

## **Summary of Key Briefing Points**

**1030-1130am MST THU Feb 18, 2016**

# Current Conditions as of WED 12Z-15Z February 17

## Tropics and Mid-latitudes

### *Over the Tropical Pacific:*

- Convection: Strong convection in the SH, west of 160W
- Convective flarup 163W-157W, 1-4N
- Upper level S/SE winds in FD,
- Strong cross-equatorial flow, SH anticyclone and Divergent mass outflow

# Tropical Outlook

- GFS EC models agree on convection on the central and western portion of FD
- Poleward outflow from convection in SH to thru Fri

# Midlatitude Conditions/Outlook

## Short Term:

- CA Sierra 1" additional rain expected Thu

## Medium - Long Term:

- Reforecasts suggest only minor rains in Southern CA for the next week -
- WCOAST ridge Fri-early mid next week
- Week 2-3 in EC and GFS indicate major change in the Pacific circulation
  - \* Cross-equatorial mass flow from SH, as SPCZ convection intensifies
  - \* Westerly jet near 30-35N, intensifies east of Hawaii
  - \* Deep sfc low pressure begins to take shape in east NPacific

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## NOAA: Elusive El Niño arrives

Forecasters predict it will stay weak, have little influence on weather and climate

March 5, 2015

The long-anticipated El Niño has finally arrived, according to forecasters with NOAA's Climate Prediction Center. In their updated monthly outlook released today, forecasters issued an El Niño Advisory to declare the arrival of the ocean-atmospheric phenomenon marked by warmer-than-average sea surface temperatures in the central Pacific Ocean near the equator.

Due to the weak strength of the El Niño, widespread or significant global weather pattern impacts are not anticipated. However, certain impacts often associated with El Niño may appear this spring in parts of the Northern Hemisphere, such as wetter-than-normal conditions along the U.S. Gulf Coast.

"Based on the persistent observations of above-average sea surface temperatures across the western and central equatorial Pacific Ocean and consistent pattern of sea level pressure, we can now say that El Niño is here," said Mike Halpert, deputy director, NOAA's Climate Prediction Center, and ENSO forecaster. "Many climate prediction models show this weak El Niño continuing into summer."

Forecasters say it is likely (50 to 60 percent chance) that El Niño conditions will continue through the summer. The last El Niño, in 2009-2010, was a moderate to strong event. Other recent El Niños took place from 2002-2003 (moderate), 2004-2005 (weak), 2006-2007 (weak to moderate). The last very strong El Niño was 1997-1998 and was known for providing heavy rainfall in the West, especially California. As for this year, "this El Niño is likely too late and too weak to provide much relief for drought-stricken California," added Halpert.

NOAA scientists will continue to monitor the situation and will issue its next monthly update on April 9.

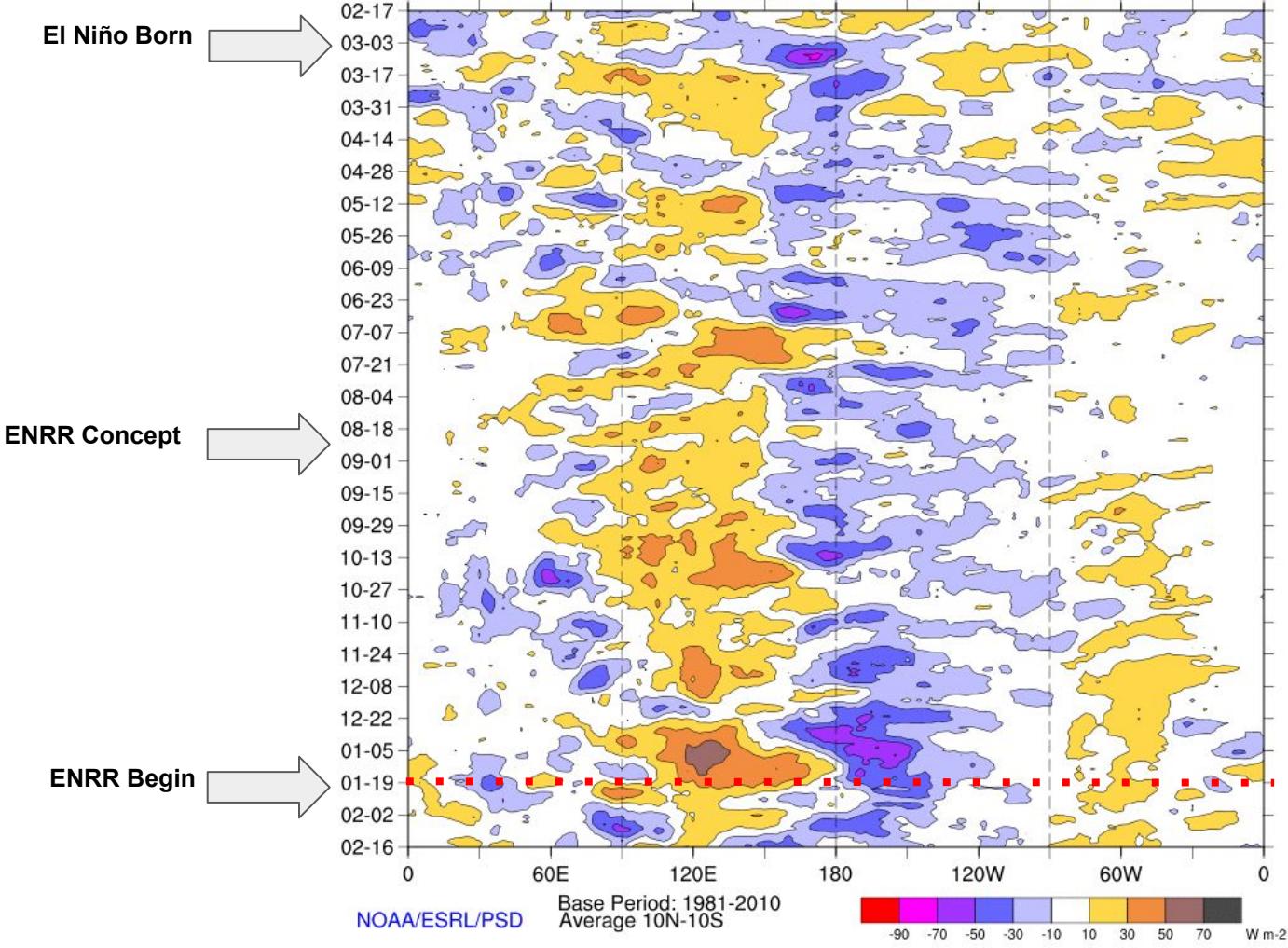
NOAA's mission is to understand and predict changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Join us on [Facebook](#), [Twitter](#), [Instagram](#) and our other [social media channels](#).

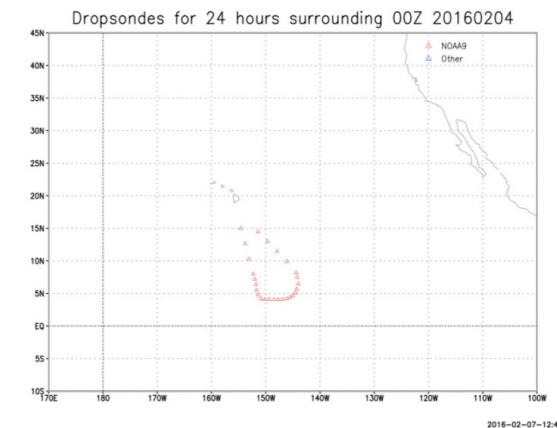
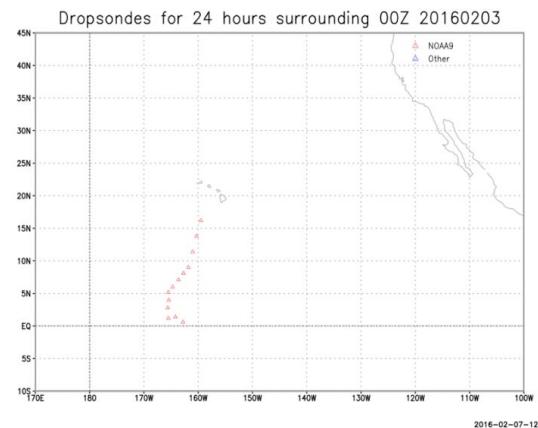
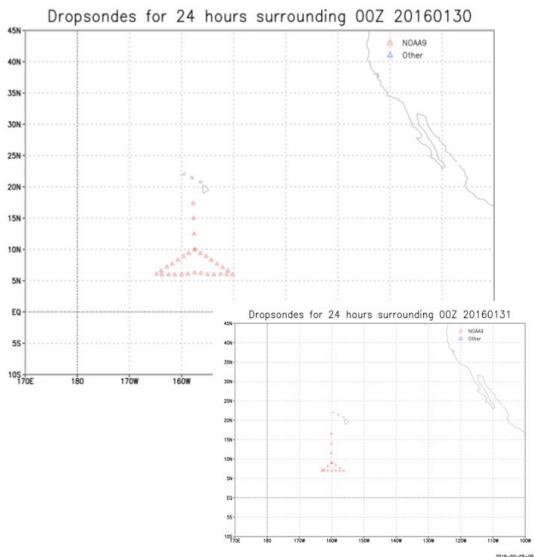
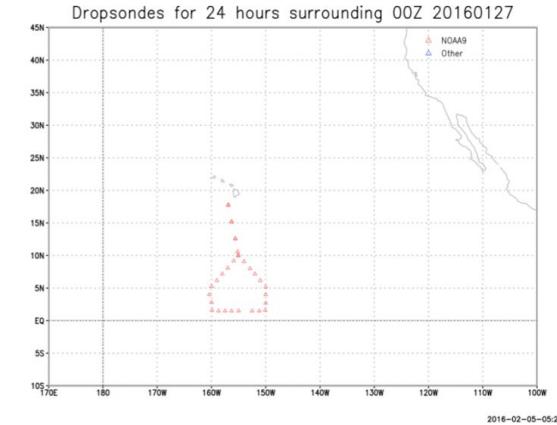
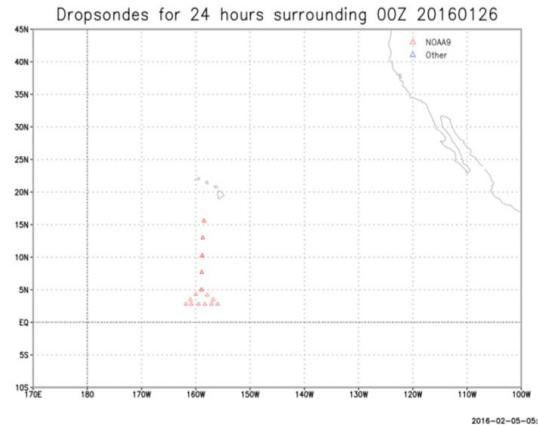
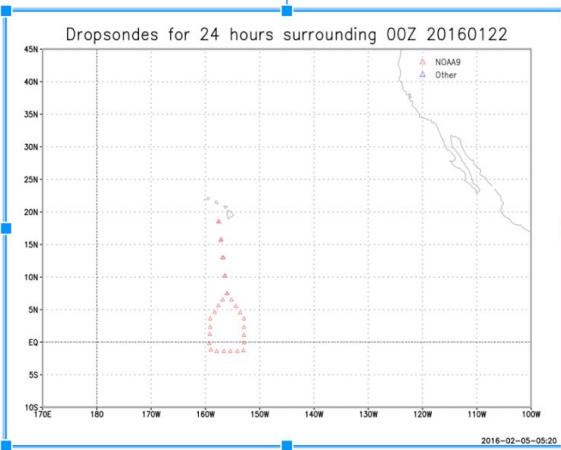
El Niño Arrives in 2015. This image shows the average sea surface temperature for February 2015 as measured by NOAA satellites. The large area of red (warmer than average) can be seen extending through the equatorial Pacific. (Credit: U.S. Navy)

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# Outgoing Longwave Radiation (OLR) Anomalies

