 3	-0.9	0.2	3.5	4.1	3.5	3.4	4.3	-1.1	0.3	1.4	3.2	4.1	3.0	3.7	0.6	0.6	0.4	1.0	2.4	3.0	4.2
+ 4	-0.3	0.2	2.8	3.7	3.3	3.6	4.7	-1.4	0.4	1.4	2.8	3.5	2.6	4.5	-0.4	0.7	1.3	1.9	2.2	1.8	4.1
+ 5	0.1	0.1	2.3	3.3	3.1	3.5	5.1	-1.2	0.2	0.7	1.3	2.9	3.3	4.8	0.1	0.3	0.2	0.8	2.0	3.1	3.8
+ 6	0.6	0.2	1.9	2.9	2.7	3.3	5.6	-1.1	0.5	1.1	1.3	2.2	2.5	4.7	0.0	0.9	0.9	0.8	1.0	1.0	3.6
+ 7	1.0	0.2	1.5	2.7	2.4	3.1	5.6	-1.0	0.8	1.4	1.1	1.5	2.2	4.5	-0.3	0.9	1.1	0.9	0.9	0.8	3.5
+ 8	1.2	0.1	1.3	2.6	2.4	2.9	5.5	-0.2	0.5	1.1	0.6	1.4	3.0	4.2	0.1	0.6	0.5	0.4	1.9	2.2	3.3
+ 9	1.3	0.2	1.1	2.5	2.3	2.8	5.3	-0.3	0.6	1.5	1.1	1.3	2.4	4.0	-0.2	1.1	1.5	1.4	1.3	0.8	3.2
+10	1.5	0.4	0.9	2.4	2.2	2.4	5.1	-0.6	1.0	1.8	1.0	0.8	2.3	3.8	0.3	1.4	1.6	1.0	0.8	1.1	3.1
+11	1.3	0.5	0.7	2.3	2.2	2.2	4.9	1.4	0.7	1.5	0.9	0.8	2.5	3.7	0.8	0.8	1.0	0.6	1.1	2.1	3.0
+12	1.0	0.6	0.5	2.2	2.2	1.9	4.7	1.4	0.7	1.7	1.4	0.9	2.3	3.5	0.3	1.0	1.7	1.5	1.3	1.2	2.9
Max.	5.3	4.7	5.2	5.0	4.2	3.6	5.6	5.3	5.2	5.2	5.1	4.6	4.0	4.8	5.5	5.1	5.3	5.6	5.1	4.1	4.3

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 70 MILES LEFT OF PORT ARANSAS

Hours Prior to and After Time of Landfall / Estimated Feet of Storm Surge Anticipated at Each Hour

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300° 111-130 MPH							300° 111-130 MPH							300° 111-130 MPH						
	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	2.9	2.5	2.3	2.2	2.2	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.7	1.6							
-23	2.9	2.5	2.4	2.3	2.2	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.7	1.6							
-22	3.0	2.6	2.4	2.3	2.3	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.6							
-21	3.1	2.7	2.5	2.3	2.3	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.6							
-20	3.2	2.8	2.6	2.4	2.4	2.1	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.6							
-19	3.4	2.9	2.6	2.5	2.4	2.2	2.1	2.1	1.9	1.9	1.9	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-18	3.6	3.0	2.7	2.5	2.5	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-17	3.8	3.2	2.8	2.6	2.6	2.2	2.2	2.2	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-16	4.0	3.3	3.0	2.7	2.6	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-15	4.3	3.5	3.1	2.8	2.7	2.3	2.3	2.3	2.1	2.0	2.0	2.0	1.9	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-14	4.6	3.7	3.2	2.9	2.8	2.4	2.3	2.4	2.2	2.1	2.0	2.0	1.9	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
-13	5.0	3.9	3.4	3.0	2.9	2.4	2.4	2.5	2.3	2.2	2.1	2.1	2.0	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.5
-12	5.3	4.2	3.5	3.2	2.9	2.5	2.5	2.6	2.4	2.3	2.2	2.1	2.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6
-11	5.5	4.4	3.7	3.3	3.0	2.5	2.5	2.8	2.5	2.4	2.3	2.2	2.1	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.6
-10	5.6	4.6	3.8	3.4	3.1	2.5	2.6	3.0	2.7	2.5	2.4	2.3	2.2	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.6
- 9	5.8	4.8	4.0	3.5	3.2	2.5	2.7	3.2	2.8	2.6	2.5	2.4	2.2	1.9	2.0	1.9	1.9	1.8	1.8	1.8	1.6
- 8	5.9	5.1	4.1	3.6	3.3	2.5	2.8	3.5	3.1	2.8	2.7	2.6	2.3	2.0	2.1	2.0	1.9	1.9	1.9	1.8	1.6
- 7	6.0	5.5	4.4	3.8	3.4	2.5	2.8	4.0	3.5	3.1	2.9	2.8	2.4	2.0	2.2	2.1	2.0	2.0	2.0	1.9	1.7
- 6	6.0	5.7	4.7	3.8	3.5	2.5	3.0	4.7	4.0	3.5	3.2	3.0	2.6	2.1	2.4	2.2	2.2	2.1	2.1	2.0	1.7
- 5	5.7	6.1	5.0	4.0	3.5	2.5	3.1	5.5	4.6	4.0	3.5	3.2	2.7	2.2	2.6	2.5	2.3	2.3	2.2	2.1	1.7
- 4	5.8	6.4	5.2	4.2	3.6	2.6	3.2	6.1	5.4	4.5	3.9	3.5	2.8	2.3	3.0	2.8	2.6	2.5	2.4	2.3	1.8
- 3	5.4	6.8	5.5	4.4	3.6	2.7	3.3	6.2	6.1	4.9	4.2	3.7	2.9	2.4	3.8	3.4	3.1	2.9	2.8	2.5	1.9
- 2	4.0	7.0	5.7	4.8	3.7	2.7	3.5	5.9	7.0	5.6	4.6	3.8	2.8	2.6	5.4	4.9	4.2	3.7	3.3	2.9	2.0
- 1	2.2	7.1	5.8	4.9	3.8	2.7	3.6	4.8	7.8	6.3	4.9	4.0	2.9	2.7	5.7	7.7	6.3	5.1	4.3	3.3	2.2
0	0.8	6.7	5.8	4.9	3.9	2.6	3.8	3.7	7.8	6.6	5.2	4.2	2.9	3.3	2.8	9.4	8.6	6.8	5.3	3.8	2.4
+ 1	0.1	5.9	5.7	4.7	4.0	2.5	4.0	2.2	6.5	6.3	5.1	4.0	2.8	3.2	2.3	5.7	7.4	6.6	5.3	3.8	2.6
+ 2	-0.5	5.0	5.2	4.3	3.9	2.3	4.2	1.7	4.4	5.1	4.5	3.5	2.5	3.5	2.3	2.9	3.5	3.7	3.5	2.8	2.7
+ 3	-1.0	4.2	4.8	3.9	3.6	2.1	4.4	1.0	3.0	4.0	3.7	3.0	2.3	3.7	1.4	1.6	2.3	2.8	1.6	1.3	3.2
+ 4	-1.3	3.5	4.2	3.5	3.5	2.0	4.6	0.7	2.2	3.0	3.1	2.9	2.1	3.9	1.4	1.4	1.6	2.0	2.5	1.9	3.5
+ 5	-1.6	3.0	3.9	3.2	3.3	2.1	4.7	0.4	1.7	2.4	2.7	2.7	2.2	4.1	1.3	1.8	2.0	2.4	2.4	2.6	3.7
+ 6	-1.7	2.6	3.7	2.9	3.1	2.1	4.9	0.1	1.4	2.1	2.3	2.6	2.0	4.3	1.2	1.7	1.8	2.1	2.3	1.9	3.8
+ 7	-1.7	2.3	3.5	2.4	2.9	2.4	5.0	-0.1	1.2	1.7	1.9	2.3	1.9	4.4	0.9	1.0	1.0	1.0	1.4	1.7	3.9
+ 8	-1.4	2.1	3.4	2.2	2.7	2.6	5.1	-0.2	1.1	1.6	1.6	2.1	1.8	4.5	0.5	0.7	0.8	1.1	1.4	1.0	3.9
+ 9	-1.0	2.0	3.4	2.0	2.4	2.8	5.1	-0.2	1.2	1.7	1.6	2.0	1.7	4.5	0.6	1.2	1.3	1.1	1.3	0.9	3.8
+10	-0.4	1.8	3.3	1.9	2.1	3.0	5.2	-0.1	1.3	1.8	1.5	1.9	2.0	4.5	1.0	1.4	1.4	1.4	1.6	2.1	3.7
+11	0.2	1.6	3.2	1.8	1.8	3.1	5.2	0.2	1.3	1.8	1.4	1.9	2.1	4.5	0.7	1.2	1.5	1.6	2.1	2.1	3.6
+12	1.0	1.5	3.2	1.9	1.6	3.1	5.2	0.4	1.4	1.9	1.4	1.7	2.0	4.4	0.9	1.4	1.6	1.3	1.4	1.6	3.5
Max.	7.1	7.2	6.5	4.9	4.0	3.1	5.2	6.6	8.0	6.8	5.2	4.2	3.1	4.5	6.1	9.4	8.9	7.1	5.5	3.9	3.9

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSA

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300° 111-130 MPH							300° 111-130 MPH							300° 111-130 MPH						
	Padre #1	Padre #3	Padre #5	PS 3MP 2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS 3MP 2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS 3MP 2200	Aransas Pass Channel	South Matagorda	[illegible]
-24	2.8	2.6	2.5	2.5	2.4	2.3	1.7														
-23	2.9	2.7	2.6	2.5	2.4	2.3	1.8														
-22	3.0	2.8	2.7	2.6	2.5	2.3	1.8														
-21	3.2	2.9	2.8	2.7	2.6	2.4	1.8														
-20	3.3	3.1	2.9	2.8	2.8	2.5	1.9														
-19	3.5	3.3	3.0	2.9	2.9	2.6	1.9														
-18	3.6	3.4	3.2	3.1	3.0	2.7	2.0	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-17	3.8	3.6	3.3	3.2	3.1	2.7	2.0	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.9	3.8	3.5	3.3	3.3	2.8	2.1	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	4.1	4.0	3.7	3.5	3.5	2.9	2.1	1.8	1.8	1.8	1.8	1.7	1.7	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-14	4.2	4.1	3.8	3.6	3.6	3.0	2.2	2.0	2.0	1.9	1.9	1.9	1.9	1.6	1.7	1.7	1.6	1.7	.16	1.6	1.5
-13	4.3	4.3	4.0	3.8	3.7	3.1	2.3	2.1	2.1	2.0	2.0	2.0	2.0	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-12	4.3	4.4	4.1	3.9	3.9	3.2	2.4	2.3	2.3	2.2	2.2	2.2	2.2	1.6	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-11	4.3	4.5	4.3	4.1	4.1	3.4	2.5	2.4	2.4	2.3	2.3	2.3	2.2	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.6
-10	4.2	4.6	4.4	4.4	4.3	3.5	2.6	2.5	2.6	2.5	2.4	2.4	2.4	1.7	1.9	1.8	1.8	1.8	1.8	1.7	1.6
-9	4.1	4.6	4.7	4.7	4.6	3.6	2.7	2.7	2.8	2.7	2.6	2.6	2.6	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.6
-8	3.8	4.5	4.9	5.0	4.9	3.8	2.8	3.0	3.2	3.1	3.1	3.0	2.8	1.8	2.0	2.0	1.9	1.9	1.9	1.9	1.6
-7	3.5	4.4	5.1	5.5	5.3	3.9	2.9	3.3	3.6	3.5	3.5	3.4	3.1	1.9	2.1	2.1	2.0	2.0	2.0	2.0	1.6
-6	3.1	4.1	5.3	6.0	5.7	4.0	3.1	3.5	4.0	3.9	3.9	3.9	3.4	2.0	2.2	2.2	2.1	2.1	2.1	2.1	1.7
-5	2.6	3.7	5.4	6.5	6.1	4.2	3.3	3.5	4.2	4.4	4.3	4.3	3.7	2.1	2.3	2.4	2.3	2.3	2.3	2.3	1.7
-4	2.0	3.0	5.4	7.0	6.5	4.2	3.5	3.5	4.4	4.9	5.1	4.9	4.1	2.3	2.5	2.6	2.6	2.6	2.6	2.6	1.8
-3	1.4	2.3	5.2	7.3	6.8	4.2	3.7	3.2	4.4	5.5	6.1	5.9	4.5	2.5	2.7	3.3	3.3	3.3	3.3	3.2	2.0
-2	0.8	1.5	4.9	7.6	7.0	4.2	4.0	2.7	3.8	5.9	7.3	6.9	4.8	2.8	2.9	4.2	4.7	4.8	4.8	4.2	2.2
-1	0.3	0.8	4.6	7.6	7.0	4.1	4.3	2.2	2.6	5.7	8.2	7.7	5.0	3.1	2.5	4.2	6.3	7.5	7.1	5.3	2.6
0	-0.2	0.2	4.1	7.3	6.9	4.0	5.1	1.6	1.4	5.1	8.4	7.8	4.8	3.5	1.7	2.0	6.1	9.4	9.0	6.0	2.9
+1	-0.5	-0.1	3.4	6.6	6.5	3.8	7.7	1.3	1.0	3.7	7.2	6.9	4.2	4.4	1.3	1.2	3.3	6.8	7.5	5.4	2.1
+2	-0.6	-0.2	2.6	5.7	5.7	3.5	9.7	1.3	1.1	2.9	5.7	5.5	3.5	9.2	2.0	2.1	2.9	3.9	3.6	2.7	6.2
+3	-0.8	-0.1	2.2	4.8	5.0	3.1	10.5	1.1	1.2	2.4	4.3	4.3	2.7	10.0	2.0	2.1	2.5	3.1	2.8	1.5	7.9
+4	-0.8	0.0	1.9	4.0	4.3	3.0	11.2	0.9	1.0	1.0	3.2	3.3	2.5	10.7	1.4	1.5	1.9	2.5	2.7	2.9	7.8
+5	-0.7	0.2	1.8	3.4	3.6	2.7	11.2	0.7	0.9	1.5	2.3	2.4	2.0	9.9	1.3	1.5	1.7	2.1	2.1	1.7	7.1
+6	-0.7	0.3	1.8	2.9	3.2	2.6	10.7	0.6	0.8	1.4	1.9	2.1	1.8	8.9	1.7	1.7	1.7	1.7	1.4	1.5	6.5
+7	-0.6	0.4	1.7	2.6	2.9	2.7	10.2	0.9	0.8	1.2	1.7	1.9	1.8	8.2	1.3	1.2	1.2	1.4	1.7	1.5	6.0
+8	-0.5	0.6	1.8	2.4	2.5	2.4	9.7	0.4	0.8	1.3	1.5	1.7	1.6	7.6	0.9	1.2	1.4	1.6	1.5	0.8	5.5
+9	-0.3	0.7	1.8	2.2	2.3	2.4	9.2	0.4	0.8	1.2	1.4	1.5	1.7	7.1	1.4	1.2	1.1	0.9	0.7	1.0	5.3
+10	-0.2	0.8	1.8	2.1	2.2	2.4	8.7	0.3	0.8	1.2	1.3	1.5	1.7	6.6	1.1	1.1	1.1	1.2	1.5	1.9	5.1
+11	0.0	1.0	1.9	2.0	2.0	2.3	8.2	0.4	0.9	1.3	1.3	1.5	1.7	6.3	0.8	1.1	1.5	1.7	1.9	1.8	4.9
+12	0.4	1.1	1.9	1.9	1.8	2.3	7.8	0.6	1.0	1.4	1.3	1.4	1.7	6.0	1.5	1.6	1.5	1.3	1.3	1.1	4.6
Max.	4.8	4.7	5.5	8.0	7.1	4.4	11.3	3.5	4.5	6.0	8.5	7.9	5.1	10.7	2.9	4.5	6.5	9.5	9.2	6.1	8.5

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH							
Direction, Windspeed	270°			111-130 MPH				270°			111-130 MPH				270°			111-130 MPH				
	Padre #1	Padre #3	Padre #5	PS3BWP2200	Aransas Pass Channel	South Matagorda	Rockport Bay #1	Padre #1	Padre #3	Padre #5	PS3BWP2200	Aransas Pass Channel	South Matagorda	Rockport Bay #1	Padre #1	Padre #3	Padre #5	PS3BWP2200	Aransas Pass Channel	South Matagorda	Rockport Bay #1
-24	2.4	2.3	2.3	2.2	2.3	2.3	1.4														
-23	2.5	2.4	2.4	2.3	2.4	2.4	1.5														
-22	2.5	2.6	2.4	2.4	2.4	2.5	1.5														
-21	2.6	2.5	2.5	2.5	2.5	2.6	1.5														
-20	2.7	2.7	2.6	2.7	2.7	2.9	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-19	2.8	2.9	2.9	2.9	3.0	3.2	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-18	3.0	3.1	3.0	3.1	3.3	3.4	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.6							
-17	3.1	3.2	3.2	3.2	3.5	3.6	1.5	1.6	1.5	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.2	3.4	3.3	3.4	3.7	3.9	1.6	1.6	1.6	1.5	1.4	1.4	1.4	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-15	3.4	3.6	3.5	3.6	4.0	4.2	1.6	1.7	1.6	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-14	3.5	3.8	3.7	3.9	4.3	4.5	1.6	1.8	1.8	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-13	3.7	3.9	3.9	4.1	4.5	4.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-12	3.8	3.9	4.0	4.2	4.7	4.9	1.7	1.8	1.8	1.8	1.7	1.8	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.8	3.9	4.0	4.3	5.0	5.1	1.8	1.8	1.8	1.8	1.7	1.8	2.0	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-10	3.9	3.4	4.1	4.5	5.4	5.3	1.9	1.9	2.0	2.0	2.0	2.1	2.4	1.5	1.7	1.7	1.6	1.6	1.6	1.5	1.5
- 9	3.6	3.8	4.1	4.8	5.8	5.6	2.0	2.1	2.3	2.3	2.3	2.5	2.9	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
- 8	3.7	3.7	4.1	5.1	6.2	5.6	2.1	2.3	2.6	2.6	2.7	3.0	3.6	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
- 7	3.5	3.4	4.0	5.4	6.7	5.6	2.2	2.4	2.8	2.9	3.1	3.5	4.2	1.6	1.8	1.8	1.7	1.7	1.7	1.7	1.5
- 6	3.1	3.1	3.9	5.7	7.1	5.5	2.3	2.6	3.0	3.2	3.5	4.1	4.9	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 5	2.7	2.6	3.7	6.1	7.5	5.3	2.4	2.7	3.2	3.5	4.1	5.0	5.6	1.7	1.8	1.8	1.7	1.7	1.7	1.9	1.6
- 4	2.2	2.1	3.6	6.6	7.8	5.1	2.6	2.8	3.3	3.9	4.9	6.2	6.3	1.9	1.8	1.8	1.8	1.8	2.0	2.5	1.7
- 3	1.7	1.4	3.5	7.1	7.9	4.8	2.8	2.7	3.3	4.3	5.9	7.5	6.7	2.1	1.9	2.1	2.3	2.5	3.1	4.2	1.8
- 2	1.1	0.8	3.5	7.4	7.9	4.4	3.1	2.5	2.9	4.5	7.2	8.6	6.7	2.2	2.0	2.6	3.2	4.1	5.6	6.3	2.0
- 1	0.5	0.2	3.6	7.5	7.6	4.1	3.7	2.1	2.2	4.8	8.4	9.2	6.3	2.4	2.0	3.0	4.4	6.9	8.6	7.4	2.4
0	0.0	-0.3	3.7	7.5	7.1	3.7	6.0	1.7	1.7	5.6	9.0	8.9	5.6	2.6	1.6	1.8	5.9	9.5	9.8	6.9	2.2
+ 1	-0.4	-0.4	3.5	6.8	6.4	3.4	8.9	1.6	1.9	5.5	8.6	7.8	4.6	5.8	1.0	2.2	5.5	8.5	7.7	5.2	1.7
+ 2	-0.6	-0.4	3.3	6.0	5.4	3.0	10.0	1.8	2.3	5.0	7.0	6.1	3.5	9.8	2.3	3.3	4.6	5.5	4.7	3.4	6.4
+ 3	-0.9	-0.4	2.7	5.1	4.6	2.5	10.6	1.6	2.3	4.2	5.5	4.8	2.5	10.3	2.3	2.8	3.6	4.2	3.7	2.5	7.8
+ 4	-1.0	-0.3	2.3	4.2	3.8	2.5	11.1	1.4	2.0	3.2	4.1	3.6	2.1	10.8	1.5	2.2	3.0	3.4	3.6	2.9	7.2
+ 5	-1.1	-0.2	2.2	3.6	3.2	2.2	10.8	1.3	1.8	2.6	3.2	2.8	1.6	10.1	2.0	2.3	2.6	2.8	2.7	2.2	6.9
+ 6	-1.2	0.0	2.1	3.2	2.9	2.3	10.3	1.2	1.7	2.3	2.7	2.4	1.5	9.3	2.2	2.3	2.5	2.7	2.3	1.6	6.6
+ 7	-1.2	0.1	1.9	2.8	2.7	2.4	9.9	1.1	1.5	2.0	2.3	2.1	1.5	8.5	1.7	1.8	2.0	2.2	2.3	1.7	6.2
+ 8	-1.2	0.3	2.0	2.6	2.5	2.2	9.4	1.0	1.2	1.6	1.9	1.8	1.3	8.0	1.5	1.7	1.9	2.1	1.9	1.2	5.8
+ 9	-1.1	0.4	1.9	2.4	2.3	2.3	8.9	0.8	1.0	1.4	1.5	1.4	1.2	7.5	1.9	1.7	1.7	1.5	1.3	1.0	5.5
+10	-1.0	0.6	2.0	2.4	2.4	2.4	8.5	0.7	0.9	1.3	1.4	1.4	3.3	7.0	1.7	1.7	1.6	1.7	1.7	1.6	5.3
+11	-0.9	0.8	2.1	2.3	2.3	2.3	8.0	0.7	0.9	1.3	1.4	1.4	1.5	6.6	1.4	1.4	1.7	1.9	1.9	1.4	5.1
+12	-0.6	1.0	2.1	2.3	2.2	2.4	7.6	0.7	0.9	1.3	1.3	1.4	1.6	6.3	1.8	1.6	1.5	1.3	1.2	1.3	4.9
Max.	4.1	4.0	4.2	7.7	8.0	5.6	11.1	2.8	3.4	5.7	9.2	9.3	6.8	10.9	2.5	3.0	6.1	9.7	9.9	7.5	7.9

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH							
Direction, Windspeed	300°			111-130 MPH				300°			111-130 MPH				300°			111-130 MPH				
	Padre #1	Padre #3	Padre #5	PS 38892200	Aransas Pass Channel	South Mustang Is	Rockport Bay #1	Padre #1	Padre #3	Padre #5	PS 38892200	Aransas Pass Channel	South Mustang Is	Rockport Bay #1	Padre #1	Padre #3	Padre #5	PS 38892200	Aransas Pass Channel	South Mustang Is	Rockport Bay #1
-24	1.6	1.6	1.7	1.7	1.7	1.7	1.5															
-23	1.7	1.6	1.7	1.7	1.7	1.7	1.6															
-22	1.6	1.7	1.7	1.7	1.7	1.8	1.6															
-21	1.7	1.7	1.8	1.8	1.8	1.9	1.7															
-20	1.8	1.9	2.1	2.1	2.1	2.2	1.7															
-19	2.0	2.0	2.5	2.5	2.5	2.5	1.7															
-18	2.1	2.2	2.8	2.8	2.8	2.8	1.7															
-17	2.2	2.3	3.0	3.0	2.9	2.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.5	
-16	2.3	2.4	3.2	3.1	3.1	2.9	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	
-15	2.4	2.5	3.4	3.3	3.3	3.1	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	
-14	2.5	2.7	3.7	3.7	3.7	3.4	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	
-13	2.6	2.7	3.9	3.9	3.9	3.6	1.9	1.8	1.8	1.9	1.8	1.9	1.9	1.6	1.6	1.6	1.7	1.7	1.7	1.6	1.5	
-12	2.7	2.8	4.0	4.0	4.1	3.7	2.0	1.8	1.8	2.0	2.0	2.0	2.1	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.5	
-11	2.7	2.8	4.1	4.2	4.2	3.7	2.1	1.9	1.9	2.2	2.2	2.2	2.2	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	
-10	2.7	2.8	4.2	4.4	4.5	3.9	2.2	2.0	2.0	2.4	2.4	2.4	2.3	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.6	
-9	2.7	2.8	4.3	4.7	4.9	4.2	2.3	2.1	2.1	2.6	2.5	2.6	2.6	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.6	
-8	2.6	2.7	4.4	5.0	5.3	4.4	2.4	2.2	2.3	2.9	2.8	2.9	2.9	1.8	1.8	1.7	1.9	1.8	1.9	1.8	1.6	
-7	2.5	2.6	4.4	5.3	5.7	4.5	2.5	2.3	2.5	3.3	3.3	3.3	3.3	1.8	1.8	1.8	2.0	2.0	2.0	1.9	1.6	
-6	2.3	2.4	4.3	5.6	6.2	4.6	2.7	2.4	2.6	3.7	3.7	3.9	3.6	1.9	1.9	1.9	2.1	2.0	2.0	2.0	1.7	
-5	2.1	2.2	4.0	5.9	6.8	4.8	2.8	2.4	2.7	4.0	4.2	4.4	4.1	2.1	1.9	1.9	2.2	2.2	2.2	2.2	1.7	
-4	1.8	1.8	3.6	6.1	7.3	5.0	3.0	2.3	2.6	4.3	4.8	5.2	4.5	2.2	2.0	2.1	2.4	2.4	2.5	2.6	1.8	
-3	1.6	1.5	3.1	6.4	7.8	5.1	3.2	2.2	2.5	4.5	5.6	6.3	5.1	2.4	2.1	2.3	3.0	3.1	3.3	3.3	2.0	
-2	1.3	1.1	2.5	6.4	8.0	5.0	3.5	2.1	2.2	4.2	6.5	7.7	5.8	2.7	2.1	2.6	4.0	4.4	4.9	4.6	2.2	
-1	1.0	0.8	1.8	6.2	7.9	4.9	3.9	1.9	1.7	3.4	7.1	8.7	6.0	3.0	2.0	2.4	4.6	6.7	7.7	6.2	2.7	
0	0.8	0.6	1.2	5.8	7.7	4.7	4.9	1.6	1.2	2.4	6.8	8.7	5.8	3.3	1.7	1.8	3.2	7.7	9.9	7.2	3.0	
+1	0.6	0.4	1.0	5.2	7.1	4.4	8.2	1.4	1.1	1.8	5.9	7.6	4.9	3.9	1.4	1.2	1.9	5.5	8.1	6.1	1.8	
+2	0.5	0.4	0.7	4.5	6.1	3.4	9.4	1.4	1.1	1.8	4.8	5.9	3.9	8.5	1.6	1.6	2.7	4.0	4.2	2.8	6.9	
+3	0.4	0.5	0.7	3.7	5.2	3.4	9.9	1.3	1.2	1.8	3.8	4.6	3.0	9.2	1.8	1.7	2.3	3.1	2.8	1.9	7.4	
+4	0.4	0.5	0.6	3.0	4.3	3.1	10.2	1.2	1.1	1.5	2.9	3.4	2.6	9.2	1.5	1.5	1.9	2.5	2.9	2.7	6.5	
+5	0.3	0.5	0.7	2.6	3.6	2.7	10.1	1.1	1.1	1.1	2.1	2.4	1.9	9.1	1.3	1.5	1.6	2.0	2.1	1.8	6.4	
+6	0.3	0.6	0.9	2.3	3.1	2.5	9.7	1.0	1.0	1.0	1.7	2.0	1.7	8.4	1.6	1.5	1.6	1.6	1.4	1.6	6.0	
+7	0.3	0.7	1.0	2.2	3.0	2.7	9.3	0.9	1.0	1.0	1.6	1.8	1.7	7.8	1.4	1.3	1.4	1.7	1.9	1.4	5.6	
+8	0.4	0.8	1.1	2.0	2.5	2.4	8.9	0.9	1.1	1.0	1.4	1.7	1.5	7.3	1.2	1.3	1.4	1.6	1.5	0.8	5.3	
+9	0.5	0.9	1.2	1.8	2.2	2.3	8.4	0.8	1.1	1.0	1.2	1.4	1.5	6.8	1.4	1.3	1.0	0.8	0.7	1.0	5.1	
+10	0.5	1.0	1.3	1.8	2.1	2.3	8.0	0.8	1.1	0.9	1.2	1.4	1.5	6.4	1.2	1.2	1.0	1.2	1.5	1.7	4.9	
+11	0.6	1.0	1.5	1.8	2.0	2.2	7.6	0.8	1.1	1.1	1.2	1.4	1.5	6.1	1.1	1.3	1.6	1.7	1.8	1.7	4.6	
+12	0.7	1.1	1.6	1.7	1.9	2.2	7.2	0.9	1.1	1.2	1.2	1.4	1.6	5.8	1.4	1.5	1.5	1.4	1.3	1.0	4.6	
Max.	2.7	2.8	4.6	6.4	8.1	5.4	10.2	2.4	2.7	4.5	7.1	8.9	6.1	9.3	2.1	2.6	4.7	7.9	10.0	7.3	7.6	

