

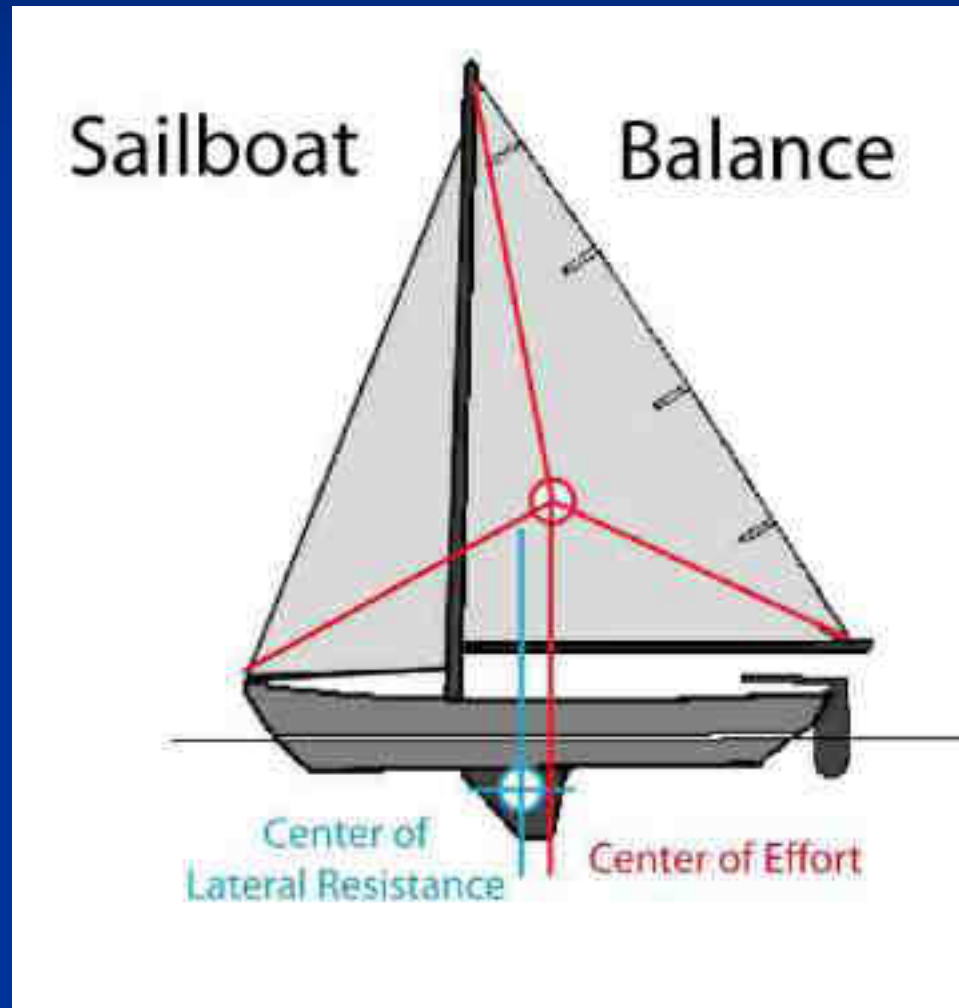
SAILING IN HEAVY WEATHER

John Jourdane

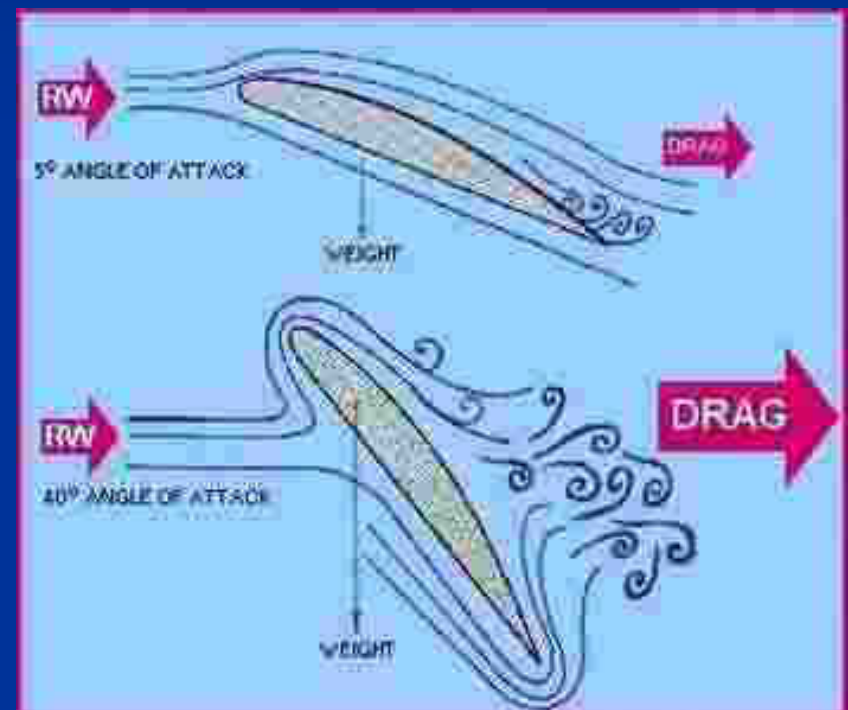
