

Stan Honey's Pacific Cup Weather and Tactics Agenda:

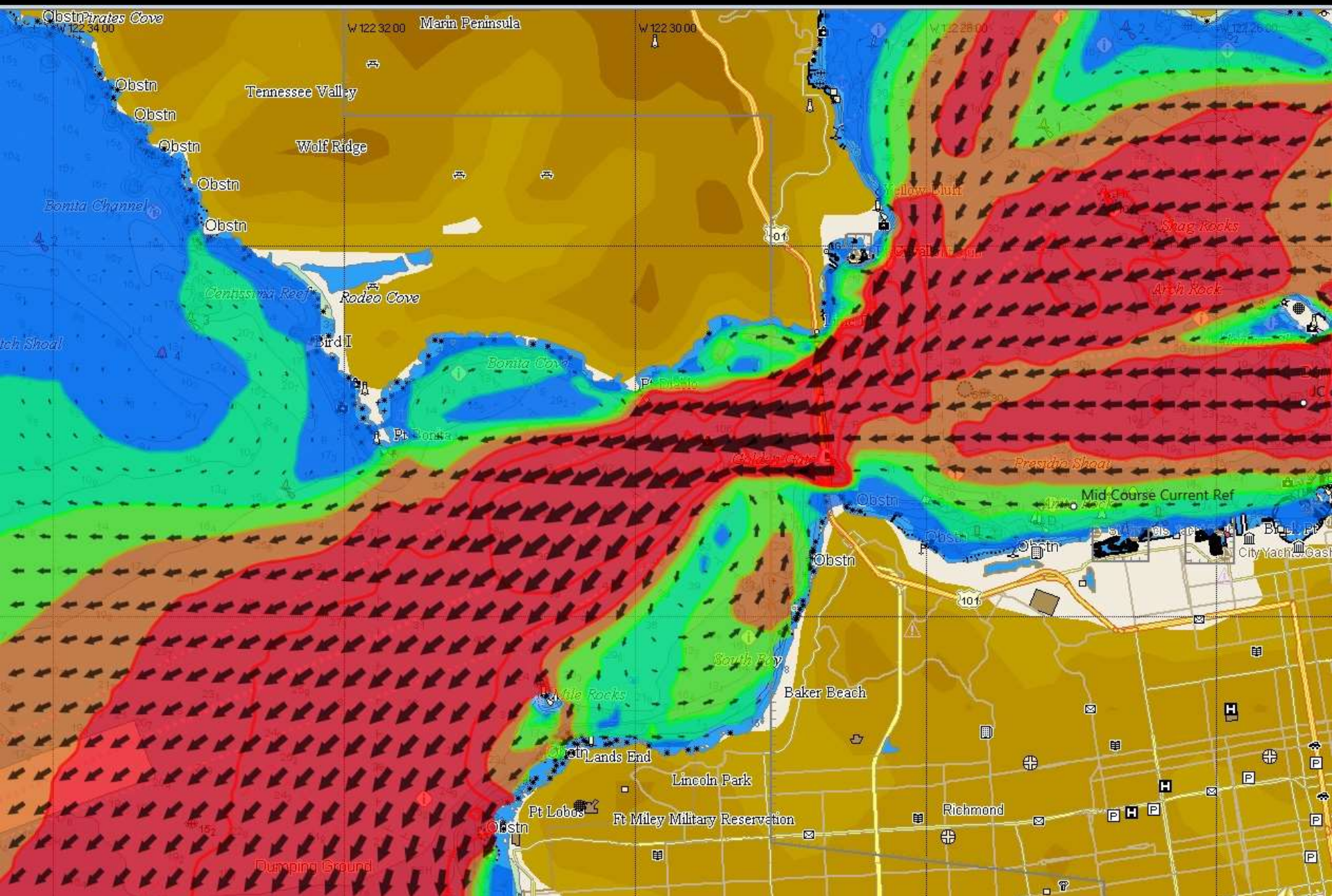
- Don't screw up at the start
- Get to the Synoptic Wind before the glass-off the first night.
- Pick and race to your Ridge Waypoint.
- Carefully deal with Cutoff Lows
- Slot-cars to the shift, ideally on "Ocean DW" angles
- Squalls and Cloud Streets in the trades
- Pick the correct corner on the Run
- Approaching the Finish



Don't screw up at the start. It's
an Ocean Race.

- Don't start early
- Don't start late
- Don't hit anything
- Don't foul
- Don't miss the favorable ebb





Reach the Synoptic Wind before the inshore glass-off.

