

## **- Highly Recommended Wx Resources -**

Most of the books below can be bought at <http://www.nauticalmind.com/> or you could go to <http://www.amazon.ca/> or <http://www.chapters.indigo.ca/> online to order them. Try to get the used copies they are much cheaper and usually in good shape – I have had great luck with buying used books.

### **Books**

**Meteorology Today 9<sup>th</sup> Ed.** C.D Ahrens -This book is one of the most widely used and authoritative texts for the introductory meteorology course. Introductory stories draw you into the discussion, in-chapter reviews help you master concepts while you study, and end-of-chapter exercises provide opportunities for you to gauge your understanding. See Nauticalmind, Chapters or Amazon websites for the best prices on new and used books

**Wind, Weather & Waves** Environment Canada (hard to find)  
<http://www.starpath.com/catalog/books/1829.htm>

**The Weather Handbook**, by Alan Watts, ISBN 0-924486-76-7 Sheridan House Publishing

**Weather at Sea** , by David Houghton/Fred Sanders, International Marine Publishing

**Heavy Weather Guide 2<sup>nd</sup> ed.** , by Kotsch/Henderson,Naval Institute Press.ISBN 0-87021-263-X

**Weather Maps (2<sup>nd</sup> ed.): How to Read and Interpret Wx Charts**, by P.Chaston, (816) 628 4770

**Practical Weather Forecasting** by Frank Mitchell, Christie Barron's Publishing

**Mariner's Weather Handbook**, Steve & Linda Dashew, Beowulf Inc., ISBN 09658028-2-5 (Great Offshore Weather book)

**Weather for the Mariner** by Kotsch, Naval Institute Press,ISBN 0-87021-756-9 Understanding Weather Fax, by Mike Harris

**Weather For Sailors** - by Bill Biewenga and edited by the meteorologists - <http://www.northu.com>

**Lightning and Boats: A Manual of Safety and Prevention** (Paperback) by Michael V., Jr. Huck (Author) – Great little book (~\$10 US)

### **Coastal and Offshore Weather: The Essential Handbook**

3rd ed. rev. Perfect for those who are getting started in marine weather. Parker covers weather dynamics, weather forecasts, interpreting weather, clouds and reading the sky, forecasting products and how to use them, including VHF, AM/FM radio, WeatherFax, SSB/Ham, HF modem products, satellite and cell phone, GRIBs, weather nets, and more.

## **Magazines about the Weather**

**Weatherwise** ~ \$45 /year *Weatherwise* features fascinating articles and spectacular color photographs that showcase the power, beauty, and excitement of weather. *Weatherwise* articles present the latest discoveries and hottest issues in meteorology and climatology and focus on the relation of weather to technology, history, culture, art, and society. In each issue, our expert columnists answer reader questions about the weather; discuss current events and people in the news; review new weather-related books and videos; test reader forecast skills with analysis of weather maps; and summarize recent weather events in the United States and Canada.

[www.weatherwise.org](http://www.weatherwise.org)

**Mariners Weather Log** – The Mariners Weather Log (MWL), a publication of the National Weather Service (NWS), contains articles, news and information about marine weather events and phenomena, storms at sea, and weather forecasting <http://vos.noaa.gov/mwl.shtml>

## **ON-Line Basic Weather Courses and CD's**

**WW2010** – Developed by the Department of Atmospheric Sciences (DAS) at the University of Illinois Urbana-Champaign (UIUC), WW2010 (the weather world 2010 project) is a WWW framework for integrating current and archived weather data with multimedia instructional resources using new and innovative technologies. To ensure the greatest possible accuracy of our instructional resources, all materials have been reviewed and edited by professors and scientists from the Department of Atmospheric Sciences

(DAS) at the University of Illinois Urbana-Champaign (UIUC) and the Illinois State Water Survey. – Great Met course – Free On-line or CD \$7  
[http://ww2010.atmos.uiuc.edu/\(Gh\)/home.rxml](http://ww2010.atmos.uiuc.edu/(Gh)/home.rxml)