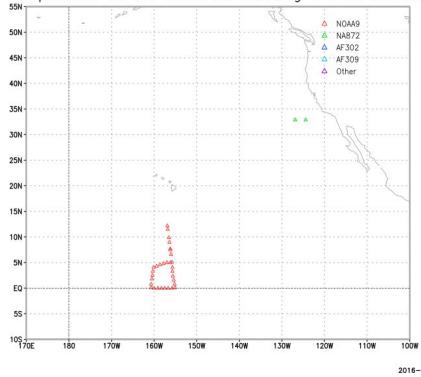
2015/02/17 - 2016/02/16



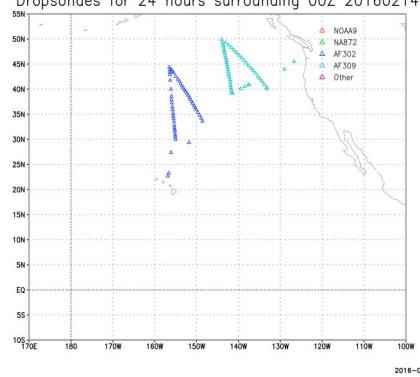


## G-IV Missions: Dropsonde Input to NOAA Global Analysis

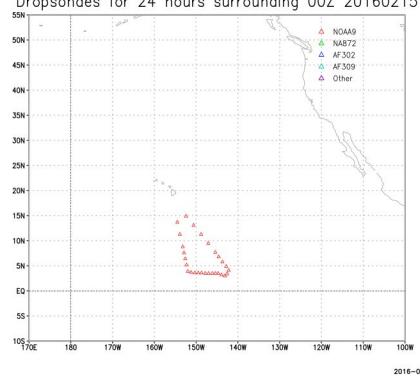
Dropsondes for 24 hours surrounding 00Z 20160213



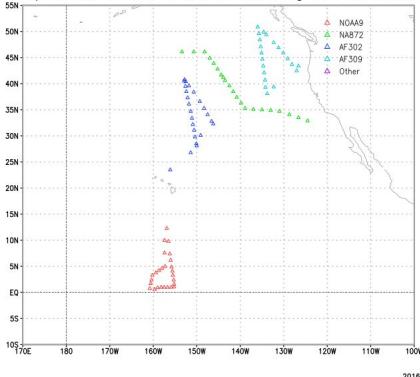
Dropsondes for 24 hours surrounding 00Z 20160214



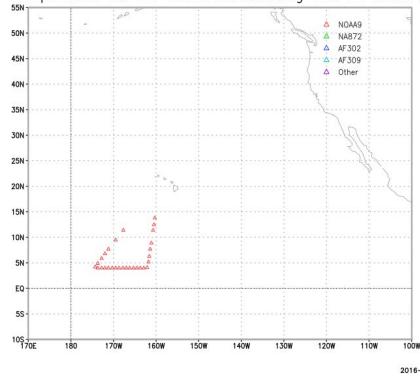
Dropsondes for 24 hours surrounding 00Z 20160215



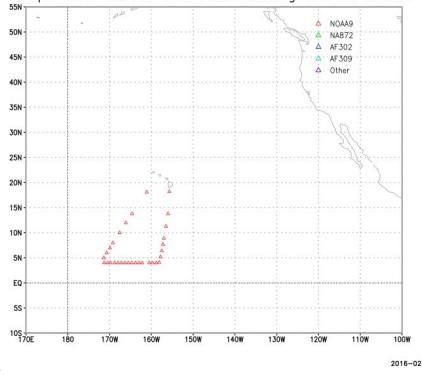
Dropsondes for 24 hours surrounding 00Z 20160216



Dropsondes for 24 hours surrounding 00Z 20160217

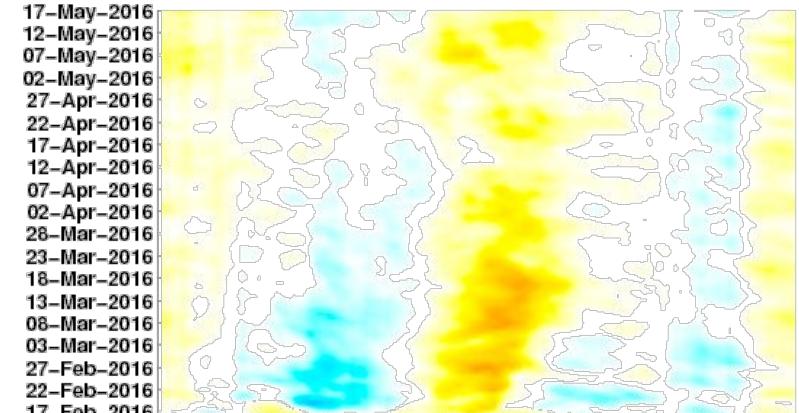


Dropsondes for 24 hours surrounding 00Z 20160218



**WED**

### Real Time CFS 800/850 hPa U-Wind – 7.5S to 7.5N



Date

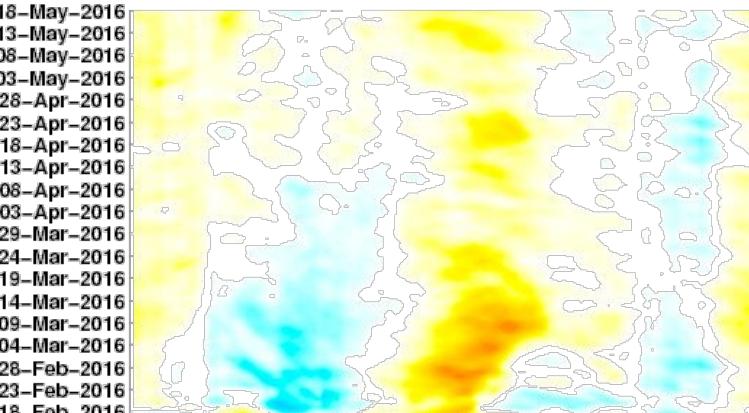
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12-May-2016  
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02-Apr-2016  
28-Mar-2016  
23-Mar-2016  
18-Mar-2016  
13-Mar-2016  
08-Mar-2016  
03-Mar-2016  
27-Feb-2016  
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20-Oct-2015

17-Feb-2016 12:37:20 | www.KyleMacRitchie.com/tropics

Longitude

-20 -15 -10 -5 0 5 10 15 20

### Real Time CFS 800/850 hPa U-Wind – 7.5S to 7.5N



Date

18-May-2016  
13-May-2016  
08-May-2016  
03-May-2016  
28-Apr-2016  
23-Apr-2016  
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18-Feb-2016 12:37:04 | www.KyleMacRitchie.com/tropics

Longitude

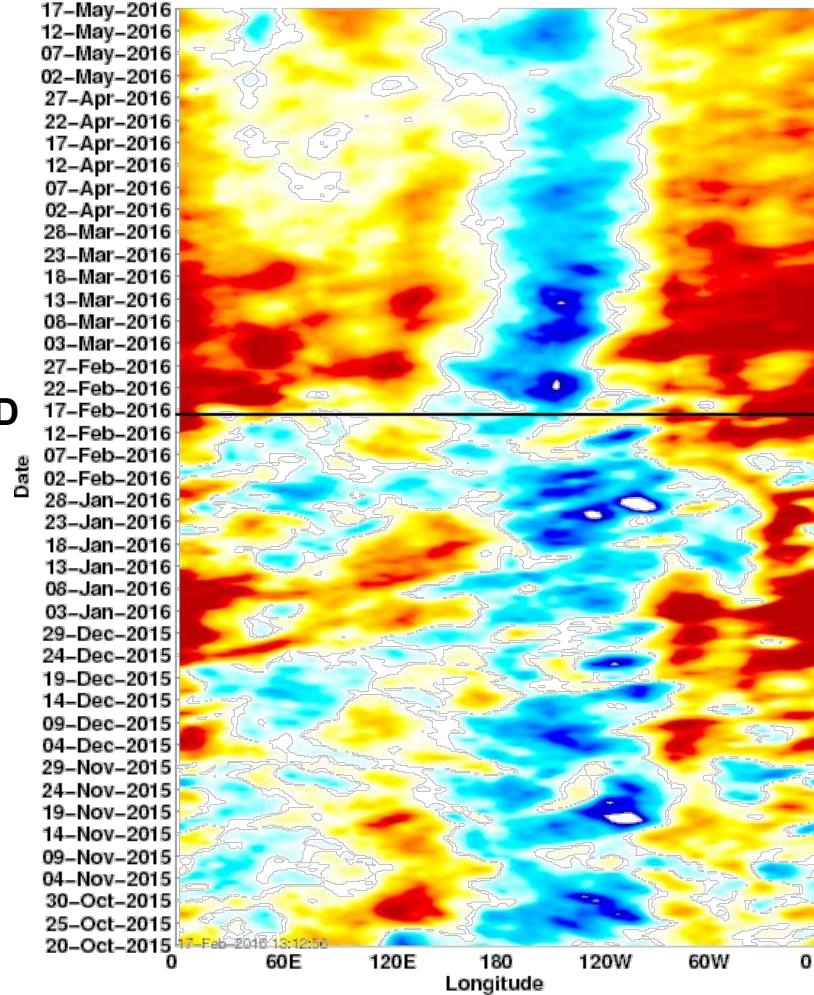
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**THU**

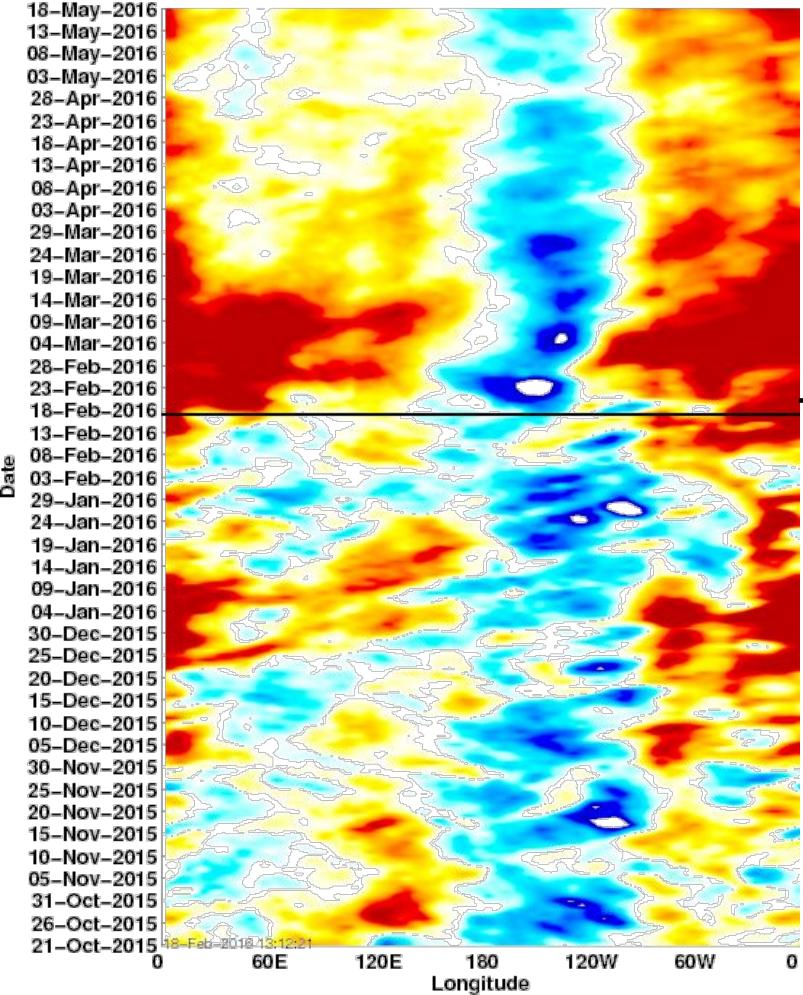
# Real Time CFS 200 hPa U-Wind – 7.5S to 7.5N

