The Nautical Charting Plan

Nautical Charts play a key role in providing safe passage...

U.S. Department of Commerce
National Oceanic and Atmospheric Administration

Third Edition
December 1997

Introduction to the Third Edition

The Third Edition of the Nautical Charting Plan has been revised to reflect ranking of the port areas based on 1996 tonnage data. Information regarding quality of charting data has been added. Areas of United States waters that are considered to be "critical" in terms of need for new surveys to collect depth information are added on the port location graphics.

Please address comments on this nautical charting plan to:

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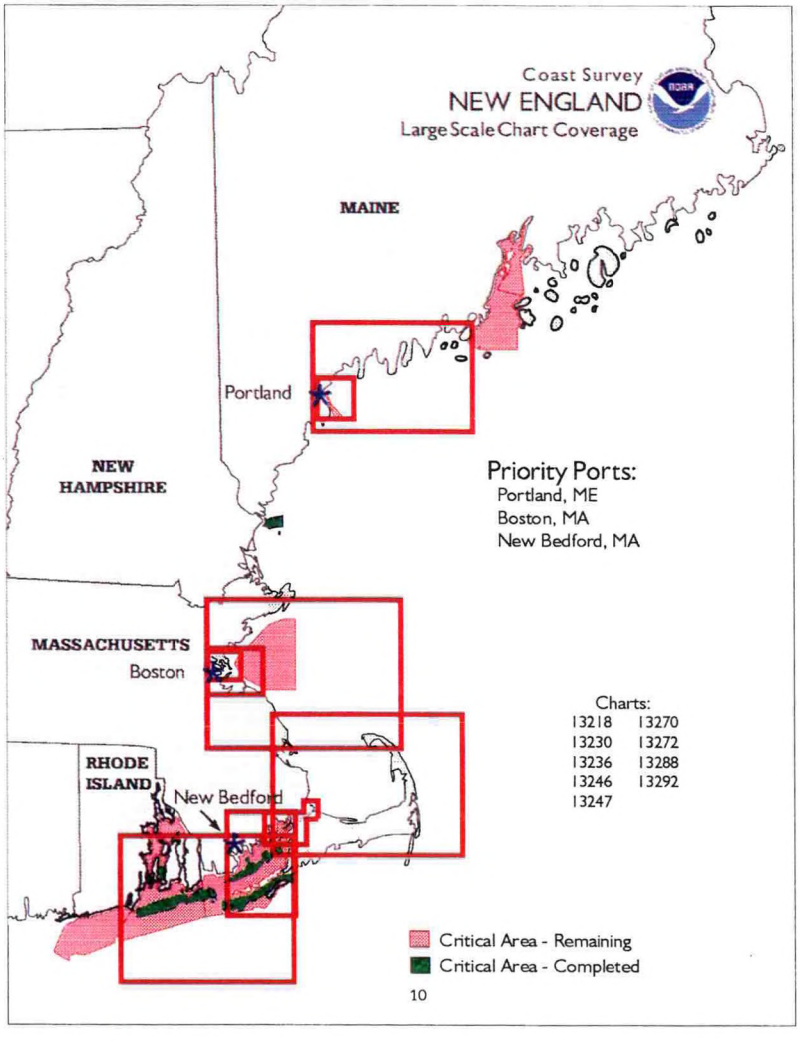
National Ocean Service
1315 East-West Highway
Silver Spring, Maryland 20910-3282

FAX: 301-713-4516

SAMPLE



Office of Coast Survey
Nautical Charting Plan
Third Edition: DECEMBER 1997

NOAA's Office of Coast Survey has developed a nautical chart maintenance plan to provide priority support to marine commerce. The Coast Survey is placing the nautical charts covering the major U.S. ports on an accelerated updating and publication schedule to provide mariners with the most current information.

The Coast Survey has operated under severe resource constraints in the past. With reduced resources, the Coast Survey is compelled to prioritize every element of its budget, including the scheduling and printing of new editions of nautical charts and hydrographic surveying. To maintain the suite of nautical charts in a state of currency requires the annual publication of approximately 400 new editions. Resource levels for Fiscal Year 1998 will sustain the compilation, engraving, printing, and distribution cost for 360 new nautical chart editions, ninety percent of what is required to properly maintain the entire chart suite.

The Coast Survey has designed a priority scheme to support the marine transportation infrastructure as well as possible with the available resources. The charts that support the busiest commercial ports and trade routes are being published more frequently in order to reflect changing conditions. This publication schedule has been developed to assure data currency and to prevent an excessive accumulation of Notice to Mariners corrections to be applied by the mariner. Charts of lower priority areas will be published less frequently than now scheduled.

The number of new editions of nautical charts and hydrographic surveys required to support all U.S. ports exceeds the annual capability of the Coast Survey at the chart publication frequency required. Therefore, a production model was developed that allocates the Coast Survey chart production and hydrographic surveying resources to the highest ranked ports. The charts that support the largest commercial ports and trade routes were chosen by analyzing data that rank U.S. ports by tonnage of goods moving through them. While this model does not support all ports, it does:

- Include 62% of the ports ranked by tonnage of goods and accounts for 94% of the total tonnage handled in the ranked U.S. ports and harbors.
- Include approximately 63% of the ports ranked by value of goods and accounts for 99% of the total value of goods handled in ranked U.S. ports and harbors.
- Support major ports of call within the continental U.S. that are visited by the cruise line industry.
- Support the Coast Survey priority scheme for hydrographic surveying and coincide with the most current and planned hydrographic survey activity.

- Include those areas where the most frequent and critical changes occur.

Some additional areas of charting importance are not directly associated with a particular port. Examples of these types of areas are coastal sea routes and cruise ship operating areas. Some of these areas, formerly considered remote, have never been adequately surveyed and are now being comprehensively surveyed for the first time. As these new surveys are completed, the affected charts are being updated on a priority basis.

A new edition of a nautical chart is constructed by revising the current edition of the chart with new information received since it was last published. The new information typically comes from many sources and is used to revise various charted features. A new edition does not imply that all the data on the chart is newly collected, only that information significant enough to justify publication of a revised chart has been received. This is especially true of the depth information on a nautical chart, the information that results from hydrographic surveys.

Until the 1940's, surveys were conducted with lead lines for measuring depths and sextants for determining positions. Approximately 50 percent of the soundings on Coast Survey nautical charts are from survey data collected before 1940 using lead lines. This methodology could miss large and potentially hazardous features rising from the sea floor. Since then the application of electronics to surveying equipment has resulted in recording fathometers and positioning systems which have evolved into modern multi-beam sounding equipment that can "see" the entire bottom and the Differential Global Positioning System for determining location. Even with advances in technology, however, conducting surveys to collect depth information is costly and time consuming.

The Coast Survey is responsible for surveying and charting more than 3 million square nautical miles of ocean. To prioritize its surveying operations, Coast Survey has developed criteria for determining which coastal areas are in critical need of updated depth information. These criteria include depth of the area, quality of existing depth information, passenger traffic, volume and type of cargo traffic, and the area's proximity to fisheries and marine resources.

There were 43,000 square nautical miles of ocean area in 1994 that met the criteria to be designated as critical needs areas. These critical needs areas are primarily coastal shipping lanes and major U.S. ports and their approaches. Since 1994 approximately 5,000 square nautical miles of critical needs area have been surveyed using modern methods and equipment. Approximately 16,000 square nautical miles in the continental U.S. and Hawaii and 22,000 square nautical miles in Alaska still require surveying with modern means.

Many areas not included in the designated critical needs category have never been adequately surveyed. In other areas changes such as shifting shoals and recently reported wrecks and obstructions add to the requirements for surveys. Although the U.S. Coast Guard, U.S. Army Corps of Engineers, local port authorities, and mariners report these hazards, it is NOAA's responsibility to locate and determine the depth over them. With limited resources, prioritizing the performance of these surveys is Coast Survey's challenge.

Another important source of information is the Physical Oceanographic Real-Time Systems (PORTS). PORTS allows ships to access real-time data from instruments that measure currents, water levels (tides), winds, waves, temperatures, and salinity. PORTS, by providing the accurate water level and current information that pilots need to avoid ship groundings and collisions, also allows shippers to recognize conditions suitable for additional loading of goods. PORTS are operational in Tampa Bay, New York Harbor, San Francisco Bay, and Galveston Bay.

The third edition of this charting plan includes the following changes:

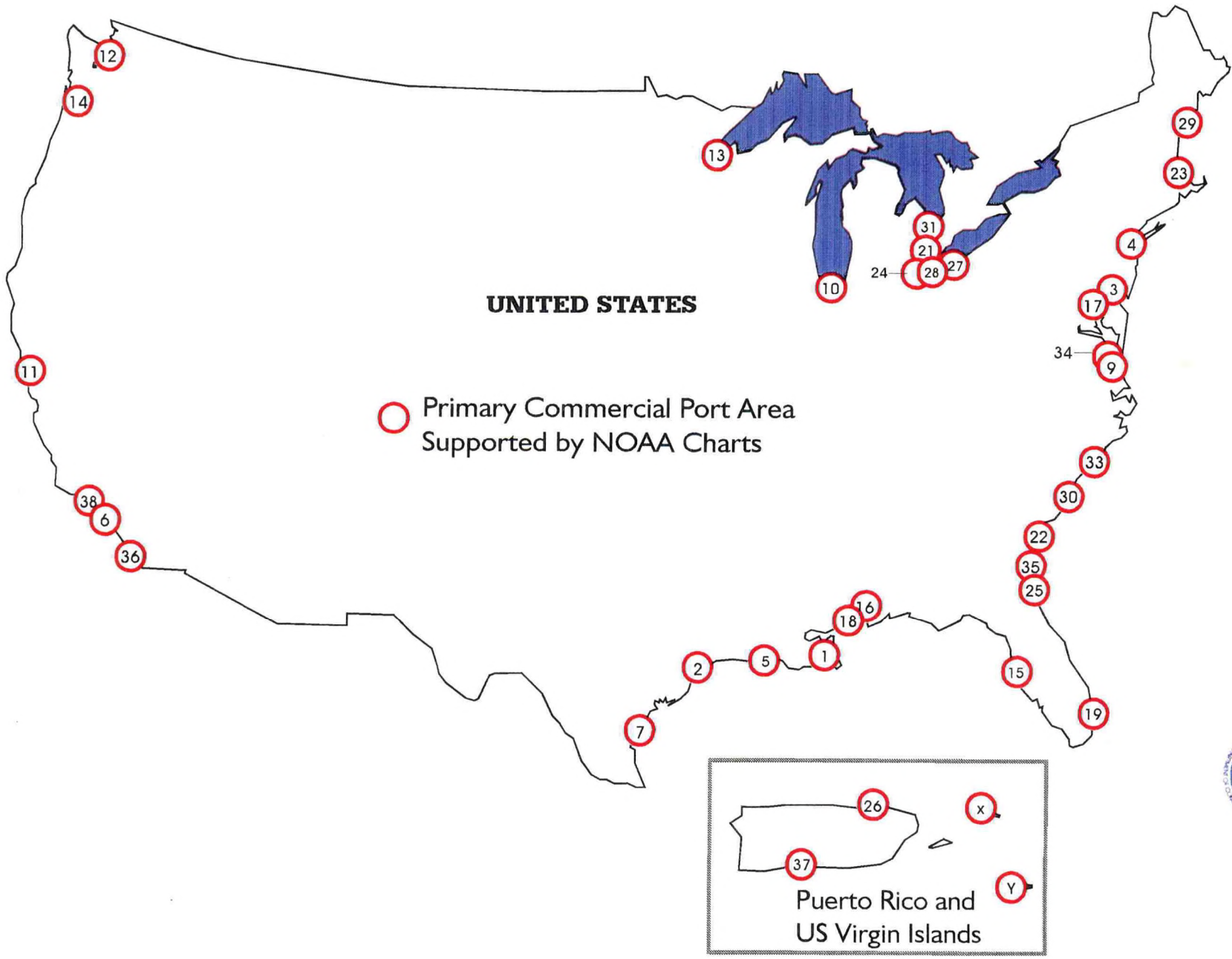
- Additional information on critical areas that require hydrographic surveying.
- The addition of charts 11312, 11377, 12314, 18772, and 18773.
- Deletion of chart 11378.
- Replacement of charts 11413 and 11414 with chart 11417.

