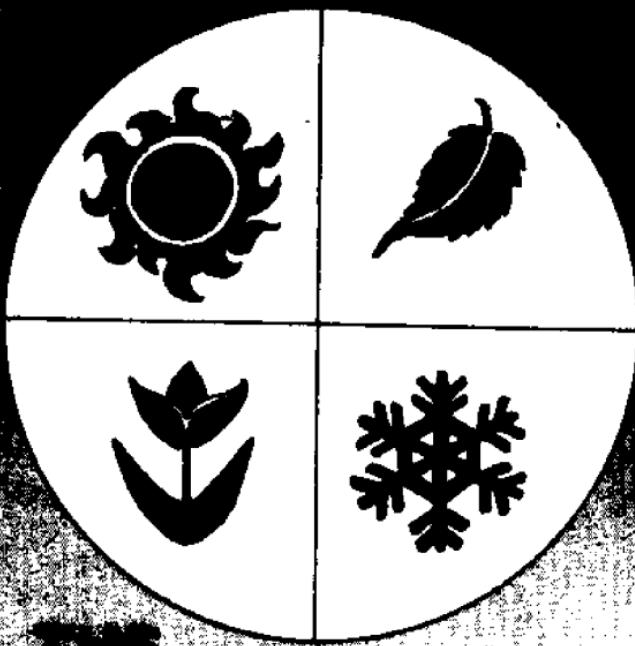


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**CLIMATIC GUIDE
TO
WEST MICHIGAN'S
SHORE**

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**MICHIGAN SEA GRANT
ADVISORY SERVICES**

**NATIONAL
OCEANOGRAPHIC
DATA CENTER**

Michu-SG-79-115





A unique combination of mild summers and snowy winters has matched West Michigan with vacation fun for over a hundred years. In the 1800's, farmers were attracted to this area by the ideal fruit growing climate. They opened their houses to summer boarders. City dwellers, anxious to enjoy the cool Lake Michigan breezes and white sand beaches, became annual visitors and many of the well-to-do chose West Michigan as the site of their summer houses. Today, West Michigan still produces abundant fruit and vegetables, but for more visitors every year it has become a year-round outdoor playground where nature cooperates to provide the weather needed to enjoy their favorite activities.

This pamphlet was produced by the Michigan Sea Grant Advisory Service and the National Oceanographic Data Center (Environmental Data and Information Service). Both organizations are funded by the National Oceanic and Atmospheric Administration (NOAA), United States Department of Commerce. Meteorological data was provided by the National Climatic Center. Photographs were furnished by John Robbins, the Bentley Historical Library of the University of Michigan, Michigan Sea Grant and the Michigan Travel Bureau. Art and graphics by Marcia Dorr. Karl S. Luttrell, Editor.

THE VISITOR'S CLIMATIC GUIDE TO WEST MICHIGAN'S SHORE

The Visitor's Climatic Guide to West Michigan's Shore was prepared to help you take the fullest advantage of West Michigan's unique weather during your next visit. You can use the climate data presented here to help you plan your visits two ways: 1) If you have a certain time set aside for your visits you can find out what kind of weather to expect and take advantage of the differences in climate of the North, Central and South Regions. 2) If your travel plans are more flexible, you may wish to time your visits for the kind of weather you prefer. Either way you'll have the best possible idea of what to expect from the weather. Then you can decide if you'll need a sweater with your swim suit or a rain coat with your fishing gear.

Additional information about harbors, major transportation routes and safety considerations is included to help your trip planning. If you need information about some aspect of West Michigan, write to one or more of the addresses listed in the Additional Information section.

Happy vacationing!

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WEST MICHIGAN'S CLIMATIC REGIONS

Because West Michigan's 400-plus miles of Lake Michigan shoreline run almost directly north and south, visitors have increased flexibility in choosing the kind of weather they would like. While the overall climate is determined from month to month by the changing seasons, it is possible to "fine tune" for every visit by checking the data presented here. By consulting the tables and written material you will be able to get the most out of your visits.

Most variations in climate are gradual from one place to another as you move along the coast. However, the information in this booklet is organized into three climatic regions reflecting those differences.

Northern Region

This region covers the area from Mackinaw City to just south of Manistee. Grand Traverse Bay lies in the center of this region and weather data from Traverse City is used to represent the whole region. Along the outer shore the winds will usually be stronger, and temperatures slightly warmer in the fall and early winter until the lake ice builds up. This region's hilly terrain intensifies the "lake effect" snow, much to the delight of downhill skiers.

