

DELAWARE'S RECREATION & WEATHER GUIDE

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Authors:

Richard DeAngelis
Environmental Data and Information Service

James M. Falk
University of Delaware
Sea Grant Marine Advisory Service

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DELAWARE'S RECREATION AND WEATHER GUIDE

Although Delaware is the second smallest of the 50 states, it attracts millions of recreationists during the summer months. This is due partially to our location—more than 21 million people live in the “big-city belt” between Washington, DC and New York City and have easy access to our shores. But equally important are Delaware’s pleasant weather and numerous marine resources, including more than 250 miles of shoreline along the Delaware River and Bay, the Atlantic Ocean, and the inland bays. These natural settings appeal to swimmers, boaters, fishermen, and even casual beachcombers.



Tom Putney



VACATION WEATHER

Because it is surrounded by several large bodies of water—Delaware Bay, Chesapeake Bay, and the Atlantic Ocean—Delaware has a temperate maritime climate without extremes of heat or cold. Especially refreshing is the distinct change of seasons Delaware experiences.

Visitors begin arriving in early May and continue vacationing here through October. However, June through August is the primary visitor period at the shore. During these months, the semi-permanent, fair-weather Bermuda High often takes control. It builds over the eastern United States from the Atlantic Ocean and blocks out unfavorable weather systems that produce storms to our west. The Bermuda High also generates a warm, humid southerly flow of air that brings the eastern states their typical summertime conditions. Relief from this weather can be found along the coast, particularly in southern Delaware, which has become a haven for visitors trying to escape the summer heat and find their place in the sun.

In coastal areas the land-sea breeze, or bay breeze, operates anytime there is a difference between land and water temperatures. It is most apparent in summer when this difference is large. The result is a gentle off-the-water breeze during the day that gradually weakens and then reverses during the night. On scorching summer days, the sea breeze can make a beach 10° to 25°F cooler than inland regions. Sea breezes can reach 12 to 20 knots (about 14 to 23 miles per hour) and penetrate as far as 10 to 15 miles inland.



SPECIAL WEATHER CONDITIONS

Fog

Visibility is generally good during the boating season, but it is occasionally hampered by fog, haze, smoke, or rain. These conditions are more likely over Delaware Bay than the ocean. Fog is most common when the Bermuda High is positioned to the north of Delaware, bringing a long fetch of winds from an easterly or southeasterly direction. Fog can also develop when a front stalls to our south. These "advection" fogs are most prevalent during the early morning hours and often burn off or lift by afternoon, particularly near shore.

May is the foggiest boating month, particularly around the entrance to the bay. From July through September, there are long stretches of good visibility on the bay. Good visibility usually prevails when moderate winds are flowing out of the southwest to northwest. Haze and rain frequently restrict visibility to less than ten miles, but rarely to less than one mile. Occasionally a heavy shower will reduce visibility briefly to less than one mile.

Thunderstorms

Though they develop during any season, thunderstorms are a threat mainly from April through September. Inland they occur on an average of two to seven days per month; along the shore and over open water, they are less frequent. They can be widespread or scattered. Ahead of a cold front, they can organize into vicious squall lines that stir up strong gusty winds and choppy seas. They may even bring hail. It is said that the thunderstorms that form over the Delmarva Peninsula are more likely to produce severe weather than those that move in from the west.

According to observations from the Indian River Coast Guard Station, the Miah Maul Shoal Lightship, and the Cape May-Lewes Ferry, very few thunderstorms develop during the day. This is because the persistent sea breeze, which can penetrate several miles inland, acts as a barrier that keeps storms from invading shore areas. However, the sea breeze system also encourages the buildup of cumulus clouds, and thunderstorms can develop along its leading edge. Later in the day, the system breaks down and thunderstorms may drift across the coast.

Hurricanes

Hurricanes (tropical cyclones with winds of 64 knots or more) are rare. An average of only six come to life over the entire North Atlantic each year. While they can form anytime, hurricanes along the Delaware coast are most likely from mid-August through September; tropical storms (winds of 34 to 63 knots) are less restricted to season. However, the chance of a hurricane or tropical storm affecting Delaware is remote.

Historically, Delaware has been relatively lucky with regard to the number of hurricanes and tropical storms recorded at Cape Henlopen and in Wilmington. Cape Henlopen has experienced seven hurricanes and 19 tropical storms over the 93-year period from 1886 through 1979. Wilmington has recorded the effects of three hurricanes and 12 tropical storms over the same period.



OCEAN AND BAY CONDITIONS

Wave Heights

Waves are usually smaller in the bay than they are offshore; however, this difference is minimized in summer. Delaware Bay waters can become rough in strong winds, particularly those coming from the northwest and southeast. Prolonged strong winds can build wave heights to five feet or more in deep waters. Fortunately, these conditions are uncommon. Most of the time, wave heights, even in the ocean, are two feet or less.

At the Miah Maul Shoal Lightship, seas were recorded to be greater than two feet on an average of six to seven days per month during June, July, and August. These wave heights are usually associated with winds of 15 knots or more. Of the boating months, May and September are the roughest both on the bay and in the Atlantic.

Tides and Currents

Along the Atlantic coast of Delaware, tides ranging from four to five feet occur twice each day. On Rehoboth and Indian River Bays, this range falls to two feet or less. Along the Delaware River and Bay, tidal ranges increase progressively from four and one-half feet at the mouth of Delaware Bay to six feet at Wilmington. Strong winds from winter northeasters and tropical cyclones can create surges of four to 12 feet above these normal ranges.



College of Marine Studies

The currents produced by flood and ebb tides in Delaware Bay range up to three knots. In general, they run toward the northwest during flood (incoming) tide. The flood maximum takes nearly four hours to spread from the Delaware Bay entrance to New Castle. By this time, the surface current at the bay's entrance has reversed and the ebb tide has begun. This flow is toward the southeast through south. At the head of the bay, the maximum ebb also lags several hours. The strength of these currents is influenced by the phase of the moon. Both their direction and strength may be altered somewhat by strong winds.



MARINE RECREATION

The Beach

Swimming, sunbathing, and beachcombing are popular from late spring into early fall. Ocean temperatures become comfortable for most people by late June and remain so through September. During July and August, water temperatures are quite pleasant, running in the low to mid-seventies (°F).

For the most part, the Atlantic Ocean's waters are relatively gentle as they touch Delaware's shores, but significant wave action is frequent enough to foster the sports of surfboarding and body surfing. Some of Delaware's best waves can be found on the ocean beaches at Indian River Inlet. Beachcombing in Delaware is particularly fruitful after monthly high tides and storms.

