Datum

Periodically, we get a rather aggrieved call from a customer who tells us that a particular chart—usually electronic or for foreign waters—is inaccurate. They're plotted on land instead of in an anchorage, or they're consistently a mile west of their actual position. What gives?

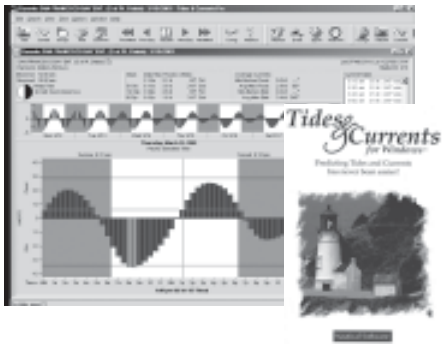
Charts are occasionally inaccurate, but most of the time mis-plotting is an issue of datum. *A datum is a reference point used to measure other points. A chart's horizontal datum defines a particular mathematical shape for the earth—it's* not *a perfect sphere—that allows a cartographer to establish a latitude/longitude grid (a* graticule*) for a chart. Modern charts use the WGS84 datum—World Geodetic System, 1984; most GPS units assume this datum is in use.*

However, some older charts continue to use alternate datums. No problem—unless your GPS datum and chart datum disagree. If they do, an incorrect latitude/longitude grid will be applied to the GPS position relative to the chart, and your position will appear to be misreported. To correct matters, just alter the datum your GPS uses; you'll find several dozen in its memory for this contingency.

Datum is typically reported in a chart's title block, which can be viewed directly on an electronic chart or accessed through a charting software's chart info field. Some programs will even warn you when a chart with an odd datum is accessed.

Learn more about navigation and cartography with Dutton's Navigation and Piloting—*a classic reference. If you're looking for something more readable, try Hubbard's* Boater's Bowditch—*a plain English explanation of the "practical" in the* American Practical Navigator.

TIDES & CURRENTS PROFESSIONAL
Install in seconds; predict for a lifetime



Tides & Currents Professional instantly predicts both tides and currents for thousands of locations in North and Central America and displays current information on electronic charts. Search for highs and lows, absolutes, or swings plus max floods and ebbs, duration of slack water, and much more for any date between 1900 and 2100. Print reports and calendars or export data to other documents. Plan routes and upload them to your GPS.

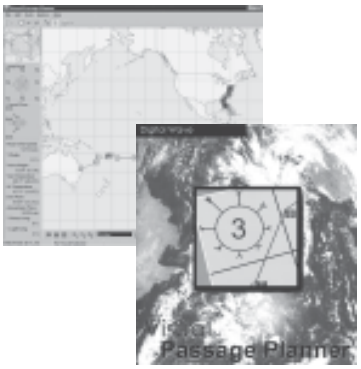
Pro version includes data for East and West coasts of North and Central America. Add prediction capability for world locations with regional tide and current add-on's.

116609	*Tides & Currents Professional*	**$ 99.95**
11655X	*Tides & Currents Regional Data Add-On*	**$ 54.95**

Region 1—North Atlantic, Europe, Mediterranean, Baltic
Region 2—South Atlantic, eastern South America, Africa
Region 3—Indian Ocean, Persian Gulf
Region 4—Southeast Asia, Japan, Korea, China, Russia
Region 5—New Guinea, Australia, Timor
Region 6—Pacific Islands, New Zealand, Galapagos, western S. America
NOAA West—West coasts of North and Central America ($74.95)
NOAA East—East coasts of North and Central America ($74.95)

116559	*World Data Add-On (all regions)*	**$399.95**

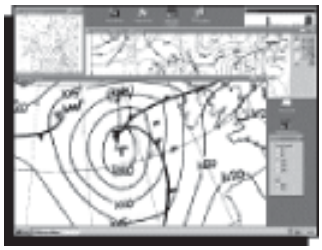
VISUAL PASSAGE PLANNER 2
Electronic pilot charts for the world



For open ocean route planning, finding weather windows for long passages, and understanding prevailing wind, weather, and current patterns, pilot charts are the sailor's best resource. Digital Wave's *Visual Passage Planner* is the first program that brings pilot chart planning to the computer. Plan passages and plot waypoints, then generate reports for routing, weather, and more. Automatic route optimization finds the safest, warmest, fastest route, generating intermediate waypoints from only start and end point input.

105057	*Visual Passage Planner*	**$119.95**
105058	*Visual Passage Planner* upgrade from ver. 1	**$ 39.95**

MSCAN METEO
Choose sound card or PTC-II interface



Mscan Meteo is a powerful easy-to-use program for receiving weather fax images, GRIB's, and NAVTEX with your PC and HF radio. Just connect your radio to your computer's sound card or SCS PTC modem, load *Mscan*, and you're ready to receive. No dedicated serial port is required.

Mscan Meteo collects *every* line of fax data for crisper, clearer images. Fax images are recorded in standard *.bmp* or *.gif* formats for easy export. GRIB files can be automatically requested through radio or satellite e-mail. Remote radio control is available for ICOM and other radios to automate NAVTEX scanning with image collection (additional hardware may be required).

104972 *Mscan Meteo* (WIN 98/ME/XP/2000) **$249.95**
129842 *Adapter Plug (for most ICOM jacks)* **$ 2.95**

NX300 DUAL-CHANNEL
Paperless NAVTEX receiver

If you're coastal cruising, you'll find text weather information broadcast via NAVTEX. Furuno's *NX300 Paperless NAVTEX Receiver* is the simplest, most economical way to monitor NAVTEX weather plus navigational warnings, safety alerts, and much more.

99158 *NX300* **$389.00**

ELECTRONIC MARINE BAROMETER

A recording marine barometer is one of the handiest tools for the offshore sailor. Weems and Plath's *Electronic Marine Barometer* is designed to display current conditions plus history with fine detail.

121999 *Electronic Barometer* **$99.95**

STARPATH WEATHER TRAINER

Learn to forecast weather from weather fax charts as well as by local observation with Starpath's *Weather Trainer*, an interactive, self-paced computer learning tool for anyone from beginners to old salts.

121741 *Weather Trainer* **$124.95**

Weather Fax

Red sky at night, sailor's delight... This simple rhyme is probably the first marine weather forecasting tool you used. It's a good one—red skies indicate dry air to the west with fair weather on the way—but, before venturing offshore, more information is imperative. For comprehensive, current, reliable information, marine weather facsimile charts are the standard.

Weather fax transmissions are similar to faxes you receive via telephone. The sender's fax machine scans a document and processes it into line after line of dots—black, white, and grays. It then translates the dots into tones, where a tone's pitch corresponds to the color of a dot. If you've "listened" to a fax, you probably heard warbling, high and low pitched tones. As your fax decoder "hears" the tones, it translates them back into dots and, subsequently, characters.

Instead of using phone lines, a weather station's fax broadcasts over marine SSB. Specialized computer hardware/software packages allow sailors to connect a PC to the audio output of a SSB receiver to collect and decode the broadcast information automatically.

Weather fax information typically consists of up to a dozen different kinds of synoptic weather charts that show the meteorological conditions over a given area. Approximately 70 stations around the world broadcast charts for their area, so it is possible to get weather charts almost everywhere. Their interpretation, however, is left to you, so an understanding of marine weather is necessary to fully use them. Starpath's Weather Trainer *is an excellent tool for learning to understand marine weather and interpret weather charts. Visit* www.waypoints.com *for details.*