**North U** publishes the accompanying *Weather for Sailors* textbook, CD-ROM and the online *Weather Routing Wizard* tool. Prepared jointly by North U., Bill Biewenga, Lou Roberts and Commanders Weather, these all new Weather for Sailors resources are designed to help sailors, cruisers, and racers gather, understand, and interpret weather information.  
<http://www.weather4sailors.com/>

**Starpath Weather Trainer** –The Starpath Weather Trainer is a revolutionary, easy-to-use teaching tool and resource which will forever change the way weather skills are taught. This powerful, interactive computer course gives you the working skills that would normally take years to acquire. It provides practical, thorough training that is both memorable and valuable. From weather basics for the beginner to advanced topics for seasoned mariners, the Weather Trainer can make anyone a more competent mariner. <http://www.starpath.com/catalog/software/1804.htm>

### **More Advanced Weather Training (you need to do some reading)**

**COMET** - The COMET<sup>®</sup> Program serves as a premier resource to support, enhance, convey, and stimulate scientific knowledge about the weather for the benefit of providers, educators, and users of weather information.  
<http://www.comet.ucar.edu/>

**MetEd** (Meteorology Education and Training) Website was established to provide education and training resources to benefit the operational forecaster community, university atmospheric scientists and students, and anyone interested in learning more deeply about meteorology and weather forecasting topics <http://www.meted.ucar.edu/>

**AMS** - An introductory college course provided by the American Meteorological Society for undergraduate institutions nation wide.  
<http://www.ametsoc.org/amsedu/online/info/>

## **Weather Software**

**WxPlotter** – (Weather Plotter) Wx Plotter is a full-featured weather software package, plotting elements such as current weather, temperature, dew point, ceiling, wind barbs, and relative humidity. -Wx Plotter Activation is now **free** (Start with this one) Great little program!!

[http://www.nerdtests.com/software\\_wxplotter.php](http://www.nerdtests.com/software_wxplotter.php)

**WeatherPipe** automatically **downloads** weather charts from the Internet at predesignated times and **prints and/or saves** them. Imagine waking up every morning and having a fresh set of professional surface charts from your favorite site waiting on the printer

WeatherPipe will import GIF, JPG, and even TIF files. Charts may come from your government, from university servers, and more. For those dark charts, you can configure individual charts to print as a photographic negative. Images don't even need to be a weather chart; for example if you find football scores or train schedules in GIF format ( or US Marine forecasts), WeatherPipe will print those too. As long as it's an image and on the Internet, it can be printed.

<http://www.weathergraphics.com/weatherpipe/>

**Digital Atmosphere** is a powerful weather forecasting software that allows you to create detailed maps of real-time weather for anywhere in the world. It makes extensive use of techniques and algorithms that are comparable and in some cases superior to the National Weather Service's multimillion-dollar Advanced Weather Interactive Processing System. It can run on any 486 or Pentium system, and does not require any type of subscription or recurring costs, using free data from the Internet. More expensive (\$99 to \$199US) but have a look. <http://www.weathergraphics.com/da/>

**GRLevel3** - GRLevel3 is a Windows viewer for live NEXRAD Level III data. Great software program which allows you to add your own Lat/Longs, racing marks, ports, whatever. (\$90 US) <http://www.grlevelx.com/grlevel3/>

**RAOB**. -The world's most powerful and innovative sounding software available. A multi-functional sounding analysis program that can decode over 25 different rawinsonde / radiosonde data formats; create a variety of sounding diagrams; 3-D hodograms; time & distance based vertical cross-sections; mountain (lee) wave turbulence diagrams; and display over 100 atmospheric parameters including icing, turbulence, wind shear, clouds, inversions -- plus a unique severe weather analysis table, a cloud parameter

table, several thunderstorm analyses options, and graphically interactive diagrams. RAOB is now used in 50 countries

<http://raob.com/>

## **Internet Weather sites: The Ones used in my Presentation!**

**The National Weather Service's Marine and Coastal Weather Services Branch** is responsible for oversight of the Marine and Coastal Weather Services Program. The program provides current, accurate information relating to U.S. coast, coastal and offshore waters, the Great Lakes, and the open oceans. BOOKMARK THIS GEM!!