The following pages graphically portray the nautical charts necessary for minimal navigational support of major commercial ports that have been placed on the accelerated publication schedule. Also portrayed are those areas identified as in critical need of modern hydrographic surveys.

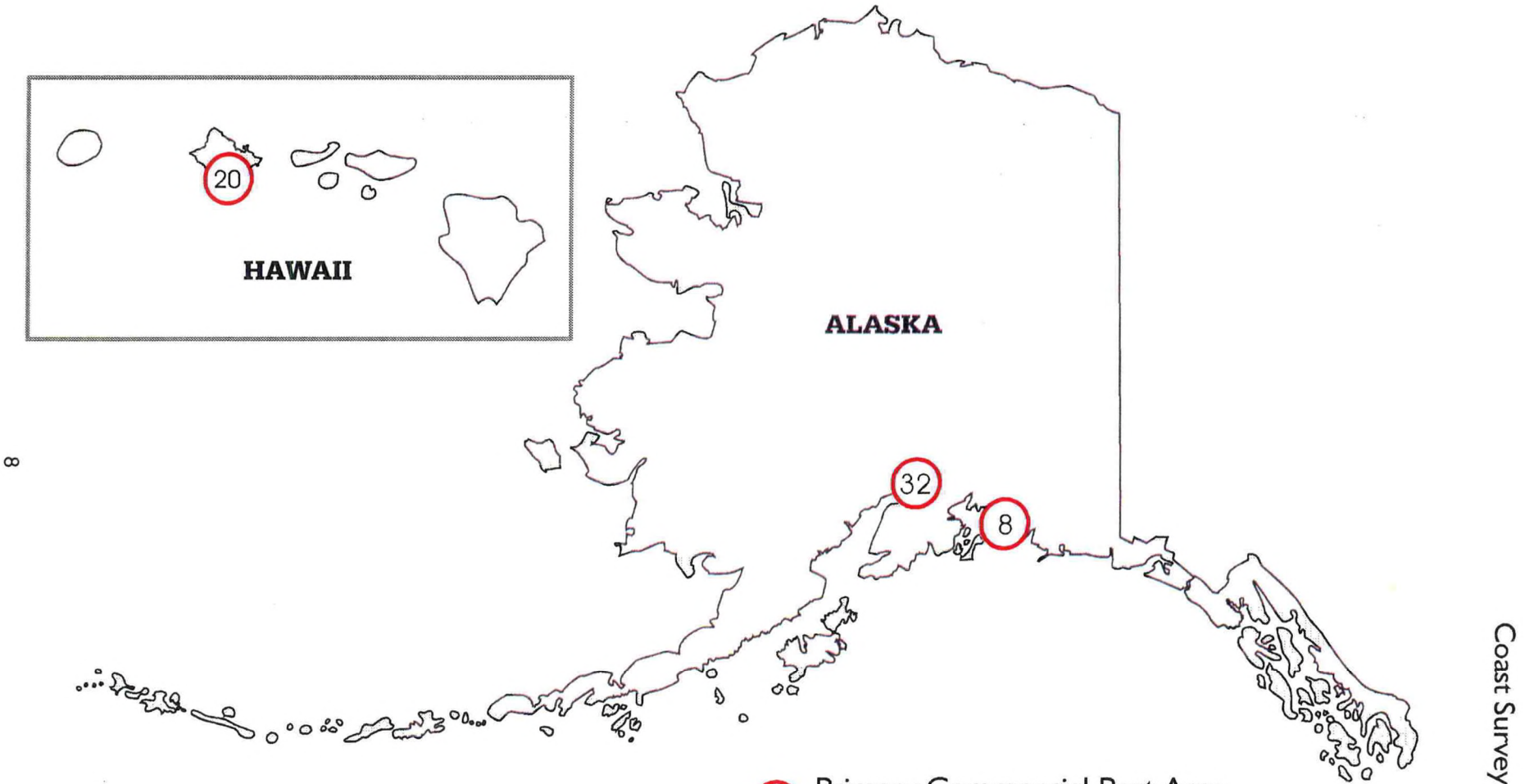
MAJOR U. S. PORT CITIES and SATELLITE PORTS

(grouped by location; ranked by total cargo tonnage)

RANK	PORT AREAS
1	**Port of South LA, LA**
	Baton Rouge, LA
	New Orleans, LA
	Plaquemine, LA
	Morgan City, LA
	Avondale, LA
2	**Houston, TX**
	Texas City, TX
	Freeport, TX
	Galveston, TX
3	**Philadelphia, PA**
	Marcus Hook, PA
	Paulsboro, PA
	New Castle, DE
	Camden, NJ
	Wilmington, DE
	Chester, PA
	Trenton, NJ
	Morrisville, PA
	Burlington, NJ
4	**Port of NY/NJ**
5	**Port Arthur, TX**
	Beaumont, TX
	Orange, TX
	Lake Charles, LA
6	**Long Beach, CA**
	Los Angeles, CA
7	**Corpus Christi, TX**
	Matagorda, TX
	Victoria, TX
	Brownsville, TX
	Port Lavaca, TX
8	**Valdez, AK**
9	**Norfolk, VA**
	Newport News, VA
10	**Chicago, IL**
	Indiana Harbor, IN
	Burns Int'l Harbor, IN
	Gary, IN
	Port Inland, MI
	Buffington, IN
	East Chicago, IN
11	**Richmond, CA**
	Oakland, CA
	San Francisco, CA
	Carquinez Strait, CA
	Martinez, CA
	Selby, CA
	Alameda, CA
	San Pablo Bay, CA
12	**Seattle, WA**
	Tacoma, WA
	Anacortes, WA
13	**Duluth/Superior, MN/WI**
	Two Harbors, MN
	Silver Bay, MN
	Drummond Island, MI
	Sault Ste. Marie, MI
14	**Portland, OR**
	Vancouver, WA
	Kalama, WA
	Longview, WA
	Astoria, OR
15	**Tampa, FL**
	Manatee, FL
	St. Petersburg, FL
16	**Mobile, AL**
17	**Baltimore, MD**
18	**Pascagoula, MS**
	Biloxi, MS
	Gulfport, MS
19	**Port Everglades, FL**
	Miami, FL
	Palm Beach, Fl
	Ft. Lauderdale, FL
20	**Honolulu, HI**
	Barbers Pt, HI
21	**Detroit, MI**
22	**Savannah, GA**
23	**Boston, MA**
	New Bedford, MA
24	**Toledo, OH**
	Monroe, MI
25	**Jacksonville, FL**
26	**San Juan, PR**
27	**Cleveland, OH**
28	**Lorain, OH**
29	**Portland, ME**
30	**Charleston, SC**
31	**St. Clair, MI**
	Marine City, MI
	Port Huron, MI
32	**Nikiski, AK**
	Anchorage, AK
33	**Wilmington, NC**
34	**Richmond, VA**
	Hopewell, VA
35	**Brunswick, GA**
36	**San Diego, CA**
37	**Ponce, PR**
38	**Port Hueneme, CA**
	Ventura, CA
X	**Charlotte Amalie**
	St. Thomas, VI
Y	**Christiansted,**
	St. Croix, VI



