



July, 2015...where were you?  
*Credit – Mark Townsend ABYC*







# 2023 Transpac Race Weather Briefing

Joseph M. Sienkiewicz  
NOAA/NWS Ocean Prediction  
Center





# Transpac - Weather Safety



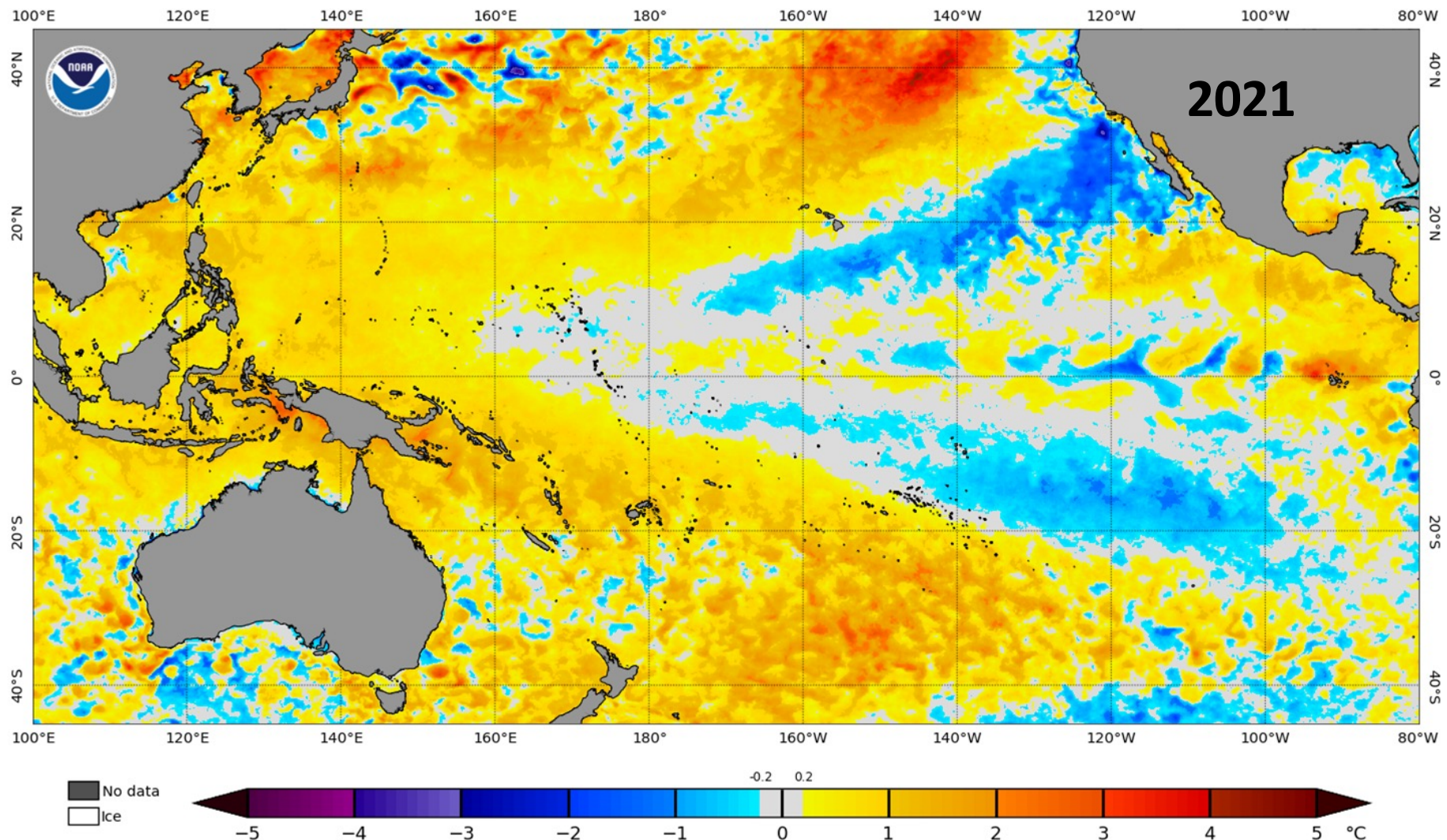
Joe Sienkiewicz [joseph.sienkiewicz@noaa.gov](mailto:joseph.sienkiewicz@noaa.gov)  
NOAA/NWS Ocean Prediction Center

Jon Gottschalck  
NOAA/NWS Climate Prediction Center

<https://ocean.weather.gov>

<https://www.cpc.ncep.noaa.gov/products/GODAS/>

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 9 Jul 2021







# Transpac - Weather Safety

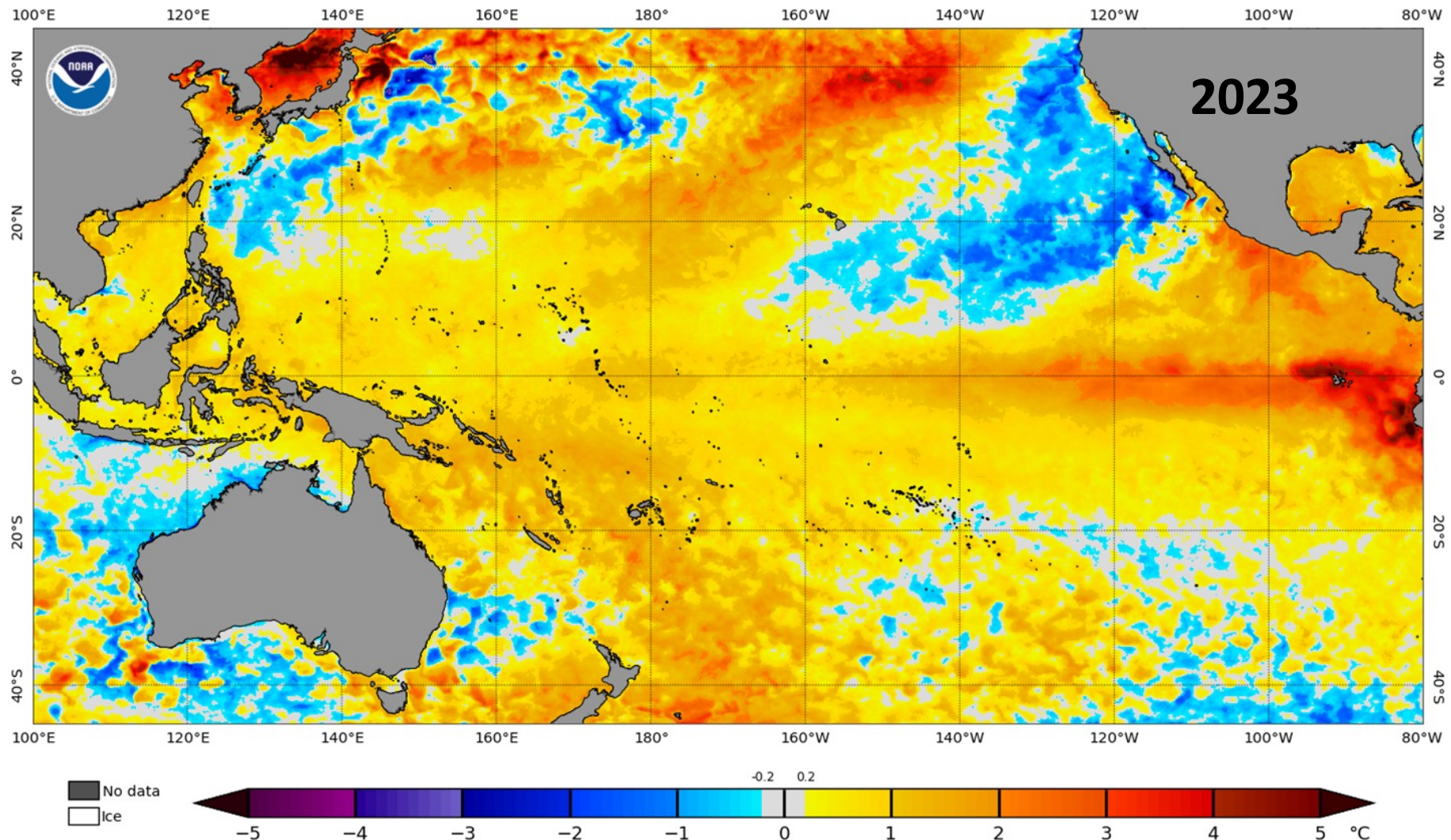
Joe Sienkiewicz [joseph.sienkiewicz@noaa.gov](mailto:joseph.sienkiewicz@noaa.gov)  
NOAA/NWS Ocean Prediction Center

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<https://ocean.weather.gov>

<https://www.cpc.ncep.noaa.gov/products/GODAS/>

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 19 Jun 2023







# Take Home Messages



- El Niño is now present in the equatorial Pacific after an extended period of La Niña conditions since 2020. So, on average, this would elevate odds for weaker Trade winds and potential influence especially later in period closer to Hawaii.
- After an extended active period, the MJO has become less organized and is not anticipated to play a major role this year.
- There is quite good ensemble model guidance agreement of elevated odds for unfavorable conditions at the start (Jun 27-28) due to subtropical upper-level troughing and weaker Pacific high pressure (GEFS, ECMWF, ECCC). This seems most likely for the first vessel group.
- Entering July, however, model guidance favors stronger Pacific high pressure and so winds for the remainder of the event at this time.
- Other subseasonal tropical variability and model guidance support likely development of the first EPAC TC just before or near the start of the event, but development is anticipated at low latitudes and off the south-central Mexico coast. Not expected to have any impact if development does occur and no strong signals for TC development thereafter at this time.





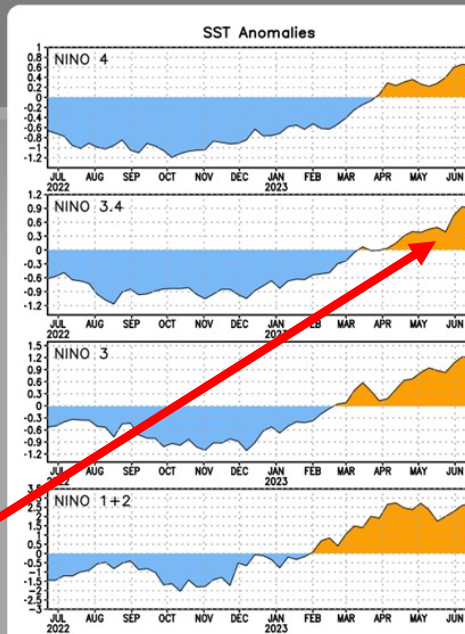
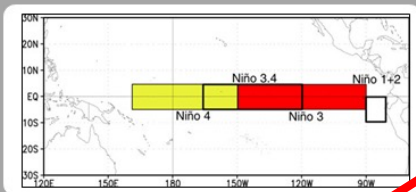
# El Nino Conditions



## Niño Region SST Departures (°C) Recent Evolution

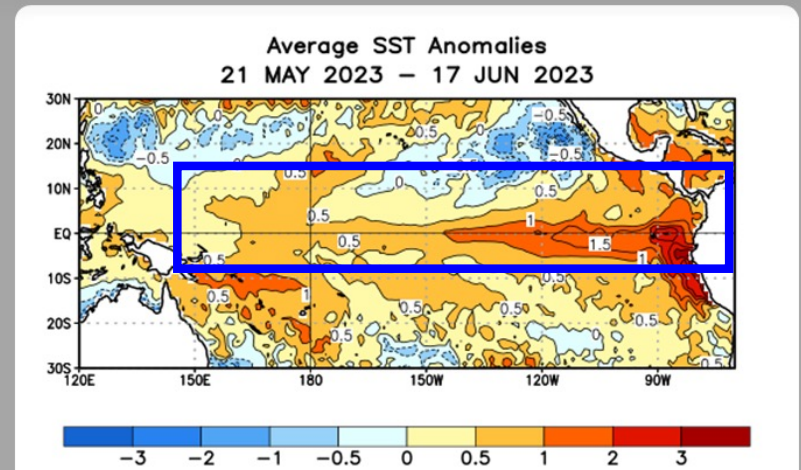
The latest weekly SST departures are:

Niño 4	0.6°C
Niño 3.4	0.9°C
Niño 3	1.2°C
Niño 1+2	2.7°C



## SST Departures (°C) in the Tropical Pacific During the Last Four Weeks

In the last four weeks, equatorial SSTs were above average across most of the Pacific Ocean, with near average SSTs present only in the far western Pacific Ocean.