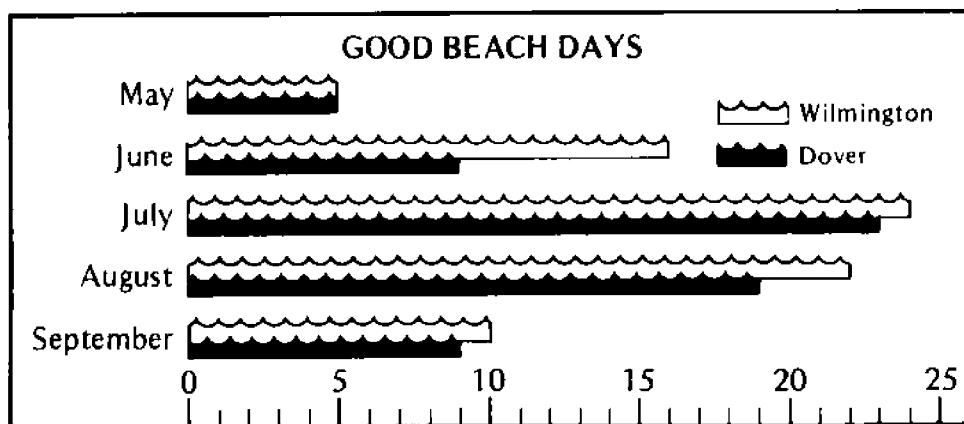
WATER TEMPERATURES (°F)

	May	June	July	Aug.	Sept.	Oct.
Delaware Lightship	53	64	72	74	71	63
Breakwater Harbor (Lewes)	59	68	73	74	71	62
Cape May (New Jersey)	58	68	73	73	71	63
Philadelphia	64	74	79	79	74	64

Beach Weather

During the heart of the summer, good beach days abound. Gentle sea breezes provide natural air conditioning under mostly sunny skies. Rain, if it does occur, is usually in the form of a late afternoon or evening shower or thunderstorm. Good beach weather is the rule in July and August.

Although no data were available for the ocean beaches, statistics for Wilmington and Dover are good approximations. For example, nearby Atlantic City, New Jersey has an average of 20 good beach days in both July and August.



These figures represent the average number of days that conditions are pleasant for being at the beach. A day is considered a good beach day if, using the 10:00 a.m., 1:00 p.m., and 4:00 p.m. (EST) observations—

- Rain occurs not more than twice
- Air temperature reaches 80° F or more at least once
- Windspeed is less than 17 knots at least twice
- Visibility reaches two miles or more at least once
- Clouds cover at least 40% of the sky, with ceilings of 20,000 feet or less, not more than twice

Sportfishing

Sportfishing is one of the most popular activities in Delaware waters. Whether by boat, pier, jetty, or shore, when the fish arrive, the fishermen are out in full force.

Boat fishing in Delaware can begin as early as mid-April when the Atlantic mackerel begin their run. It will last into November when boats anchor near the breakwaters and ice breakers in Delaware Bay to fish for tautog, or blackfish.

Most shore fishing in Delaware takes place along our 24 miles of Atlantic shoreline. The surf and jetty fishermen are most successful when the weakfish and bluefish move northward in May and southward



again in the fall. Pier fishing is limited to the few public piers in Delaware Bay and along the C & D Canal.

Delaware Bay is rich in sports species with the sea trout, or weakfish, being the prize catch. The weakfish is a seasonal resident of Delaware's bay and ocean waters, found here from spring through late fall. The other sport species most commonly caught here are mackerel, bluefish, and flounder, as well as tuna and marlin found farther offshore.

Recreational Shellfishing

Recreational shellfishing for the blue crab and the hard clam is popular during the summer from the northern reaches of Delaware Bay to the vast inland waters of Indian River Bay and Rehoboth Bay.

The blue crab receives a tremendous amount of attention in Delaware waters. Crabbing is eagerly pursued throughout the state since crabbing areas are easily accessible, expensive gear or years of experience are not required for success, and the reward of an evening's meal is always possible. The season for collecting blue crabs ranges from April to early fall, when they begin to migrate to deeper waters. Legal size crabs are those measuring five inches or better from point to point. Crabbing is allowed in any of Delaware's coastal waters unless otherwise posted by the Department of Natural Resources and Environmental Control (DNREC).

Many sandy spots on the bottoms of the inland bays harbor buried hard clams. In summer, these shellfish are actively collected. Clamming is permitted in certain areas of Delaware Bay and the inland waters. The Division of Fish and Wildlife or the State Board of Health can provide maps of state areas closed to shellfishing. Clams of legal size are those that measure at least 1-1/2 inches across. In the mid-Atlantic region, it takes about three years for a clam to reach this size; it may take another seven to eight years for the clam to double in size.

IMPORTANT SPORTFISH AND SHELLFISH OF DELAWARE WATERS

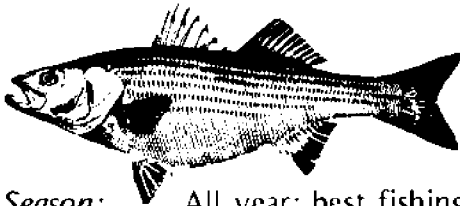


Weakfish
(*Cynoscion regalis*)

Season: May through October or mid-November. Most are caught a few feet off the bottom in depths of six to 45 feet.

Fishing Methods: Bottom fishing, live lining, casting, and jigging from shore; plus occasional trolling from boats.

Baits: Shrimp, squid, silversides, mullet, soft or shedder crab, worms, clams, mussels, cut fish, and live killifish and spot; also spinners, spoons, plugs, jigs, and bucktails with rubber worms or "twisters."

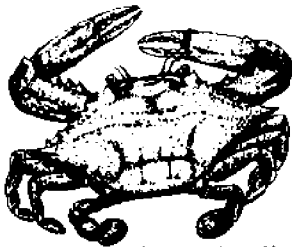


Striped Bass
(*Morone saxatilis*)

Season: All year; best fishing mid-March through May and late September through December.

Fishing Methods: Casting, bottom jigging, and live lining from shore; plus trolling, jigging, and chumming from boats.

Baits: Worms, clams, soft or shedder crab, shrimp, eels, and other live baitfish; also weighted bucktails, spoons, jigs, feathers, plugs, and imitation eels or worms.

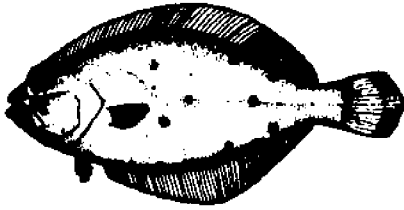


Blue Crab
(*Callinectes sapidus*)

Season: Late April or May to mid-November; best crabbing late July to mid-October.

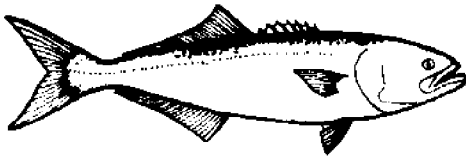
Crabbing Methods: Handlines and dip nets, trot lines, collapsible hand traps and crab pots.

Baits: Whole or cut fish and scrap meat, especially oily fish and chicken scraps.



