Navigation Module:

navigation systems article
https://pacificcup.org/sites/default/files/kbfiles/Lew-Navigationsystemsv.FF_.pdf

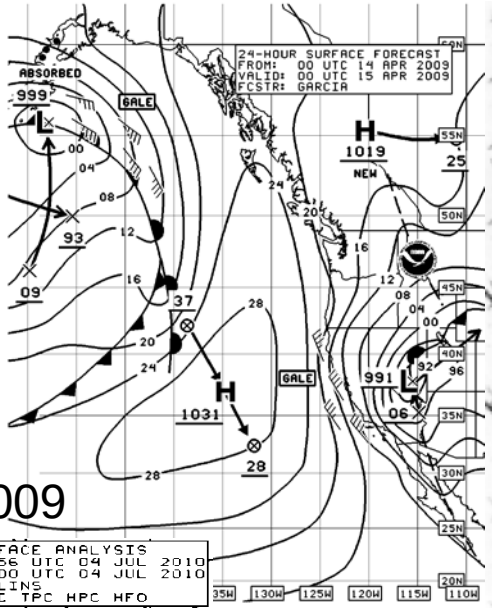
Sailing World article at:
http://www.sailingworld.com/perfect-squall-navigators-perspective

Lew – Christopher Lewis

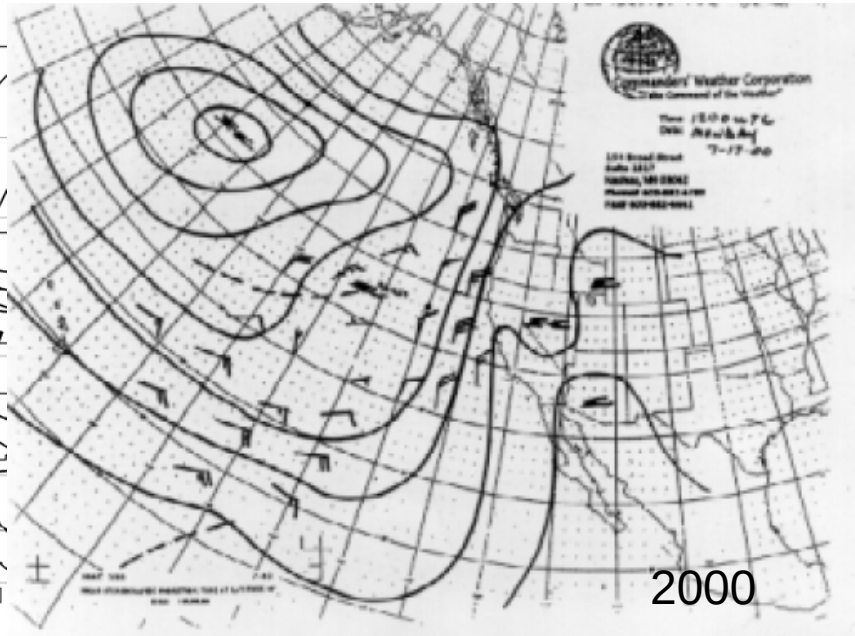
January 23, 2016

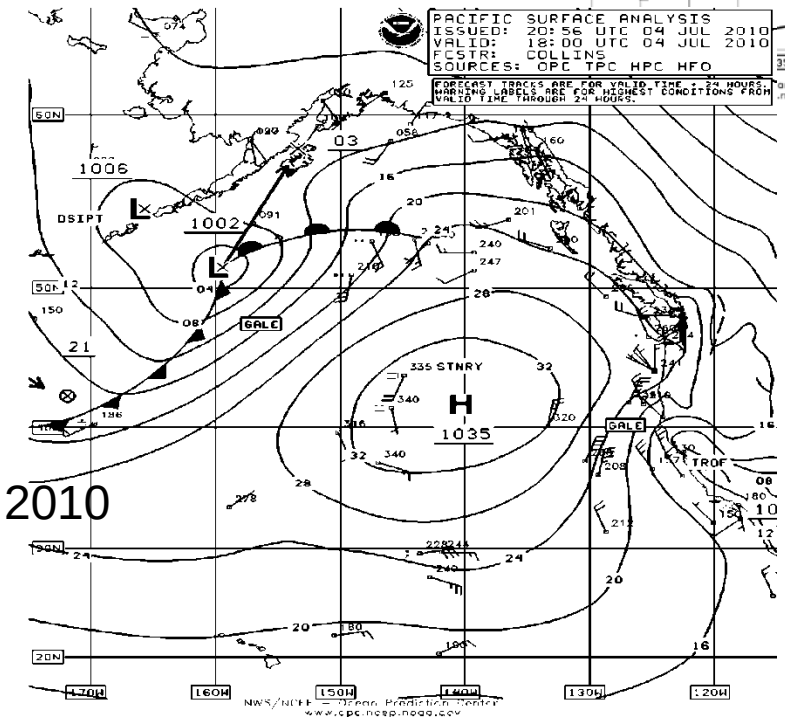
Stan's stages of a hawaii race (1979 , 2000, 2009 & 2010)

- start to synoptic breeze
- windy reach to ridge
- slotcars
- the run & squalls
- the finish

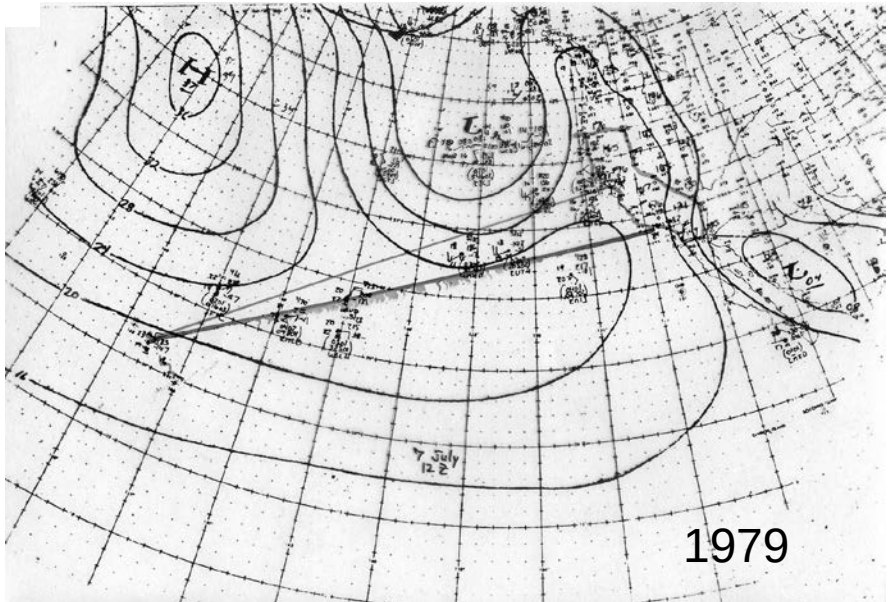


2009


2000



2010


1979

pre-race

- communications- vhf, satellite, ssb
- computer- software, download, links, & email
- charts- electronic & paper
- forecasts- public & private (before start)
- sensors- setup & calibration
- performance- polars, sail charts, & preliminary routes
- equipment- barometer, watch, hand bearing compass
- competitors
- race documents