Rapid increase in equatorial Pacific SSTs in all Niño regions (left)

Positive SST anomalies increasing in magnitude across the entire Pacific basin (right, blue box)



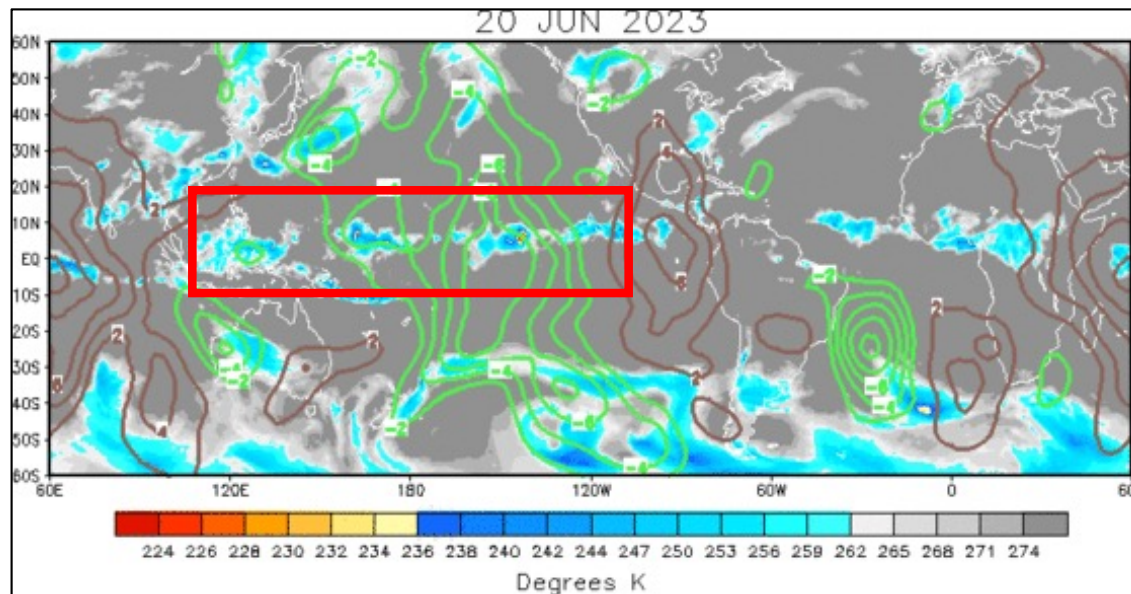


## MJO and other modes



The MJO has weakened in recent weeks and is generally disorganized and is not anticipated to play a major role this year.

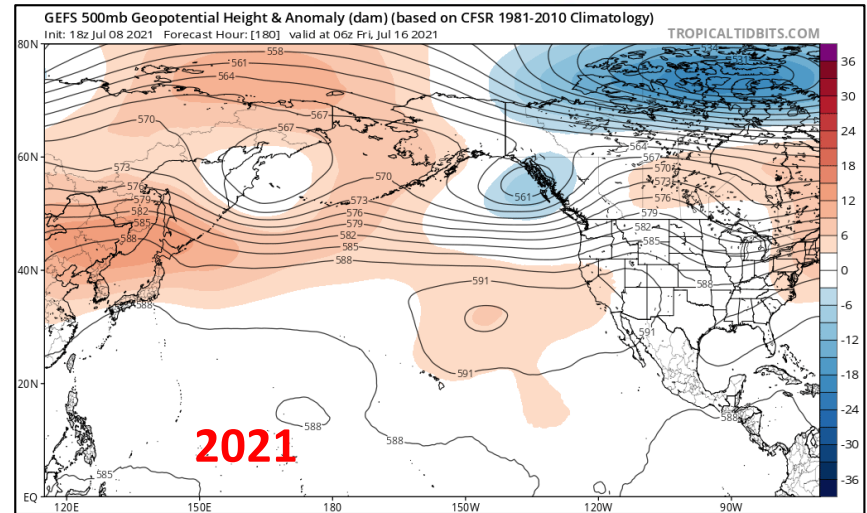
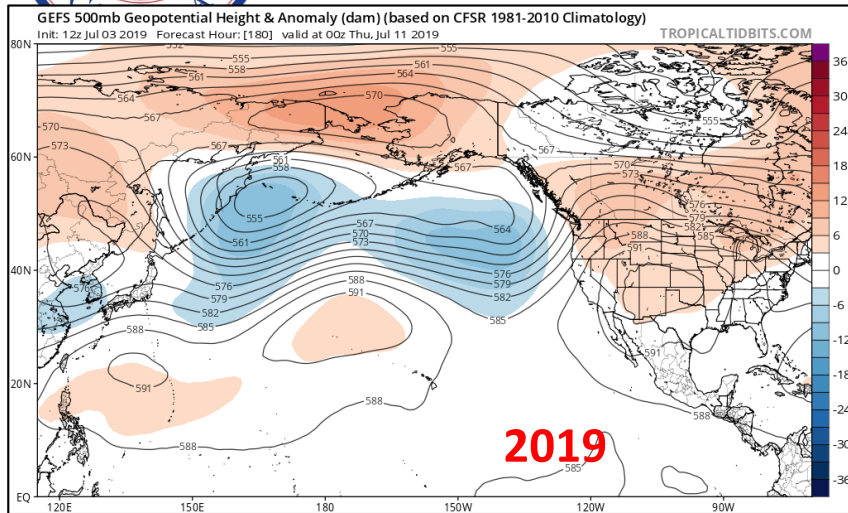
However, other subseasonal tropical variability (atmospheric Kelvin wave, red box) elevates odds for tropical cyclone development near the start of the event. Most likely location and time of development not expected to have impacts.





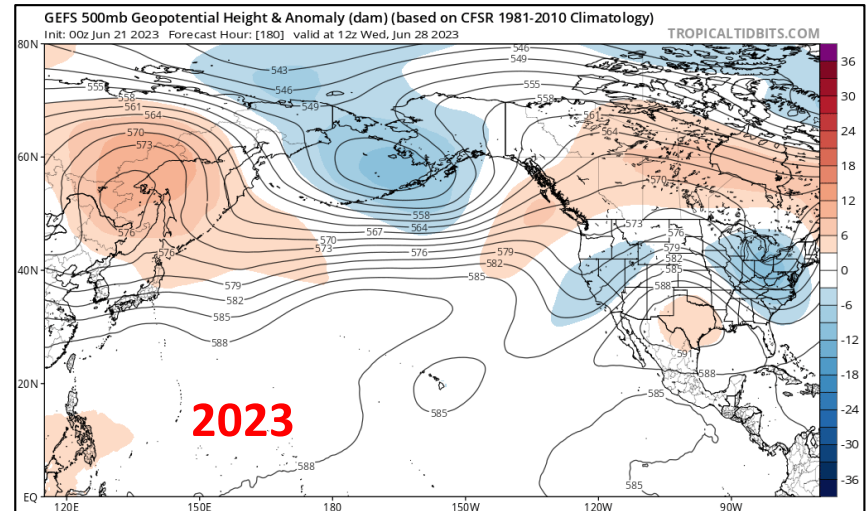


# Subtropical 500-hPa Height Pattern



GEFS 180 hour forecast for event start  
for 2019, 2021 and 2023

Trouging (bottom right) may lead to  
unfavorable conditions in late June







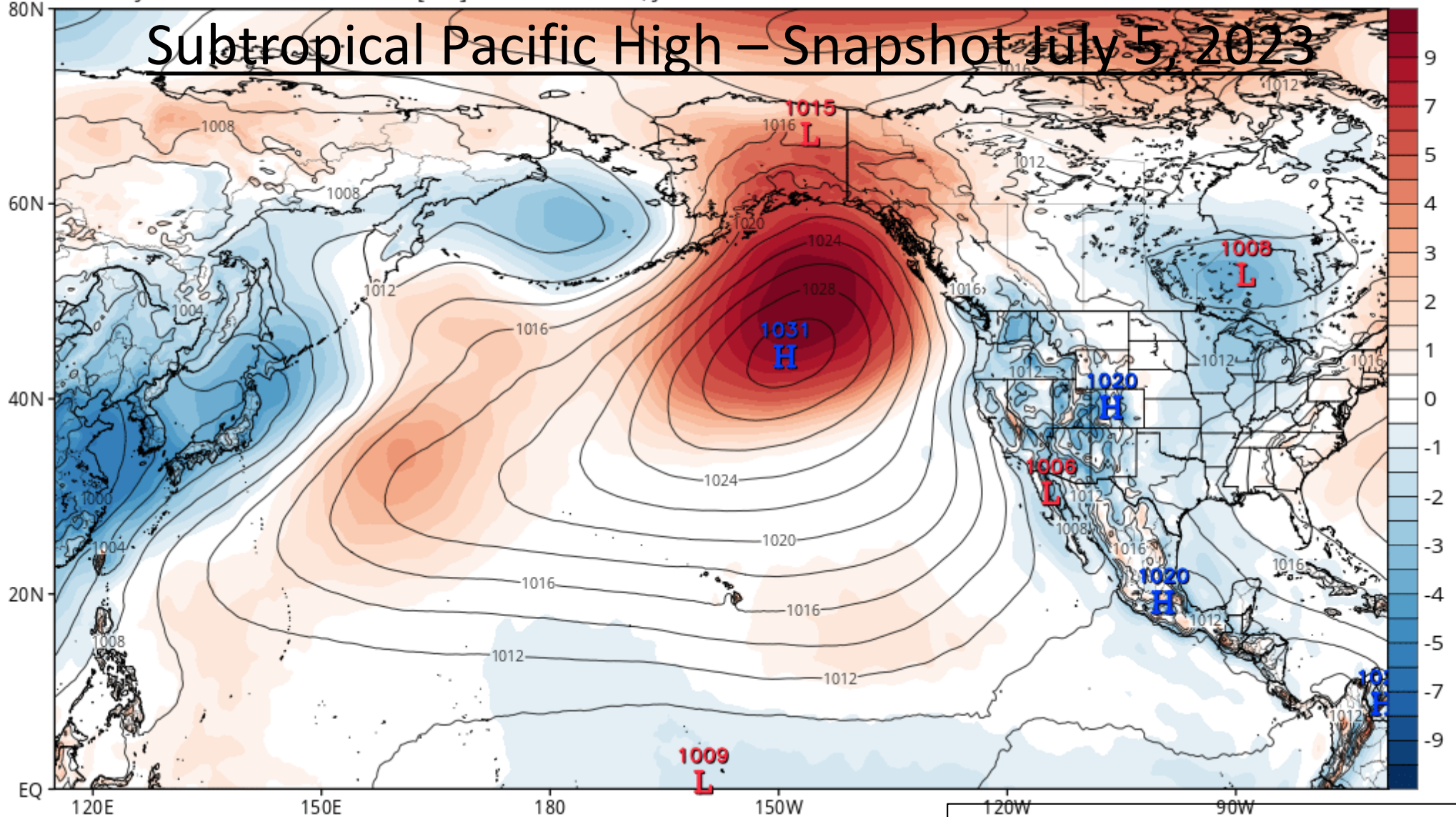
EPS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Jun 24 2023 Forecast Hour: [276] valid at 12z Wed, Jul 05 2023



TROPICALTIDBITS.COM

# Subtropical Pacific High – Snapshot July 5, 2023



Better conditions overall but high pressure moderately strong but fairly far north



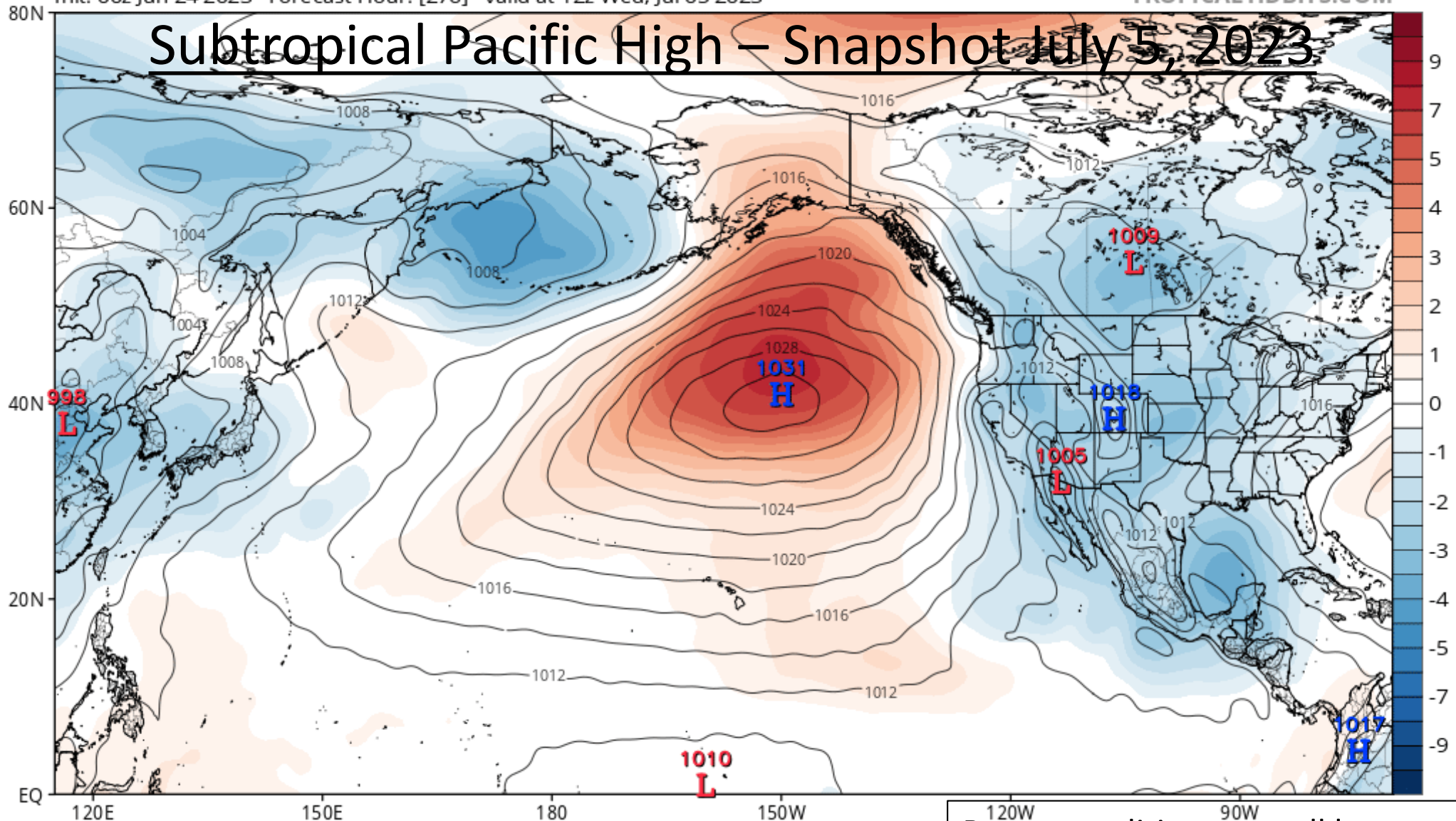


GEFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

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TROPICALTIDBITS.COM

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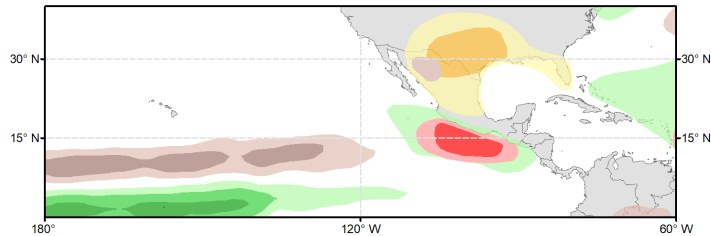
# Global Tropics Outlook