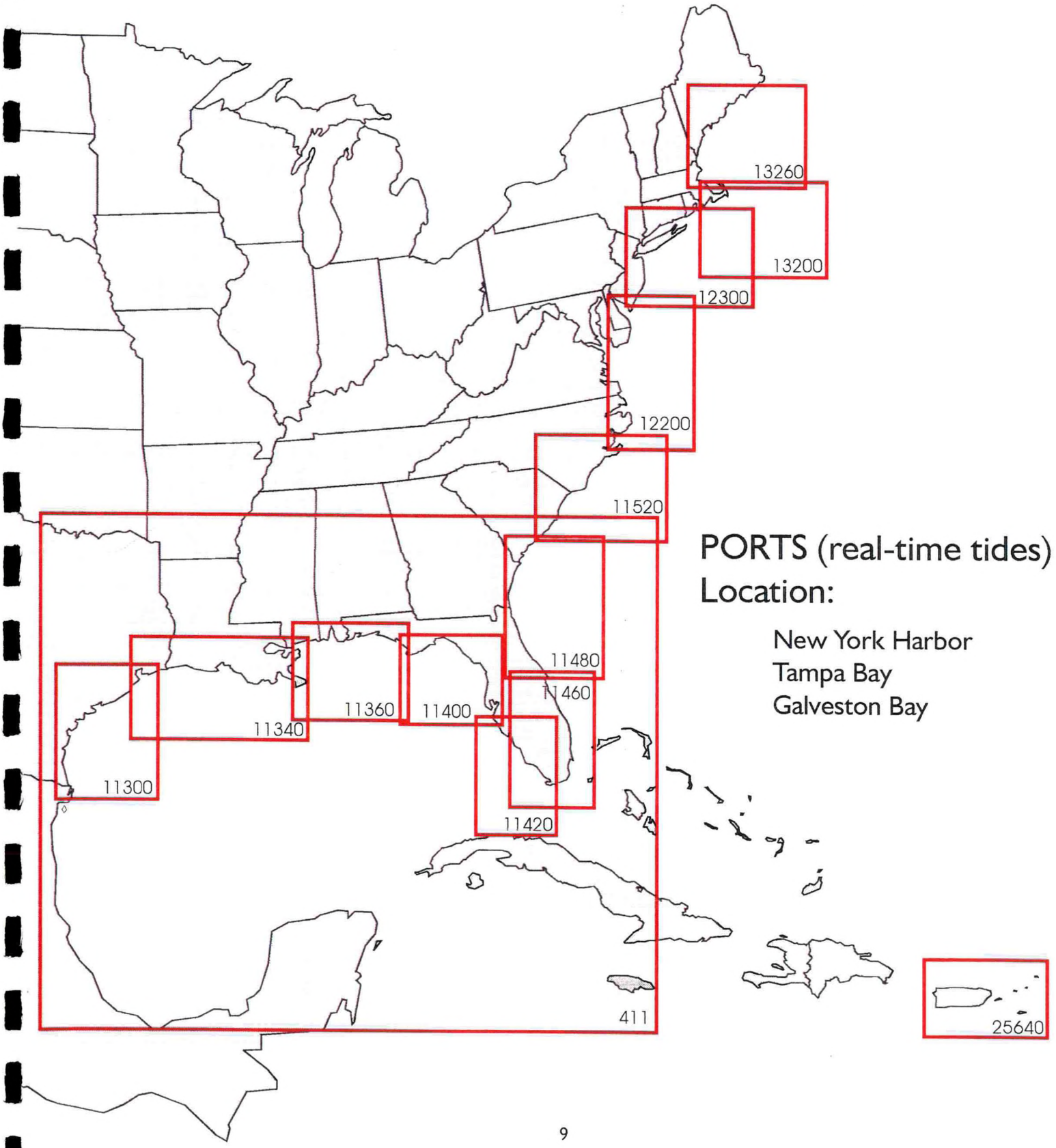
Coast Survey


20
HAWAII
ALASKA
32
8
Primary Commercial Port Area
Supported by NOAA Charts

Coast Survey

EAST AND GULF COAST STATES

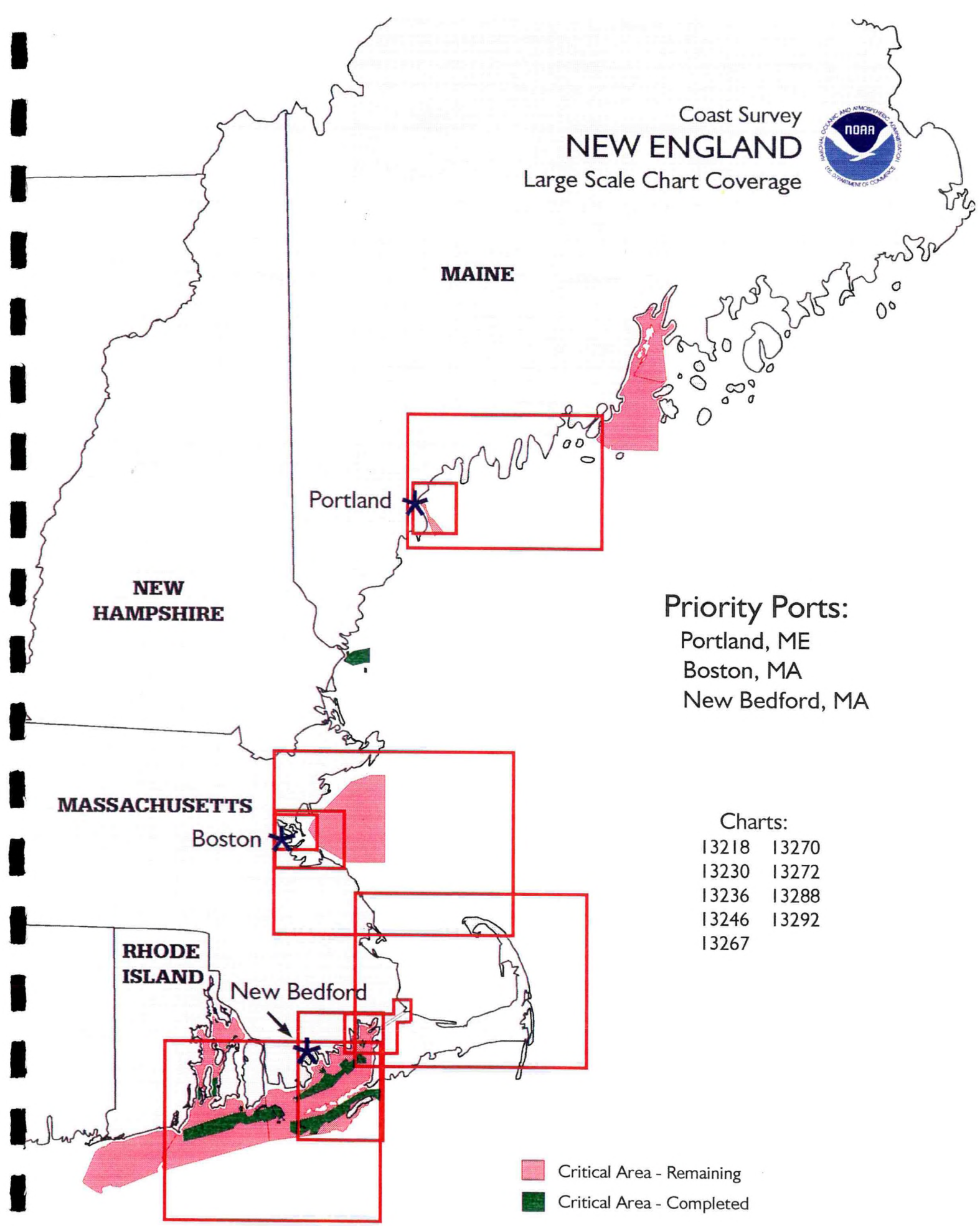
Small Scale Chart Coverage



PORTS (real-time tides)

Location:

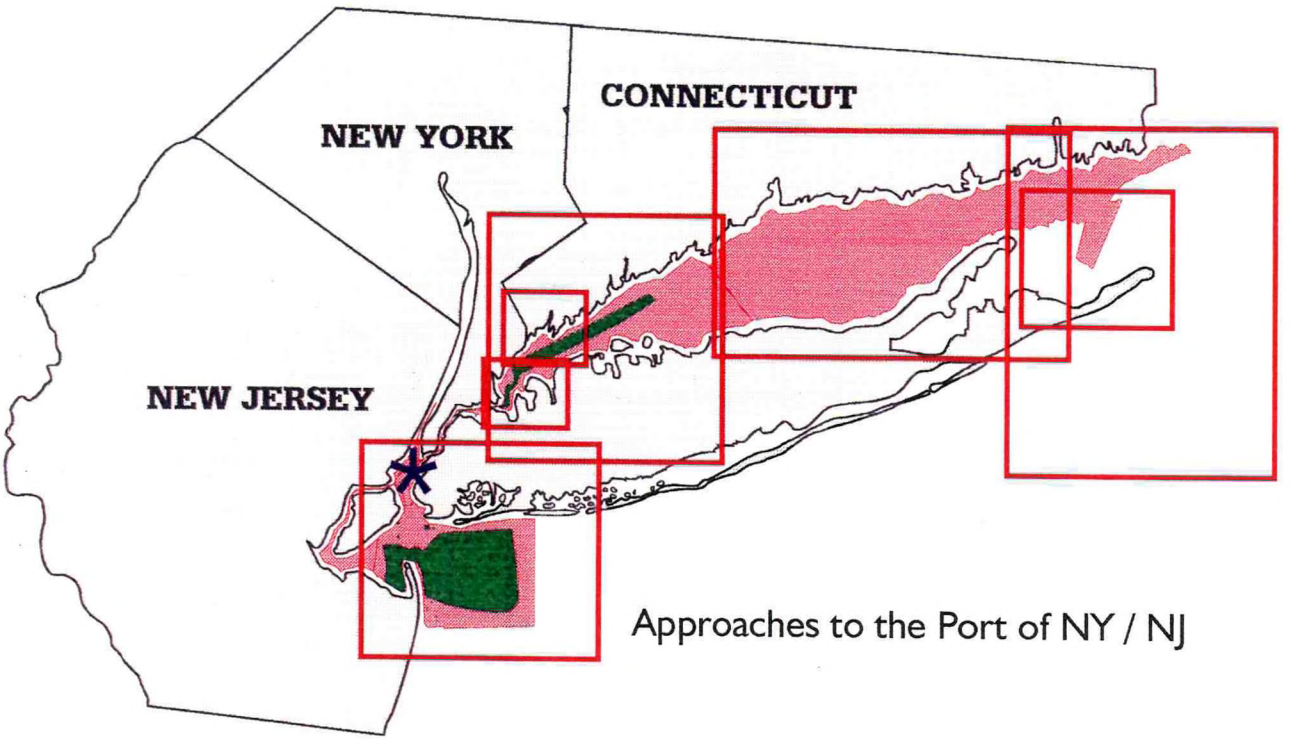
New York Harbor
Tampa Bay
Galveston Bay


Coast Survey
NEW ENGLAND
Large Scale Chart Coverage
MAINE
Portland
NEW HAMPSHIRE
MASSACHUSETTS
Boston
RHODE ISLAND
New Bedford
Priority Ports:
Portland, ME
Boston, MA
New Bedford, MA
Charts:
13218 13270
13230 13272
13236 13288
13246 13292
13267
Critical Area - Remaining
Critical Area - Completed