start to synoptic breeze

- safety- boats or rocks
- current
- micro weather & coastal weather
- more accurate forecasts
- find the closest synoptic breeze
- point bonita shift
- visible competitors- bearings
- first downloads

windy reach to ridge

- pick your spot to cross the ridge.
  - too far North: slow, spin out into the high, sail deep angles or terrible angle to gybe out.
  - too far South: sail way to much distance and north boats are further west and beat you to the shift
  - actual Stan quote “To win you need to get this right”
- roll call and position reports
- staysails
- watch systems
- turning the boat with sail changes
- truthchecking the router

slotcars

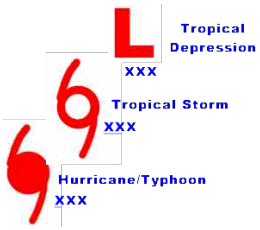
- is the butter melting?
- Stan's free advance position
- competitors
- downloads
  - watching for lows
  - monitor the high
  - barometer comparison
- performance analysis

the run & squalls

- gybe freedom
- competitors
- cloud analysis
- squall strategy
  - to engage or not to engage
  - sails in the squalls
  - how many gybes?
  - avoid the light air behind the squalls

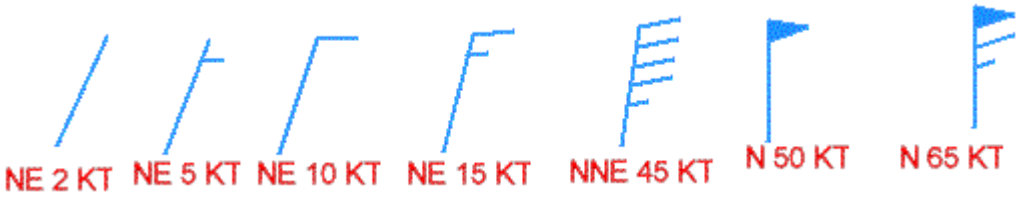
The finish

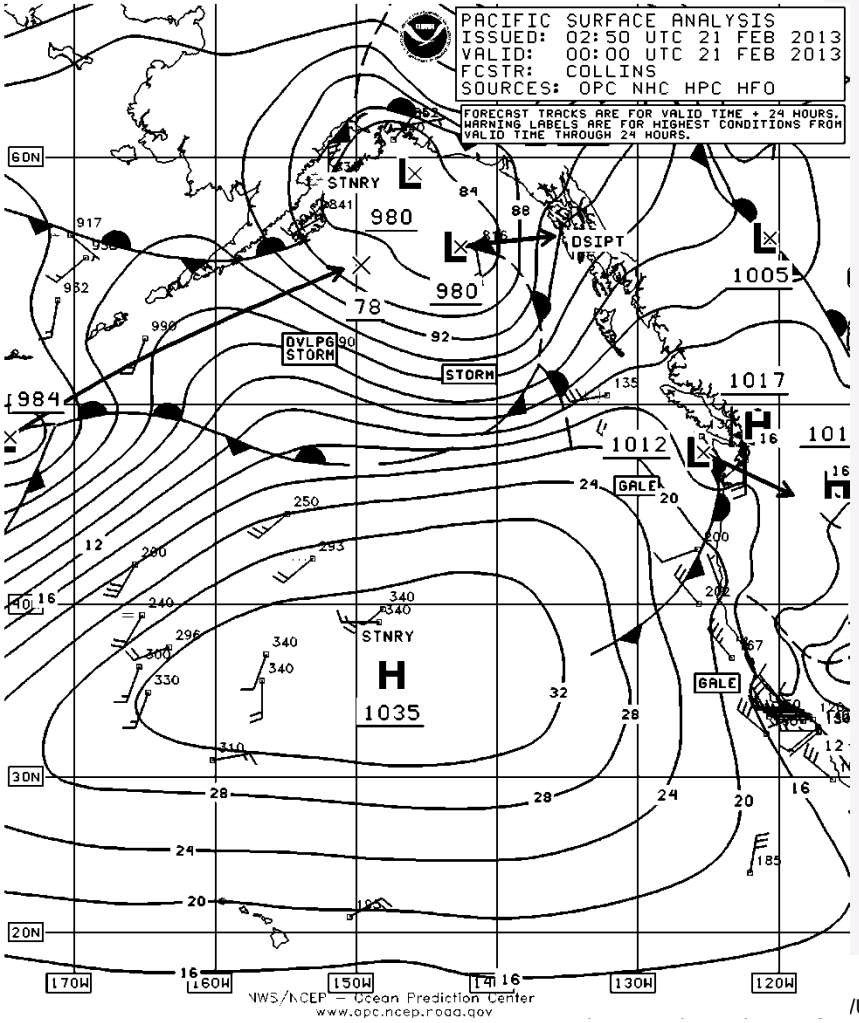
- preferred approach-
  - Usually the right (North) based on the high
  - Could be the left, especially if out front of a low
- overstanding/understanding
- steering waypoints
- competitors- how much time to we/they owe?
- call-ins
- Navigate to the line
- safety- reef & sails down
- relax at the dock, but not before