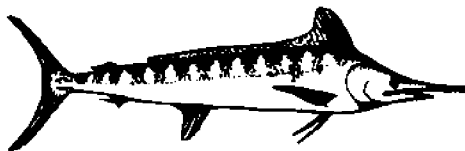
Summer Flounder
(*Paralichthys dentatus*)

- Season:** Late April or May through October or November; best fishing late May through September in water warmer than 61°F.
- Fishing Methods:** Bottom fishing and casting from shore; chumming and live lining.
- Baits:** Killifish, squid, silversides, clams, worms, and cut fish; also spinners and weighted bucktails.



Bluefish
(*Pomatomus saltatrix*)

- Season:** May through October; best fishing September through October.
- Fishing Methods:** Casting, bottom fishing or live lining from shore; these methods plus trolling, jigging, and chumming from boats. Most bluefish are caught in 62° to 75°F water within 45 feet of the surface.
- Baits:** Worms, clams, eels, squid, cut mullet, mackerel or spot, and small baitfish; also spoons, weighted bucktails, jigs, feathers, tube lures, and plugs.



White Marlin
(*Tetrapturus albidus*)

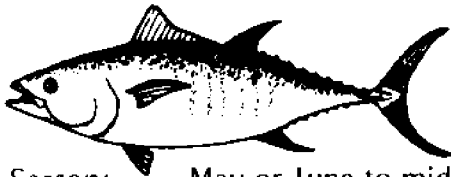
- Season:** Mid-June to mid-October; best fishing mid-July to late September.
- Fishing Methods:** Most are taken near the surface in water warmer than 70°F and by trolling from 20 to 60 miles offshore, especially from the Delaware Lightship to the Jack Spot and in the Wilmington, Baltimore, Washington, and Norfolk Canyons.
- Baits:** Stripbait, feather stripbait, shirt stripbait, combination and rigged eels, squid ballyhoo, mullet, and Spanish mackerel; also live bait. Some caught on feathers, skirts, and plugs.



***Hard Clam**
(*Mercenaria mercenaria*)

Season: Recreational clamming is permitted year-round; best in summer months, especially from May through September.

Clamming Methods: Hand-held rakes or by the hand and feet method. The clams are located on both sandy and mud bottoms, easy access at low tides.

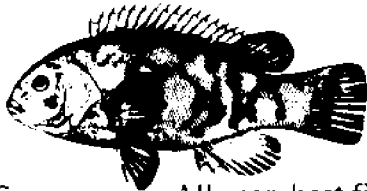


Bluefin Tuna
(*Thunnus thynnus*)

Season: May or June to mid-October; best fishing in late June or early July for large fish; late September for fish to six pounds.

Fishing Methods: Trolling from 10 to 60 miles offshore; also near canyons.

Baits: Feathers, spoons, and plugs.



Tautog
(*Tautoga onitis*)

Season: All year; best fishing in October and November.

Fishing Methods: Bottom fishing from shore or anchored boats. Most abundant catches made by underwater spear fishermen. Best near shipwrecks, rock piles, and breakwaters.

Baits: Clams, worms, mussels, shrimp, crabs, and sand fleas.



Atlantic Mackerel
(*Scomber scombrus*)

Season: Late March to May and October or November; best fishing in late March to April and in late November.

Fishing Methods: Most are taken from between the 60- and 90-foot contours by trolling, live lining, or jigging from boats.

Baits: Sand lance worms, clams, shrimp, squid, and cut fish; spoons, spinners, weighted bucktails, flies, jigs, and plastic tube lures.

**Request "Delaware Shellfish Laws and Regulations." Available from the Delaware Division of Fish and Wildlife. (See Appendix II.)*

Commercial Passenger Fishing Vessels (Charter Vessels and Headboats)

If you do not own your own boat, or if you want to let an experienced captain locate the fish for you, you can try out a charter vessel or a headboat. Most of these vessels begin fishing in the spring and will continue into the fall until the fish stop biting. Headboats usually cruise on Delaware Bay or the Atlantic Ocean searching for schools of weakfish, bluefish, or flounder. Both half-day and full-day trips are popular. Reservations are not necessary--just arrive at the dock the day you want to go out. Costs vary, but in 1980, \$8 to \$10 was average for a half-day trip and \$12 to \$15 was the cost for a full day on a headboat.

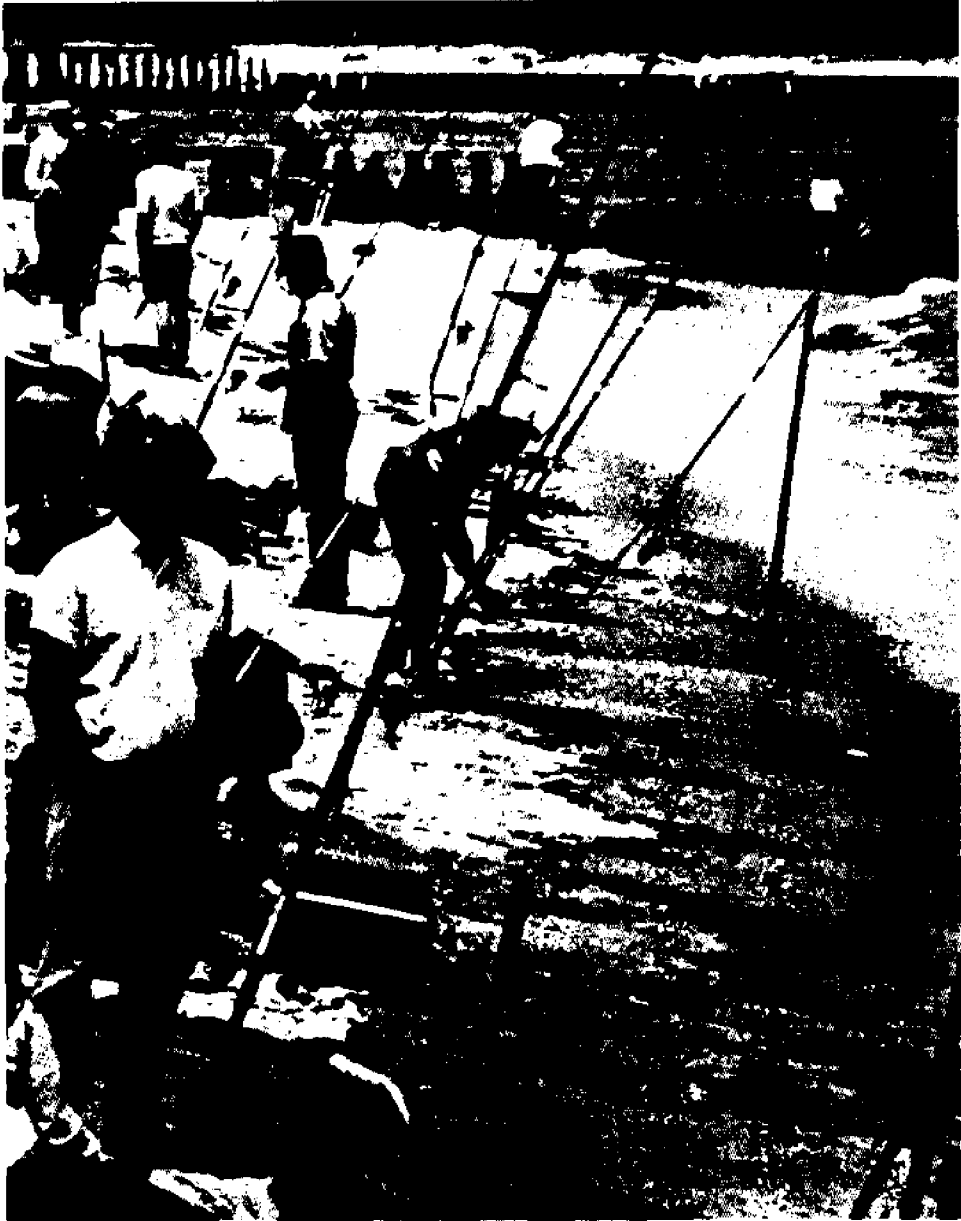
Charter vessel prices run higher since the chartering group reserves exclusive use of the boat and pays for the type of fishing it wants to do. For instance, deep-sea fishing for marlin will run more than trolling closer to shore for blues. The average cost will be between \$30 and \$50 per person for a typical party of six fishermen. In all cases, rods and reels will be provided, free or for a minimal rental fee. For a list of commercial passenger fishing vessel operations, and their locations, see Appendix I.