- Stay in the favorable ebb, know where it is.
- Hit the wind shift near Pt. Bonita, if in the normal WNW wind.
- You need to know where the Synoptic wind is, and reach it before the inshore wind quits. Nothing else matters until you get into the synoptic wind.
- Navy Coamps is a good, free, legal, source. There are also good paid services useful before the start. Choose your mesoscale model by watching for previous 36 hours.
- Avoid the Montara Hole.
- You will smell the synoptic wind when you reach it. Then you're off on the race to the ridge.

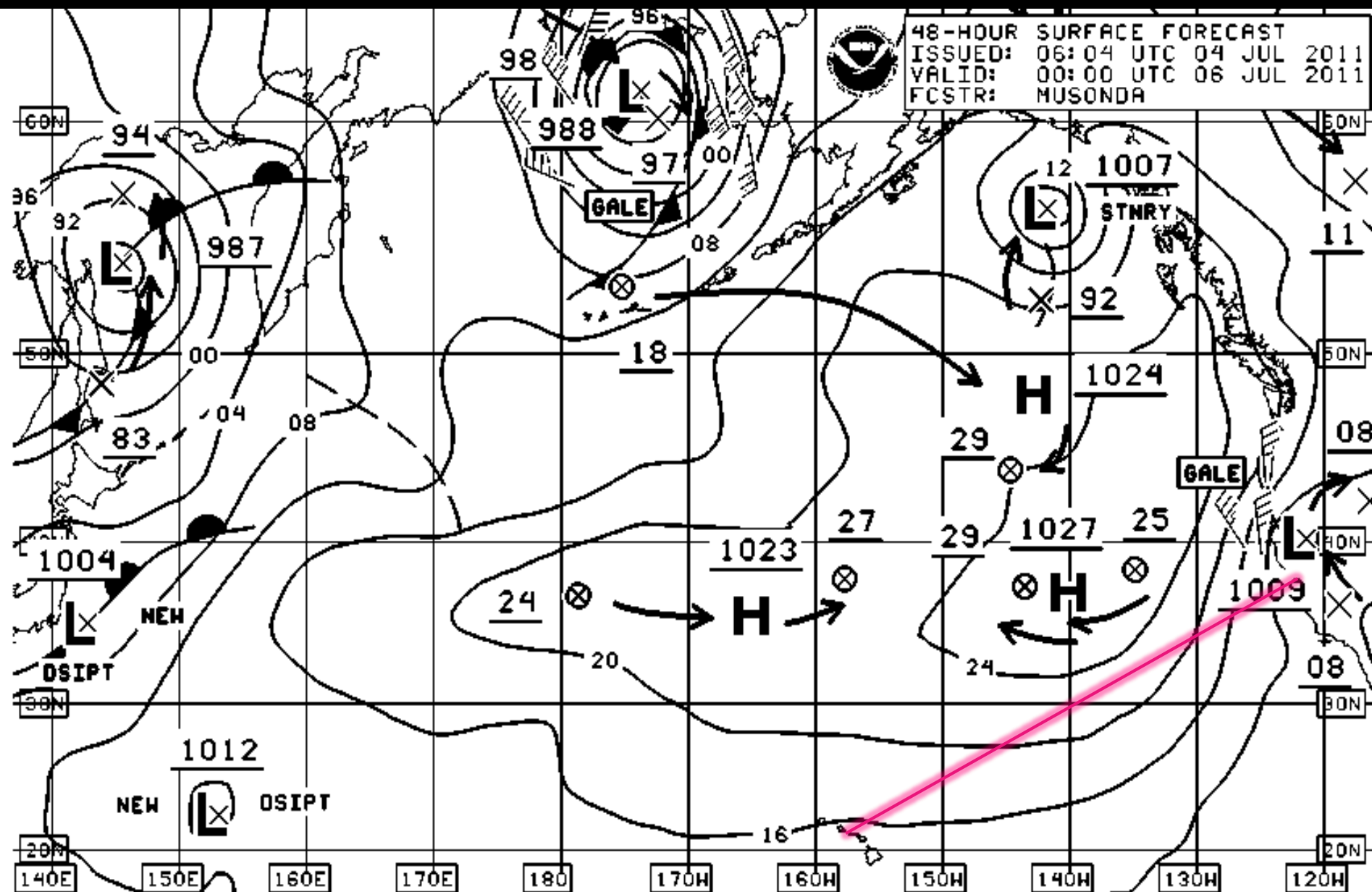


Pick Waypoint on the Ridge

- Too far North: you run out of wind before you get to the shift and have to gybe on unfavorable angles.
- Slightly too far North: you have to sail inshore vmg angles, slow.
- Too far South, you sail extra miles needlessly. The boats to North get shift first, gybe out, and cross in front of you.
- To win you have to get it right.
- Pick based on expected strength and location of High when you are 130-145 lon. Use UL charts, GFS gribs, 96 hr fax progs.
- Router will take you too far North. Understand why. Still useful.
- Possible waypoints on ridge, 130 Lon
 - 36N GC 0 nm 236mag right over S. Farallone
 - 34.5N RL +9nm 226mag only if extreme N High
 - 34N +16nm 223mag normal N High
 - 32.5N +50nm 215mag med High
 - 31N +110nm 206mag really expensive, sometimes req

