

# Weather Tracking

## Getting a jump on the fronts

BY NANCY GRIFFIN

Even though XM WX and The Weather Channel Marine offer the closest thing to a meteorologist's TV weather display and a host of excellent data options, some boat owners choose to get their weather information from other sources. For some, it's because of hardware costs and monthly fees. For others, such as the Bering Sea commercial fishing fleet, satellite coverage is still too spotty, say dealers.

With the help of a knowledgeable dealer, vessel owners can sort through the variety of systems by determining what will work best for them based on real needs, such as where they usually operate their boat, and how frequently. The other consideration, as always, is cost. Some boaters may not need all the whistles and buzzers that satellite systems offer, but if they can afford them, they may want to buy them anyway.

"There are several layers," said Ken Englert, owner of Maritime Communications in Marina del Rey, Calif., referring to the menu of available weather services. "The first is the local voice on the VHF radio. Use it on board or use a portable radio to find out in the morning what the weather will be before leaving the dock."

This simple, inexpensive, traditional approach works for day trippers who don't go far and

*Included in the arsenal of weather information equipment, systems and services are Raymarine's charting program and Furuno's FAX 30, a combination weather fax and NAVTEX receiver.*

### PREVIEW

Boaters seeking weather updates while at sea have a dizzying array of available sources. A glance at the National Oceanic and Atmospheric Administration's web page alone shows dozens of places boaters may access weather data on everything from their onboard PC to a cell phone. And more options are on the way.

At the top of the list of weather options are two nearly real-time satellite systems, the XM WX Satellite Weather and The Weather Channel Marine, which was the cover story in our March/April issue. This time we look at some of the other ways mariners stay a step or two ahead of the weather.

who usually boat in the same, local, familiar waters. Beyond 20 miles out, where VHF coverage usually becomes unpredictable or goes missing, the choices become more complex.

"I think the majority of people are just watching the Weather Channel on TV or the Internet on their computer before they go out," said Kevin Sherburne, chief operating officer for HWH Electronics Corp. in St. Pete Beach, Fla. "But here, you can go from 20-knot to 50-knot winds in under two hours, so if you operate a charter service and want to run a safe operation, it wouldn't be enough to look at the Weather Channel before leaving the dock."

### Tried and true

After VHF, the next level is the time-tested weather fax, which is an integrated weather broadcast receiver and printer. The graphics representing weather information are basic, and there is no monthly subscription fee.

"It's quite segmented, you get an area off the coast, a printed map. NOAA indicates weather information such as fronts and other

Photograph by Jim Ostergard



*Accurately forecasting the weather is a matter of dollars and cents for commercial fishermen. Many of the boats that operate far offshore, or in regions like Alaska, rely on weather fax or download National Weather Service reports from the internet via a satellite connection. Some vessels have NAVTEX units aboard, which provide a variety of information including weather.*

activity on paper charts, and you get a snapshot of what's going on," said Englert, including satellite pictures, wave height forecasts and other weather movements.

In Seattle, techs at Lunde Marine Electronics say their customers in the large commercial fleet fishing the Bering Sea who regularly travel between 1,000 and 2,000 miles in open ocean still carry weather fax and use it regularly. Some now also download National Weather Service (NWS) information via satellite or access it directly on the internet.

"We are unique," said Tor Tollesen, owner of Lunde. "We have no cities, and we have a gray area in which satellite receivers don't work. Besides, it requires an 8- to 10-foot dish to get TV. All fishing vessels, steamers and tankers have had weather fax for years. Each country has stations and they all read the same. The Anchorage station might not reach to Florida, but then you can access Mobile, Alabama." Gone are the old adjustment-sensitive wet paper Alden weather fax machines; they've been replaced by receivers/printers from Furuno, JRC and Taiyu Musen that work more like an office fax machine.

"These guys mostly use the weather fax system. They listen to the broadcasts at Kodiak. They use it because once they have the equipment—it's free, except for the paper," said Lunde's Steve Wallace. "They have very bad and very sudden weather changes. They get the weather charts from NOAA—Kodiak station covers the Bering Sea—and they can listen to each other on the single sideband. They 'guesstimate' the forecast from NOAA and then talk to each other for updates."