<http://www.nws.noaa.gov/om/marine/marine.shtml>

**The Ocean Prediction Center (OPC)** is an integral component of the National Centers for Environmental Prediction (NCEP) located at the NOAA Science Center in Camp Springs, MD. The primary responsibility is the issuance of marine warnings, forecasts, and guidance in text and graphical format for maritime users. <http://www.opc.ncep.noaa.gov/>

**National Hurricane Center** - <http://www.nhc.noaa.gov/>

**Environment Canada's Marine forecasts** -for all of Canada.

[http://weatheroffice.ec.gc.ca/marine/index\\_e.html](http://weatheroffice.ec.gc.ca/marine/index_e.html)

**Marine Services Environment Canada** - Marine Services On-line (MSO) is a citizen-driven single window to government marine services and information. The MSO seeks to better serve marine clients (Recreational Boaters, Commercial Fishers and those within the Marine Infrastructure) by offering information products and services through a single point of access. It is convenient, bilingual and accessible 24 hours, 7 days a week irrespective of geographic location.

<http://www.marineservices.gc.ca/en/Con01.asp?Div=Rec&Info=Mar>

**Canadian Hurricane Centre web site** - Located in downtown Dartmouth, Nova Scotia; the hurricane centre specializes in providing information to Canadians on storms of tropical origin that affect Canada or its territorial waters.[http://www.atl.ec.gc.ca/weather/hurricane/index\\_e.html](http://www.atl.ec.gc.ca/weather/hurricane/index_e.html)

**The Hydrometeorological Prediction Center (HPC)** -is one of the nine Centers for Environmental Prediction (NCEP), which is part of the National Weather Service (NWS) The HPC exists to meet the real-time weather information needs of a growing group list of users including NWS field offices, other governmental agencies, the media, the private sector, academic institutions, the international community, and the general public. Amazing site, for all your weather needs.  
<http://www.hpc.ncep.noaa.gov/html/fcst2.shtml>

**Oceanweather Inc** -has operated a real time forecasting division following a unique approach which optimally combines the traditional approach to weather forecasting, which retains the contributions of individual forecasters, and Oceanweather's high-level technology developed and applied so successfully in its hindcasting and consulting divisions. The system includes a global wind and wave forecast system and various high resolution regional applications.  
<http://www.oceanweather.com/data/index.html>

**Center for Ocean-Land-Atmosphere Studies (COLA)** is a scientific research center established to improve understanding and prediction of Earth's climate and daily weather variations. More advanced site more detailed images, but really great images!  
<http://wxmaps.org/>

**The Ohio State University (OSU)** -Our goal is to provide timely and useful graphical and textual weather data to the general public. Very good site, easy to navigate.  
<http://asp1.sbs.ohio-state.edu/>

**Unisys Weather** - offers real-time weather data, leading-edge graphical weather display products and consulting, engineering and integration services to clients and value-added resellers.  
<http://weather.unisys.com/>

**Weather Underground** has state-of-the-art technology which monitors conditions and forecasts for over 60,000 U.S. and international cities, so you'll always find the online weather information that you need. In addition to providing free, real-time online weather information to millions of Web users around the world, <http://www.weatherunderground.com/>

**Intellicast** is a product of Weather Services International (WSI) is recognized as the world's leading source of weather and weather-related information, mission-critical systems, and presentation services. WSI serves customers in media, aviation, industry, agriculture, government, education and consumer markets.  
<http://www.intellicast.com/>

**CIMSS** is a Cooperative Institute formed through a Memorandum of Understanding between the University of Wisconsin-Madison (UW-Madison), the National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA). Really great for their Hi-res satellite images. Great educational site.  
<http://cimss.ssec.wisc.edu/>

**National Data Buoy Center (NDBC)** is part of the National Weather Service (NWS). NDBC designs, develops, operates, and maintains a network of data collecting buoys and coastal stations. <http://seaboard.ndbc.noaa.gov/>

**Nexlab** - Educational and great hi-res data – Sat, Radar, obs, etc. Bookmark this website for Hi-res images of the Great Lakes.  
<http://weather.cod.edu/>

**PassageWeather.com** was developed out of the need for reliable, easy to use weather information and forecasts to help sailors with their passage planning and weather routing. Both before and during deliveries, ocean races, regattas, cruises and all other types of offshore passages, we have your whole route covered. A Very Good site!  
<http://www.passageweather.com/>

**WeatherBug** is the leading provider of weather information services, manages and operates a proprietary network of over 8,000 WeatherBug Tracking Stations and more than 1,000 cameras that are strategically placed at schools, public safety facilities and television stations throughout the U.S.