Fishing Weather

In early spring, when weakfish begin to stir, the weather accommodates. Sunshine abounds, rain spoils few outings, and fog is only occasionally a morning problem. While average daytime temperatures inland are approaching highs of 70° F (with daily spreads of 10° to 15° F), air temperatures on the water are averaging in the middle to upper fifties (°F) and vary no more than 4° to 6° in a day. Responsible for this difference are the bay and ocean waters with surface temperatures running in the low to mid-fifties. Jackets and sweaters are needed for any fishing outing and oil skins or rain suits are a good idea in rough weather.

Shirt-sleeve weather and white marlin in offshore waters make their debut in June. The marlin move closer inshore as some areas warm to 75° to 80° F in mid- to late July. Generally, bay and ocean temperatures in the low to mid-seventies help keep on-the-water air temperatures in a pleasant middle to upper seventies range. However, there are usually two or three summer hot spells when air temperature readings climb to 90° F or above. Close to shore and over open waters it rains only about six to seven days per month. But afternoon thunderstorms are common throughout Delaware Bay in late July and August. Boat fishermen should constantly monitor marine weather broadcasts and be on the watch for a change in cloud patterns.

Fall brings good fishing, good crabbing, and good weather, since the ocean and bay lose their warmth slowly. September air temperatures frequently reach the low to mid-seventies ($^{\circ}\text{F}$). Rain falls about four to five days per month; but there are long stretches of warm days and cool nights with little or no rain. Occasionally, a major storm system will appear and disrupt an early fall fishing outing, but in general, conditions for both ocean surf fishing and boat fishing remain dependable into October.

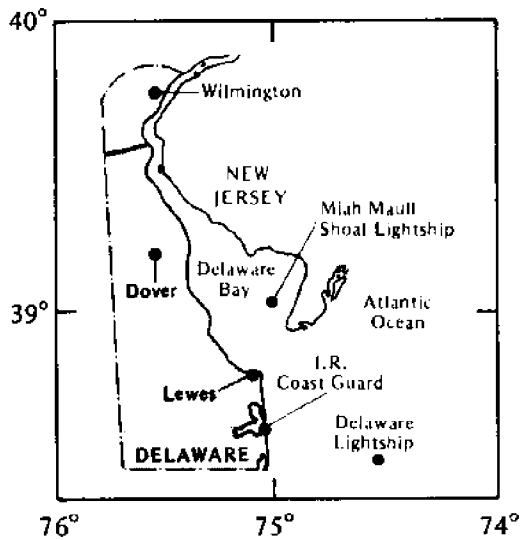


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FISHING AND BOATING WEATHER

		Indian River Inlet	Lewes	Wilmington	Delaware Lightship (Offshore)
May	days $\geq 90^{\circ}$ F	*	1	1	0
	rainy days	5	7	7	2
June	days $\geq 90^{\circ}$ F	2	6	5	0
	rainy days	4	6	6	1
July	days $\geq 90^{\circ}$ F	5	8	9	0
	rainy days	4	6	5	2
August	days $\geq 90^{\circ}$ F	4	6	5	*
	rainy days	5	7	6	1
September	days $\geq 90^{\circ}$ F	1	2	2	*
	rainy days	5	5	5	1
October	days $\geq 90^{\circ}$ F	*	*	*	0
	rainy days	6	6	5	1

*less than 0.5 days



WEATHER STATIONS

LOCATIONS	COORDINATES
Miah Maull Shoal Lightship	39°08'N, 75°13'W
Indian River Coast Guard	38°37'N, 75°04'W
Wilmington	39°40'N, 75°36'W
Dover	39°08'N, 75°28'W
Delaware Lightship	38°27'N, 74°35'W
Lewes	38°48'N, 75°05'W

Boating

Recreational boating in Delaware waters is diverse. Canoes glide quietly through the many peaceful tidal creeks and rivers of Sussex and Kent Counties. The ever-present power boats seek schools of weakfish and bluefish around Indian River Inlet. And sailboats, in greater forces every year, dot the waters of Delaware Bay.

Sparkling waters and cooling breezes lure many Delaware families out on boats during the summer. In addition to more than 30,000 Delaware-registered boats that use our rivers, bays, and ocean, large numbers of trailerable boats from the surrounding states of Pennsylvania, Maryland, and New Jersey can be counted on our waterways.