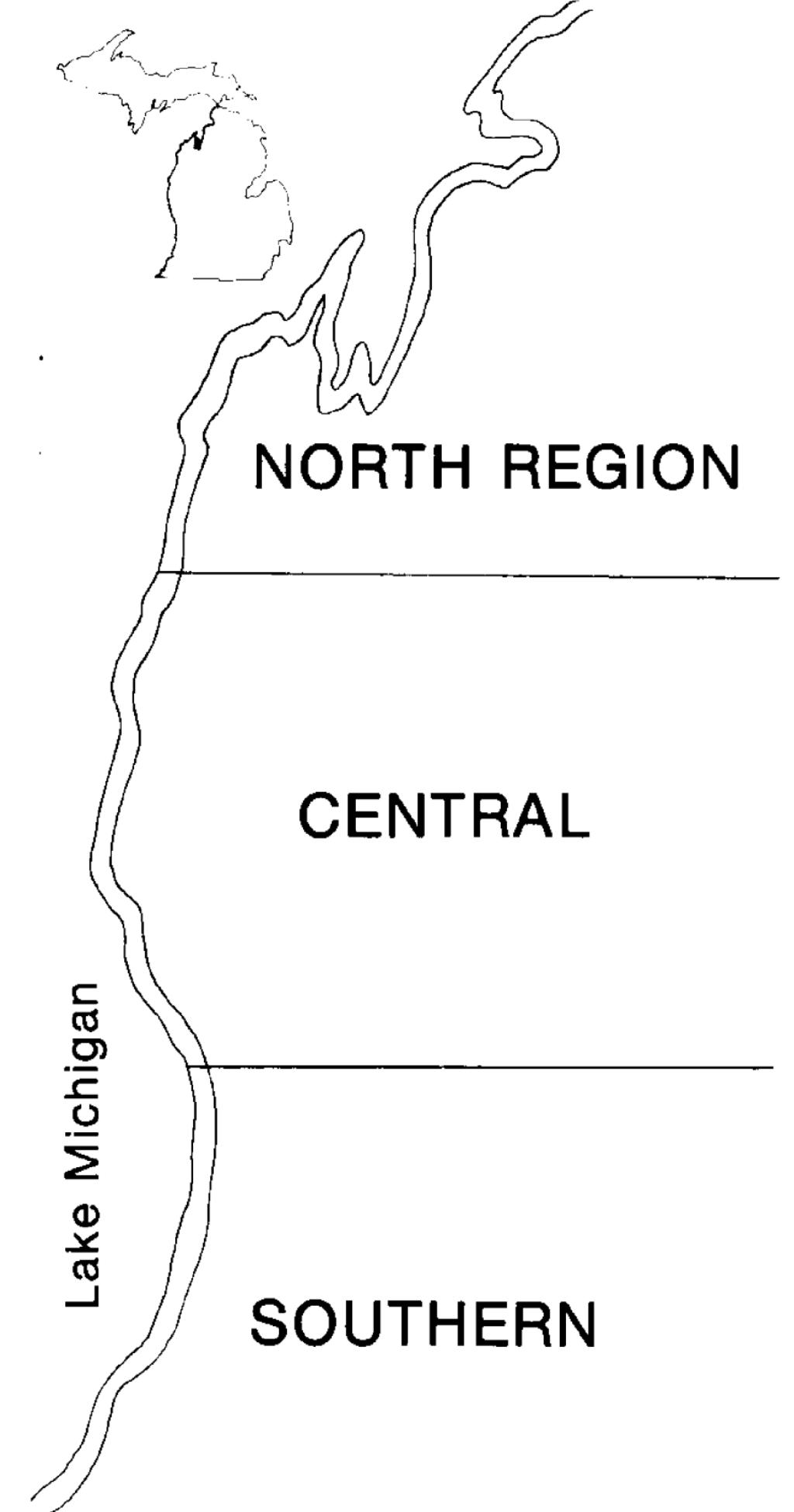
Central Region

This region extends from just below Manistee to just below Grand Haven. Weather data from Muskegon represents this region quite well. Among this area's attractions are beautiful state and municipal parks, scenic sand dunes and long breakwalls for family fishing fun.

Southern Region

Benton Harbor weather data has been selected to represent this portion of "Michigan's Riveria" as the Lake Michigan shore is sometimes called. Much of the activity in this region is centered around the large private and municipal or quaint small town marinas. This region extends from the Indiana border to just below Grand Haven.

As you consult the climatic data tables, refer to this map to help you visualize the areas listed.



NORTH REGION

CENTRAL

Lake Michigan

SOUTHERN

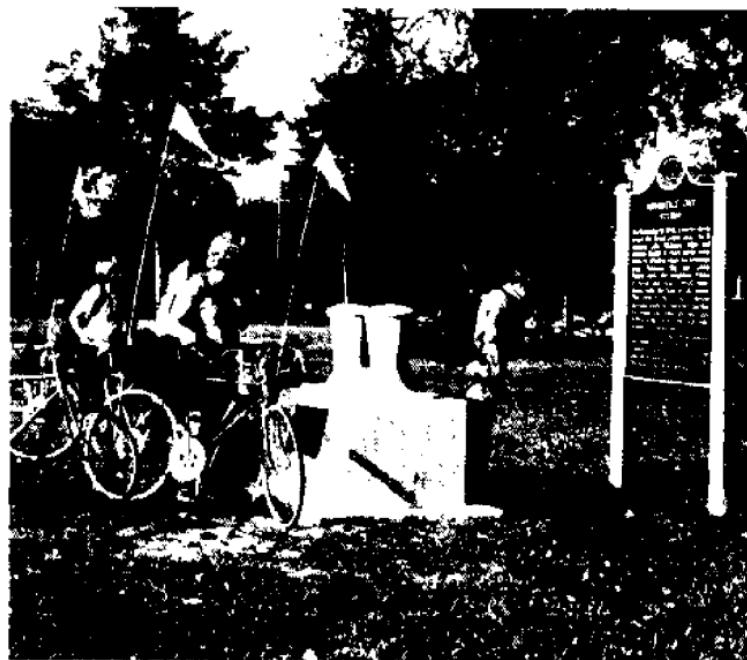


SUMMER CLIMATE

Summer brings out the best in West Michigan. Few places are blessed with such a delightful combination of pleasant weather, natural beauty and interesting activities. All summer long visitors enjoy the cooling waters and breezes of Lake Michigan. The water and wind shapes the scenic sand dunes and propels sail boats across inland lakes as well as Lake Michigan. Few people stop to consider the influence of this climate on the flowers and fruits of this region as they attend the colorful (and tasty) festivals held in towns and cities along the coast. This pleasing climate makes summer in Western Michigan a special treat that draws thousands of visitors from across the country.

During summer, afternoon temperatures average in the mid 70's to 80's ($^{\circ}$ F) while night-time lows in the 50's are common, sometimes dipping into the 40's. July is the warmest month, followed by August. Hot days are rare, with temperatures over 90 $^{\circ}$ occurring less than ten days per summer and in some places just about two days per summer. If you plan to be out after sundown, you'll appreciate a sweater or windbreaker and perhaps a pair of long pants. When camping, bring a sleeping bag to ward off chilly nights.

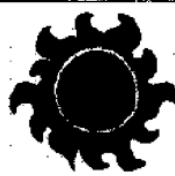




Rain falls on only five or six days a month, mostly as brief showers or thundershowers. It is most likely during the afternoon or evening five miles inland, while along the lakeshore and over the lake it is most likely at night. Lake Michigan reduces thunderstorm activity in the South Region by over one day per month, but increases it by one day per month in the North Region. This is attributed to a deep dome of cold air between 200-1000 feet thick over the lake and the cool lake breeze blowing toward shore. Prolonged rainy periods are unlikely during the summer.

West Michigan receives a generous 65 to 75 percent of possible sunshine. An average of 18 to 23 days per month are mostly clear or partly cloudy. Although early morning haze is common over the lake, fog is rare, particularly in mid-summer. Sun protection is necessary in early summer when cooler temperatures may not alert you to sunburn until it's too late.

The water on the Michigan side of Lake Michigan is about 5°-10°F warmer than on the Wisconsin side. A change in wind direction can trigger a quick drop of up to 30°F in water temperature. Usually the prevailing westerly winds will keep the warmer surface water piled up against shore, but other winds can push surface water away, allowing cooler water to "upwell." Even at its warmest, Lake Michigan can chill a swimmer or water skier after a while. So plan warmup breaks with some means of wind protection and know the danger signs of hypothermia (overcooling of the body). Some swimmers and water skiers use divers' wet suits to help extend their enjoyment.