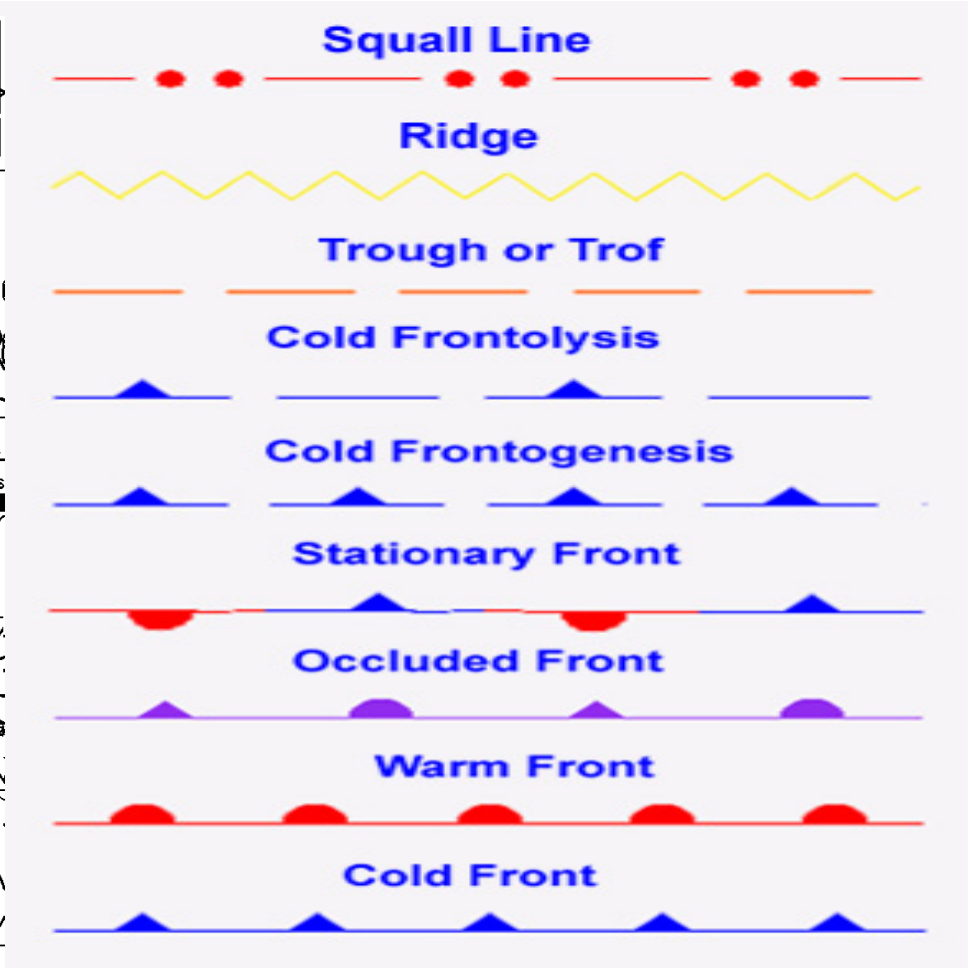


symbol-ese- a foreign language

http://www.nws.noaa.gov/om/marine/nepacificbrief.shtml

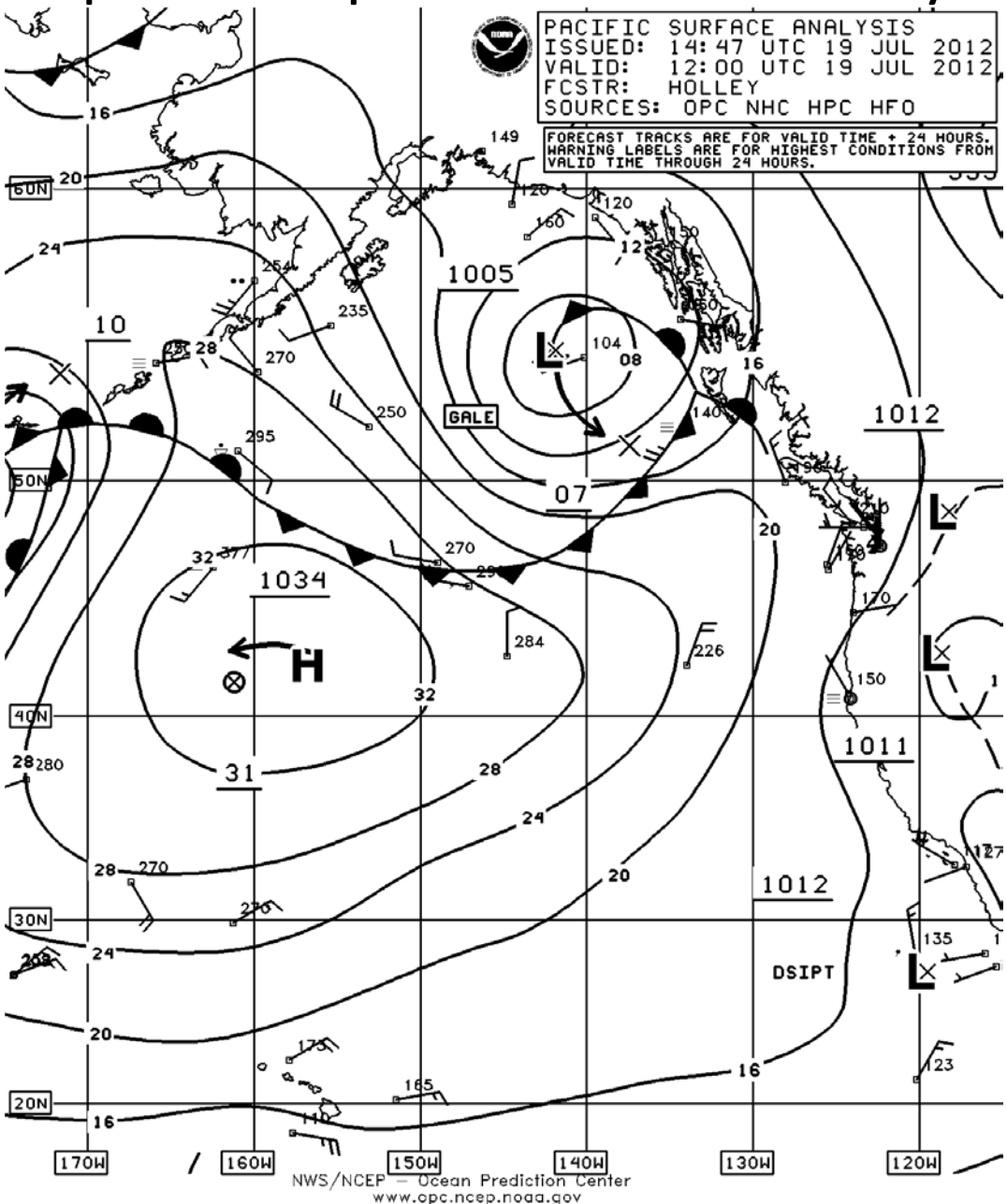




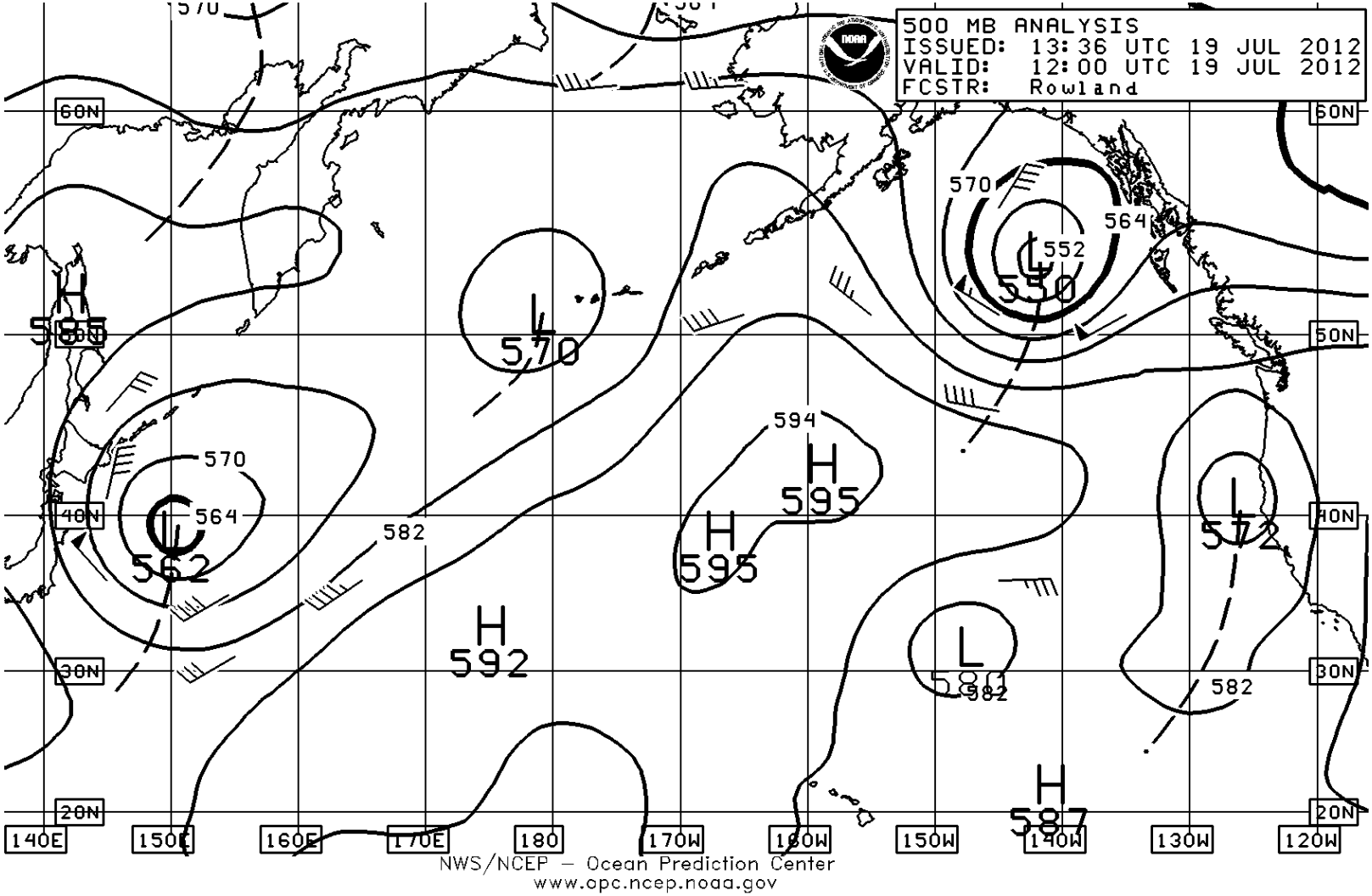


/UsersGuide/UGprint.html