Coast Survey

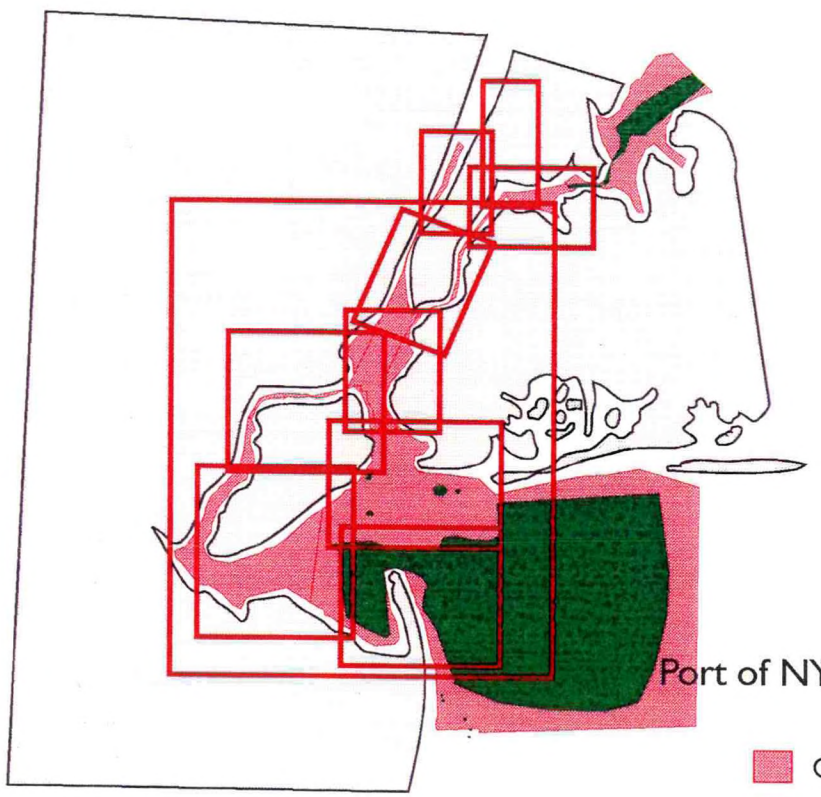
NEW YORK / NEW JERSEY

Small and Large Scale Chart Coverage



Charts:
12326
12354
12363
12366
12367
13205
13209

Approaches to the Port of NY / NJ

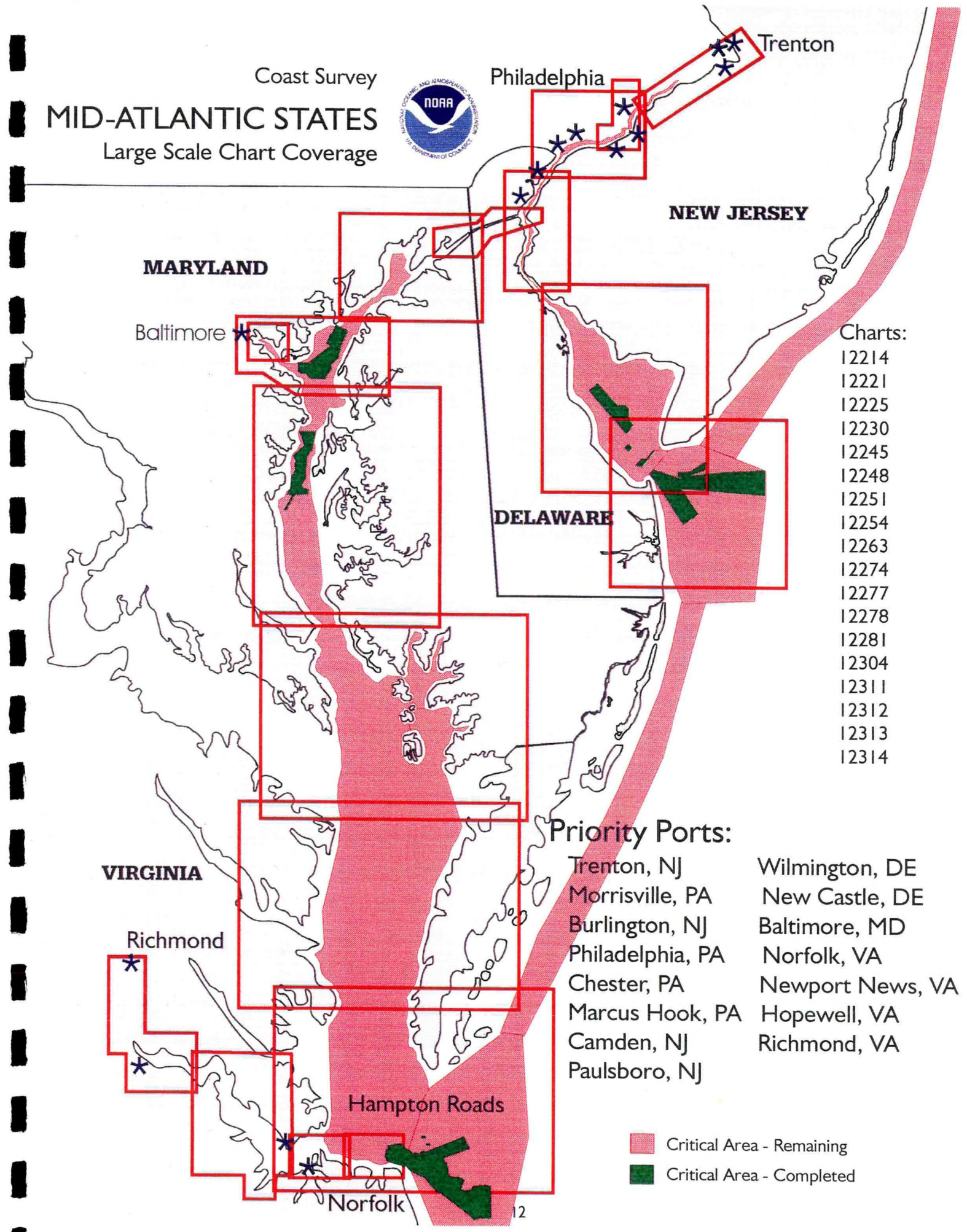


Charts:
12327
12331
12333
12334
12335
12339
12341
12342
12401
12402

Port of NY / NJ (enlarged)

Critical Area - Remaining

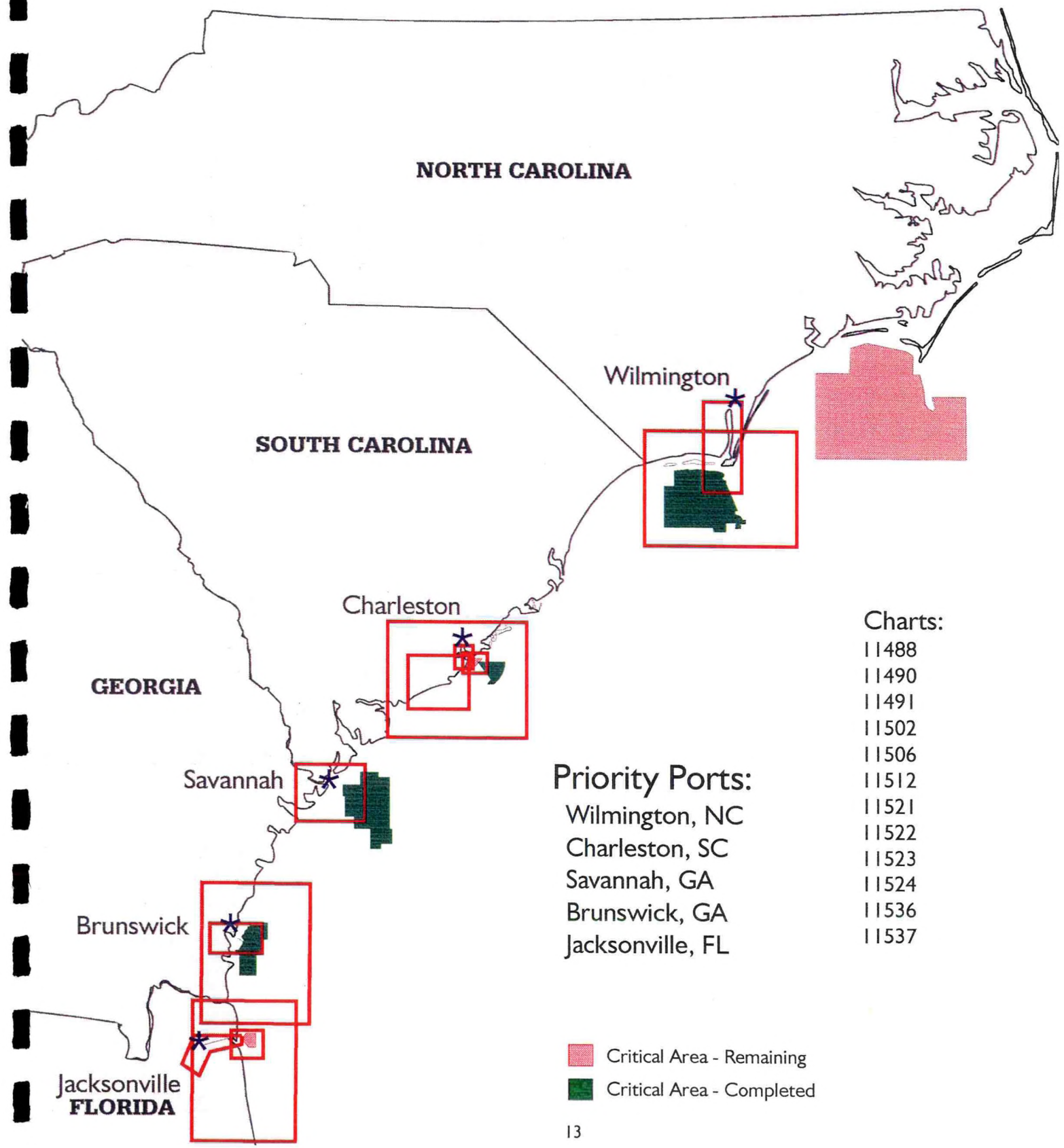
Critical Area - Completed


Coast Survey
MID-ATLANTIC STATES
Large Scale Chart Coverage
NOAA
Trenton
Philadelphia
NEW JERSEY
MARYLAND
Baltimore
DELAWARE
VIRGINIA
Richmond
Hampton Roads
Norfolk
Charts:
12214
12221
12225
12230
12245
12248
12251
12254
12263
12274
12277
12278
12281
12304
12311
12312
12313
12314
Priority Ports:
Trenton, NJ
Morrisville, PA
Burlington, NJ
Philadelphia, PA
Chester, PA
Marcus Hook, PA
Camden, NJ
Paulsboro, NJ
Wilmington, DE
New Castle, DE
Baltimore, MD
Norfolk, VA
Newport News, VA
Hopewell, VA
Richmond, VA
Critical Area - Remaining
Critical Area - Completed

Coast Survey

SOUTHEAST ATLANTIC

Large Scale Chart Coverage



Priority Ports:

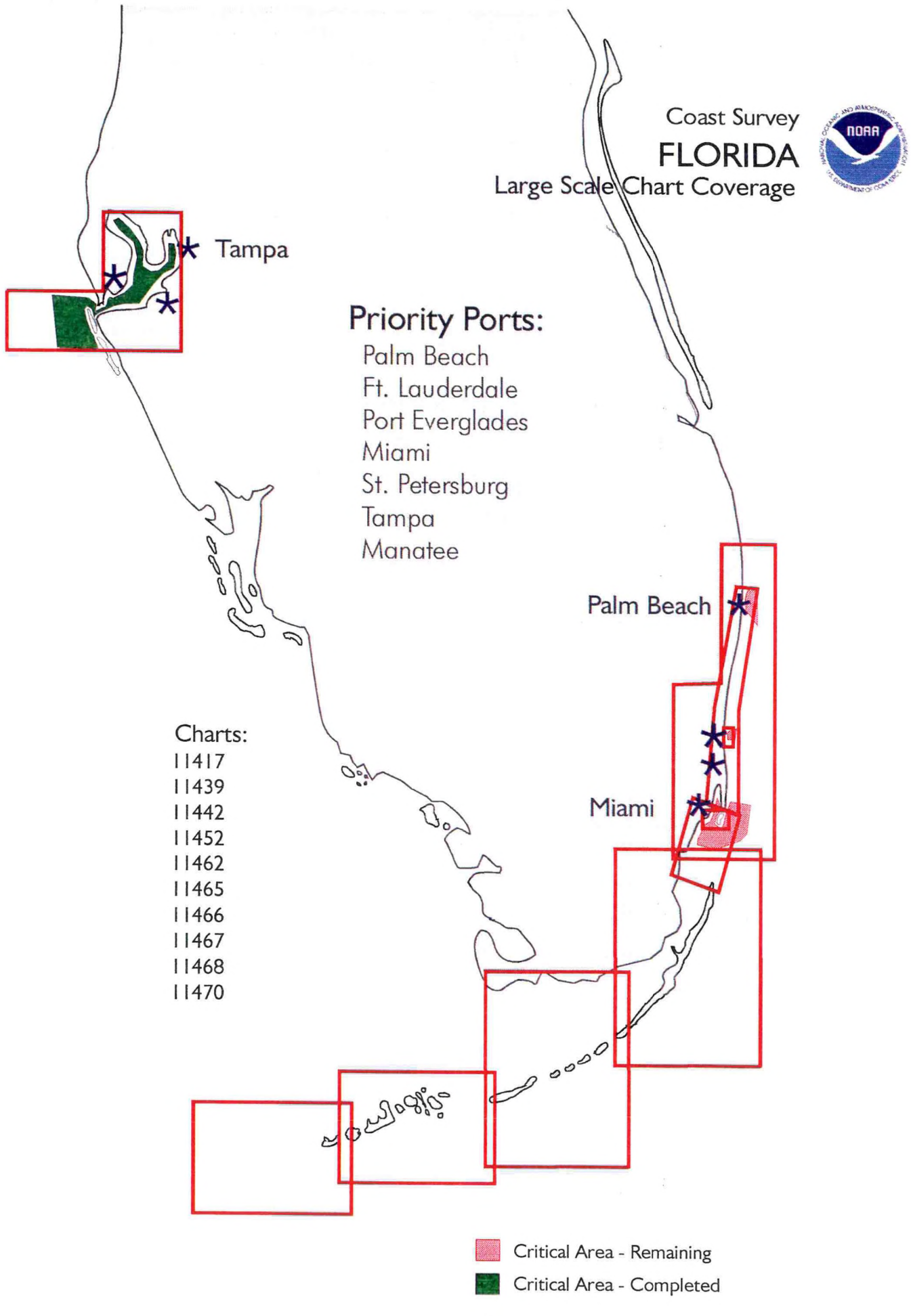
Wilmington, NC
Charleston, SC
Savannah, GA
Brunswick, GA
Jacksonville, FL

Charts:

11488
11490
11491
11502
11506
11512
11521
11522
11523
11524
11536
11537

Critical Area - Remaining

Critical Area - Completed


Coast Survey
FLORIDA
Large Scale Chart Coverage
Tampa
Priority Ports:
Palm Beach
Ft. Lauderdale
Port Everglades
Miami
St. Petersburg
Tampa
Manatee
Palm Beach
Miami
Charts:
11417
11439
11442
11452
11462
11465
11466
11467
11468
11470
Critical Area - Remaining
Critical Area - Completed