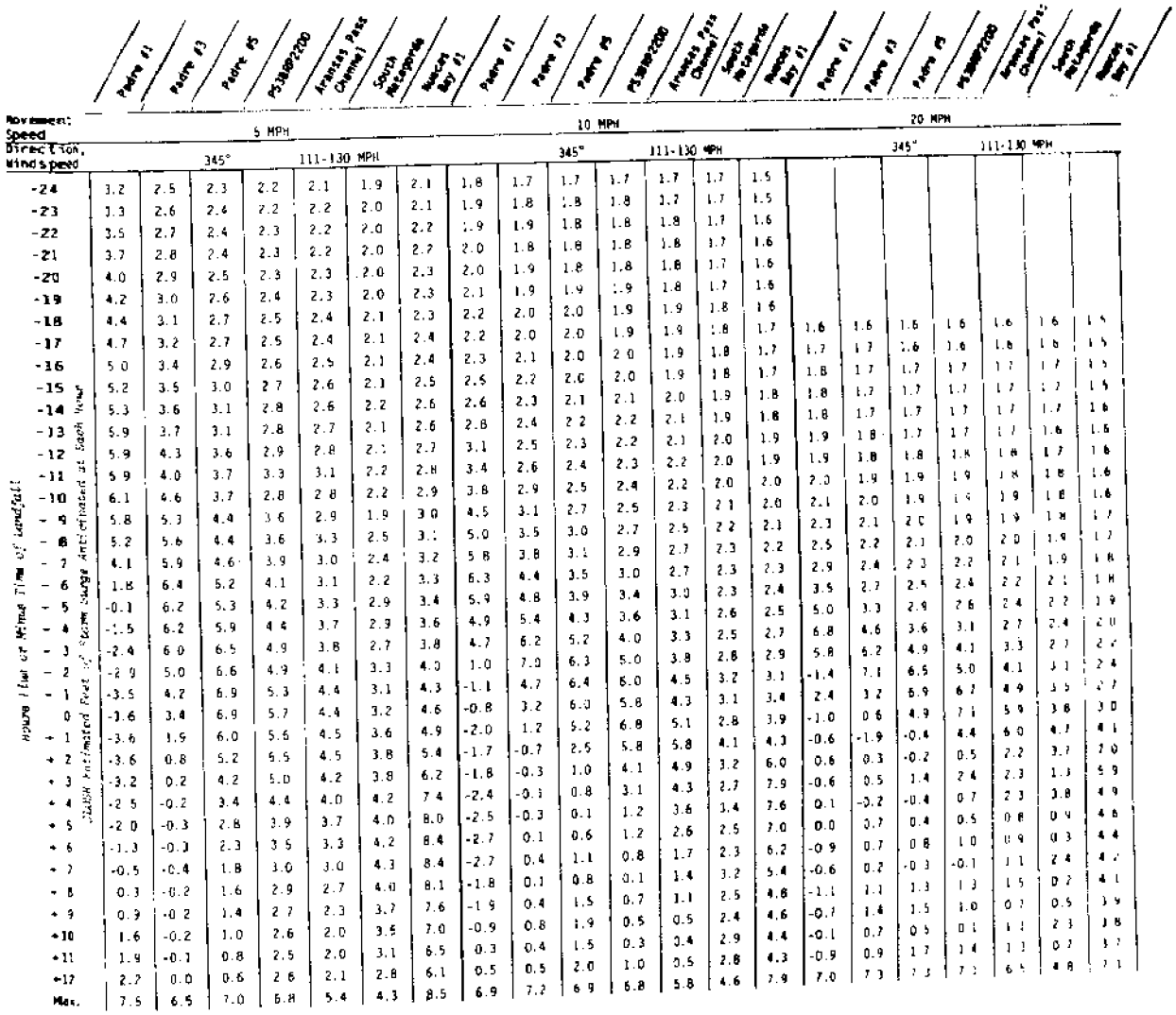
HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	270°			111-130 MPH				270°			111-130 MPH				270°			111-130 MPH			
	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
-24	1.5	1.5	1.4	1.4	1.4	1.3	1.6														
-23	1.4	1.3	1.2	1.1	1.1	1.1	1.6														
-22	1.5	1.4	1.3	1.2	1.2	1.3	1.6														
-21	1.6	1.6	1.6	1.6	1.6	1.9	1.5														
-20	1.8	1.9	1.9	2.0	2.1	2.4	1.5														
-19	1.9	2.1	2.1	2.1	2.2	2.6	1.5														
-18	1.9	2.1	2.1	2.1	2.3	2.7	1.4														
-17	2.0	2.2	2.2	2.2	2.5	3.1	1.4	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	2.2	2.6	2.6	2.7	3.1	3.8	1.4	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-15	2.5	2.9	3.1	3.2	3.6	4.4	1.4	1.6	1.6	1.5	1.5	1.5	1.4	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-14	2.8	3.2	3.3	3.5	3.9	4.8	1.4	1.5	1.5	1.4	1.3	1.3	1.2	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-13	2.9	3.2	3.3	3.5	4.0	4.9	1.4	1.6	1.5	1.4	1.3	1.3	1.2	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-12	3.0	3.2	3.4	3.6	4.2	5.2	1.4	1.6	1.5	1.5	1.5	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.2	3.4	3.5	3.9	4.6	5.8	1.5	1.7	1.7	1.7	1.7	1.7	1.9	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-10	3.4	3.6	3.7	4.2	5.1	6.2	1.5	1.8	1.8	1.8	1.8	1.8	2.0	1.5	1.7	1.6	1.6	1.6	1.6	1.5	1.5
- 9	3.5	3.5	3.7	4.3	5.5	6.4	1.5	1.8	1.9	1.8	1.8	1.8	2.3	1.5	1.7	1.6	1.6	1.6	1.6	1.5	1.5
- 8	3.4	3.2	3.4	4.2	5.7	6.5	1.6	1.8	1.9	1.9	1.9	2.2	2.9	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
- 7	3.2	2.9	3.2	4.2	6.1	6.6	1.7	2.0	2.3	2.3	2.5	2.9	4.0	1.5	1.7	1.7	1.7	1.6	1.6	1.6	1.5
- 6	3.0	2.6	3.0	4.3	6.8	6.7	1.7	2.2	2.6	2.8	3.0	3.7	5.1	1.6	1.8	1.7	1.7	1.6	1.6	1.6	1.5
- 5	2.7	2.3	2.7	4.5	7.4	6.7	1.8	2.3	2.8	3.0	3.4	4.5	6.0	1.6	1.7	1.7	1.6	1.5	1.6	1.6	1.6
- 4	2.3	1.7	2.2	4.6	7.9	6.4	1.9	2.3	2.6	3.0	3.7	5.4	6.9	1.7	1.7	1.7	1.6	1.5	1.7	2.1	1.6
- 3	1.8	1.0	1.5	4.7	8.1	5.9	2.0	2.2	2.4	2.9	4.1	6.7	7.6	1.9	1.7	1.8	1.8	2.0	2.4	3.9	1.7
- 2	1.2	0.3	1.0	5.0	8.2	5.4	2.2	2.1	2.1	2.7	4.9	8.3	8.2	2.0	1.8	2.1	2.4	3.0	4.8	6.4	2.0
- 1	0.8	-0.3	0.8	5.4	8.1	5.0	2.7	1.9	1.6	2.5	6.4	9.5	7.9	2.1	1.8	2.2	3.0	4.8	8.2	8.7	2.4
0	0.4	-0.7	0.8	5.5	7.8	4.5	3.3	1.6	1.1	2.7	7.2	9.6	6.8	2.3	1.5	1.3	2.8	7.3	10.2	8.1	2.1
+ 1	0.0	-0.9	0.3	5.2	7.0	3.9	6.8	1.5	1.0	3.0	7.3	8.4	5.3	3.4	0.9	1.2	3.4	7.1	8.2	6.1	0.8
+ 2	-0.3	-1.1	0.7	4.6	5.7	3.1	9.5	1.6	1.5	3.3	6.4	6.6	4.0	9.5	1.7	2.5	4.1	5.3	5.1	3.5	7.0
+ 3	-0.6	-1.2	0.7	3.9	4.8	2.6	10.3	1.6	1.7	3.3	5.4	5.3	2.9	10.5	2.2	2.7	3.4	3.9	3.6	3.0	7.6
+ 4	-0.9	-1.1	0.7	3.4	3.9	2.5	10.8	1.4	1.6	2.8	4.2	4.0	2.5	11.0	1.4	2.1	2.8	3.5	3.8	3.3	7.0
+ 5	-0.9	-0.9	0.8	2.9	3.3	2.3	11.0	1.2	1.5	2.3	3.3	3.1	1.8	10.6	1.7	2.1	2.4	2.6	2.7	3.5	6.9
+ 6	-1.1	-0.8	0.9	2.6	2.9	2.2	10.5	1.1	1.4	2.0	2.6	2.5	1.4	9.5	2.2	2.1	2.3	2.3	2.1	1.7	6.5
+ 7	-1.3	-0.8	0.8	2.3	2.6	2.3	10.0	1.0	1.2	1.6	2.2	2.1	1.3	8.7	1.7	1.8	2.1	2.3	2.3	1.6	6.1
+ 8	-1.4	-0.6	0.9	2.0	2.3	2.1	9.5	0.9	1.1	1.5	1.9	1.8	1.2	8.1	1.5	1.8	1.9	2.1	2.0	1.5	5.7
+ 9	-1.3	-0.4	1.0	1.9	2.2	2.2	9.0	0.9	1.0	1.3	1.5	1.6	1.2	7.6	1.7	1.6	1.6	1.5	1.5	1.2	5.4
+10	-1.3	-0.2	1.1	1.9	2.3	2.4	8.6	0.7	0.8	1.1	1.3	1.4	1.2	7.1	1.5	1.5	1.6	1.6	1.6	1.6	5.2
+11	-1.3	0.1	1.3	2.0	2.2	2.3	8.1	0.6	0.7	1.0	1.2	1.3	1.2	6.7	1.3	1.4	1.7	1.7	1.8	1.4	5.0
+12	-1.1	0.3	1.4	1.9	2.1	2.3	7.7	0.6	0.7	1.0	1.1	1.2	1.3	6.3	1.7	1.5	1.6	1.4	1.3	1.0	4.9
Max.	3.5	3.6	3.8	5.6	8.3	7.0	11.1	2.3	2.8	3.5	7.4	9.8	8.3	11.2	2.3	2.8	4.1	7.8	10.2	8.7	7.8

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES RIGHT OF PORT ARANSAS

Movement Speed / Direction, Windspeed	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
	5 MPH							10 MPH							20 MPH						
	300°				111-130 MPH			300°			111-130 MPH				300°			111-130 MPH			
-24	2.0	2.1	2.0	2.0	2.0	2.0	1.5														
-23	2.2	2.1	2.1	2.1	2.1	2.1	1.5														
-22	2.2	2.2	2.2	2.1	2.1	2.1	1.5														
-21	2.3	2.2	2.2	2.1	2.1	2.1	1.5														
-20	2.3	2.2	2.2	2.1	2.1	2.1	1.5														
-19	2.4	2.3	2.2	2.2	2.2	2.3	1.5														
-18	2.5	2.4	2.4	2.3	2.4	2.4	1.5														
-17	2.6	2.5	2.4	2.4	2.4	2.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	2.6	2.5	2.4	2.4	2.5	2.5	1.5	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-15	2.7	2.6	2.5	2.5	2.5	2.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	2.8	2.7	2.6	2.6	2.7	2.9	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	2.8	2.8	2.7	2.8	2.9	3.2	1.5	1.7	1.7	1.6	1.5	1.5	1.5	1.6	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-12	2.9	2.9	2.8	2.8	3.1	3.5	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-11	3.0	2.9	2.8	2.9	3.2	3.8	1.5	1.8	1.9	1.8	1.8	1.8	1.9	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-10	3.0	3.0	2.9	2.9	3.2	4.1	1.5	1.9	1.9	1.9	1.8	1.8	1.9	1.6	1.8	1.7	1.7	1.7	1.7	1.6	1.5
-9	3.1	3.0	2.9	2.9	3.3	4.3	1.5	1.9	1.9	1.9	1.8	1.9	1.9	1.6	1.8	1.8	1.7	1.7	1.7	1.7	1.6
-8	3.1	3.0	2.8	2.8	3.2	4.6	1.4	1.9	1.9	1.8	1.8	1.9	2.0	1.6	1.8	1.8	1.7	1.7	1.7	1.7	1.6
-7	3.1	2.9	2.6	2.5	2.9	4.8	1.4	2.0	2.0	2.0	2.0	2.1	2.4	1.5	1.8	1.8	1.8	1.8	1.8	1.7	1.6
-6	3.0	2.6	2.3	2.2	2.4	4.9	1.3	2.1	2.2	2.1	2.1	2.3	2.9	1.5	1.9	1.8	1.8	1.8	1.8	1.7	1.6
-5	2.9	2.3	1.9	1.6	1.9	4.9	1.2	2.2	2.3	2.3	2.3	2.6	3.6	1.5	1.9	1.8	1.8	1.7	1.8	1.8	1.6
-4	2.8	1.9	1.5	1.0	1.2	5.1	1.1	2.2	2.3	2.3	2.3	2.6	4.4	1.5	1.8	1.8	1.7	1.7	1.7	1.8	1.6
-3	2.6	1.5	1.0	0.4	0.6	5.1	0.9	2.3	2.2	2.1	2.0	2.5	5.1	1.5	1.8	1.8	1.7	1.6	1.7	2.0	1.7
-2	2.3	1.1	0.5	-0.3	-0.3	5.0	0.7	2.2	1.9	1.7	1.5	1.9	5.6	1.4	1.8	1.8	1.7	1.6	1.9	3.3	1.7
-1	2.0	0.6	-0.2	-0.8	-1.0	4.8	0.5	2.1	1.5	1.1	0.6	0.7	6.5	1.3	1.8	1.7	1.6	1.6	2.1	5.8	1.8
0	1.6	0.1	-0.7	-1.5	-1.6	4.6	0.3	1.9	1.0	0.5	0.2	0.2	7.1	1.0	1.7	1.4	1.2	1.0	1.0	7.8	1.7
+1	1.2	-0.2	-1.1	-1.9	-1.7	4.2	0.1	1.6	1.0	0.5	0.3	0.8	6.3	0.6	1.5	0.9	0.4	0.1	1.0	6.6	1.0
+2	0.8	-0.5	-1.3	-2.0	-1.6	3.3	-0.2	1.9	1.2	0.9	0.7	1.1	4.9	0.0	1.1	0.5	0.8	1.4	2.6	4.9	-0.1
+3	0.6	-0.6	-1.5	-2.1	-1.5	2.4	-0.4	1.8	1.3	0.9	0.8	1.3	2.7	-0.5	1.6	1.9	2.0	2.3	2.7	3.4	-0.6
+4	0.2	-1.0	-1.7	-2.0	-1.4	1.7	-0.8	1.4	0.8	0.5	0.5	0.5	2.6	-1.0	2.5	2.4	2.1	1.9	1.8	1.1	-0.4
+5	-0.2	-1.1	-1.7	-2.1	-1.3	1.3	-1.1	1.1	0.4	0.1	0.6	1.1	1.8	-1.3	1.1	1.0	1.1	1.1	0.9	2.0	-0.1
+6	-0.3	-1.2	-1.7	-2.0	-1.1	1.2	-1.3	1.2	0.7	0.8	0.8	1.0	1.1	-1.4	0.9	0.5	0.3	0.9	1.7	1.8	0.2
+7	-0.7	-1.3	-1.6	-1.7	-0.9	1.0	-1.4	1.5	1.0	0.6	0.7	0.8	0.8	-1.4	1.7	1.6	1.9	1.9	1.4	0.8	0.3
+8	-0.9	-1.3	-1.5	-1.7	-0.8	0.9	-1.5	0.8	0.5	0.2	0.4	0.5	0.3	-1.3	2.1	2.2	1.8	1.9	1.8	0.3	0.4
+9	-1.0	-1.4	-1.4	-1.5	-0.7	1.0	-1.5	0.4	0.1	-0.1	-0.1	0.2	0.5	-1.1	1.1	0.9	0.9	0.9	0.9	1.2	0.5
+10	-1.3	-1.3	-1.2	-1.2	-0.5	1.1	-1.5	0.8	0.2	0.0	0.0	0.3	0.4	-0.8	0.5	0.4	0.3	0.2	0.8	1.0	0.5
+11	-1.1	-1.1	-1.0	-1.0	-0.3	1.3	-1.6	0.7	0.6	0.6	0.4	0.6	0.8	-0.6	1.5	1.1	1.0	0.7	0.7	1.0	0.6
+12	-1.3	-1.0	-0.7	-0.7	-0.1	1.4	-1.6	0.7	0.4	0.2	0.3	0.7	0.8	-0.5	1.8	2.0	1.9	1.7	1.6	0.9	0.6
Max.	3.4	3.0	3.0	2.9	3.3	5.3	1.6	2.3	2.3	2.3	2.3	2.6	7.2	1.6	2.5	2.6	2.4	2.5	2.8	7.8	2.7

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 50 MILES LEFT OF PORT ARANSAS



HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 70 MILES LEFT OF PORT ARANSAS

	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38MP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300°	131-155 MPH						300°	131-155 MPH						300°	131-155 MPH					
-24	3.3	2.8	2.6	2.4	2.4	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.8	1.6							
-23	3.4	2.9	2.6	2.5	2.5	2.2	2.1	2.1	1.9	1.9	1.9	1.8	1.8	1.6							
-22	3.5	3.0	2.7	2.5	2.5	2.2	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.6							
-21	3.6	3.1	2.8	2.6	2.6	2.3	2.2	2.1	2.0	1.9	1.9	1.9	1.8	1.7							
-20	3.8	3.2	2.9	2.7	2.6	2.3	2.2	2.2	2.0	2.0	1.9	1.9	1.8	1.7							
-19	4.0	3.4	3.0	2.8	2.7	2.4	2.3	2.2	2.1	2.0	2.0	1.9	1.8	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.5
-18	4.2	3.5	3.1	2.8	2.8	2.4	2.3	2.3	2.1	2.0	2.0	2.0	1.9	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-17	4.5	3.7	3.3	3.0	2.9	2.5	2.4	2.4	2.2	2.1	2.0	2.0	1.9	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-16	4.8	3.9	3.4	3.1	3.0	2.6	2.5	2.5	2.3	2.1	2.1	2.1	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.5
-15	5.2	4.2	3.6	3.2	3.0	2.6	2.5	2.5	2.3	2.2	2.1	2.1	2.0	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-14	5.5	4.5	3.8	3.4	3.2	2.7	2.6	2.7	2.4	2.3	2.2	2.2	2.0	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-13	5.8	4.7	4.0	3.6	3.4	2.7	2.6	2.8	2.5	2.4	2.3	2.3	2.1	1.8	1.8	1.8	1.7	1.8	1.7	1.7	1.6
-12	6.0	5.0	4.2	3.7	3.5	2.8	2.7	3.0	2.7	2.5	2.4	2.3	2.2	1.9	1.9	1.8	1.8	1.8	1.8	1.7	1.6
-11	6.5	5.3	4.4	3.9	3.6	2.8	2.8	3.2	2.8	2.6	2.5	2.4	2.3	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.6
-10	6.9	5.6	4.7	4.1	3.7	2.8	2.9	3.4	3.0	2.8	2.6	2.6	2.3	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.6
-9	7.2	5.8	4.9	4.2	3.8	2.8	3.0	3.7	3.3	3.0	2.8	2.7	2.5	2.0	2.1	2.0	2.0	1.9	1.9	1.9	1.6
-8	7.5	6.4	5.1	4.3	3.9	2.8	3.1	4.2	3.6	3.2	3.0	2.9	2.6	2.1	2.3	2.2	2.1	2.0	2.0	1.9	1.7
-7	7.6	6.7	5.4	4.5	4.0	2.8	3.2	4.8	4.1	3.6	3.3	3.1	2.7	2.2	2.4	2.3	2.2	2.1	2.1	2.0	1.7
-6	7.4	7.2	5.8	4.6	4.2	3.0	3.4	5.8	4.8	4.2	3.7	3.5	2.9	2.3	2.6	2.5	2.3	2.3	2.2	2.1	1.7
-5	6.6	7.7	6.2	4.8	4.3	2.9	3.5	6.5	5.7	4.8	4.2	3.8	3.1	2.4	2.9	2.7	2.6	2.5	2.4	2.3	3.8
-4	5.6	8.3	6.4	4.9	4.4	2.9	3.7	7.4	6.6	5.4	4.7	4.7	3.2	2.5	3.4	3.2	2.9	2.8	2.7	2.5	1.9
-3	4.8	8.8	6.9	5.1	4.5	2.9	3.8	8.0	7.5	6.0	5.1	4.4	3.3	2.7	4.4	4.0	3.6	3.3	3.1	2.8	2.0
-2	4.8	8.9	7.4	5.3	4.8	2.9	4.0	7.8	8.8	7.1	5.6	4.6	3.3	2.9	6.7	6.0	5.0	4.4	3.9	3.3	2.1
-1	4.2	9.2	7.5	5.5	4.8	2.9	4.2	6.1	9.7	7.9	6.0	5.0	3.4	3.1	7.2	9.5	7.8	6.2	5.1	3.4	2.3
0	2.0	8.7	7.5	6.1	4.8	3.0	4.4	4.5	9.9	8.6	6.3	5.0	3.5	3.4	2.0	11.7	10.8	8.7	6.4	4.5	2.6
+1	0.6	7.1	6.7	5.8	4.5	2.9	4.6	4.1	8.0	7.8	5.9	4.7	3.1	3.7	3.5	7.2	9.1	6.0	6.3	4.3	2.7
+2	0.0	5.1	5.3	4.5	3.7	2.6	4.8	2.6	4.5	5.0	4.4	3.8	2.7	4.0	3.5	3.1	2.9	3.7	3.7	3.0	3.1
+3	-0.9	4.0	4.5	3.6	2.7	2.0	5.0	1.0	2.4	3.3	3.2	2.5	1.4	4.2	1.0	1.4	1.9	1.9	0.4	0.4	4.0
+4	-0.6	3.3	4.0	3.4	2.9	2.1	5.2	0.8	1.8	2.4	2.8	2.4	1.2	4.6	1.5	1.1	1.0	1.7	2.4	1.1	4.8
+5	-0.7	3.2	3.9	3.5	3.4	2.4	5.3	0.6	1.8	2.2	2.9	2.9	2.4	4.9	1.6	2.3	2.3	2.9	3.0	3.6	4.7
+6	-1.2	2.7	3.5	3.2	3.3	1.8	5.3	0.0	1.6	1.9	2.5	2.9	2.1	4.9	1.4	1.9	1.9	2.6	2.9	1.7	4.7
+7	-1.5	2.0	2.7	2.1	2.6	1.8	5.4	-0.5	1.0	1.2	1.5	2.0	1.3	4.9	0.7	0.9	0.8	0.8	0.8	1.6	4.6
+8	-1.8	1.8	2.5	1.9	2.4	1.6	5.4	-0.7	0.8	0.7	0.9	1.9	1.0	4.9	0.2	0.1	0.0	0.4	1.2	0.1	4.5
+9	-1.6	2.1	3.1	2.1	2.6	2.0	5.4	-0.9	1.7	1.4	1.3	2.1	1.2	4.9	0.4	1.2	1.3	1.0	1.1	0.4	4.3
+10	-1.1	2.3	3.3	2.2	2.7	2.8	5.4	-0.6	1.6	1.9	1.6	2.3	2.0	4.9	0.9	1.6	1.7	1.5	1.8	2.4	4.2
+11	-0.7	2.0	3.1	1.9	2.6	3.1	5.5	-0.4	1.6	1.9	1.3	2.2	2.4	4.8	0.6	1.4	1.7	1.7	2.6	2.6	4.1
+12	-0.3	1.8	3.0	1.6	1.8	2.8	5.5	-0.4	1.4	2.0	1.2	1.8	2.1	4.7	0.7	1.5	1.8	1.3	1.3	1.5	4.0
Max.	8.2	9.2	8.0	6.1	4.9	3.6	5.5	8.0	10.4	8.6	6.5	5.0	3.6	4.9	7.7	11.9	11.2	8.7	6.7	4.7	4.8

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH							
Direction, Windspeed	300°			131-155 MPH				300°			131-155 MPH				300°			131-155 MPH				
	Padre #1	Padre #3	Padre #5	PS38892200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38892200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38892200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
-24	3.2	3.0	2.8	2.7	2.7	2.5	1.8															
-23	3.3	3.1	2.9	2.8	2.7	2.5	1.8															
-22	3.5	3.2	3.0	2.9	2.8	2.6	1.9															
-21	3.7	3.4	3.2	3.0	3.0	2.7	1.9															
-20	3.9	3.6	3.3	3.2	3.1	2.8	2.0															
-19	4.1	3.8	3.5	3.4	3.3	2.9	2.0															
-18	4.3	4.0	3.7	3.6	3.5	3.0	2.1	1.7	1.7	1.7	1.7	1.7	1.7	1.5								
-17	4.5	4.3	3.9	3.8	3.7	3.1	2.2	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	4.7	4.6	4.2	4.0	3.9	3.3	2.2	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	4.9	4.8	4.4	4.2	4.1	3.4	2.3	1.9	1.9	1.8	1.8	1.8	1.8	1.6	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.5
-14	5.0	5.0	4.6	4.3	4.3	3.5	2.4	2.1	2.1	2.0	1.9	1.9	1.9	1.6	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-13	5.1	5.2	4.8	4.5	4.4	3.6	2.5	2.2	2.2	2.2	2.1	2.1	2.1	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-12	5.2	5.3	5.0	4.7	4.7	3.8	3.6	2.5	2.5	2.4	2.3	2.3	2.3	1.7	1.8	1.9	1.8	1.8	1.8	1.8	1.8	1.6
-11	5.3	5.4	5.2	5.0	4.9	4.0	2.7	2.6	2.7	2.6	2.5	2.5	2.4	1.7	1.9	1.9	1.8	1.9	1.8	1.8	1.8	1.6
-10	5.3	5.5	5.4	5.3	5.3	4.1	2.8	2.8	2.9	2.8	2.7	2.7	2.6	1.8	2.0	1.9	1.8	1.9	1.8	1.8	1.9	1.6
- 9	5.3	5.6	5.7	5.7	5.6	4.3	2.9	3.1	3.2	3.1	3.0	3.0	2.9	1.8	2.1	2.0	1.9	1.9	1.9	1.9	2.0	1.6
- 8	4.7	5.5	6.0	6.3	6.0	4.5	3.0	3.5	3.8	3.6	3.5	3.5	3.3	1.9	2.2	2.1	1.9	2.0	2.0	2.0	2.1	1.7
- 7	4.2	5.4	6.3	6.9	6.5	4.7	3.2	3.9	4.3	4.2	4.1	4.0	3.7	2.0	2.3	2.2	2.1	2.1	2.1	2.1	2.1	1.7
- 6	3.5	5.0	6.6	7.5	7.1	4.8	3.4	4.1	4.8	4.7	4.6	4.6	4.1	2.1	2.4	2.4	2.2	2.2	2.2	2.2	2.2	1.7
- 5	2.6	4.4	6.7	8.0	7.7	4.9	3.5	4.2	5.1	5.3	5.2	5.2	4.4	2.3	2.5	2.6	2.4	2.4	2.4	2.5	2.5	1.8
- 4	2.1	3.6	6.6	8.6	8.1	5.0	3.8	4.1	5.4	6.0	6.2	6.1	4.9	2.5	2.7	2.9	2.8	2.8	2.9	2.9	3.0	1.8
- 3	1.1	2.6	6.6	9.1	8.5	5.0	4.1	3.7	5.4	6.8	7.4	7.2	5.4	2.8	3.1	3.8	3.7	3.8	3.9	3.7	3.7	2.1
- 2	0.2	1.6	6.1	9.5	8.8	5.0	4.6	3.1	4.5	7.3	9.0	8.6	6.9	3.1	3.3	5.0	5.3	5.8	5.8	5.8	5.0	2.4
- 1	-0.5	0.5	5.7	9.6	8.8	5.0	6.1	2.3	2.9	7.1	10.1	9.5	6.1	3.4	2.7	5.0	7.6	9.0	8.7	6.5	5.2	2.9
0	-1.1	-0.3	5.1	9.5	8.7	4.9	9.3	1.6	1.3	6.3	10.4	9.8	5.9	3.9	1.8	2.0	9.4	11.5	11.2	7.5	6.4	3.1
+ 1	-1.1	-0.2	4.1	8.2	7.7	4.5	11.7	1.4	1.2	4.4	9.0	8.4	4.9	9.2	1.4	1.2	7.9	9.0	9.3	6.4	3.5	3.5
+ 2	-0.8	-0.2	2.9	6.2	5.9	3.5	13.6	1.8	1.5	3.3	6.3	5.7	3.3	13.2	2.4	2.6	2.9	4.6	3.7	2.4	12.3	3.7
+ 3	-1.2	-0.5	2.1	5.1	4.8	2.5	14.6	1.3	1.2	2.5	4.5	4.1	2.0	14.1	2.6	2.2	1.6	3.0	2.5	0.6	11.7	11.3
+ 4	-1.5	-0.6	1.7	4.1	4.1	3.0	14.7	0.7	0.7	1.7	3.0	3.1	2.3	14.2	1.2	1.4	2.8	2.5	2.9	3.1	11.3	8.8
+ 5	-0.9	0.1	1.9	3.5	3.6	2.6	14.0	0.9	0.9	1.5	2.4	2.3	1.8	12.2	1.6	1.7	1.9	2.2	2.2	1.4	7.9	7.9
+ 6	-0.7	0.6	2.2	3.2	3.0	2.5	13.2	0.9	1.1	1.6	1.9	2.0	1.6	10.7	2.2	2.2	1.1	1.9	1.3	1.4	7.3	7.3
+ 7	-0.6	0.3	1.7	2.4	2.6	2.7	12.3	0.6	0.7	1.2	1.5	1.8	1.8	9.5	1.6	1.2	1.9	1.7	1.8	1.6	6.9	6.9
+ 8	-0.7	0.3	1.7	2.0	2.2	2.0	11.3	0.3	0.5	1.0	1.5	1.5	1.2	8.7	0.9	1.0	0.9	1.4	1.3	0.3	6.5	6.5
+ 9	-0.3	0.6	1.9	1.9	2.0	2.2	10.5	0.5	0.7	1.0	1.1	1.2	1.3	8.1	1.6	1.2	0.2	0.6	0.2	0.7	6.2	6.2
+10	0.0	1.0	2.3	2.5	2.5	2.9	9.8	0.4	0.8	1.1	1.3	1.6	2.0	7.6	1.2	1.0	2.0	1.2	1.7	2.1	5.8	5.8
+11	0.2	1.2	2.4	2.7	2.5	2.8	9.1	0.4	0.9	1.6	1.8	1.9	2.0	7.1	0.8	1.2	2.3	2.2	2.3	2.1	5.5	5.5
+12	0.6	1.4	2.1	2.1	1.9	2.4	8.5	0.7	1.2	1.5	1.4	1.5	1.7	6.7	1.8	1.8	1.1	1.3	1.2	0.9	5.5	5.5
Max.	6.0	5.7	7.0	9.8	8.9	5.5	14.8	4.2	5.5	7.5	10.6	9.9	6.3	15.0	3.3	5.5	9.6	11.2	11.2	7.5	12.3	12.3