"The barometer has been known to peg both sides within four-and-a-half hours there," Tollesen added. "That's a complete change of sides in a short amount of time."

Mariners can also access weather information by using a laptop equipped with software that costs about \$300 and a single sideband radio. However, the method is not terribly popular with the 1,000-vessel Bering Sea fleet because the captains don't want to have to deal with their computers.

Like many large commercial vessels, the bigger Alaskan fishing boats also carry NAVTEX receivers. GMDSS—Global Maritime Distress and Safety System—requirements mandate NAVTEX receivers on vessels 300

tons and over. The receivers provide a variety of safety information other than weather, including navigational warnings, search and rescue information and satnav/navaid messages. "I don't know if they use them for weather," said Wallace. "They have small print, not as descriptive as the faxes. For these guys, the weather fax is bigger and they can add in their own experiences and see the curve."

A NAVTEX receiver is a small box, a radio receiver with an antenna and printer. Many manufacturers make them, including Furuno, JRC, Raymarine and Simrad. Broadcasts are issued every three to four hours. "If it's in sleep mode, it picks up and stores up to six messages, dumping the old ones," said Englert. "It's perfect."

Most people buy the 8 inch NAVTEX receivers (from \$2,300) unless their vessels are bigger than 10,000 tons and are required to carry the 10 inch receiver (\$6,000 plus), said Wallace. "But the price jump is huge. The 14 inch receiver is around \$10,000."

If a vessel is required by size to carry NAVTEX, "It's very good for the rapidly changing weather in the Pacific Northwest," said Mark Upson of G&A Electronics in Newport Beach, Calif. His customers in Newport Beach today buy only 20% of the weather faxes they bought 10 years ago.

Even if his customers have installed one of the pricier XM WX or The Weather Channel-Marine satellite systems, they often need a backup system, often weather fax or NAVTEX if traveling south below Mexico, to Panama or beyond, where the satellites don't reach.

"NAVTEX information comes from the Coast Guard. It falls between the weather fax and the Weather Channel. It's printed, text-only, detailed and regional. It goes all along the coast. The information is free. It's really undersold," said Englert. "We should be selling more. It's relatively inexpensive. There's no excuse not to have one." He says smaller NAVTEX receivers sell from around \$495 to \$1695.

"For some reason, NAVTEX hasn't caught on with the public," said Kevin Sherburne. "It's lower-cost technology developed for commercial applications."

The new NAVTEX forecast products are a blend of the existing offshore marine forecasts and coastal marine forecasts. However, the



*International regulations require certain types of large vessels to carry NAVTEX equipment. Reports are automatically printed out, as demonstrated by the McMurdo NAV5plus.*

inshore forecasts contain less detail than the coastal forecasts. Mariners can continue to obtain NWS coastal marine forecasts by other means, including NOAA weather radio, USCG MF voice, USCG VHF voice, NOAA telephone recordings and the internet. NWS and the Coast Guard are actively working to improve the broadcast of marine forecasts via NAVTEX through a combination of product enhancements and technology upgrades.

No system is without potential problems, said Sherburne. "All electronic systems are made by man, so none are totally reliable. Put these electronics where they least like to be, in a wet, unprotected place, and often without ideal power supplies." That said, he added that "weather fax and NAVTEX may be less susceptible than the newer stuff.

Furuno makes two NAVTEX units, the NX500, a "big bulky" standalone receiver with a thermal printer designed for commercial users which sells for \$1695, said Dean Kurutz, marketing manager for Furuno USA in Camas, Wash. "It's hard for recreational boaters to justify the expense." So Furuno launched a smaller model, the NX300, an LCD unit with no printer for under \$500.

Some dealers say the reason weather fax is not used by more recreational boaters, especially those who cruise only occasionally, is because there's a learning curve involved in reading the charts and symbols. While the chart information is second nature to the Bering Sea fishermen, NAVTEX's text printouts are easier for others.

## Combos

Furuno developed a black box weather fax/NAVTEX module, called the FAX 30, that plugs in to their NavNet system. The same FAX 30 can be used as a stand-alone

weather fax/NAVTEX receiver by connecting it into a laptop or home PC. You don't have to deal with expensive paper because weather information is stored in the hard drive. You can zoom in and enhance color, something you can't do on screen, all for about \$995.