SUMMER

AVERAGE NUMBER OF DAYS

REGION	Average Conditions for the Month of:	Sun (†)	Rain (‡)	Thunder (§)	Temp. Over 90° F
NORTHERN	JUNE	8	6	6	2
	JULY	9	5	7	3
	AUGUST	8	6	5	3
	SEPTEMBER	7	8	5	1
CENTRAL	JUNE	10	6	6	1
	JULY	11	5	6	1
	AUGUST	11	6	6	1
	SEPTEMBER	11	5	5	0
SOUTHERN	JUNE	8	6	8	3
	JULY	10	5	8	4
	AUGUST	9	5	6	3
	SEPTEMBER	10	5	4	1

† Full sun for at least 70% of day (this does not include many partly sunny days).

‡ Rain over 0.1 inch.

§ Thunder with or without rain.

CLIMATE GUIDE

MORNING				AFTERNOON			
WIND CONDITIONS				F	Avg.	Avg.	
Pvg. Direction	Avg. Speed in Kt.	7-16 Kt. (%)	Over 16 Kt. (%)	O	AM Low in F	PM High in F	
				G			
				G			
				Y			
				(%)			
SW	7	47	3	3	51		
S	12	71	16	*		76	
NE							
S	6	41	2	1	57		
SW	11	79	9	*		81	
N							
SW							
S	6	39	2	3	56		
SW	11	78	9	*		79	
N							
SW							
S	7	48	4	1	49		
SW	11	73	14	*		70	
N							
SW							
S	9	47	10	2	55		
E	11	58	15	0		76	
S							
NW							
S	9	51	12	2	60		
SE	11	62	14	0		80	
NW							
S	9	53	9	6	59		
E	11	56	17	*		79	
S							
NW							
S	10	55	15	3	52		
E	12	59	19	*		71	
NW							
S							
E							
S	9	59	4	1	57		
S	9	61	3	0		79	
N							
S							
SW							
S	9	56	5	1	61		
N	9	59	3	0		82	
SW							
E	9	70	1	4	59		
S	9	51	4	0		81	
SW							
SE	10	63	8	3	53		
E	10	58	13	*		75	
SW							

AM
PM

* Less than 0.5% foggy.

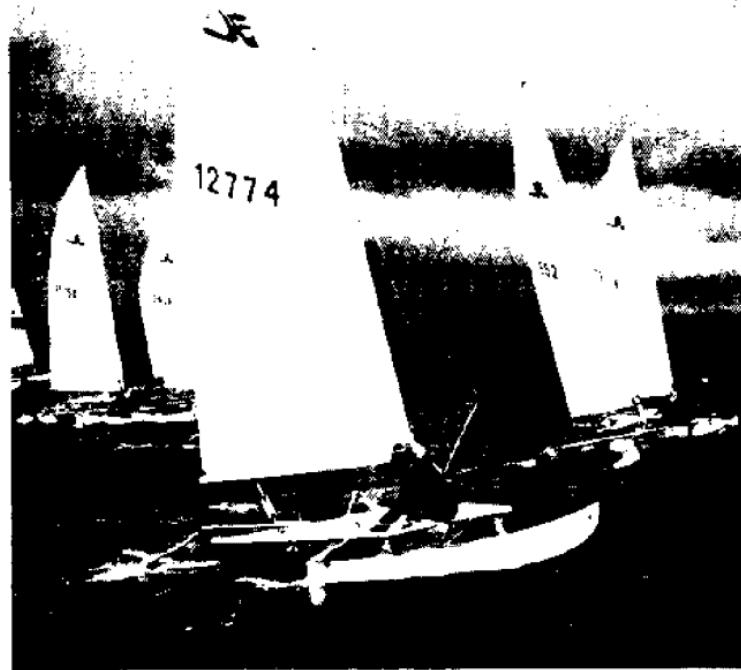


SUMMER SPORTS AND ACTIVITIES

Michigan's scenic lakeshore is lined with harbors, launching sites, marinas for boaters, white sand beaches for swimmers and sun bathers, parks that offer camping, nature centers, fishing piers and hundreds of other attractions and activities. There's something for everyone.

Naturally, boating is very popular in West Michigan. Sleek canoes ply the many rivers feeding the lake. Sailboats brace their sheets in the wind, while luxurious power yachts make West Michigan harbors their ports-of-call. Each craft can find suitable water, wind and facilities.

The fish are biting too! You can charter a boat and troll for coho salmon and lake trout. You could relax with your children or grandchildren on any of the municipal breakwaters and let a perch or occasional brown trout take your bait. Either way, you'll find West Michigan great for enjoying one of America's leading outdoor activities. The results could be delicious!



Something for everyone . . .



Camping is another West Michigan specialty. Sunny days and moderately cool nights show off nature at its best. There are state, county and municipal parks and private facilities to accommodate the largest recreational vehicles, the wilderness-seeking backpacker and all varieties of campers in between. Campers arrive by car, boat, bicycle and even private airplane. Other accommodations are available throughout the area in rustic cabins, modern motels and in houses and condominiums which may be rented for extended stays. Many people have bought second homes in this region to enjoy all that West Michigan has to offer.

What is an ideal summer? Maybe for you it is enjoying hours of reflective beachcombing for Petoskey stones, beach glass or driftwood. Or perhaps the tension and excitement of sailboat racing or hang gliding are for you. Whatever the activity, West Michigan's summer weather will probably cooperate.



West Michigan's towns and cities like to show off. Throughout the year a multitude of festivals and celebrations leave visitors with pleasant memories that last long after they leave. The summer weather is ideal for outdoor activities, so naturally the number of festivals and celebrations peaks at this time. Sunny days, tempered by refreshing Lake Michigan breezes and pleasantly cool nights are made for fun or just plain relaxation.

Typical of the summer events in West Michigan are the Seaway Festival in Muskegon, an international Great Lakes port; the Coast Guard Festivals in Grand Haven; the National Cherry Festival in Traverse City and the National Blueberry Festival in South Haven. As you can see, the connections to the lake and to the unique climate are inescapable.

As summer days get shorter, West Michigan celebrates its agricultural beginnings through numerous county and regional fairs. Here you will be treated to the handiwork of local artists and artisans as well as the agricultural specialties of the area.

A complete listing of festivals and participation events, such as Ludington's King Salmon Derby, may be obtained free of charge by writing to the West Michigan Travel Bureau at the address listed in the Additional Information section at the back of this booklet. Chambers of Commerce along the lakeshore are excellent sources for all kinds of information. The Michigan Department of Agriculture (see Additional Information) can supply information on special events and farm produce markets.