# Real Time CFS 200 hPa U-Wind – 7.5S to 7.5N

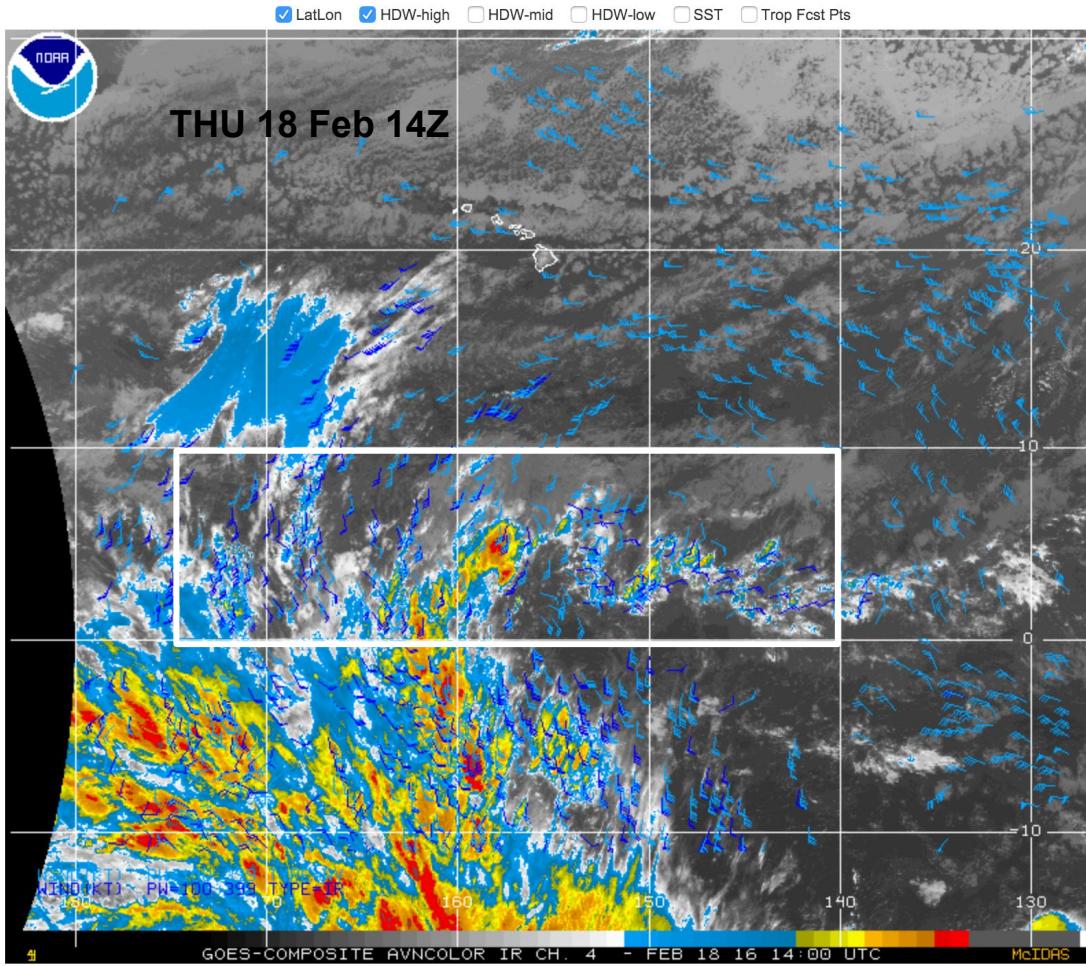
**WED**



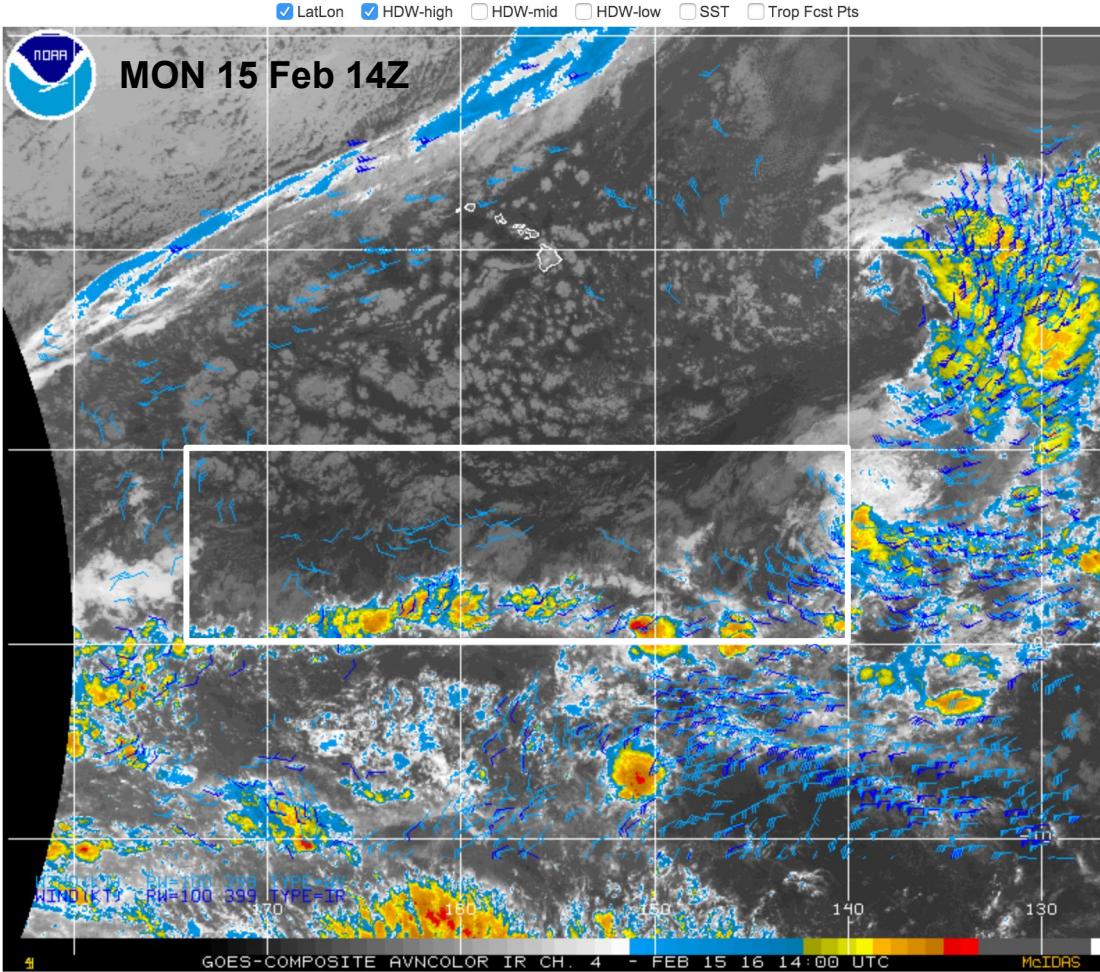
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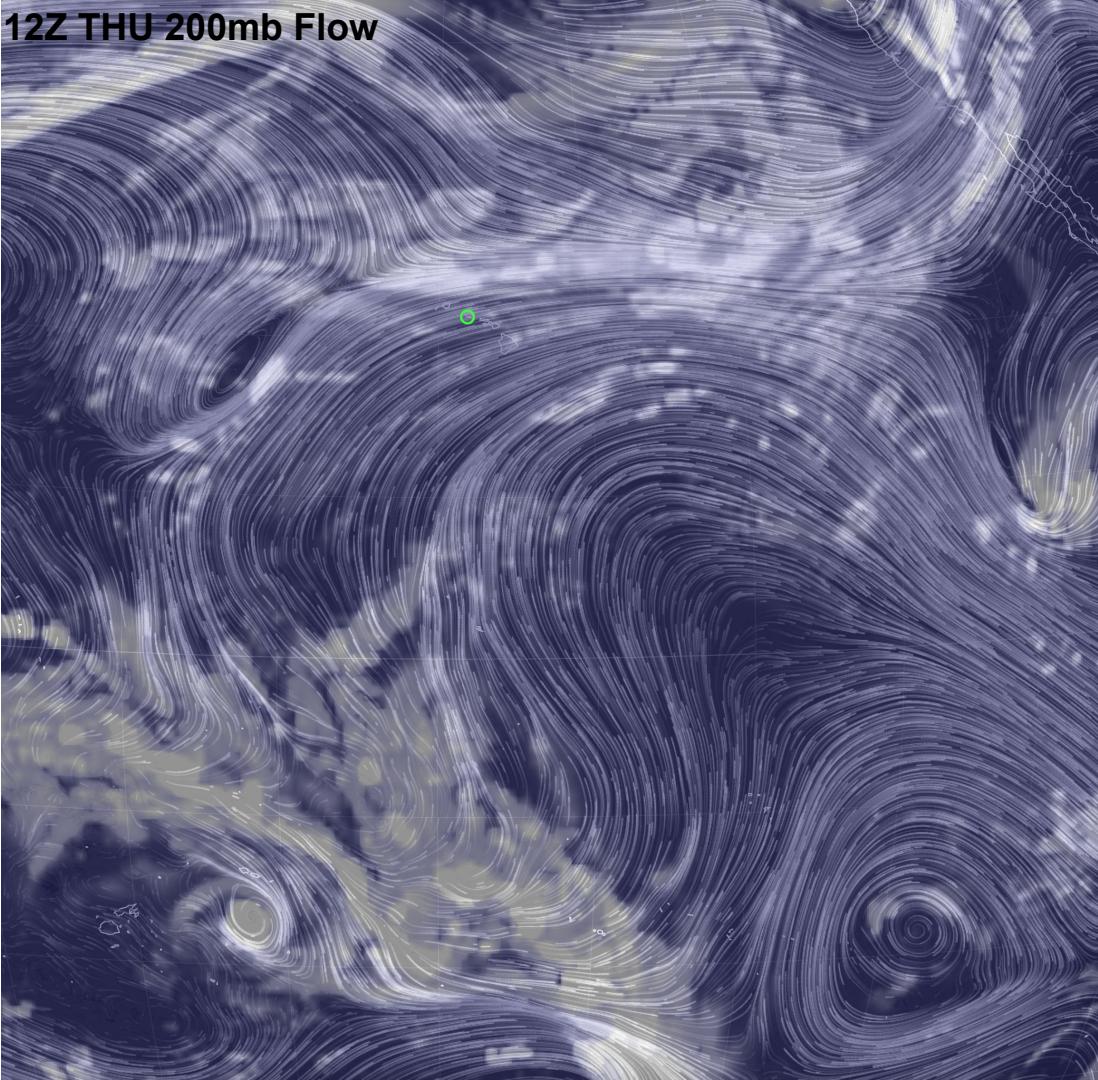
# GOES Composite - El Niño Support – AVN Color Infrared Loop