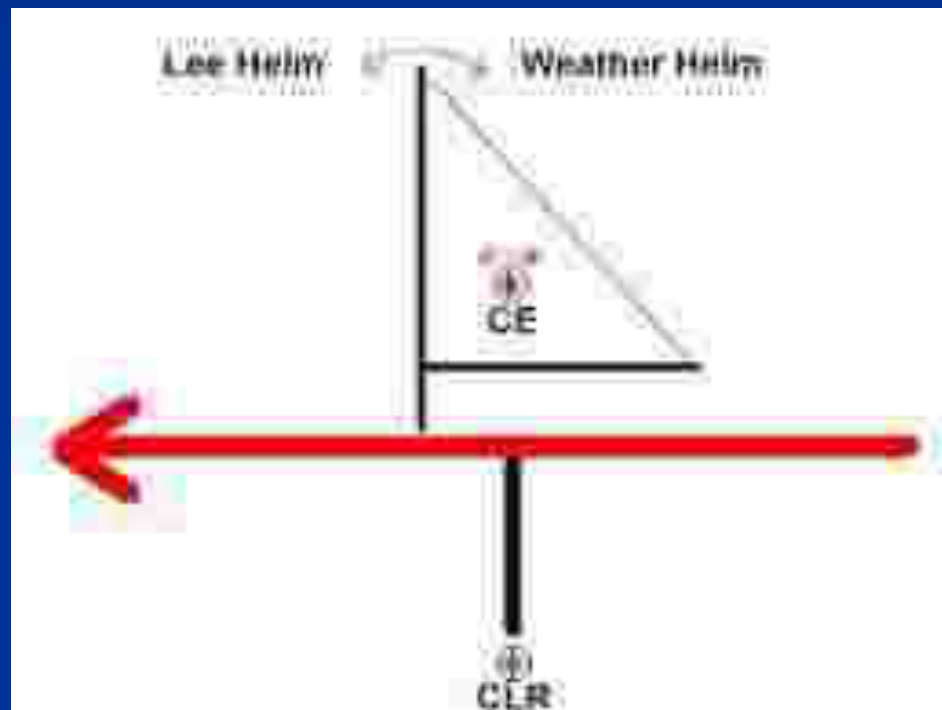
**As the wind increases you need to
reduce sail area the keep the boat
under control**