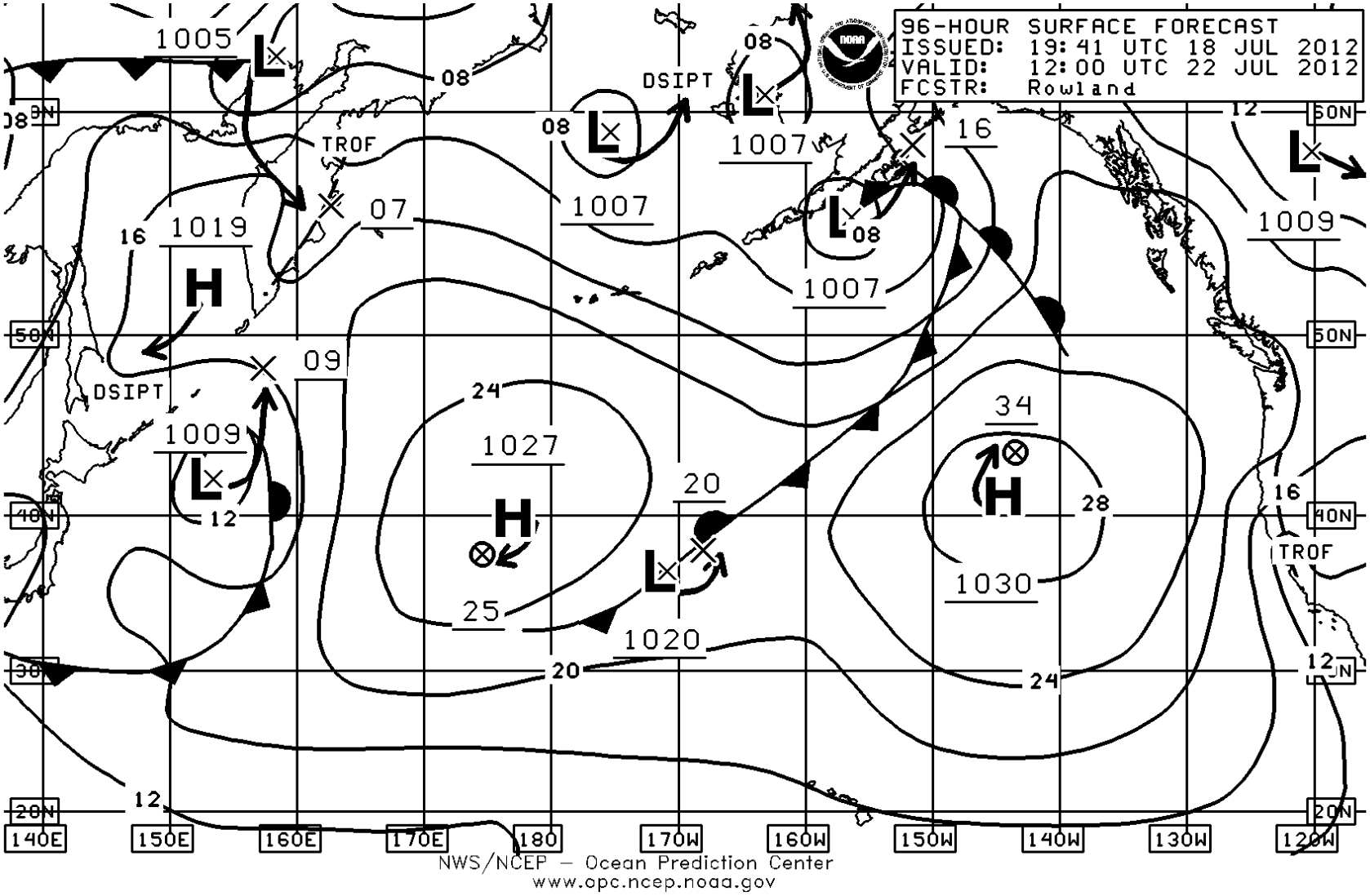
pacific cup 2012- surface analysis



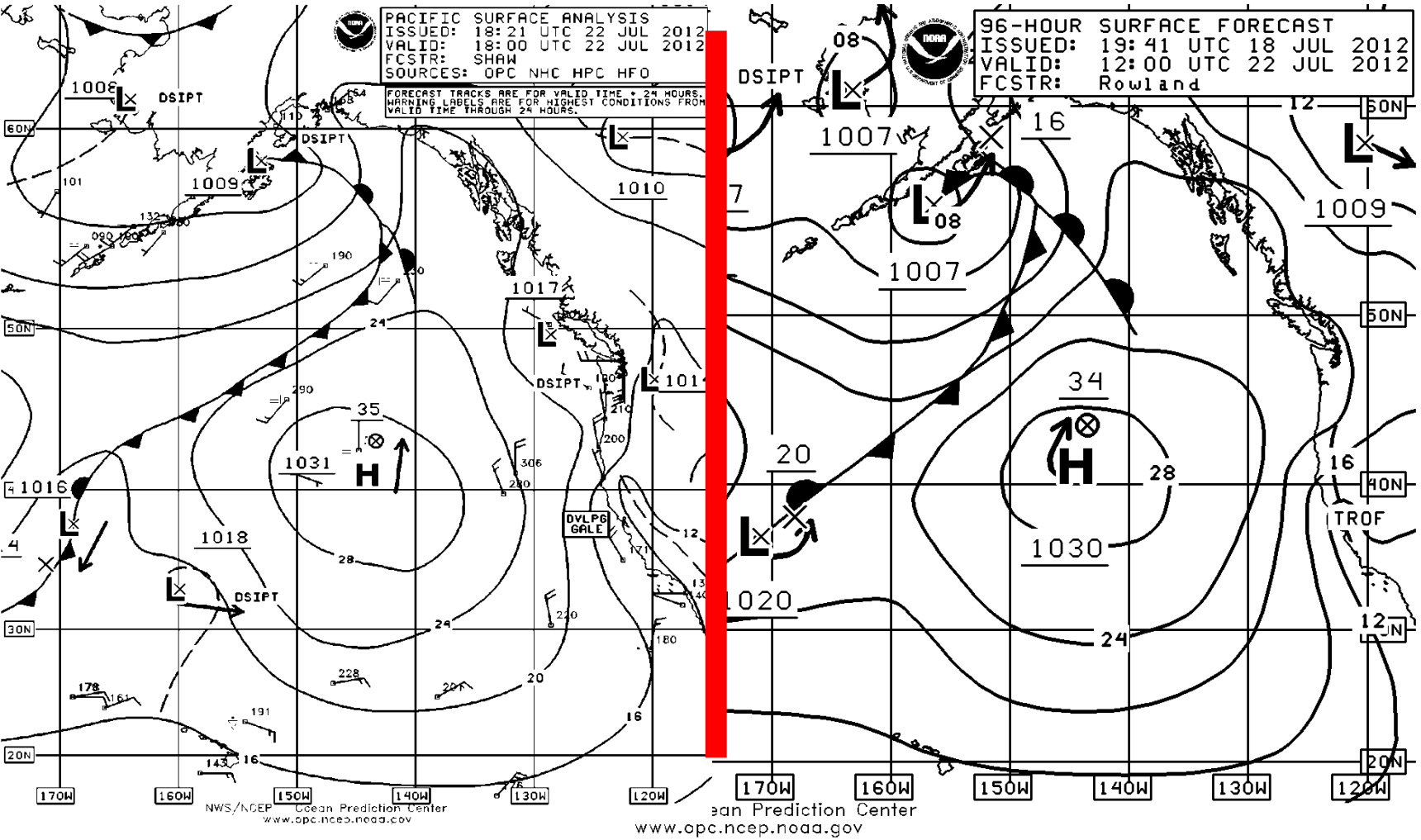
pacific cup 2012- 500 mb



pac cup 2012- 96 hour



pac cup 2012- comparison forecast v actual

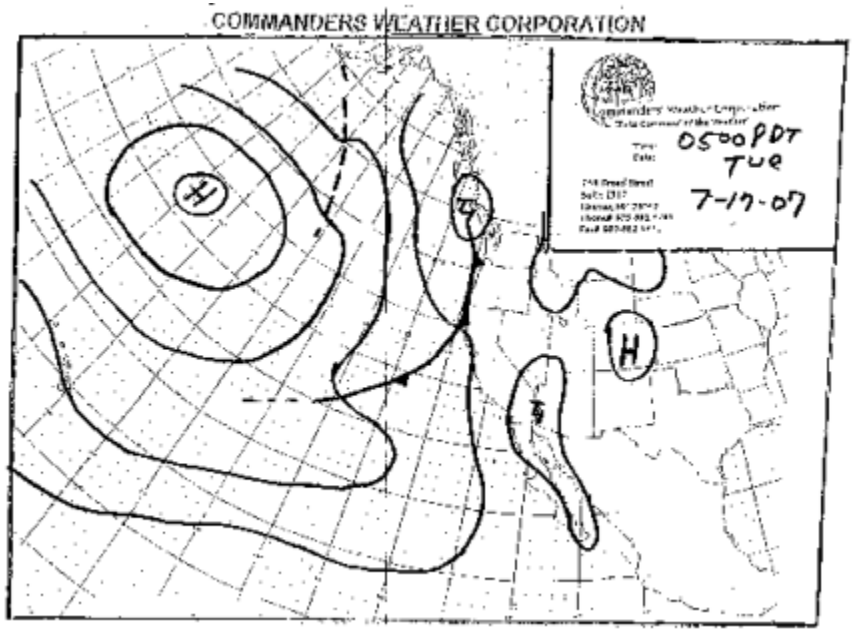


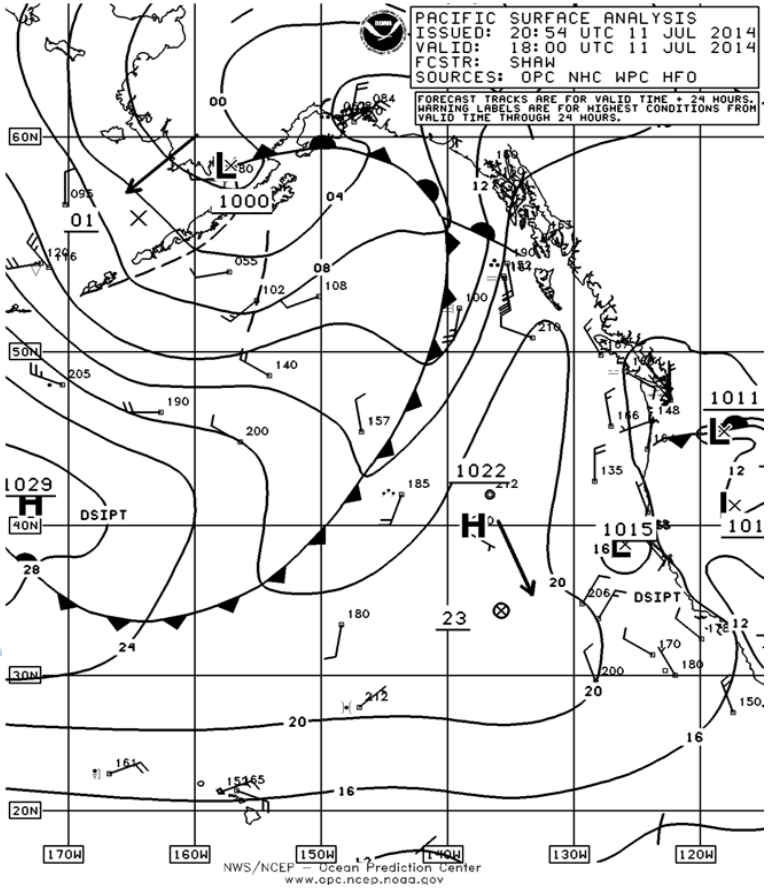
Know and Watch your Lows

- Know your Lows, Pacific Cup affected by all 3.
- Mid-Latitude Lows, Cutoff Lows, Tropical Lows
  - Mid-Lat lows affect High, embedded in Westerlies
  - Cutoff's are 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.