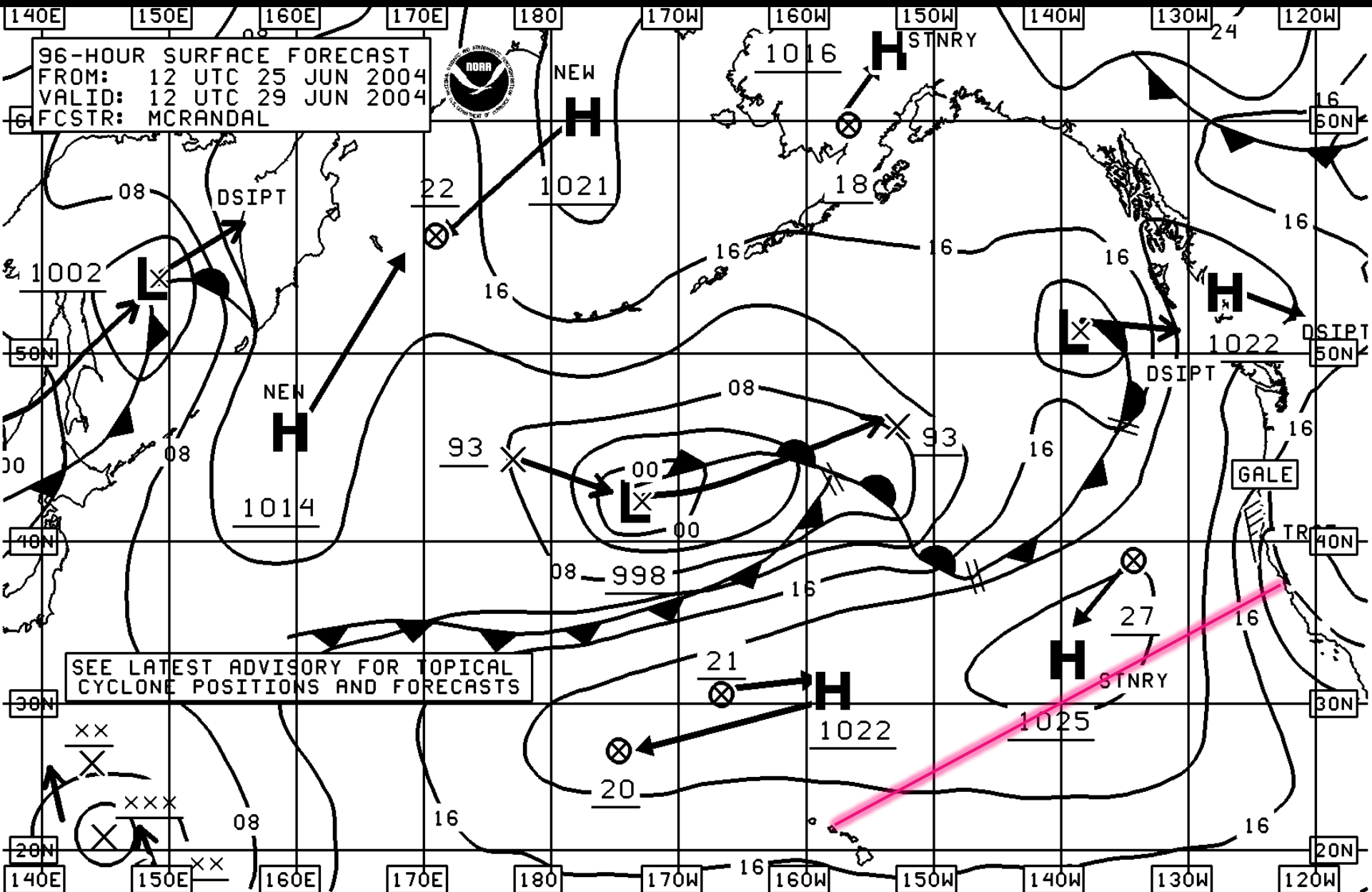


48-HOUR SURFACE FORECAST
 ISSUED: 06:04 UTC 04 JUL 2011
 VALID: 00:00 UTC 06 JUL 2011
 FCSTR: MUSONDA



NWS/NCEP - Ocean Prediction Center
www.opc.ncep.noaa.gov





Sources of Weather

- Only use free sources of weather after Prep Signal; see RRS41 and the communications restrictions in the NOR.
- Free GFS data is widely available via saildocs and several other services. Don't break the rules by paying for it.
- Coamps is free and is a good mesoscale model. Other for-fee mesoscale models are also useful but only before your prep signal.
- Don't use GFS in terrain effects and don't use mesoscale models when in synoptic weather.
- Do look at the OPC (weatherfax) charts.