Why we need smaller sails as the wind builds



Think of a weather vane



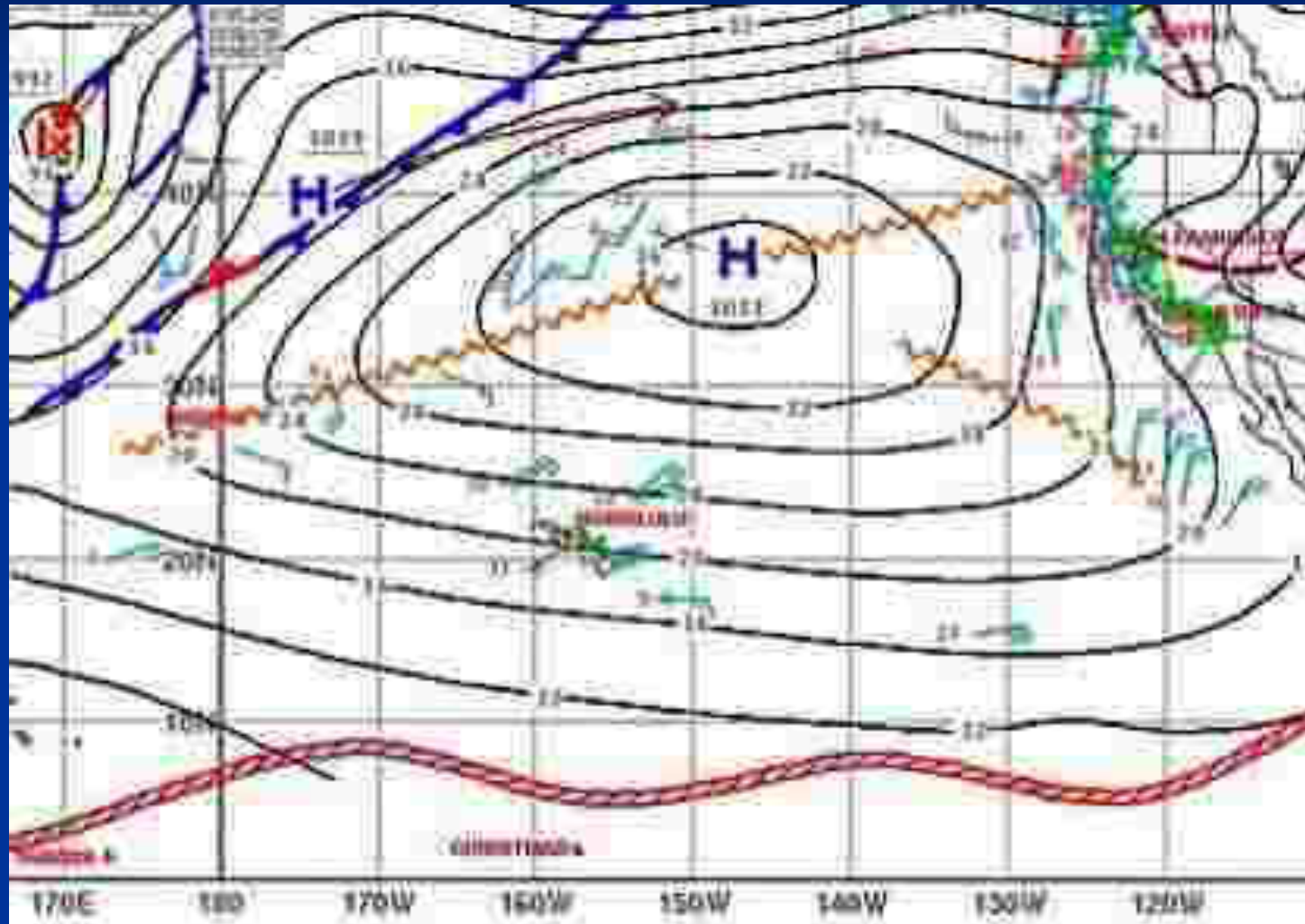
Keep the helm balanced



Pac Cup Rules – Heavy Air Sails

1. Mainsail – must be able to reduce luff length by 10%
2. Boat shall carry at least 2 of the following 3 sails:
 - a. A trysail with sail numbers on both sides, which can be set independently of the boom, has an area less than 17.5% of $E \times P$, and which is capable of being attached to the mast. Sails newer than 1/1/2014 must be constructed of highly visible material.
 - b. A storm jib with an alternate means of attachment to the headstay, if the head foil fails, and highly visible material
 - c. A heavy-weather jib of area not greater than 13.5% of the foretriangle squared.

The North Pacific High



As the wind increases

- Go to progressively smaller jibs
- Reef the mainsail
- Put more reefs in the main
- Put up the storm jib or storm staysail
- Deep-reefed main alone
- Storm trysail and storm jib or storm staysail
- Heave to with trysail and storm jib or storm staysail
- Storm trysail or storm staysail alone

Reefed Main and Small Jib





Storm Sails

Should be purpose-built for your boat
Need to be made from heavy material to
withstand the beating a storm can produce



Storm Jib



Gale Sail



Gale Sail



Gale Sail



Storm Staysail



Storm Jib

Stow the storm jib in it's own bag in an easily accessible place.

The sail should have 2 permanently attached sheets.

The sail should be neatly folded with head, tack and clew at the top.

Ideally, a storm jib should have a permanently attached 18-30 inch tack pennant (of wire or spectra) with a snap shackle at its deck end for quick attachment.

Storm Trysail



Storm Trysail

A storm trysail is flown from the mast, but not the boom.

Ideally it is raised in a separate track to the main luff track, but most race boats don't want the weight or turbulence.

The mainsail needs to be dropped and stowed or securely tied down.