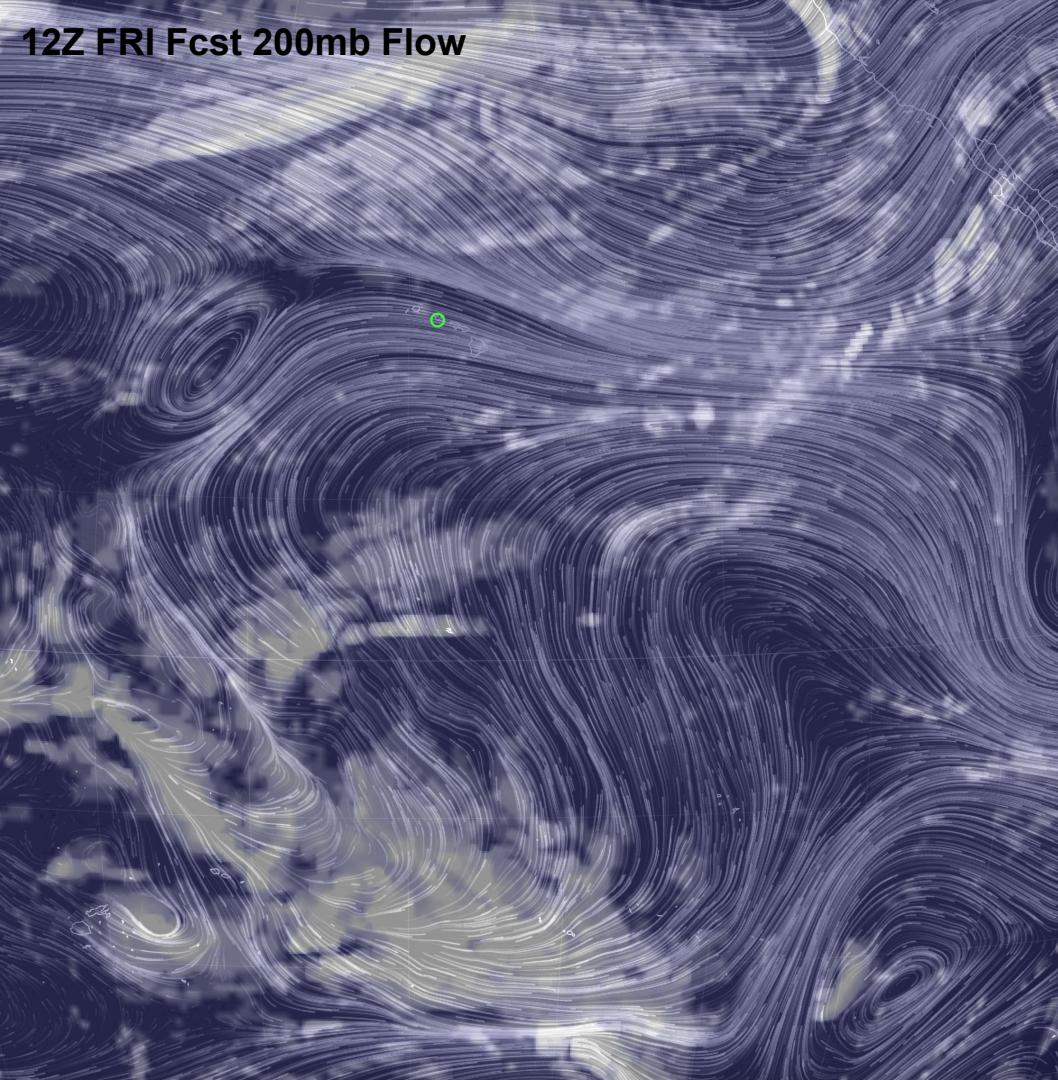
# GOES Composite - El Niño Support – AVN Color Infrared Loop