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSA

Movement Speed	5 MPH							10 MPH							20 MPH							
Direction, Windspeed			270°		131-155 MPH					270°		131-155 MPH					270°				131-155 MPH	
	Padre #1	Padre #3	Padre #5	PS38WPZ200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WPZ200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WPZ200	Aransas Pass Channel	South Matagorda		
-24	2.6	2.5	2.5	2.4	2.5	2.6	1.4															
-23	2.7	2.7	2.6	2.6	2.6	2.7	1.4															
-22	2.8	2.7	2.6	2.6	2.7	2.8	1.4															
-21	2.9	2.8	2.7	2.7	2.8	2.9	1.4															
-20	3.0	3.0	3.0	3.0	3.1	3.3	1.4	1.6	1.6	1.6	1.6	1.6	1.7	1.5								
-19	3.2	3.3	3.2	3.3	3.5	3.7	1.5	1.7	1.6	1.6	1.6	1.6	1.5	1.6								
-18	3.4	3.5	3.5	3.6	3.8	4.0	1.5	1.6	1.6	1.5	1.5	1.5	1.4	1.6								
-17	3.5	3.7	3.7	3.8	4.1	4.3	1.5	1.6	1.5	1.4	1.4	1.3	1.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.7	3.9	3.9	4.0	4.4	4.6	1.5	1.6	1.6	1.5	1.3	1.3	1.3	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-15	3.9	4.2	4.2	4.3	4.7	5.0	1.6	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-14	4.1	4.5	4.4	4.6	5.2	5.4	1.6	1.8	1.8	1.7	1.7	1.8	1.8	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-13	4.3	4.6	4.7	4.9	5.5	5.8	1.7	1.9	1.9	1.8	1.8	1.8	1.8	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-12	4.5	4.7	4.8	5.1	5.8	6.0	1.7	1.9	1.9	1.8	1.7	1.8	1.8	1.5	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	4.6	4.7	4.9	5.3	6.1	6.3	1.8	1.9	1.9	1.8	1.7	1.8	2.0	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-10	4.6	4.7	4.9	5.6	6.6	6.6	1.9	2.0	2.1	2.1	2.1	2.2	2.6	1.5	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5
- 9	4.6	4.6	5.0	5.9	7.2	6.8	2.0	2.2	2.4	2.5	2.5	2.8	3.3	1.5	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5
- 8	4.4	4.4	5.0	6.3	7.7	6.9	2.1	2.5	2.8	2.9	3.1	3.5	4.2	1.5	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.5
- 7	4.0	4.1	4.9	6.6	8.3	6.9	2.2	2.7	3.1	3.3	3.5	4.1	5.0	1.6	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.5
- 6	3.6	3.6	4.7	7.1	8.9	6.8	2.3	2.8	4.3	3.6	4.0	4.9	5.9	1.7	1.8	1.8	1.7	1.6	1.7	1.7	1.7	1.6
- 5	3.0	3.0	4.5	7.6	9.4	6.6	2.5	3.0	3.6	4.1	4.8	6.1	6.9	1.8	1.8	1.8	1.7	1.6	1.7	1.9	1.6	
- 4	2.4	2.2	4.3	8.2	9.8	6.3	2.8	3.1	3.9	4.7	5.9	7.6	7.8	1.9	1.8	1.8	1.8	1.8	2.0	2.8	1.7	
- 3	1.7	1.4	4.2	8.9	10.0	5.9	3.2	3.0	3.8	5.2	7.2	9.3	8.4	2.1	1.9	2.2	2.4	2.6	3.6	5.0	1.9	
- 2	0.9	0.5	4.2	9.3	9.9	5.5	4.0	2.7	3.3	5.4	8.7	10.7	8.5	2.2	2.0	2.9	3.6	4.9	6.8	7.8	2.2	
- 1	0.1	-0.3	4.4	9.6	9.5	5.0	8.2	2.2	2.3	5.9	10.3	11.6	7.9	2.5	2.0	3.3	5.2	8.2	10.7	9.1	2.5	
0	-0.5	-0.9	4.5	9.6	9.0	4.5	11.3	1.6	1.6	7.0	11.2	11.0	7.0	3.5	1.5	1.8	7.3	11.4	12.0	9.6	2.0	
+ 1	-0.8	-0.7	4.1	8.6	13.3	3.9	13.3	1.8	2.3	6.8	10.7	9.7	5.3	11.6	0.8	2.4	6.4	10.1	9.4	6.5	2.7	
+ 2	-0.6	-0.7	3.2	6.5	14.5	2.8	14.5	2.4	2.8	5.8	8.2	6.9	3.6	14.8	2.8	3.9	5.4	5.4	5.0	3.5	11.9	
+ 3	-1.2	-1.1	2.5	5.3	14.8	1.7	14.8	2.0	2.4	4.4	6.0	4.8	1.9	16.1	2.9	3.1	4.0	4.6	3.8	2.1	10.6	
+ 4	-1.8	-1.2	2.0	4.1	14.0	2.2	14.0	1.3	1.7	3.1	4.0	3.5	1.8	14.3	1.1	1.9	2.9	3.8	3.8	3.0	11.1	
+ 5	-1.4	-0.6	2.0	3.6	13.0	2.0	13.0	1.5	1.8	2.7	3.3	2.8	1.3	12.2	2.2	2.4	2.7	3.0	2.9	2.2	9.3	
+ 6	-1.4	-0.1	2.2	3.2	12.0	2.0	12.0	1.7	2.0	2.6	2.9	2.4	1.2	10.7	2.7	2.8	3.0	2.9	2.4	1.6	8.3	
+ 7	-1.5	-0.3	1.6	2.5	11.1	2.3	11.1	1.3	1.4	1.9	2.1	2.2	1.4	9.6	2.0	2.0	2.4	2.6	2.6	1.9	7.6	
+ 8	-1.9	-0.3	1.6	2.1	10.5	1.7	10.5	1.0	0.9	1.4	1.4	1.5	0.7	8.9	1.6	1.6	1.9	2.2	1.9	0.8	7.1	
+ 9	-1.5	0.1	1.8	2.0	9.8	2.0	9.8	1.0	0.8	1.2	1.3	0.9	0.7	8.2	2.3	1.6	1.6	1.4	0.9	0.6	6.7	
+10	-1.4	0.5	2.1	2.5	9.3	2.8	9.3	0.8	0.9	1.2	1.6	1.5	1.4	7.7	1.8	1.7	1.6	1.6	1.7	1.7	6.3	
+11	-1.4	0.8	2.5	2.9	8.8	2.8	8.8	0.7	0.9	1.4	1.7	1.8	1.7	7.3	1.5	1.5	2.0	2.4	2.3	1.8	6.1	
+12	-0.9	1.1	2.3	2.4	8.3	2.5	8.3	0.8	0.9	1.3	1.3	1.3	1.6	6.9	2.1	1.9	1.7	1.5	1.3	0.9	5.8	
Max.	4.9	4.8	5.1	9.6	15.1	7.0	15.1	3.1	4.0	7.1	11.4	11.7	8.5	16.2	3.0	3.9	7.6	11.7	12.2	9.1	12.1	

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
	300°			131-155 MPH				300°			131-155 MPH				300°			131-155 MPH			
-24	1.8	1.7	1.7	1.7	1.7	1.7	1.5														
-23	1.8	1.8	1.7	1.6	1.7	1.7	1.6														
-22	1.7	1.8	1.8	1.7	1.8	1.8	1.7														
-21	1.8	1.9	1.8	1.8	1.8	2.0	1.7														
-20	2.2	2.4	2.3	2.2	2.2	2.3	1.7														
-19	2.5	2.8	2.8	2.8	2.8	2.8	1.7														
-18	2.9	3.3	3.2	3.2	3.1	3.2	1.8														
-17	3.2	3.5	3.4	3.4	3.4	3.2	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.5	3.8	3.7	3.6	3.6	3.4	1.8	1.8	1.7	1.7	1.6	1.7	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-15	3.8	4.1	4.0	3.9	3.9	3.6	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-14	4.1	4.6	4.5	4.4	4.4	4.0	1.9	1.9	1.9	1.8	1.8	1.7	1.8	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.5
-13	4.4	4.8	4.7	4.7	4.7	4.2	2.0	2.0	2.1	2.0	1.9	1.9	1.9	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-12	4.6	4.9	4.9	4.8	4.9	4.4	2.1	2.2	2.2	2.2	2.2	2.1	2.2	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.6
-11	4.7	4.9	5.0	5.0	5.1	4.4	2.2	2.4	2.5	2.4	2.4	2.4	2.5	1.7	1.9	1.9	1.8	1.8	1.8	1.7	1.6
-10	4.7	5.0	5.1	5.3	5.5	4.7	2.3	2.6	2.7	2.6	2.6	2.6	2.6	1.7	2.0	1.9	1.9	1.8	1.8	1.8	1.6
-9	4.6	4.9	5.3	5.7	6.0	5.1	2.5	2.8	3.0	2.9	2.8	2.9	2.8	1.8	2.0	2.0	1.9	1.9	1.9	1.8	1.6
-8	4.4	4.8	5.4	6.2	6.6	5.3	2.6	3.0	3.3	3.3	3.2	3.2	3.3	1.9	2.1	2.1	2.0	1.9	1.9	1.9	1.6
-7	4.0	4.5	5.4	6.5	7.1	5.5	2.7	3.4	3.9	3.9	3.8	4.0	3.8	1.9	2.2	2.2	2.1	2.1	2.1	2.0	1.7
-6	3.4	4.0	5.2	7.0	7.7	5.7	2.8	3.6	4.2	4.4	4.4	4.6	4.3	2.0	2.3	2.4	2.2	2.2	2.2	2.2	1.7
-5	2.8	3.3	4.9	7.3	8.4	5.9	3.0	3.7	4.5	4.7	5.0	5.4	4.9	2.2	2.4	2.5	2.4	2.3	2.4	2.4	1.8
-4	2.2	2.4	4.4	7.7	9.1	6.2	3.2	3.6	4.4	5.1	5.8	6.4	5.5	2.4	2.5	2.7	2.6	2.6	2.7	2.8	1.9
-3	1.6	1.5	3.7	8.0	9.7	6.4	3.5	3.3	4.1	5.4	6.9	7.8	6.3	2.7	2.7	3.3	3.4	3.5	3.8	3.8	2.1
-2	0.8	0.4	2.8	8.1	10.0	6.3	4.0	2.9	3.2	5.1	8.0	9.6	7.1	3.0	2.8	4.0	4.7	5.3	5.9	5.5	2.4
-1	0.2	-0.6	1.9	7.9	10.0	6.1	4.5	2.3	1.8	4.0	8.7	10.8	7.6	3.3	2.5	3.6	5.5	8.0	9.6	7.6	2.9
0	-0.4	-1.3	1.1	7.5	9.8	5.9	9.7	1.6	0.5	2.7	8.5	10.9	7.2	3.7	1.8	1.1	1.7	9.6	12.1	9.0	3.2
+1	-0.6	-1.1	0.9	6.6	8.6	5.2	12.3	1.5	0.6	2.1	7.2	9.4	5.8	9.3	1.2	0.8	2.1	6.0	9.6	7.1	3.0
+2	-0.5	-0.7	0.7	5.1	6.5	3.7	13.7	1.8	1.3	2.1	5.5	6.5	3.7	12.5	2.2	2.3	3.1	4.4	4.1	2.6	10.8
+3	-0.7	-1.0	0.3	3.9	5.3	2.7	14.5	1.6	1.1	1.9	4.0	4.5	2.4	13.5	2.6	2.4	2.5	3.1	3.1	1.3	10.7
+4	-1.4	-1.3	0.1	3.1	4.4	2.9	13.8	0.8	0.5	1.2	2.8	3.3	2.4	13.5	1.3	1.3	1.8	2.8	2.9	2.9	9.9
+5	-1.1	-0.7	0.6	2.6	3.7	2.4	13.1	0.8	0.6	1.1	2.1	2.3	1.6	11.7	1.4	1.5	1.6	2.0	2.1	1.8	8.6
+6	-0.8	0.0	1.2	2.3	3.1	2.3	12.2	1.0	0.9	1.3	1.7	2.1	1.4	10.2	2.3	2.0	2.0	1.9	1.3	1.6	7.6
+7	-0.9	-0.2	1.0	2.1	2.7	2.4	11.4	0.6	0.6	0.9	1.8	1.9	1.6	9.2	1.5	1.4	1.4	1.3	2.2	1.4	7.0
+8	-1.3	-0.2	0.9	2.0	2.2	1.8	10.5	0.3	0.5	0.9	1.3	1.4	1.0	8.4	1.1	1.2	1.5	1.6	1.3	0.3	6.5
+9	-1.0	0.1	1.0	1.7	1.9	1.9	9.7	0.4	0.5	0.7	0.9	1.0	1.1	7.8	1.7	1.1	0.7	0.6	0.3	0.6	6.2
+10	-0.9	0.4	1.3	1.9	2.4	2.5	9.0	0.2	0.5	0.9	1.2	1.5	1.8	7.3	1.1	0.8	0.9	1.2	1.6	2.0	5.9
+11	-0.7	0.9	1.9	2.3	2.6	2.6	8.4	0.2	0.7	1.3	1.6	1.8	1.8	6.9	0.8	1.3	1.8	2.1	2.3	1.9	5.5
+12	-0.3	1.1	1.8	1.9	2.0	2.2	8.0	0.6	1.0	1.3	1.3	1.3	1.5	6.5	1.8	1.7	1.6	1.4	1.2	0.8	5.3
Max.	4.8	5.0	5.6	8.2	10.2	6.6	14.5	3.7	4.5	5.4	8.9	11.1	7.6	13.8	2.8	4.1	5.6	9.6	12.2	9.0	11.4

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

	Padre #1	Padre #3	Padre #5	PS38RP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38RP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38RP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	270° 131-155 MPH							270° 131-155 MPH							270° 131-155 MPH						
-24	1.5	1.5	1.4	1.3	1.3	1.2	1.6														
-23	1.3	1.2	1.0	0.9	0.9	0.9	1.6														
-22	1.4	1.3	1.1	0.9	1.0	1.1	1.6														
-21	1.5	1.5	1.5	1.5	1.5	1.9	1.5														
-20	1.8	2.0	2.0	2.1	2.3	2.7	1.5														
-19	2.0	2.2	2.2	2.3	2.4	2.9	1.5														
-18	2.0	2.2	2.3	2.3	2.5	3.1	1.4														
-17	2.1	2.3	2.3	2.4	2.7	3.6	1.4	1.6	1.6	1.6	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	2.4	2.8	2.9	3.1	3.5	4.5	1.4	1.7	1.6	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-15	2.8	3.4	3.5	3.7	4.3	5.4	1.4	1.6	1.5	1.5	1.4	1.4	1.3	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-14	3.1	3.7	3.9	4.1	4.7	5.9	1.4	1.5	1.4	1.3	1.2	1.2	1.0	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-13	3.3	3.7	3.9	4.1	4.8	6.0	1.4	1.5	1.4	1.3	1.1	1.1	1.0	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-12	3.5	3.8	3.9	4.2	5.0	6.6	1.4	1.6	1.5	1.4	1.4	1.3	1.4	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.7	3.9	4.2	4.7	5.7	7.2	1.4	1.7	1.8	1.7	1.7	1.7	1.9	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-10	4.0	4.2	4.5	5.0	6.4	7.8	1.4	1.8	1.9	1.8	1.8	1.8	2.1	1.5	1.7	1.7	1.6	1.6	1.5	1.5	1.5
-9	4.1	4.1	4.4	5.2	6.8	8.0	1.4	1.8	1.9	1.8	1.8	2.0	2.5	1.5	1.7	1.7	1.6	1.5	1.5	1.5	1.5
-8	3.9	3.7	4.0	5.0	7.2	8.1	1.5	1.8	2.0	2.0	2.0	2.4	3.3	1.5	1.7	1.7	1.6	1.5	1.5	1.5	1.5
-7	3.6	3.3	3.7	5.1	7.7	8.2	1.5	2.0	2.4	2.5	2.7	3.4	4.7	1.5	1.8	1.8	1.7	1.6	1.6	1.5	1.5
-6	3.4	3.1	3.5	5.3	8.5	8.3	1.5	2.3	3.9	3.1	3.4	4.4	6.2	1.6	1.8	1.7	1.6	1.5	1.5	1.5	1.5
-5	3.1	2.6	3.1	5.6	9.3	8.2	1.6	2.5	3.1	3.4	4.0	5.5	7.3	1.7	1.8	1.7	1.6	1.4	1.5	1.6	1.6
-4	2.5	1.8	2.3	5.6	9.8	8.0	1.6	2.5	2.9	3.3	4.3	6.5	8.6	1.8	1.7	1.6	1.5	1.4	1.6	2.2	1.6
-3	1.8	0.6	1.4	5.8	10.2	7.4	1.7	2.3	2.5	3.2	4.9	8.4	9.6	1.9	1.7	1.8	1.8	1.9	2.6	4.6	1.8
-2	1.0	-0.2	0.8	6.3	10.5	6.8	2.3	2.2	2.2	3.2	6.1	10.6	10.1	1.9	1.8	2.1	2.5	3.5	5.7	8.5	2.1
-1	0.6	-0.9	0.6	6.8	10.3	6.2	3.4	2.0	1.6	2.9	7.8	12.0	9.7	1.8	1.8	2.3	3.3	5.8	10.2	10.2	2.4
0	0.0	-1.4	0.4	6.9	9.8	5.6	8.4	1.5	0.7	3.0	8.9	12.3	8.5	2.3	1.4	1.0	3.1	9.1	12.1	10.0	2.0
+1	-0.4	-1.5	0.7	6.5	8.4	4.5	12.7	1.3	1.1	3.6	8.8	10.3	6.8	9.3	0.6	1.1	3.8	8.8	10.1	7.9	1.4
+2	-0.4	-1.4	0.4	5.1	6.0	2.8	14.1	2.1	2.0	3.9	7.5	7.5	4.2	14.6	1.9	3.1	4.8	6.1	5.9	4.3	11.1
+3	-0.7	-1.8	0.1	4.1	4.6	1.8	15.4	2.1	2.0	3.5	5.9	5.3	2.5	15.4	2.9	3.2	3.8	4.4	4.0	2.1	10.2
+4	-1.5	-2.1	0.0	3.3	3.7	2.2	14.9	1.3	1.3	2.6	4.3	4.2	2.2	15.1	1.1	1.7	2.6	3.5	3.6	3.5	10.5
+5	-1.3	-1.6	0.3	2.9	3.2	1.9	13.9	1.2	1.4	2.2	3.3	3.2	1.6	12.8	1.6	1.9	2.0	2.8	3.3	2.5	8.9
+6	-1.3	-1.0	0.8	2.4	2.5	1.9	13.0	1.6	1.6	2.1	2.6	2.4	1.0	11.1	2.5	2.7	2.9	2.8	2.2	1.7	7.9
+7	-1.6	-1.3	0.4	1.7	2.5	1.9	12.0	1.3	1.3	1.7	2.1	2.2	1.4	9.9	2.2	2.2	2.5	3.0	3.1	1.5	7.3
+8	-2.1	-1.3	0.3	1.6	2.0	1.5	11.1	0.9	0.9	1.3	1.7	1.7	0.7	9.0	1.5	1.7	1.8	2.1	1.9	0.9	6.8
+9	-1.9	-1.0	0.5	1.8	1.8	1.9	10.3	1.0	0.9	1.0	1.3	1.0	0.6	8.3	2.0	1.3	1.2	1.1	1.0	0.6	6.4
+10	-1.9	-0.4	1.0	1.9	2.5	2.7	9.7	0.7	0.6	0.9	1.3	1.4	1.2	7.8	1.7	1.5	1.4	1.5	1.7	1.7	6.1
+11	-1.9	0.0	1.5	2.6	2.8	2.8	9.1	0.4	0.6	1.0	1.4	1.7	1.4	7.3	1.6	1.8	2.3	2.6	2.6	1.7	5.8
+12	-1.5	0.3	1.4	2.1	2.3	2.4	8.6	0.8	0.9	1.1	1.1	1.2	1.3	6.9	2.2	1.9	1.7	1.6	1.5	0.9	5.5
Max.	4.1	4.3	4.5	7.0	10.7	8.9	15.4	2.5	3.1	4.2	9.1	12.4	10.1	16.7	3.0	3.5	4.8	9.3	12.4	10.4	11.6

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES RIGHT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300° 131-155 MPH							300° 131-155 MPH							300° 131-155 MPH						
	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	2.2	2.2	2.1	2.1	2.1	2.1	1.5														
-23	2.3	2.3	2.3	2.2	2.2	2.2	1.5														
-22	2.4	2.4	2.4	2.3	2.3	2.3	1.5														
-21	2.5	2.4	2.3	2.3	2.3	2.2	1.5														
-20	2.6	2.5	2.4	2.3	2.3	2.3	1.5														
-19	2.7	2.5	2.4	2.4	2.4	2.4	1.5														
-18	2.8	2.7	2.6	2.5	2.6	2.6	1.5														
-17	2.9	2.8	2.7	2.6	2.7	2.7	1.5	1.7	1.6	1.6	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	3.0	2.8	2.7	2.7	2.7	2.8	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5
-15	3.0	2.9	2.8	2.7	2.8	3.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.1	3.0	2.9	2.9	3.1	3.4	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.2	3.2	3.1	3.1	3.4	3.8	1.5	1.7	1.7	1.6	1.5	1.5	1.5	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-12	3.3	3.3	3.2	3.3	3.6	4.2	1.5	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.5
-11	3.4	3.4	3.3	3.3	3.7	4.5	1.5	1.9	1.9	1.8	1.9	1.9	2.0	1.6	1.8	1.8	1.7	1.7	1.7	1.7	1.5
-10	3.4	3.4	3.3	3.3	3.7	4.9	1.4	2.0	2.0	1.9	1.9	1.9	1.9	1.6	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 9	3.5	3.5	3.3	3.3	3.8	5.3	1.4	2.0	2.0	1.9	1.8	1.9	2.0	1.6	1.8	1.8	1.8	1.7	1.7	1.7	1.6
- 8	3.6	3.4	3.2	3.1	3.6	5.7	1.3	2.0	2.0	1.9	1.8	1.9	2.1	1.6	1.8	1.8	1.8	1.7	1.7	1.7	1.6
- 7	3.6	3.2	2.9	2.8	3.4	6.0	1.2	2.1	2.1	2.1	2.0	2.2	2.6	1.6	1.9	1.9	1.8	1.8	1.8	1.8	1.6
- 6	3.5	2.9	2.6	2.3	2.8	6.1	1.1	2.2	2.3	2.3	2.3	2.5	3.3	1.5	2.0	1.9	1.8	1.8	1.8	1.8	1.6
- 5	3.4	2.6	2.1	1.7	1.8	6.1	1.0	2.4	2.5	2.5	2.5	2.9	4.3	1.5	2.0	1.9	1.8	1.7	1.8	1.8	1.6
- 4	3.2	2.1	1.5	0.8	1.0	6.1	0.8	2.4	2.5	2.4	2.5	3.0	5.2	1.5	1.9	1.8	1.7	1.6	1.7	1.8	1.7
- 3	2.9	1.5	0.7	-0.1	0.2	6.2	0.6	2.5	2.3	2.2	2.2	2.7	5.9	1.5	1.9	1.8	1.6	1.5	1.6	2.0	1.7
- 2	2.5	0.9	0.0	-1.2	-0.8	6.3	0.5	2.4	2.0	1.6	1.3	1.6	7.0	1.4	1.9	1.7	1.6	1.6	1.9	3.7	1.8
- 1	2.0	0.2	-0.7	-1.7	-2.0	5.9	0.7	2.2	1.4	0.8	0.4	0.5	8.3	1.2	1.8	1.6	1.5	1.5	2.2	7.1	1.8
0	1.5	-0.3	-1.5	-2.7	-2.7	5.7	-0.1	1.9	0.9	0.2	-0.4	-0.4	8.8	0.8	1.7	1.3	0.9	0.6	0.7	9.7	1.7
+ 1	1.2	-0.7	-1.7	-2.9	-2.5	4.8	-0.5	1.9	0.8	0.4	0.1	0.5	7.5	0.4	1.5	0.7	0.0	-0.5	1.0	8.2	0.8
+ 2	0.7	-0.8	-1.6	-2.5	-2.2	3.4	-0.8	1.9	1.4	1.1	1.0	1.1	5.2	-0.1	1.1	0.5	1.2	1.9	3.1	4.5	-0.3
+ 3	0.6	-0.8	-1.7	-2.8	-2.3	2.0	-1.1	2.2	1.6	1.1	1.0	1.4	3.6	-0.8	1.8	2.6	2.5	2.8	2.8	1.6	-0.9
+ 4	0.2	-1.5	-2.4	-2.9	-2.3	1.2	-1.2	1.8	1.0	0.7	0.7	0.8	0.9	-1.3	3.1	2.5	2.0	2.3	2.5	0.4	-0.9
+ 5	-0.6	-1.7	-2.4	-2.8	-2.2	0.8	-1.3	1.3	0.5	-0.1	-0.6	0.0	0.9	-1.5	1.1	1.1	1.0	0.5	-0.1	2.1	-0.4
+ 6	-0.6	-1.6	-2.1	-2.7	-1.8	0.9	-1.5	1.4	0.5	0.2	0.8	0.7	0.6	-1.5	0.7	0.0	-0.3	0.6	1.9	2.5	-0.1
+ 7	-0.8	-1.5	-1.7	-2.0	-1.3	0.2	-1.6	1.1	1.5	1.1	0.9	1.0	0.4	-1.5	1.5	2.1	2.7	2.6	1.7	1.4	0.1
+ 8	-1.1	-1.7	-1.9	-2.3	-1.7	0.3	-1.7	1.8	0.7	0.3	0.3	0.4	-0.1	-1.4	3.3	3.1	2.1	1.6	1.5	0.6	0.2
+ 9	-1.4	-2.2	-2.4	-2.4	-1.4	0.7	-1.7	0.4	-0.1	-0.5	-0.6	-0.4	-0.1	-1.3	1.3	0.6	0.8	0.6	0.5	0.7	0.3
+10	-1.9	-2.2	-1.9	-1.8	-1.0	1.2	-1.7	0.2	-0.6	-0.8	-0.7	-0.1	0.5	-1.1	0.0	0.0	0.0	0.1	0.3	0.7	0.3
+11	-1.6	-1.5	-1.2	-1.1	-0.3	1.5	-1.7	0.6	0.5	0.3	0.3	0.4	0.8	-0.9	1.3	1.1	0.9	0.8	0.8	1.0	0.4
+12	-1.6	-1.2	-0.8	-0.8	-0.1	1.5	-1.7	0.9	0.6	0.7	0.5	0.8	0.7	-0.7	1.7	2.3	2.6	2.3	1.9	1.1	0.4
Max.	4.0	3.5	3.4	3.4	3.8	6.9	1.5	2.5	2.5	2.5	2.5	3.0	8.9	1.6	3.6	3.3	3.5	2.6	2.9	9.8	1.9

Hours Plus or Minus Time of Landfall — [illegible] Estimated Peak of Storm Surge Anticipated at Each Hour

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 70 MILES LEFT OF PORT ARANSAS

Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed			300°		over 155 MPH					300°		over 155 MPH					300°		over 155 MPH		
	Padre #1	Padre #3	Padre #5	PS38W7200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38W7200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1	Padre #1	Padre #3	Padre #5	PS38W7200	Aransas Pass Channel	South Matagorda	Matagorda Bay #1
-24	2.2	2.0	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6							
-23	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6							
-22	2.3	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6							
-21	2.4	2.1	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-20	2.4	2.2	2.1	2.0	2.0	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6							
-19	2.5	2.2	2.1	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-18	2.6	2.3	2.2	2.1	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-17	2.7	2.4	2.2	2.1	2.1	1.9	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	2.9	2.5	2.3	2.1	2.1	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	3.0	2.6	2.3	2.2	2.1	1.9	2.0	1.9	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.2	2.7	2.4	2.3	2.2	2.0	2.0	2.0	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.5	2.9	2.5	2.3	2.3	2.0	2.0	2.0	1.9	1.9	1.8	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	3.8	3.0	2.7	2.4	2.3	2.0	2.1	2.1	2.0	1.9	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-11	4.2	3.2	2.8	2.5	2.4	2.1	2.1	2.2	2.0	2.0	1.9	1.9	1.8	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
-10	4.5	3.4	2.9	2.6	2.4	2.1	2.2	2.3	2.1	2.0	2.0	1.9	1.9	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.5
- 9	4.7	3.6	3.0	2.6	2.4	2.0	2.2	2.4	2.2	2.1	2.0	2.0	1.9	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
- 8	5.0	3.8	3.0	2.7	2.5	2.0	2.3	2.6	2.3	2.2	2.1	2.1	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6
- 7	5.1	3.9	3.1	2.7	2.5	2.0	2.3	2.8	2.5	2.3	2.2	2.2	2.0	1.8	1.9	1.8	1.8	1.8	1.8	1.7	1.6
- 6	5.2	4.2	3.2	2.7	2.5	2.0	2.4	3.3	2.8	2.6	2.4	2.3	2.1	1.9	2.0	1.9	1.9	1.8	1.8	1.8	1.6
- 5	5.0	4.7	3.5	2.9	2.5	2.0	2.5	3.9	3.3	2.9	2.6	2.4	2.1	1.9	2.1	2.0	2.0	1.9	1.9	1.8	1.6
- 4	4.0	5.1	3.7	3.0	2.6	2.0	2.5	4.7	3.9	3.2	2.9	2.6	2.2	2.0	2.3	2.2	2.1	2.0	2.0	1.9	1.7
- 3	2.5	6.0	3.9	3.1	2.7	2.1	2.6	5.2	4.5	3.6	3.1	2.8	2.5	2.0	2.6	2.5	2.3	2.0	2.2	2.0	1.7
- 2	0.9	6.7	4.2	3.2	2.7	2.0	2.7	4.8	5.3	4.0	3.3	2.8	2.2	2.1	3.6	3.3	2.9	2.6	2.4	2.2	1.8
- 1	-0.3	7.3	4.4	3.3	2.8	2.1	2.8	2.4	6.8	4.6	3.5	2.8	2.2	2.2	4.9	5.6	4.2	3.4	3.0	2.5	1.9
0	-1.0	7.7	4.5	3.3	2.7	2.0	2.9	1.0	8.1	5.1	3.8	3.0	2.2	2.4	0.0	10.3	6.9	4.9	3.6	2.7	2.0
+ 1	-0.3	6.0	4.2	3.1	2.6	2.0	3.0	1.6	6.0	4.5	3.6	2.9	2.2	2.5	1.6	3.8	6.3	5.5	4.1	2.8	2.1
+ 2	-0.5	4.1	2.7	2.2	2.4	1.8	3.1	1.4	3.0	2.3	2.2	2.1	1.9	2.6	2.9	2.0	0.1	0.0	2.2	2.4	2.1
+ 3	-1.0	3.0	3.0	2.3	1.5	1.5	3.2	0.4	1.7	2.1	2.0	1.1	1.1	2.7	0.6	0.9	0.9	2.4	-0.5	-0.1	2.4
+ 4	-0.5	2.4	3.1	2.2	2.3	1.5	3.3	0.8	1.2	1.8	1.9	2.2	1.5	2.8	1.4	0.8	1.0	1.7	2.1	1.3	2.6
+ 5	-0.3	2.5	3.3	2.5	2.4	2.5	3.4	0.9	1.6	2.1	2.3	2.4	2.5	2.9	1.6	2.0	2.2	2.1	2.4	3.1	2.7
+ 6	-0.2	2.1	3.1	2.6	2.5	2.1	3.4	0.8	1.4	1.8	2.3	2.3	1.7	3.0	1.5	1.9	2.0	2.5	2.5	1.7	2.7
+ 7	-0.3	1.7	2.7	1.9	1.9	2.1	3.5	0.4	0.9	1.3	1.3	1.6	1.8	3.1	1.0	1.0	0.8	0.1	0.4	1.7	2.6
+ 8	0.0	1.4	2.5	1.9	2.0	2.1	3.6	0.3	0.7	1.1	1.3	1.7	1.4	3.1	0.8	0.0	0.3	1.1	1.5	0.9	2.8
+ 9	0.2	1.8	2.9	2.3	2.2	2.2	3.6	0.4	1.4	1.6	1.7	1.8	1.5	3.2	0.8	1.8	1.9	1.3	1.3	3.1	2.7
+10	0.8	1.8	3.0	2.5	2.3	2.8	3.7	0.8	1.5	1.8	1.8	2.0	2.3	3.2	1.8	1.7	1.7	1.7	1.6	2.8	2.7
+11	1.0	1.6	2.6	2.2	2.2	2.8	3.7	0.8	1.4	1.7	1.7	2.2	2.4	3.2	0.8	1.1	1.3	1.9	2.6	2.7	2.6
+12	1.2	1.4	2.6	2.2	1.9	2.3	3.8	0.9	1.4	1.9	1.6	1.7	1.8	3.1	1.1	1.7	1.9	1.4	1.2	1.2	2.6
Max.	5.8	7.7	5.0	3.4	2.9	2.9	3.8	5.2	8.1	5.3	3.8	3.0	2.6	3.2	4.9	11.0	7.9	5.7	4.1	2.9	2.8