Summer Highlights

June	July	August	Early September
------	------	--------	-----------------

→ prime time for beach and dune activities →

sand castles *hang gliding* *good swimming*

→ Fishing →

breakwall and offshore fishing for perch, brown trout, salmon *salmon in inshore areas*

→ Boating →

river canoeing *small streams too shallow*
sailing and power boating *squalls likely*

→ Fruits & Vegetables →

cherries *blueberries* *peaches* *apples*
raspberries *tomatoes* *pears* *grapes*

festivals, shows and exhibits all summer
(Call Travel Bureau, see page 38)

hiking and cycling pleasant these months
backpacking and camping excellent now





AUTUMN CLIMATE

Lake Michigan becomes surly as winter approaches. Fewer days are suitable for small water craft activity. Swimming is not recommended until next summer but the open lake beaches are at their best for beachcombing. Conditions in sheltered waters like Grand Traverse Bay remain calmer into the fall. Solar energy is stored all summer long in the lake water. In fall, frost and freezing along the shore can be delayed by as much as two weeks or more. Experienced tree color hunters know that trees inland a few miles will turn before those trees benefiting from the lake's moderating effect and thus, the lakes extend the color season, making it easier to find trees at their peak of color.

Through November, early morning temperatures are near freezing or above while day-time highs usually climb above 40°F. In October about six rainy days can be expected with an occasional sunny day breaking up the clouds. By November a few days of snow can be expected along the shore. Several miles inland, November snows are more common, much to the delight of cross-country skiers eager to get an early start on the season. Winds increase in late autumn as regional differences diminish, except for about two more days of thunderstorms per month and slightly warmer temperatures in the south.







AUTUMN

		AVERAGE NUMBER OF DAYS			
REGION	Average Conditions for the Month of:	Sun (†)	Rain (‡)	Snow Over 1.5 In. (§)	Avg. Mthly Snow-fall (inches)
NORTHERN	OCTOBER	8	6	0	1
	NOVEMBER	3	8	2	10
CENTRAL	OCTOBER	10	4	0	1
	NOVEMBER	4	5	3	9
SOUTHERN	OCTOBER	11	6	*	*
	NOVEMBER	6	8	2	5

† Full sun for at least 70% of day (this does not include many partly sunny days)

‡ Rain over 0.1 inch.

§ Except central region over 1.0 inch.

Personal notes and observations:

CLIMATE GUIDE

MORNING				AFTERNOON			
WIND CONDITIONS				F O G G Y (%)	Avg. AM Low in °F	Avg. PM High in °F	
Pvg. Direc- tion	Avg. Speed in Kt.	7-16 Kt. (%)	Over 16 Kt. (%)				
S	8	52	5	4	40		
SW	SW	12	70	15	*		59
S	10	57	11	3	30		
SW	SW	12	68	16	2		44
S	13	49	29	5	42		
E	SW	13	53	32	*		61
W	14	47	34	3	33		
N	S	14	52	31	1		46
SE	SE	11	63	15	4	43	
E	SW	12	61	20	*		64
E	SE	13	53	27	4	33	
SE	SW	13	58	25	2		49

* = Less than 0.5 days, 5.0% or 0.5 inch.

AM
 PM

Personal notes and observations:



AUTUMN SPORTS AND ACTIVITIES

Autumn in Michigan is world-renowned for its color. Although some outdoor sports are hindered by frosty temperatures, the outdoor enthusiast can still find plenty to do.

More and more people are becoming autumn campers. Popular recreational vehicles with all the comforts of home have taken the "rough" out of "roughing it." Other people still prefer to backpack and enjoy the peace and calm of nearly deserted beaches and trails. This time of year it pays to make careful selections of clothing and to sharpen your camp craft skills for remaining comfortable as the Lake Michigan shore prepares for the winter. The reward is a frosty autumn morning shimmering in the early sunlight.

Color tours are an excellent family activity. Try driving or cycling along scenic backcountry roads; walking, backpacking, or horseback riding on wooded trails; or even hopping a guided color-tour boat. Whatever you choose, you will be treated to spectacular fall colors.



Crisp and colorful...

Autumn Highlights			
Late September	Early October	Late October	November
Fall Color Tours			
<i>peak fall color in north</i>		<i>best fall color in south</i>	
Beach Activities			
<i>beachcombing and dune climbing</i>			
Fishing			
<i>salmon running up rivers</i>			
Hunting			
<i>small game hunting</i>	<i>grouse</i>		<i>deer</i>
apples	pumpkins		
Oktoberfests			

In the Northern Region of west Michigan, fall colors reach their peak in late September-early October. Central portions of the shore peak in early October, while in the south, colors are at their best in mid-October. Besides color, hikers enjoy a wide variety of wild life: deer, fox, rabbits, porcupine, squirrel, turkey and grouse. For amateur trackers and photographers, the early snow serves as a clear backdrop, highlighting normally hard-to-spot mammals and birds.

Hunting is a popular fall activity. Abundant game populations, regulated by the State Department of Natural Resources, assure fine hunting. Hunters test their skills on grouse, pheasant, rabbit, deer, bobcat, geese and other wildlife.

The salmon fishing season runs into late fall. Fishing for other species is also excellent, either by charter boat or on your own. Numerous charter boat operators are equipped with all the necessities and know-how for successful fishing. The whole family will also enjoy the salmon spawning runs up streams along the western shore. At Berrien Springs, for example, yearly crowds of spectators watch the powerful fish leap up a fish ladder to get around a small dam.

Non-sport minded persons will find autumn in West Michigan a good time to pick peaches and apples at "U-Pick" farms. Many cities host Oktoberfest and color festivals. In October, Manistee hosts the National Forest Festival.



WINTER CLIMATE

Not long after autumn color has faded, west Michigan receives its winter coat of white snow. "Lake snow squalls" develop most often in early winter when westerly winds bring very cold Arctic air over the warmer lake water. "Lake effect" snow usually extends 20 to 25 miles inland. Heaviest snows are most likely ten or more miles inland in early and late winter and within ten miles of shore in mid-winter.

Just how much the lake effect changes the weather can be seen by comparing the snowfall to comparable locations on the other side of Lake Michigan in Wisconsin and Illinois. Michigan receives, on the average, 100 per cent more snow!





The earliest one-inch snow usually falls during October with the average date of first one-inch snow occurring on November 11-20 inland and November 21-30 along the coast. Winter snow, with a depth of three inches or more usually arrives in late November in the northern region and in early December in the central and southern regions. Along the shore the number of days with one inch or more of snow on the ground ranges from over 110 days in the north to about 70 days in the south. The range of days with six inches or more on the ground is from approximately 80 in the north to 30 in the south. Downhill skiers will be pleased to note that the areas with heaviest snowfall are the hills to the east and west of Grand Traverse Bay.