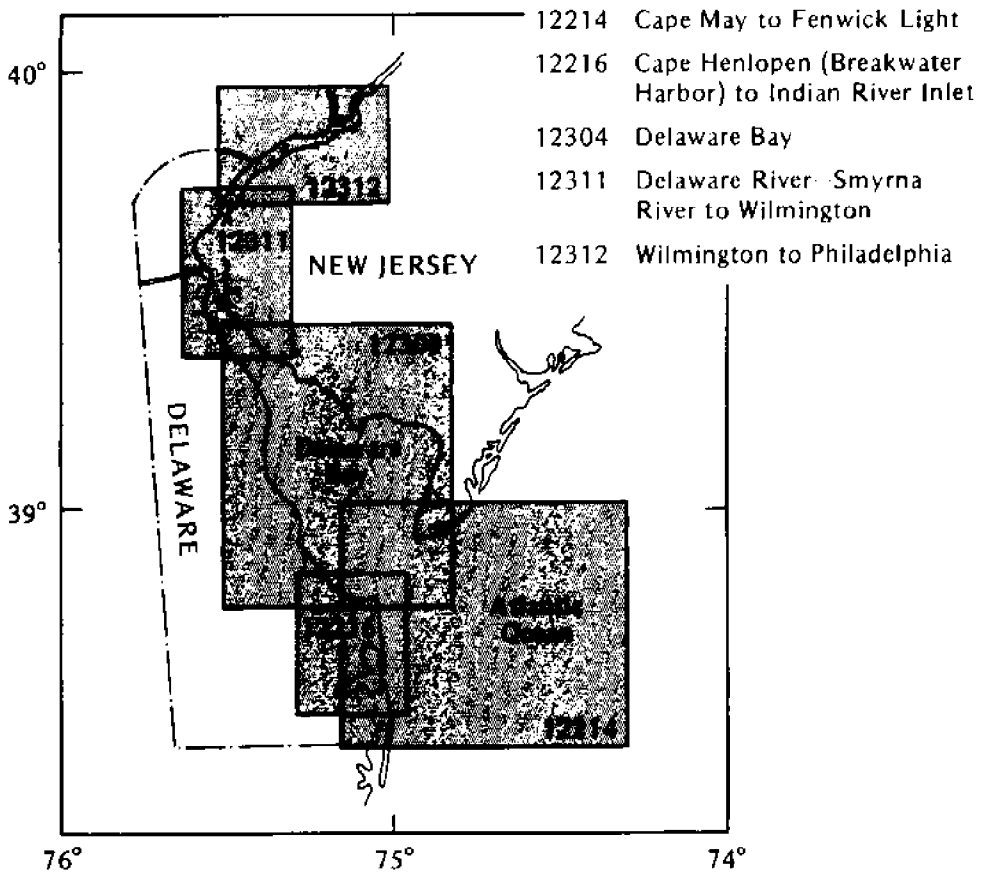


College of Marine Studies

Marine Access (Facilities and Services)

There are numerous sites throughout the state where recreational vessels can enter the water. The Division of Fish and Wildlife maintains public launch ramps along Delaware Bay and its tidal waters. Delaware-registered boats may use the Division's boat ramps without paying additional fees; owners of boats registered in other states must purchase a boat ramp certificate for \$10 if they wish to use the ramps. Boat ramp certificates may be purchased from the Division of Fish and Wildlife, Dover, Delaware.

NAUTICAL CHARTS



AUTHORIZED NAUTICAL CHART AGENTS IN DELAWARE

- Bear:** Fairweather Marine Center, Rts. 13 and 7
- Frederica:** Conley Hardware, R.F.D.
Delaware Outdoors, R.D. 1, Box 435
- Lewes:** Ellis Marine, Inc., 121 Front St.
Life of Riley Bait and Tackle, 800 Kings Hwy.
- Milford:** Taylor Marine Center, Inc., Rt. 1
- Newark:** Carlisle's, 1006 Old Churchman's Rd.
Mt. Marine Corp., 1126 Capitol Trail
- Rehoboth Beach:** Rehoboth Bay Marina, Inc., Dewey Beach
The Mizzen Mast, 1st St.
Old Inlet Bait and Tackle, Rt. 1
- Smyrna:** Weatherly Yacht Co., N. du Pont Hwy. (U.S. 13)
- Townsend:** Ocean Pro Shop, U.S. 13
- Wilmington:** Hilton Marine Supply, 1900 Kirkwood Hwy.

The Division of Parks and Recreation provides beach access along the Delaware coast. It also maintains launch ramps at Holts Landing State Park and Indian River State Marina, within Delaware Seashore State Park. In addition to a launch ramp, Indian River State Marina provides dockage for approximately 250 boats. Ramp fees at Indian River State Marina are \$2 per launch. Ramp launching fees at Holts Landing State Park are free with admission to the park. Park fees vary, so check with the Division of Parks and Recreation, DNREC, P.O. Box 1401, Dover, DE 19901.

Private interests provide the boating public with access to tidal waters through the many marinas located in Delaware. Much of the state's boating activity centers around private marinas. In addition to providing in-water dockage for boats, some marinas handle sales of boats and related equipment, provide service and repair operations, maintain launch ramps, and serve as ports for charter and headboat operations. Also marinas can serve as social gathering spots. A list of the major state and privately operated marine access sites in Delaware can be found in Appendix I.