Coast Survey

CENTRAL GULF COAST

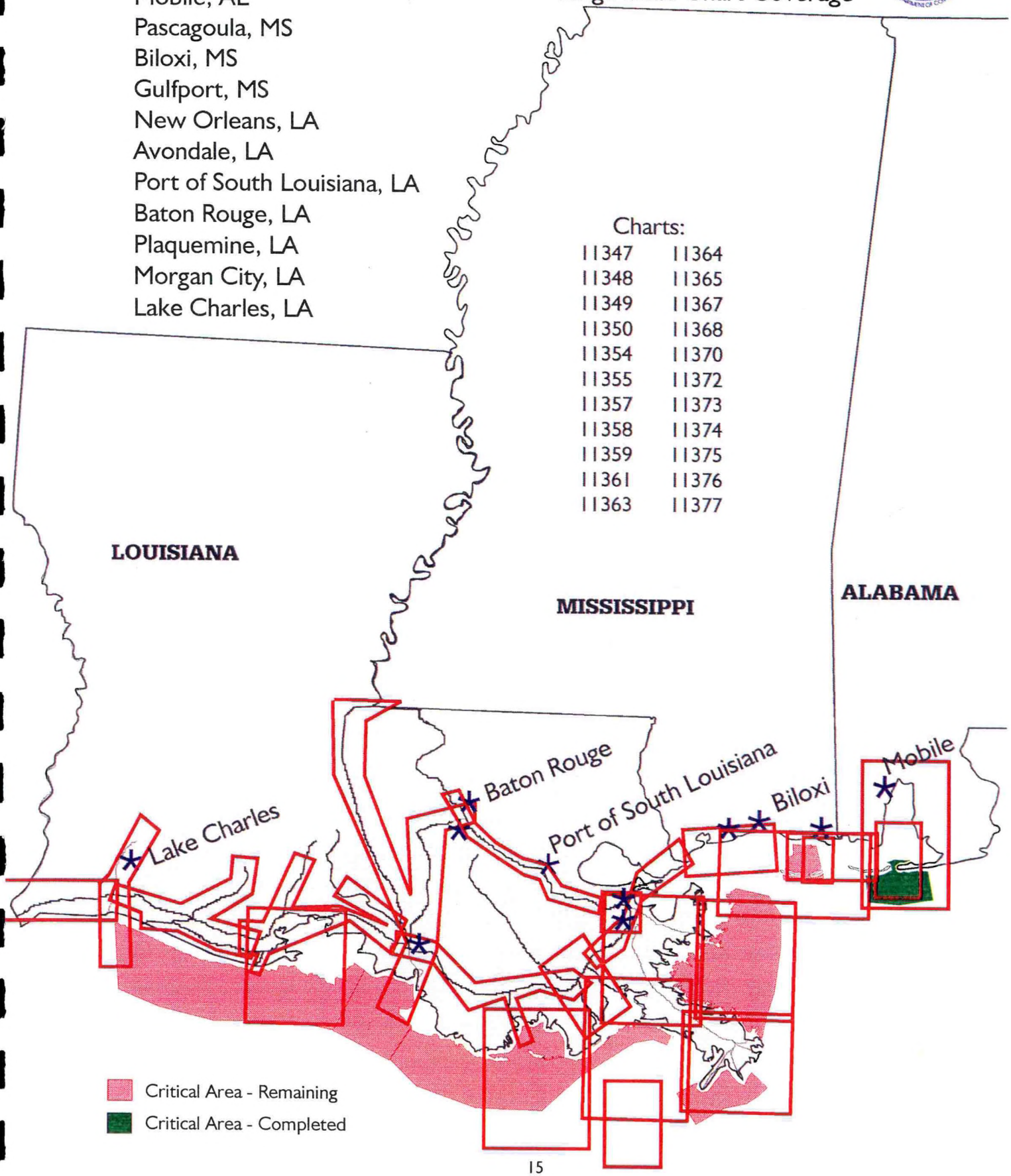
Large Scale Chart Coverage

Priority Ports:

- Mobile, AL
- Pascagoula, MS
- Biloxi, MS
- Gulfport, MS
- New Orleans, LA
- Avondale, LA
- Port of South Louisiana, LA
- Baton Rouge, LA
- Plaquemine, LA
- Morgan City, LA
- Lake Charles, LA

Charts:

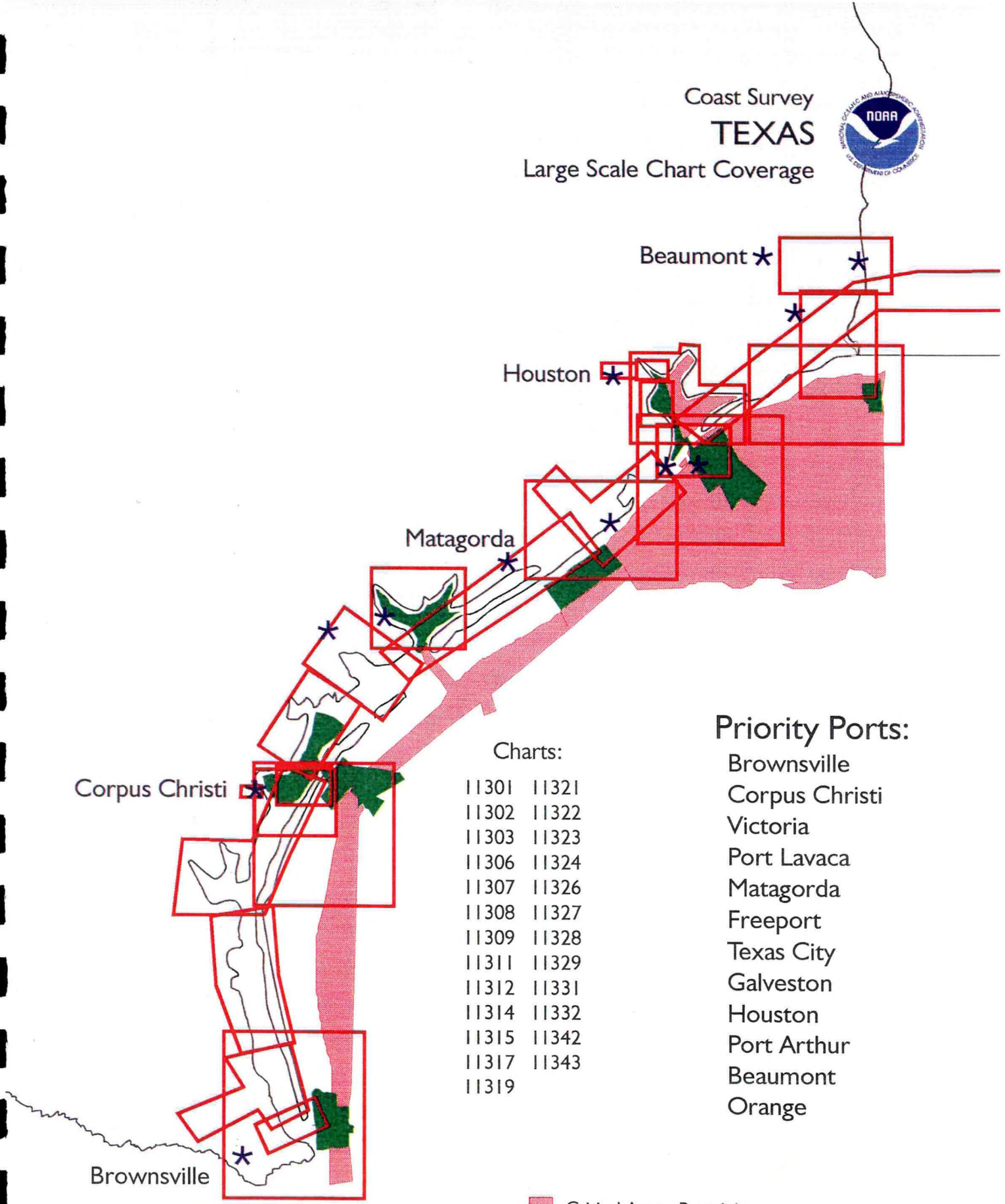
11347	11364
11348	11365
11349	11367
11350	11368
11354	11370
11355	11372
11357	11373
11358	11374
11359	11375
11361	11376
11363	11377



Coast Survey

TEXAS

Large Scale Chart Coverage



Charts:

11301	11321
11302	11322
11303	11323
11306	11324
11307	11326
11308	11327
11309	11328
11311	11329
11312	11331
11314	11332
11315	11342
11317	11343
11319	

Priority Ports:

- Brownsville
- Corpus Christi
- Victoria
- Port Lavaca
- Matagorda
- Freeport
- Texas City
- Galveston
- Houston
- Port Arthur
- Beaumont
- Orange

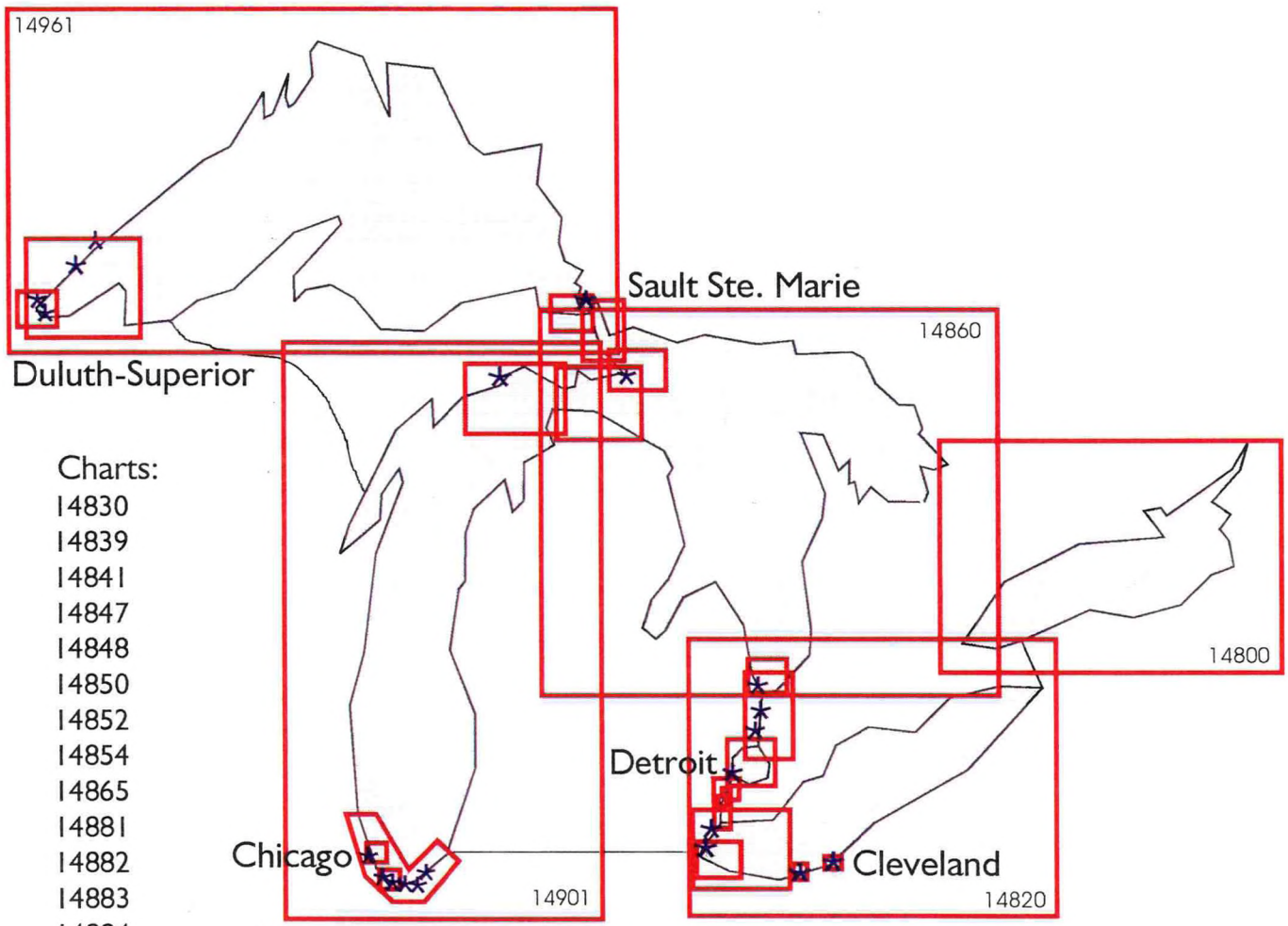
Critical Area - Remaining

Critical Area - Completed

Coast Survey

GREAT LAKES

Small and Large Scale Chart Coverage



Charts:
14830
14839
14841
14847
14848
14850
14852
14854
14865
14881
14882
14883
14884
14911
14926
14928
14929
14966
14975