WINTER

Region	Average Conditions for the Month of:	AVERAGE NUMBER OF DAYS			
		Sun (†)	Temp. Not Above 32° F	Snow Over 1.5 In. (‡)	Avg. Mthly Snow-fall (inches)
NORTHERN	DECEMBER	2	16	4	19
	JANUARY	2	21	5	23
	FEBRUARY	4	18	3	16
	MARCH	6	10	3	13
CENTRAL	DECEMBER	3	15	7	15
	JANUARY	3	18	9	23
	FEBRUARY	4	16	6	14
	MARCH	6	6	4	10
SOUTHERN	DECEMBER	5	11	4	16
	JANUARY	4	14	4	17
	FEBRUARY	5	11	3	13
	MARCH	5	4	2	7

† Full sun for at least 70% of day (this does not include many partly sunny days).

‡ Except central region over 1.0 inch.

CLIMATE GUIDE

MORNING				AFTERNOON			
WIND CONDITIONS				F O	Avg. G	Avg. AM Low	Avg. PM High
Pvg. Direc- tion	Avg. Speed in Kt.	Less than 7 Kt. (%)	Avg. Wind Chill °F	G Y	(%)	in °F	in °F
S SW	10	30	0	3	20		
SW W	11	18	14	4		32	
S SW	10	31	-8	3	14		
W SW	11	20	10	5		28	
S SW	9	37	-10	3	13		
N NW	11	18	11	4		29	
S SW	8	43	3	5	20		
N NW	12	15	22	3		38	
E W	13	17	2	4	23		
E W	14	16	15	4		34	
W NW	14	15	-8	5	18		
W NW	14	16	5	4		30	
NE E	12	23	-5	4	18		
NW E	13	17	12	3		32	
E N	11	27	3	5	25		
S NW	13	14	22	2		41	
E SE	13	18	2	8	23		
S W	14	18	16	4		37	
W SE	14	5	-9	7	19		
W SW	15	9	11	4		33	
SW S	13	18	-5	9	20		
S SW	13	18	15	6		35	
E NE	11	24	9	6	27		
NW N	12	21	29	1		44	

AM
PM



WINTER SPORTS AND ACTIVITIES

The "winter blahs" never seem to materialize along the Lake Michigan shore. There are so many ways to enjoy the winter climate that everybody has something to do.

Skiing is the winter recreation of choice for thousands of outdoor enthusiasts. There is everything from intense downhill competition to the solitude of breaking your own cross country trail. The enhanced snowfall produced by the lake effect usually produces a ski season from late November through March with the peak during January and February. Many commercial ski resorts await both downhill and cross country skiers and some provide toboggan runs, snowmobile rentals and other activities.

Speaking of snowmobiles, over half a million are now registered in Michigan. The season for snowmobiling parallels that of skiing and offers spectacular backwoods scenery, outdoor picnics and cookouts and for the true winter lover, winter camping. There are many acres of parklands along the shore which permit snowmobiling. More information is available from the sources listed in the Additional Information section.



Bright and beautiful . . .

Winter Highlights				
December	January	February	March	
<i>Snow sports start sooner and last later into the spring in the north.</i>				
←	cross country skiing	→		
	races and tours			
←	snowshoeing	→		
←	downhill skiing	→		
	races/festivals			
←	snowmobiling	→		
	tours and safaris			
caution!	←	ice fishing	→	caution!
thin ice			thin ice	
Christmas tree farms	snow festivals	dog sled races	spring ski carnivals	
shore ice forms			ice break up ship watching	

Fishing enthusiasts look forward to the months when they can leave their boats and walk to the best fishing spots. Ice shantys appear on every small lake and in the protected bays and inlets of Lake Michigan. They form temporary communities often called "Tip-up Towns," so named from the devices placed in fishing holes to signal when a fish strikes. The season is somewhat shorter than the ski season, lasting from December through mid March in the north and through January and February in the south.

Winter hiking and beachcombing offer unique sights and experiences. The stillness of the forest in winter is a sharp contrast to the lakeshore which is the scene of spectacular waves and ice formations. In some spots, "ice volcanoes" are formed by the action of waves on shore ice. The action creates blow-holes which spout as each wave comes in. Take care if you walk on shore ice because it often shifts and large chunks may be bridged by thinner sections.

Another popular activity is the winter counterpart of fall color touring — snow touring. The familiar countryside is transformed by snow ridges and dramatic silhouettes — making another visit to West Michigan rewarding even if you have to make a long trip.



SPRING CLIMATE

During the transition months of April and May, contrasts within and between the climatic regions are greatest. Spring flowers bloom while the lakes are still partly covered with ice. The weather along the lakeshore is quite different from the weather just a few miles inland and there are significant differences among the climatic regions as well.

From north to south there is nearly a full month delay in the arrival of warmer summer-like weather. Just as Lake Michigan delays the arrival of autumn, it also keeps spring temperatures cooler along the shore than inland just a few miles. Snowmobilers and skiers who want to get in the very last days of snow know to check the northern areas along the shore while wildlife stalkers look southward and inland.





Lake conditions are cold and windy as Lake Michigan sheds its ice coat, but some avid sailors take to water early. Adequate protection from the cold wind and possible submersion are a must for any water activities. Beachcombers and ice fishers should be particularly wary of spring ice and low wind-chills early in the spring.

Brisk winds usually disperse fog and haze. In periods of calm weather warmer air over the cool lake water generates fog. The harbor foghorns and steamship warning whistles are busiest at this time of year.



SPRING

REGION	Average Conditions for the Month of:	AVERAGE NUMBER OF DAYS			
		Sun (†)	Rain (‡)	Thunder (§)	Avg. Mthly Snow-fall (inches)
NORTHERN	APRIL	7	6	2	3
	MAY	8	6	3	0.1
CENTRAL	APRIL	8	6	4	2
	MAY	10	6	6	T
SOUTHERN	APRIL	6	7	5	1
	MAY	8	7	5	T

† Full sun for at least 70% of day (this does not include many partly sunny days).

‡ Rain over 0.1 inch.

§ Thunder with or without rain.

T = Trace (unmeasurable).