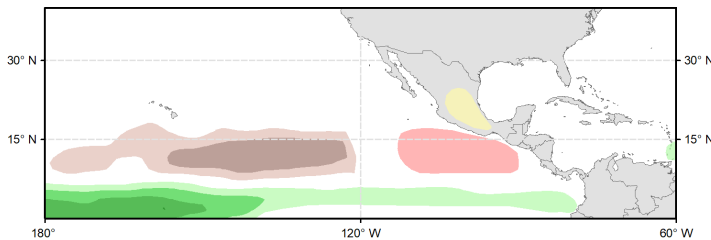
## Global Tropics Hazards Outlook

Climate Prediction Center

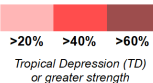
Week 2 - Valid: Jun 28, 2023 - Jul 04, 2023



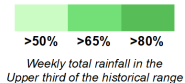
Week 3 - Valid: Jul 05, 2023 - Jul 11, 2023



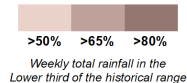
### Tropical Cyclone (TC) Formation Probability



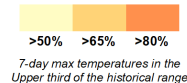
### Above-Average Rainfall Probability



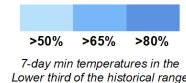
### Below-Average Rainfall Probability



### Above-Average Temperatures Probability



### Below-Average Temperatures Probability



Issued: 06/20/2023

Forecaster: Pugh

**\*\* NOAA INTERNAL USE ONLY \*\***

GTH outlook released on June 20, 2023

Potential TC development during Week-2, primarily early in the period

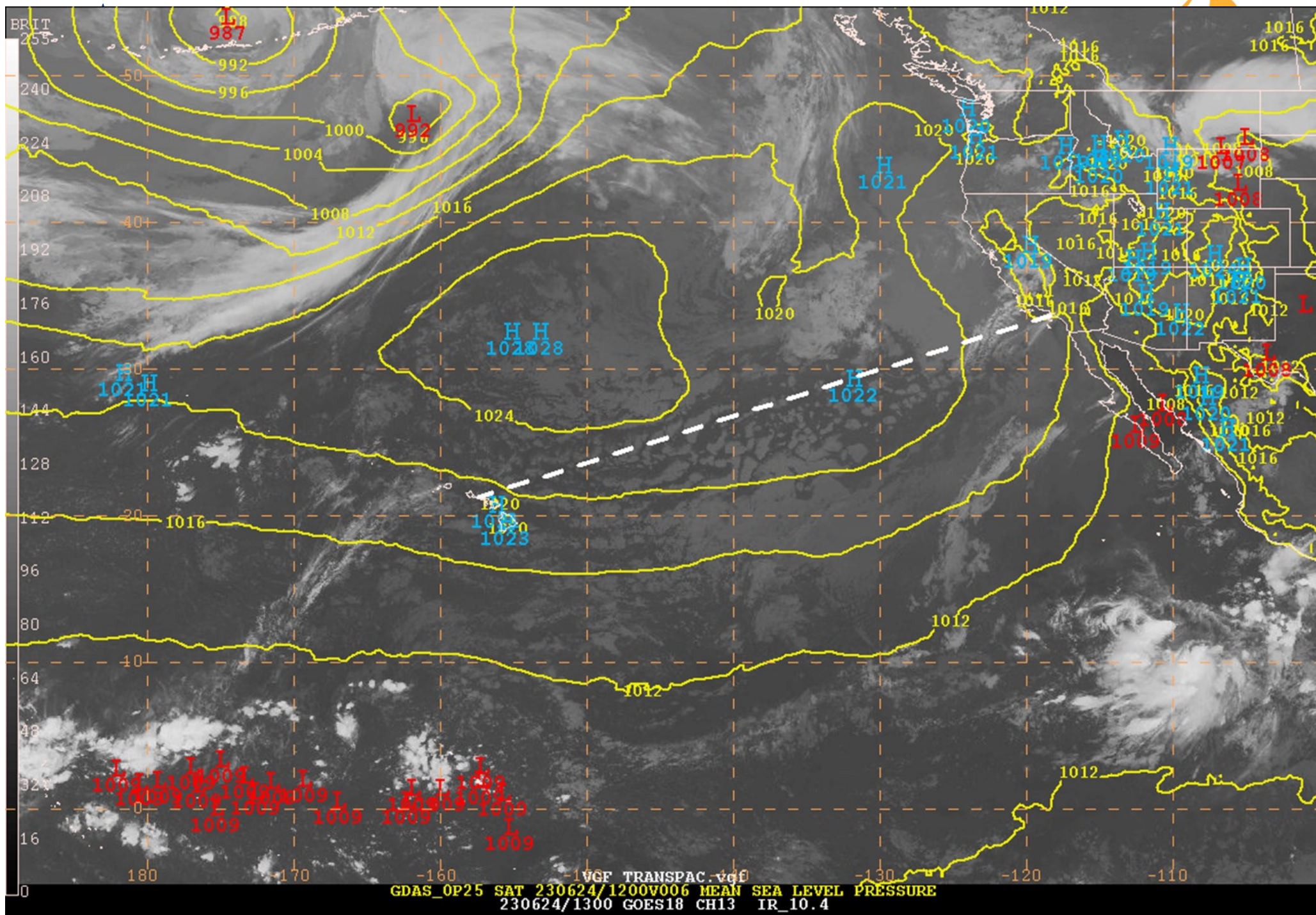
Slight odds for TC development in Week-3, but low odds at the current time

Considerably delayed monsoon onset and Southwest likely to be abnormally hot and dry entering July