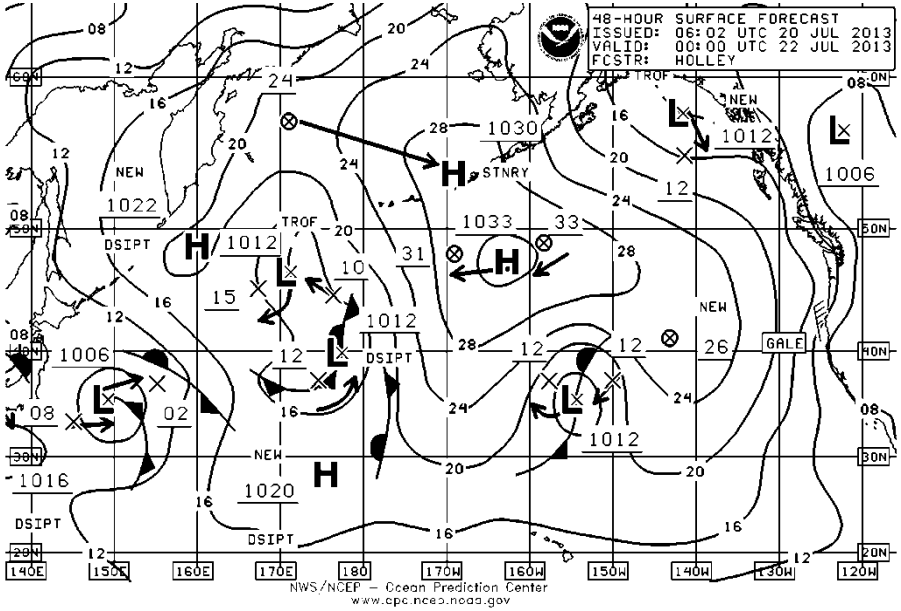
Actual Stan Honey Slide

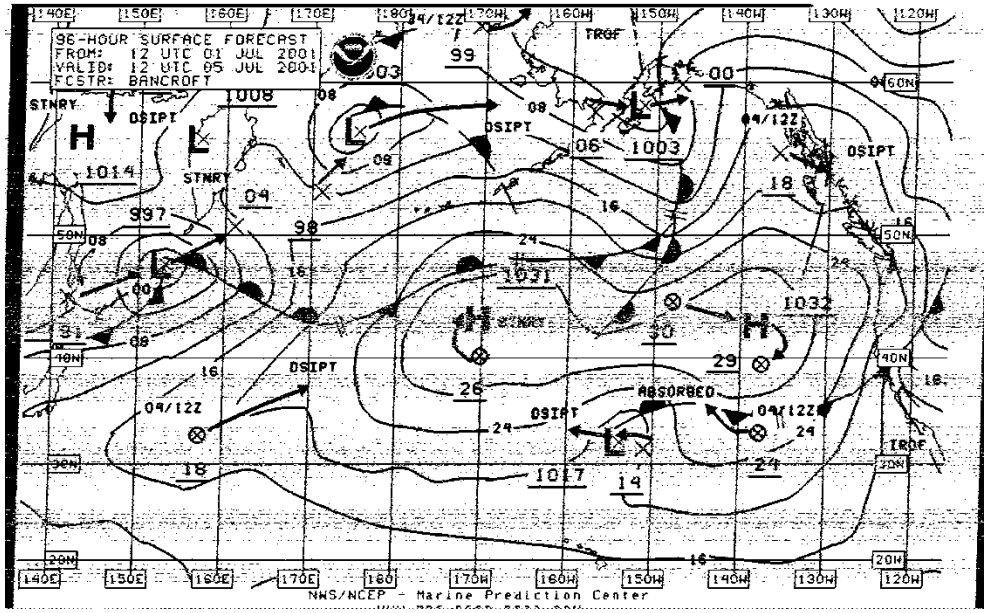
Example: mid latitude low (extra tropical)- transpac 2007 & pac cup 2014