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

SLOSH Estimated Feet of Storm Surge Anticipated at Each Hour

	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass (Channel)	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass (Channel)	South Matagorda	Nueces Bay #1	Padre #1	Padre #3	Padre #5	PS300P2200	Aransas Pass (Channel)	South Matagorda	Nueces Bay #1
Movement Speed	5 MPH							10 MPH							20 MPH						
Direction, Windspeed	300° over 155 MPH							300° over 155 MPH							300° over 155 MPH						
-24	2.2	2.1	2.1	2.0	2.0	1.9	1.6														
-23	2.3	2.2	2.1	2.1	2.0	1.9	1.7														
-22	2.4	2.2	2.2	2.1	2.1	2.0	1.7														
-21	2.4	2.3	2.2	2.2	2.1	2.0	1.7														
-20	2.5	2.4	2.3	2.2	2.2	2.0	1.7														
-19	2.6	2.5	2.3	2.3	2.2	2.1	1.8														
-18	2.7	2.6	2.4	2.4	2.3	2.1	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.5							
-17	2.8	2.7	2.6	2.5	2.4	2.2	1.8	1.7	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-16	3.0	2.9	2.7	2.6	2.6	2.3	1.9	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.6	1.5	1.5
-15	3.1	3.1	2.9	2.8	2.7	2.3	1.9	1.8	1.8	1.7	1.8	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	3.3	3.2	3.0	2.8	2.7	2.4	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	3.3	3.3	3.1	2.9	2.8	2.4	2.0	1.9	1.9	1.8	1.8	1.8	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	3.4	3.3	3.2	2.9	2.9	2.4	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.6	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-11	3.4	3.4	3.2	3.0	2.9	2.5	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.6	1.7	1.7	1.6	1.7	1.6	1.6	1.5
-10	3.3	3.3	3.2	3.1	3.0	2.5	2.2	2.2	2.1	2.1	2.1	2.1	2.0	1.6	1.7	1.7	1.7	1.7	1.7	1.6	1.5
-9	3.3	3.4	3.4	3.3	3.1	2.6	2.3	2.2	2.3	2.2	2.2	2.2	2.1	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-8	3.1	3.4	3.5	3.5	3.4	2.7	2.4	2.4	2.5	2.4	2.4	2.3	2.2	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.6
-7	2.9	3.3	3.7	3.9	3.7	2.8	2.5	2.6	2.8	2.7	2.7	2.6	2.4	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.6
-6	2.6	3.2	4.1	4.3	4.0	2.8	2.6	2.8	3.1	3.0	3.0	2.9	2.6	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.6
-5	2.2	2.9	4.5	5.0	4.4	2.9	2.7	2.8	3.2	3.3	3.2	3.1	2.8	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.6
-4	1.8	2.3	4.8	5.8	4.8	3.0	2.9	2.7	3.2	3.4	3.5	3.4	2.9	2.0	2.0	2.1	2.1	2.1	2.1	2.1	1.7
-3	1.3	1.5	5.0	6.9	5.2	3.0	3.3	2.5	3.2	3.9	4.3	4.0	3.0	2.2	2.1	2.4	2.4	2.4	2.4	2.4	1.8
-2	0.8	0.5	5.0	7.9	5.6	3.1	3.3	2.2	2.8	4.8	5.8	4.9	3.3	2.4	2.3	3.1	3.3	3.4	3.3	2.9	1.9
-1	0.3	-0.5	4.8	8.6	5.7	3.0	3.6	1.8	1.5	5.4	7.9	6.0	3.5	2.8	2.1	3.2	4.9	5.5	4.9	3.6	2.2
0	-0.1	-1.1	4.1	9.0	5.6	2.9	4.0	1.3	-0.2	4.9	9.7	6.5	3.6	3.1	1.4	0.7	6.9	10.7	7.1	4.1	2.4
+1	-0.1	-0.4	2.7	7.3	4.9	2.6	4.3	1.0	0.5	2.6	7.0	5.2	3.0	3.3	1.0	0.8	2.1	4.7	6.0	3.9	1.9
+2	0.3	0.1	1.9	4.9	3.3	2.1	5.2	1.8	1.4	2.2	3.1	2.4	1.7	5.1	2.3	2.3	2.1	2.4	0.5	2.0	6.0
+3	-0.2	0.0	1.6	4.0	3.1	1.4	7.7	1.4	1.1	1.9	3.0	2.5	0.9	7.6	1.8	1.4	1.8	1.8	1.5	-1.0	6.0
+4	-0.4	0.0	1.5	3.3	2.8	2.5	9.0	0.7	0.7	1.4	2.2	2.3	2.6	7.5	0.9	1.2	1.6	2.1	2.3	3.7	5.7
+5	0.0	0.5	1.7	2.7	2.7	2.0	9.4	1.0	1.1	1.5	1.8	1.9	1.6	7.8	1.6	1.5	1.6	1.8	2.2	1.5	5.6
+6	0.1	0.9	2.1	2.7	2.4	2.1	9.9	1.2	1.4	1.8	1.9	1.6	1.5	7.2	2.2	2.5	2.5	1.8	1.0	1.3	5.2
+7	0.3	0.6	1.5	2.0	2.4	2.3	9.5	0.9	0.9	1.1	1.4	1.8	1.9	6.5	1.4	0.7	0.5	1.0	1.6	2.1	4.9
+8	-0.1	0.7	1.7	2.1	2.1	1.8	9.0	0.5	0.8	1.3	1.5	1.5	1.1	6.0	0.6	1.2	1.7	1.7	1.8	0.1	4.7
+9	0.3	1.0	1.7	1.8	1.8	2.0	8.4	1.0	1.1	1.1	1.0	1.0	1.4	5.6	2.0	1.5	1.1	0.8	0.1	0.8	4.5
+10	0.4	1.2	1.9	2.1	2.3	2.6	7.9	0.8	1.1	1.4	1.5	1.9	2.3	5.3	1.5	1.4	1.2	1.5	2.0	2.7	4.4
+11	0.4	1.2	2.1	2.3	2.4	2.4	7.5	0.6	1.1	1.7	1.9	2.1	1.9	5.1	0.4	1.0	1.9	2.2	2.4	1.8	4.2
+12	0.9	1.5	1.9	1.9	1.8	2.2	7.1	1.2	1.5	1.5	1.3	1.3	1.6	5.0	1.9	2.0	1.6	1.2	1.1	1.2	4.1
Max.	3.6	3.4	5.1	9.1	5.7	3.2	9.9	2.8	3.3	5.5	9.8	6.5	3.6	7.8	2.6	3.0	7.0	11.1	7.5	4.1	6.3

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES LEFT OF PORT ARANSAS

Hours Plus or Minus Time of Landfall / Estimated Feet of Storm Surge Anticipated at Each Hour

Movement Speed	5 MPH						
Direction, Windspeed	270°			over 155 MPH			
	Padre #1	Padre #3	Padre #5	PS38W2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	2.0	2.0	2.0	2.0	2.0	2.0	1.5
-23	2.1	2.1	2.0	2.0	2.0	2.1	1.5
-22	2.1	2.1	2.1	2.1	2.1	2.1	1.5
-21	2.2	2.1	2.1	2.1	2.1	2.2	1.5
-20	2.2	2.2	2.2	2.2	2.3	2.3	1.5
-19	2.3	2.3	2.3	2.4	2.4	2.5	1.5
-18	2.4	2.5	2.5	2.5	2.6	2.7	1.6
-17	2.5	2.6	2.6	2.7	2.8	2.8	1.6
-16	2.6	2.8	2.8	2.8	3.0	3.0	1.6
-15	2.8	2.9	2.9	3.0	3.2	3.2	1.6
-14	2.9	3.1	3.1	3.2	3.4	3.4	1.6
-13	3.0	3.2	3.2	3.3	3.5	3.5	1.7
-12	3.1	3.3	3.3	3.3	3.7	3.6	1.7
-11	3.2	3.3	3.3	3.4	3.8	3.7	1.8
-10	3.2	3.3	3.3	3.5	4.0	3.8	1.8
- 9	3.3	3.2	3.3	3.7	4.3	3.9	1.9
- 8	3.2	3.1	3.3	3.8	4.6	4.0	2.0
- 7	3.0	2.8	3.2	4.1	5.0	3.9	2.1
- 6	2.8	2.5	3.1	4.6	5.5	3.9	2.2
- 5	2.5	2.1	3.0	5.2	6.1	3.8	2.3
- 4	2.2	1.6	2.9	6.1	6.5	3.7	2.4
- 3	1.7	0.9	2.6	7.2	6.8	3.5	2.6
- 2	1.2	0.1	2.3	8.3	6.8	3.2	2.7
- 1	0.7	-0.8	2.6	9.3	6.5	2.9	2.9
0	0.2	-1.4	3.6	9.4	6.0	2.7	3.4
+ 1	0.1	-0.8	3.2	7.4	4.9	2.2	3.5
+ 2	0.4	-0.4	2.6	5.1	3.2	1.7	4.6
+ 3	-0.3	-0.6	2.1	4.1	2.7	1.0	6.2
+ 4	-0.6	-0.5	1.8	3.4	2.6	2.0	7.2
+ 5	-0.3	0.1	1.9	3.0	2.4	1.8	7.6
+ 6	-0.3	0.5	2.3	2.9	2.4	1.9	7.7
+ 7	-0.5	0.3	1.6	2.3	2.3	2.2	7.8
+ 8	-0.7	0.3	1.8	2.2	2.1	1.7	2.7
+ 9	-0.3	0.6	1.7	2.1	1.9	1.9	7.5
+10	-0.3	1.0	2.1	2.5	2.5	2.6	7.2
+11	-0.3	1.1	2.3	2.7	2.7	2.4	6.9
+12	0.2	1.4	2.3	2.3	2.1	2.3	6.7
Max.	3.4	3.3	3.6	9.5	6.9	4.0	7.8

Movement Speed	10 MPH						
Direction, Windspeed	270°			over 155 MPH			
	Padre #1	Padre #3	Padre #5	PS38W2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24							
-23							
-22							
-21							
-20	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-19	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-18	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-17	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-16	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-15	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-14	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-13	1.7	1.7	1.7	1.7	1.7	1.7	1.5
-12	1.7	1.7	1.7	1.7	1.7	1.8	1.5
-11	1.8	1.8	1.8	1.8	1.8	1.9	1.5
-10	1.8	1.9	1.9	1.9	2.0	2.1	1.5
- 9	1.9	2.0	2.0	2.0	2.1	2.3	1.5
- 8	2.0	2.1	2.2	2.2	2.3	2 6	1.5
- 7	2.1	2.3	2.4	2.5	2.7	3.1	1.6
- 6	2.3	2.6	2.7	2.9	3.2	3.7	1.6
- 5	2.4	2.7	2.9	3.1	3.7	4.0	1.7
- 4	2.4	2.6	3.0	3.5	4.4	4.3	1.8
- 3	2.3	2.5	3.0	4.3	5.4	4.5	1.9
- 2	2.1	2.2	3.3	6.0	6.8	4.7	2.2
- 1	1.9	1.4	3.4	8.5	7.7	4.6	2.4
0	1.4	0.0	5.0	10.3	7.5	4.1	2.6
+ 1	1.1	1.0	4.5	7.7	5.7	3.1	2.4
+ 2	2.2	2.0	3.7	5.0	3.3	1.8	3.9
+ 3	1.7	1.7	3.0	3.8	2.9	1.1	6.3
+ 4	1.0	1.3	2.2	3.1	2.7	2.2	6.7
+ 5	1.5	1.6	2.0	2.4	2.1	1.3	6.6
+ 6	1.6	1.8	2.3	2.6	2.0	1.3	6.4
+ 7	1.3	1.3	1.5	1.9	2.0	1.6	6.3
+ 8	0.9	1.1	1.5	1.7	1.5	0.9	6.1
+ 9	1.3	1.1	1.2	1.3	1.2	1.1	5.8
+10	1.0	1.2	1.5	1.7	1.8	2.0	5.5
+11	0.8	1.1	1.6	1.9	2.1	1.7	5.3
+12	1.2	1.4	1.4	1.3	1.3	1.5	5.2
Max.	2.4	2.7	5.1	10.4	7.8	4.7	6.7

Movement Speed	20 MPH						
Direction, Windspeed	270°			over 155 MPH			
	Padre #1	Padre #3	Padre #5	PS38W2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24							
-23							
-22							
-21							
-20							
-19							
-18							
-17	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-16	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-15	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-14	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-13	1.6	1.6	1.6	1.5	1.6	1.5	1.5
-12	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	1.6	1.5	1.6	1.6	1.6	1.6	1.5
- 9	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 8	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 7	1.7	1.7	1.7	1.6	1.6	1.6	1.5
- 6	1.7	1.7	1.7	1.7	1.7	1.7	1.5
- 5	1.7	1.7	1.7	1.7	1.7	1.8	1.6
- 4	1.7	1.7	1.7	1.7	1.8	2.1	1.6
- 3	1.7	1.8	1.9	2.0	2.3	3.0	1.7
- 2	1.8	2.2	2.4	3.0	3.9	4.4	1.9
- 1	1.8	2.2	3.2	5.7	6.6	5.1	2.2
0	1.4	0.8	5.7	10.7	8.0	4.9	2.5
+ 1	0.8	1.6	4.2	6.1	5.7	3.9	1.6
+ 2	2.5	2.7	2.9	2.9	1.4	2.0	2.3
+ 3	1.6	1.6	2.3	2.6	2.3	0.5	3.4
+ 4	1.0	1.7	2.3	3.0	3.0	3.5	3.7
+ 5	2.2	2.2	2.1	2.6	2.5	1.7	3.8
+ 6	2.2	2.6	2.9	2.6	1.8	1.4	3.9
+ 7	1.7	1.2	1.0	1.6	2.1	1.7	3.9
+ 8	1.0	1.4	1.9	1.9	1.6	0.7	3.8
+ 9	2.2	1.8	1.4	1.2	0.9	0.7	3.8
+10	1.7	1.9	1.9	2.0	2.0	2.5	3.7
+11	1.0	1.2	1.9	2.3	2.4	1.6	3.7
+12	2.0	2.0	1.6	1.1	0.9	1.1	3.6
Max.	3.3	2.9	6.2	10.9	8.0	5.1	3.9

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

Movement Speed: 5 MPH — Direction, Windspeed: 300°, over 155 MPH

Hour	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-23	1.7	1.6	1.6	1.6	1.6	1.6	1.5
-22	1.7	1.7	1.7	1.7	1.7	1.7	1.6
-21	1.7	1.8	1.7	1.7	1.8	1.8	1.6
-20	1.9	2.0	1.9	1.9	1.9	1.9	1.6
-19	2.0	2.1	2.1	2.1	2.1	2.1	1.6
-18	2.2	2.3	2.3	2.3	2.3	2.2	1.6
-17	2.3	2.5	2.4	2.4	2.4	2.3	1.6
-16	2.5	2.6	2.6	2.6	2.5	2.4	1.7
-15	2.7	2.8	2.8	2.7	2.7	2.5	1.7
-14	2.9	3.1	3.0	3.0	2.9	2.6	1.7
-13	3.1	3.2	3.1	3.0	2.9	2.7	1.8
-12	3.2	3.2	3.1	3.0	3.0	2.7	1.8
-11	3.2	3.2	3.1	3.1	3.0	2.7	1.9
-10	3.2	3.2	3.1	3.2	3.2	2.8	2.0
-9	3.2	3.1	3.2	3.4	3.4	2.9	2.0
-8	3.1	3.1	3.2	3.6	3.7	3.1	2.1
-7	2.9	2.9	3.2	3.8	4.0	3.1	2.2
-6	2.6	2.6	3.2	4.2	4.5	3.2	2.3
-5	2.3	2.2	3.1	4.7	5.1	3.4	2.5
-4	1.9	1.7	2.9	5.5	5.9	3.5	2.6
-3	1.5	1.0	2.2	6.3	6.6	3.6	2.8
-2	1.0	0.2	1.0	7.2	7.3	3.6	3.0
-1	0.6	-0.6	-0.4	8.0	7.6	3.6	3.3
0	0.2	-1.1	-1.0	8.1	7.5	3.4	3.7
+1	0.1	-0.7	-0.2	6.0	6.1	3.0	4.1
+2	0.3	0.1	-0.3	4.6	4.5	2.2	8.8
+3	0.2	-0.3	0.3	3.4	3.7	1.8	11.2
+4	-0.5	-0.4	0.4	2.8	3.2	2.4	11.8
+5	-0.1	0.0	0.8	2.4	2.7	2.0	12.1
+6	0.0	0.6	1.4	2.4	2.5	2.1	11.2
+7	-0.1	0.2	1.0	2.3	2.5	2.4	10.1
+8	-0.3	0.5	1.3	2.0	2.1	1.8	9.5
+9	0.1	0.6	1.2	1.7	1.8	1.9	8.9
+10	0.1	0.8	1.5	2.0	2.2	2.5	8.3
+11	0.1	1.0	1.8	2.2	2.3	2.3	7.8
+12	0.6	1.3	1.7	1.9	1.9	2.2	7.4
Max.	3.3	3.2	3.4	8.5	7.7	3.8	12.2

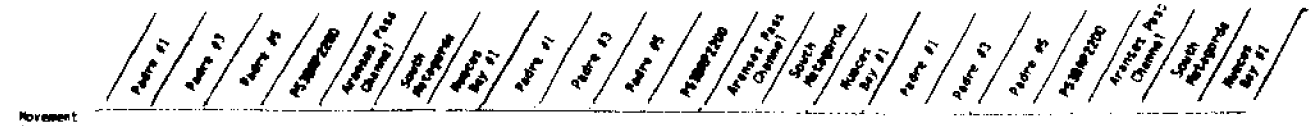
Movement Speed: 10 MPH — Direction, Windspeed: 300°, over 155 MPH

Hour	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24							
-23							
-22							
-21							
-20							
-19							
-18							
-17	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-16	1.7	1.6	1.6	1.6	1.6	1.6	1.6
-15	1.7	1.7	1.7	1.7	1.7	1.7	1.6
-14	1.8	1.8	1.7	1.8	1.7	1.8	1.6
-13	1.8	1.8	1.8	1.8	1.8	1.8	1.6
-12	1.9	1.9	1.9	1.9	1.8	1.8	1.6
-11	2.0	2.0	1.9	1.9	1.9	1.9	1.6
-10	2.0	2.1	2.0	2.0	2.0	2.0	1.6
-9	2.1	2.2	2.2	2.1	2.1	2.1	1.7
-8	2.3	2.3	2.3	2.3	2.3	2.3	1.7
-7	2.4	2.6	2.6	2.6	2.6	2.5	1.7
-6	2.6	2.9	2.9	2.9	2.9	2.7	1.8
-5	2.6	2.9	3.0	3.1	3.1	3.0	1.9
-4	2.6	2.8	3.0	3.4	3.6	3.2	2.0
-3	2.4	2.6	3.2	4.0	4.4	3.5	2.2
-2	2.2	2.1	3.2	5.5	5.8	3.9	2.4
-1	1.9	1.1	1.9	7.4	7.6	4.2	2.9
0	1.5	-0.1	-0.3	9.1	8.4	4.3	3.4
+1	1.1	0.3	0.8	5.3	6.0	3.5	3.5
+2	1.7	1.5	1.6	3.9	3.5	1.7	10.1
+3	1.7	1.1	1.4	2.9	2.9	1.5	9.9
+4	0.8	0.6	1.1	2.3	2.6	2.3	10.3
+5	1.0	0.8	1.1	1.8	1.9	1.5	8.8
+6	1.2	1.3	1.5	1.7	1.5	1.5	7.6
+7	0.9	0.7	1.0	1.8	2.0	1.8	6.8
+8	0.5	0.9	1.3	3.5	1.5	1.1	6.4
+9	1.0	0.8	0.8	1.0	1.0	1.3	6.1
+10	0.6	0.9	1.2	1.5	1.7	2.1	5.7
+11	0.5	1.1	1.6	1.8	2.0	1.7	5.4
+12	1.2	1.4	1.5	1.4	1.3	1.5	5.2
Max.	2.7	3.0	3.3	9.1	8.5	4.4	10.6

Movement Speed: 20 MPH — Direction, Windspeed: 300°, over 155 MPH

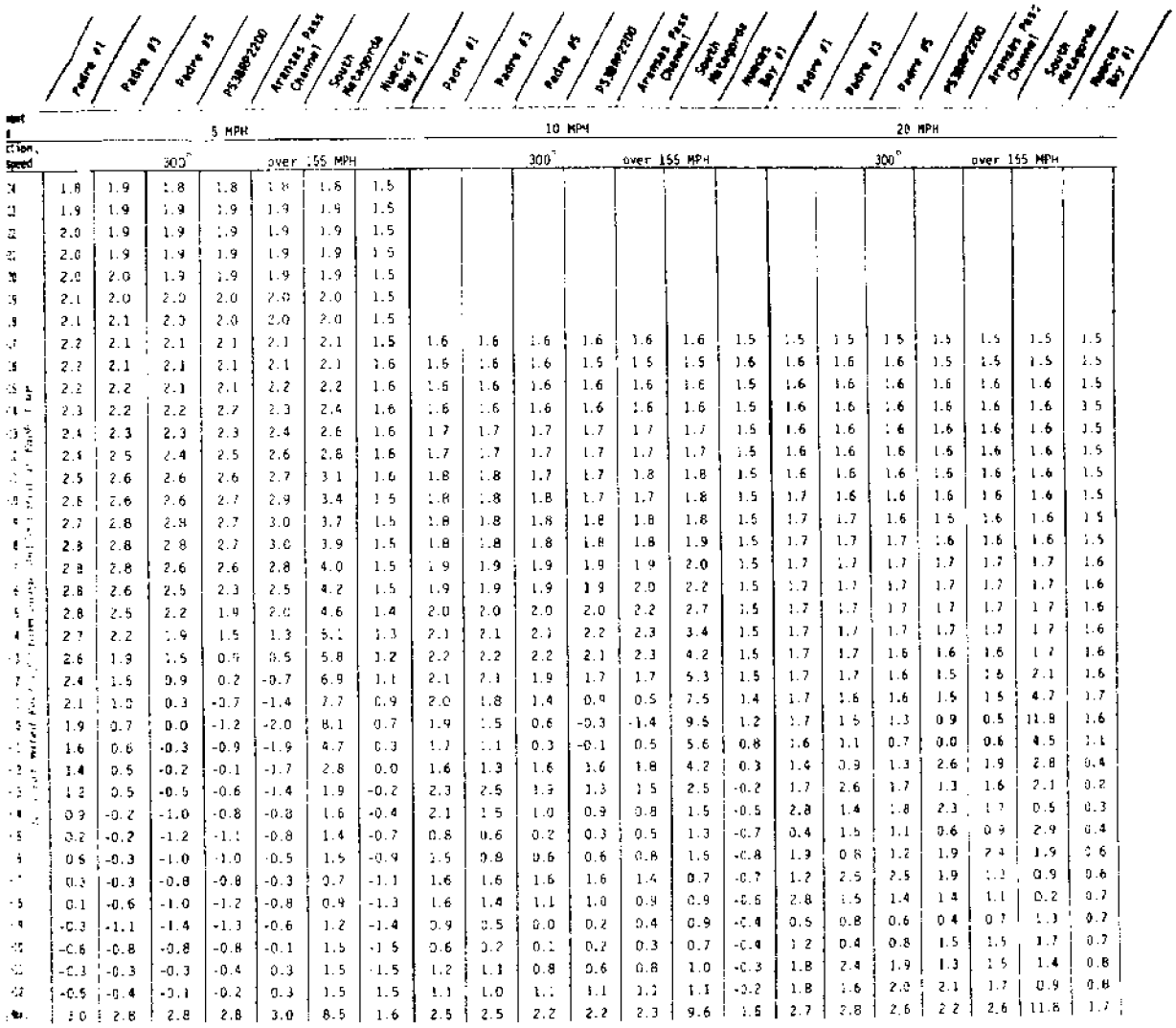
Hour	Padre #1	Padre #3	Padre #5	PS38WP2200	Aransas Pass Channel	South Matagorda	Nueces Bay #1
-24							
-23							
-22							
-21							
-20							
-19							
-18							
-17	1.6	1.5	1.5	1.5	1.5	1.5	1.5
-16	1.6	1.6	1.6	1.5	1.5	1.5	1.5
-15	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-14	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-13	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-12	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	1.7	1.7	1.6	1.6	1.6	1.6	1.5
-10	1.7	1.7	1.7	1.7	1.7	1.6	1.5
-9	1.7	1.7	1.7	1.7	1.7	1.7	1.6
-8	1.8	1.7	1.7	1.7	1.7	1.7	1.6
-7	1.8	1.8	1.8	1.8	1.8	1.8	1.6
-6	1.9	1.9	1.6	1.8	1.8	1.8	1.6
-5	1.9	1.9	1.9	1.9	1.9	1.9	1.6
-4	2.0	2.0	2.0	2.0	2.1	2.1	1.7
-3	2.0	2.2	2.3	2.3	2.5	2.4	1.8
-2	2.2	2.6	2.9	3.2	3.4	3.2	2.0
-1	2.0	2.4	3.4	5.1	2.4	4.2	2.4
0	1.5	0.7	1.1	10.5	9.2	4.9	3.2
+1	1.1	0.1	1.3	4.0	6.2	4.6	2.0
+2	1.8	2.3	2.2	3.0	1.7	1.0	9.0
+3	2.3	1.6	1.5	1.7	1.6	0.5	6.3
+4	1.1	1.2	1.6	2.3	2.5	2.9	7.2
+5	1.5	1.4	1.5	2.1	2.2	1.3	5.9
+6	2.2	2.5	2.2	1.3	1.0	1.4	5.3
+7	1.5	0.7	0.8	1.7	2.0	2.0	5.0
+8	0.2	1.4	1.7	1.7	1.5	0.4	4.8
+9	2.2	1.4	1.0	0.6	0.2	0.7	4.6
+10	1.4	1.1	1.2	1.6	2.0	2.6	4.5
+11	0.5	1.3	1.9	2.2	2.4	1.9	4.1
+12	2.1	1.9	1.6	1.3	1.1	0.9	4.2
Max.	2.8	2.7	3.4	10.5	9.5	5.0	9.2

HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 20 MILES LEFT OF PORT ARANSAS

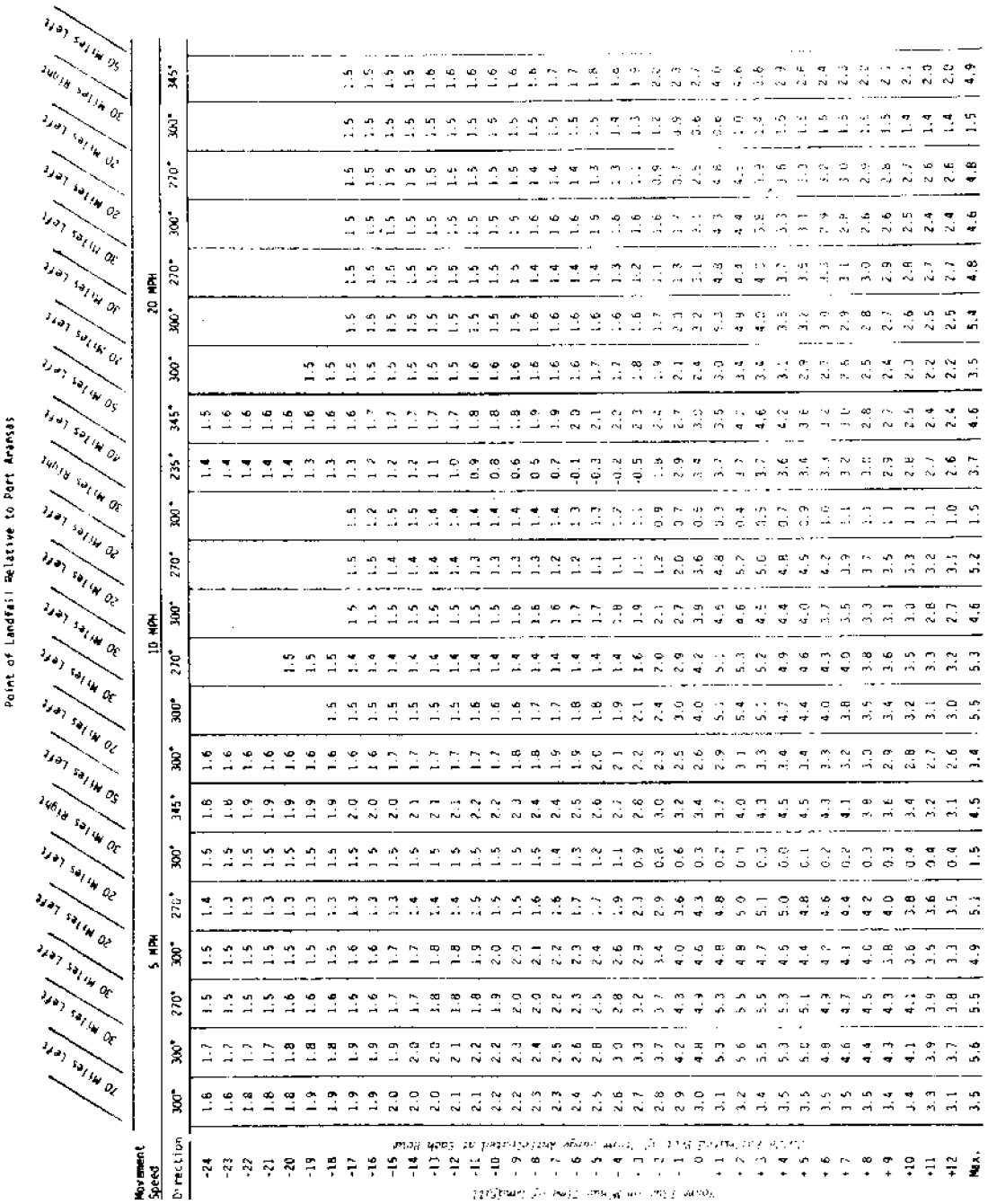


Movement Speed	5 MPH							10 MPH							20 MPH							
Direction,			270°		over 155 MPH					270°		over 155 MPH					270°		over 155 MPH			
Windspeed																						
-24	1.5	1.5	1.5	1.5	1.5	1.5	1.6															
-23	1.5	1.5	1.4	1.4	1.4	1.4	1.6															
-22	1.6	1.5	1.5	1.4	1.5	1.5	1.5															
-21	1.6	1.6	1.6	1.6	1.7	1.8	1.5															
-20	1.7	1.8	1.8	1.9	1.9	2.1	1.5															
-19	1.8	1.9	1.9	1.9	2.0	2.2	1.5															
-18	1.8	1.9	2.0	2.0	2.1	2.3	1.5															
-17	1.9	2.0	2.1	2.1	2.2	2.6	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-16	2.1	2.3	2.4	2.5	2.6	3.0	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-15	2.3	2.6	2.7	2.8	3.0	3.4	1.5	1.6	1.5	1.5	1.5	1.5	1.4	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-14	2.5	2.8	2.9	3.0	3.3	3.7	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5
-13	2.6	2.9	2.9	3.1	3.4	3.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
-12	2.7	2.9	3.0	3.1	3.5	4.0	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-11	2.9	3.0	3.1	3.8	3.7	4.3	1.5	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
-10	3.0	3.1	3.2	3.5	4.0	4.5	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.5	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5
- 9	3.1	3.1	3.2	3.5	4.2	4.7	1.6	1.7	1.8	1.7	1.7	1.8	2.0	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 8	3.1	2.9	3.0	3.4	4.5	4.8	1.7	1.8	1.9	1.9	1.9	2.0	2.4	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5
- 7	2.9	2.7	2.7	3.3	4.9	4.9	1.7	1.9	2.1	2.2	2.3	2.5	3.1	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
- 6	2.8	2.4	2.5	3.4	5.6	5.0	1.8	2.1	2.3	2.5	2.6	3.0	3.8	1.5	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.5
- 5	2.6	2.1	2.2	3.6	6.5	5.0	1.9	2.2	2.5	2.5	2.7	3.4	4.3	1.6	1.7	1.7	1.6	1.6	1.6	1.7	1.7	1.5
- 4	2.4	1.6	1.7	3.8	7.5	4.8	1.9	2.2	2.3	2.4	2.8	4.0	4.9	1.7	1.7	1.7	1.6	1.6	1.6	1.8	1.8	1.6
- 3	1.9	0.9	0.9	4.1	8.2	4.5	2.1	2.1	2.1	2.3	3.2	5.3	5.5	1.8	1.7	1.7	1.6	1.6	1.9	2.7	2.7	1.6
- 2	1.5	0.1	-0.2	5.1	8.7	4.1	2.1	2.1	1.8	2.0	4.0	7.5	5.8	2.1	1.7	1.8	2.0	2.3	3.3	4.8	4.8	1.8
- 1	1.0	-0.7	-1.2	6.9	8.5	3.7	2.2	1.8	1.2	1.1	5.8	9.4	5.8	2.3	1.8	1.8	2.1	3.7	5.3	6.2	6.2	2.3
0	0.6	-1.2	-1.5	7.8	7.8	3.2	2.6	1.5	0.1	-0.1	8.7	9.3	5.1	2.3	1.5	0.9	0.6	9.9	9.8	5.9	5.9	2.8
+ 1	0.4	-1.0	-0.5	6.4	6.0	2.6	3.4	1.2	0.4	1.7	6.6	6.7	3.7	2.4	0.9	0.2	2.8	5.0	6.3	4.3	4.3	1.5
+ 2	0.6	-0.4	-0.1	4.8	4.3	1.7	9.2	1.9	1.8	2.4	5.1	4.2	2.1	9.1	1.6	2.6	2.6	3.1	1.5	1.6	6.3	1.6
+ 3	0.3	-0.9	0.1	3.8	3.4	1.2	10.7	2.1	1.6	2.4	3.9	3.6	1.7	9.4	2.3	1.6	2.0	2.4	2.6	1.4	5.8	1.4
+ 4	-0.5	-1.0	0.2	3.0	3.0	1.9	11.1	1.0	1.1	1.9	3.2	3.1	2.2	9.2	0.9	1.6	2.1	3.0	3.3	3.3	5.7	3.3
+ 5	-0.3	-0.6	0.6	2.4	2.5	1.6	11.6	1.4	1.3	1.6	2.3	2.3	1.4	9.2	2.1	2.0	2.1	2.6	2.6	1.8	5.3	1.8
+ 6	-0.3	-0.1	1.1	2.4	2.4	1.8	11.0	1.5	1.7	2.0	2.3	2.0	1.2	8.2	2.2	2.7	2.6	2.3	1.8	1.6	5.1	1.6
+ 7	-0.5	-0.4	0.7	2.2	2.4	2.1	10.2	1.3	1.1	1.3	2.1	2.2	1.5	7.4	1.7	1.0	1.1	1.9	2.3	1.7	4.9	1.7
+ 8	-0.8	-0.3	0.9	2.0	2.1	1.6	9.0	0.9	1.1	1.5	1.7	1.6	1.0	7.0	0.8	1.6	1.7	1.7	1.6	1.0	4.8	1.7
+ 9	-0.5	-0.1	0.9	1.8	1.8	1.9	9.1	1.3	1.0	1.1	1.3	1.2	1.0	6.6	2.2	1.6	1.4	1.4	1.2	0.7	4.6	1.6
+10	-0.6	0.2	1.3	2.1	2.4	2.5	8.6	0.9	1.0	1.2	1.5	1.7	1.8	6.3	1.7	1.8	1.8	1.9	2.1	2.5	4.5	1.8
+11	-0.6	0.5	1.7	2.4	2.6	2.4	8.1	0.7	1.0	1.4	1.8	1.9	1.4	5.9	1.0	1.4	1.9	2.2	2.3	1.5	4.4	1.9
+12	-0.2	0.8	1.6	2.1	2.2	2.3	7.7	1.2	1.2	1.2	1.3	1.3	1.4	5.6	2.0	1.8	1.4	1.2	1.0	0.9	4.2	1.8
Max.	3.1	3.2	3.2	8.0	8.8	5.1	11.6	2.4	2.5	2.7	9.5	9.8	5.9	9.7	3.1	2.8	3.3	9.9	9.9	6.3	6.1	3.3