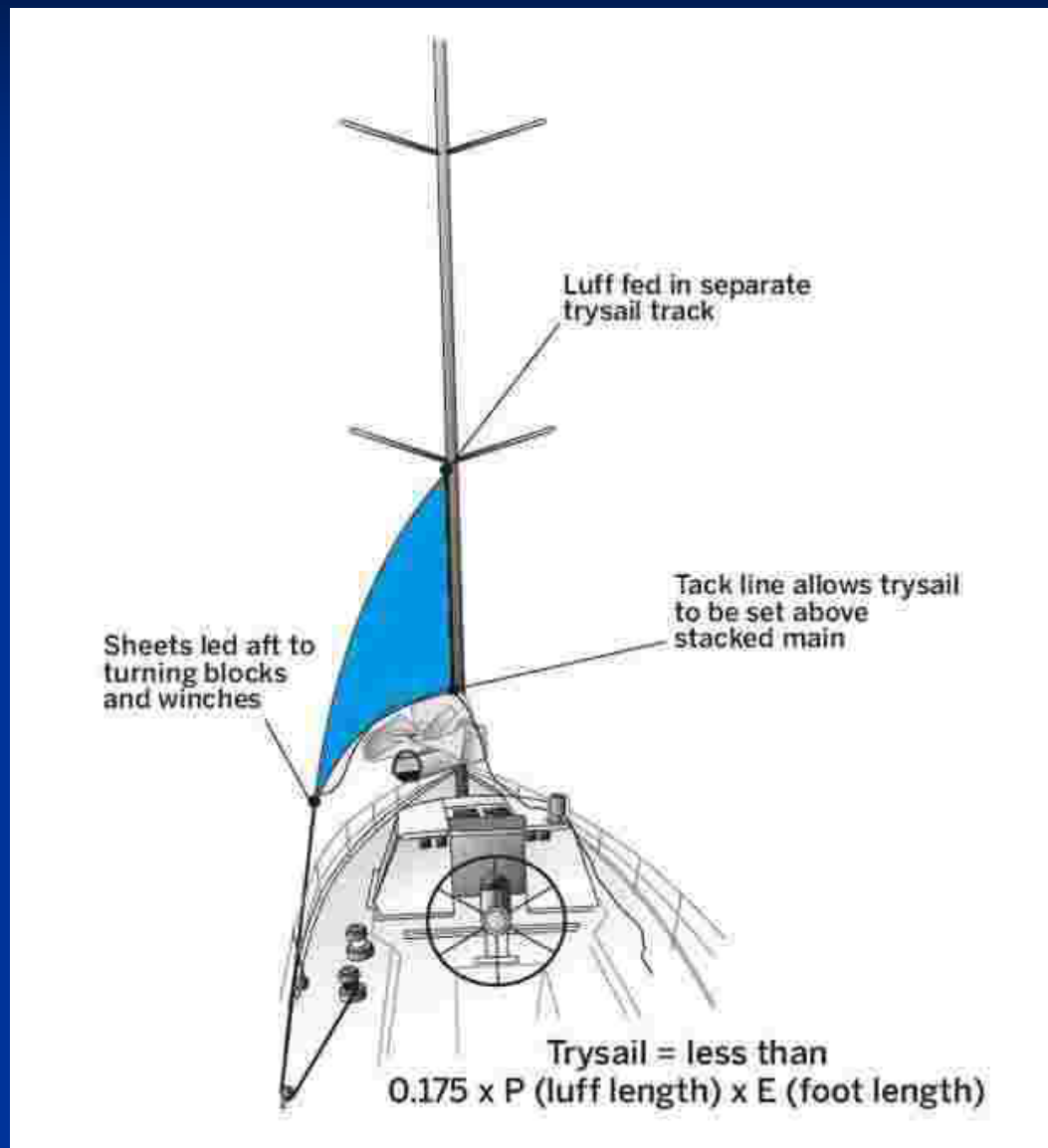
The mast track must have a gate above the mainsail head to allow for entry of the trysail luff.

The tack should have a permanent pennant of 18-30 inches to allow the clew to clear the boom.

The sheets should be led to aft turning blocks, then to strong winches.

Practice to fine tune halyard height and sheeting.