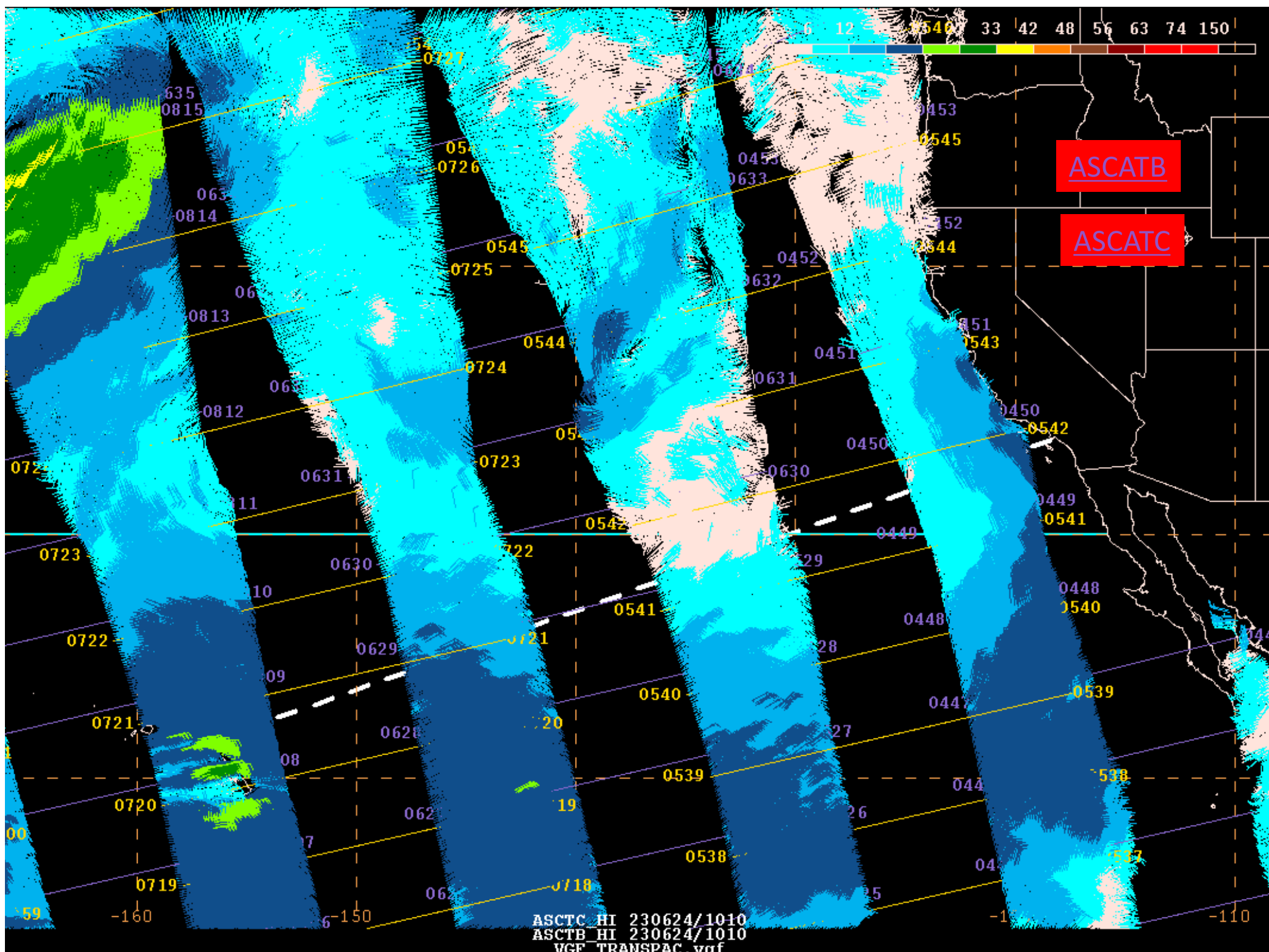




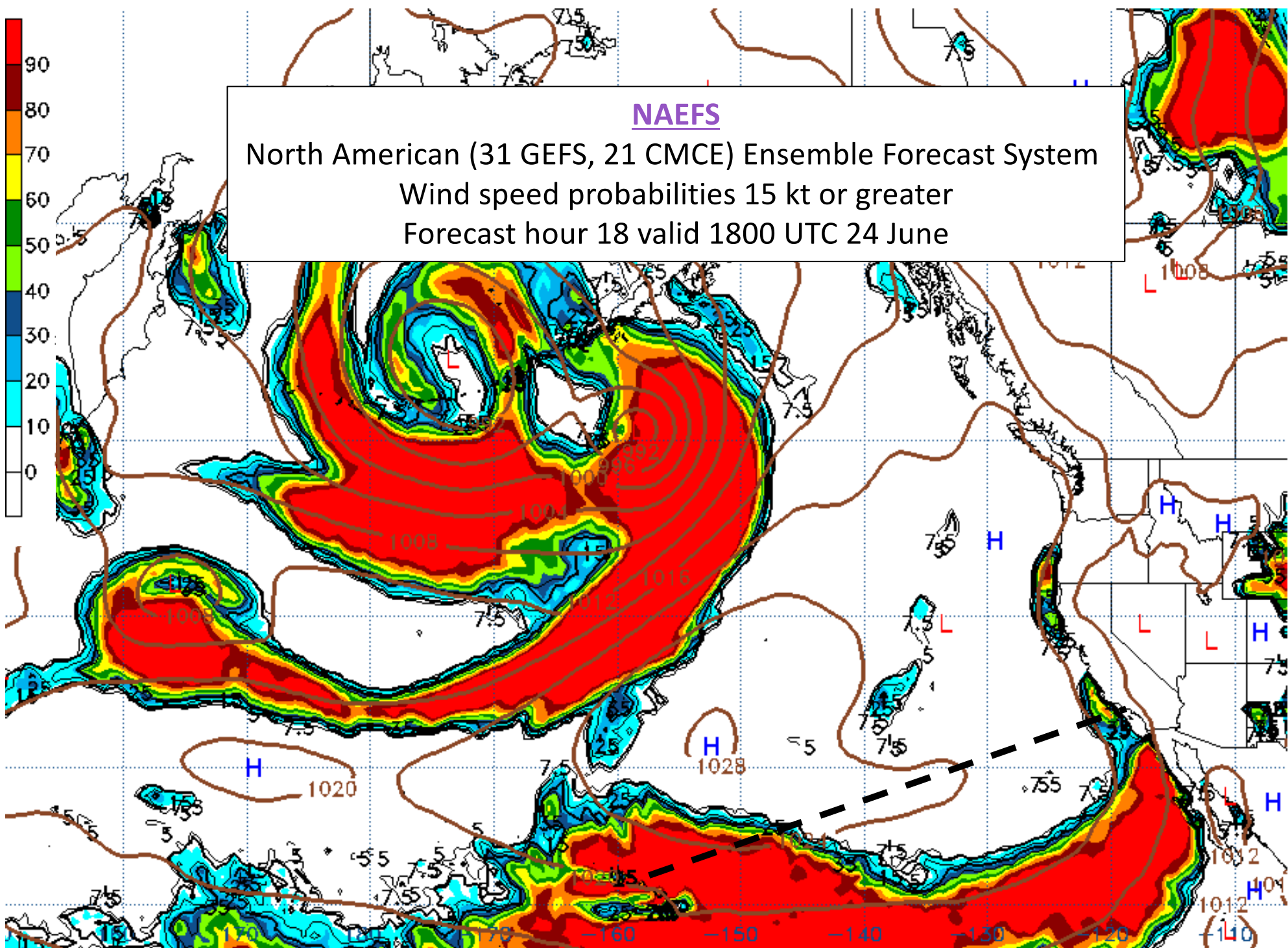








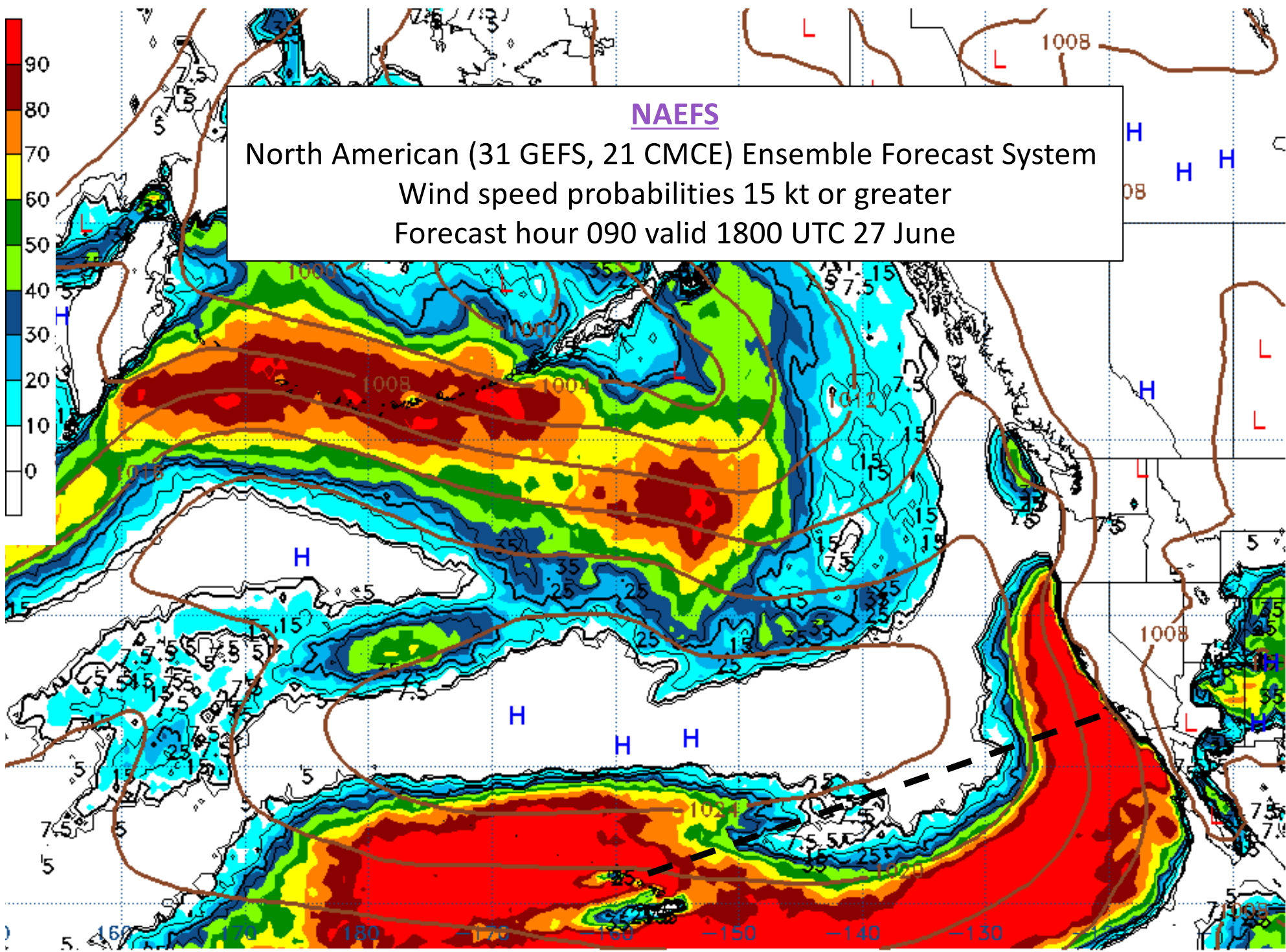




**NAEFS**  
North American (31 GEFS, 21 CMCE) Ensemble Forecast System  
Wind speed probabilities 15 kt or greater  
Forecast hour 18 valid 1800 UTC 24 June

Probability(NAEFS 10m WIND  $\geq$  15kt) (%) and NAEFS ensemble mean PMSL (mb)  
20230624/0000 UTC F018 valid Sat 20230624/1800 UTC

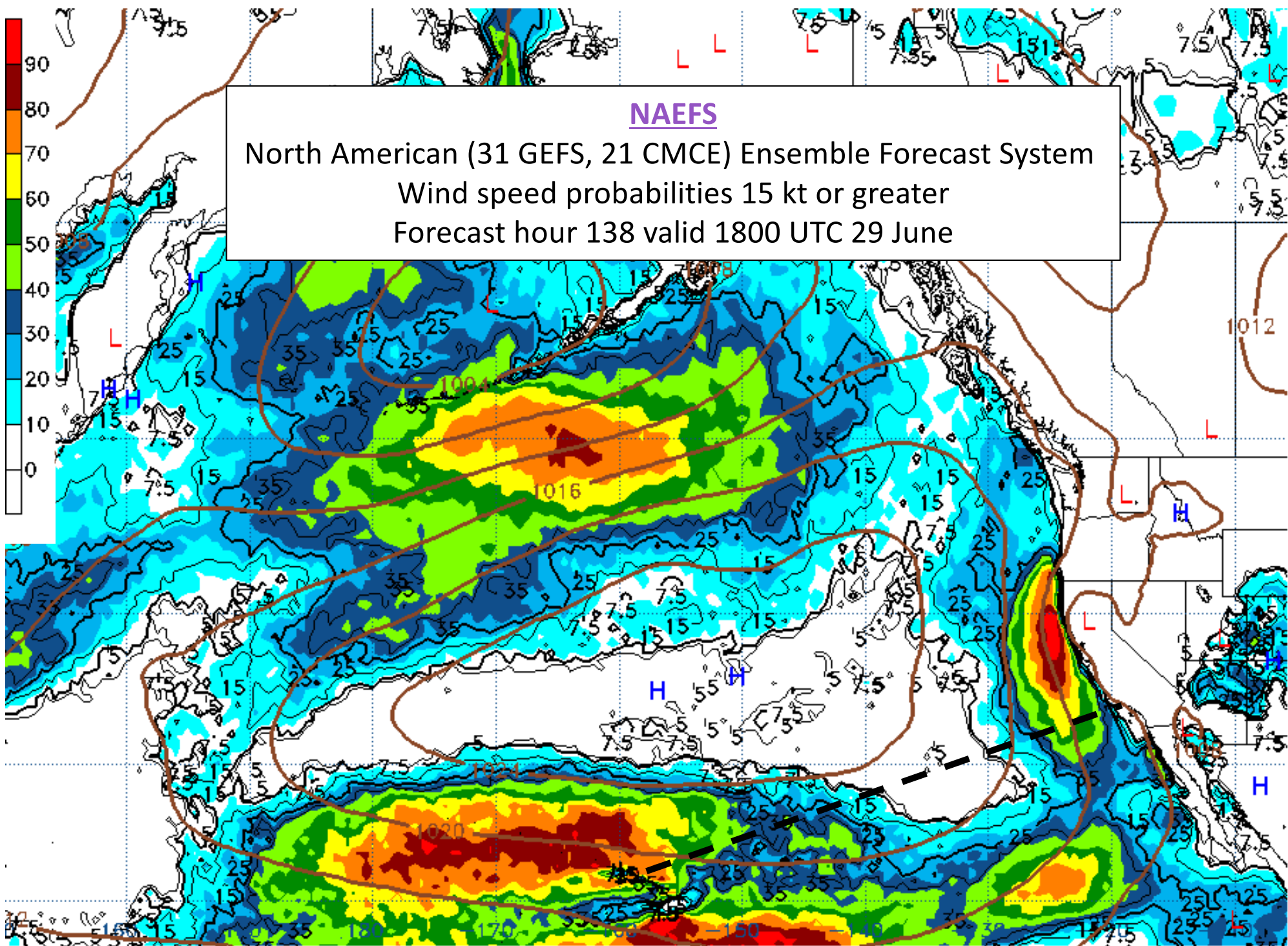




NAEFS  
North American (31 GEFS, 21 CMCE) Ensemble Forecast System  
Wind speed probabilities 15 kt or greater  
Forecast hour 090 valid 1800 UTC 27 June

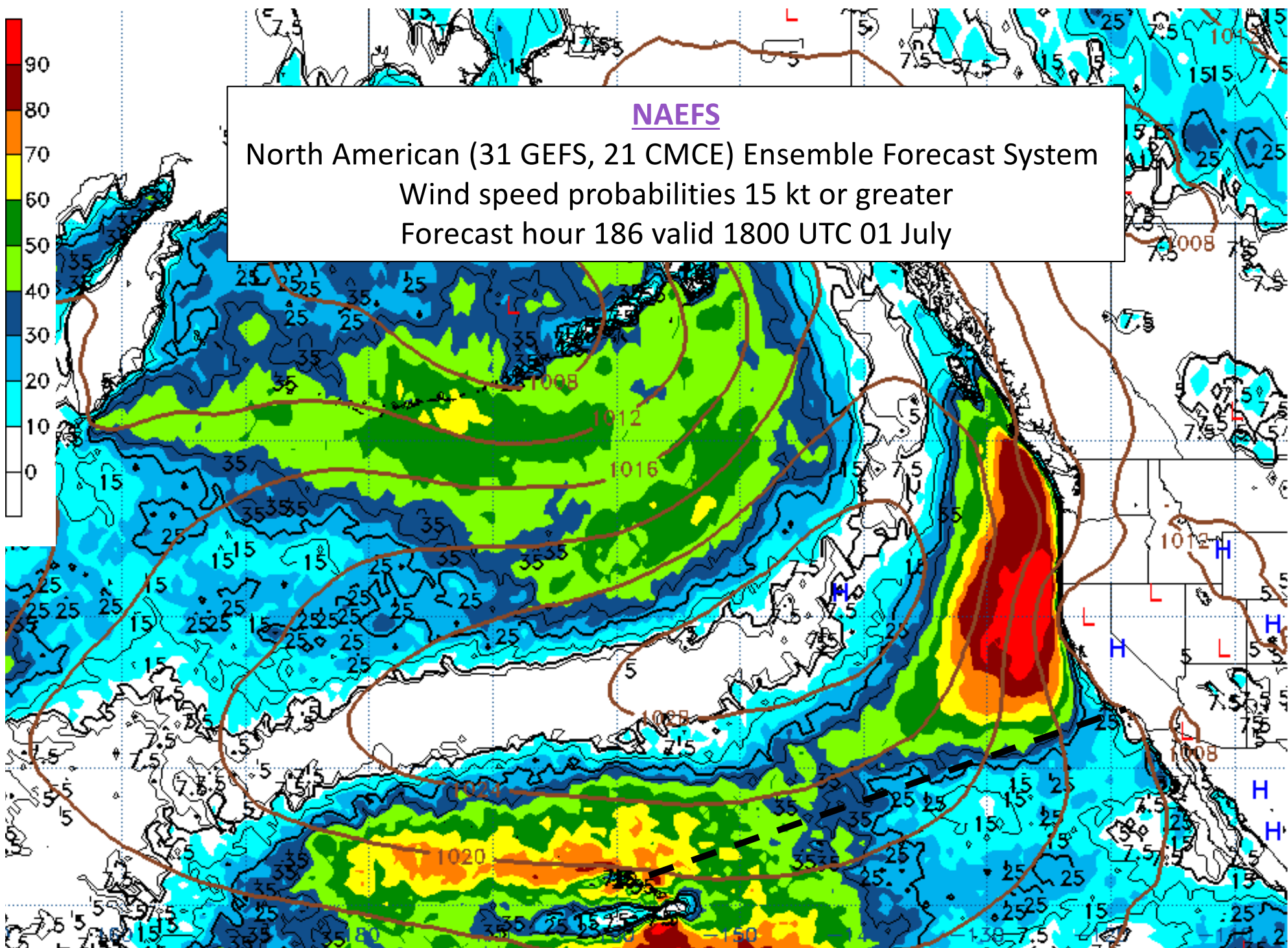
Probability(NAEFS 10m WIND  $\geq$  15kt) (%) and NAEFS ensemble mean PMSL (mb)  
20230624/0000 UTC F090 valid Tue 20230627/1800 UTC





Probability(NAEFS 10m WIND  $\geq$  15kt) (%) and NAEFS ensemble mean PMSL (mb)  
20230624/0000 UTC F138 valid Thu 20230629/1800 UTC