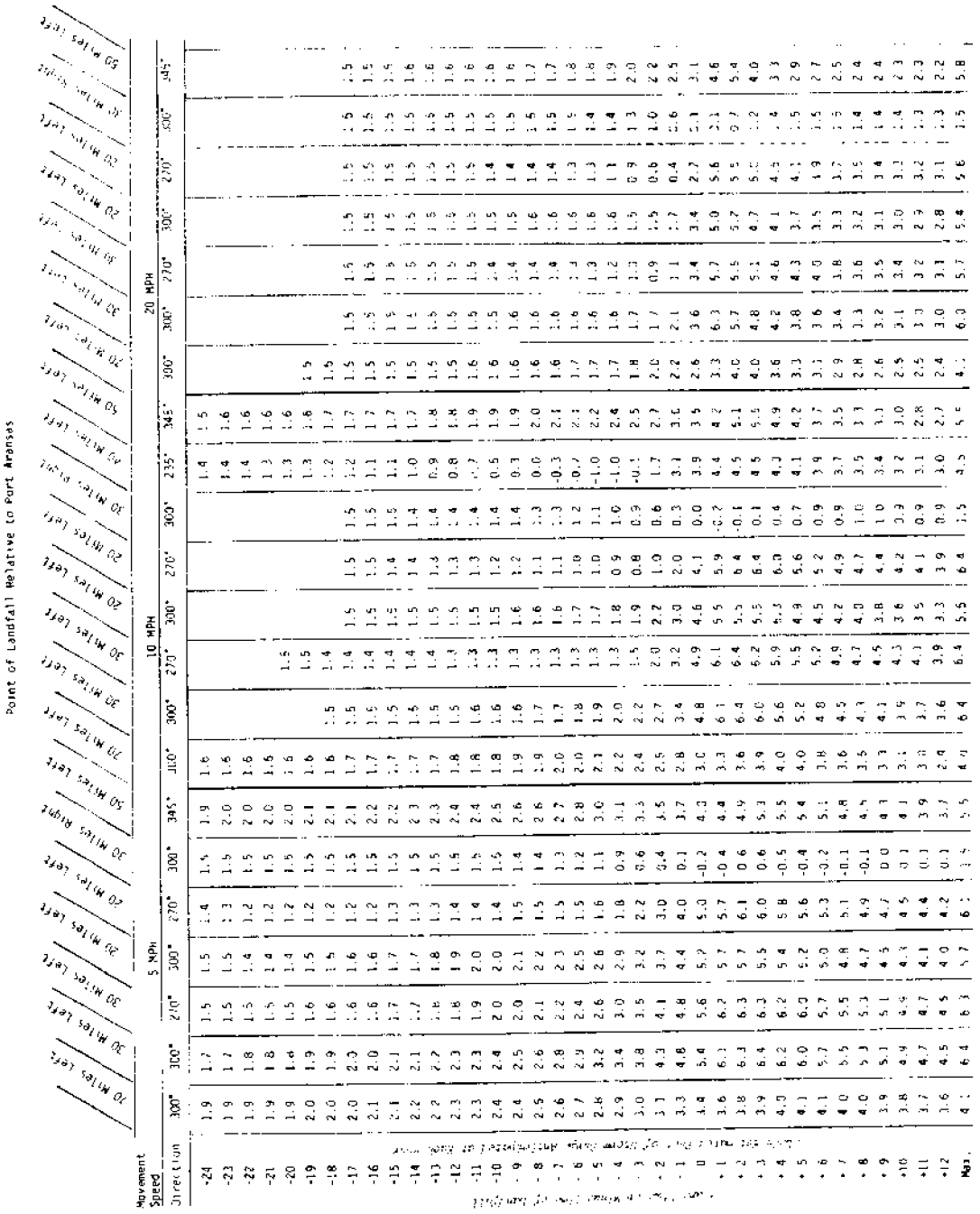
HOURLY SURGE CONDITIONS FOR HURRICANES LANDFALLING 30 MILES RIGHT OF PORT ARANSAS



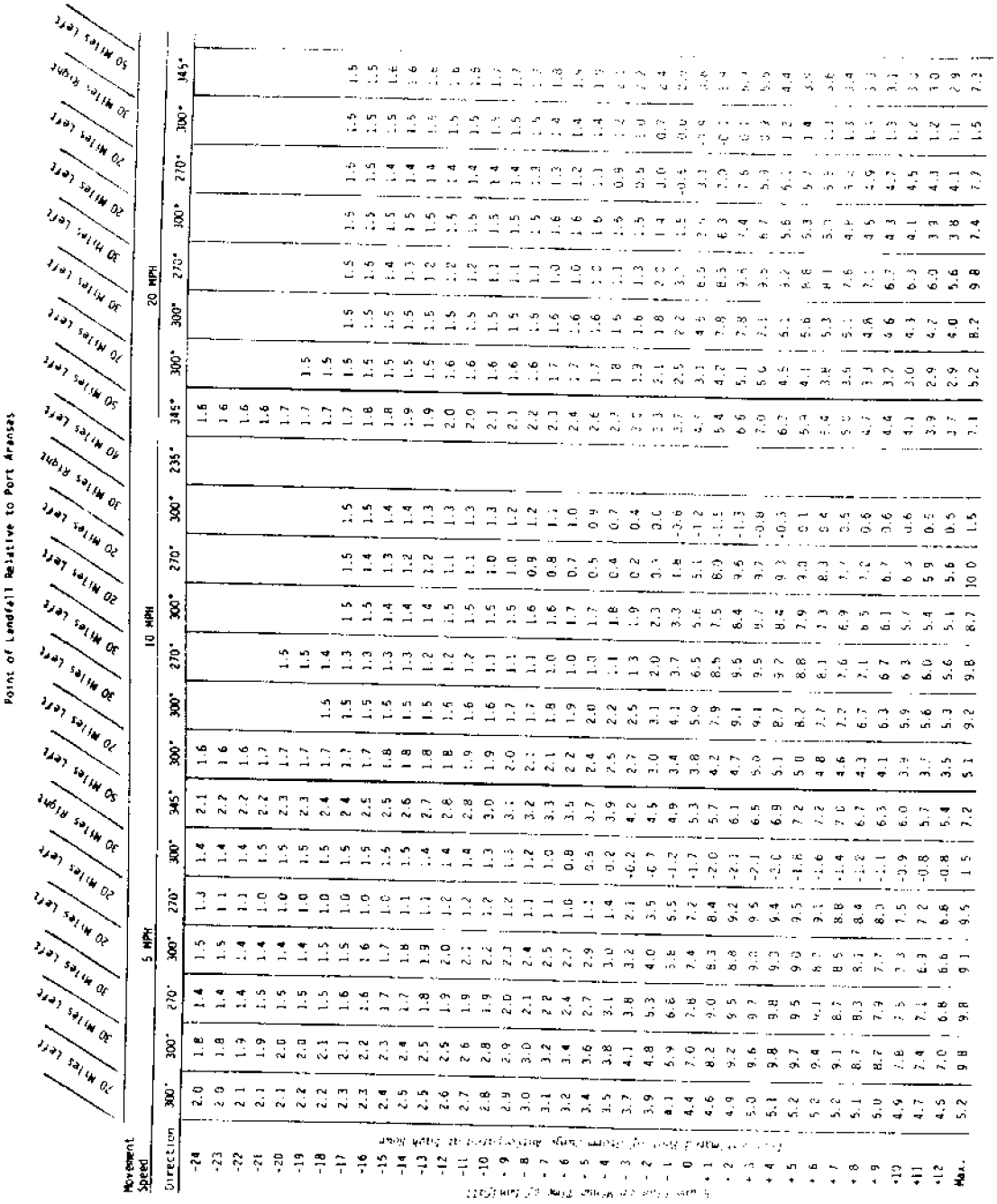
SURGE CONDITIONS FOR HURRICANES (74-95 MPH) FOR ENTRANCE TO HWY 35 CAUSEWAY



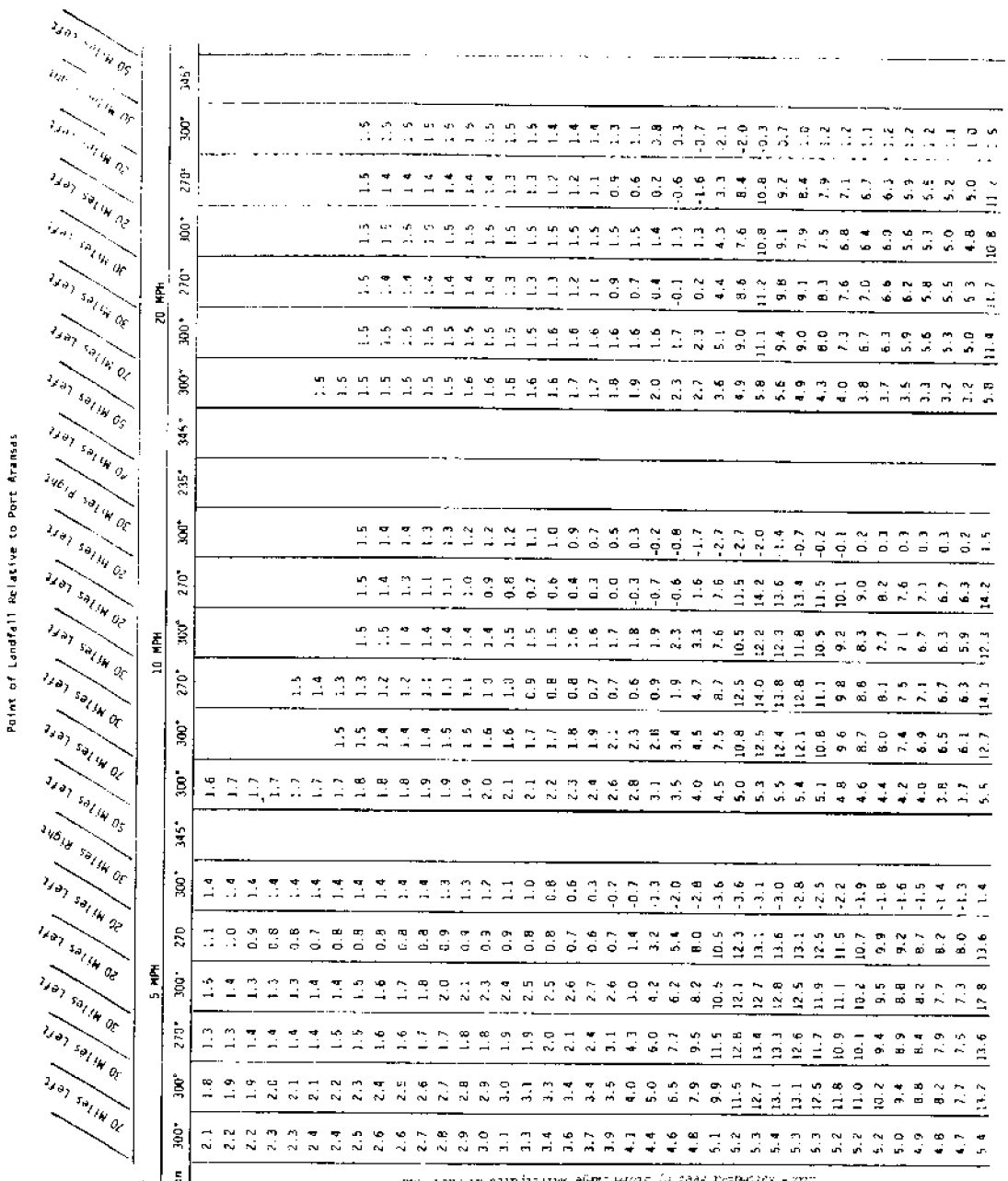
SURGE CONDITIONS FOR HURRICANES (96-110 MPH) FOR ENTRANCE TO HWY 35 CAUSEWAY



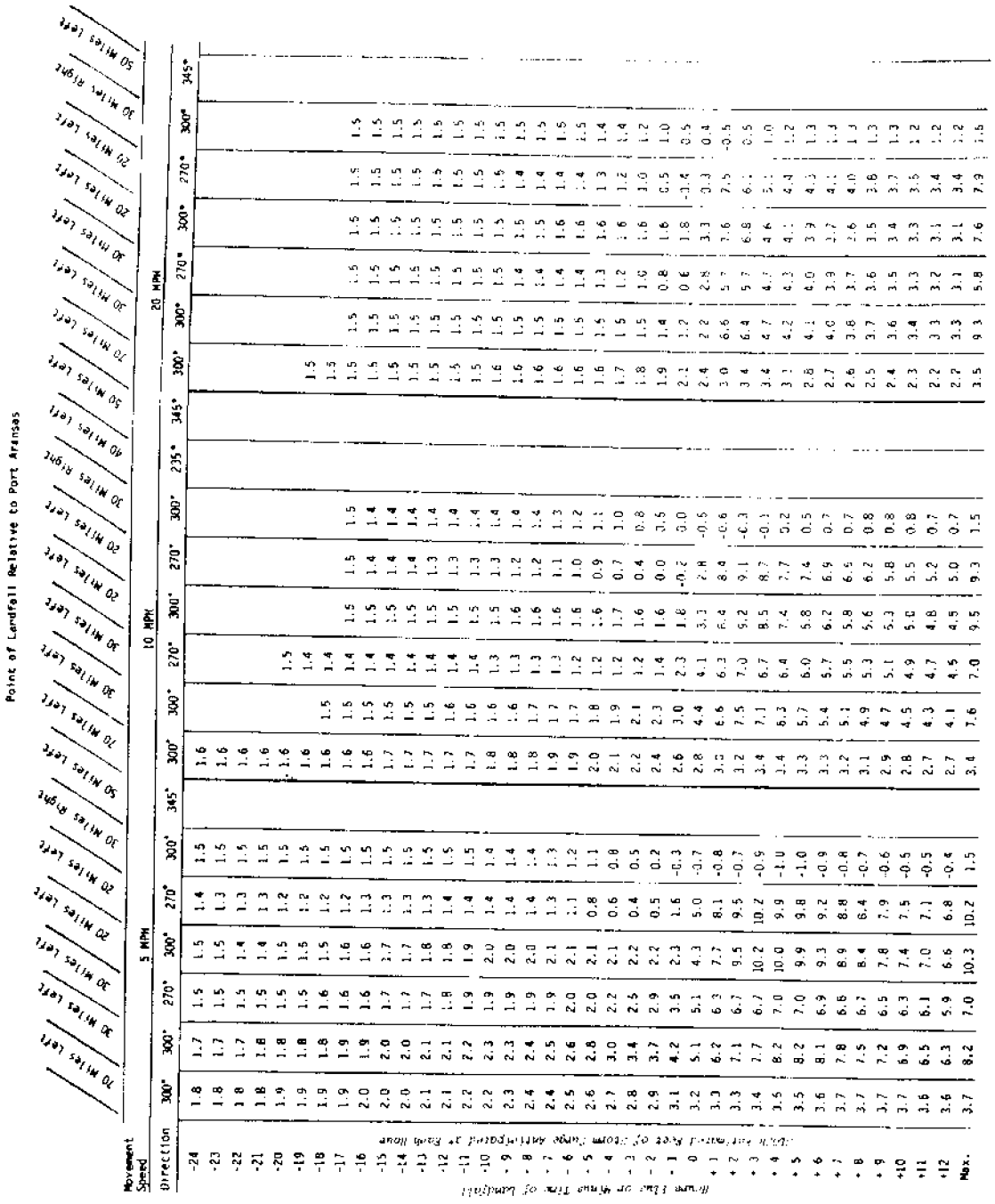
SURGE CONDITIONS FOR HURRICANES (111-130 MPH) FOR ENTRANCE TO HWY 35 CAUSEWAY



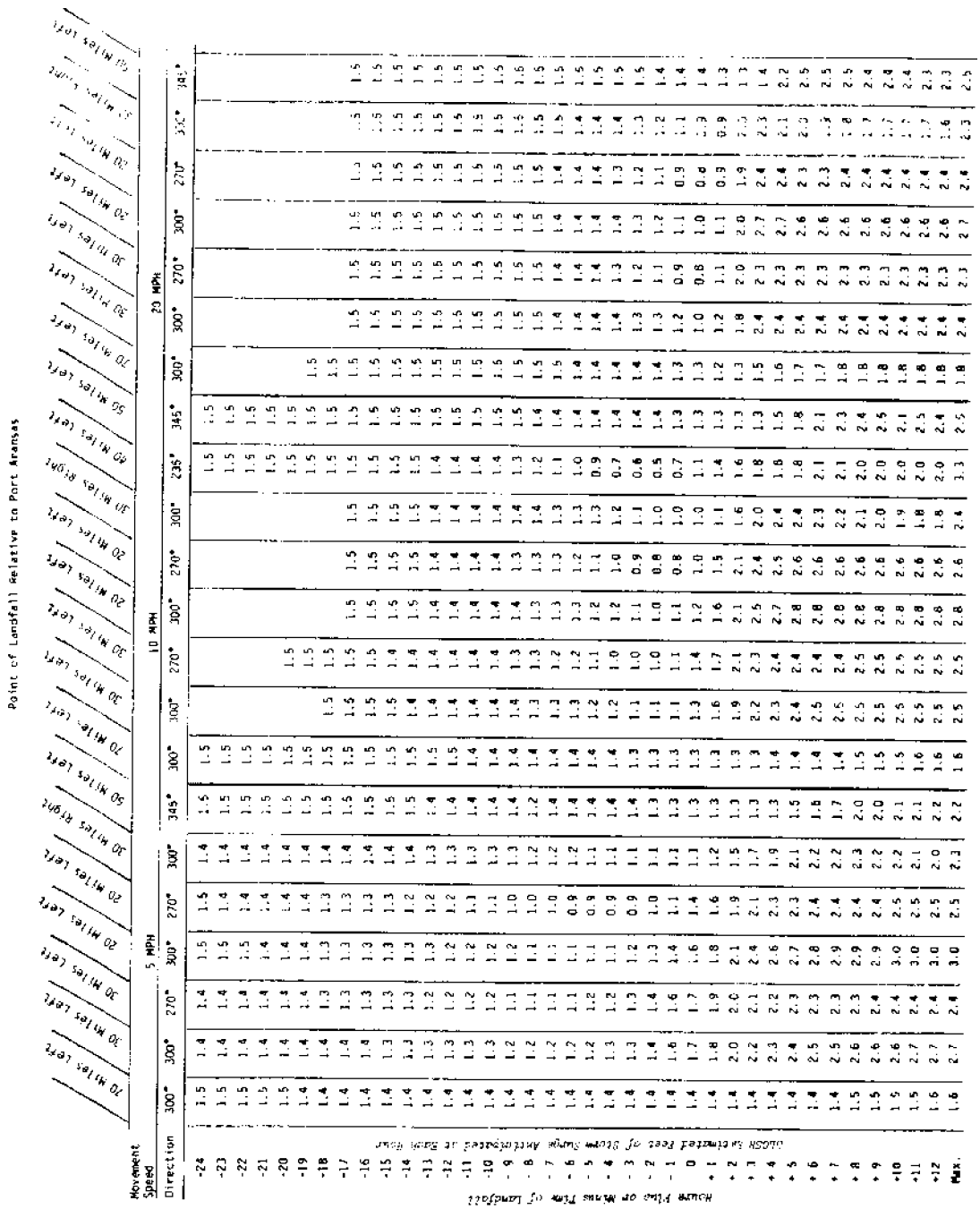
SURGE CONDITIONS FOR HURRICANES (131-155 MPH) FOR ENTRANCE TO HWY 35 CAUSEWAY



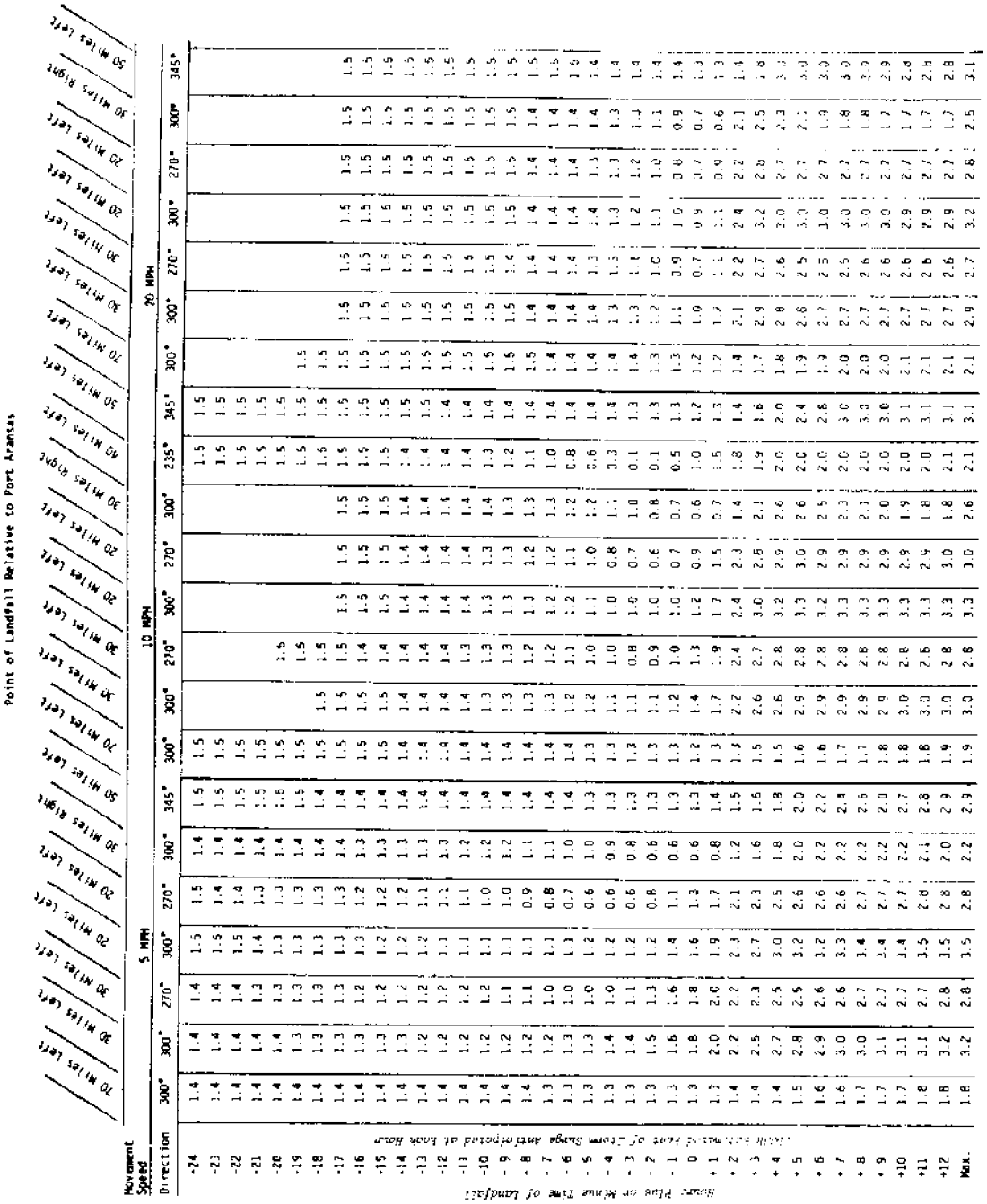
SURGE CONDITIONS FOR HURRICANES (OVER 155 MPH) FOR ENTRANCE TO HWY 35 CAUSEWAY



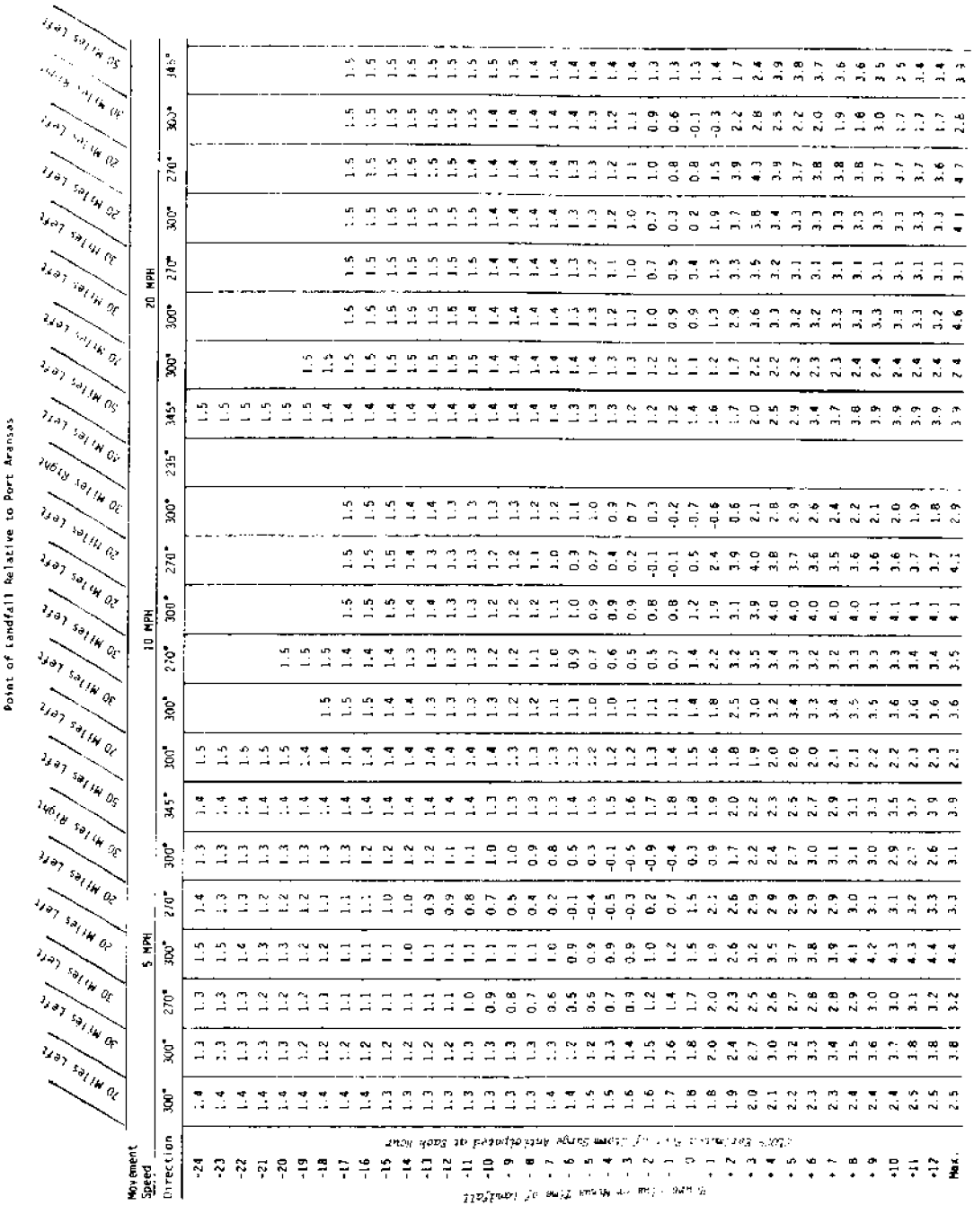
SURGE CONDITIONS FOR HURRICANES (74-95 MPH) FOR HWY 35 BRIDGE ON COPANO BAY



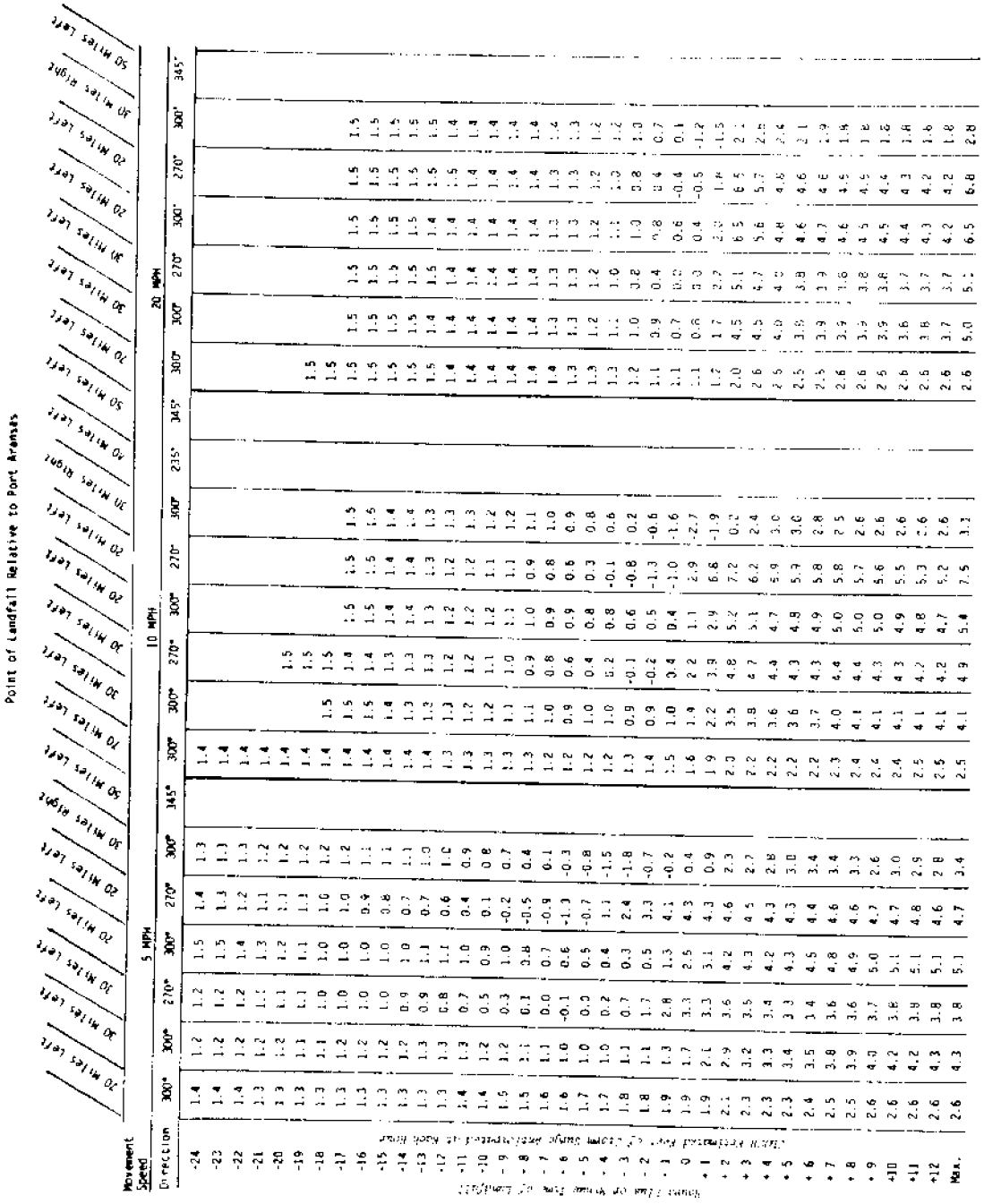
SURGE CONDITIONS FOR HURRICANES (96-110 MPH) FOR HWY 35 BRIDGE ON COPANO BAY



