

# DRYA SEMINAR

## Navigation; Electronic Aids and Race Preparation

Presenters:

Peter Griffin

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# Navigator's Role

- \* Ensures the boat is safely traveling in the correct direction to get to the mark as fast as possible taking full advantage of all the available tools – weather, electronics, sail angle, tides/currents, etc.

# Electronic Aids

- \* **Chartplotters**
- \* **Waypoints & routes**
- \* **Sail race features in latest Garmin software update for specific chartplotters**
  
- \* **PC Navigation Software**
- \* **Nobeltec TimeZero series**
- \* **Expedition**



- \* **Tablet Navigation**

- \* **Overview**

- \* App typically free
    - \* Charts are an “in app purchase” (\$30 - \$50)
    - \* Some source of GPS data required
    - \* Must support iOS Location Services
    - \* 3G connection includes access to GPS
    - \* Bluetooth GPS (Dual XGPS, Garmin GLO, DeLorme inReach, ...)

- \* **Garmin BlueChart Mobile**

- \* **Nobeltec TZ**

- \* **iNavX**

- \* **Interfacing w/ PCs & tablets**

- \* **NMEA 0183/2000 to WiFi adapter**
  - \* **GPS source for iPad**
  - \* **iNavX app on iPad**



- \* Weather Services


- \* SiriusXM Marine Weather vs XM WX Marine Weather
- \* Weather available on current chartplotters
  - \* Raymarine
  - \* B&G
  - \* Garmin
- \* PC-based weather (WxWorx)


- \* GRIB Files

- \* Via Nobeltec/Expedition Software
- \* Grib U.S. – free download of viewer and files
- \* Expedition LT – GRIB Viewer
- \* SailFlow
- \* Saildocs
- \* PredictWind


# Race Preparation

- \* **Gather your gear.** Laptop, tablet, waterproof mouse, waterproof thumb drive, hand held chart plotter GPS, USB GPS unit, binos, hand bearing compass, notepad, mechanical pencils/pens, sharpies, make sure there is a workable handheld VHF or bring your own.
- \* **Make sure you have all the paper charts needed for the race - store in a waterproof tube.**
- \* **Update URL weather sites for quick access.**
- \* **Review race documents – NOR, SIs, safety regulations, inspection procedures, scratch sheet - time allowances.**

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- \* **Put together a notebook with all the documents - load electronic copies on your laptop/tablet.**
  - \* **Study the course – enter all coordinates in laptop/tablet and hand held - if multiple legs, write down the course, distance, mark rounding of each mark.**
  - \* **If sailing in a new locale, make a color copy of race start area and put in your notebook for quick reference. Look up pictures of all marks you're going to round or lighthouse – print these out and put in your notebook.**
  - \* **Don't forget to have a log sheet prepared to write down your position and other data at least once an hour – I know this is not done a lot anymore but it is important.**
  - \* **Any tides or currents? If so, know them well and print out the tide/current tables for the days during the race and put in your notebook.**


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- \* **Review weather patterns a good ten days out and then every day.**
  - \* **Know how to get GRIB files and what the update schedule is. Know how to get race updates during the race, if available.**
  - \* **Start running optimized courses about a week out – may not have weather available for the race but run using current data to get head in the game.**
  - \* **If race tracking is available, have it saved as a favorite and be able to isolate your class so you can track your competition. Expedition now has a menu option for Yellow Brick to download boatids and positions to plot – may not be available for all races.**





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- \* Are your boat's instruments calibrated?  
Compass/boat speed/wind.**
  - \* Know every boat in your class and calculate the time allowances you give/get from each boat. With the advent of TOT scoring need to run for various time periods. Post this somewhere on board so everyone knows what needs to be done to win the race.**

# UNDERWAY

- \* **Get everything up and running early and confirm all instrument data is being received and GPS is receiving.**
- \* **Make sure you have the right polars loaded or if not using software, make sure the upwind/downwind targets are posted somewhere in the cockpit so the helmsperson and crew know what they are.**
- \* **Download latest Grib, review buoy data, review current forecast.**
- \* **Run an optimized course and review what it shows.**

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- \* **Review latest weather and optimized course with onboard decision makers and update/formulate race strategy.**
  - \* **Make sure any required class flags/bow stickers are in place.**
  - \* **Know the starting procedure and review start line with helmsman and bowman. Determine if there is a pre-race check in.**
  - \* **Monitor RC race channel for any nuggets of information - like postponements or other data. Make sure you know what starts are going off and monitor the radio for your start in case of over early.**

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- \* **On distance races with multiple legs, I like to make up a small table in Excel that shows the course of the first leg and corresponding bearing. I then laminate this and tape in the cockpit and down below so everyone knows what we will be sailing. It also keeps everyone from asking what the next leg is numerous times.**
  - \* **Constantly update weather during the race as best as you can and review with onboard decision makers.**
  - \* **Update your log sheets on an hourly basis.**
  - \* **Log onto tracking, if available, and plot/update your competition.**

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- \* **Know if there are any communications required with the RC during the race – if so, make a schedule and post this in the nav area and make whatever scheduled check-ins are required.**
  - \* **Prepare for the finish of the race. RC call in, reflective sail number display, etc. Know your finish line – make sure you know if you need to make a significant course change after the finish line to avoid running aground.**
  - \* **If there is any post-race check-in, which there typically is for most distance races, know what these are and make sure they are complied with within the stipulated time period.**