Personal notes and observations:

CLIMATE GUIDE

MORNING				AFTERNOON			
WIND CONDITIONS				F O G G Y	Avg. AM Low in °F	Avg. PM High in °F	
Pvg. Direc- tion	Avg. Speed in Kt.	7-16 Kt. (%)	Over 16 Kt. (%)				
S SW	8	52	7	4	32		
N NW	13	71	21	1		53	
S SW	8	49	6	2	41		
N NE	12	70	20	*		65	
E S	11	50	24	5	36		
S NW	13	62	27	1		55	
E S	10	56	13	5	45		
NW S	12	62	22	*		66	
E SW	11	53	18	3	37		
NW SW	11	62	19	*		58	
S E	11	55	15	2	46		
S NW	10	60	10	0		68	

* Less than 0.5%.

AM
PM

Personal notes and observations:



SPRING SPORTS AND ACTIVITIES

Sportsmen await with baited hooks for the opening of trout and bass seasons. The rivers and streams entering Lake Michigan are excellent fishing grounds. Many streams which are too shallow to canoe or fish in the summer are now big enough, thanks to the melting snow and spring rains.

As spring temperatures rise many campers take to the outdoors once again. Warm sleeping bags and rain gear are a necessary part of a spring camper's gear, but plenty of sunshine and fresh breezes are available too, so don't leave the sunglasses at home. Bring your camera too. You'll find plenty of springtime subjects as West Michigan gets ready for summer.

As snow sports fade from the scene, outdoor activities shift toward nature and the beauty of spring. For many animals, spring signals the beginning of the active cycle of their lives. There are mating rituals, young to bear and raise, and the never ending search for food. Migrating birds return, some just passing through, others nesting along the Lake Michigan shore.



Fresh family fun . . .



Flowers and fruit blossoms make their appearance, some so eager that remaining snow is no deterrent. Many West Michigan festivals like Holland's Tulip Festival, or the Blossomtime Grand Parade in Benton Harbor and St. Joseph are based on the fragrant flowers of this region. Cherry blossoms surround Grand Traverse Bay with a scented snow-like blanket. Appealing to other appetites are Boyne City's Mushroom Contest or Vermontville's Maple Syrup Festival.

Spring Highlights

Early April	Late April	Early May	Late May
		trout fishing	→
maple syrup time			smelt dipping
		← sailing	→
		← power boating	→
	Hiking and cycling season gets underway.		
		camping	→
		fruit blossom festivals	
bird watching	→		
		asparagus	
	beachcombing treasures from winter storms		

SAFETY SUGGESTIONS

Visitors to the West Michigan shore may find some conditions quite different than those at home. The following information is provided to make the time you spend in West Michigan as safe and enjoyable as possible.

Driving

West Michigan is served by many fine super highways nationally recognized for their scenic beauty. However, the best sight seeing is still to be found on the winding shoreline and farm country roads. Because these roads conform to the natural contours of the land and often make 90-degree turns to follow property lines, they are in sharp contrast to most Michigan roads which are straight for miles. Slow down, relax and enjoy the natural beauty of the area. Many regular visitors stop at the fruit and vegetable stands to switch drivers, giving everybody a chance to devote full attention to sight seeing.

Winter driving has its own special rewards and precautions. Heavy snows make snow tires or even tire chains necessary for those who take the back roads. Winds can quickly blow drifts over roads creating suddenly changing conditions. However, years of experience have taught local road crews how to cope with winter and most roads are opened quickly after each snowstorm. It pays to keep your tank full for extra traction and to prevent freeze up of the gas line. Both wind-chill and temperature affect your car so parking out of the wind will help you get started in the morning.

If you should become snowbound in your car, don't panic. Plan your moves carefully to avoid hasty mistakes. If you have one, use your CB radio to call for help. If high winds are present you'll probably be better off to wait before walking any distance for help. Try to remember the last house or gas station you passed. Check a road map to see if you can pin down your location. If you are in deep snow, it is wise to clear a hole for the exhaust pipe to avoid carbon monoxide buildup around the car. Open a door or window occasionally for fresh air. As the wind dies down you may decide to walk for help or wait for somebody to come by. Either way watch for signs of hypothermia and frostbite. Exercise occasionally, and if necessary, melt snow for drinking water. People have survived for days in stranded cars, but take heart in the fact that you'll probably be spotted within hours, even under the worst conditions.



Boating

Boaters will find Lake Michigan quite different from inland lakes and rivers. Conditions can change rapidly, and because of their long fetch, waves can be large and dangerous. Check with your local Coast Guard Auxiliary for size and equipment standards for the Great Lakes. Before departing file a "float plan" with someone and check the marine weather forecasts on the radio. (See Harbors.) Summer squalls are not frequent, but can take boaters by surprise. Learn to recognize the signs of an approaching squall and have a plan of action to follow. Large ships, common in Lake Michigan, cannot react quickly and may have difficulty seeing small craft. Give them plenty of room.

Hypothermia

Hypothermia, a dangerous over-chilling of the body, can occur at any time of the year in West Michigan under the right conditions. During late autumn, winter and early spring any outdoor activity undertaken without proper clothing and planning for the weather can lead to it. Even during the summer a prolonged immersion and/or long exposure to cool winds while wet can produce hypothermia.

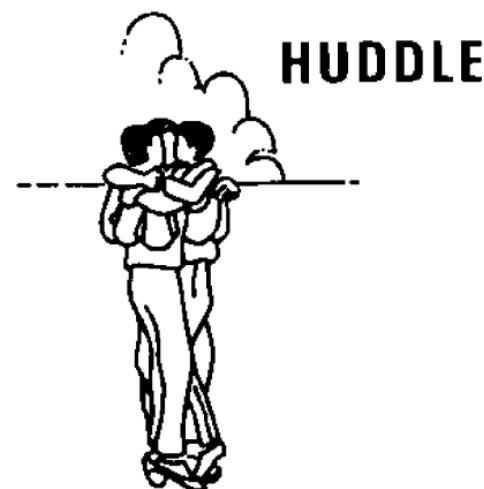
The best cure is prevention and the best prevention is common sense. Remember that wind chill affects you more than just temperature alone. Wear clothing suited to the weather and activity and warm up often. If you get wet, dry off and warm up quickly. Avoid alcohol. Although you may feel warmer, you will actually get cooler inside. If you engage in water sports, consider using a wet suit and get out of the wind after being in the water if you are cold. Boaters should know special cold water survival techniques and consider equipping their boats with insulated survival suits. (See information list for special publications.)

As hypothermia sets in the victim will shiver, turn bluish and feel cold. Then he or she will stop shivering and become numb. Mental awareness will be impaired. This is the danger point. Begin immediate rewarming of the trunk, neck and head and seek medical attention. Don't warm the arms and legs and don't give alcohol. In such an emergency, a bathtub, a sleeping bag and body-to-body contact may be used for warmth.