Routing software

- Expedition is the best choice to learn if you are not already familiar with another program. Good routing and good weather viewing, also a good inshore tool. Familiar “Windows” interface.
- Deckman for Windows, very good routing, sophisticated grib tools, very hostile interface, possibly from Mars.
- Tactique by Adrena, very good weather analysis, ok routing, good for routing based on sea-state. Good interface (French).
- Maxsea, not the newest but works.



Routing tips

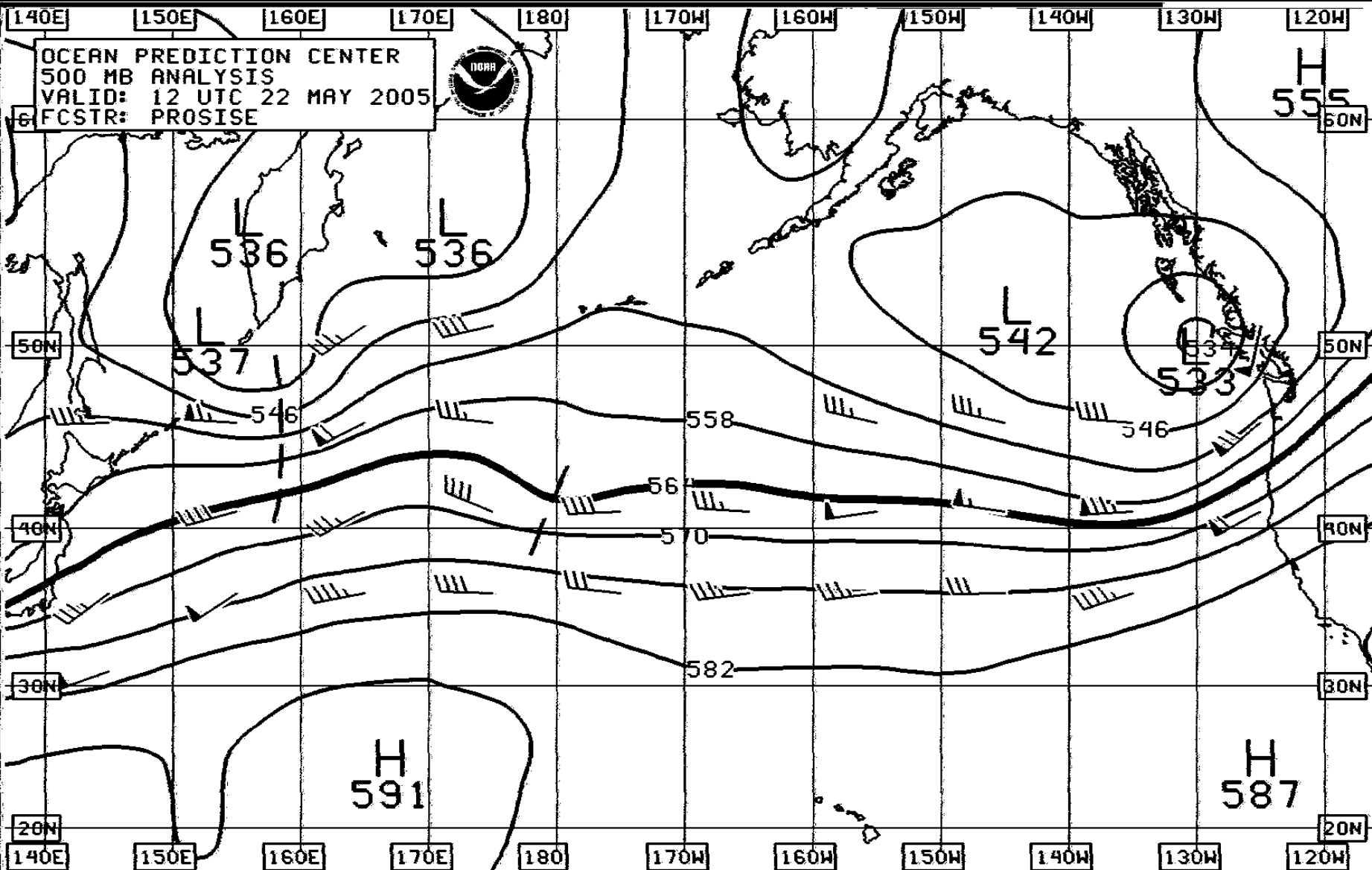
- First look at the OPC charts and do an eyeball route and review.
- Next just look at the gribbs and do an eyeball route and review.
- Finally load gribbs, correct for “ground truth”, run routes and lots of what-ifs.
- Be sure to understand cost of alternate routes either by forcing with waypoints, by review of tangent zones of forward/reverse isochrones, or by “cost” shading.
- You’re not done until you can explain the route in sailing terminology to sailors.
- Watches need to fully understand the route objective in sailing terms, the near-term “free advance” course, as well as have a good 12 hour forecast, every 6 hours.
- Understand why the router always takes you too close to a High.