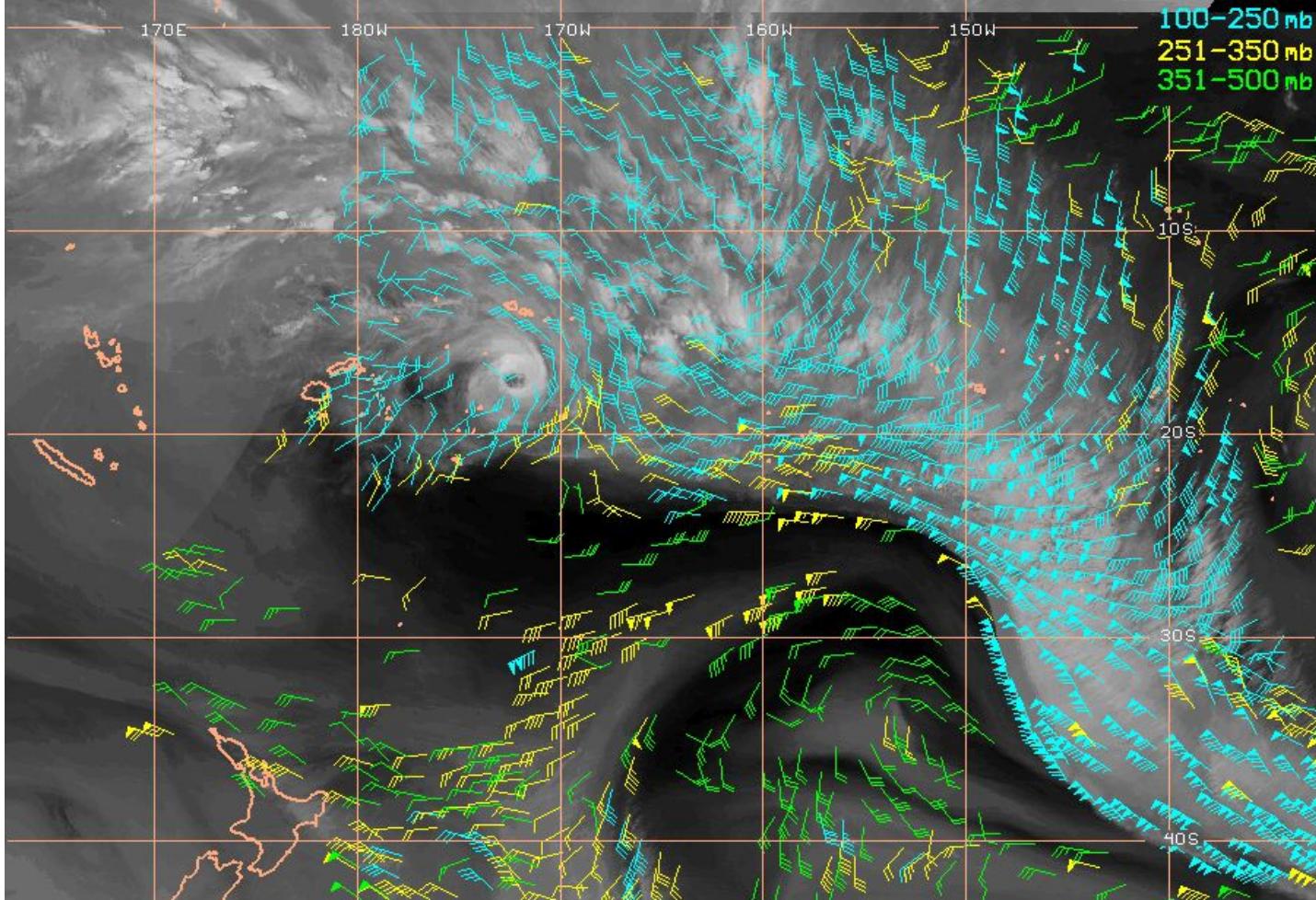


**12Z THU 200mb Flow**

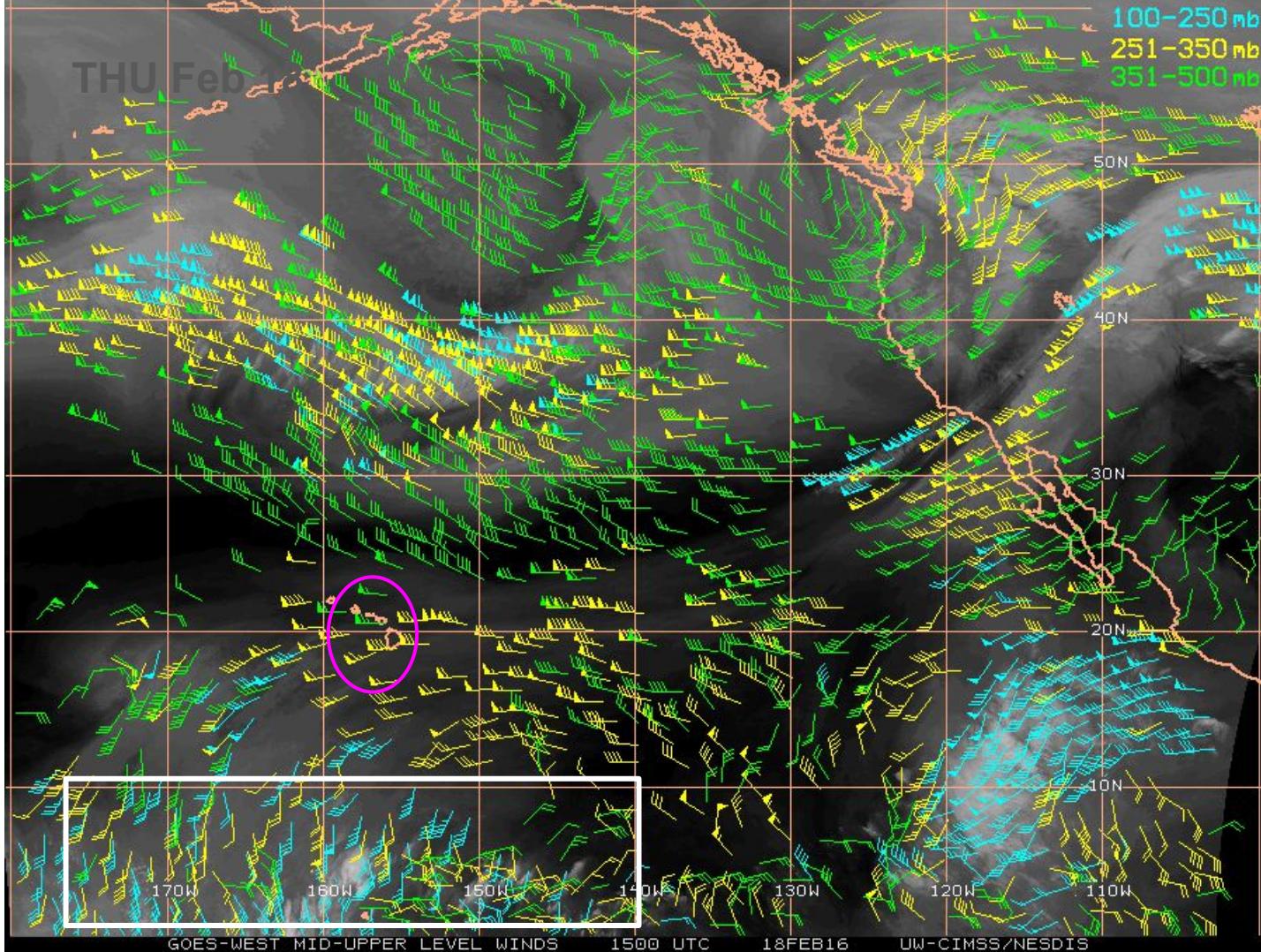


# 12Z FRI Fcst 200mb Flow



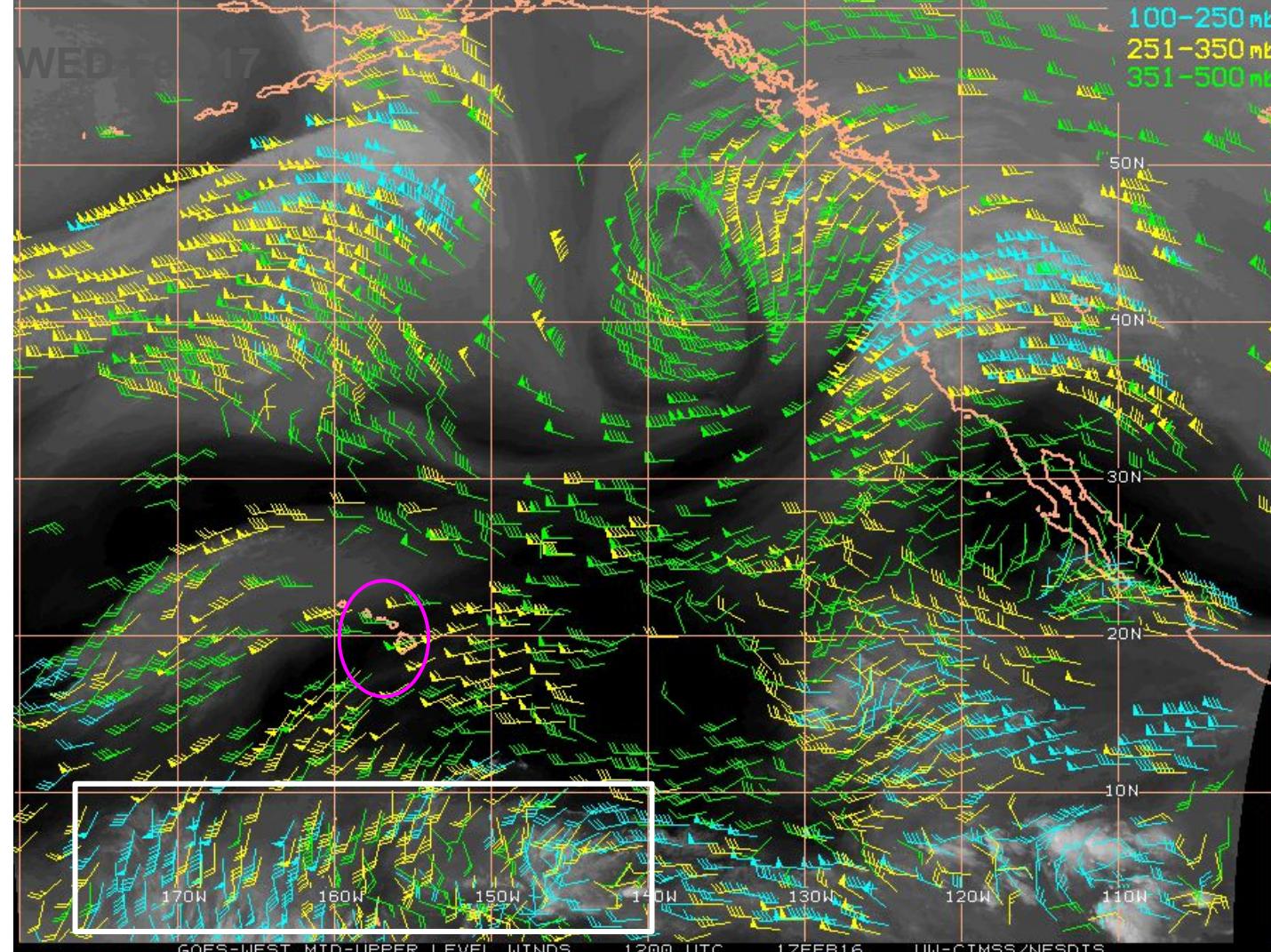


THU Feb



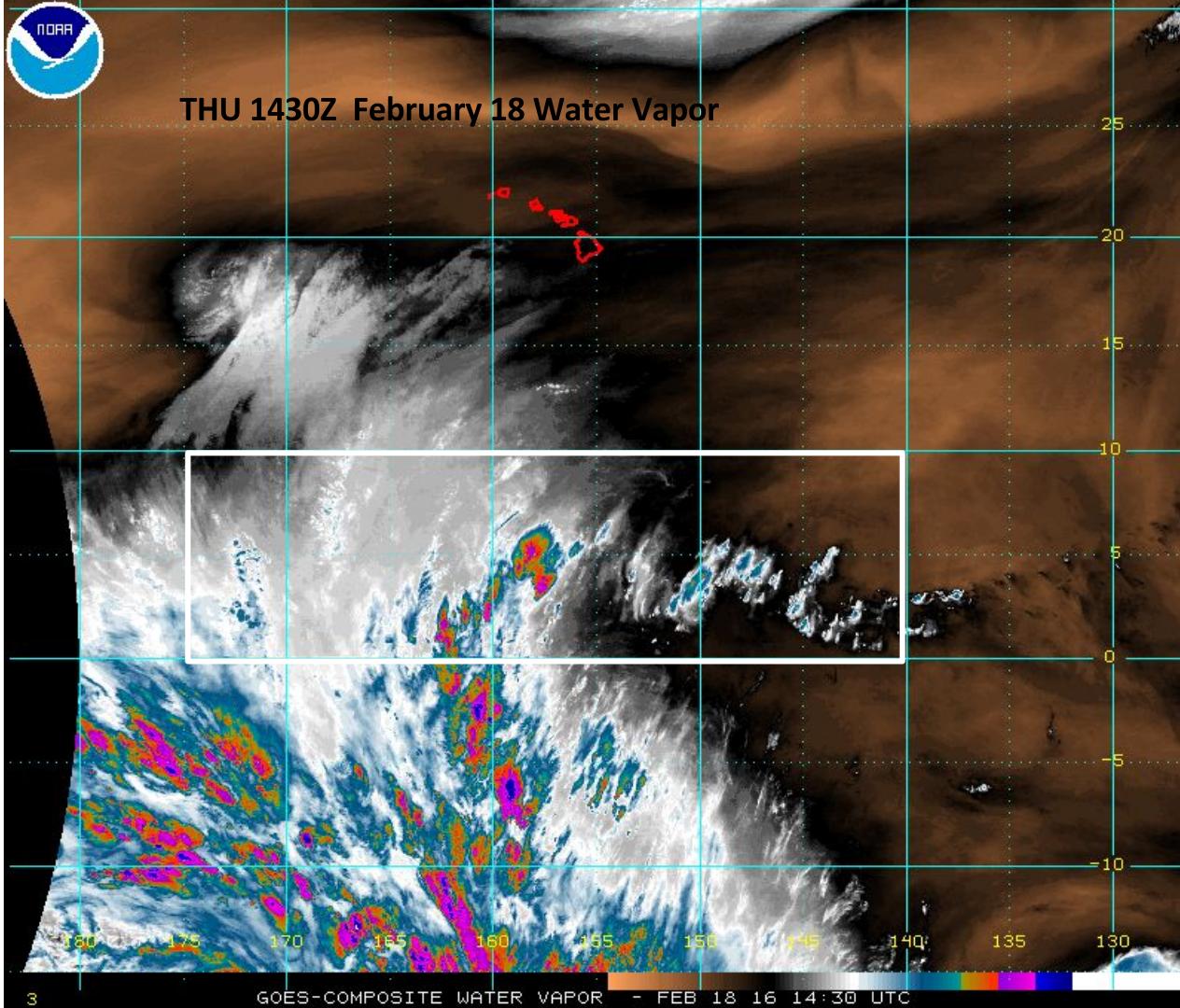
WED 17 FEB 17

100-250 mb  
251-350 mb  
351-500 mb



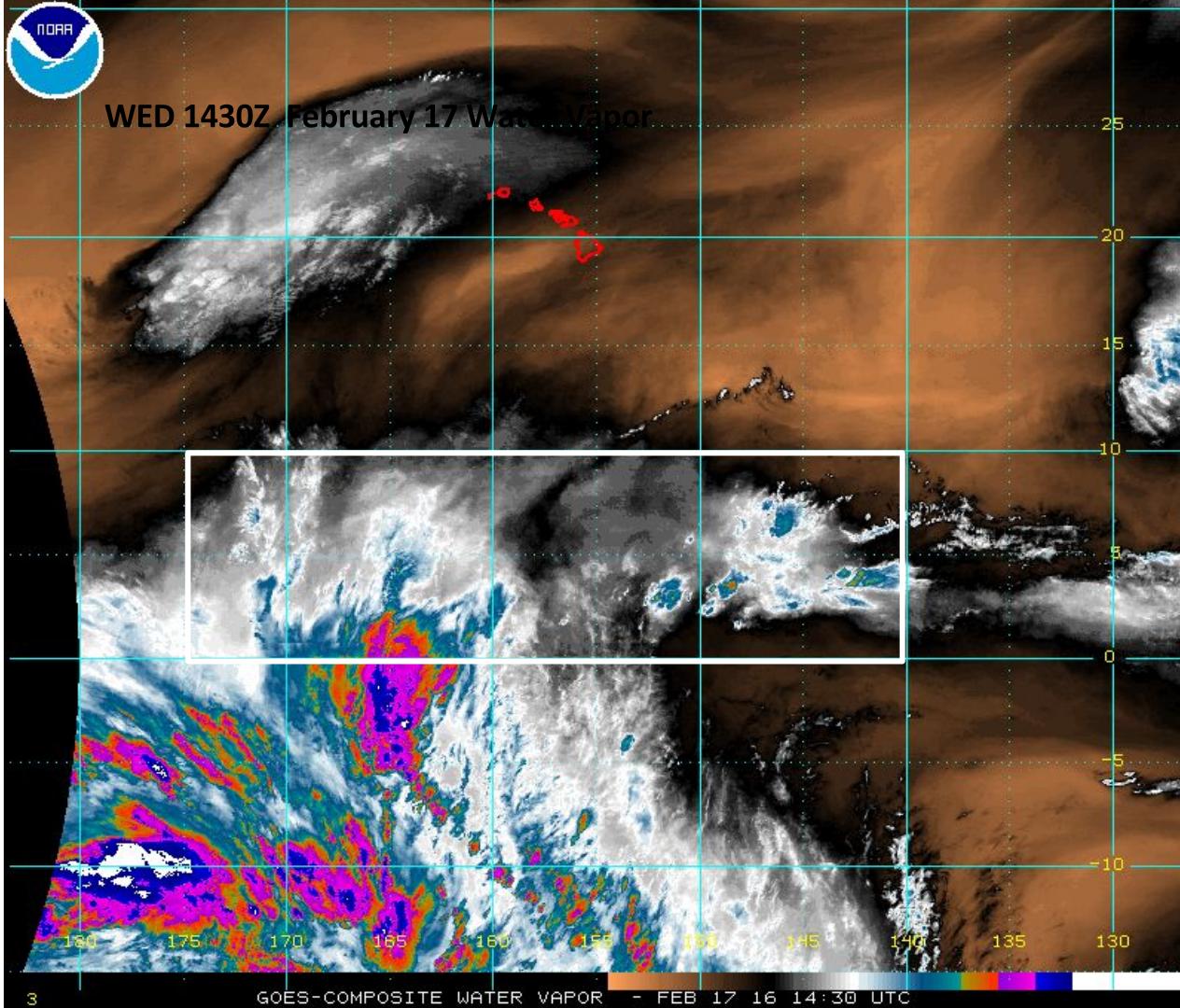


THU 1430Z February 18 Water Vapor

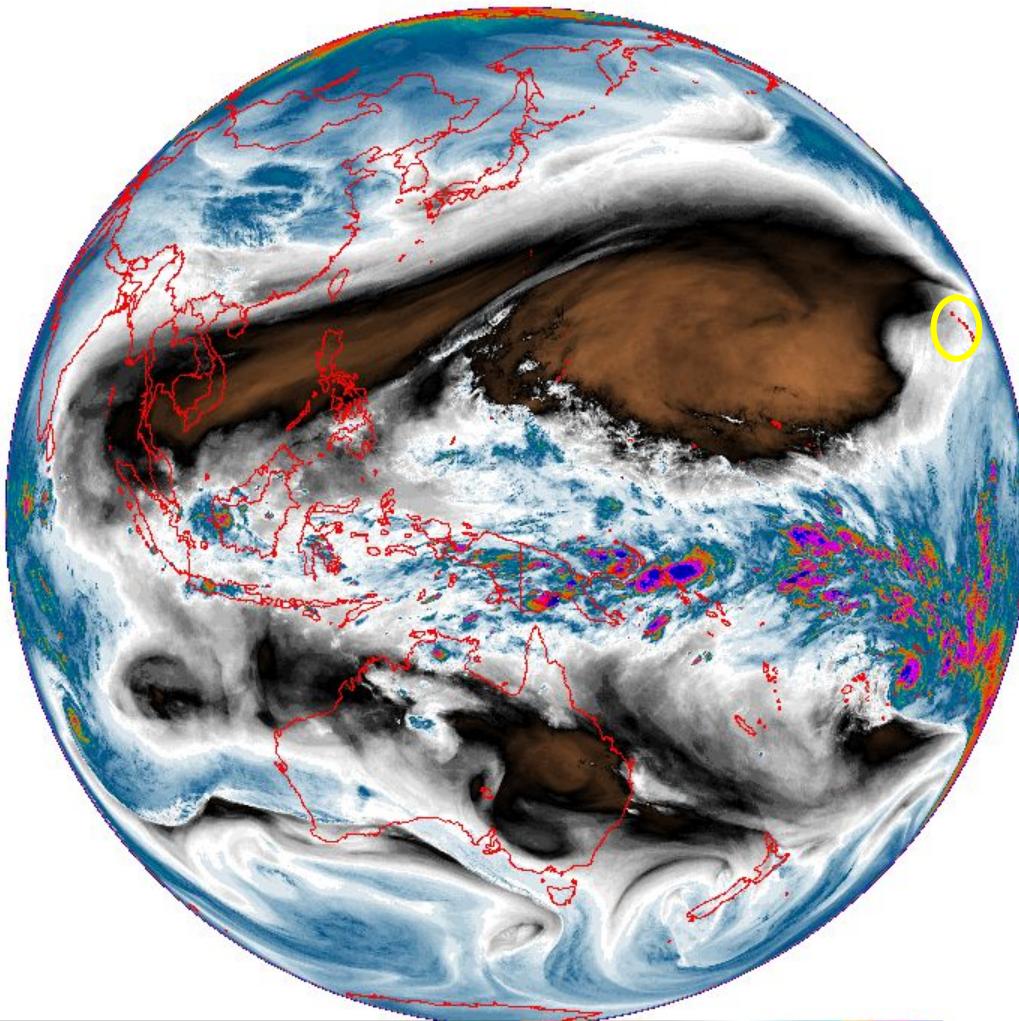




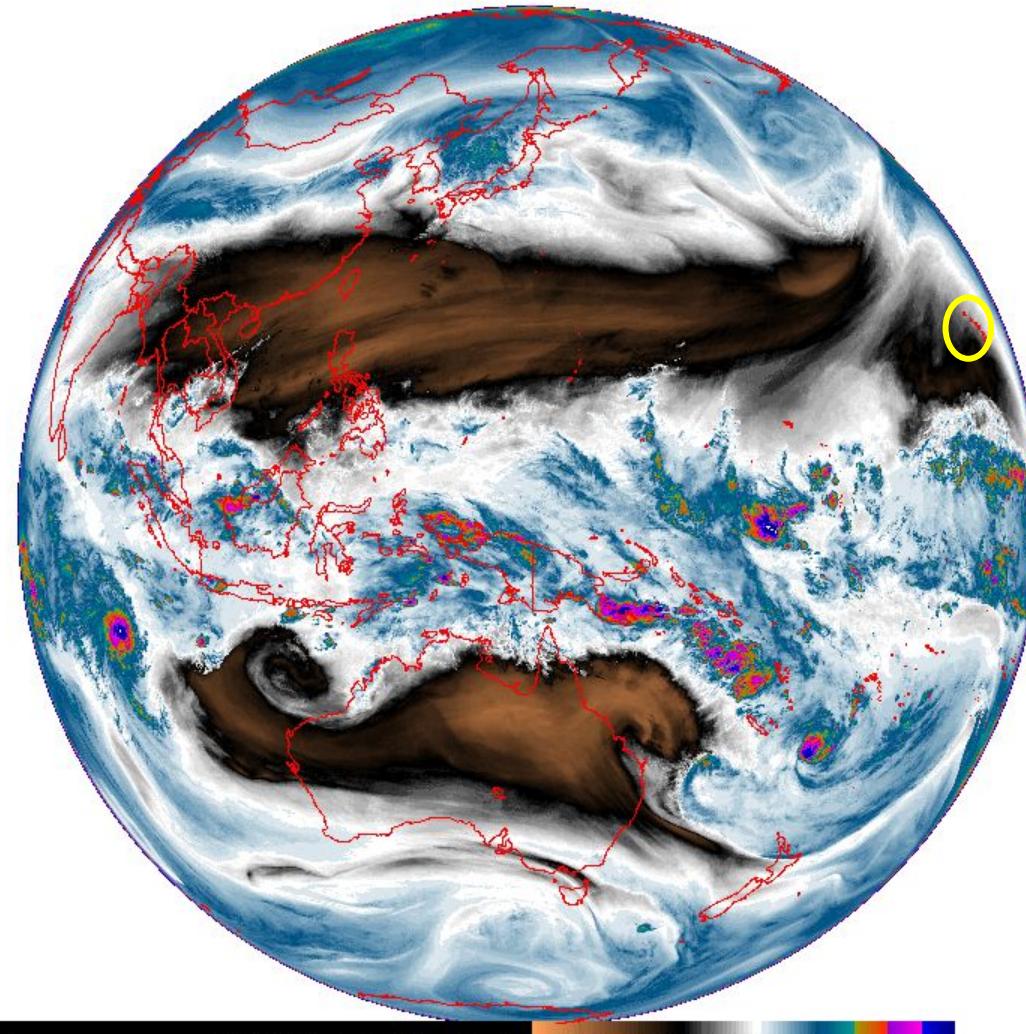
WED 1430Z, February 17 Water Vapor



Water Vapor  
14Z THU



Water Vapor  
14Z SAT



**Kiritimati  
Sonde-Poetry  
1125Z THU**

120LT, 1120IT: Launch mostly cloudy, moon a bright spot the west.  
Saw a couple of stars through breaks in clouds.

130LT: Can see moonglow in high cloud shield, moon blocked by  
small,  
low cumulus cloud. A few stars/planets visible through clearings to  
east.

200LT: Venus (?) visible overhead. Can see many stars overhead,  
and  
to east and southeast. Moonglow visible through cloud shield to west.  