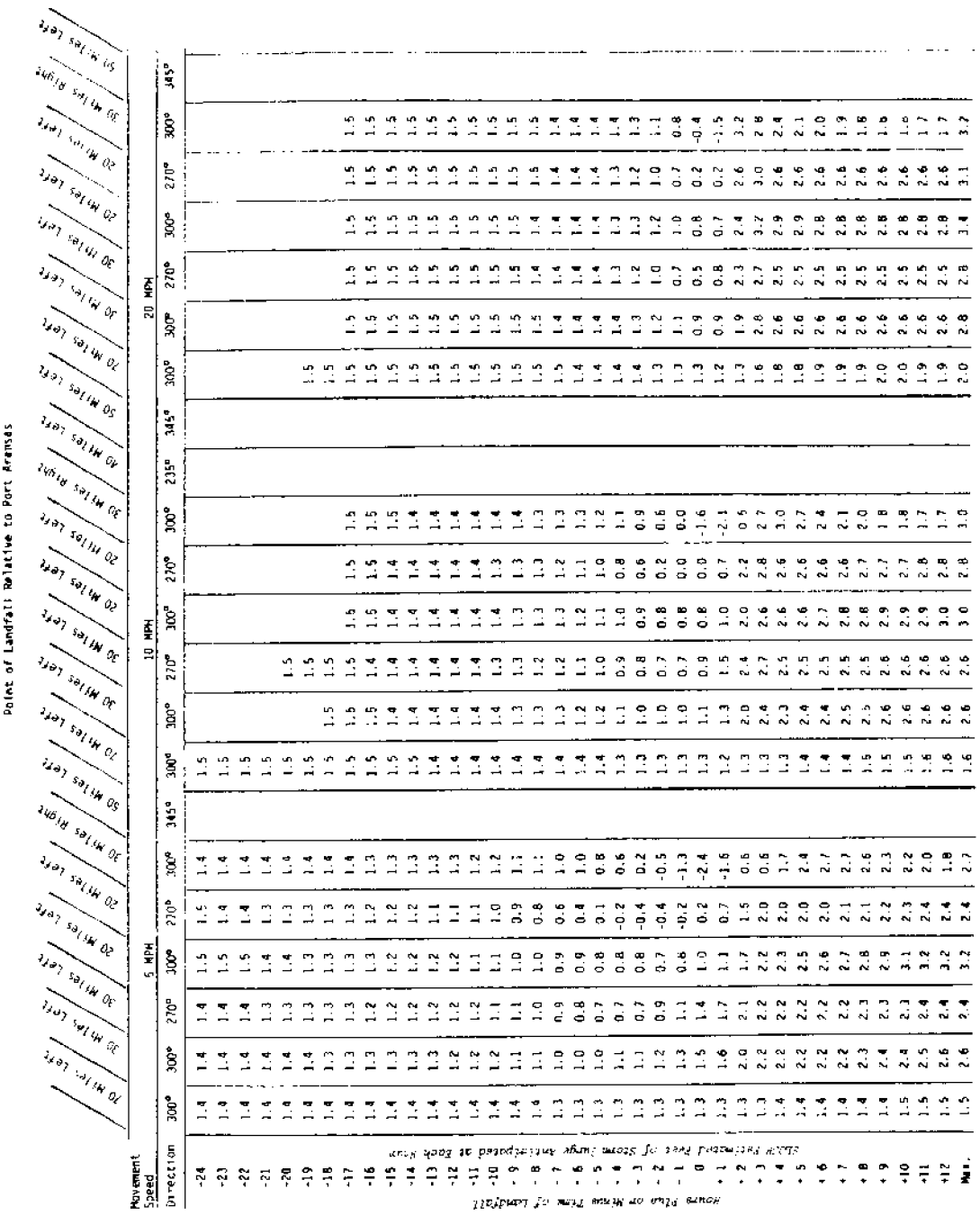
SURGE CONDITIONS FOR HURRICANES (111-130 MPH) FOR HWY 35 BRIDGE ON COPANO BAY



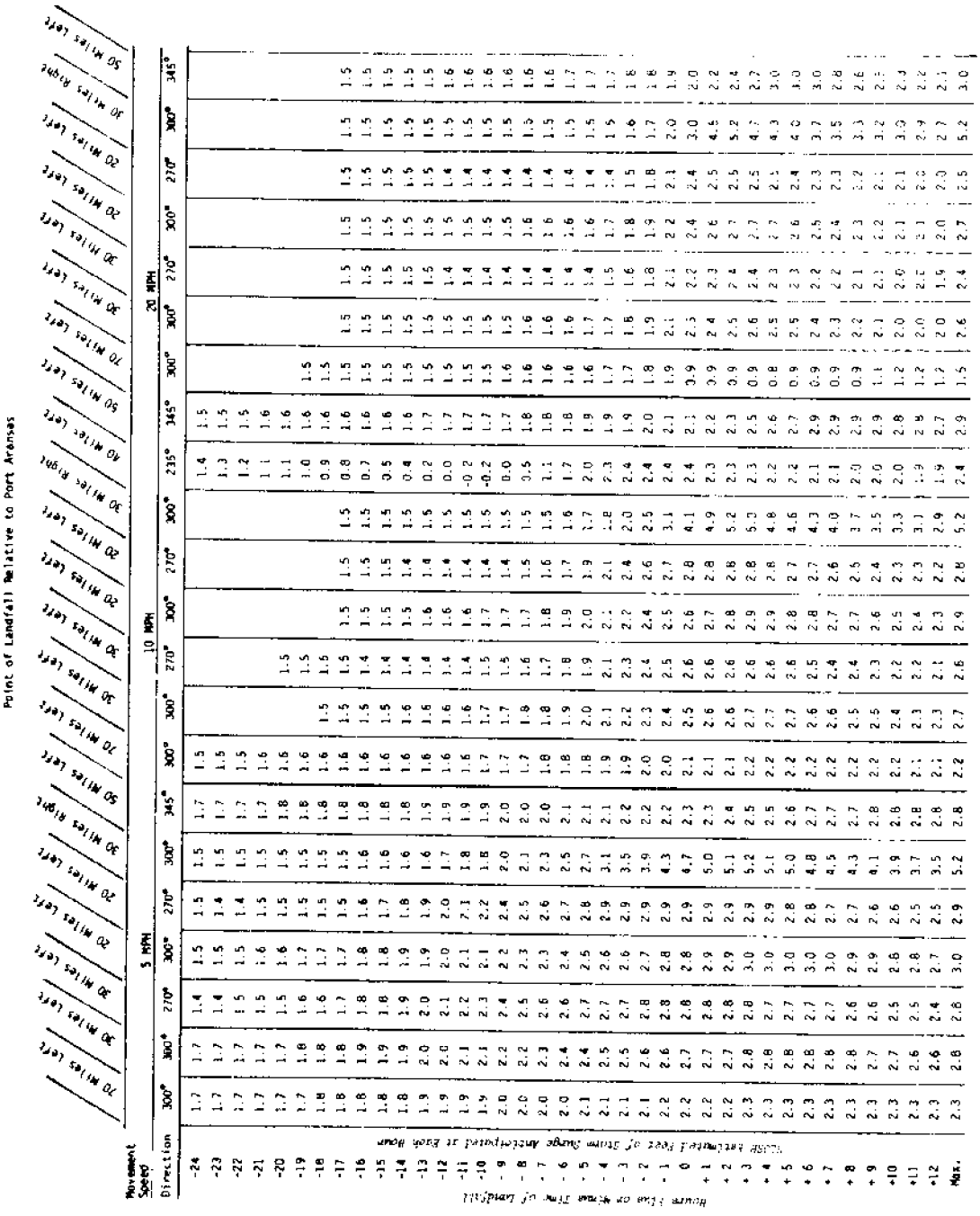
SURGE CONDITIONS FOR HURRICANES (131-155 MPH) FOR HWY 35 BRIDGE ON COPANO BAY



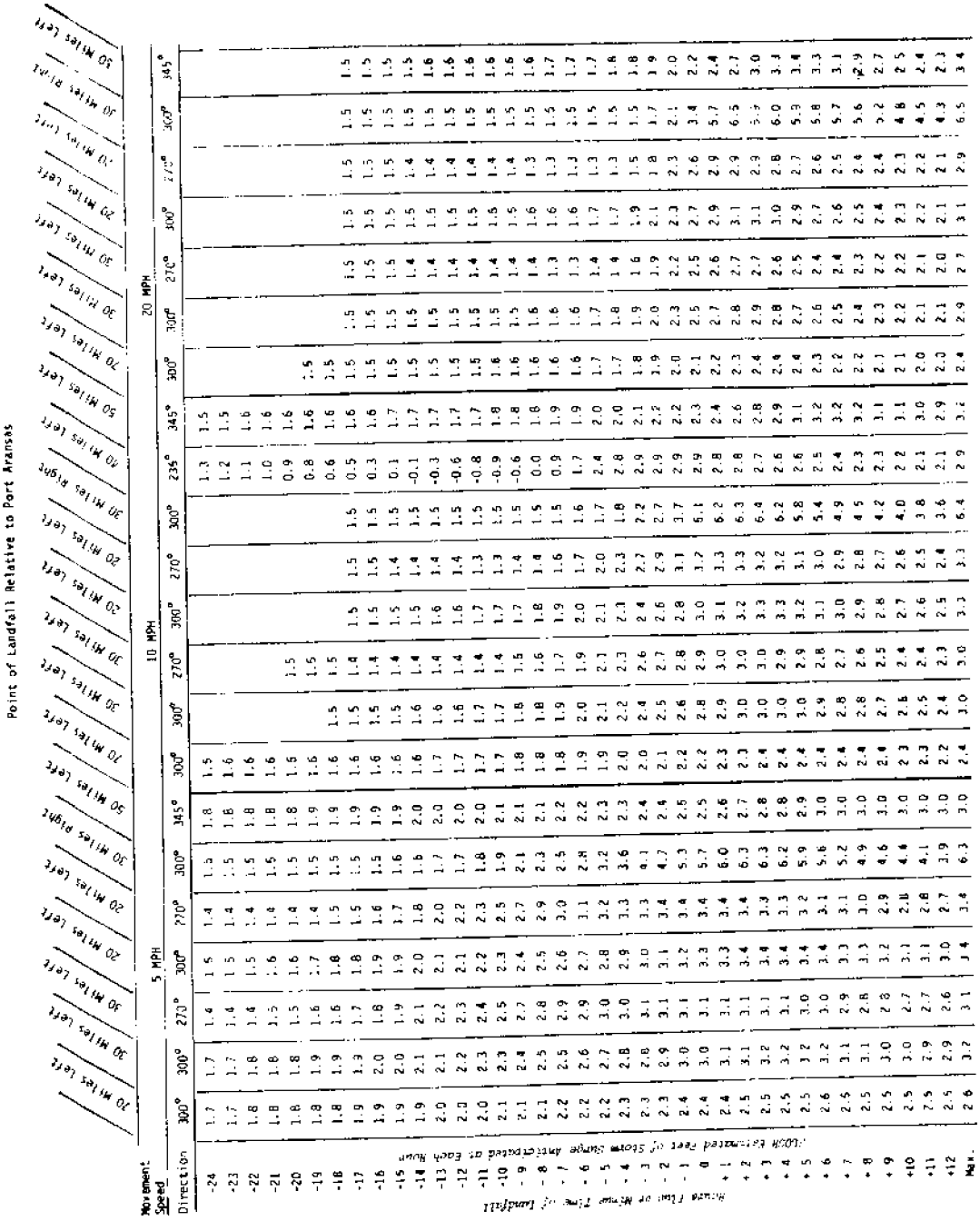
SURGE CONDITIONS FOR HURRICANES (OVER 155 MPH) FOR HWY 35 BRIDGE ON COPANO BAY



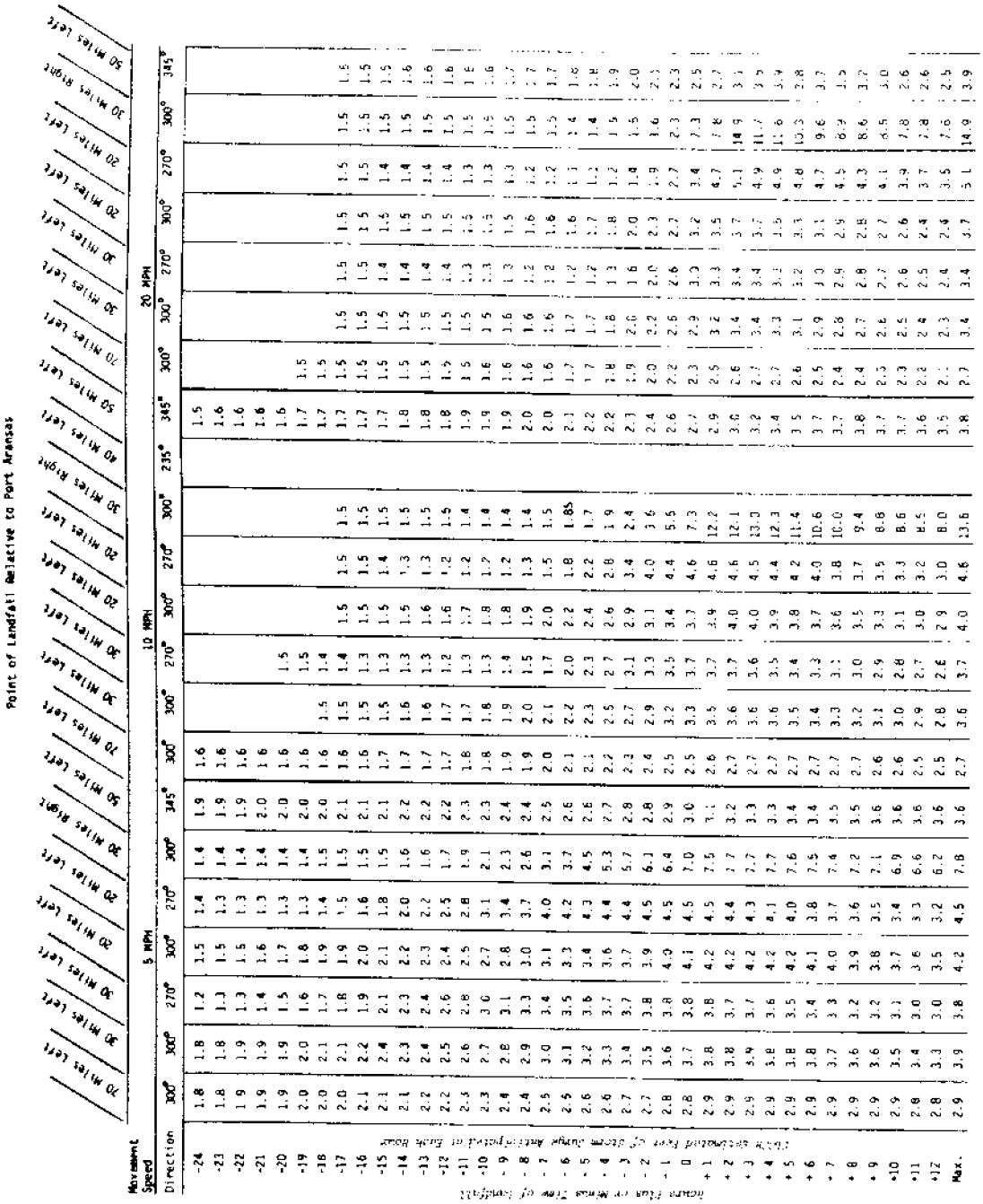
SURGE CONDITIONS FOR HURRICANES (74-95 MPH) FOR PORT LAVACA CAUSEWAY



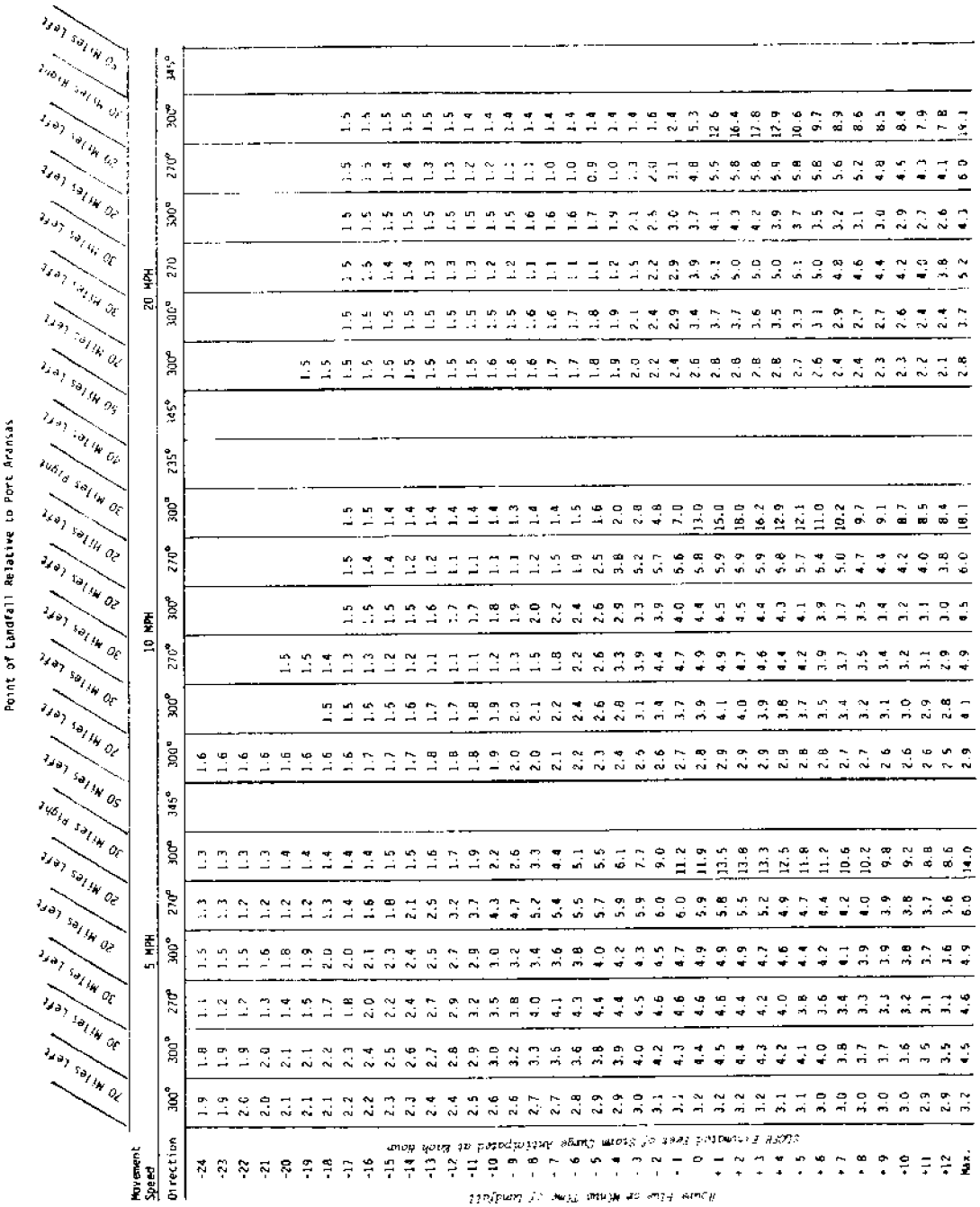
SURGE CONDITIONS FOR HURRICANES (96-110 MPH) FOR PORT LAVACA CAUSEWAY



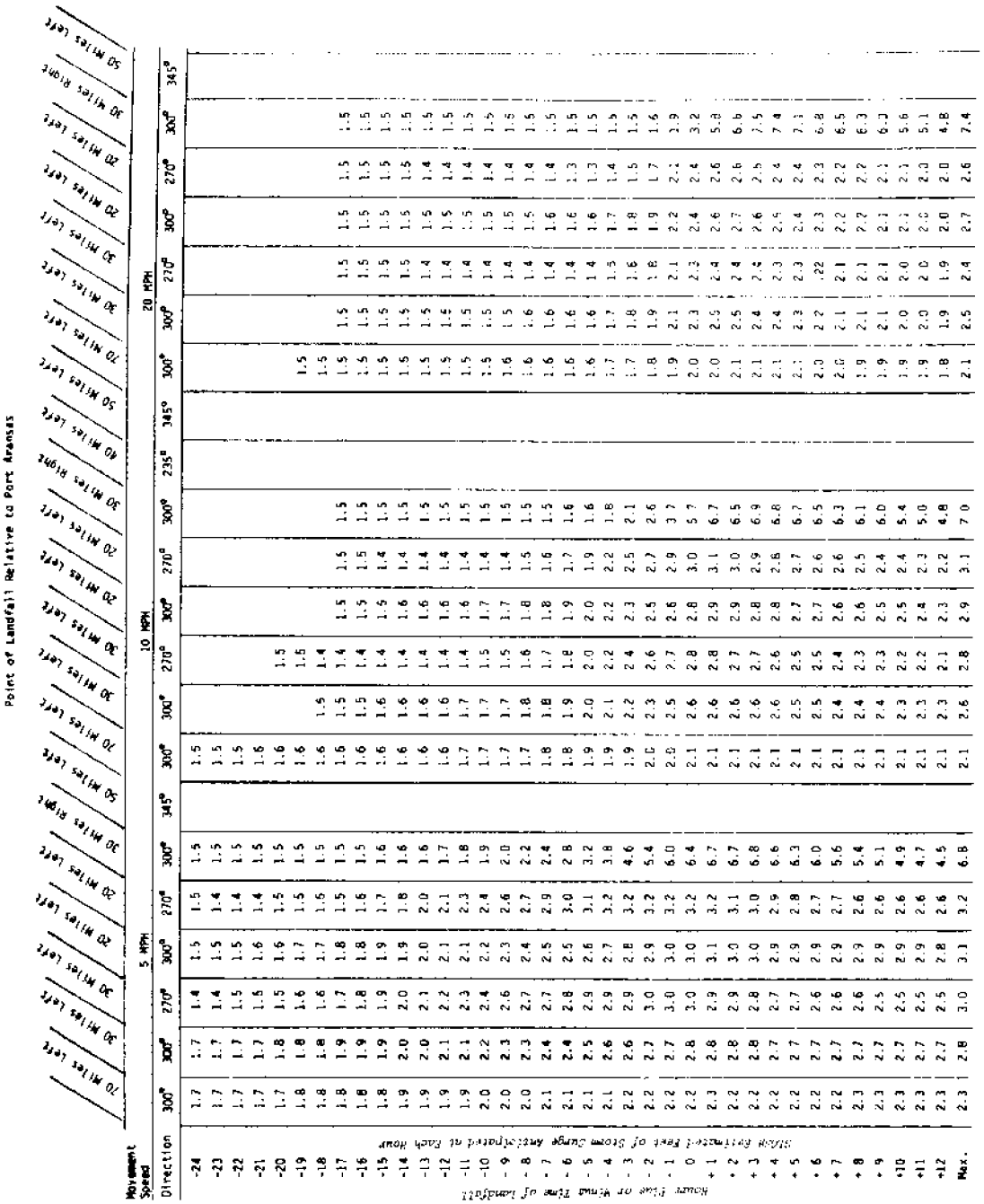
SURGE CONDITIONS FOR HURRICANES (111-130 MPH) FOR PORT LAVACA CAUSEWAY



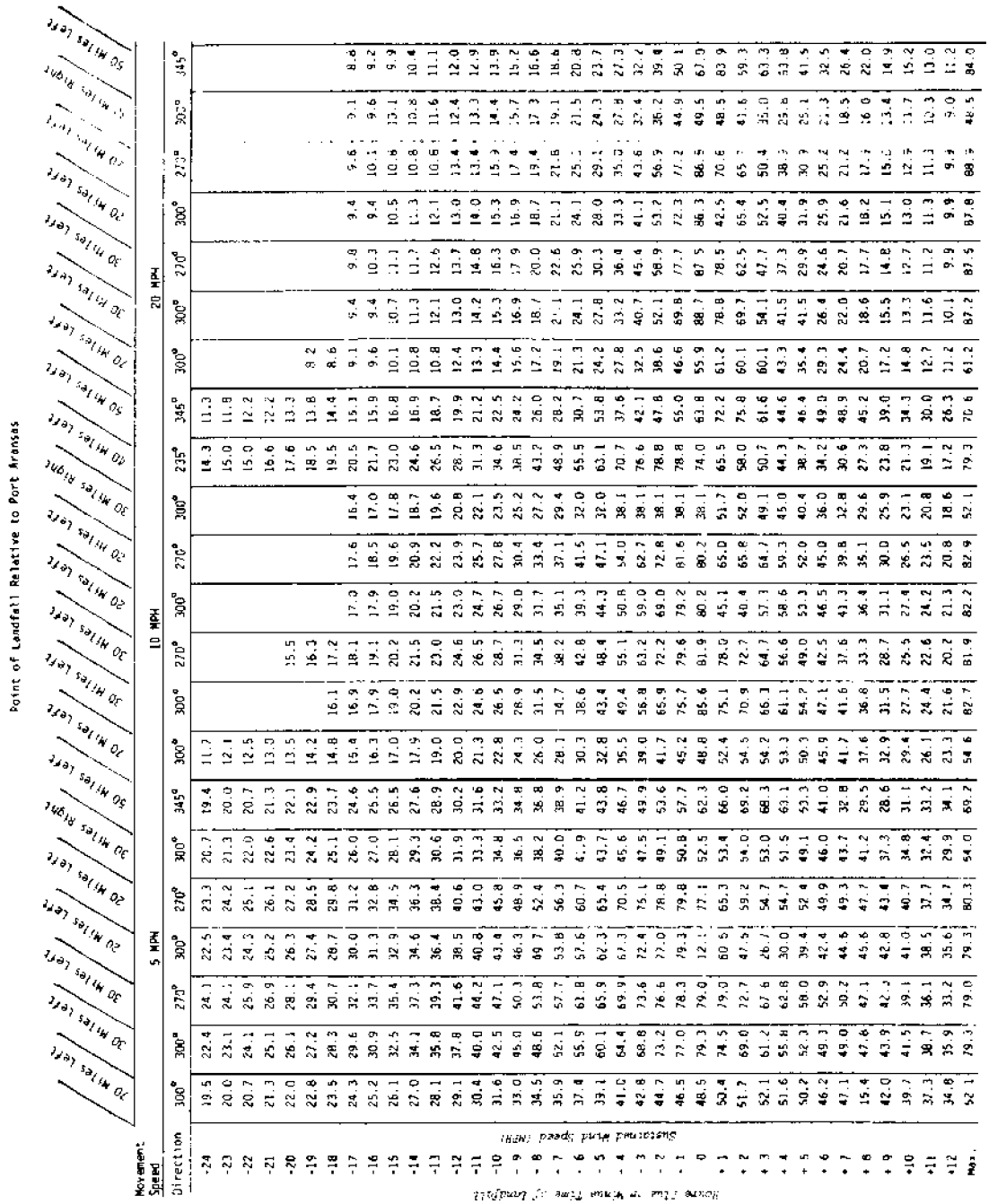
SURGE CONDITIONS FOR HURRICANES (131-155 MPH) FOR PORT LAVACA CAUSEWAY



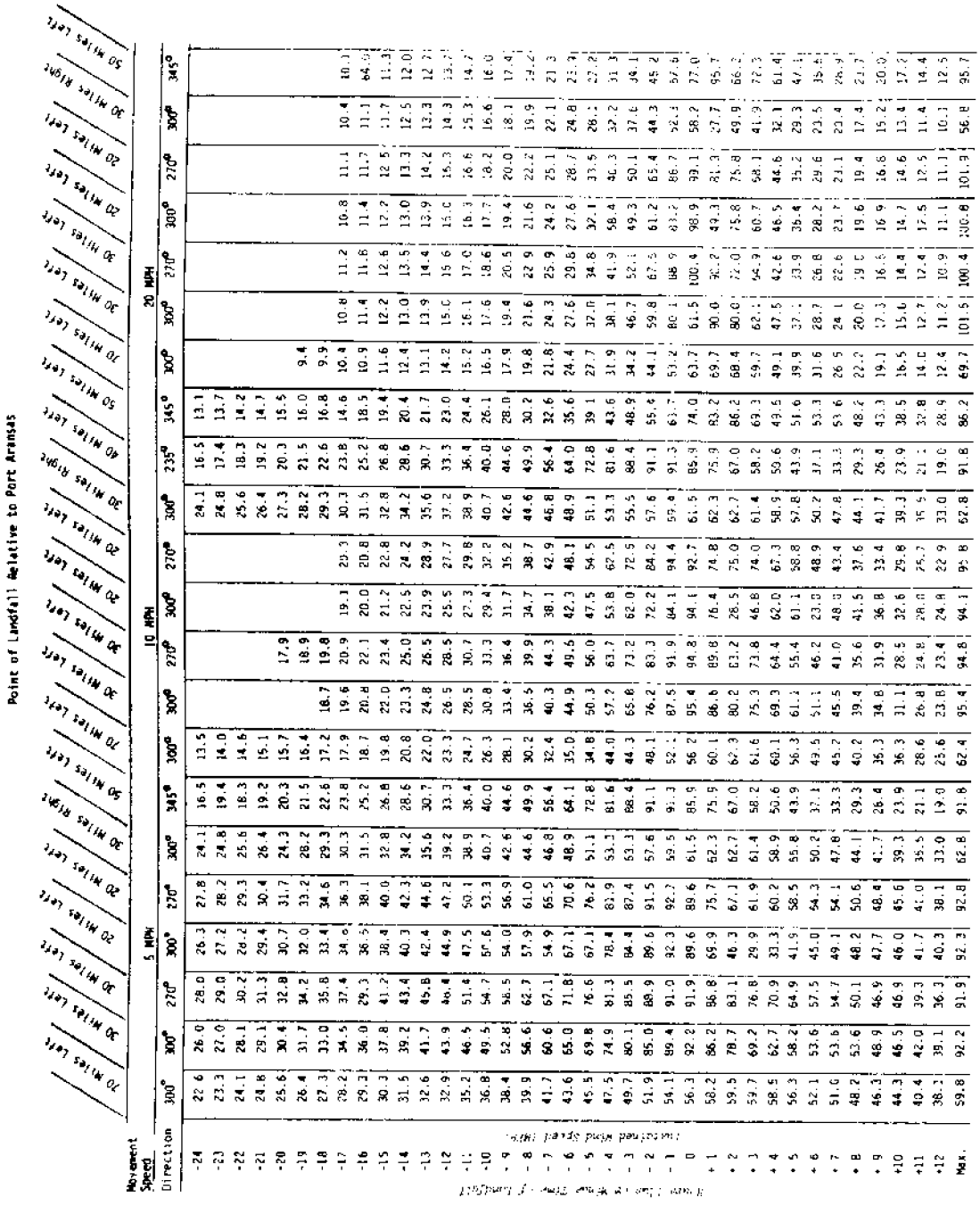
SURGE CONDITIONS FOR HURRICANES (OVER 155 MPH) FOR PORT LAVACA CAUSEWAY



HOURLY SUSTAINED WIND SPEEDS FOR HURRICANES (74-95 MPH) FOR MID CORPUS CHRISTI



HOURLY SUSTAINED WIND SPEEDS FOR HURRICANES (96-110 MPH) FOR MID CORPUS CHRISTI



Movement Speed / Direction	5 MPH 300°	5 MPH 270°	5 MPH 300°	5 MPH 345°	10 MPH 300°	10 MPH 270°	10 MPH 300°	10 MPH 345°	10 MPH 300°	10 MPH 270°	10 MPH 300°	10 MPH 345°	20 MPH 300°	20 MPH 270°	20 MPH 300°	20 MPH 345°
-24	22.6	26.0	26.3	27.8	24.1	16.5	13.5									
-23	23.3	27.0	27.2	28.2	24.8	19.4	14.0									
-22	24.1	28.1	28.2	29.3	25.6	18.3	14.6									
-21	24.8	29.1	29.4	30.4	26.4	19.2	15.1									
-20	25.6	30.4	30.7	31.7	24.3	20.3	15.7			17.9						
-19	26.4	31.7	32.0	33.2	28.2	21.5	16.4			18.9						
-18	27.3	33.0	33.4	34.6	29.3	22.6	17.2	18.7		19.8						
-17	28.2	34.5	34.6	36.3	30.3	23.8	17.9	19.6		20.9	19.1					
-16	29.3	36.0	36.5	38.1	31.5	25.2	18.7	20.8		22.1	20.0					
-15	30.3	37.8	38.4	40.0	32.8	26.8	19.8	22.0		23.4	21.2					
-14	31.5	39.2	40.3	42.3	34.2	28.6	20.8	23.3		25.0	22.5					
-13	32.6	41.7	42.4	44.6	35.6	30.7	22.0	24.8		26.5	23.9					
-12	32.9	43.9	44.9	47.2	39.2	33.3	23.3	26.5		28.5	25.5					
-11	35.2	46.5	47.5	50.1	38.9	36.4	24.7	28.5		30.7	27.3					
-10	36.8	49.5	48.5	53.3	40.7	40.0	26.3	30.8		33.3	29.4					
- 9	38.4	52.8	54.0	56.9	42.6	44.6	28.1	33.4		36.4	31.7					
- 8	39.9	56.6	57.9	61.0	44.6	49.9	30.2	36.5		39.9	34.7					
- 7	41.7	60.6	54.9	65.5	46.8	56.4	32.4	40.3		44.3	38.1					
- 6	43.6	65.0	71.8	70.6	48.9	64.1	35.0	44.9		49.6	42.3					
- 5	45.5	69.8	67.1	76.2	51.1	72.8	34.8	50.3		56.0	47.5					
- 4	47.5	74.9	78.4	81.9	53.3	81.6	44.0	57.2		63.7	53.8					
- 3	49.7	80.1	84.4	87.4	53.3	88.4	44.3	65.6		73.2	62.0					
- 2	51.9	85.5	89.6	91.5	57.6	91.1	48.1	76.2		83.3	72.2					
- 1	54.1	88.9	92.3	91.0	92.3	91.3	52.1	87.5		91.9	84.1					
0	56.3	91.0	89.6	91.9	89.6	85.9	56.2	95.4		94.8	94.1					
+ 1	58.2	91.9	89.6	86.8	69.9	75.7	62.3	86.6		89.8	76.4					
+ 2	59.5	86.8	83.1	78.7	46.3	67.1	62.7	67.0		82.3	28.5					
+ 3	59.7	69.2	76.8	29.9	61.9	61.4	58.2	61.6		75.3	73.8					
+ 4	58.5	62.7	70.9	33.3	60.2	58.9	50.6	60.1		69.3	64.4					
+ 5	56.3	58.2	64.9	41.9	58.5	55.8	43.9	56.3		61.4	55.4					
+ 6	52.1	53.6	57.5	45.0	54.3	50.2	37.1	49.5		51.1	46.2					
+ 7	51.6	53.6	54.7	49.1	54.1	47.8	33.3	45.2		45.5	41.0					
+ 8	48.2	52.6	50.1	48.2	50.6	44.1	29.3	40.2		39.4	35.6					
+ 9	46.3	48.9	46.9	47.7	48.4	41.7	26.4	35.3		34.8	31.9					
+10	44.3	46.5	46.9	46.0	45.6	39.3	23.9	36.3		31.1	28.5					
+11	40.4	42.0	39.3	41.7	41.0	35.5	21.1	28.6		26.8	24.8					
+12	38.3	39.1	36.3	40.3	38.1	33.0	19.0	23.6		23.8	23.4					
Max.	59.8	92.2	91.9	92.3	92.8	62.8	91.8	62.4		95.4	94.8					