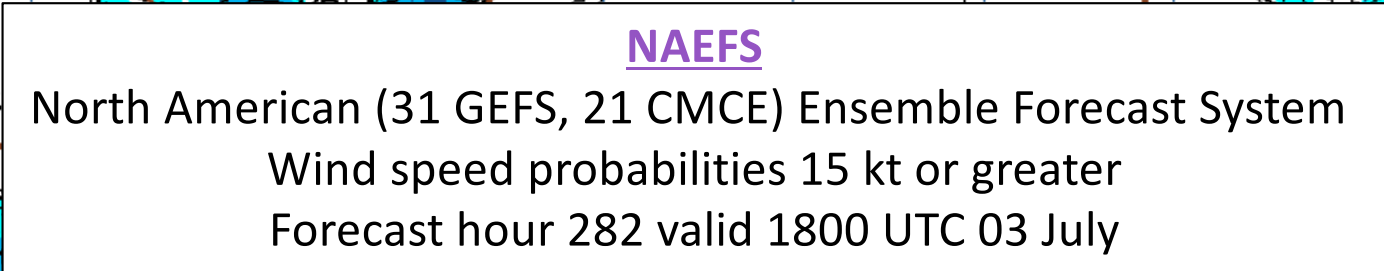
**NAEFS**  
North American (31 GEFS, 21 CMCE) Ensemble Forecast System  
Wind speed probabilities 15 kt or greater  
Forecast hour 186 valid 1800 UTC 01 July

Probability(NAEFS 10m WIND  $\geq$  15kt) (%) and NAEFS ensemble mean PMSL (mb)  
20230624/0000 UTC F186 valid Sat 20230701/1800 UTC





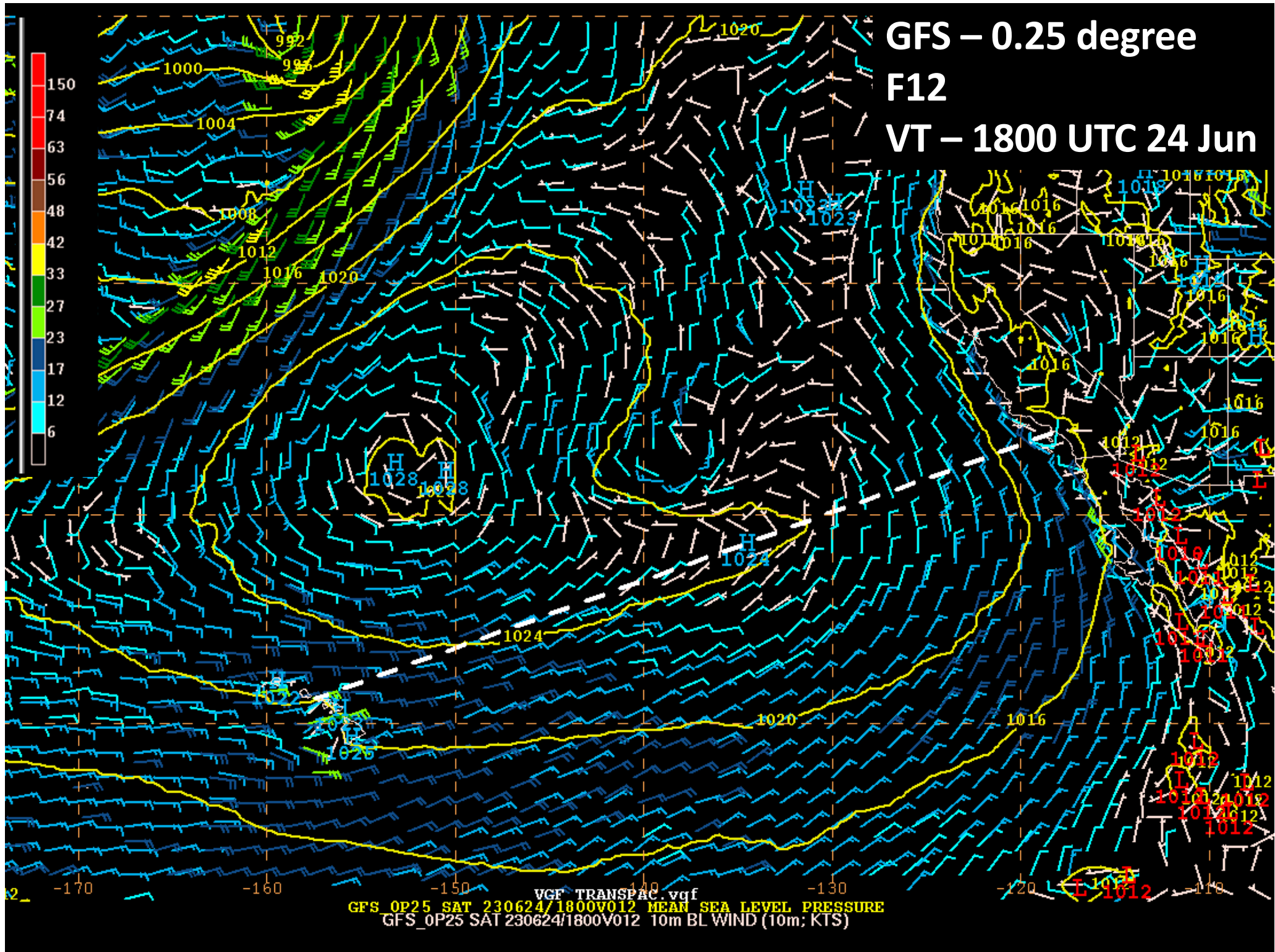




Probability(NAEFS 10m WIND  $\geq$  15kt) (%) and NAEFS ensemble mean PMSL (mb)  
20230624/0000 UTC F282 valid Wed 20230705/1800 UTC