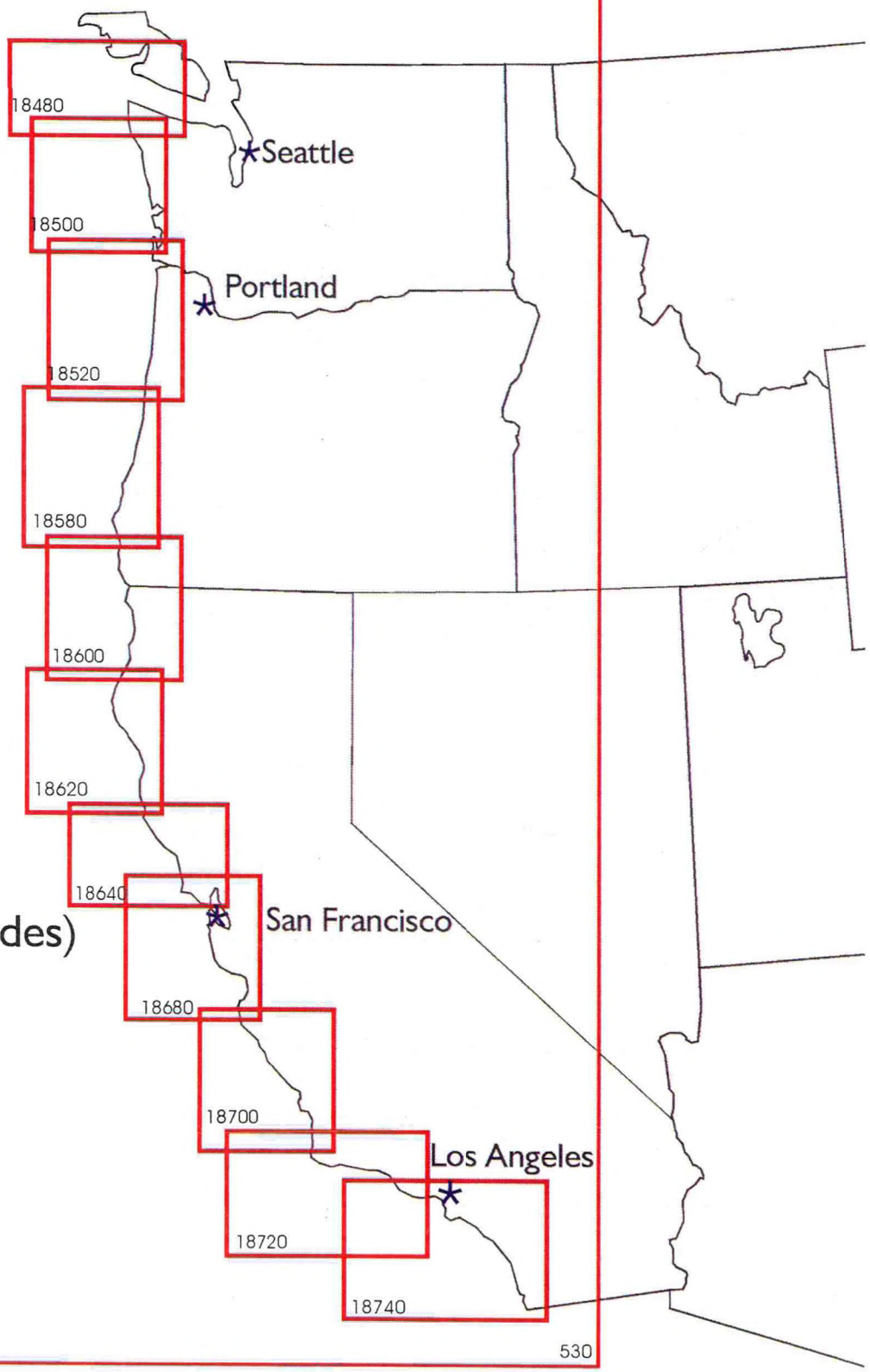
Priority Ports:

Silver Bay, MN
Two Harbors, MN
Duluth, MN
Superior, WI
Sault Ste. Marie, MI
Drummond Island, MI
Port Inland, MI
Chicago, IL
Indiana Harbor, IN
Buffington, IN
East Chicago, IN
Gary, IN
Burns International Harbor, IN
Port Huron, MI
St. Clair, MI
Marine City, MI
Detroit, MI
Monroe, MI
Toledo, OH
Lorain, OH
Cleveland, OH

Coast Survey

PACIFIC COAST

Small Scale Chart Coverage



PORTS (real-time tides)
Locations:

San Francisco Bay

Coast Survey

CALIFORNIA

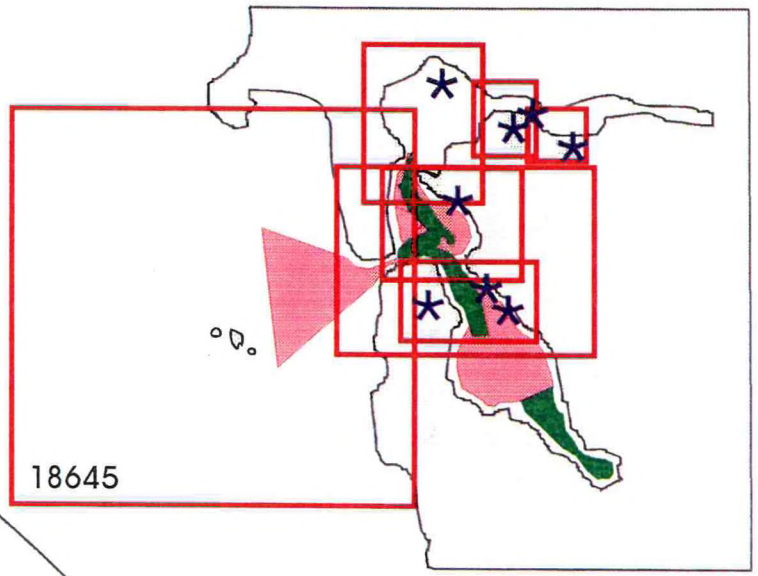
Large Scale Chart Coverage

Priority Ports:

San Francisco	Oakland
Alameda	Ventura
Richmond	Port Hueneme
San Pablo Bay	Los Angeles
Selby	Long Beach
Carquinez Strait	San Diego
Martinez	

Charts:

18645	18657
18649	18725
18650	18749
18653	18751
18654	18772
18655	18773



San Francisco Bay Area (enlarged)

San Francisco

18645

Port Hueneme / Ventura

Los Angeles
Long Beach

San Diego

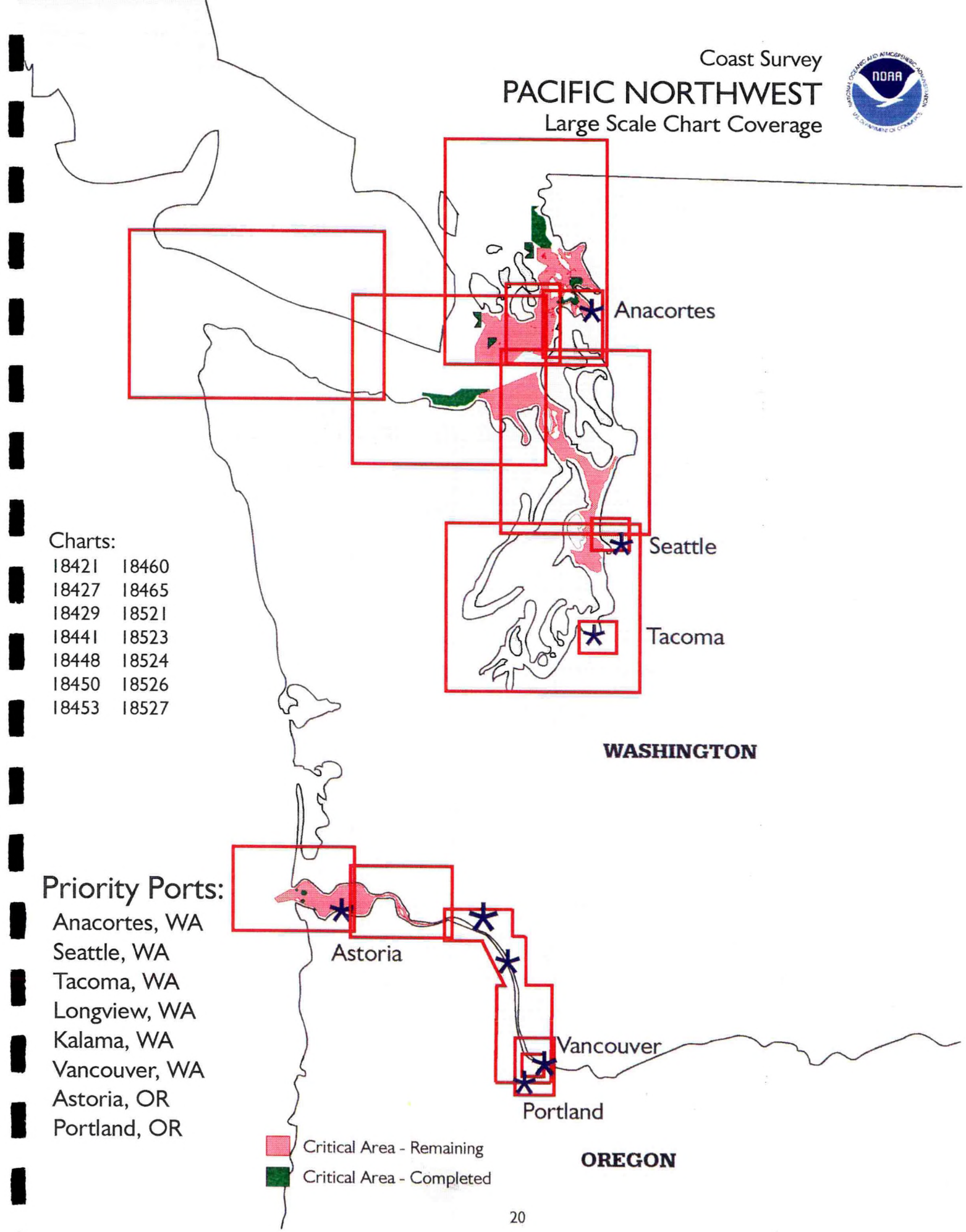
Critical Area - Remaining

Critical Area - Completed

Coast Survey

PACIFIC NORTHWEST

Large Scale Chart Coverage



Charts:

18421	18460
18427	18465
18429	18521
18441	18523
18448	18524
18450	18526
18453	18527