500mb charts

- Chesneau's book is good, but heavy-going and only parts of it are relevant. It's mostly about heavy weather avoidance for ships.
- Chesneau and Siekiewicz's article, "Mariner's Guide to the 500mb Chart" from Mariner's Weather Log in 1995 is good.
- If Omega block, (meridional UL flow) the surface winds behave as if there is a strong surface high, and surface highs are trustworthy.
- If zonal flow, even if the surface maps show a strong surface high, don't trust it, spend some miles to purchase insurance and pick a more Southerly ridge crossing.



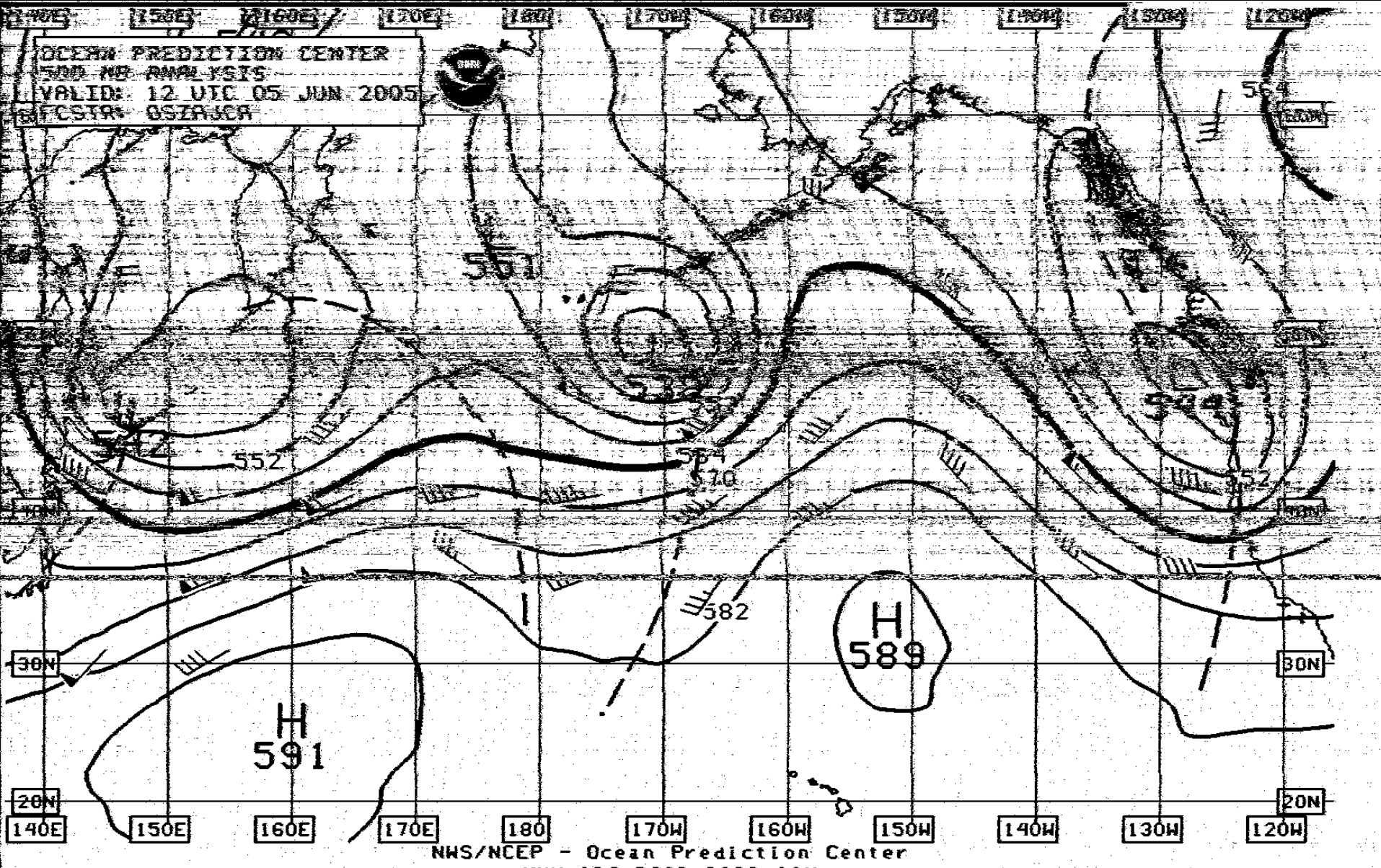


OCEAN PREDICTION CENTER