**GFS – 0.25 degree  
F12  
VT – 1800 UTC 24 Jun**



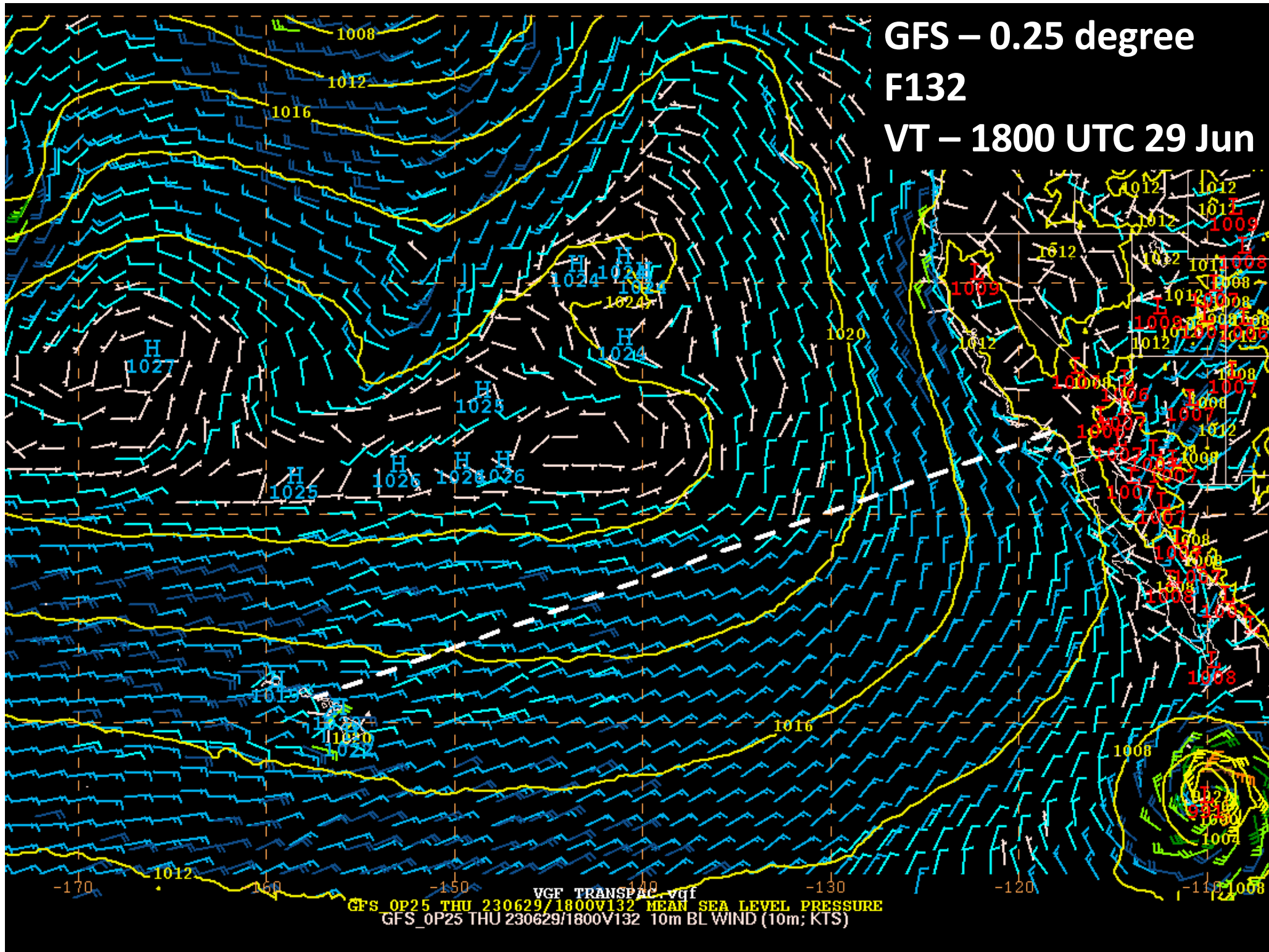


# VT – 1800 UTC 27 Jun



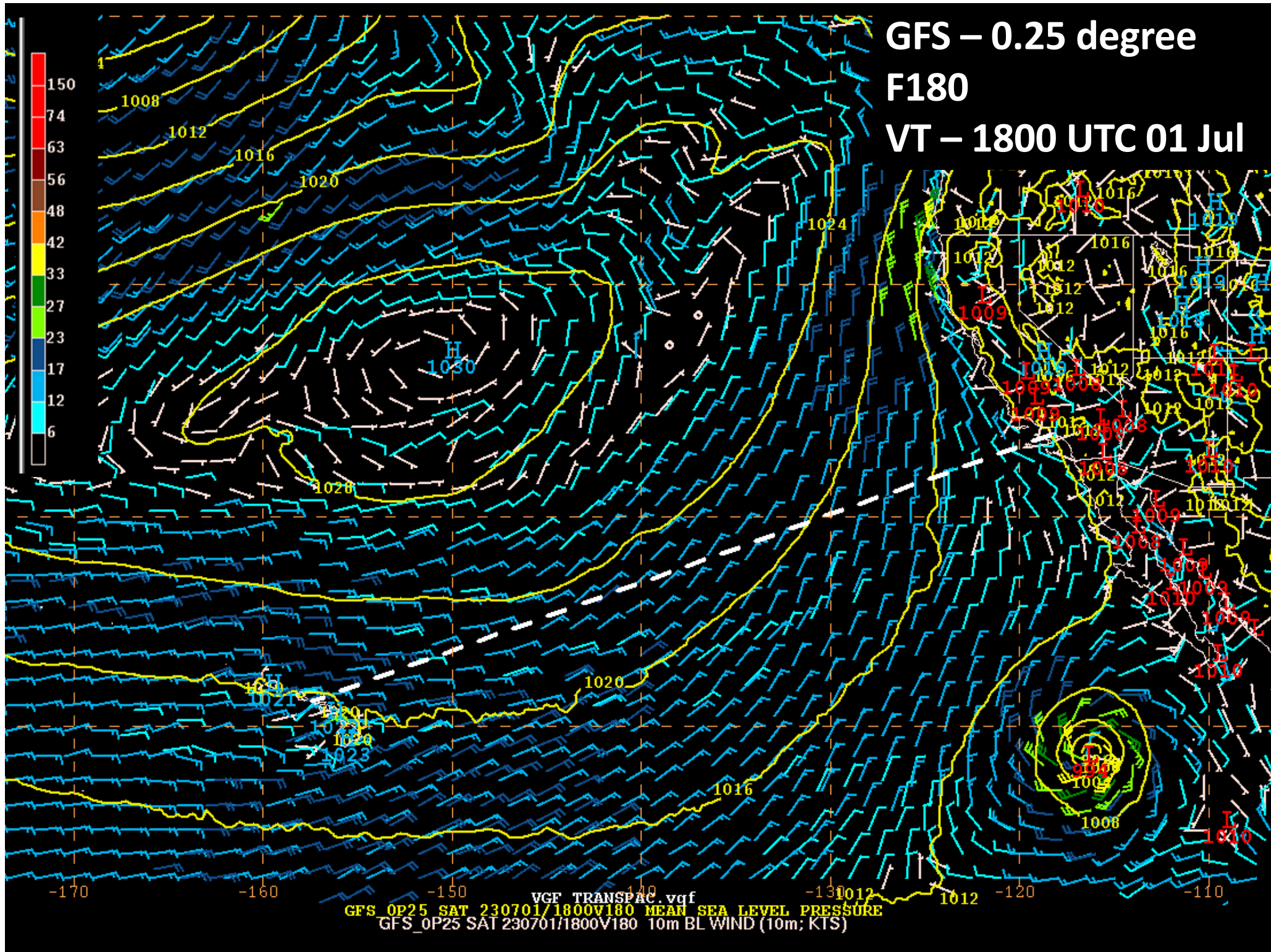


**GFS – 0.25 degree  
F132  
VT – 1800 UTC 29 Jun**





# VT – 1800 UTC 01 Jul





# VT – 1800 UTC 03 Jul

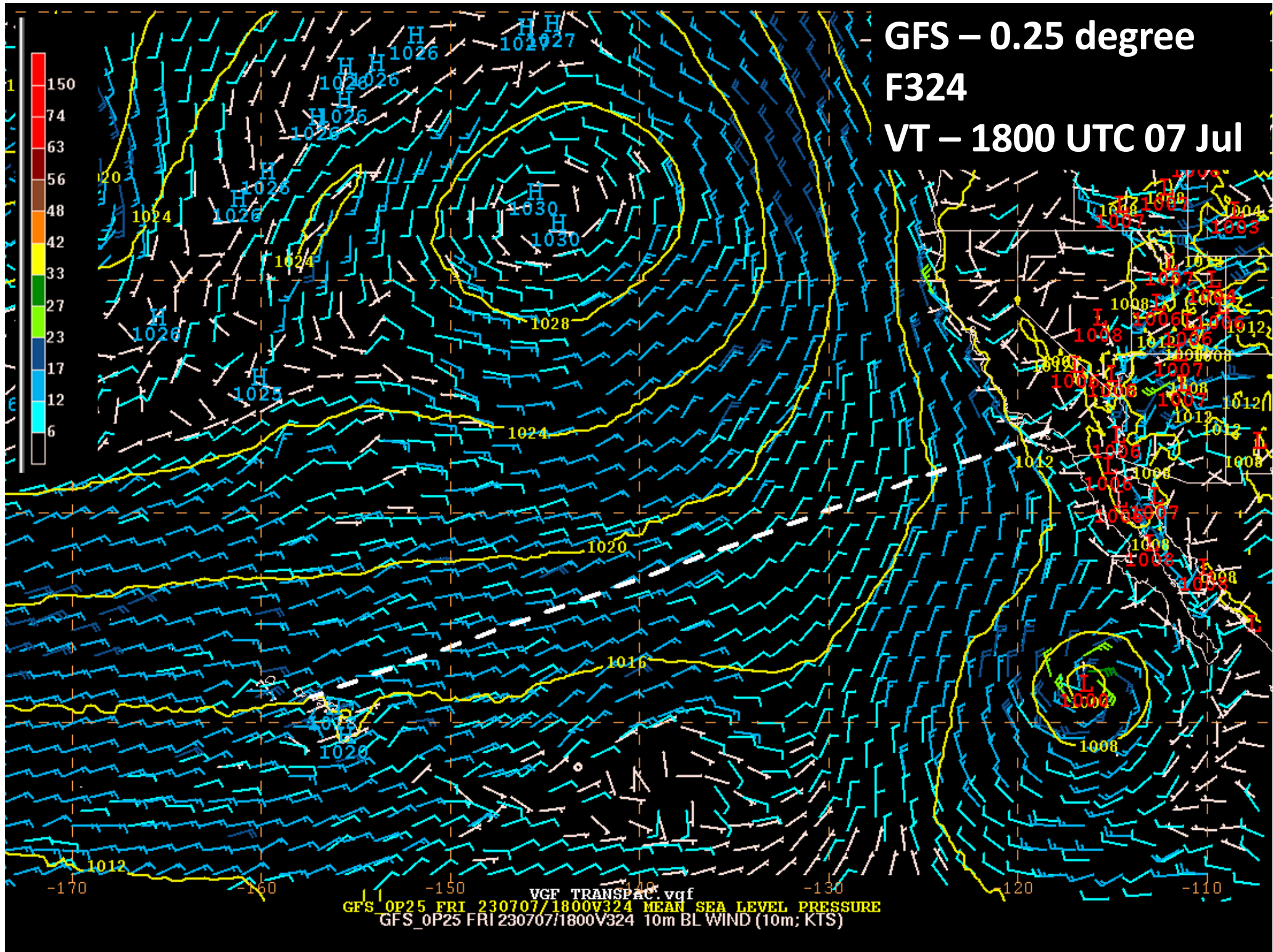






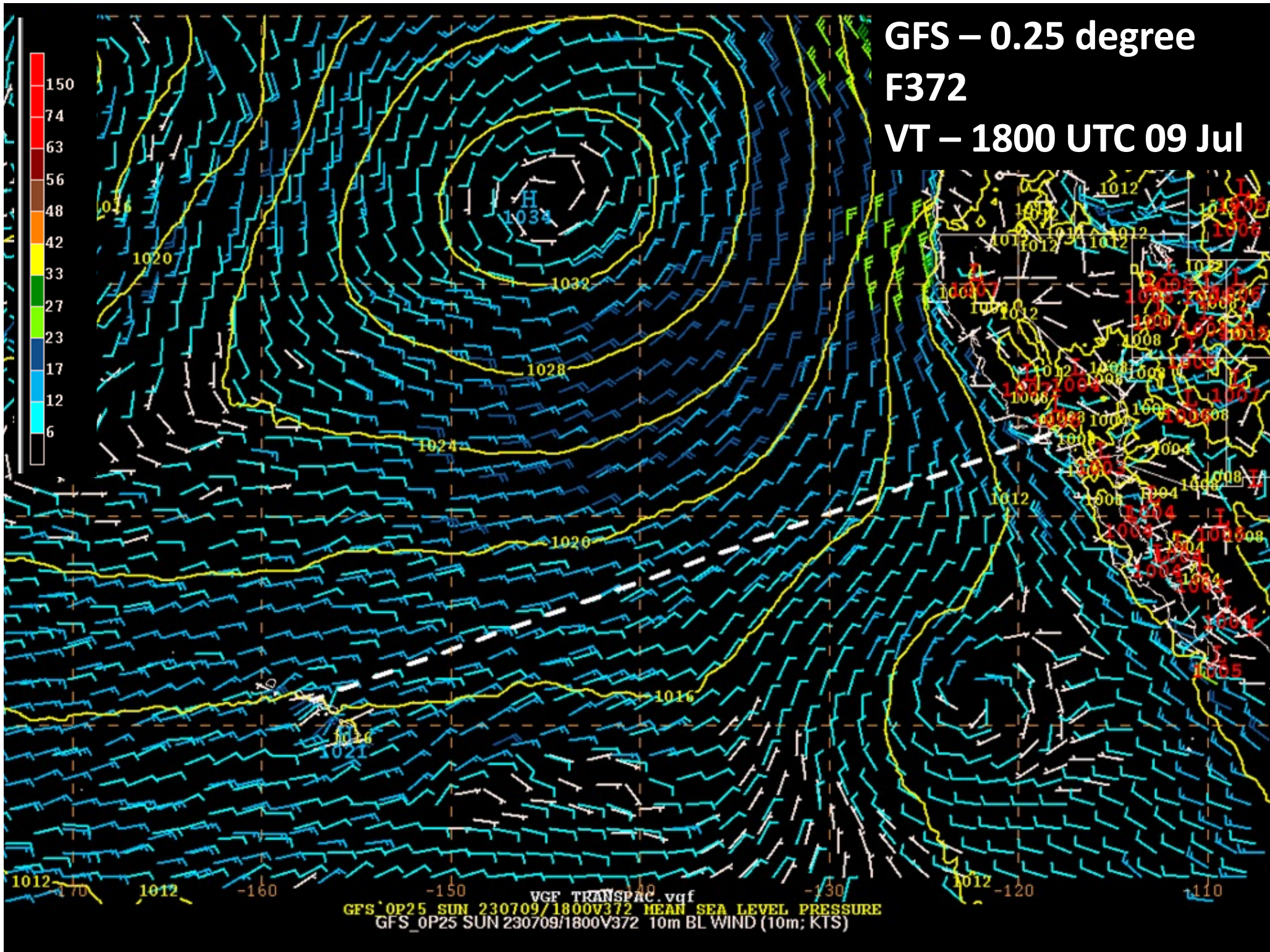


**GFS – 0.25 degree  
F324  
VT – 1800 UTC 07 Jul**

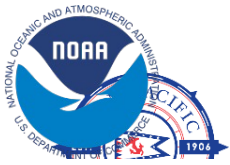




**GFS – 0.25 degree  
F372  
VT – 1800 UTC 09 Jul**







# NWS Marine Forecast Zones



FZPN02 KWBC 201725

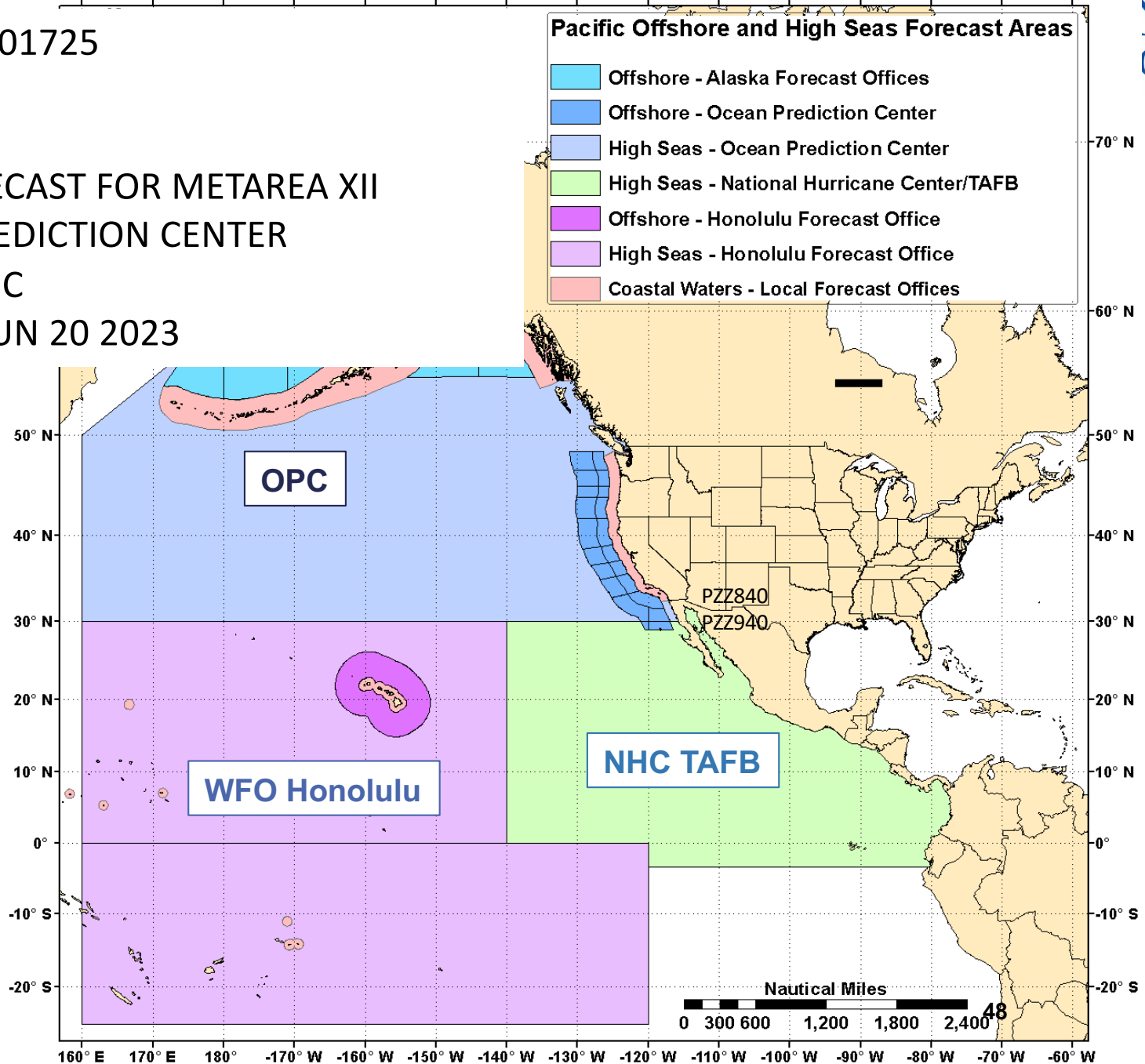
HSFEPI

HIGH SEAS FORECAST FOR METAREA XII

NWS OCEAN PREDICTION CENTER

WASHINGTON DC

1745 UTC TUE JUN 20 2023





# WARNINGS (non-TROPICAL)



**BEAUFORT FORCE 8**  
WIND SPEED: 34-40 KNOTS

SEA: WAVE HEIGHT 5.5-7.5M (18-25FT), MODERATELY HIGH WAVES OF GREATER LENGTH, EDGES OF CREST BEGIN TO BREAK INTO THE SPINDRIFT, FOAM BLOWN IN WELL MARKED STREAKS ALONG WIND DIRECTION.

**GALE  
WARNING**  
Force 8,9



**BEAUFORT FORCE 9**  
WIND SPEED: 41-47 KNOTS

SEA: WAVE HEIGHT 7-10M (23-32FT), HIGH WAVES, DENSE STREAKS OF FOAM ALONG DIRECTION OF THE WIND, WAVE CRESTS BEGIN TO TOPPLE, TUMBLE, AND ROLL OVER. SPRAY MAY AFFECT VISIBILITY.



**BEAUFORT FORCE 10**  
WIND SPEED: 48-55 KNOTS

SEA: WAVE HEIGHT 9-12.5M (29-41FT), VERY HIGH WAVES WITH LONG OVERHANGING CRESTS, THE RESULTING FOAM, IN GREAT PATCHES, IS BLOWN IN DENSE WHITE STREAKS ALONG WIND DIRECTION. ON THE WHOLE, SEA SURFACE TAKES A WHITE APPEARANCE, TUMBLING OF THE SEA IS HEAVY AND SHOCK-LIKE, VISIBILITY AFFECTED.