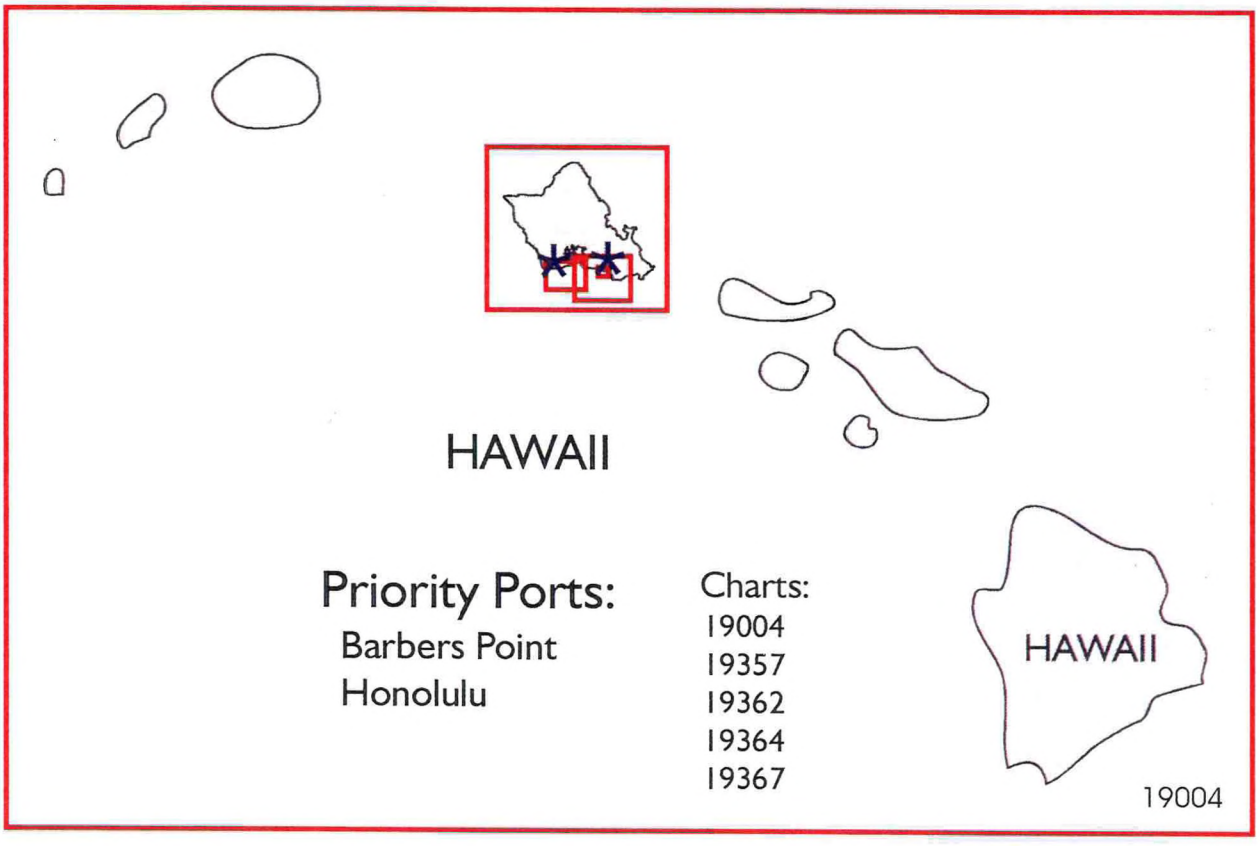
Priority Ports:

Anacortes, WA
Seattle, WA
Tacoma, WA
Longview, WA
Kalama, WA
Vancouver, WA
Astoria, OR
Portland, OR

Coast Survey

HAWAII, PUERTO RICO, AND U. S. VIRGIN ISLANDS

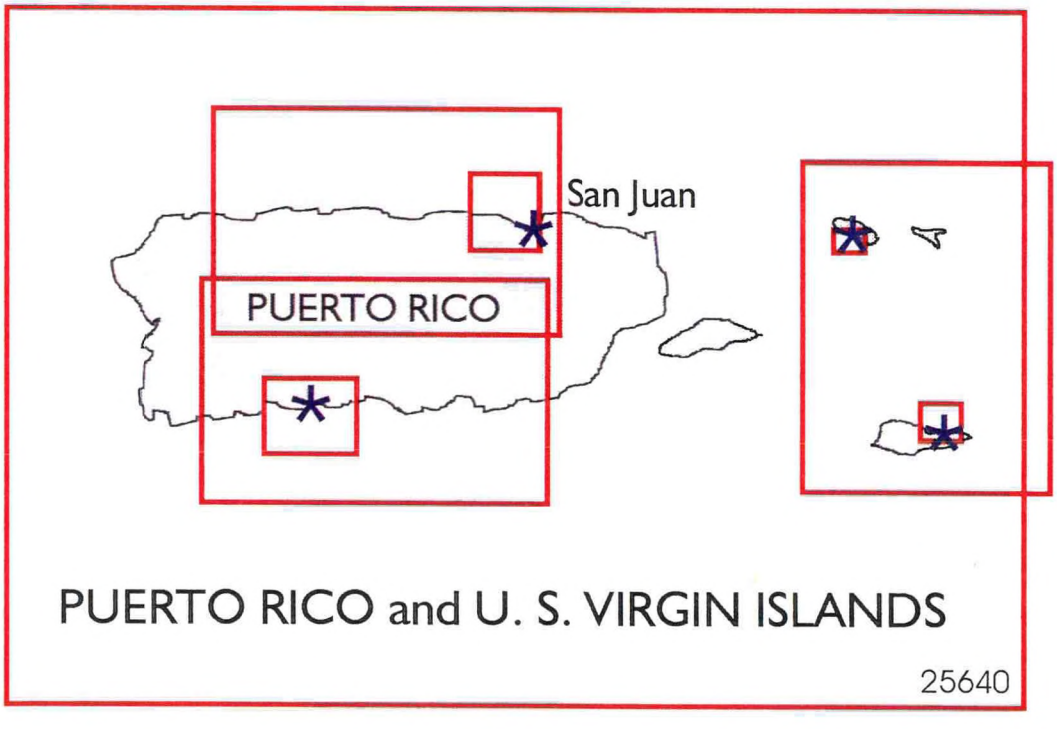
Small and Large Scale Chart Coverage



Priority Ports:

Barbers Point
Honolulu

Charts:
19004
19357
19362
19364
19367



Priority Ports:

San Juan, PR
Ponce, PR
Charlotte Amalie, VI
Christiansted, VI

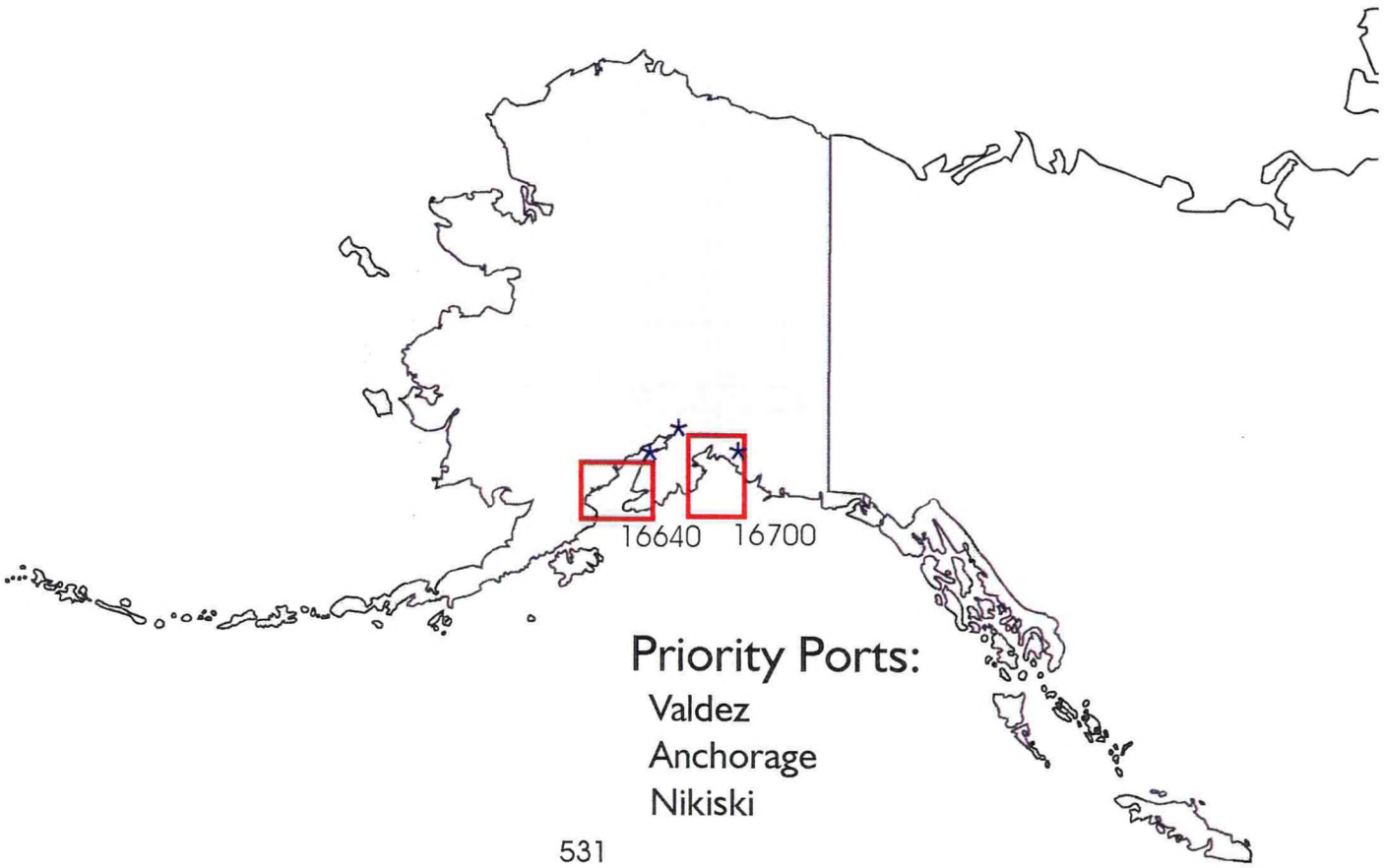
Charts:

25640	25668
25641	25670
25645	25677
25649	25683

Coast Survey

ALASKA

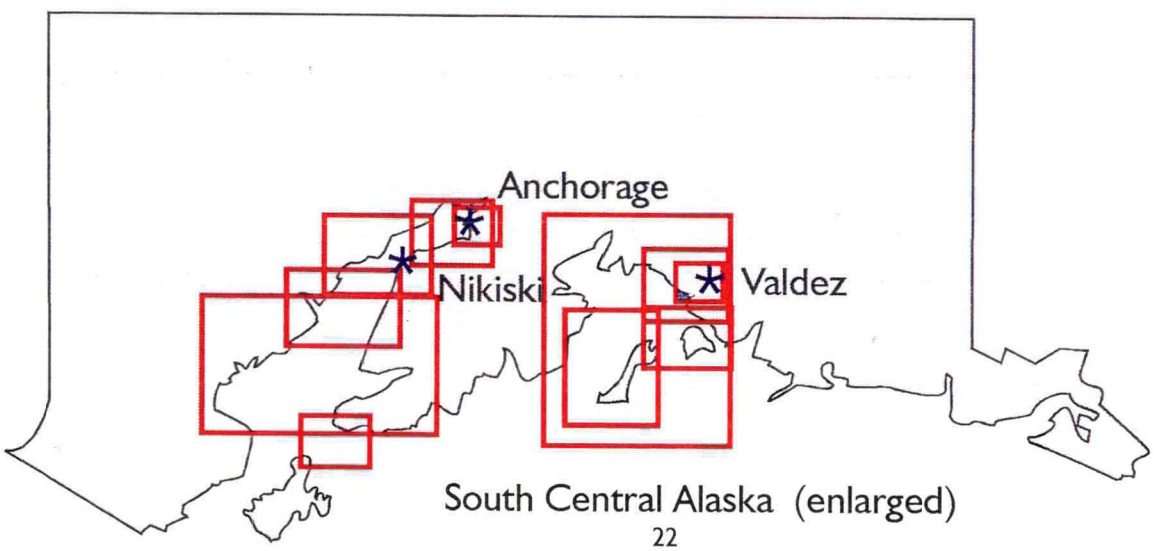
Small and Large Scale Chart Coverage



Priority Ports:

Valdez
Anchorage
Nikiski

531

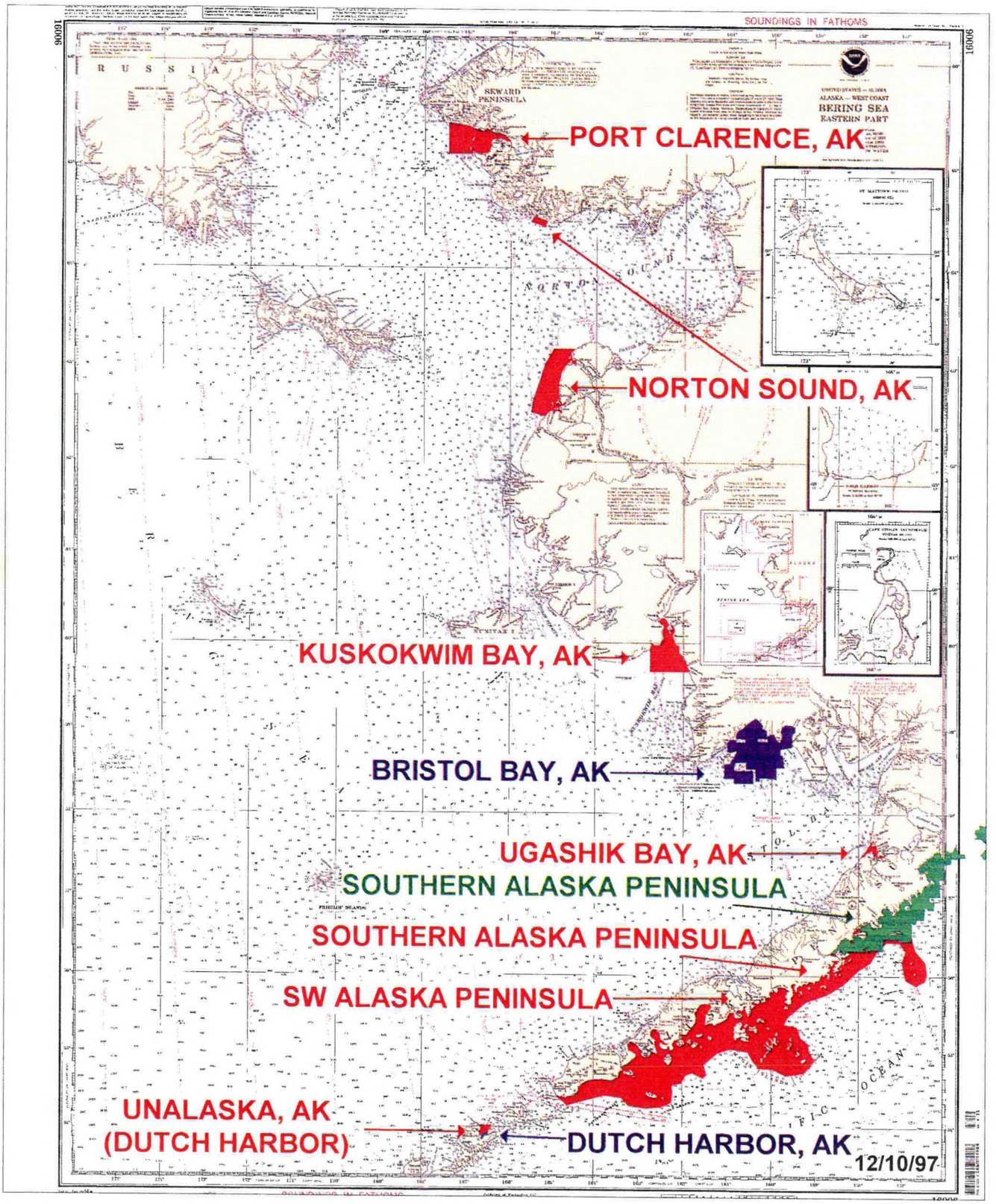


South Central Alaska (enlarged)

Charts:
16606
16640
16661
16662
16663
16665
16700
16701
16707
16708
16709

Coast Survey

WESTERN ALASKA



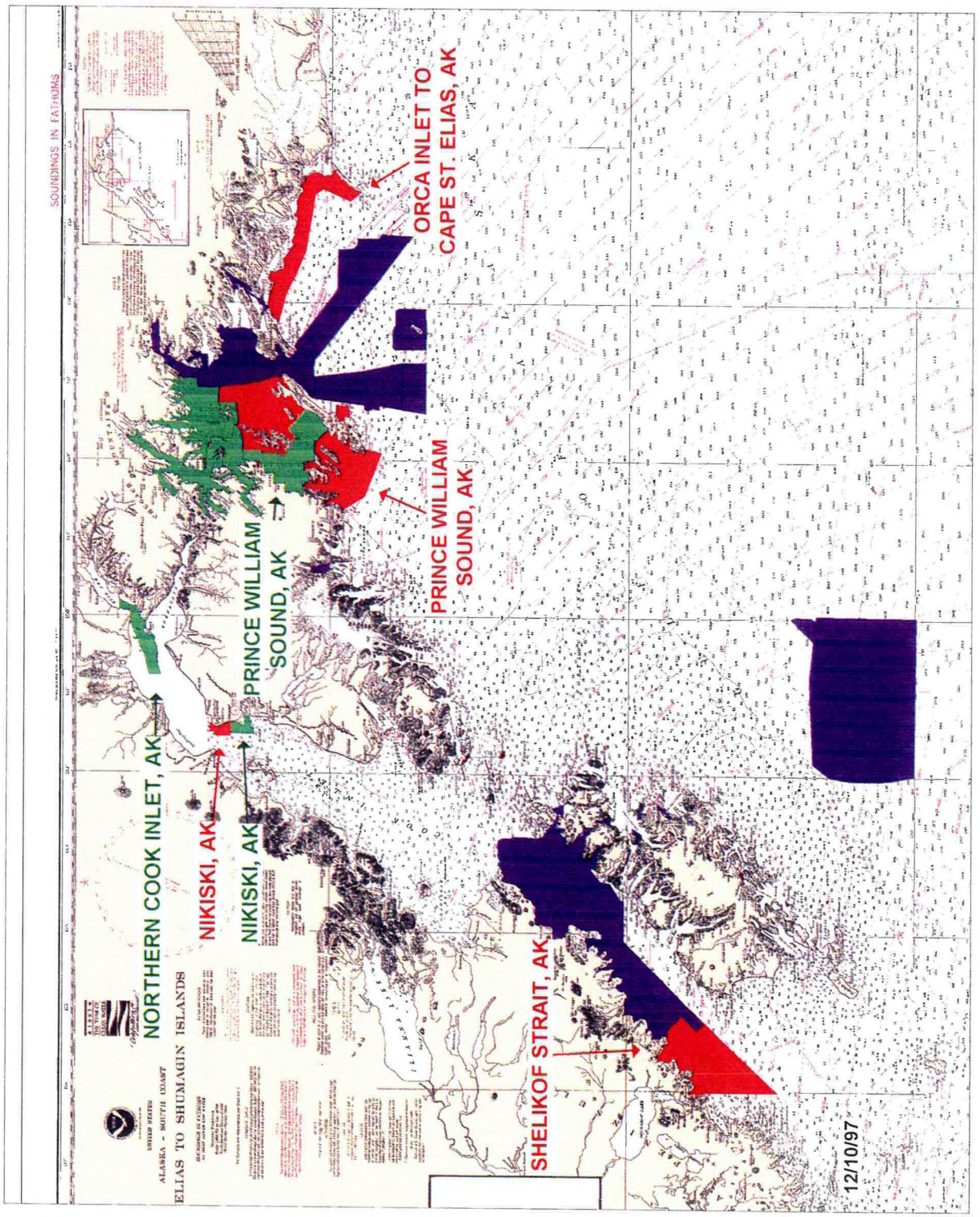
Critical Area - Remaining

Critical Area - Completed

Adequately Done

Coast Survey

SOUTH CENTRAL ALASKA



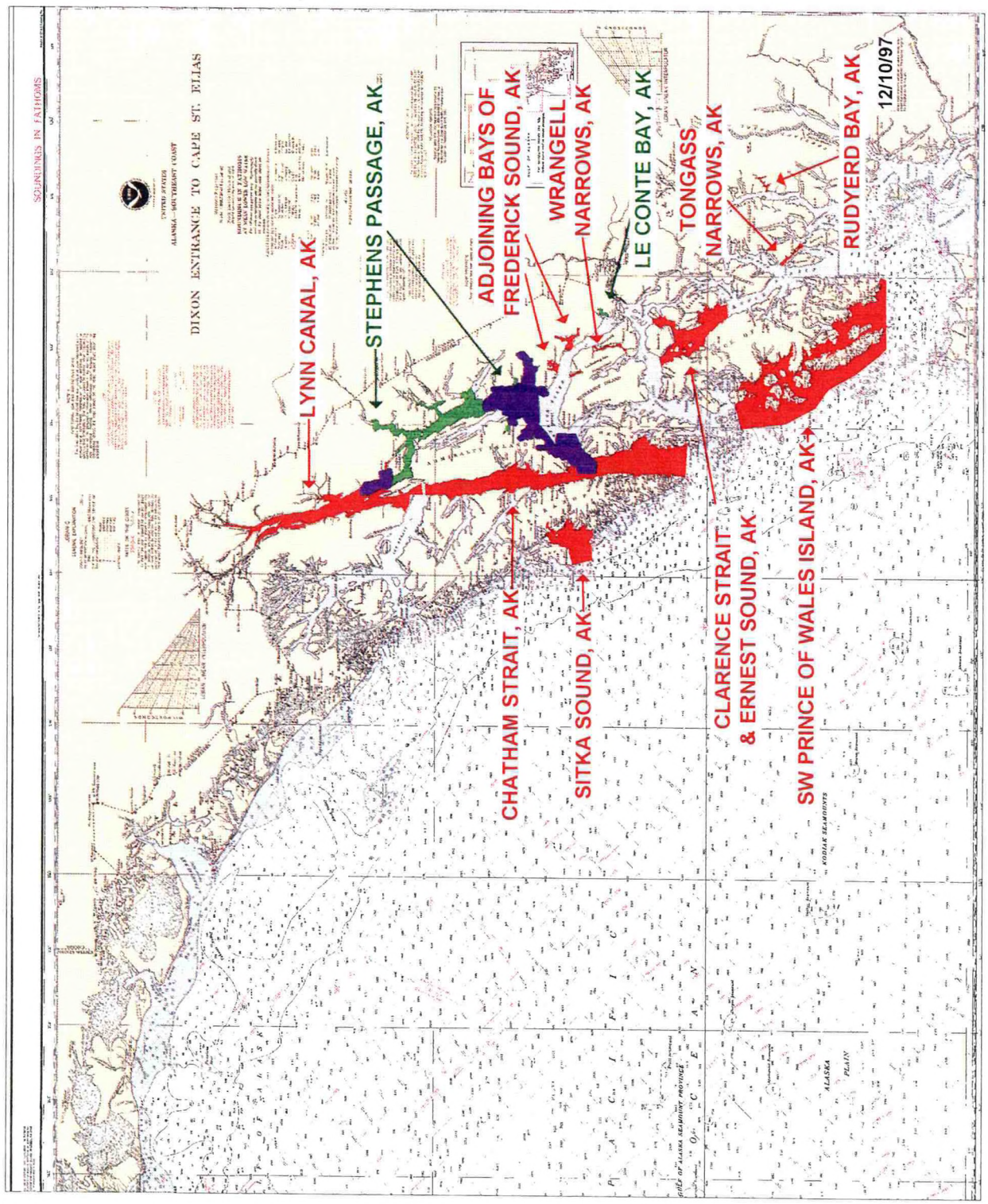
Critical Area - Remaining

Critical Area - Completed

Adequately Done

Coast Survey

SOUTHEAST ALASKA



Critical Area - Remaining

Critical Area - Completed