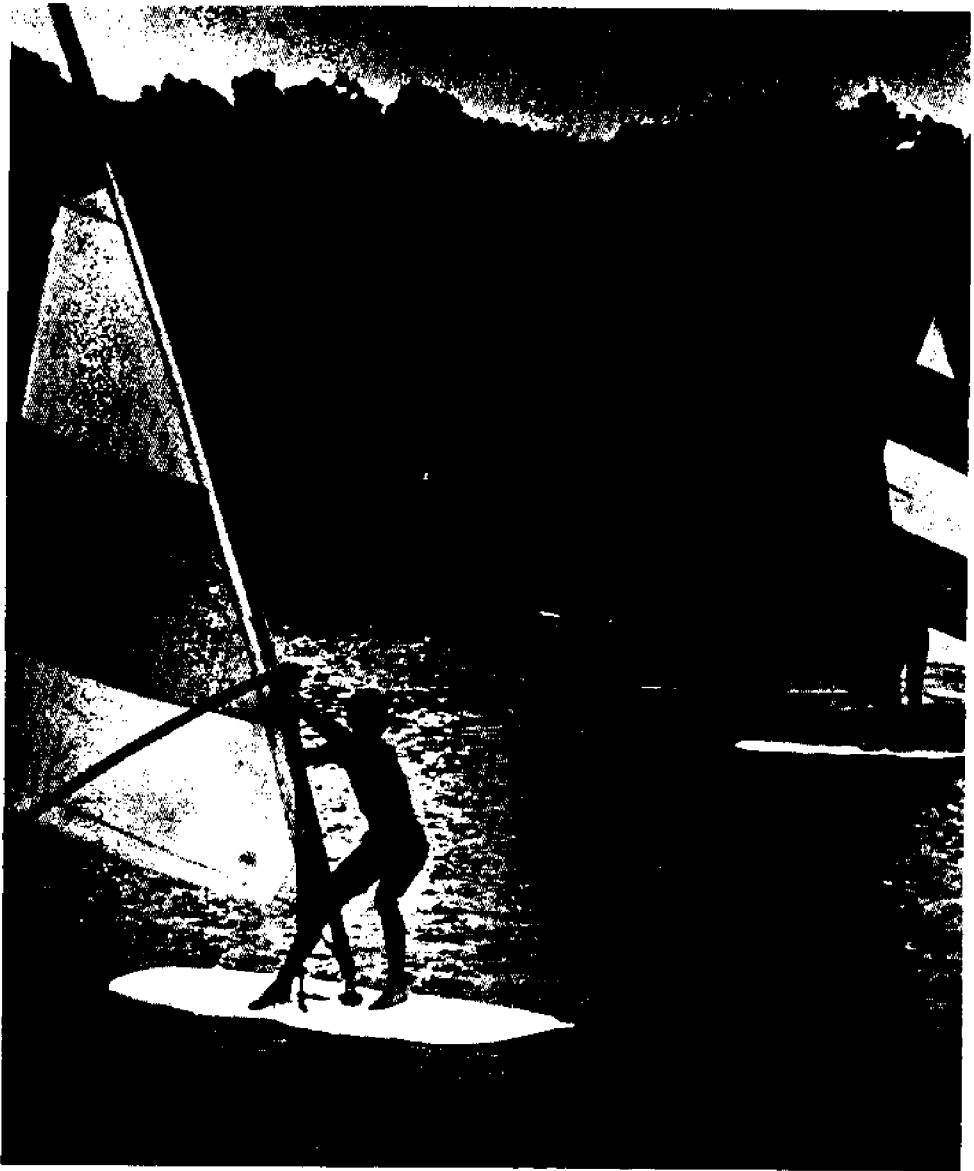
Sailing and Boating Weather

With the return of spring comes the urge to get back on the water -whether it is sailing on Rehoboth Bay or running a fishing boat out of Bowers Beach. May heralds the beginning of both the boating and sailing seasons.

Early Season. In April there is a struggle between the wintery north winds and the summer's southerlies. May winds are generally like those of summer, featuring an abundance of southwesterlies and southerlies along with a slackening of windspeeds. While fronts and lows still bring strong gusty northeasterlies and northwesterlies on occasion, there are many days when the Bermuda High or the land-sea breeze is in control.

Morning winds, often from the southwest, are frequently light, particularly in sheltered waters. Still, over Indian River and Rehoboth Bays, windspeeds reach the good sailing range of 7 to 16 knots more than half the time. During the afternoon good sailing winds blow across the bays of Delaware 60 to 70 percent of the time. Winds greater than 16 knots are also more frequent than they were in the morning. In general, afternoon breezes blow from the east through the south, influenced by the sea breeze. Southwest through northwest winds are not uncommon.

Mid-Season. The summer wind, popularized in song and poem, is the sea breeze. Along the Delaware coast, it can be expected to blow out of the east through the south. The sea breeze-land breeze phenomenon produces generally still nights, faint winds at dawn, strengthening winds throughout the morning, and an established sea or bay breeze by early afternoon. By mid-afternoon, windspeeds average 9 knots and good sailing winds (between 7 and 16 knots) can be counted on up to 70 percent of the time. By early evening, as the land cools, the system begins to reverse. This event is not entirely predictable; on some



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days, fronts, lows, cloud cover, or even a strong high interfere with or inhibit altogether the sea breeze-land breeze phenomenon. However, there are stretches during the Bermuda High season when it runs like clockwork. Directions may vary at Mispillion Inlet; timing may be a little different at Breakwater Harbor; or breezes may be a little stronger over Indian River—but these are usually just variations on the summer wind.

Late Season. September brings winds that both accommodate and frustrate the sailor. Sheltered bay locations are often becalmed in the morning hours, while on other days, bad weather systems can generate winds approaching gale force. Late summer to early fall is also the heart of the North Atlantic hurricane season. While these systems are rare, one usually passes close enough to bring gusty, gale-force winds (speeds of 34 knots or more) at least once during the season. Good sailing winds (7 to 16 knots) blow 40 to 60 percent of the time. At sheltered locations, they are more likely during the afternoon when the sea breeze still exerts some influence on the prevailing circulations. However, winds are most often out of a northerly quarter (northwest through northeast), with southwesterlies and southerlies still occurring.

SAILING WINDS

<i>EARLY SEASON</i>			Prevailing Directions	Windspeeds 7-16 kn (%)	Windspeeds Over 16 kn (%)
Indian River Inlet	May	a.m.	SW NW	68	11
		p.m.	S SE	67	23
	June	a.m.	SW S	70	7
		p.m.	SE S	76	14
Miah Maull Shoal	May	a.m.	SE SW	60	13
		p.m.	NW SE	60	10
	June	a.m.	SW S	54	7
		p.m.	SE S	46	11
Wilmington	May	a.m.	NW W	52	1
		p.m.	S NW	75	5
	June	a.m.	NW SW	46	1
		p.m.	S NW	73	4

SAILING WINDS

<i>MID-SEASON</i>			Prevailing Directions	Windspeeds 7-16 kn (%)	Windspeeds Over 16 kn (%)
Indian River Inlet	July	a.m.	SW W	72	3
		p.m.	S SE	78	8
	August	a.m.	SW NW	67	5
		p.m.	NE SE	74	12
Miah Maul Shoal	July	a.m.	SW SE	55	3
		p.m.	SE S	42	3
	August	a.m.	SW W	62	6
		p.m.	NW SW	51	3
Wilmington	July	a.m.	N NW	37	*
		p.m.	NW SW	72	1
	August	a.m.	NW N	32	*
		p.m.	NW S	68	1

*Windspeeds over 16 kn not evident.

SAILING WINDS

<i>LATE SEASON</i>			Prevailing Directions	Windspeeds 7-16 kn (%)	Windspeeds Over 16 kn (%)
Indian River Inlet	Sept.	a.m.	SW NE	55	20
		p.m.	NE SW	75	15
	Oct.	a.m.	NW SW	61	20
		p.m.	NE N	62	24
Miah Maul Shoal	Sept.	a.m.	NE SW	55	15
		p.m.	NW SE	41	14
	Oct.	a.m.	NE NW	55	18
		p.m.	NE NW	48	24
Wilmington	Sept.	a.m.	N NW	33	1
		p.m.	NW S	70	3
	Oct.	a.m.	NW N	36	2
		p.m.	NW W	68	5



SAFETY

For the Beachgoer

Since many thousands of visitors enjoy our pleasant, sandy beaches each summer, some accidents are bound to occur. Even though most of the beaches are patrolled by experienced lifeguards, a visitor unfamiliar with the surf could have problems in it.

Most beach accidents that do occur are the result of rip currents, backwash, and heavy surf.

Rip Current. A rip current is a fairly narrow band of water, rarely more than 30 feet in width, flowing swiftly outward perpendicular to shore. The waves in a rip current are lower than those in waters to either side of the current, and they may not break on shore. White caps may form in a very strong rip current.

Backwash. Backwash is water, aided by gravity, that flows forcefully off the beach on its return to the sea. Backwash is usually a problem only near high tide on steep beaches.

Heavy Surf. Heavy surf is the most frequent cause of serious neck, back, and shoulder injuries among swimmers. While Delaware's waters are generally moderate in force, storms far out to sea, combined with unusually high tides and strong winds, can cause high waves to roll ashore and crash onto the beach. Also, high waves can quickly generate strong rip currents and backwashes.