These professional-grade weather stations generate live neighborhood level reports every second (unlike other weather providers; their data is up to an hour or more old)

[www.WeatherBug.com](http://www.WeatherBug.com)

**WindGURU** - is a service specialized for forecasting weather, mostly for windsurfers and kitesurfers (but not only...). Forecasts are based on data produced by weather forecast models. Windguru is able to provide forecast for any place on planet Earth.

<http://www.windguru.com/int/>

**SailFlow.com** is a consumer service provided by WeatherFlow Inc., a leader in high-quality automated weather networks. We are an experienced group of engineers, meteorologists, and IT professionals offering turn-key weather solutions for clients in industry and government. We are also windsurfers, kitesurfers, sailors, surfers, and fishermen who years ago realized the need for real-time weather reporting and accurate forecasting of conditions.

A Free and Subscription service available.

<http://www.sailflow.com/>

**Weathertap.com** - The fastest weather on the web, the most current NEXRAD radar and a complete aviation weather package. There's detailed lightning data as well as high-resolution East (GOES-12) and West (GOES-10) satellite images. Plus, you get forums, up-to-date forecasts, surface data, and colorized, animated maps: local, state, regional, and national coverage. Over 9,000 graphic products. Subscription Service.

<http://weathertap.com/>

**UM Weather Sites** - This page provides access to over 380 North American weather sites including - Government, Private sector, Academia. This will keep you busy!!!

<http://cirrus.sprl.umich.edu/wxnet/servers.html>

## **Lightning Information and Safety For Boaters**

Detectors and General articles and web resources for boaters on lightning safety and protection.

**The ThunderBolt® Storm Detector** - is Storm Safety Technology to carry with you anywhere. Thunderstorms and deadly lightning can suddenly come out of nowhere, catching people off guard and unprepared. Sooner or later, everyone who works or plays outdoors will get caught in this predicament.

<http://www.spectrumthunderbolt.com/>

**StrikeAlert** - by Outdoors Technologies, is a small and affordable lightning detector that provides an early warning of approaching lightning strikes from as far away as 40 miles and lets you know if the storm is coming your way

<http://www.strikealert.com/ProductInfo.htm>

**Skyscan lightning detector** – Another sensor

<http://www.skyscancanada.com/main.html>

### **Great Websites for Lightning and boating**

<ftp://mdsg.umd.edu/Public/MDSG/lightning.pdf>

<http://nsgl.gso.uri.edu/ncu/ncug95004.pdf>

<http://www.marinelightning.com/EXCHANGEOct2007Final.pdf>

<http://www.marinenet.net/Lightning.htm>

<http://www.marinelightning.com/>

<http://www.lightningtalks.com/LightningProtection.htm>

<http://www.cdc.gov/nasd/docs/d000001-d000100/d000007/d000007.html>

<http://www.lightningsafety.noaa.gov/outdoors.htm>

<http://www.nssl.noaa.gov/edu/safety/lightning.html>

[http://safety.dri.edu/FieldSafety/Guidelines/Lightning\\_Safety\\_Guideline.pdf](http://safety.dri.edu/FieldSafety/Guidelines/Lightning_Safety_Guideline.pdf)

<http://boatsafe.com/nauticalknowhow/lightning.htm>

### **Weather Radio – Environment Canada**

[http://www.msc.ec.gc.ca/msb/weatherradio/index\\_e.cfm](http://www.msc.ec.gc.ca/msb/weatherradio/index_e.cfm)

(SAME Technology)

US National Weather Service Version - info

<http://www.weather.gov/nwr/nwrsame.htm>

**Just a few SSB Software Sites - For people that want to learn more about SSB weather reception on the Ocean/Open Great Lakes.**

## **Understanding GRIB DATA**

Grib is the format used by the meteorological institutes of the world to transport and manipulate weather data and is the foundation of the forecasts we see around us in our daily life. In the past, accessing and viewing GRIB weather data has often required a tricky combination of technical knowledge and expensive software

Now there's GRIB.US. A company that empowers you, the end-user, to interactively extract your own custom GRIB weather files tailored to **your** needs. We also provide you with our - easy to use- Ugrib software to view this data so that you can look at weather data for anywhere in the world when you want to, where you want to. Best of all, this is all for FREE!