Seems to be clearing.

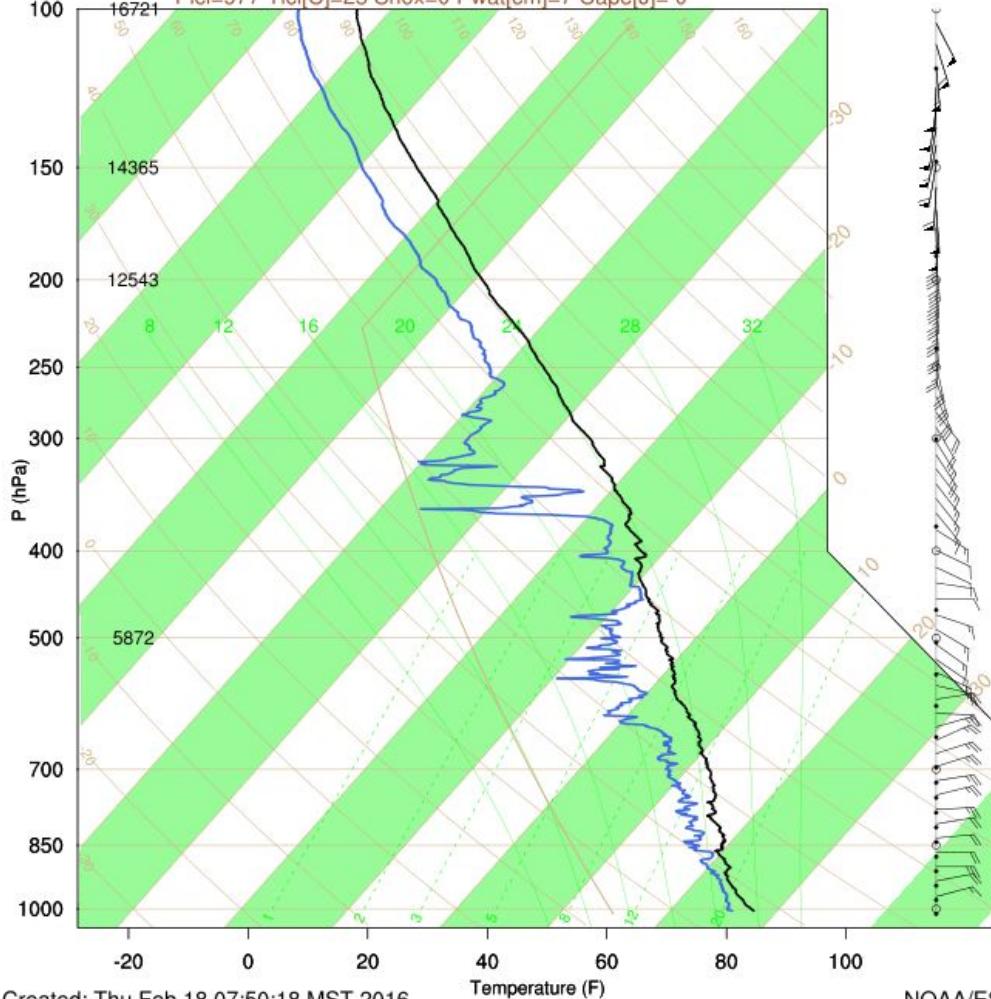
230LT: Stars visible from about 45 degrees above west horizon all  
the  
way to east and south. North and west skies show clouds. Definitely  
clearing.

315LT: Walk over just after a short rain shower.

Kiritimati Is: 02/18/2016 1120Z 2.01N 157.40W

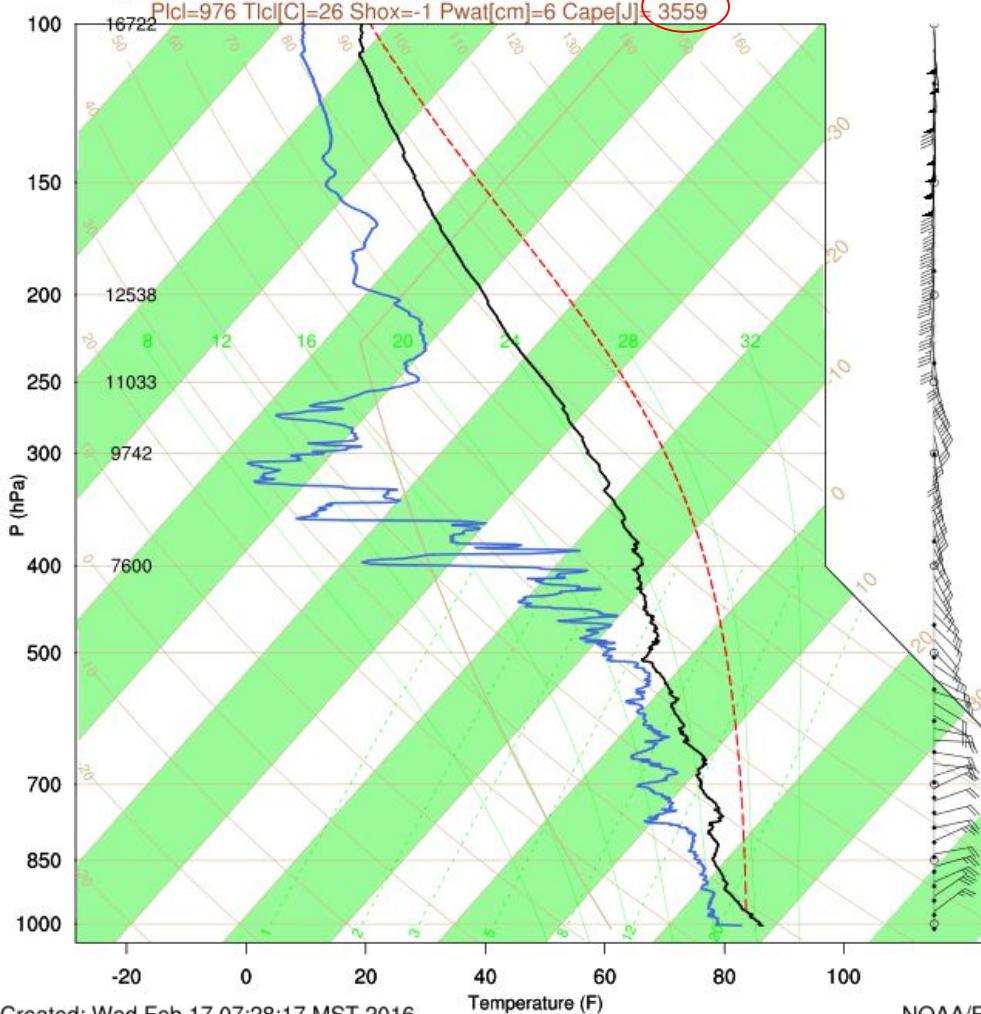
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## Kiritimati Sonde 1120Z THU



# Kiritimati Sonde 1125Z WED

Kiritimati Is: 02/17/2016 1125Z 2.01N 157.40W



At launch (1:25LT, 11:25UT), moon behind high clouds to west. Many stars above. Still windy (gusty 7.5 m/s).

135LT: Better observations:  
Moon is in high cirrus to west, above cumulus clouds low on western horizon.  
Sky is mainly clear elsewhere, with stars visible overhead and to south, east, and north, down to moist surface layer.

2:45LT: Stars visible in a lot of sky, though there seems to be a thin layer of clouds, stars seem dim. Saw an airplane headed N/NE.