Movement Speed / Direction	5 MPH 300°	5 MPH 270°	5 MPH 300°	5 MPH 345°	10 MPH 300°	10 MPH 270°	10 MPH 300°	10 MPH 345°	10 MPH 300°	10 MPH 270°	10 MPH 300°	10 MPH 345°	20 MPH 300°	20 MPH 270°	20 MPH 300°	20 MPH 345°
-24	26.0	28.0	26.3	27.8	24.1	16.5	13.5									
-23	27.0	29.0	27.2	28.2	24.8	19.4	14.0									
-22	28.1	30.2	28.2	29.3	25.6	18.3	14.6									
-21	29.1	31.3	29.4	30.4	26.4	19.2	15.1									
-20	30.4	32.8	30.7	31.7	24.3	20.3	15.7			17.9						
-19	31.7	34.2	32.0	33.2	28.2	21.5	16.4			18.9						
-18	33.0	35.8	33.4	34.6	29.3	22.6	17.2	18.7		19.8						
-17	34.5	37.4	34.6	36.3	30.3	23.8	17.9	19.6		20.9	19.1					
-16	36.0	29.3	36.5	38.1	31.5	25.2	18.7	20.8		22.1	20.0					
-15	37.8	41.2	38.4	40.0	32.8	26.8	19.8	22.0		23.4	21.2					
-14	39.2	43.4	40.3	42.3	34.2	28.6	20.8	23.3		25.0	22.5					
-13	41.7	45.8	42.4	44.6	35.6	30.7	22.0	24.8		26.5	23.9					
-12	43.9	46.4	44.9	47.2	39.2	33.3	23.3	26.5		28.5	25.5					
-11	46.5	51.4	47.5	50.1	38.9	36.4	24.7	28.5		30.7	27.3					
-10	49.5	54.7	57.8	53.3	40.7	40.0	26.3	30.8		33.3	29.4					
- 9	52.8	58.5	54.0	56.9	42.6	44.6	28.1	33.4		36.4	31.7					
- 8	56.6	62.7	57.9	61.0	44.6	49.9	30.2	36.5		39.9	34.7					
- 7	60.6	67.1	54.9	65.5	46.8	56.4	32.4	40.3		44.3	38.1					
- 6	65.0	71.8	67.1	70.6	48.9	64.1	35.0	44.9		49.6	42.3					
- 5	69.8	76.6	67.1	76.2	51.1	72.8	34.8	50.3		56.0	47.5					
- 4	74.9	81.3	78.4	81.9	53.3	81.6	44.0	57.2		63.7	53.8					
- 3	80.1	85.5	84.4	87.4	53.3	88.4	44.3	65.6		73.2	62.0					
- 2	85.0	88.9	89.6	91.5	57.6	91.1	48.1	76.2		83.3	72.2					
- 1	89.4	91.0	92.3	92.7	59.5	91.3	52.1	87.5		91.9	84.1					
0	92.2	91.9	89.6	89.6	61.5	85.9	56.2	95.4		94.8	94.1					
+ 1	86.2	86.8	69.9	75.7	62.3	75.9	60.1	86.6		89.8	76.4					
+ 2	78.7	83.1	46.3	67.1	62.7	67.0	62.3	80.2		82.3	28.5					
+ 3	69.2	76.8	29.9	61.9	61.4	58.2	61.6	75.3		73.8	46.8					
+ 4	62.7	70.9	33.3	60.2	58.9	50.6	60.1	69.3		64.4	62.0					
+ 5	58.2	64.9	41.9	58.5	55.8	43.9	56.3	61.4		55.4	61.1					
+ 6	53.6	57.5	45.0	54.3	50.2	37.1	49.5	51.1		46.2	23.8					
+ 7	53.6	54.7	49.1	54.1	47.8	33.3	45.2	45.5		41.0	48.8					
+ 8	50.1	50.6	48.2	50.6	44.1	29.3	40.2	39.4		35.6	41.5					
+ 9	46.9	46.9	47.7	48.4	41.7	26.4	35.3	34.8		31.9	36.8					
+10	46.5	46.9	46.0	45.6	39.3	23.9	36.3	31.1		28.5	32.6					
+11	42.0	39.3	41.7	41.0	35.5	21.1	28.6	26.8		24.8	28.0					
+12	39.1	36.3	40.3	38.1	33.0	19.0	23.6	23.8		23.4	24.9					
Max.	92.2	91.9	92.3	92.8	62.8	91.8	62.4			95.4	94.8					

HOURLY SUSTAINED WIND SPEEDS FOR HURRICANES (111-130 MPH) FOR MID CORPUS CHRISTI

Point of Landfall Relative to Port Aransas

Hours Plus or Minus Time of Landfall — Sustained Wind Speed (MPH)

Movement Speed	5 MPH							10 MPH								20 MPH						
Point of Landfall	20 Miles Left	30 Miles Left	30 Miles Left	20 Miles Left	20 Miles Left	30 Miles Right	50 Miles Left	20 Miles Left	30 Miles Left	30 Miles Left	20 Miles Left	20 Miles Left	30 Miles Right	40 Miles Left	50 Miles Left	20 Miles Left	30 Miles Left	30 Miles Left	20 Miles Left	20 Miles Left	30 Miles Right	50 Miles Left
Direction	300°	300°	270°	300°	270°	300°	345°	300°	300°	270°	300°	270°	300°	235°	345°	300°	300°	270°	300°	270°	300°	345°
-24	28.1	32.4	34.7	32.6	33.8	30.0	28.1	16.6							12.5							
-23	28.9	33.5	36.0	33.8	35.0	30.9	29.0	12.3							16.9							
-22	29.8	34.8	37.4	35.1	36.4	31.9	29.9	17.9							17.6							
-21	30.8	36.3	39.0	36.5	37.8	32.9	30.8	18.6							18.2							
-20	31.7	37.7	40.7	38.1	39.4	34.1	31.9	19.4		22.2					19.0							
-19	32.8	39.4	42.5	39.8	41.2	35.1	33.0	20.3		23.3					19.8	11.4						
-18	33.9	41.1	44.3	41.5	43.0	36.4	34.2	21.1	23.1	24.4					20.7	12.1						
-17	35.1	42.9	46.5	43.4	45.1	37.8	35.5	22.1	24.3	25.9	24.4	25.1	21.5		21.7	12.7	10.2	13.7	13.3	13.5	12.9	13.0
-16	36.3	44.9	48.8	45.5	47.3	39.3	36.9	23.1	25.6	27.3	25.7	26.5	24.6		22.8	13.4	14.0	14.3	14.0	14.3	13.5	13.1
-15	37.6	46.9	57.2	47.7	49.8	40.8	38.4	24.3	27.2	29.0	27.3	28.1	25.7		23.9	14.2	14.6	15.5	15.0	15.2	14.4	13.9
-14	39.0	49.3	53.8	47.7	52.5	42.6	39.9	25.6	28.9	30.8	29.0	29.9	27.0		25.4	15.1	15.6	16.5	15.9	16.3	15.2	14.7
-13	40.4	51.7	56.8	50.1	55.4	44.5	41.7	27.1	30.7	32.9	30.8	32.0	28.5		26.8	16.1	16.6	17.7	17.0	17.4	16.4	15.6
-12	42.0	54.6	60.2	52.8	58.6	46.4	43.6	28.6	32.9	35.2	33.0	34.2	30.0		28.5	17.3	17.9	19.1	18.3	18.9	17.6	16.8
-11	43.7	57.9	63.8	52.8	62.3	48.6	45.6	30.4	35.2	38.0	35.5	36.9	31.9		30.3	18.6	19.4	20.8	19.9	20.4	18.9	19.1
-10	45.5	61.5	68.0	59.2	66.3	50.8	48.0	32.4	38.1	41.2	38.4	39.9	34.1		32.4	20.2	21.1	22.8	21.7	22.2	20.4	19.6
-9	47.5	65.6	72.5	62.9	70.9	53.2	50.4	34.6	41.3	45.0	41.6	43.6	36.3		34.2	22.0	23.0	25.1	23.9	24.6	22.4	21.5
-8	49.5	70.2	77.7	67.1	75.8	55.8	53.3	37.2	45.2	49.4	45.6	47.8	39.4		37.3	24.1	25.5	28.1	26.4	27.3	24.6	23.5
-7	51.0	75.3	83.2	71.9	81.5	58.4	56.3	39.9	49.8	54.7	50.4	53.0	42.6		40.4	26.7	28.5	31.7	29.6	30.8	22.2	26.1
-6	54.0	80.7	89.1	77.4	87.8	61.1	59.8	43.0	55.4	61.2	56.4	59.4	46.4		44.1	29.8	33.8	36.4	33.8	35.2	30.6	29.3
-5	56.3	86.7	95.0	84.1	94.6	63.8	63.4	46.5	62.3	69.0	63.8	67.5	50.6		48.5	33.8	39.3	42.6	39.4	41.1	34.6	33.3
-4	58.9	93.0	100.9	90.1	101.7	66.6	67.7	50.3	70.7	78.7	73.1	77.4	55.4		53.8	38.7	46.7	51.2	47.1	49.4	39.8	38.5
-3	61.5	99.3	106.1	97.4	108.4	69.4	72.4	54.6	81.4	90.2	84.8	89.7	60.6		60.5	45.1	57.2	63.7	58.1	61.4	46.5	45.5
-2	64.2	105.6	110.2	104.8	113.5	72.0	77.6	59.2	94.1	102.7	98.9	104.0	66.0		68.6	53.6	73.2	82.4	76.3	90.1	55.1	55.5
-1	67.0	110.9	113.0	111.2	115.1	74.6	83.5	64.0	107.9	113.1	113.2	116.4	71.4		78.9	64.5	97.7	108.3	102.1	108.3	65.1	70.6
0	69.7	114.3	114.1	114.5	111.2	77.0	90.1	69.0	117.5	117.0	114.4	114.4	75.5		91.5	77.0	123.6	122.6	120.8	120.6	73.3	94.3
+1	69.7	107.0	107.4	111.2	95.3	75.9	92.8	70.7	107.4	110.4	65.8	93.7	74.6		100.8	82.2	110.6	109.9	62.9	101.7	72.0	115.8
+2	70.7	99.5	103.2	88.4	86.2	75.9	96.6	73.5	101.0	102.4	60.2	95.4	74.2		106.2	80.1	98.4	86.8	95.2	93.2	62.4	85.9
+3	69.7	89.4	96.1	60.5	81.3	73.6	95.7	71.6	95.0	89.8	85.7	93.2	69.0		89.4	68.6	73.8	64.5	72.9	69.0	51.4	91.8
+4	67.6	82.4	88.5	40.6	79.8	70.2	90.0	68.8	85.7	76.4	84.5	82.7	61.8		67.0	55.3	54.5	48.6	53.8	51.4	41.9	73.5
+5	66.2	79.6	82.8	46.9	79.7	67.9	80.7	65.1	75.3	65.9	75.5	71.8	56.0		72.4	45.1	42.6	38.7	42.1	40.4	35.0	55.4
+6	64.2	77.1	76.8	60.5	77.4	64.5	67.0	59.5	64.7	56.6	65.1	61.5	50.2		76.4	36.9	34.2	31.7	33.9	32.9	29.4	47.9
+7	62.8	74.9	71.6	66.1	74.5	61.2	54.6	54.2	56.4	49.8	56.6	53.6	45.5		72.4	31.1	28.6	26.6	28.2	27.6	25.7	34.7
+8	60.7	71.5	66.4	71.1	70.3	57.9	48.9	49.0	49.3	43.9	49.3	46.9	41.0		63.4	26.5	24.3	23.0	24.1	23.5	21.8	28.7
+9	58.1	67.1	61.2	70.2	65.4	54.3	49.8	44.1	43.2	39.0	43.2	41.2	36.9		56.0	22.8	20.9	20.0	20.7	20.4	19.1	24.3
+10	55.1	62.3	56.3	67.5	60.3	50.7	53.0	39.5	38.1	34.7	38.0	36.4	33.2		48.6	19.6	18.2	17.6	17.9	17.8	16.8	20.8
+11	52.0	54.3	51.6	57.7	55.4	47.2	55.3	35.4	33.7	30.9	33.5	32.4	29.8		42.3	17.3	16.0	15.5	15.7	15.6	14.8	17.9
+12	47.6	57.2	46.2	51.5	49.3	42.6	53.6	31.3	29.3	27.2	29.0	28.1	26.1		36.0	15.0	13.8	13.4	13.7	13.5	12.9	15.3
Max.	70.7	114.3	114.1	114.5	115.1	77.0	96.6	73.5	117.5	117.0	117.3	118.2	75.5		106.2	82.2	123.6	122.6	123.0	124.2	70.9	116.5

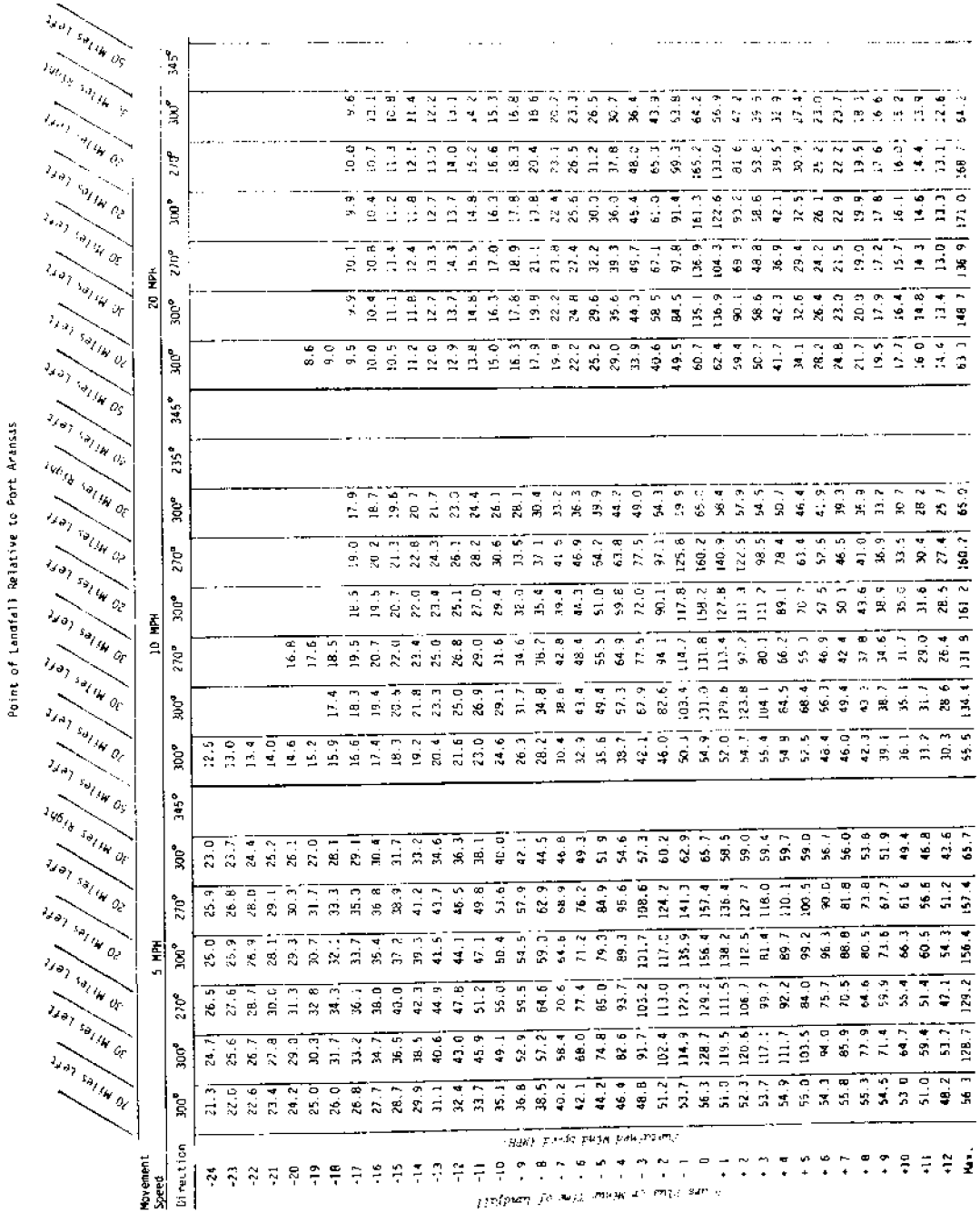
HOURLY SUSTAINED WIND SPEEDS FOR HURRICANES (131-155 MPH) FOR MID CORPUS CHRISTI

Point of Landfall Relative to Port Aransas

Hours Plus or Minus Time of Landfall; Sustained Wind Speed (MPH)

Point of Landfall	70 Miles Left	30 Miles Left	30 Miles Left	20 Miles Left	20 Miles Left	30 Miles Right	50 Miles Left	70 Miles Left	30 Miles Left	30 Miles Left	20 Miles Left	20 Miles Left	30 Miles Right	40 Miles Left	50 Miles Left	70 Miles Left	30 Miles Left	30 Miles Left	20 Miles Left	20 Miles Left	30 Miles Right	50 Miles Left
Movement Speed	5 MPH							10 MPH								20 MPH						
Direction	300°	300°	270°	300°	270°	300°	345°	300°	300°	270°	300°	270°	300°	235°	345°	300°	300°	270°	300°	270°	300°	345°
-24	32.8	37.7	40.4	38.0	39.4	35.0		19.4														
-23	33.7	39.1	42.0	39.4	40.8	36.1		20.0														
-22	34.7	40.6	43.7	41.0	42.4	37.2		20.8														
-21	35.8	42.3	45.4	42.6	44.1	38.5		21.6														
-20	36.9	43.9	47.3	44.3	45.9	39.7		22.5		25.7												
-19	38.2	45.9	49.5	46.3	48.0	41.1		23.5		27.0						13.3						
-18	39.4	47.8	51.7	48.4	50.2	42.5		24.6	26.9	28.5						13.9						
-17	40.8	50.1	54.2	50.6	52.5	44.1		25.6	28.2	30.0	28.5	29.3	27.4			14.7	15.3	15.9	15.3	15.6	15.9	
-16	42.3	52.3	56.8	53.0	55.1	45.8		26.9	29.8	31.7	30.0	30.8	28.7			15.5	16.3	16.8	16.3	16.5	16.8	
-15	43.8	54.7	63.6	55.5	58.0	47.7		28.2	31.6	33.7	31.7	32.8	30.0			16.4	17.3	17.8	17.3	17.6	17.8	
-14	45.4	57.3	62.8	58.4	61.2	49.7		29.8	33.5	35.8	33.7	34.7	31.5			17.4	18.5	19.1	18.5	18.9	19.1	
-13	47.1	60.3	66.2	61.5	64.6	51.9		31.5	35.8	38.2	35.9	32.1	33.2			18.6	19.8	20.5	19.8	20.2	20.5	
-12	48.9	63.7	70.1	65.0	68.4	54.2		33.3	38.2	41.0	38.4	39.8	35.1			19.9	21.2	22.1	21.2	21.7	22.1	
-11	51.0	67.5	74.4	68.9	72.5	56.7		35.4	41.0	40.1	41.2	42.9	37.2			21.5	23.0	24.1	23.0	23.5	24.1	
-10	53.0	71.6	79.2	73.3	77.2	59.4		37.6	44.7	47.8	44.6	46.4	39.7			23.3	25.1	26.3	25.1	25.7	26.3	
- 9	55.3	76.4	84.5	78.3	82.6	62.1		40.2	48.1	52.1	48.5	50.6	42.5			25.4	27.6	29.0	27.6	28.3	29.0	
- 8	57.6	81.8	90.5	83.9	88.4	65.1		43.0	52.5	57.3	53.0	55.6	45.9			27.8	30.6	32.4	30.6	31.6	32.4	
- 7	60.1	87.6	96.9	90.1	94.9	68.3		46.3	57.9	63.6	58.8	61.8	49.8			30.7	34.3	36.7	34.3	35.5	36.7	
- 6	62.7	94.1	103.6	97.2	102.2	71.4		49.9	64.4	71.0	65.7	69.2	54.1			34.3	39.1	42.0	[illegible]	40.7	42.0	
- 5	65.5	101.0	110.5	105.0	110.2	74.6		54.0	72.4	80.2	72.7	78.4	59.2			38.9	35.4	49.1	45.5	47.6	49.1	
- 4	68.4	108.3	117.4	113.5	118.4	77.9		58.4	82.2	91.3	85.0	90.0	64.7			44.6	53.8	59.2	54.3	57.1	59.2	
- 3	71.5	115.7	123.5	122.1	126.2	81.1		63.2	94.4	104.7	98.5	104.3	70.9			52.0	66.2	73.5	67.2	71.0	73.5	
- 2	35.6	123.0	128.3	129.6	132.1	84.2		68.4	109.2	119.1	115.1	120.8	77.4			61.6	84.6	95.0	87.1	92.6	95.0	
- 1	38.9	129.1	131.4	133.4	133.9	87.2		74.0	125.2	131.2	131.6	134.9	83.6			74.1	112.8	124.5	117.9	124.8	124.5	
0	81.0	133.1	132.9	129.5	129.5	90.1		79.8	136.2	135.7	132.7	132.6	88.7			88.3	142.4	141.3	139.1	138.0	141.3	
+ 1	74.0	117.7	117.4	95.1	106.3	81.3		75.5	118.4	120.4	74.4	104.7	80.1			96.8	121.8	119.1	[illegible]	112.6	119.1	
+ 2	72.0	108.3	110.2	68.5	95.8	77.7		74.5	110.0	108.2	68.4	104.5	76.3			81.0	103.5	89.3	101.3	97.5	89.3	
+ 3	70.7	102.2	104.9	49.3	94.5	75.8		72.7	105.0	94.8	97.9	102.4	71.0			68.9	75.8	65.3	75.1	70.5	62.3	
+ 4	68.1	97.0	97.0	69.7	94.4	72.3		68.9	92.4	79.0	93.2	88.1	62.9			54.3	54.3	48.1	53.8	51.0	46.1	
+ 5	65.5	93.7	89.3	76.7	93.0	68.9		63.8	77.6	65.8	79.0	73.2	55.6			42.9	40.8	37.1	40.6	38.9	37.1	
+ 6	62.4	89.3	80.7	84.0	87.9	64.1		56.8	64.0	54.6	64.9	60.2	48.5			34.1	31.7	29.3	31.5	30.4	29.3	
+ 7	61.8	82.8	74.0	81.4	80.7	61.2		57.1	55.1	48.0	56.5	52.1	47.1			29.0	26.6	25.1	26.5	25.9	25.1	
+ 8	61.0	77.4	68.6	72.5	75.0	58.8		48.1	48.8	43.2	48.9	46.3	40.6			25.5	23.4	22.1	23.1	22.6	22.1	
+ 9	59.4	71.8	63.6	72.4	69.3	55.9		44.2	43.4	39.4	43.6	41.5	37.2			22.5	20.8	19.9	20.5	20.4	19.9	
+10	57.2	66.3	58.9	67.0	63.8	52.9		40.3	39.0	35.5	38.9	37.3	34.1			20.0	18.6	17.8	18.3	18.2	17.8	
+11	53.8	59.9	53.7	60.3	57.7	49.1		36.5	34.8	32.0	34.7	33.4	30.9			17.9	16.5	16.0	16.4	16.3	16.0	
+12	49.8	53.8	48.4	54.1	51.7	44.9		32.4	30.6	28.3	30.4	29.5	27.4			15.6	14.4	14.0	14.3	14.2	14.0	
Max.	81.0	133.0	132.9	133.4	133.9	90.1		79.8	136.2	135.7	136.1	136.6	88.7			89.3	142.4	141.3	141.7	143.0	141.3	

HOURLY SUSTAINED WIND SPEEDS FOR HURRICANES (OVER 155 MPH) FOR MID CORPUS CHRISTI



Point of Landfall Relative to Port Aransas

Movement Speed	5 MPH							10 MPH							20 MPH							
Direction	300°	300°	270°	300°	270°	300°	345°	300°	300°	270°	300°	270°	235°	345°	300°	300°	270°	300°	270°	300°	345°	
-24	21.3	24.7	26.5	25.0	25.9	23.0		22.5														
-23	22.0	25.6	27.6	25.9	26.8	23.7		23.0														
-22	22.6	26.7	28.7	26.9	28.0	24.4		23.4														
-21	23.4	27.8	30.0	28.1	29.1	25.2		24.0														
-20	24.2	29.0	31.3	29.3	30.3	26.1		24.6														
-19	25.0	30.3	32.8	30.7	31.7	27.0		25.2			16.8											
-18	26.0	31.7	34.3	32.1	33.1	28.1		25.9	17.4		17.6											
-17	26.8	33.2	36.1	33.7	35.3	29.1		26.6	18.3	18.5	19.5											
-16	27.7	34.7	38.0	35.4	36.8	30.4		27.4	19.4	19.5	20.7	19.0										
-15	28.7	36.5	40.0	37.2	38.9	31.7		28.3	20.4	20.7	22.0	20.2										
-14	29.9	38.5	42.3	39.3	41.2	33.2		29.2	21.8	22.0	23.4	21.3	19.6									
-13	31.1	40.6	44.9	41.5	43.7	34.6		30.4	23.3	23.5	25.0	22.8	20.7									
-12	32.4	43.0	47.8	44.1	46.5	36.3		31.6	25.0	25.1	26.8	24.3	21.7									
-11	33.7	45.9	51.2	47.1	49.8	38.1		33.0	26.9	27.0	29.0	26.1	23.3									
-10	35.1	49.1	55.0	50.4	53.6	40.0		34.4	29.1	29.4	31.6	28.2	24.4									
- 9	36.8	52.9	59.5	54.5	57.9	42.1		36.0	31.4	32.0	34.6	30.6	26.1									
- 8	38.5	57.2	64.6	59.0	62.9	44.5		37.8	34.8	35.4	38.2	33.5	28.1									
- 7	40.2	58.4	70.6	64.6	68.9	46.8		39.8	38.6	39.4	42.8	37.1	30.4									
- 6	42.1	68.0	77.4	71.2	76.2	49.3		41.9	43.4	44.3	48.4	41.5	33.2									
- 5	44.2	74.8	85.0	79.3	84.9	51.9		44.2	49.4	50.4	55.5	46.9	36.3									
- 4	46.4	82.6	93.7	89.3	95.6	54.6		46.7	57.3	58.5	64.9	54.2	39.9									
- 3	48.8	91.7	103.2	101.7	108.6	57.3		49.4	67.9	69.4	77.5	63.8	44.2									
- 2	51.2	102.4	113.0	117.5	124.2	60.2		52.3	82.6	84.1	94.1	77.5	49.0									
- 1	53.7	114.9	124.3	135.9	141.3	62.9		55.4	103.4	104.7	118.7	97.1	54.3									
0	56.3	128.7	129.2	156.4	157.4	65.7		58.5	131.0	131.8	158.2	125.6	59.9									
+ 1	51.0	119.5	111.5	138.2	136.4	58.5		54.9	129.6	113.4	127.8	140.9	65.5									
+ 2	52.3	120.6	106.1	112.5	127.7	59.0		52.0	123.8	97.2	111.3	122.5	56.4									
+ 3	53.7	117.1	99.7	81.4	118.0	59.4		54.1	104.1	80.1	111.2	98.5	57.9									
+ 4	54.9	111.7	92.2	89.7	110.1	59.7		55.4	84.5	66.2	89.1	78.4	54.5									
+ 5	55.0	103.5	84.0	99.2	100.5	59.0		54.9	64.5	55.0	70.7	63.4	50.7									
+ 6	54.3	94.0	75.7	96.3	90.0	56.7		57.5	68.4	46.9	57.5	52.5	46.4									
+ 7	55.8	85.9	70.5	88.0	81.8	56.0		46.0	56.3	42.4	50.1	46.5	41.9									
+ 8	55.3	77.9	64.6	80.5	73.8	53.6		42.3	49.4	37.8	43.6	41.0	39.3									
+ 9	54.5	71.4	59.9	73.6	67.7	51.9		39.1	43.3	34.6	38.9	36.9	36.9									
+10	53.0	64.7	55.4	66.3	61.6	49.4		36.1	38.7	31.7	35.0	33.5	33.7									
+11	51.0	59.4	51.4	60.5	56.6	46.8		33.2	35.1	29.0	31.6	30.4	30.7									
+12	48.2	53.7	47.1	54.3	51.2	42.6		30.3	28.6	26.4	28.5	27.4	28.2									
Max.	56.3	128.7	129.2	156.4	157.4	65.7		58.5	134.4	131.9	161.2	160.2	65.5		63.1	148.7	136.9	171.0	168.7	64.2		

APPENDIX D
SOP

STEP ONE

Estimate the time the eye is to cross coastline. This time can be estimated by dividing the distance of the eye from the probable point of landfall by its forward movement speed. For safety purposes, other possible points of landfall that could place your area in greater danger should also be considered.