500 MB ANALYSIS
VALID: 12 UTC 22 MAY 2005
FCSTR: PROSISE



NWS/NCEP - Ocean Prediction Center





Know and Watch your Lows

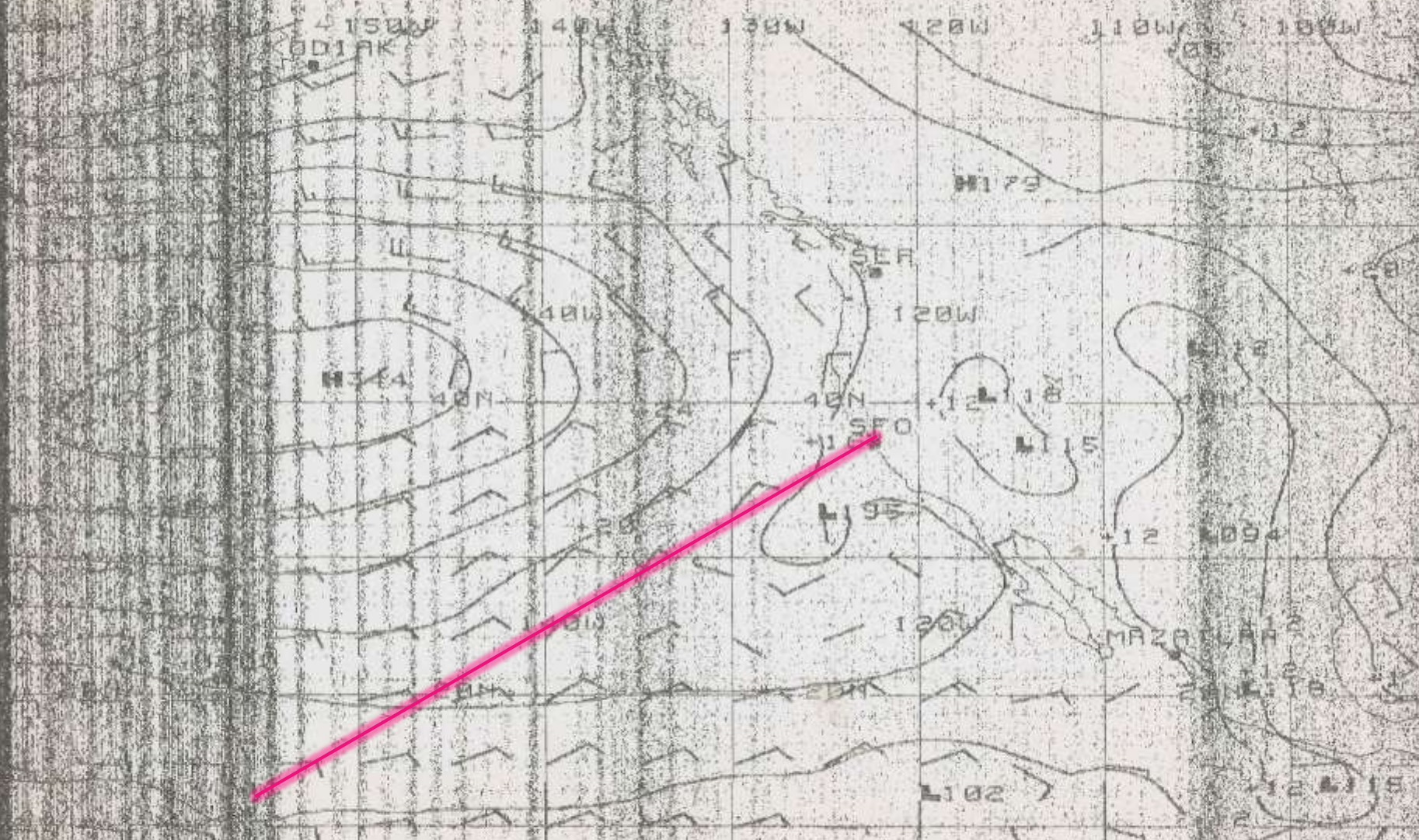
- Know your Lows, Pacific Cup affected by all three.
- Mid-Latitude Lows, Cutoff Lows, Tropical Lows
 - Mid-Lat lows affect High, embedded in Westerlies
 - Cutoff's can be critical for the first half of the PC
 - Tropicals, embedded in Easterlies, can dominate the final shift before the finish, as “inverted troughs”.
- Be on the lookout for a cutoff low S of the Pacific High.
- Go N of it if you can, or far S of it. Avoid going just S of a cutoff.