Wind-Chill Equivalent Temperatures (°F)

Calm air	At 15 mph	At 30 mph	At 40 mph and over
30	9	- 2	- 6
20	- 5	-18	-22
10	-18	-33	-38
0	-31	-49	-54
-10	-45	-64	-70
-20	-58	-78	-87
-30	-72	-93	-101
-40	-85	-109	-116

If you fall into cold water and can't get back into your boat, think before you swim for shore. Swimming will chill you quickly and limit your range to less than a half-mile. Use the HELP (heat escape lessening posture) if alone or huddle with other people. This will extend your survival time in cold water.



Cold Water Drowning

Near-drowning victims in cold (less than 70°F) water show much longer periods of revivability than usual. Keys to a good revival are immediate cardio-pulmonary resuscitation (CPR) and administration of pure oxygen. Don't bother with total rewarming of the patient now. The whole revival process may take hours and will require medical help. Don't give up. The immediate steps are important. (See the information list for publications on cold water drowning.)

HARBORS

Boating on Lake Michigan is an adventure you won't forget. This great inland sea offers many fine hours, even days, of freshwater boating, whether it be charter fishing, pleasure cruising or sailing. Beautiful ports scattered along the shore offer boaters modern conveniences as well as a safe refuge and small-town atmosphere.

A string of twenty-seven protective harbors and public marinas serve Lake Michigan boaters. The harbors have been developed so that in most cases, no boater will ever be more than about fifteen shoreline miles from safety.

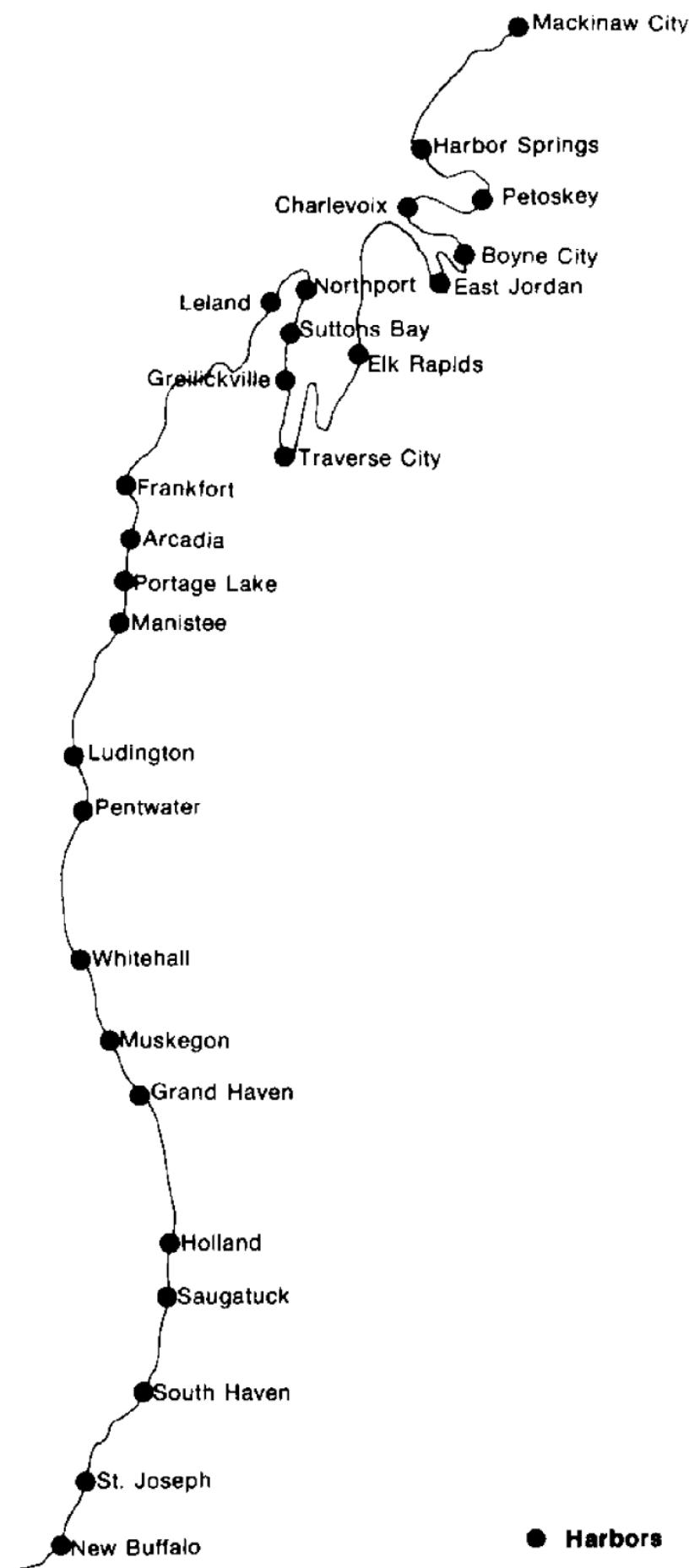
The following map shows the location of the recreational harbors on the Lower Peninsula's Lake Michigan shore.

WEATHER INFORMATION

Boaters need accurate and timely information not only to warn them of dangerous conditions, but also to help plan their trips. Winds, waves and visibility can have a major effect on the length of a trip and the "float plan" should be made with the weather in mind.

NOAA, through the National Weather Service, operates continuously broadcasting weather radio stations which can be received on specially designed VHF-FM radios. These reports are updated every three to six hours and provide detailed weather information, including special severe weather bulletins. The stations serving West Michigan are: Chicago, KWO-39, 162.55 MHz; South Bend, WXJ-57, 162.40 MHz; Grand Rapids, KIG-63, 162.55 MHz and Traverse City, KIH-22, 162.40 MHz. The National Weather Service may be contacted by telephone at the following numbers: Chicago, 922-3251 or 247-4612; South Bend, 233-6001; Grand Rapids, 949-4253 and Muskegon, 798-4070.

Other sources of weather information include commercial AM and FM radio stations and Coast Guard radio stations. Some commercial radio-telephone stations broadcast weather reports a numerical MAFOR code. Occasionally the older flag and light system may be used to indicate general conditions, but other sources should be consulted for detailed information.