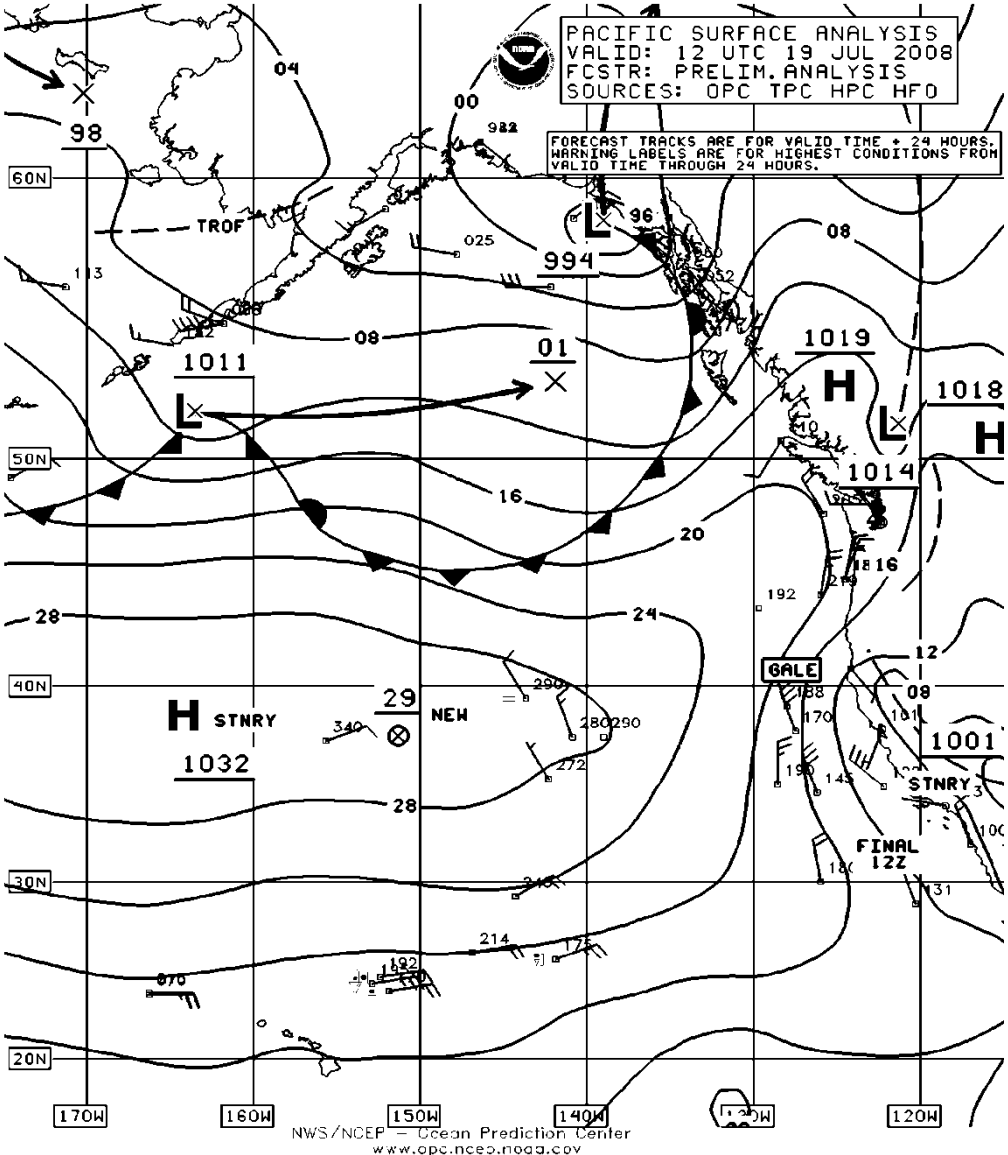


example: cut-off low
transpac 2013 & 2001

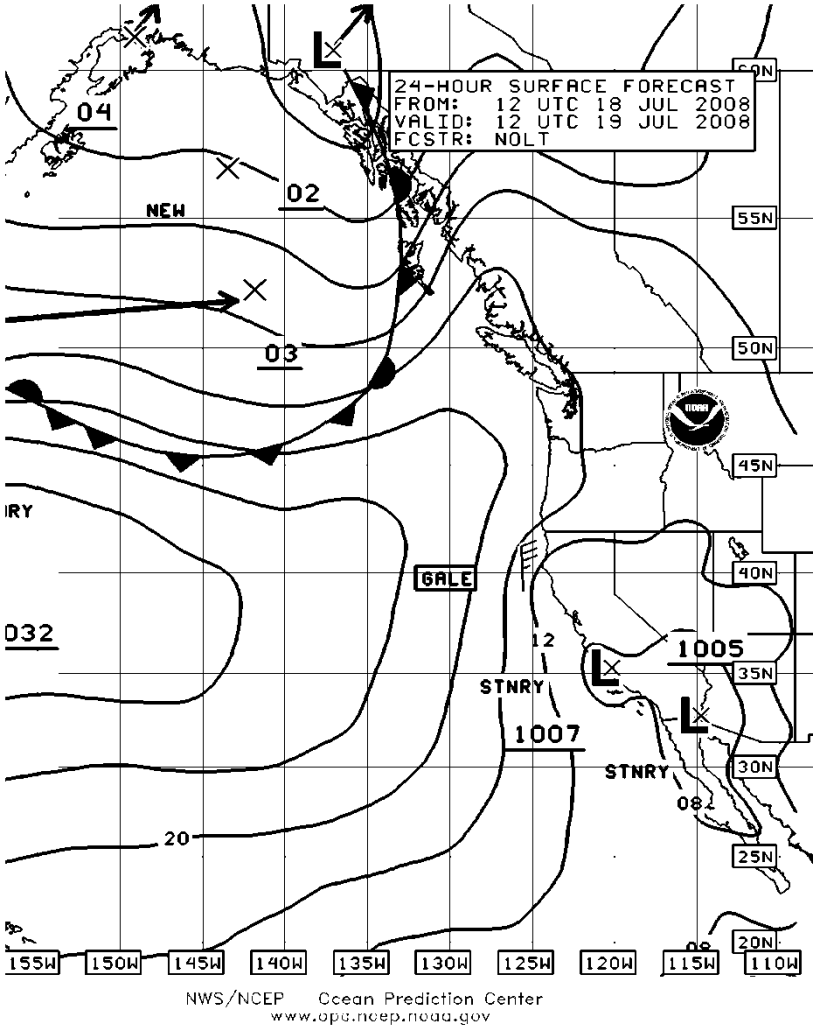




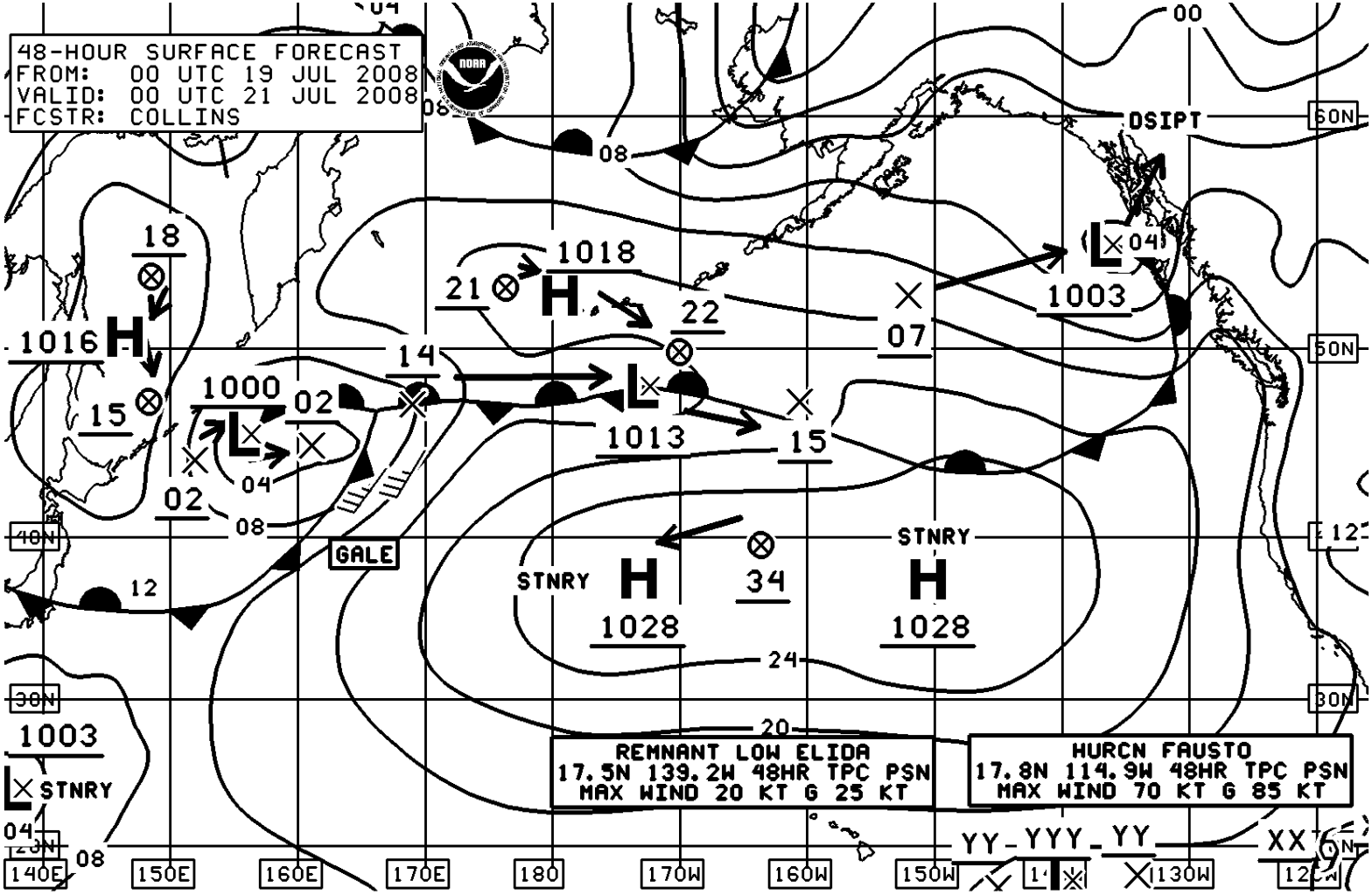
example: tropical low sequence – pac cup 2008