305LT: Stars and broken cirrus overhead. May not be quite as breezy as earlier. Sonde on way down.

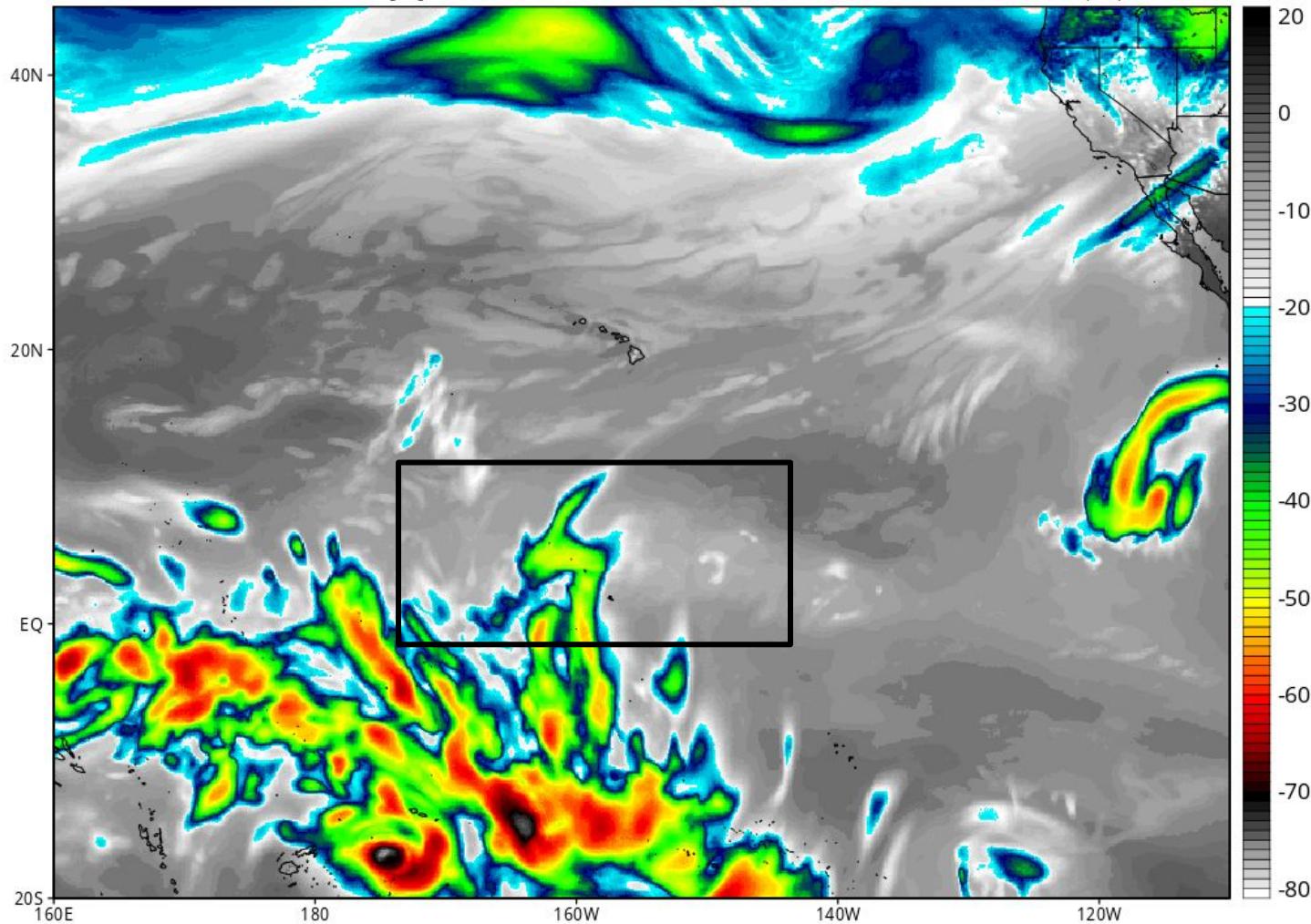
330LT: on walk over, decided it is still more breezy than usual  
Paul

### GFS Simulated IR Brightness Temperature (°C)

Init: 12z Feb 18 2016 Forecast Hour: [12] valid at 00z Fri, Feb 19 2016

### Latest 12 HR GFS Valid 00Z FRI

Levi Cowan | [tropicaltidbits.com](http://tropicaltidbits.com)

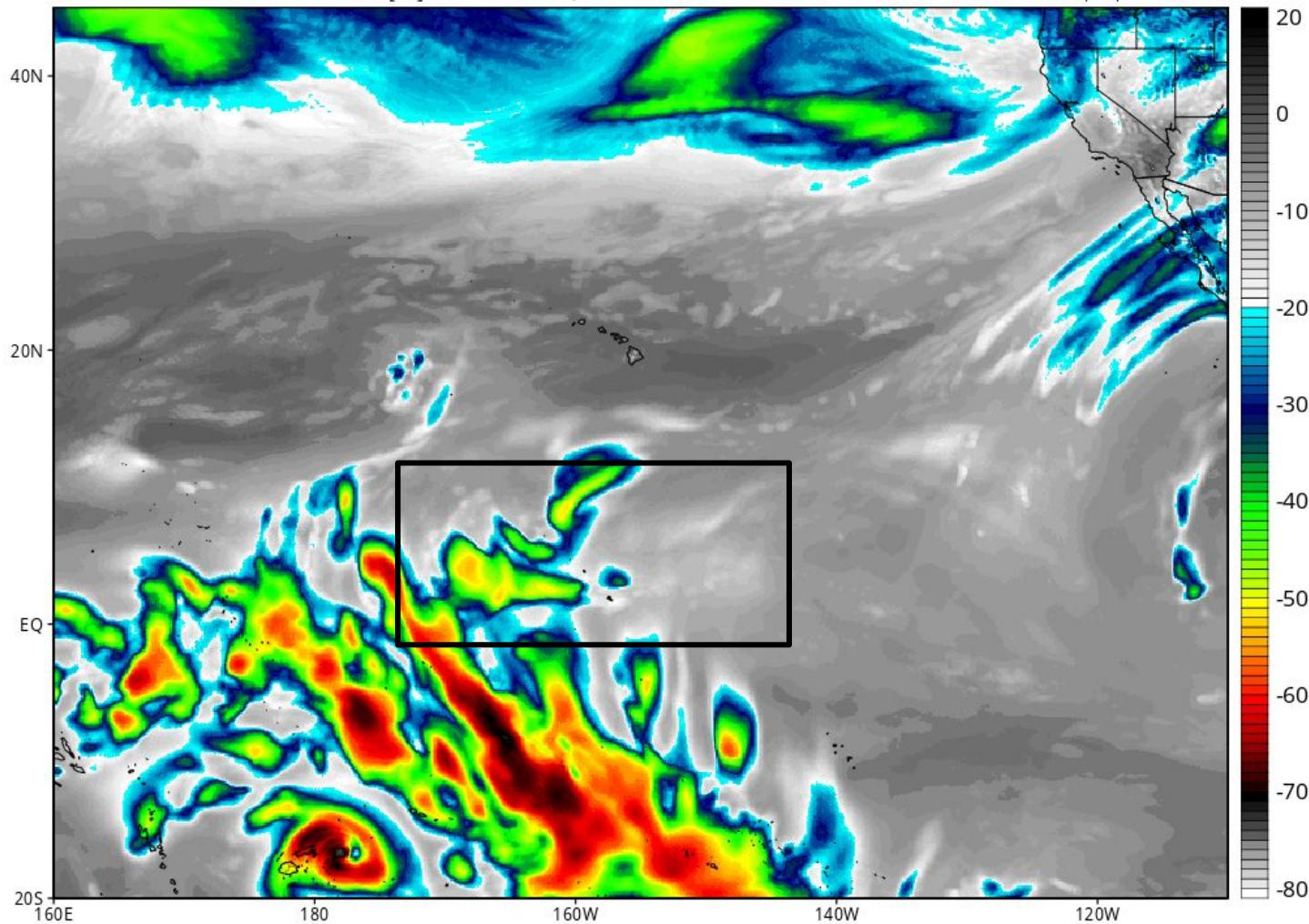


# GFS Simulated IR Brightness Temperature (°C)

Init: 12z Feb 18 2016 Forecast Hour: [36] valid at 00z Sat, Feb 20 2016

# Latest 36 HR GFS Valid 00Z SAT

Levi Cowan | [tropicaltidbits.com](http://tropicaltidbits.com)

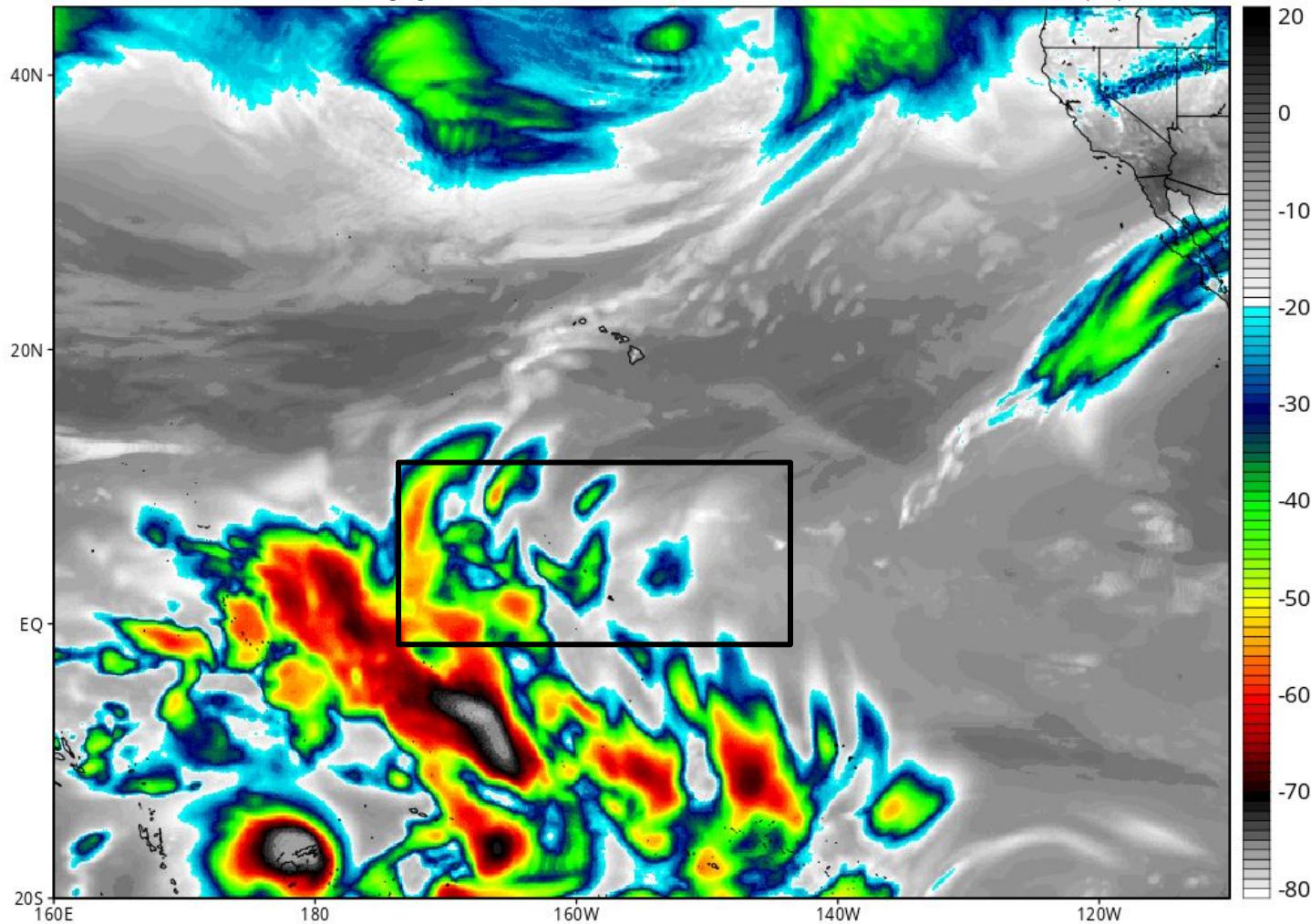


# GFS Simulated IR Brightness Temperature (°C)

Init: 12z Feb 18 2016 Forecast Hour: [60] valid at 00z Sun, Feb 21 2016

# Latest 60 HR GFS Valid 00Z SUN

Levi Cowan | [tropicaltidbits.com](http://tropicaltidbits.com)

