

Windy Weather Sailing

Podcast Supplement

What we're talking about

Sailing in conditions with winds 20 to 30 kts, waves 4 to 8 feet, within easy range of safe harbor and going out with boat and crew are fully prepared for the conditions. When the wind is up we prep the boat, don our safety gear, and head out to get some experience in windy and wavey conditions so that we can learn how to handle ourselves and the boat and to have a heap of fun. We're talking about conditions up to Beaufort force 6 or 7 max. The limits will vary for different boats, differently equipped and setup boats of the same class, different local conditions, different skill level, and different intestinal fortitude. We're not quite to the point of needing storm sails. This is not storm sailing or heavy weather survival sailing. Our limit on our well rigged Pearson 10M is the high side of force 7 conditions (near gale – 28 to 33 kts). Beyond that we'll happily stay leaned against a sturdy oak.

We are fortunate to have an excellent protected harbor where we can rig the boat at a very well protected dock and raise the sails in protected waters and then head out into the big wind and waves for adventure. From most wind directions we can find good spots to raise and drop sails with protection. Except for a strong NNE wind we can always do headsail swaps at the dock without worry. Even then we can usually manage. On days with strong westerlies we have protected water behind a breakwall. We can go out and run to the east outside then beat back to the west in the protected water behind our breakwall. Look for these opportunities.

Beaufort Force 5 to 8 descriptions (NOAA)

5 Fresh Breeze 17-21kts 6 ft (max 8)

Moderate waves, taking more pronounced long form. Many white horses (white caps) are formed (chance of some spray).

Wind felt strongly on face. Smoke rises at about 30 deg. Slack halyards whip while bending continuously to leeward. Taut halyards maintain slightly bent position. Low whistle in the rigging. Heavy flag doesn't extend but flaps over entire length.

6 Strong Breeze 22-27 kts 9 ft (max 12)

Large waves begin to form. White foam crests are more extensive everywhere (probably some spray).

Wind stings face in temperatures below 35 deg F (2C). Slight effort in maintaining balance against wind. Smoke rises at about 15 deg. Both slack and taut halyards whip slightly in bent position. Low moaning, rather than whistle, in the rigging. Heavy flag extends and flaps more vigorously.

7 Near Gale 28-33 kts 13 ft (max 19)

Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of wind. Necessary to lean slightly into the wind to maintain balance. Smoke rises at about 5 to 10 deg. Higher pitched moaning and whistling heard from rigging. Halyards still whip slightly. Heavy flag extends fully and flaps only at the end. Oilskins and loose clothing inflate and pull against the body.

8 Gale 34-40 kts 18 ft (max 25)

Moderately high waves of greater length. Edges of crests begin to break into the spindrift. The foam is blown in well-marked streaks along the direction of the wind. Head pushed back by the force of the wind if allowed to relax. Oilskins and loose clothing inflate and pull strongly. Halyards rigidly bent. Loud whistle from rigging. Heavy flag straight out and whipping.

NOAA Small Craft Advisory Definitions

Marine Small Craft Thunderstorm Advisory

A marine warning issued by Environment Canada Atmospheric Environment Branch when the possibility of thunderstorms is greater than 40 percent.

Marine Small Craft Wind Warning

A marine warning issued by Environment Canada Atmospheric Environment Branch for winds which are forecasted to be in the 20-33 knot range inclusive.

Small Craft

There is no precise definition for small craft. Any vessel that may be adversely affected by Small Craft Advisory criteria should be considered a small craft. Other considerations include the experience of the vessel operator, and the type, overall size, and sea worthiness of the vessel. See Small Craft Advisory.

Small Craft Advisory

(SCA) - An advisory issued by coastal and Great Lakes Weather Forecast Offices (WFO) for areas included in the Coastal Waters Forecast or Nearshore Marine Forecast (NSH) products. Thresholds governing the issuance of small craft advisories are specific to geographic areas. A Small Craft Advisory may also be issued when sea or lake ice exists that could be hazardous to small boats. There is no precise definition of a small craft. Any vessel that may be adversely affected by Small Craft Advisory criteria should be considered a small craft. Other considerations include the experience of the vessel operator, and the type, overall size, and sea worthiness of the vessel. Exact thresholds may be found in NWSI 10-303:
<https://www.nws.noaa.gov/directives/sym/pd01003003curr.pdf>.