pac cup 2008- 24 hour forecast

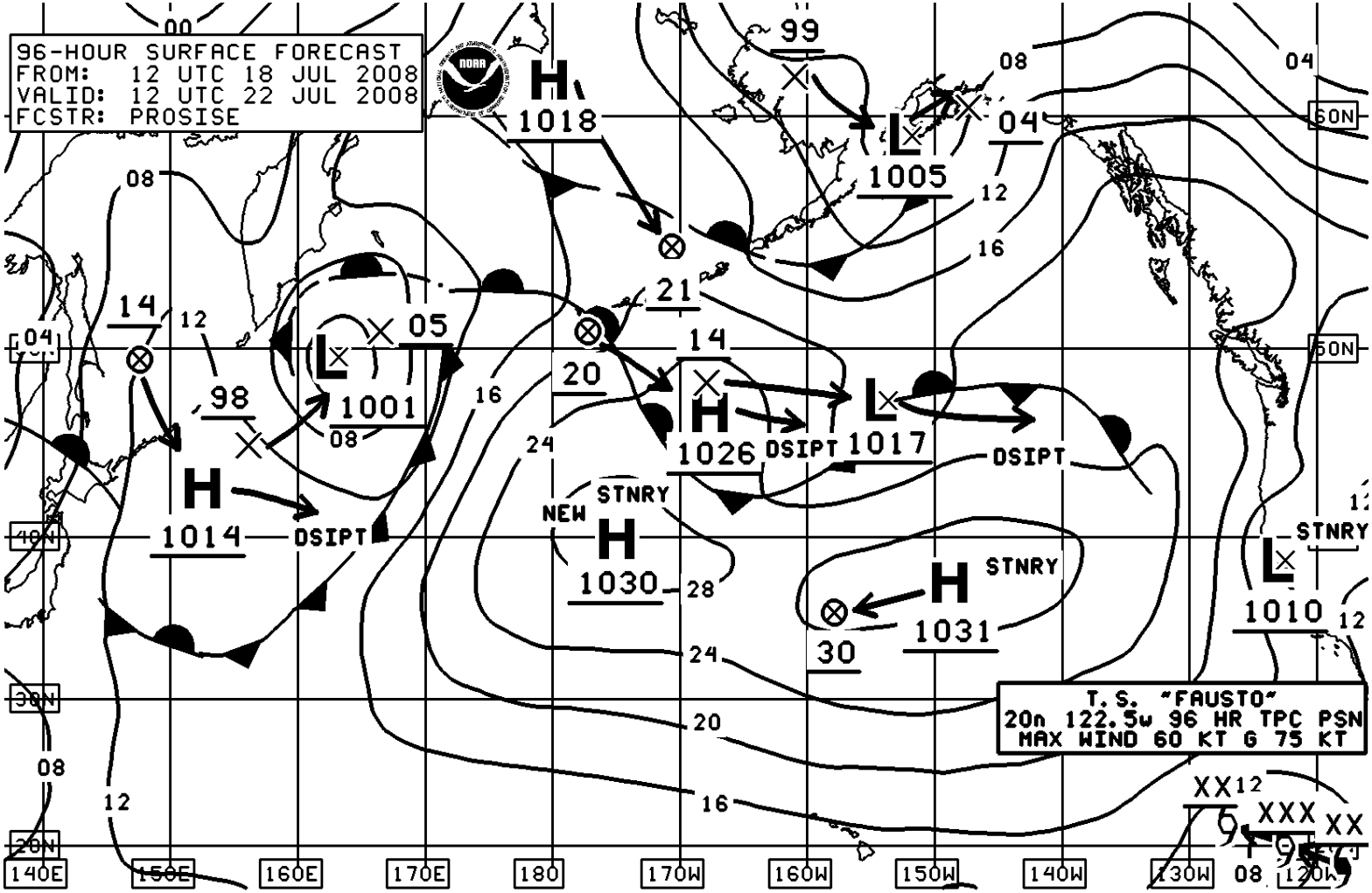


pac cup 2008- 48 hour forecast



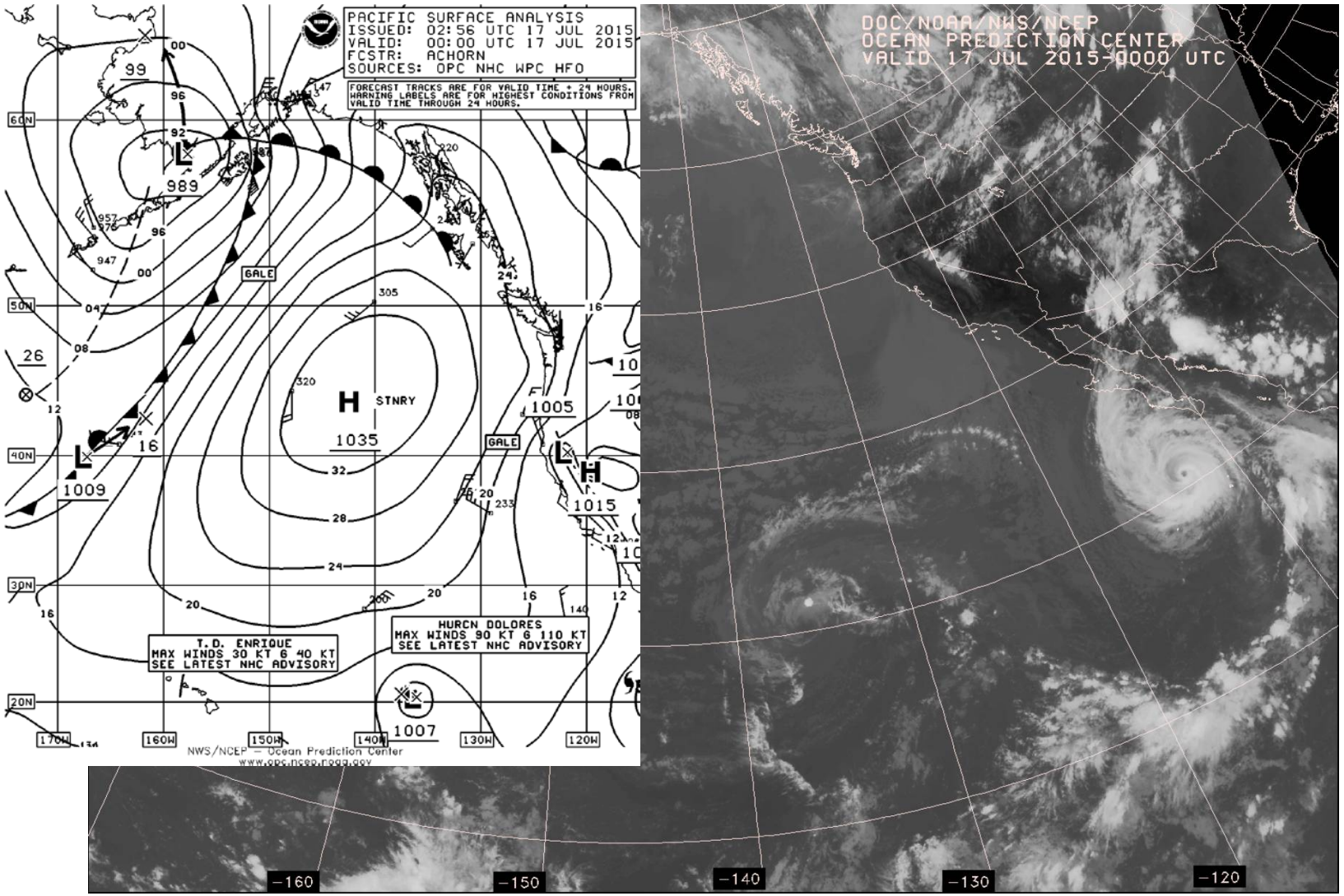
NWS/NCEP – Ocean Prediction Center
www.opc.ncep.noaa.gov

pac cup 2008- 96 hour forecast



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

2015- hurricane delores



closing

- “Meteorology is a science but not rocket science”
- Touched on 1979, 2000, 2001, 2006, 2007, 2008, 2009, 2010, 2012, 2013, 2014, 2015