Setting a Trysail



Sydney-Hobart Race Check-in



Pyewacket – Transatlantic Race



Why you need a trysail



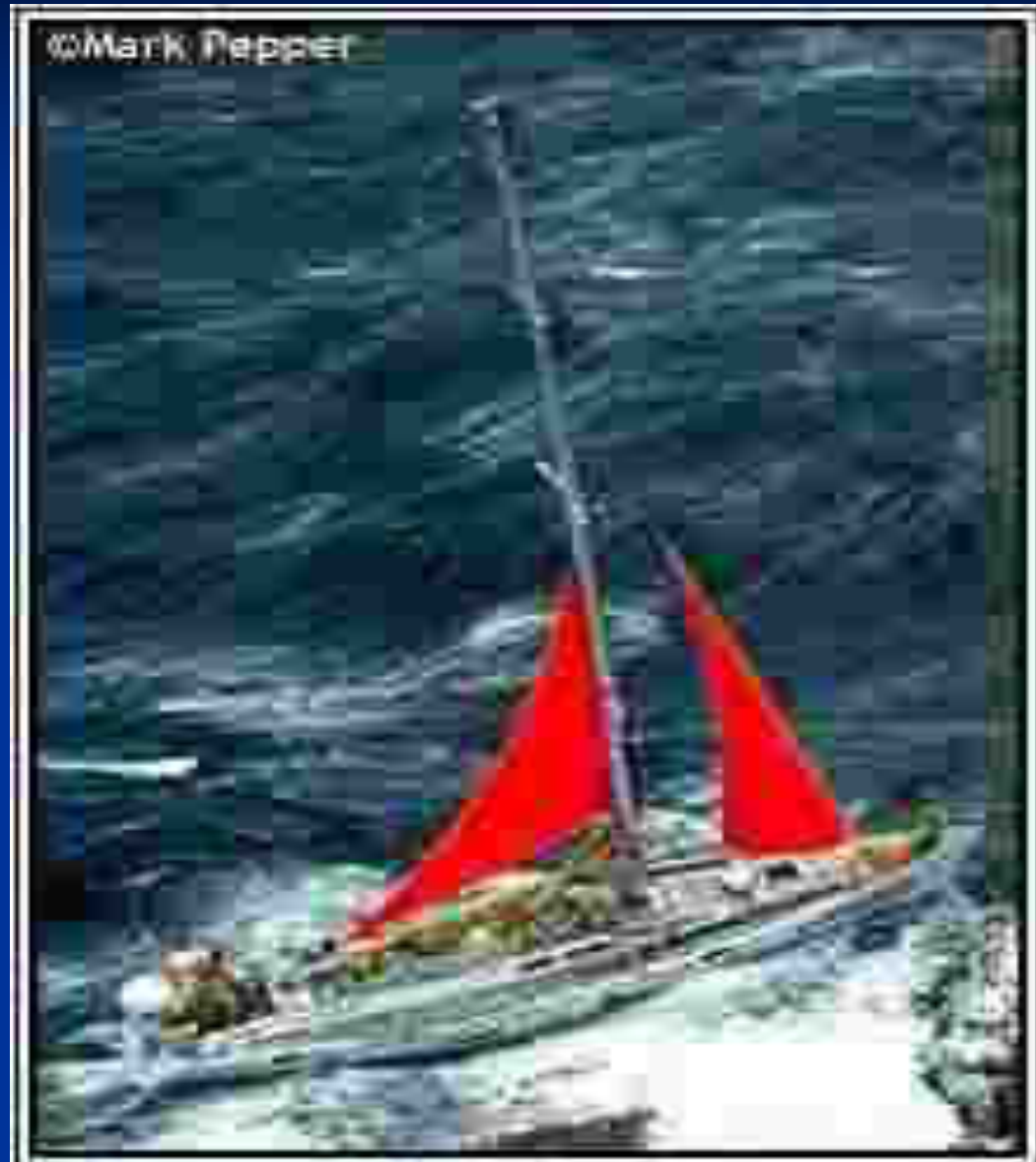
No boom needed



Storm Jib and Trysail



Storm Staysail and Trysail



©Mark Pepper

Courtesy BT Global Challenge

Skip Novak's Storm Sails



Sailing in Squalls



Sailing in Squalls

A squall is basically a downdraft created by wet cold air sinking down through a cloud.

Squalls build during the afternoon, as pockets of warm air rise into cooler air above.

Eventually the air mass will cool enough to begin falling, creating a downdraft.