For a list of NWS Weather Offices by Region, refer to the following website: <http://www.nws.noaa.gov/organization.php>

Small Craft Should Exercise Caution

Precautionary statement issued to alert mariners with small, weather sensitive boats.

SUMMARY POINTS

Considerations for Windy Weather Sailing

You need to be prepared to sail in these conditions.

Study and Practice

Use trusted sources

(ASA, US Sailing, RORC, ORC)

Take a class

(ASA, Safety at Sea)

Gain Experience – (Crew on race boat, go out on experienced boats)

Practice when it's lighter (work up to the windy stuff)

Keep a log (you can learn a lot looking back)

Boat Handling

Reduce Sail (don't try to be a hero – you'll actually be slower)

Reefing (early and often, from any point of sail)

Smaller Headsails

partly rolled genoa is not as good...(not built for wind, CE higher, baggy, roll just to reinforcements)

Develop Proficiency in balance, depowering, tacking, gybing, heave-to

Raise/Lower sails in protection (In the lee of the land, headsail in lee of main)

Boat Gear and Setup

All in proper order and strong

Make it stronger where you can (nothing too strong ever broke)

Remove what you don't need (spin pole, bar-b-que, dingy, fishing gear,...)

Secure all gear in boat (or it will go flying)

Tune rig tight

Needed items close at hand (water, snacks, gps, vhf, phone, etc)

Clean fuel filters (you may stir up some crud)

Personal Gear

Proper clothing head to toe (stay warm/dry, but not too warm)

Life jackets (get the good ones)

Harness, tether, jack lines (Stay on the boat)

Mal de mer preparations (you may stir up some crud)

Situational Awareness

Stay out of danger zones (leeward of boom or main sheet)

Don't hold on to things that can't support you

Don't try to move when a wave is about to hit

Watch for lines in water

Keep options open (a place to duck in)

How is your crew doing? Check in

Is weather changing? (wind dir and speed, storms, etc)

Avoid chafe (the bane of offshore sailors)

What could go wrong?

Have plans to deal with problems

Have spares ready (lines, fittings, blocks)

R=1/P

Always keep in mind and apply this principle to everything:

Reliability is inversely proportional to the number of parts

(AKA – KISS – Keep it Simple Stupid)

Take away anything you don't need. As the number of parts approaches zero, reliability approaches infinity.

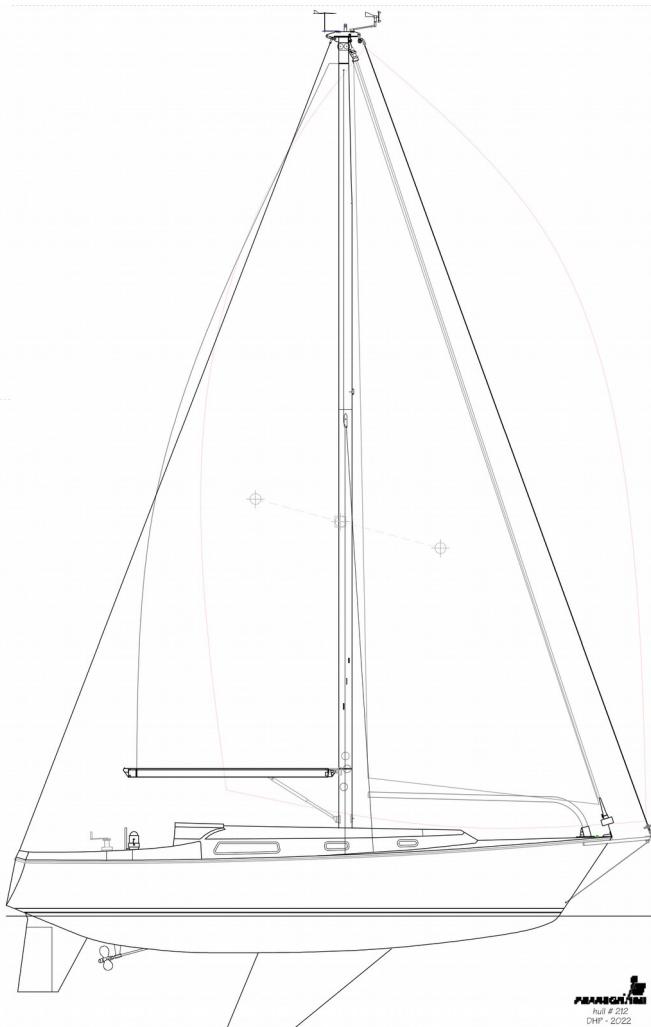
Your goal in the design of any system should be less than one part.

