



CHELSEA'S

Weather Resource Guide for Coastal Sailing

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Understand Types of Weather Data

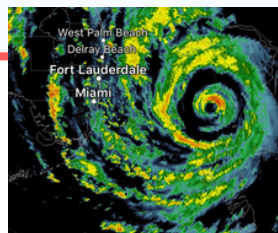
It is important to understand what kind of data you are looking at. Is it ground-truth observation or is it a projected forecast? Does it have human forecaster input? You want to make sure you are looking at accurate data from a quality source, ideally that has also been reviewed by a meteorologist whenever possible.



OBSERVATIONS

Real, ground-truth readings from instruments showing what is currently happening in the atmosphere.

Examples: Wind readings, Radar, Satellite Images, Weather balloon data (Radiosondes), Temperatures



from RadarScope



from NOAA

COMPUTER MODEL DATA

Mathematical model projections of what could happen in the atmosphere.

Observations from around the globe are put into super computers as initial conditions. Assumptions and approximations are made about how the atmosphere will behave. The computers then run millions of mathematical equations, and the output is a numerical weather forecast.

In the sailing community, these are often called "gribs" referring to the output file type (.grib) from the computer models.

Examples of models: GFS, NAM, ECMWF, HRRR, CMC, ICON, etc.

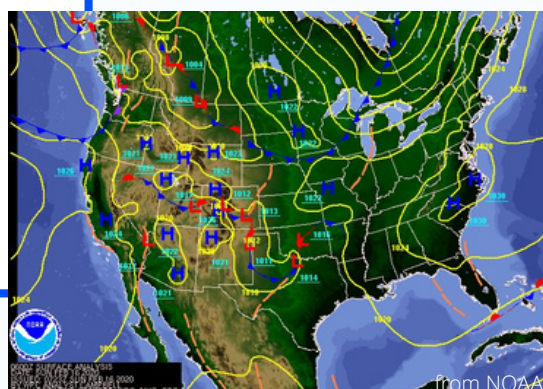


from windy.com

ANALYZED DATA

Analyses are edited and verified by human forecasters, making them more accurate than computer model forecasts. Most National Weather Service products count as analyzed data. Whenever possible, verify that you are looking at an analysis and not a model forecast.

To the right is a surface analysis; a weather map showing current locations of weather features such as highs, lows, and fronts, based on the ground observations that is verified by human forecasters.



from NOAA



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Check out at least 1 source from each major category

Observations give you an idea of what the weather is doing right now. A Surface Analysis will give you an accurate big-picture idea of the atmosphere. Then, look at a few different computer models to see what matches with what is happening now. Other analyzed data will help you determine which forecast is most accurate.

Observations

The one-stop shop: NowCOAST from NOAA

overlay radar, satellite, observations, marine warnings, on nautical charts

Wind & Temp

- SailFlow / iWindsurf (web + mobile app)
- NOAA Weather & Hazards Data Viewer
 - go to Overlays -> Observations -> Surface Observations
- WeatherObs.com
- WunderMap



Satellite Imagery

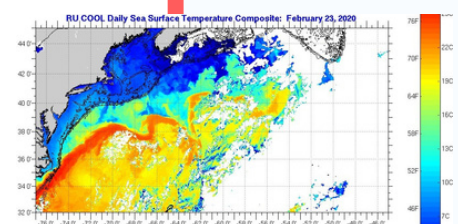
- NASA World Satellite (click map to zoom)
- College of DuPage - US only
- NOAA Aviation Weather Center - Worldwide
- Sat24 - best for Europe
- Penn State - Europe

Radar

- NOAA National Weather Service Radar
- ZoomRadar
- iWeatherNet
- Spain/Palma

Ocean Temp & Current

- US Coastal Water Temps
- NOAA Ocean Prediction Center (OPC)
- Rutgers Gulf Stream



Tips

- Don't get overwhelmed! There is SO much data out there.
- Find a 2-4 sources from this list that you like and bookmarks them.



Analyses by Forecasters

- [NWS local forecasts](#) - U.S. only
- [NOAA Weather Prediction Center \(WPC\)](#)
- [National Hurricane Center \(NHC\)](#)
- [UKMet Office](#) - for Europe
- [Pro forecasts from SeaTactics](#) -Worldwide

Model Data

Tips

- Look at a couple of different computer models to get a "feel" for what they are saying
- Remember, there is not 1 model that's always better than the rest
- Often times the highest resolution computer model for your local area will be most accurate (not always!)

The Major Models

- Global Models - best for big picture forecasting, and finding predicted gradient wind
 - GFS (American from NOAA)
 - ECMWF (European)
 - Others: UKMET, CMC (Canadian), ICON (German)
- Regional Models- best for small-scale, coastal uses
 - NAM (North American Model, NOAA)
 - HRRR (High Resolution Rapid Refresh, NOAA)
 - ARPEGE /AROME (France)

Web Sources

- [Windy.com](#) - toggle 'on' pressure in bottom right
- [TropicalTidbits](#)
- [College of DuPage Models](#)
- [SailFlow](#) - forecast maps + their own model
- [PivotalWeather](#)
- [National Center for Atmospheric Research \(NCAR\)](#)
- [WeatherBell](#) - (some info requires a subscription)

Other Tools

- [Pro Coastal Forecasts from SailFlow](#) (Pro or Gold membership required)
- [Model Accuracy Software](#) - determine which grib file is most accurate (**Free download!**)
- [RadarScope](#) -Best for Intermediate to advanced users. (\$9.99 one-time for mobile app)
- Book: [Wind Strategy by David Houghton/Fiona Campbell](#)
- Read the [NWS Area Forecast Discussion](#) for your local area

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Practice Good Habits

Practice your forecasting before you go out on the water

Use online weather resources and create your own hypothesis, or work with a forecaster. Then observe + notice what really happened - did it match your hypothesis? Check with your coach or email me if you have questions!

Record what happened and when

The top sailors have journals of the various weather conditions in common venues. Write down 1-2 takeaways from the day/regatta and draw a picture of the wind pattern - it will help you remember and explain it later.

Keep Learning!

Read as many forecasts and books as you can. Ask your coach and other sailors what they thought about the weather that day. Ready to take it to the next level?

Want to learn more?

- FREE content by sharing your e-mail at www.sea-tactics.com or follow us on social media
- Ready to dive deeper? Sign up for one of our online courses or private coaching.

Check out our ig stories for tips
every #WeatherWednesday



@sea_tactics



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@SeaTactics



www.Sea-Tactics.com
941-284-0137
Chelsea@Sea-tactics.com