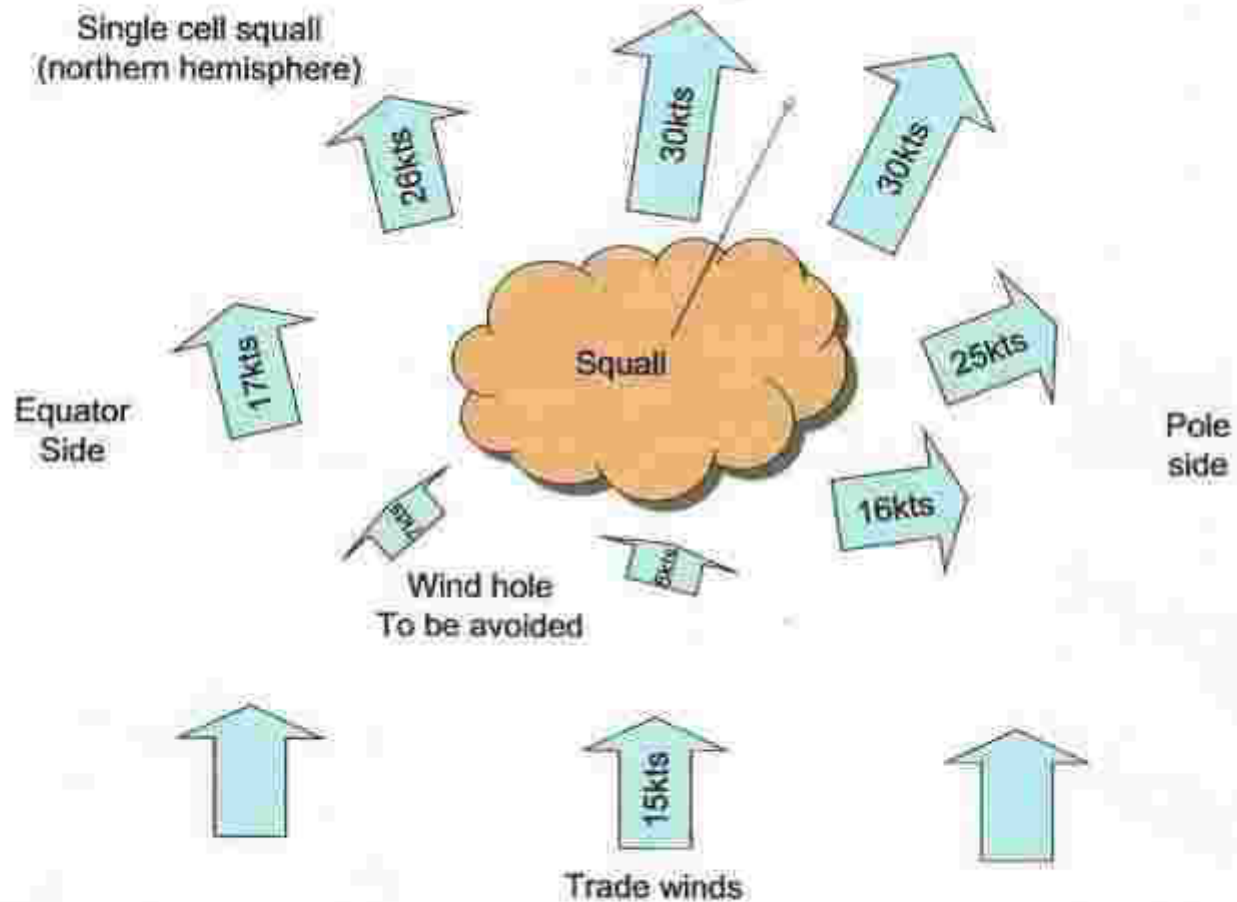
In the evening, when the temperature drops, the process accelerates, creating more substantial downdrafts.

The biggest, strongest squalls hit just before dawn.

The squalls will typically dissipate at first light.

Squalls move about 15 degrees to the right of the surface wind

Behind squalls, the wind is light or non-existent.



Racing in Squalls

Lots of wind ahead of the squall

Little or no wind behind the squall

Heavier boats: As the squall approaches, jibe to port pole to avoid the no wind area behind the squall.

When the squall is past, jibe back to starboard.

Light, fast boats: Jibe to get in front of the squall.

Jibe back and forth in front of the squall as long as you can. When the squall starts passing you (you feel the rain), exit on port pole to avoid getting caught behind it.

Before you get in heavy air

Practice in light and windy conditions

- Practice reefing the main
- Know where your storm jib and storm trysail are
- Practice setting and trimming the storm jib
- Mark the sheet leads of the deck
- Practice setting and trimming the storm trysail
- Practice when it is windy
- Practice setting them at night

Why you need good helmsmen