This applies to any system – mechanical, electrical, social, etc.

MODS on PYXIS that help in Windy Weather

Backstay Adjuster – (for flattening and depowering headsail)
Padeyes for Harness and Jacklines
Gooseneck threaded backing plates in mast (extra strong !!)
Tides Strong Tack (makes reefing easier on all points of sail)
Z-Spar Boom Upgrade (better reefing and outhaul line leads)
Rigid Boom Vang (no topping lift to forget)
Boom Brake (controls swing of boom in gybe)
Preventer Padeyes Forward (to rig line from end of boom)
Ratcheting Mainsheet 4:1 / 8:1 (ratchet helps with release under load)
Self Tailing Mast Winch (big help for reefing)
Traveler Upgrade (Larger and stronger)
Padeye for Mainsheet Backup on Bridge Deck (fastening point in case traveler fails)
Self Tailing Primary Winches
Ratcheting Winch Handle, Power Winch Handle
Internal Halyards (so we have backup)
Steering Pedestal Brace (because it gets leaned on a lot)
Steering Service (stronger fittings below deck)
Stronger SS Handrails
Galley Bin –(toss stuff in there and it stays put)
Hoyt Type Jib Boom – (eases handling, increases sail efficiency)
Heave-to strap for jib boom (to prevent self tacking so we can heave-to)

Pyxis is a 1978 Pearson 10 - 33ft, 28.33LWL, 6ft draft, 12500 lbs, 5,445 ballast, 524 sf sail area, SA/D=15.6, D/L=245
More info and details on my boat here: <http://dan.pfeiffer.net/10m/>



Pyxis in 20 kts flying full main and #5 jib

Some References on Safety and Windy Weather Sailing

A lot of this gets into dealing with gale and storm conditions but the lessons are valuable in any conditions.

ORC Special Regulations (see the safety sections)

[https://www.sailing.org/tools/documents/WSOffshoreSpecialRegulations20222023v2-\[27823\].pdf](https://www.sailing.org/tools/documents/WSOffshoreSpecialRegulations20222023v2-[27823].pdf)

US Sailing Safety Equipment Requirements

<https://www.ussailing.org/competition/offshore/safety-information/ser-world-sailing-special-regulations/>

Heavy Weather Sailing by Peter Bruce

<https://a.co/d/7DAwLue>

Sailing a Serious Ocean by John Kretschmer

https://www.amazon.com/gp/product/007170440X/ref=dbs_a_def_rwt_bibl_vppi_i1

5 tips for sailing in strong winds

<https://www.pbo.co.uk/seamanship/5-tips-for-sailing-in-strong-winds-79271>

We went sailing in 40 knots to see what we could learn! | Yachting Monthly

Excellent video on heavy weather sailing

<https://www.youtube.com/watch?v=v1W5wW2CybA>

Pip Hare tests Boom brakes and preventers from Yachting World

<https://www.youtube.com/watch?v=dcYwwinFO4U>

North Sails Heavy Weather Techniques

<https://www.northsails.com/en-us/blogs/north-sails-blog/heavy-weather-sailing-techniques>