<http://www.grib.us/> (Start here)

### **Other GRIB Viewing Software:**

<http://www.globalmarinenet.net/grib.htm>

<http://www.ballgate.com/gribviewer/>

**Airmail's weather fax companion** - Includes Getfax to receive faxes, and Viewfax grib/fax viewer. Also includes the latest NOAA radiofax schedule (rfax.pdf). This latest version allows frequency to be set via station and frequency-selection boxes, once fax mode is selected. An auto-fax mode is also provided for scheduled reception. Getfax is licensed without charge for licensed users of Airmail (i.e. Sailmail members, hams and other licensed users)

<http://www.siriuscyber.net/wxfax/>

**WEATHER FAX 2000** - Receive up-to-the minute weatherfaxes worldwide! This extremely popular program is written for Windows 95 and newer.

<http://www.celestaire.com/catalog/products/4501.html>

[http://www.sea-tech.com/WEATHERFAX\\_2000.pdf](http://www.sea-tech.com/WEATHERFAX_2000.pdf)

**WindPlot Software** – Plots \wind speed, ocean currents, surface temps, precipitation, etc. etc. plots all the weather found in GRIB Format

<http://www.xaxero.com/gribplot.htm>

**Marine SSB Books – Learn more about/General Info about WxFax**

[http://www.sea-tech.com/idiyacht\\_books.htm](http://www.sea-tech.com/idiyacht_books.htm)

<http://weather.noaa.gov/fax/marine.shtml>

**Marinenet Wireless**- Specialist in wireless internet systems and services

<http://www.marinenet.net/weather.htm>

**OCENS** - Weather, Email And wireless communication solutions for satellite and cellular services

<http://www.ocens.com/index.htm>

**Radioworld** - is the largest radio store of its type in Canada, specializing in Amateur, Shortwave, Marine, Avionics, CB, FRS/GMRS radios, GPS, Communications Scanners and a complete assortment of related accessories. Ask them anything, and they will tell how to set it up!

<http://radioworld.ca/index.php?cPath=3>

**SeaTTY 2.0** - program to receive weather reports, navigational warnings and weather charts transmitted on longwave and shortwave bands in RTTY, NAVTEX and HF-FAX (WEFAX) modes. It can decode GMDSS DSC (HF and VHF) messages. Software also can automatically save NOAA Weather Radio SAME voice messages (NWR SAME) and them digital headers. None additional hardware is required - your need only receiver and computer with a sound card.

<http://www.dxsoft.com/seatty.htm>

[http://www.freedomdownloadcenter.com/Network\\_and\\_Internet/Misc\\_Communications\\_Tools/SeaTTY.html](http://www.freedomdownloadcenter.com/Network_and_Internet/Misc_Communications_Tools/SeaTTY.html)

**GMN** - Provides compressed satellite email, weather, vessel tracking services, and blogging. Marine communication is easier and more cost effective with wireless services, airtime, satellite phones, Pactor modems, and marine equipment from one trusted location.

<http://www.globalmarinenet.net/>

<http://www.dakare.com/HylasSpecs/weather.htm>

**Raymarine** - the world leader in marine electronics develops and manufactures the most comprehensive range of electronic equipment for the recreational boating and light commercial marine markets.

<http://www.raymarine.com/Default.aspx?site=1&section=2&page=1331>

**Nobeltec** - provides you the most cost effective navigation and communication solutions on the market:

<http://www.nobeltec.com/>

**Maxsea** - As the leader today in the area of navigation software,

<http://www.maxsea.com/>

**Davis Weather Stations** - Davis Instruments, a privately held manufacturing company and developer of exceptional instruments for weather, marine, and automotive. The Best station there is for the Money!

<http://davisnet.com/weather/index.asp>