**STORM  
WARNING**  
Force 10,11



**BEAUFORT FORCE 12**  
WIND SPEED: 64 KNOTS

SEA: SEA COMPLETELY WHITE WITH DRIVING SPRAY, VISIBILITY VERY SERIOUSLY AFFECTED. THE AIR IS FILLED WITH FOAM AND SPRAY

**HURRICANE  
FORCE  
WARNING**  
Force 12





Atlantic Weather

Paci

[https://ocean.weather.gov/Pac\\_tab.shtml](https://ocean.weather.gov/Pac_tab.shtml)

Analysis – Graphical Forecasts – Text Forecasts – Hazards – Gridded – Other Marine

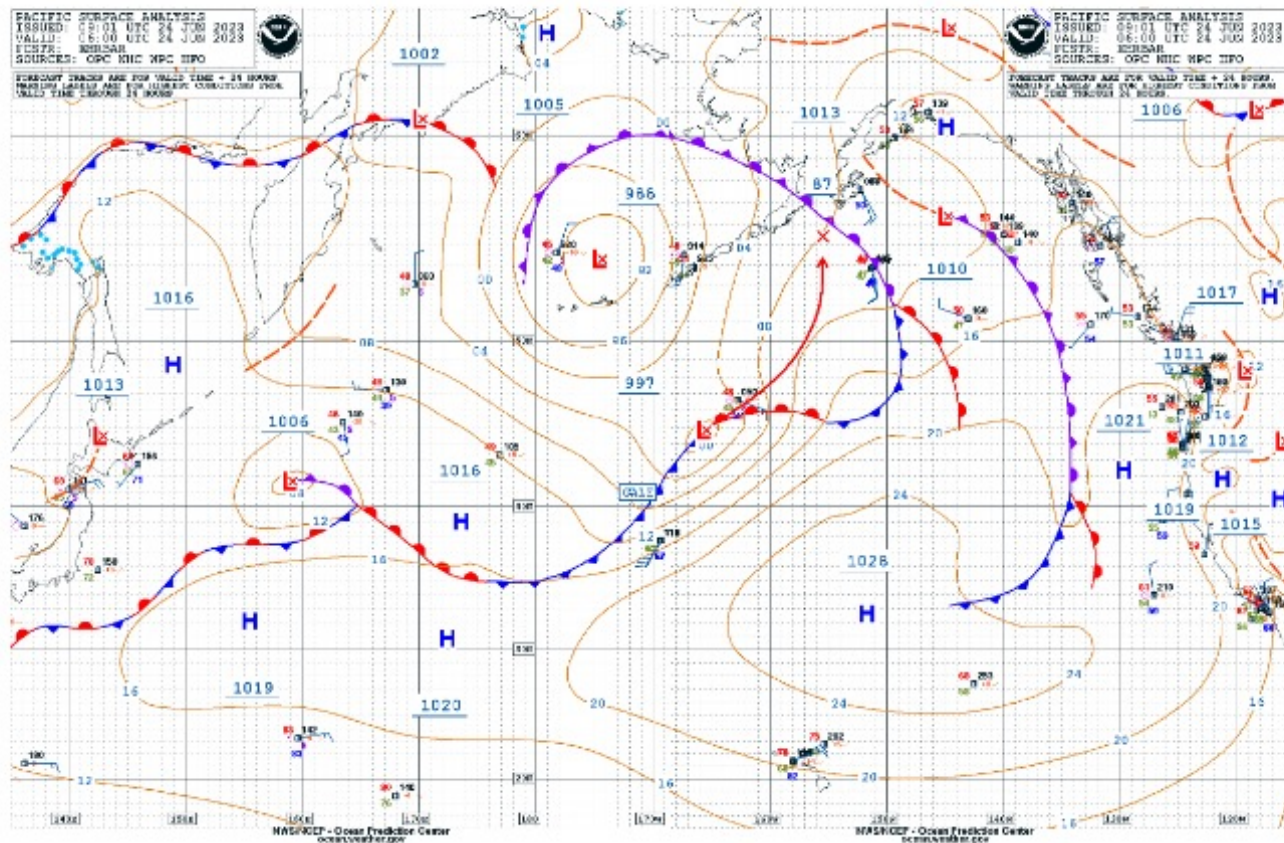
## Pacific Analysis

Click on the map below or choose from:

W Pacific

Full Pacific

E Pacific



### Surface Analysis

W Pacific Loop:  
[3] [7] [14] DaysE Pacific Loop:  
[3] [7] [14] Days

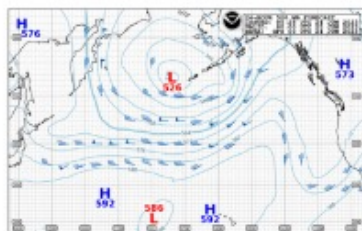
Updated: Sat, 24-Jun-2023 09:15:41 UTC

Updated: Sat, 24-Jun-2023 09:15:41 UTC





## Pacific Graphical Forecasts

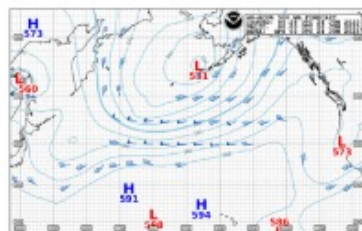


**24-hour 500 mb**

Loop: [3] [7] [14] Days

Updated: Sat, 24-Jun-2023 05:29:30 UTC

[More 500 MB images](#)

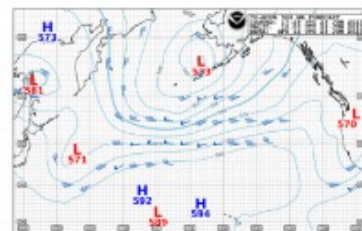


**48-hour 500 mb**

Loop: [3] [7] [14] Days

Updated: Sat, 24-Jun-2023 05:30:58 UTC

[More 500 MB images](#)

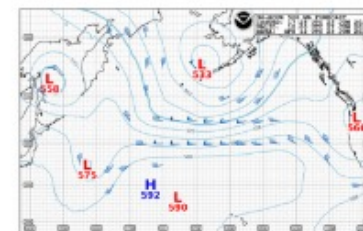


**72-hour 500 mb**

Loop: [3] [7] [14] Days

Updated: Fri, 23-Jun-2023 17:32:02 UTC

[More 500 MB images](#)

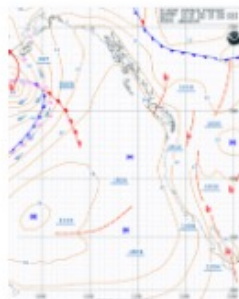


**96-hour 500 mb**

Loop: [3] [7] [14] Days

Updated: Fri, 23-Jun-2023 17:33:29 UTC

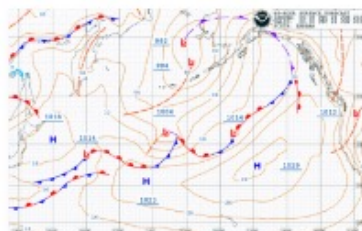
[More 500 MB images](#)



**24-hour surface**

Loop: [3] [7] [14] Days

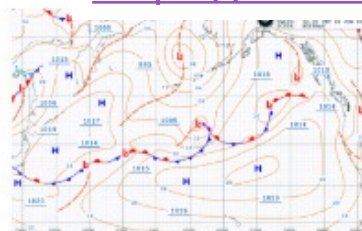
Updated: Sat, 24-Jun-2023 05:08:38 UTC



**48-hour surface**

Loop: [3] [7] [14] Days

Updated: Sat, 24-Jun-2023 06:09:00 UTC



**72-hour surface**

Loop: [3] [7] [14] Days

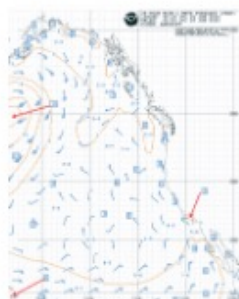
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**96-hour surface**

Loop: [3] [7] [14] Days

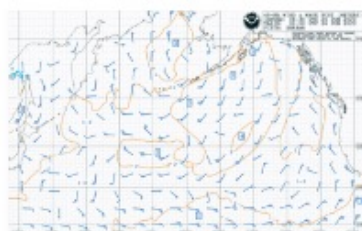
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**24-hour wind & wave**

Loop: [3] [7] [14] Days

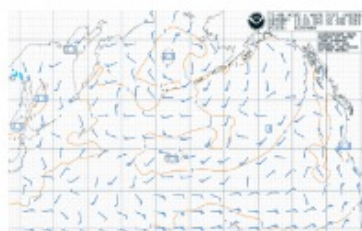
Updated: Sat, 24-Jun-2023 06:26:56 UTC



**48-hour wind & wave**

Loop: [3] [7] [14] Days

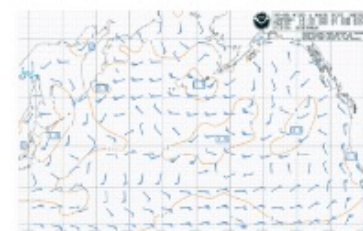
Updated: Sat, 24-Jun-2023 06:31:14 UTC



**72-hour wind & wave**

Loop: [3] [7] [14] Days

Updated: Fri, 23-Jun-2023 18:03:11 UTC



**96-hour wind & wave**

Loop: [3] [7] [14] Days

Updated: Sat, 24-Jun-2023 14:10:11 UTC

[https://ocean.weather.gov/Pac\\_tab.shtml](https://ocean.weather.gov/Pac_tab.shtml)





# OCEAN PREDICTION CENTER

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

ANALYSIS &amp; FORECAST

DATA

INFORMATION

NEWS

SEARCH

<https://ocean.weather.gov/ftpmail.php>

## FTPMail: Products via E-Mail

**NWS FTPmail Service**

**Send an email:**

NWS.FTPMail.OPS@noaa.gov

sea-state analysis

open  
cd fax  
get PJAA99.TIF  
quit

**Get a forecast back!**

ftpmail

to me

(Click to enlarge)

The National Weather Service's FTPmail service allows you to receive graphical and text products that you request over email. You send a short email with a list of ftp (file transfer protocol) commands and the service emails those products back to you.

### General Information

- [Detailed Instructions](#) and [alternate link Detailed Instructions \(updated 17 March 2023\)](#)
- [Commands](#)
- [Other systems providing products over email](#)

### Product Lists

#### Atlantic Radiofax Products





# Receiving information - FTPMAIL



## Directions

<https://ocean.weather.gov/ftpmail.php>

Email to: **NWS.FTPMail.OPS@noaa.gov**

Subject – any subject you like

**Example to receive instructions and header (filenames) of products for:**

1. Instructions.
2. Pacific radiofax products
3. Hawaii radiofax
4. Hurricane bulletin

## Body of email:

open

cd fax

get ftpcmd.txt

get rfaxpac.txt

get rfaxhi.txt

get marine2.txt

quit

## Received

tgftp.nws.noaa.gov:/marine2.txt (get marine2.txt) - NATIONAL WEATHER SERVICE MARINE TEXT PRODUCTS HL	10:22 am
tgftp.nws.noaa.gov:/rfaxhi.txt (get rfaxhi.txt) - NATIONAL WEATHER SERVICE RADIOFAX PRODUCTS for the Cen	10:22 am
tgftp.nws.noaa.gov:/rfaxpac.txt (get rfaxpac.txt) - NATIONAL WEATHER SERVICE RADIOFAX PRODUCTS for the f	10:22 am
tgftp.nws.noaa.gov:/ftpcmd.txt (get ftpcmd.txt) - ***FTPMAIL commands for ftpmail@ftpmail.nws.noaa.gov FTPMAIL	10:22 am





# Receiving information - FTPMAIL



## Directions

<https://ocean.weather.gov/ftpmail.php>

Email to: **NWS.FTPMail.OPS@noaa.gov**

Subject – any subject you like

## Body of email:

open

cd data

cd hurricane\_products

cd eastern\_pacific

cd weather

get outlook.txt

quit

**Example to receive instructions  
and header (filenames) of  
products for:  
1. Tropical Weather Outlook**

```
ZCZC MIATWOEP ALL  
TTAA00 KNHC DDHHMM
```

```
Tropical Weather Outlook  
NWS National Hurricane Center Miami FL  
500 AM PDT Sat Jun 24 2023
```

For the eastern North Pacific...east of 140 degrees west longitude:

1. Off the Southwestern Coast of Mexico:

A broad trough of low pressure located several hundred miles south of the southwestern coast of Mexico continues to produce a large area of disorganized showers and thunderstorms. Environmental conditions appear conducive for development of this system, and a tropical depression is expected to form during the early to middle part of next week while it moves generally west-northwestward, parallel to the southwestern coast of Mexico.

\* Formation chance through 48 hours...low...30 percent.

\* Formation chance through 7 days...high...90 percent.

2. South of Southern Mexico:

An area of low pressure could form early next week several hundred miles south of El Salvador, Guatemala, and southern Mexico. Some gradual development of this system is possible thereafter as it moves slowly west-northwestward, remaining offshore of the southern coast of Mexico.

\* Formation chance through 48 hours...low...near 0 percent.

\* Formation chance through 7 days...low...30 percent.