"The advantage of NAVTEX over weather fax is that the warnings are in plain English," said Kurutz. "It's better for the occasional, recreational boater because they don't have to read a map." NAVTEX information is free, so requires no subscription. This unit interfaces with the vessel's GPS to determine which station is best for the NAVTEX data and automatically accesses it.

"You can look at the information on the screen or print it out," said Kurutz. "Or it will connect to our NavNet program so you can show it on any display."

## Fax, phone, email or internet

"I have a couple of customers who really don't want to bother with weather," said Upson. "They go to systems such as Weather Routing, Inc. out of New York. These systems aren't cheap, and you pay per day. You tell them to contact you either by fax, phone or email. Tell them everything about your boat and tell them your comfort level—such as you don't want to be out in 8 foot seas." At least six of his customers use these services exclusively.

Some new services are available through cell phones for less than \$10 a month, said Sherburne. "If you have a color display, you can get live radar for your area. This has a techie ring to it."

"Some people cruising on sailboats hook their computer to their cell phone and get the internet. If you're paying for the connection anyway, there's no additional cost and

you have access to all kinds of super real-time weather data. There are lots of sites to go to besides NOAA," said Sherburne, including weather links from the web page for HWH Electronics. "Besides the National Weather Service, all local TV and newspapers have weather online."

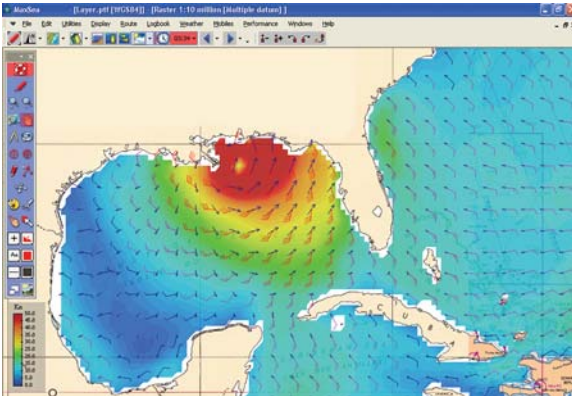
"It's possible to go cheap!" said Englert. "You can buy an OCENS program for \$239, install it on your laptop and connect your single sideband radio and get free weather fax broadcasts anywhere in the world."

OCENS (Ocean and Coastal Environmental Sensing), a Seattle-based company, offers an interactive weather forecasting program called WeatherNet. By entering a latitude and longitude, the vessel operator may receive a seven day text forecast of ocean conditions, and charts for the region, worldwide. The interactive weather engine is a collaboration between OCENS and Buoyweather.com. OCENS also offers a watertight Data Pod that holds a Globalstar phone that may be cabled to a computer for access to weather, email and the web. Also, the company's WeatherStation 2000 HW allows for weather fax reception.

Farallon Electronics in Sausalito, Calif., sells high-speed Pactor modems that allow users to access virtually free email services using their SSB radios. "Sailboat people, primarily, use these to receive worldwide storm warnings hourly, so they get a glimpse of weather around the world," said Englert.



*A lot of mariners prefer the time-tested weather fax, such as this one from JRC. The device simply incorporates a weather broadcast receiver and printer.*



*One of the features offered as a result of the MaxSea-NavNet partnership is the software's ability to redraw a route if it determines that the weather isn't suitable.*

## MaxSea/NavNet

MaxSea is old software from France that's been around practically since the advent of PCs. It's always been good and useful, say dealers, but the marketing was dismal and people didn't buy it. However, dealers now say it will be the next hot product because Furuno has partnered the 12th version of MaxSea with its NavNet equipment.

The Navigator Plus and Commander versions offer different navigational services, but both access the "Chopper" weather software ("That name will be changed by next year!" said Kurutz.). Chopper's free subscription allows a boater who sails the same waters all the time to set up parameters to receive information such as wave height, wind velocity, sea surface temperatures, barometric pressure and more. "This information will be sent to you every day and it will be overlaid on a chart."

A special feature for sailboaters, said Kurutz, is the software's ability to modify a route. If the sailor draws a simple route, the software will assess the weather along the route and redraw it to accommodate the weather. "You can get predictive weather out for several days. The \$495 price tag is a small part of the overall package of electronics for a medium-sized boat, \$12,000 to \$40,000, especially if you're going offshore.