Delaware Coast Press



Some Beach Safety Tips*

- Keep a constant eye on children playing at the water's edge and in the shallow surf.
- Never swim alone.
- Never dive into unknown waters or into shallow breaking waves, especially in heavy surf.
- Never turn your back on waves during heavy surf conditions.
- If you are caught in a rip current, try not to panic. Relax and swim at a 45° angle toward shore until you are out of the current.
- If a hazardous condition exists and the beach patrol must clear the water, leave the surf immediately on request.

*For more information on beach safety, write for "Play It Safe." (See Appendix II.)

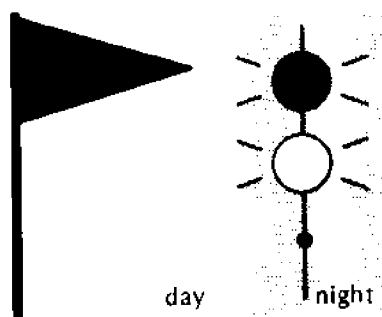
For the Boater

Some Weather Rules for Safe Boating

- Check local weather and sea conditions.
- Obtain the latest available weather forecast for the boating area.
- Write down or tell someone your boating plans in case you are overdue or an emergency arises because of adverse weather.
- Keep a weather eye out for the approach of dark, threatening clouds which may foretell a squall or thunderstorm; any steady increase in wind or sea; and any increase in wind velocity opposite in direction to a strong tidal current.
- Check radio weather for the latest forecasts and warnings.
- Listen for heavy static on your AM radio, sometimes an indication of nearby thunderstorm activity.
- If a thunderstorm catches you while afloat, remember that not only gusty winds, but also lightning, poses a threat to safety.

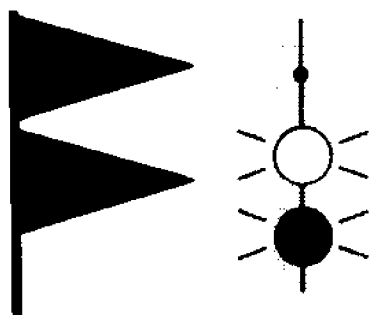
WEATHER DISPLAY SIGNALS...

SMALL CRAFT ADVISORY



To alert mariners to sustained (more than two hours) weather or sea conditions that might be hazardous to small boats. At least 18 knot winds (less than 18 in some dangerous waters) or hazardous wave conditions.

GALE WARNING



Winds within the 34 to 47 knot range are forecast for the area.

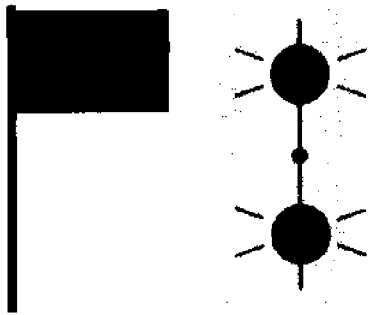
Marine Weather Service

The National Weather Service of the National Oceanic and Atmospheric Administration (NOAA) provides general marine weather forecasts as well as special warnings. Forecasts for mariners are issued every six hours. The NOAA Weather Radio broadcasts 24-hour weather radar summaries, tide information, marine weather warnings, and regional and local forecasts and warnings.

Boaters in the Delaware Bay area can tune to 162.55 MHz (WXJ-94) on VHF-FM (NOAA Weather Radio) for continuous weather broadcasts from Lewes, Delaware (Cape Henlopen). Philadelphia, PA, 162.475 MHz (KIH-28); Atlantic City, NJ, 162.40 MHz (KHB-38); and Salisbury, MD 162.475 MHz (KEC-92) also provide continuous broadcasts. These stations can usually be received 20 to 40 miles from the transmitting site, depending on terrain and receiver quality.

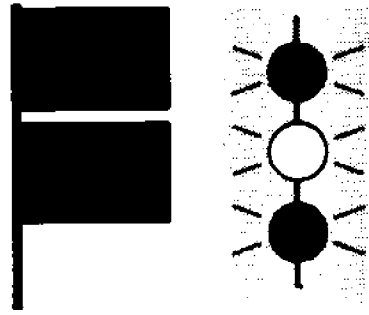
Whenever a severe local storm or strong wind of brief duration is imminent and has not been covered by existing warnings or advisories, a Special Marine Warning Bulletin will be issued. No visual displays will be used, but boaters will be able to receive these warnings on NOAA Weather Radio or Coast Guard and commercial radio stations that transmit marine weather information. Commercial stations in Dover, Georgetown, Milford, Rehoboth, and Wilmington regularly broadcast marine weather forecasts.

STORM WARNING




Winds 48 knots or above are forecast for the area. If the winds are associated with a hurricane, 48 to 63 knot winds are forecast.