Cutoff Low

- Cutoff lows are cut off from the mid-latitude Westerlies and from the Easterly tradewinds, often nearly stationary, hard to predict movement or longevity. They can sit and spin for days.
- Not dangerous in Hawaii race, but critical to tactics when they appear. Wind is lousy just South of a cutoff, great wind N of a cutoff.
- Extremely dangerous in some cases. Halloween Storm '91 (Perfect Storm), Fastnet '79, Hobart '98, Queen's Birthday Storm '94, all were cutoff lows.
- Danger signs are tight core, rapid pressure drop, significant temperature gradient on polar side providing source of cold air to get drawn in, comma shape, fast jet stream over top to provide efficient exhaust
- If you sail offshore, know your lows!





UT 132 11 JUL 92
EFC 43HR PROG (EPAC)
NPM

Race in your slot to the shift

- Best ridge crossing will give you confidence to sail ocean-downwind angles, i.e. sail fast to the lift. If you get it right, you get the shift before the wind gets too light.
- If you're too far N, sail inshore-downwind vmg angles and gybe aggressively even to slightly unfavored port poles. Decide how much to pay... 10 deg? Maybe more?
- Even if you're on perfect slot, still gybe on big shifts in squalls.
- Expensive to change lanes to left, but more expensive to not do it if it's necessary. E.g. 1999



Rules of Thumb

- Never trust rules of thumb
- Normal High, try to be 5-6mb away at the closest point.
- 4mb is dicey but ok if strong Omega Block, no mid-lat lows on their way, and High moving N.
- 7-8 mb might be good if zonal UL flow, incoming mid-lat lows to N, or H sagging S.



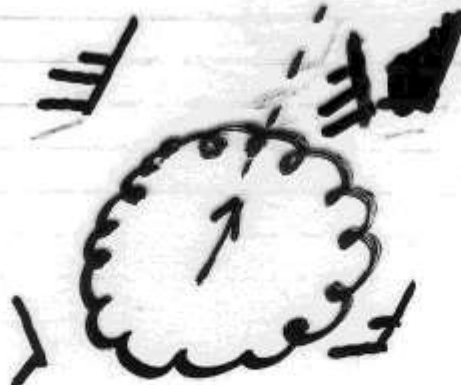
Tradewind Run

- Nighttime dipole squalls, strong and long-lasting.
 - rain before wind
 - “If the wind before rain, let your topsail fill again. If the rain before wind, sheets and topsails mind.”
 - Wind toes in at the front of dipole squalls
- Simple downdraft squalls, catspaw fan-out, weaker and short-lived. Wind comes before the rain.
- Simple slow/heavy boat tactic, get on port early, stay on port until squall is gone
- Fast boat tactic, gybe back in front of dipole squalls.
- Avoid the light air behind the squall. Port pole is best exit.



Exit
Stage
Left

F F F



"the white zone"

F F F



Tradewind Run

- Daytime Cloud Streets, stay on edge of clouds.
- Late afternoon left shift and increase around 5-6pm local.
- Big, windy, 3-4 hour left as you enter tradewinds, in transition zone.
 - Take southing if you need it.
 - Lots of sail handling if you don't, as you change to JT and then back.
 - At night it can masquerade as a peculiar left shift, long-lasting, squall.





F



F



Final Shift

- Right corner generally pays because of continuing veer.
- Left corner pays if you are leading a tropical (inverted trough) to the finish.
- Right pays big if you are following a tropical to the finish.
- So keep your eye on the tropical “inverted-troughs”.
- Don't overstand, wind will build and veer.