OFFSHORE SAILING WINDS

	Month	Prevailing Direction	Average Speed (Kt)	Percent 7-16 Kt	Percent Over 18 Kt
NORTHERN	June	SW S S	13	57	28
	July	SW S	12	59	24
	August	SW S	14	57	29
	September	S N	17	46	46
CENTRAL	June	S SE S	13	61	27
	July	SW S	13	60	26
	August	SW S	14	51	34
	September	SE	16	49	46
SOUTHERN	June	S SE N	14	61	34
	July	SW SW	13	60	26
	August	NW SE	14	55	33
	September	NE	16	43	51

TRANSPORTATION

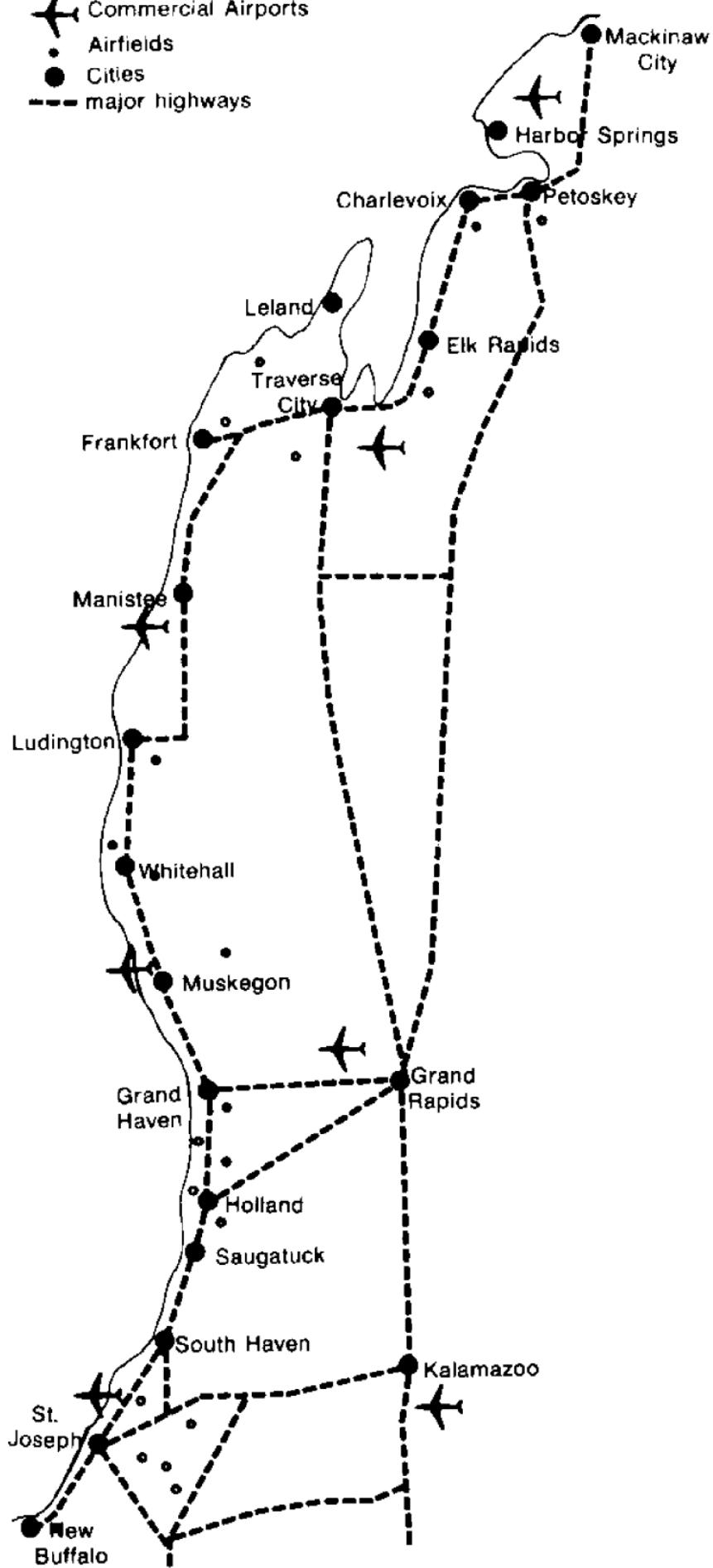
No matter where you live, west Michigan is only a few hours away. The Lake Michigan communities are conveniently served by major interstate highways, air carriers, bus lines and railways.

No point along Lake Michigan is farther than a four hour drive from Lansing. The major freeways I-96, I-196 and I-94 open up the southern and central shoreline, while connecting roads off I-75 lead the motorist through breathtaking backcountry to northern shores.

Michigan hosts an abundance of airports. More than 90% of the entire state's population lives within one half hour of an airport. Commercial air carriers serve Pellston, Traverse City and Manistee in the north and Muskegon, Grand Rapids, Kalamazoo and Benton Harbor in the central and southern portions of West Michigan. They connect to many major cities, including Detroit, Cleveland, Chicago, Milwaukee and Denver.

Only one railway, Amtrak, currently serves the western shore. Its Southwestern Michigan route serves Kalamazoo, Dowagiac, and Niles from Jackson, Detroit, Lansing and Chicago.

Commercial Airports
Airfields
Cities
--- major highways



ADDITIONAL INFORMATION

You may obtain additional specialized information and literature from the sources listed below. When writing remember that the more detailed your questions, the better the sources will be able to help you.

General Information

Michigan Travel Bureau
P.O. Box 30266
Lansing, MI 48909
Toll free telephone:
In Mich. (800) 292-2520
Out-of-state (800) 248-5456

Michigan Travel Information Centers
55 East Monroe 29 Public Square
Chicago, IL 60603 or Cleveland, Ohio 44113
(312) 372-0080 (216) 771-1956

West Michigan Tourist Association
135 Fulton East
Grand Rapids, MI 49503
(616) 456-8557

Check telephone directories for local Chambers of Commerce in area of interest to you.

Hunting, Fishing, Camping and Outdoor Activities
Michigan Department of Natural Resources
Information Services Center
P.O. Box 30028
Lansing, MI 48909
(517) 373-1220

Farm Markets, Fruit Stands and County Fairs
Michigan Department of Agriculture
Information Division or County Fair Division
P.O. Box 30017 P.O. Box 30017
Lansing, MI 48909 Lansing, MI 48909
(517) 373-1104 (517) 373-1095

Cold Water Safety, Scuba Diving, Great Lakes Research
Michigan Sea Grant
2200 Bonisteel Blvd.
Ann Arbor, MI 48109

Great Lakes Information and Referral

Great Lakes Information
3475 Plymouth Road
P.O. Box 999
Ann Arbor, MI 48106
(313) 668-2330/2331

Nautical Charts and U.S. Coast Pilots

National Ocean Survey
Distribution Division, C44
NOAA
Riverdale, MD 20840





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