"MaxSea has simple universal icons on the screen for wind speed and direction, and

the user can add color for lows and highs," said Kurutz. "This gives customers a tremendous amount of versatility, including the ability to coordinate with radar."

## SkyMate

At the Miami Boat Show in February, SkyMate, Inc., a Chantilly, Va., manufacturer, announced a partnership with Nobeltec on a new hardware/software product called SkyMate 200 with Nobeltec eChart Mariner which enables mariners to have navigation, communications, and weather on one screen.

SkyMate already offers a communicator with a VHF stainless steel 38 inch whip antenna, which won an NMEA award for innovative technology for the compactness of the hardware. Besides the new Nobeltec package, SkyMate has existing systems that include weather.

"When a customer buys our hardware package, they will have access to four weather options," each based on the operator's preferences as to text, charts and graphics, said Chief Operating Officer Lynn Tandler. The first option uses NOAA weather charts with 24-hour reports. The second includes color radar images from NEXRAD [NOAA's 'next generation' Doppler radar weather forecasting service], primarily of coastal U.S. areas, overlaid with other information on existing maps. The third option is NOAA text reports for anywhere the agency issues them, coastal and high-seas areas mostly in the U.S. and "a bit outside," said Tandler. The last option is global, offering tables from anywhere in the world, in the mid-range of character use (average 1000 characters) from Buoyweather.com.

"These pull down menus offer information on wind and waves. Just put in the long and lat, and get information as far out as seven days," said Tandler. "They use hardly any characters, but everyone tells me they are dead-on accurate." The package is designed to be affordable for offshore boaters at under \$1,000 with software and cables.

Tandler reports a lot of interest from Great Lakes boaters who don't take long trips, but who face sudden weather changes. SkyMate also offers a vessel monitoring system for fishermen, and a tracker system that comes with a GPS to track a fleet of boats.

## Some use none

Mark Young at Young's Electronic Systems in West Yarmouth, Mass., says until recently most boaters didn't buy weather systems. "Until five or six years ago, vessels with SSB radios bought high-frequency modems for a few hundred dollars and accessed a few free services, from the U.S. Navy or somewhere. I don't know how often these are purchased anymore, but they're still available.

"If there's a computer onboard, there are online weather services, many of them free," added Young. "Then there are cell phones, modem cards for cell phones with services you pay for to go online, or a satellite system." His customers on Cape Cod, especially those in the 20-foot to 40-foot category, are not buying many weather services.

On the Gulf, Gail Robertson of Sound Marine in Tampa, Fla., says the shrimp fleet doesn't usually buy weather equipment either. "They check before they go out. They get the long-range forecast on the weather channel. We don't usually get really big waves in the Gulf." She did sell one of each of the satellite systems to yachters.

"Here on the Gulf, we just putter along," said Robertson. "The shrimpers are devastated by the cost of insurance and fuel, and by cheap foreign shrimp imports. If a hurricane is coming, everyone knows it."

## Raymarine

Raymarine's Raytec navigational software allows boaters to open, view and "animate weather data," said Product Manager Louis Chemi. "For \$100 a year, boaters can subscribe through the website. They will be sent an email once or twice a day, whichever they choose. The email automatically opens in the Raytech software and is overlaid on a chart. It integrates with any chart they use."

But this product is old news, says Chemi, and dealers should be looking forward to a new product for 2006. "We have no dates or promises, but the Weather Channel announced an agreement with Raymarine at

the last Miami show. We believe weather is important for almost all the products we have.”

In Portland, Me., Mike Whitten of Sawyer and Whitten says the two proprietary satellite systems, XM WX Satellite Weather and The Weather Channel Marine, are big sellers. “Most of my customers buy these, both commercial and recreational vessels.” His cus-

tomers include many in Portland’s commercial fishing fleet. “The price has come down and they’re virtually trouble-free.”

But many boaters, especially sailboaters, have expressed interest in the PC-based systems. “It’s an economical way to do it and you don’t have to have a lot of hardware if you have a PC.”

**ME**

### About the Author

Nancy Griffin has written marine-related articles for numerous trade publications, including *National Fisherman*, *Seafood Business* and *Marine Electronics Journal*.