Finish

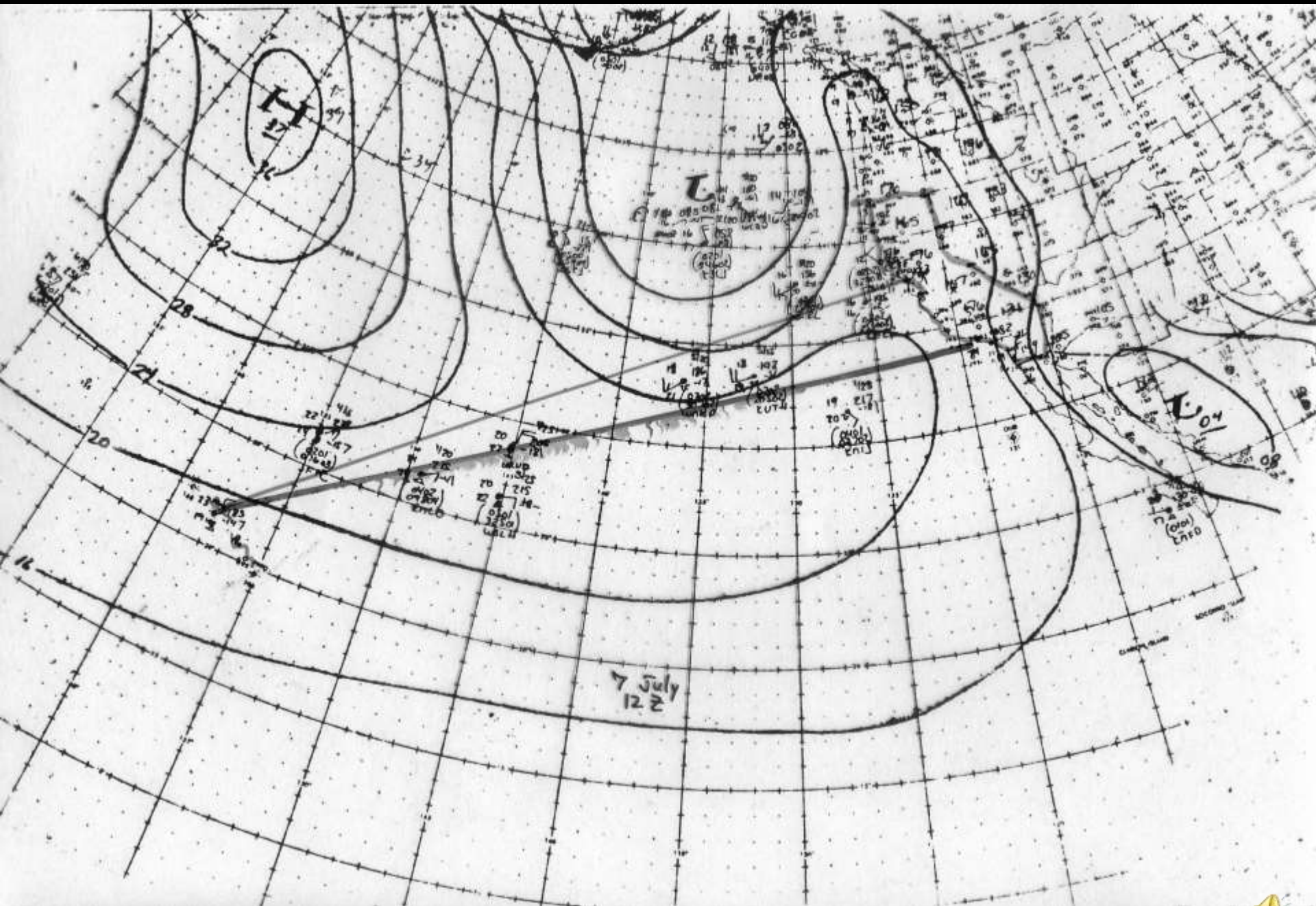
- Navigate to the finish buoy, don't expect to see it until you are right on it.
- Take some bearings and plot them on the chart to confirm your GPS and your spatial awareness. This is important.
- Test your spinnaker halyard a few miles out.
- If you can't douse: promptly jibe to starboard, sheet main in, and reach along the reef.
- Navigate to the YC.



What if the High goes bad?

- Decide whether you can get to and stay in the Trades.
- If not consider whether Trades will fill from the NW? They rarely re-fill from the S.
- Sometimes it makes sense to stay above old ridge, beating in light Westerlies, to be the first to get the new trades associated with a new ridge coming from the NW.
- Important to understand how the trades will fill in. Trust the GFS, given no alternatives.





Resources

- Community College courses
- Lee Chesneau's course (USCG license Advanced Meteorology for Masters and Mates)
- Books:
 - C. Donald Ahrens, Meteorology Today
 - Jean-Yves Bernot, Bernot on Breezes
 - David Houghton Weather at Sea (and other books)
 - Ma-Li Chen and Lee Chesneau, Heavy Weather Avoidance and Route Design, Concepts and Applications of 500MB Charts



Final Comments

- Don't pre-judge your route but do have a plan on the morning of the start. Reconsider and adjust as you go.
- Some critical decisions occur the first night and next day.
- Watch the 6z and 18z gfs runs, but be reluctant to make a major change based on them. (avail 0400 1600 PDT)
- Focus on the 0z and 12z gfs runs which are available at 1000 and 2200 PDT.
- Extra miles sailed are your currency, spend them wisely and only when it is a good, risk-adjusted investment.
- Don't assume that the right answer is complicated or subtle.