Forecaster Papin/Cangialosi





# Seven-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



← Central Pacific

All Disturbances

35N

25N

15N

5N

5:00 am PDT  
Sat Jun 24 2023

140W

130W

120W

110W

100W

90W

80W

[www.hurricanes.gov](http://www.hurricanes.gov)

Current Disturbances and Seven-Day Cyclone Formation Chance:    < 40%    40-60%    > 60%

Tropical or Sub-Tropical Cyclone:    Depression    Storm    Hurricane

   Post-Tropical Cyclone or Remnants





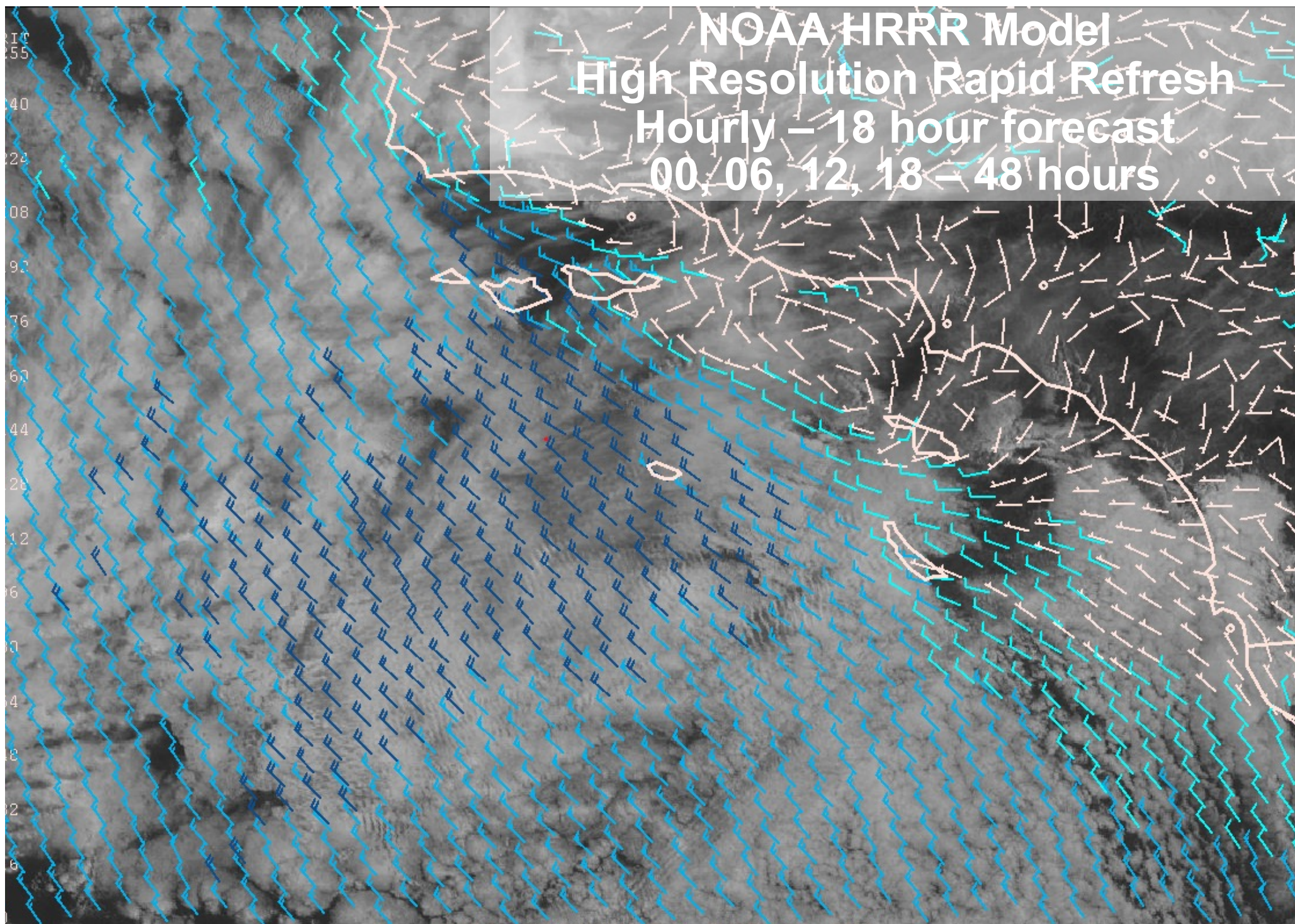
# Forecast Winds



- High Resolution Rapid Refresh (HRRR)
  - Hourly – 18 hours, Synoptic hours 00,06,12,18 UTC – 48 hours
  - CONUS
- Global Forecast System (GFS) – Winds and Waves
  - 6 hourly – 00,06,12,18 UTC – 15 days
    - Output - .25 deg, and .50 hourly hrly thru 120 hours
- NAM-Nest Hawaii
  - 6 hourly – 00,06,12,18 UTC – 60 hours
    - 3 km resolution
    - Output hourly
- National Digital Forecast Data Base
  - Forecaster derived winds, waves
  - Output – 3 hourly through 72 hours, then 6 hrly to 120 hours



**NOAA HRRR Model**  
**High Resolution Rapid Refresh**  
**Hourly – 18 hour forecast**  
**00, 06, 12, 18 – 48 hours**



HRRR SAT 230624/1600V002 10m BL WIND (10m; KTS)  
230624/1546 GOES18 CH02 VIS\_0.64





# North American Mesoscale Model - Hawaii



Cycle: 06/24/2023 06UTC ▾

<Prev Cyc

Next Cyc>

<< Prev

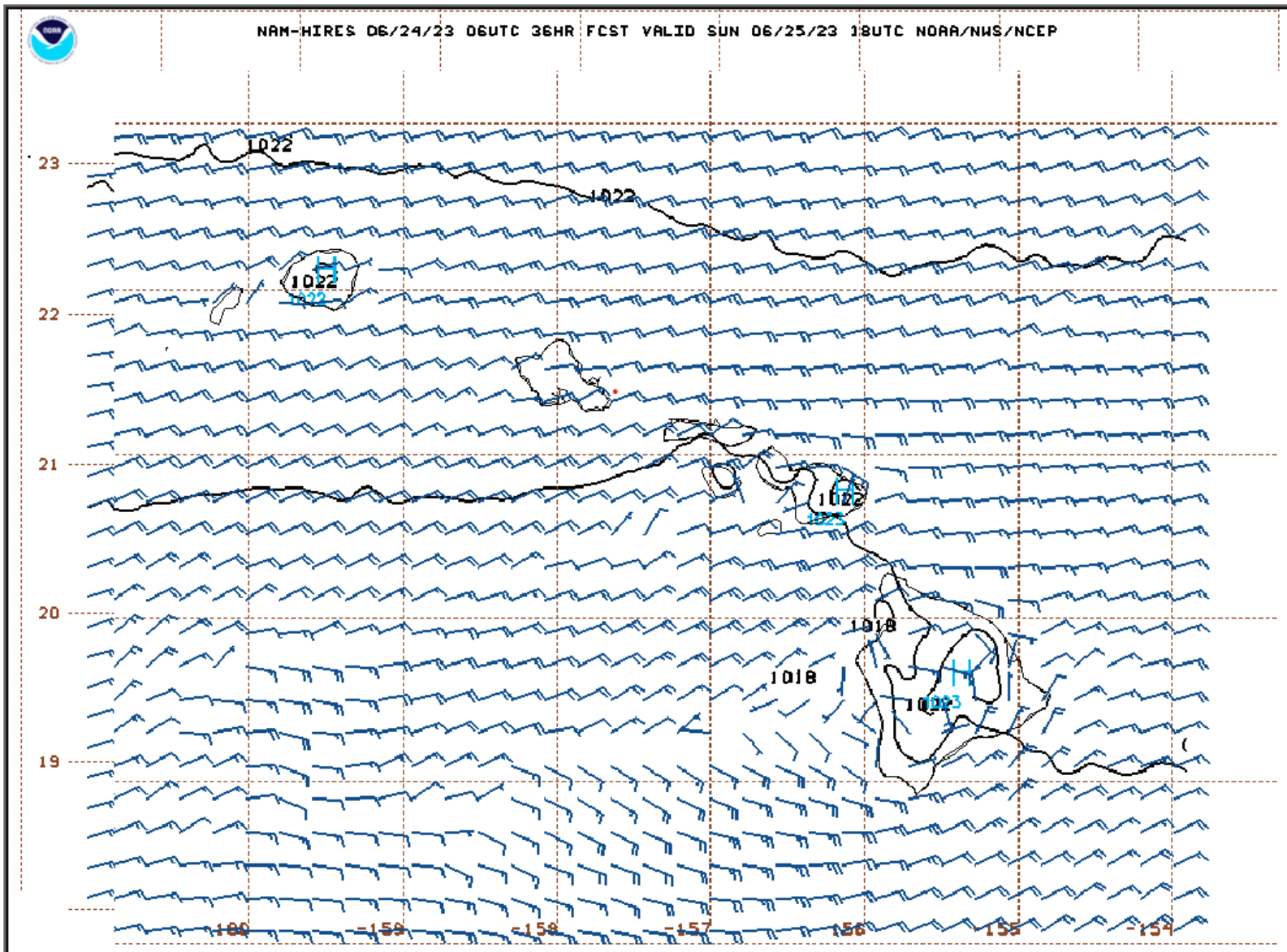
Un-Zoom

Page Help

Product Description

Forecast Hour: 036

Image URL: [http://mag.ncep.noaa.gov/data/nam-hires/06/nam-hires\\_hawaii\\_036\\_10m\\_wnd.gif](http://mag.ncep.noaa.gov/data/nam-hires/06/nam-hires_hawaii_036_10m_wnd.gif)





# National Digital Forecast Database Display

Oceanic



Wind Speed (kts)



At Jun 29, 5 PM PDT



Sat

Sun

Mon

Tu

5

10

15

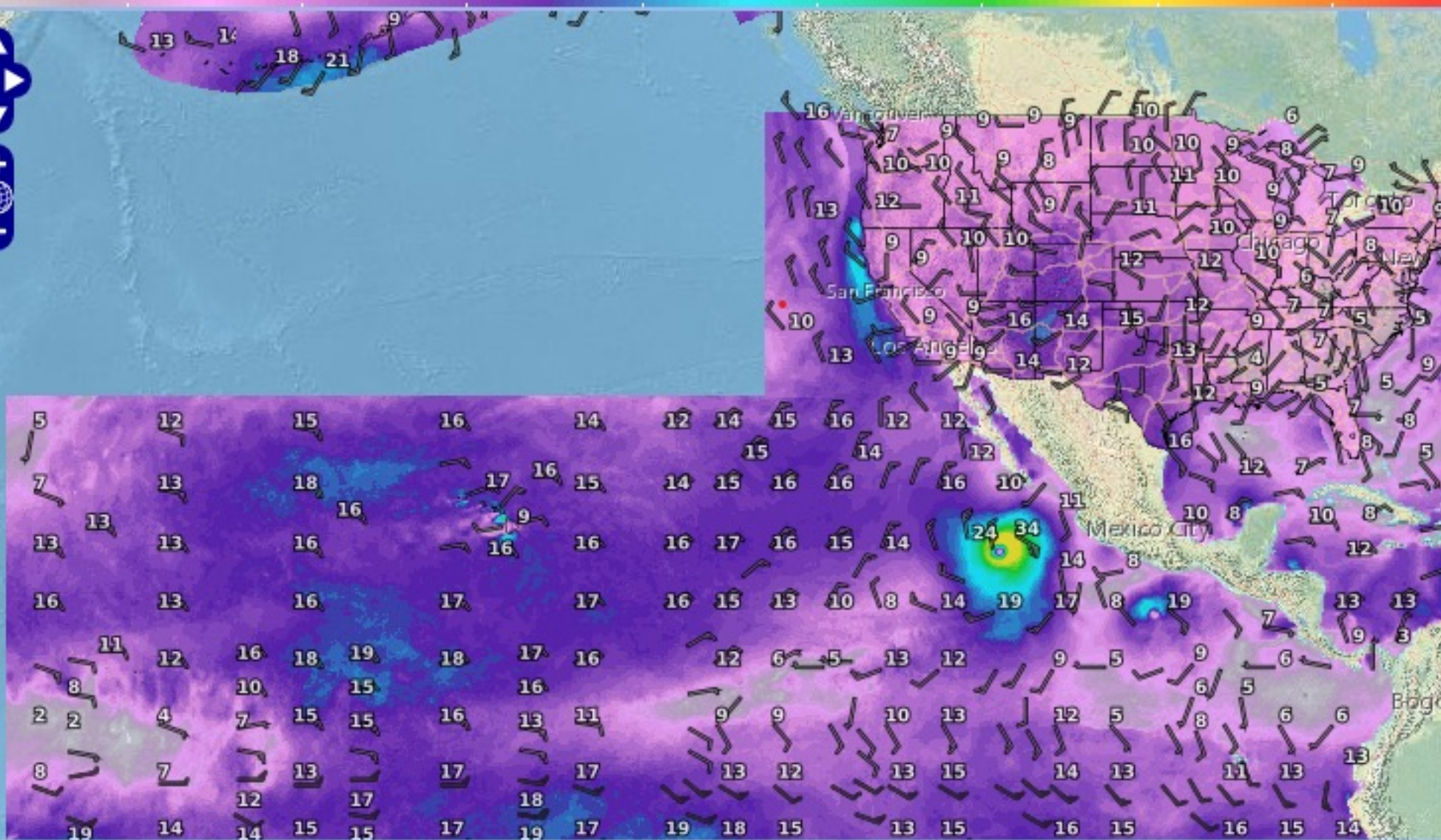
20

25

30

35

40



Wind Speed (kts)

Valid at: Thu, Jun 29 2023, 5 PM PDT

Issued: Jun 24 at 10:00 AM PDT





# Summary



- Balance the information you use – routing tools,
  - and authoritative information - NOAA
  - Update frequently
- Recommend you are familiar with products such as:
  - Tropical Weather Outlook (TWO)
  - Tropical Cyclone Messages (TCM), schedule/ how to receive
    - National Hurricane Center (east of 140 W)
      - eastern\_pacific
    - Central Pacific Hurricane Center (west of 140W)
      - central\_pacific
    - High Seas Text Bulletins - FZPN02 KWBC HSFEPI
- Climate scale – Strengthening El Nino – potential weaker trades
  - MJO – not a factor
  - EPAC High re-established Jun 30<sup>th</sup> and beyond
  - Tropical Cyclone activity – potential first 5-7 days well south