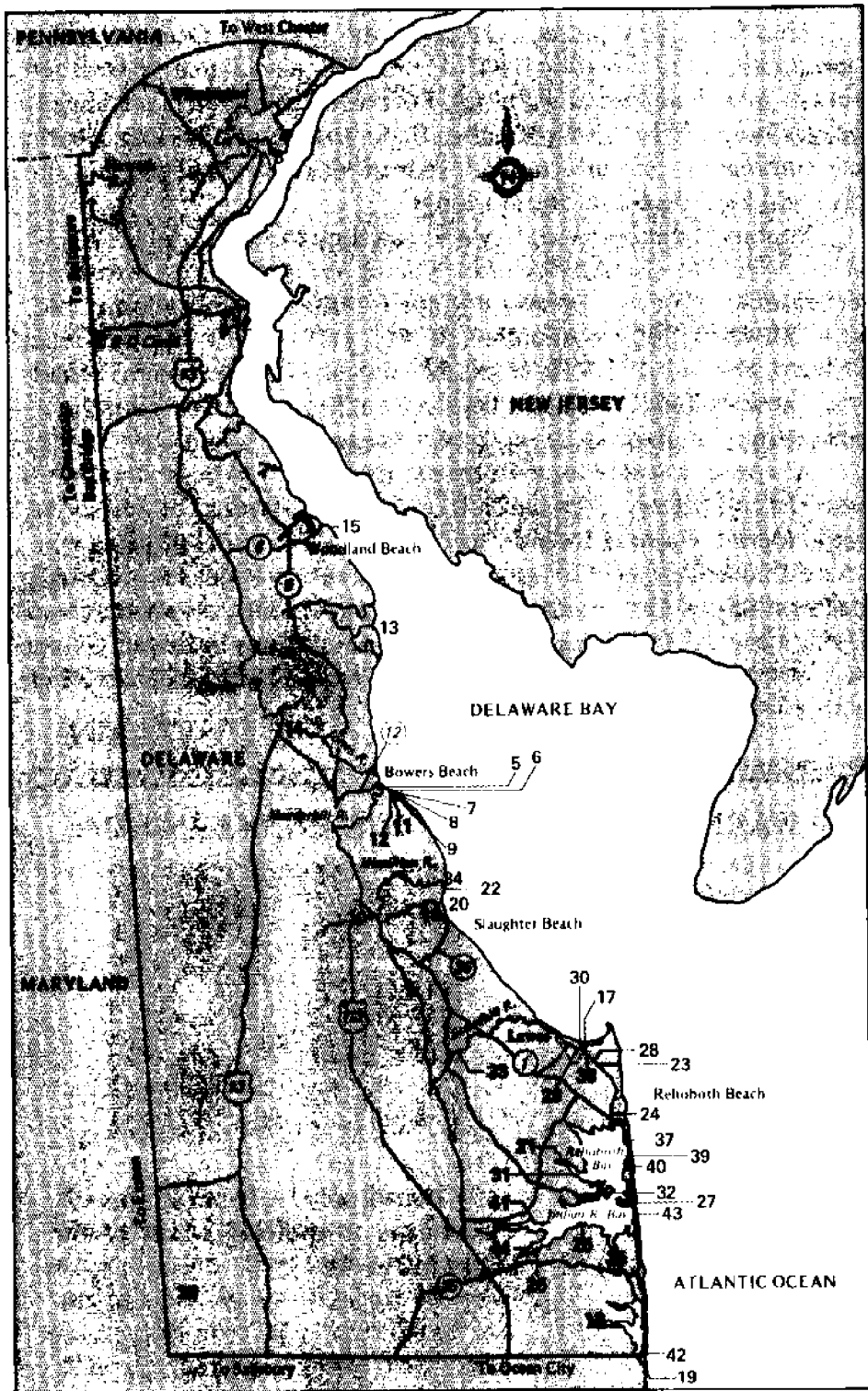
HURRICANE WARNING



Issued only in connection with a hurricane to indicate winds of 64 knots and above.

 - Indicates red

APPENDIX I



MAJOR MARINE ACCESS FACILITIES AND SERVICES

New Castle County		Charter Vessel/ Headboat Locations	Launch Ramps	Marina Facilities
1	Augustine Beach			
2	Delaware City Marina			
3	Ft. Christina Marina and Boat Club			
4	Old 7th Street Boatyard			

Kent County		Charter Vessel/ Headboat Locations	Launch Ramps	Marina Facilities
5	Bowers Beach Public Ramp			
6	Donovan's Dock (Bowers Beach)			
7	Faulkner's Pier (Bowers Beach)			
8	Jim-Ray Dock (Bowers Beach)			
9	J. P.'s Dock (Bowers Beach)			
10	Misphillion Marina			
11	Morris Fishing Station (Bowers Beach)			
12	Paskey's Wharf (Bowers Beach)			
13	Port Mahon Public Ramp			
14	St. Jones River Public Ramp			
15	Woodland Beach Public Ramp			

Sussex County		Charter Vessel/ Headboat Locations	Launch Ramps	Marina Facilities
16	Adams' Wharf			
17	Anglers' Marina			
18	Assawoman Bay Wildlife Area Public Ramp			
19	Beaston's Marina			
20	Bill-Lin-Sue Marina			
21	Boat Hole Marina			
22	Cedar Creek Public Ramp (Misphillion R.)			

MAJOR MARINE ACCESS FACILITIES AND SERVICES (cont.)

		Charter Vessel/ Headboat Locations	Launch Ramps	Marina Facilities
23	Fisherman's Wharf			
24	Henlopen Acres Yacht Club			
25	Holt's Landing State Park			
26	Indian River Oyster Basin			
27	Indian River State Marina			
28	Lewes Harbour Marina			
29	Lewes Public Ramp			
30	Lewes Yacht Club			
31	Love Creek Marina			
32	Massey's Landing Marina			
33	Milton Public Ramp			
34	Mispillion Lighthouse Marina			
35	Topside Marina			
36	Phillips' Landing Public Ramp (Nanticoke R.)			
37	Pier Point Marina			
38	Pilottown Yacht Basin			
39	Rehoboth Bay Marina			
40	Rehoboth Bay Sailing Association Marina			
41	Rosedale Beach Public Ramp (Indian R.)			
42	Shockley's Boatel			
43	South Shore Marina			
44	Timmons' Marina			

APPENDIX II

HELPFUL PUBLICATIONS

Available from: **Distribution Division, C44
National Ocean Survey, NOAA
Riverdale, MD 20840**

Nautical Chart Catalog 1, U.S. Atlantic and Gulf Coasts	<i>Free</i>
U.S. Coast Pilot 4: Atlantic Coast-- Sandy Hook to Cape Henry	\$6.00
Tidal Current Tables: Atlantic Coast of North America	\$5.00
Tide Tables: East Coast of North and South America	\$5.00
Coast Charts (12214, 12304)	\$3.25 each
Intracoastal Waterway (Inside Route) Charts (12216, 12311, 12312)	\$3.25 each
Marine Weather Service Charts: Manasquan, N.J. to Cape Hatteras, N.C. and Chesapeake Bay	\$1.00

Available from: **Sea Grant Communications
College of Marine Studies
University of Delaware
Newark, DE 19711**

Marine Advisory Service Bulletins *(single copy free; multiple copies 25¢ each)*

Weakfish - Catch a Queen for Dinner
Try Flounder, the Ocean's Platter
Shark
Delaware's Blue Crab
The Hard Clam

Special Publications

Artificial Reefs for Delaware	\$1.00
Delaware Seafood Series	<i>Single copy free</i>
Fishhooks	<i>Free</i>

HELPFUL PUBLICATIONS (cont.)

Available from: **Dept. of Natural Resources and
Environmental Control
Division of Fish and Wildlife
Edward Tatnall Building
P.O. Box 1401
Dover, DE 19901**

Boating Laws and Regulations	<i>Free</i>
Delaware Boating	<i>Free</i>
Delaware Fisheries Bulletin	<i>Free</i>
Delaware Shellfish Laws and Regulations	<i>Free</i>
Delaware's Tidal Streams	<i>\$1.50</i>
Delaware's Sportfishing Regulations	<i>Free</i>

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DEMCO

FISHERMAN'S HOTLINE

The University of Delaware Sea Grant Marine Advisory Service operates a 24-hour Fisherman's Hotline from May to September. A one-minute recorded telephone message, updated each day, tells the caller where the fish are biting, what bait should work best, weather conditions, tide times, and other bits of advice that can help the fisherman at sea or in the kitchen. Information for the Hotline is collected from charter vessel and headboat captains and bait and tackle shops from Bower's Beach to Fenwick Island. The Hotline has operated every summer since 1972. Last year, alone, it received more than 65,000 calls.

Hotline Numbers:

645-4241 or 4242 (from Sussex County)
856-9058 (from anywhere in Delaware)
(302) 645-4246 (from out of state)

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