Example One: If a storm 250 miles from Corpus Christi were heading toward Corpus Christi at 5 mph, then the estimated time the eye would cross the coastline would be 250 divided by 5, or 50 hours.

50 hours
5 mph ⟌250 miles from Corpus Christi

Example Two: If a storm were 300 miles from Corpus Christi and heading toward Galveston at 5 mph, you would want to consider what would happen if the hurricane would change its course and head toward Corpus Christi. Divide the distance by the forward movement speed to estimate the time the eye could cross the coastline; this would be 60 hours.

60 hours
5 mph ⟌300 miles from Corpus Christi

Now place those hours in the upper portion of the Step One box and count forward in time and place the estimated day and hour the eye of the hurricane will cross the coastline in the lower portion of the Step One box (D-6).

STEP TWO

Determine the possible cut-off times for critical data points that

affect the evacuation of your area. Data point locations can be found in Figures 2-7 through 2-12 for each county. You will have to determine which data point or points can indicate a blockage on the evacuation route or routes controlling your area. Suggested data points by zone are:

	Surge	Wind
Aransas		
A_1	15,16,18,19, 20,21,22,32	15,16,18,20, 19,21,23
A_2		22,23,26
A_3		
Kenedy		
KA		1
K_1	6	6
K_2		1
Kleberg		
KLA		2
KL_1	6	6
KL_2		3
Nueces		
NA		28
N_1	13	30,48
N_2	6	6
N_3	5,6,8,11	5,6,8,11
Refugio		
RA		26

	Surge	Wind
Refugio (continued)		
R_1	21,25	21,25
R_2		22,23,26
San Patricio		
SPA		27
SP_1	17,32	17,32

These point locations are numbered and can be found by these numbers in Appendix B. In Appendix B, route cut-off times are given by storm type. There are 78 storm types displayed for each data point. Your first step is to find the row with the appropriate wind speed. The classifications are:

74- 95 mph

96-110 mph

111-130 mph

131 mph and over

When you have found the proper row, you can find which of the six columns to use by the direction the hurricane is heading (in degrees) and its anticipated point of landfall. Since you may not find the exact hurricane direction or point of landfall, you may have to do some estimating. These storms were chosen because they can pose the greatest threats to the area, however, and, with the changeable nature of hurricanes, it is well to plan on the worst case. Once you have found the row and column, the movement speed will determine the exact column. The route cut-off time should be determined either by surge penetration or by wind gusts.

Now place the number of hours in the top half of the Step Two box. If it is a minus figure, count backwards in time (if it is a rare plus figure, place a "0" in time) and figure the estimated day and hour the evacuation route will be blocked and place that day and hour in the bottom half of Step Two.

STEP THREE

Estimate the probable evacuation time needed to evacuate your area and/or zones. This can be done by determining the location of zones in your area on the enclosed fold-out map. This fold-out also gives the estimated evacuation times for three differing storm conditions. If winds are under 130 mph and you only wish to evacuate the low-lying areas, use the estimated hours in the first column; if you wish to evacuate the entire evacuation zone, use column two; if winds are in excess of 130 mph, use the estimated hours in the third column.

Now place the number of hours in the top of the Step Three box and then go backward in time and place the proper day and hour in the lower portion of the box.

STEP FOUR

Adjusted time estimates consist of adding three hours to Step Three. It is estimated that it will take about one hour to warn the people to evacuate, another hour for them to prepare to evacuate, and another hour to establish a monitoring system that will permit maximum utilization of the evacuation routes.

Now place the number of hours in the top of the Step Four box and then go backward in time and place the proper day and hour in the lower portion of the box.

STEP FIVE

Final adjustment factors should include the unpredictability of hurricane intensification or weakening, varying forward movement speed, changing direction, and evacuation route blockage by unexpected rainfall.

Now place the number of hours (if any) in the top of the Step Five box and then go backwards in time and place the proper day and hour in the lower portion of the box. This now gives you the time the evacuation needs to begin to evacuate the residents in your area and/or zones. To facilitiate traffic control, the Texas Department of Public Safety regional office needs to know when an evacuation is going to be recommended.

CAUTION

Your evacuation needs to be coordinated with other areas that may be affected by an evacuation of your area.

Example One: You are located some distance inland and you decide to play it safe and call for an evacuation of your area long before it would be needed. How could this possibly affect any other area? It could cause confusion in more vulnerable areas where an evacuation has not yet been recommended.

Example Two: You are located in a vulnerable area and you recommend an evacuation long before the circumstances would indicate the need for an evacuation. What effect could this have on other areas? It could start persons evacuating in the areas through which your evacuees would travel.

ESTIMATED EVACUATION TIMES

	Advisory No. ___ Day ___ Hour ___	Advisory No. ___ Day ___ Hour ___	Advisory No. ___ Day ___ Hour ___	Advisory No. ___ Day ___ Hour ___
Step One:	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)
Step Two:	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)
Step Three:	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)
Step Four:	3 (hours) (Day) (Hour)	3 (hours) (Day) (Hour)	3 (hours) (Day) (Hour)	3 (hours) (Day) (Hour)
Step Five:	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)	(hours) (Day) (Hour)

Note: Compare the results of Step Five to the time the advisory was issued to obtain the estimated safe time remaining before an evacuation decision needs to be made. For more information on evacuation time estimating procedures see Section Five of the report.

APPENDIX E
ESTEDCC

ESTEDCC is an acronym for a computerized program to Estimate Safe Time before Evacuation Decisions (Corpus Christi). The program is not designed to tell when you need to recommend an evacuation, but how much "safe" time remains before it will be too late to recommend an evacuation.

The program considers five conditions for indicating safe time to decision makers. These conditions are:

1. Storm surge at low tide
2. Storm surge at mean sea level
3. Storm surge at high tide
4. Wind gusting conditions that could tip cars (gusts of 65-70 mph)
5. Wind gusting conditions that could tip trucks (gusts of 50-55 mph)

The actual decision to recommend evacuation needs to consider the potential damage the hurricane under consideration can inflict upon the area under consideration.

This section describes the use of the ESTEDCC program, interpretation of the results, cautions to be exercised, a description of the way ESTEDCC calculates times, and information for the program operator.

Program Use

Program use involves using the program as soon as a hurricane enters the Gulf of Mexico. The program takes information provided in each hurricane advisory issued by the National Hurricane Center and figures the remaining safe time before an evacuation decision needs to

be made. The data to be indicated (apart from the present date and the date and time of advisory) include the following:

1. Hurricane movement speed in miles per hour

2. Hurricane sustained wind speed

3. Direction of movement if the hurricane were to head directly to a point 25 miles to the left of Port Aransas (in degrees)

4. Number of statute miles from the eye of the hurricane to a point 25 miles to the left of Port Aransas

5. Direction of movement if the hurricane were to head directly to a point 70 miles to the left of Port Aransas (in degrees)

6. Number of statute miles from the eye of the hurricane to a point 70 miles to the left of Port Aransas

7. Direction of movement if the hurricane were to head directly to a point 30 miles to the right of Port Aransas (in degrees)

8. Number of statute miles from the eye of the hurricane to a point 30 miles to the right of Port Aransas.

Because hurricanes can increase or decrease their forward movement speed, the forward movement speed given in the advisory can be increased and/or decreased to see the potential changes that could result if the hurricane forward movement speed were to increase or decrease. The same procedure can be used to indicate the results of an increased wind speed.

Results

Results of these inputs will give an array of data for all evacuation and contingency zones as indicated in Hurricane Relocation Planning

for Aransas, Kenedy, Kleberg, Nueces, Refugio, and San Patricio Counties for a point of landfall 25 miles left of Port Aransas. After this, an array of data will be given by zones for a point of landfall 70 miles left of Port Aransas. Finally, an array of data will be given by zones for a point of landfall 30 miles right of Port Aransas. Maximum time frames for each zone can easily be seen by checking all printouts. If the time remaining before a decision needs to be made is a negative time (that is, has already passed), it will be indicated by the letters "TL"--meaning Too Late. "NC" indicates Not Calculated. An asterisk next to a date indicates a date transition from one month to another. Contingency zones will remain blank unless the hurricane wind speeds are above 130 mph.

CAUTIONS

Cautions regarding use of the program include the following:

1. The program does not consider wave action in evacuation route cut-off time. Since waves need water depth to generate, this can be a minimal problem. However, the added depth that waves can add to surge was added to the surge conditions for the JFK and Nueces Bay (181) Causeways.

2. There is no way to include rainfall in these calculations. It is possible for a hurricane to stall and dump unprecedented amounts of rainfall at any location. The slower a hurricane moves, the more rainfall it can produce. Maximum rainfall can be estimated roughly by dividing 100 by the forward movement speed to indicate inches of rainfall.

3. Wind condition estimates are based on the incidental wind speeds

used to generate storm surge. The goal of SLOSH (Sea, Lake and Overland Surges from Hurricanes) was to predict surge. Windfields had to be generated to do this. Although surge conditions have been checked with historic hurricanes, there has been no valid way to double check estimated wind speed arrival times with historic hurricanes.

4. No attention has been given to the advantage of evacuating during daylight hours.

Program Internal Calculations

Program internal calculations should be understood if the user is to have confidence in the program. The following steps are involved in these calculations:

1. The distance the eye of the hurricane is from the point of landfall is divided by the forward movement speed to arrive at the anticipated time of landfall.

2. The evacuation route cut-off times before the anticipated time of landfall are calculated for differing storm surge (low tide, MSL and high tide) conditions and wind (car tipping and truck tipping gusting) conditions. Because vehicles need to be evacuated before evacuation routes are blocked, this amount is subtracted from the anticipated time of landfall. The result is the time remaining for evacuation. Note that in these calculations, if any evacuation route is to be blocked after the time of landfall, that amount is not added since it would be unwise to plan an evacuation that could not be completed before the time of landfall. Also, wind conditions were considered as not only blocking key evacuation routes, but also vehicular movement within a zone if there were no major evacuation routes controlling a zone.

3. The evacuation time for each zone or subzone (surge penetration areas of evacuation zones) under varying conditions (for hurricanes with wind speeds up to 130 mph and for hurricanes with winds over 130 mph) is subtracted from the time remaining for evacuation. This gives the time remaining to complete evacuation before the evacuation routes are blocked. Three hours are added to this time because there is a time delay between when the decision to evacuate is reached and when the public has a chance to receive the information and begin evacuating.

The data point locations along with the zones they govern are listed below (for details of cut-off times, see Hurricane Relocation Planning for Aransas, Kenedy, Kleberg, Nueces, Refugio, and San Patricio Counties).

	Surge	Wind
Aransas		
A_1	15,16,18,19, 20,21,22,32	15,16,18,20, 19,21,23
A_2		22,23,26
A_3		
Kenedy		
KA		1
K_1	6	6
K_2		1
Kleberg		
KLA		2
KL_1	6	6
KL_2		3

	Surge	Wind
Nueces		
NA		28
N_1	13	30,48
N_2	6	6
N_3	5,6,8,11	5,6,8,11
Refugio		
RA		26
R_1	21,25	21,25
R_2		22,23,26
San Patricio		
SPA		27
SP_1	17,32	17,32

Program Operator

The program hardware consists of a CRT terminal, floppy disk drives and the CPU (Central Processing Unit). A line printer can be used as needed if hard copies are desired; otherwise, screen output is available. The program software can be used on the operating system called CP/M, which stands for Control Program for Microprocessors (CP/M is the registered trademark of Digital Research). Also, the screen control characters for the specific system are needed so the screen input and output are in the correct place on the screen.

The ESTEDCC Program is stored on an eight-inch single-sided, single density, standard CPM format diskette. This diskette must be stored in a cool, dry, dust-free location. It should never be bent, and the plastic

surface should not be touched. It also is important that the diskette be stored in a static-free and magnetic-free location to prevent partial or total erasure of the program.

Since the program is subject to revision and updating depending on population growth and additional evacuation route availability, caution should be exercised to ensure you have the most recent version of the program.

Before this diskette can be used, CP/M must first be loaded into the computer. This is usually done by placing the CP/M diskette into the disk drive labeled "A"; the reset button is depressed either before or after this. This sequence may vary from one system to another; refer to the user's guide for this information. After this has been done, a prompt (usually "A>") will appear on the CRT, signalling that the computer is ready with CP/M loaded. This prompt indicates that disk drive "A" is the primary drive. Now the program diskette should be placed into the disk drive labeled "B." The diskette label should be up for horizontal drives or to the left for vertical drives. Next, type "B:" and depress the return, enter, or new line key. Now another prompt (usually "B>") will appear on the CRT screen, signalling that the second drive is ready and is now the primary drive.

To run the program, simply type "ESTEDCC" on the CRT keyboard and depress the return, enter, or new line key. You then enter the values as requested. The program will automatically print the output on the line printer (if one is available). To end the program, type an "!" at any input time. This will present a menu on the CRT. A choice on the menu includes ending the program. Without this step, the program will continue to run again and again.

Additional information regarding the availability of the program can be obtained by contacting the Texas Agricultural Extension Service of the Texas A&M University System. Inquiries should be addressed to:

Computer Services Unit--TAEX

USDA Building, Room 133

Texas A&M University

College Station, TX 77843

Phone: (409) 845-3929

A sample printout of this program follows.

A LOCATION 25 MILES LEFT OF PORT ARANSAS
EVACUATION TIMES FOR ZONES

DATE OF RUN: 6/2/83
TIME OF RUN: 15:00
BULLETIN DATE: 6/2/83
BULLETIN TIME: 15:00

HURRICANE MOVEMENT SPEED IN MPH: 10
HURRICANE WINDSPEED IN MPH: 120
DIRECTION OF MOVEMENT TOWARD
A POINT 25 MILES LEFT OF PORT ARANSAS IN DEGREES: 315
NUMBER OF MILES FROM LANDFALL
FOR A LOCATION 25 MILES LEFT OF PORT ARANSAS: 450

ZN	ANTICIPATED TIME OF LANDFALL DAY	HR:MN	LOW TIDE DAY	HR:MN	MEAN SEA LEVEL DAY	HR:MN	HIGH TIDE DAY	HR:MN	AUTOMOBILE WIND SPEED DAY	HR:MN	TRUCK WIND SPEED DAY	HR:MN	EARLIEST LISTED EVACUATION TIME DAY	HR:MN
A1	J4	12:00	J3	17:30	J3	16:00	J3	15:00	J3	14:30	J3	11:30	J3	11:30
**	J4	12:00	J3	24:00	J3	22:30	J3	21:30	J3	21:00	J3	18:00	J3	18:00
A2	J4	12:00	N	C	N	C	N	C	J3	16:00	J3	12:30	J3	12:30
**	J4	12:00	N	C	N	C	N	C	J3	22:30	J3	19:00	J3	19:00
K1	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	15:00	J3	11:30	J3	11:30
**	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	15:00	J3	11:30	J3	11:30
K2	J4	12:00	N	C	N	C	N	C	J4	5:24	J4	2:54	J4	2:54
**	J4	12:00	N	C	N	C	N	C	J4	5:24	J4	2:54	J4	2:54
KA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L1	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	15:00	J3	11:30	J3	11:30
**	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	15:00	J3	11:30	J3	11:30
L2	J4	12:00	N	C	N	C	N	C	J4	4:18	J4	2:18	J4	2:18
**	J4	12:00	N	C	N	C	N	C	J4	4:24	J4	2:24	J4	2:24
LA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
N1	J4	12:00	J3	18:30	J3	17:30	J3	16:30	J3	13:00	J3	10:00	J3	10:00
**	J4	12:00	J4	8:00	J4	7:00	J4	6:00	J4	2:30	J3	23:30	J3	23:30
N2	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	15:00	J3	11:30	J3	11:30
**	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	15:00	J3	11:30	J3	11:30
N3	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	14:30	J3	11:30	J3	11:30
**	J4	12:00	J3	19:00	J3	17:30	J3	16:30	J3	14:30	J3	11:30	J3	11:30
NA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
R1	J4	12:00	J4	7:30	J4	5:30	J4	1:30	J4	2:30	J3	23:00	J3	23:00
**	J4	12:00	J4	7:54	J4	5:54	J4	1:54	J4	2:54	J3	23:24	J3	23:24
R2	J4	12:00	N	C	N	C	N	C	J4	2:30	J3	23:00	J3	23:00
**	J4	12:00	N	C	N	C	N	C	J4	2:30	J3	23:00	J3	23:00
RA	.	.	.	.	.	.	.	.	.	.	.	.	.	.
S1	J4	12:00	J4	0:30	J3	23:30	J3	23:00	J3	18:30	J3	15:30	J3	15:30
**	J4	12:00	J4	7:24	J4	6:24	J4	5:54	J4	1:24	J3	22:24	J3	22:24
SA	.	.	.	.	.	.	.	.	.	.	.	.	.	.

THE TIMES GIVEN FOR EACH ZONE ARE FOR EVACUATION OF THE ENTIRE ZONE & THE '**' FOLLOWING A ZONE ARE TIMES FOR ONLY EVACUATION OF THE POSSIBLE STORM SURGE PENETRATION AREAS OF THAT ZONE (ONLY USED FOR WINDSPEEDS UNDER 130 mph).
IF IT IS TOO LATE TO EVACUATE A ZONE, THEN A 'T L' IS PLACED IN THAT LOCATION.
IF A VALUE IS NOT CALCULATED, THEN AN 'N C' IS PLACED IN THAT LOCATION.
IF A VALUE IS CALCULATED BUT NOT SIGNIFICANT, THEN A '. .' IS PLACED IN THAT LOCATION.
VALUES FOR CONTINGENCY ZONES ARE NOT CONSIDERED SIGNIFICANT UNTIL WIND SPEEDS EXCEED 130 mph.
THE 'L' UNDER ZONES STANDS FOR KLEBERG COUNTY.

A LOCATION 70 MILES LEFT OF PORT ARANSAS
EVACUATION TIMES FOR ZONES

DATE OF RUN: 6/2/83
TIME OF RUN: 15:00
BULLETIN DATE: 6/2/83
BULLETIN TIME: 15:00

HURRICANE MOVEMENT SPEED IN MPH: 10
HURRICANE WINDSPEED IN MPH: 120
DIRECTION OF MOVEMENT TOWARD A POINT 70 MILES LEFT OF PORT ARANSAS IN DEGREES: 310
NUMBER OF MILES FROM LANDFALL FOR A LOCATION 70 MILES LEFT OF PORT ARANSAS: 435

ZN	ANTICIPATED TIME OF LANDFALL DAY HR:MN	LOW TIDE DAY HR:MN	MEAN SEA LEVEL DAY HR:MN	HIGH TIDE DAY HR:MN	AUTOMOBILE WIND SPEED DAY HR:MN	TRUCK WIND SPEED DAY HR:MN	EARLIEST LISTED EVACUATION TIME DAY HR:MN
A1	J4 10:30	J3 19:00	J3 16:30	J3 14:30	J3 18:00	J3 13:30	J3 13:30
**	J4 10:30	J4 1:30	J3 23:00	J3 21:00	J4 0:30	J3 20:00	J3 20:00
A2	J4 10:30	N C	N C	N C	. .	J3 16:30	J3 16:30
**	J4 10:30	N C	N C	N C	. .	J3 23:00	J3 23:00
K1	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:30	J3 12:30	J3 12:30
**	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:30	J3 12:30	J3 12:30
K2	J4 10:30	N C	N C	N C	J4 2:54	J4 0:54	J4 0:54
**	J4 10:30	N C	N C	N C	J4 2:54	J4 0:54	J4 0:54
KA	. .	. .	. .	. .	. .	. .	. .
L1	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:30	J3 12:30	J3 12:30
**	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:30	J3 12:30	J3 12:30
L2	J4 10:30	N C	N C	N C	J4 5:18	J4 3:18	J4 3:18
**	J4 10:30	N C	N C	N C	J4 5:24	J4 3:24	J4 3:24
LA	. .	. .	. .	. .	. .	. .	. .
N1	J4 10:30	J3 17:30	J3 17:00	J3 14:00	J3 15:00	J3 11:00	J3 11:00
**	J4 10:30	J4 7:00	J4 6:30	J4 3:30	J4 4:30	J4 0:30	J4 0:30
N2	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:30	J3 12:30	J3 12:30
**	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:30	J3 12:30	J3 12:30
N3	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:00	J3 12:30	J3 12:30
**	J4 10:30	. .	J3 20:00	J3 17:30	J3 16:00	J3 12:30	J3 12:30
NA	. .	. .	. .	. .	. .	. .	. .
R1	J4 10:30	. .	J4 7:00	J4 1:00	J4 6:30	J4 1:30	J4 1:00
**	J4 10:30	. .	J4 7:24	J4 1:24	J4 6:54	J4 1:54	J4 1:24
R2	J4 10:30	N C	N C	N C	. .	J4 3:00	J4 3:00
**	J4 10:30	N C	N C	N C	. .	J4 3:00	J4 3:00
RA	. .	. .	. .	. .	. .	. .	. .
S1	J4 10:30	. .	. .	. .	J3 22:00	J3 17:30	J3 17:30
**	J4 10:30	. .	. .	. .	J4 4:54	J4 0:24	J4 0:24
SA	. .	. .	. .	. .	. .	. .	. .

THE TIMES GIVEN FOR EACH ZONE ARE FOR EVACUATION OF THE ENTIRE ZONE & THE '**' FOLLOWING A ZONE ARE TIMES FOR ONLY EVACUATION OF THE POSSIBLE STORM SURGE PENETRATION AREAS OF THAT ZONE (ONLY USED FOR WINDSPEEDS UNDER 130 mph).
IF IT IS TOO LATE TO EVACUATE A ZONE, THEN A 'T L' IS PLACED IN THAT LOCATION.
IF A VALUE IS NOT CALCULATED, THEN AN 'N C' IS PLACED IN THAT LOCATION.
IF A VALUE IS CALCULATED BUT NOT SIGNIFICANT, THEN A '. .' IS PLACED IN THAT LOCATION.
VALUES FOR CONTINGENCY ZONES ARE NOT CONSIDERED SIGNIFICANT UNTIL WIND SPEEDS EXCEED 130 mph.
THE 'L' UNDER ZONES STANDS FOR KLEBERG COUNTY.

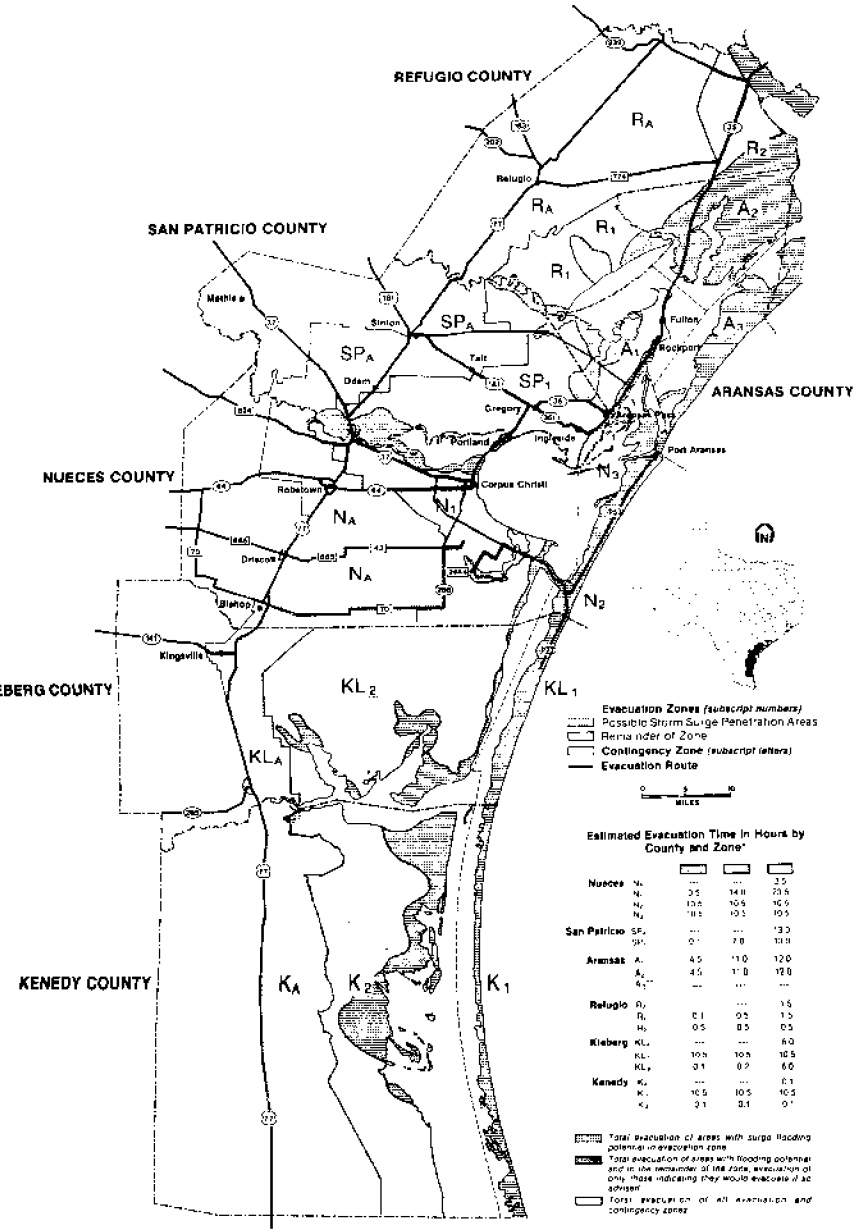
A LOCATION 30 MILES RIGHT OF PORT ARANSAS
EVACUATION TIMES FOR ZONES

DATE OF RUN: 6/2/83
TIME OF RUN: 15:00
BULLETIN DATE: 6/2/83
BULLETIN TIME: 15:00

HURRICANE MOVEMENT SPEED IN MPH: 10
HURRICANE WINDSPEED IN MPH: 120
DIRECTION OF MOVEMENT TOWARD
A POINT 30 MILES RIGHT OF PORT ARANSAS IN DEGREES: 320
NUMBER OF MILES FROM LANDFALL
FOR A LOCATION 30 MILES RIGHT OF PORT ARANSAS: 445

ZN	ANTICIPATED TIME OF LANDFALL DAY HR:MN	LOW TIDE DAY HR:MN	MEAN SEA LEVEL DAY HR:MN	HIGH TIDE DAY HR:MN	AUTOMOBILE WIND SPEED DAY HR:MN	TRUCK WIND SPEED DAY HR:MN	EARLIEST LISTED EVACUATION TIME DAY HR:MN
A1	J4 11:30	. .	. .	J3 17:30	J3 14:30	J3 11:30	J3 11:30
**	J4 11:30	. .	. .	J3 24:00	J3 21:00	J3 18:00	J3 18:00
A2	J4 11:30	N C	N C	N C	J3 14:00	J3 11:00	J3 11:00
**	J4 11:30	N C	N C	N C	J3 20:30	J3 17:30	J3 17:30
K1	J4 11:30	. .	. .	. .	J3 16:30	J3 13:00	J3 13:00
**	J4 11:30	. .	. .	. .	J3 16:30	J3 13:00	J3 13:00
K2	J4 11:30	N C	N C	N C	. .	. .	. .
**	J4 11:30	N C	N C	N C	. .	. .	. .
KA	. .	. .	. .	. .	. .	. .	. .
L1	J4 11:30	. .	. .	. .	J3 16:30	J3 13:00	J3 13:00
**	J4 11:30	. .	. .	. .	J3 16:30	J3 13:00	J3 13:00
L2	J4 11:30	N C	N C	N C	. .	J4 5:18	J4 5:18
**	J4 11:30	N C	N C	N C	. .	J4 5:24	J4 5:24
LA	. .	. .	. .	. .	. .	. .	. .
N1	J4 11:30	. .	. .	. .	J3 14:30	J3 11:30	J3 11:30
**	J4 11:30	. .	. .	. .	J4 4:00	J4 1:00	J4 1:00
N2	J4 11:30	. .	. .	. .	J3 16:30	J3 13:00	J3 13:00
**	J4 11:30	. .	. .	. .	J3 16:30	J3 13:00	J3 13:00
N3	J4 11:30	. .	. .	. .	J3 15:30	J3 12:00	J3 12:00
**	J4 11:30	. .	. .	. .	J3 15:30	J3 12:00	J3 12:00
NA	. .	. .	. .	. .	. .	. .	. .
R1	J4 11:30	. .	. .	. .	J4 2:30	J3 23:30	J3 23:30
**	J4 11:30	. .	. .	. .	J4 2:54	J3 23:54	J3 23:54
R2	J4 11:30	N C	N C	N C	J4 0:30	J3 21:30	J3 21:30
**	J4 11:30	N C	N C	N C	J4 0:30	J3 21:30	J3 21:30
RA	. .	. .	. .	. .	. .	. .	. .
S1	J4 11:30	. .	. .	. .	J3 19:00	J3 16:00	J3 16:00
**	J4 11:30	. .	. .	. .	J4 1:54	J3 22:54	J3 22:54
SA	. .	. .	. .	. .	. .	. .	. .

THE TIMES GIVEN FOR EACH ZONE ARE FOR EVACUATION OF THE ENTIRE ZONE & THE '**' FOLLOWING A ZONE ARE TIMES FOR ONLY EVACUATION OF THE POSSIBLE STORM SURGE PENETRATION AREAS OF THAT ZONE (ONLY USED FOR WINDSPEEDS UNDER 130 mph).
IF IT IS TOO LATE TO EVACUATE A ZONE, THEN A 'T L' IS PLACED IN THAT LOCATION.
IF A VALUE IS NOT CALCULATED, THEN AN 'N C' IS PLACED IN THAT LOCATION.
IF A VALUE IS CALCULATED BUT NOT SIGNIFICANT, THEN A '. .' IS PLACED IN THAT LOCATION.
VALUES FOR CONTINGENCY ZONES ARE NOT CONSIDERED SIGNIFICANT UNTIL WIND SPEEDS EXCEED 130 mph.
THE 'L' UNDER ZONES STANDS FOR KLEBERG COUNTY.


REFUGIO COUNTY
SAN PATRICIO COUNTY
ARANSAS COUNTY
NUECES COUNTY
KLEBERG COUNTY
KENEDY COUNTY
Refugio
Mathis
Sinton
Odem
Taft
Gregory
Portland
Ingleside
Rockport
Fulton
Port Aransas
Corpus Christi
Robstown
Driscoll
Bishop
Kingsville
R_A
R_2
R_1
SP_A
SP_1
A_2
A_1
N_3
N_2
N_1
N_A
KL_2
KL_1
KL_A
K_A
K_2
K_1
Evacuation Zones (subscript numbers)
Possible Storm Surge Penetration Areas
Remainder of Zone
Contingency Zone (subscript letters)
Evacuation Route
0 5 10
MILES
Estimated Evacuation Time in Hours by County and Zone*
Nueces
San Patricio
Aransas
Refugio
Kleberg
Kenedy
Total evacuation of areas with surge flooding potential in evacuation zone
Total evacuation of areas with flooding potential and in the remainder of the zone, evacuation of only those indicating they would evacuate in an advisory
Total evacuation of all evacuation and contingency zones