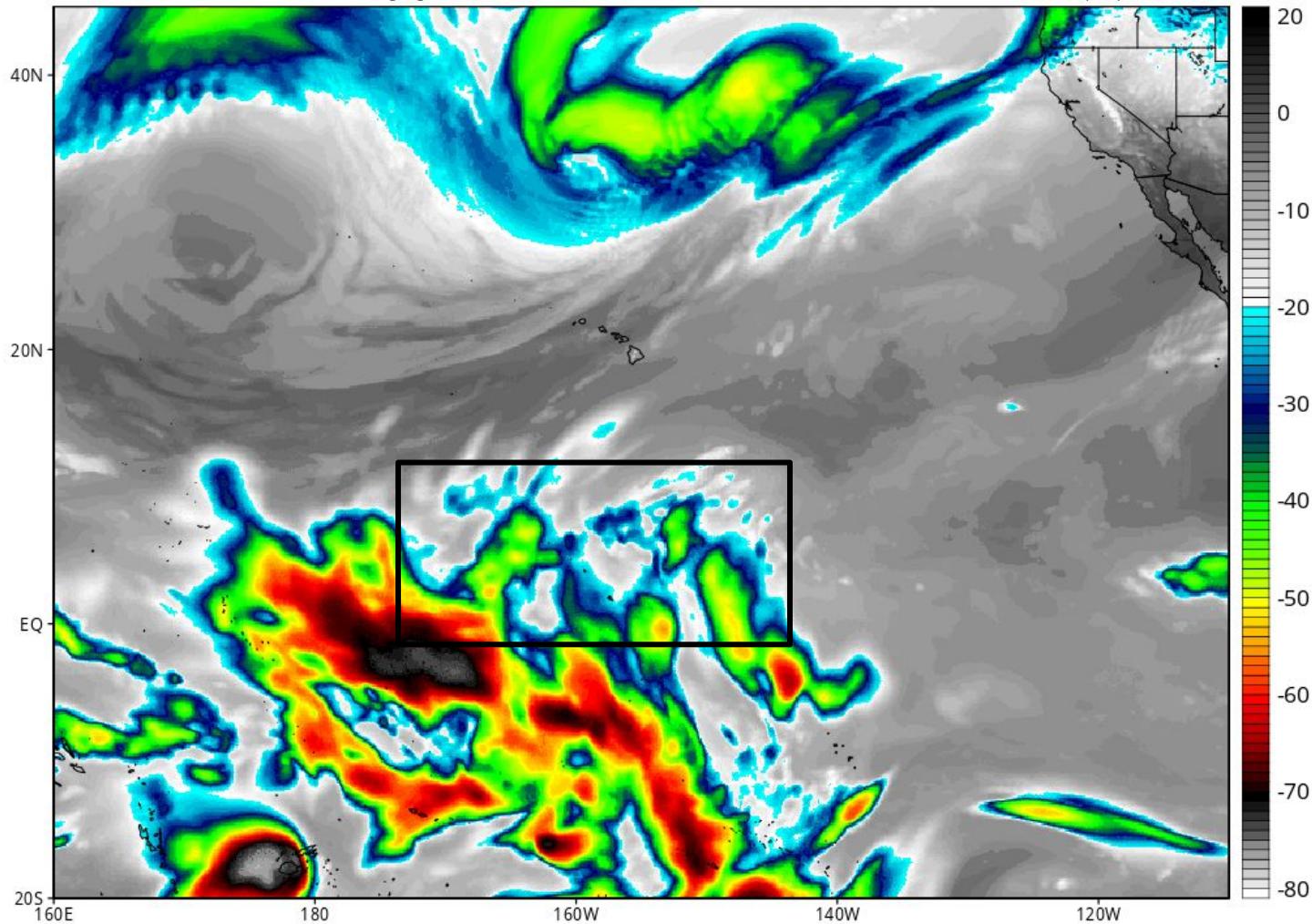


# GFS Simulated IR Brightness Temperature (°C)

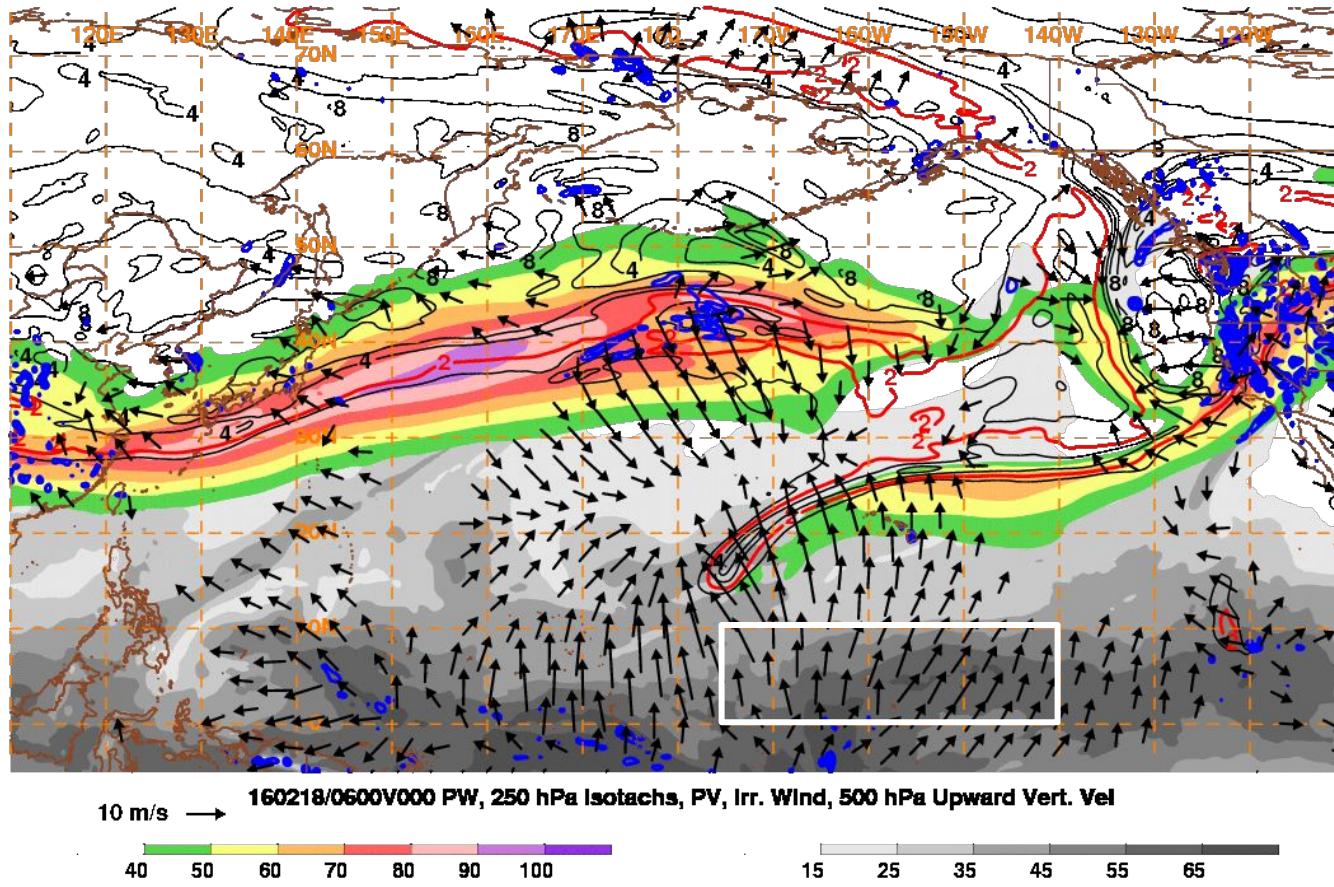
Init: 12z Feb 18 2016 Forecast Hour: [84] valid at 00z Mon, Feb 22 2016

# Latest 84 HR GFS Valid 00Z MON

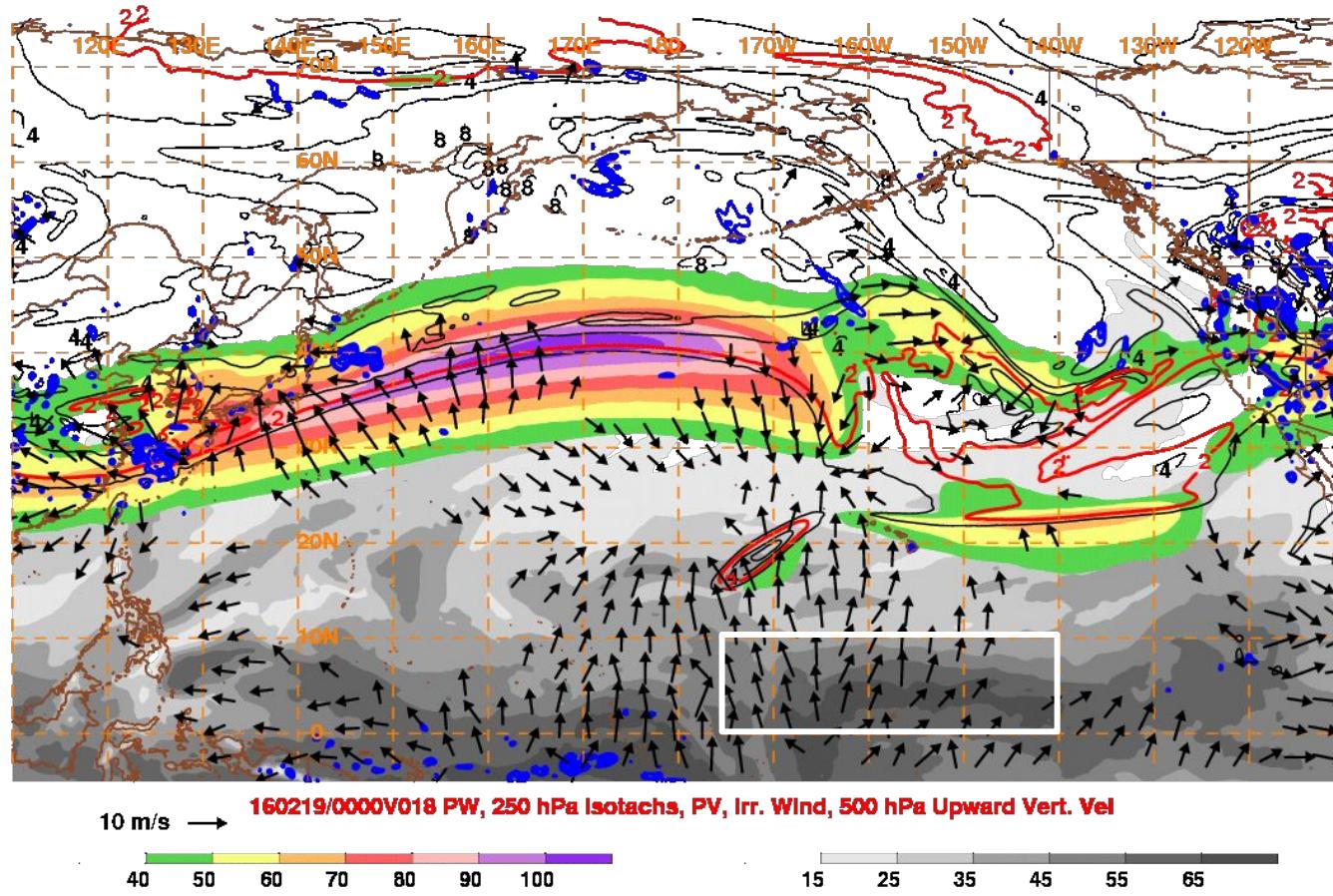
Levi Cowan | [tropicaltidbits.com](http://tropicaltidbits.com)



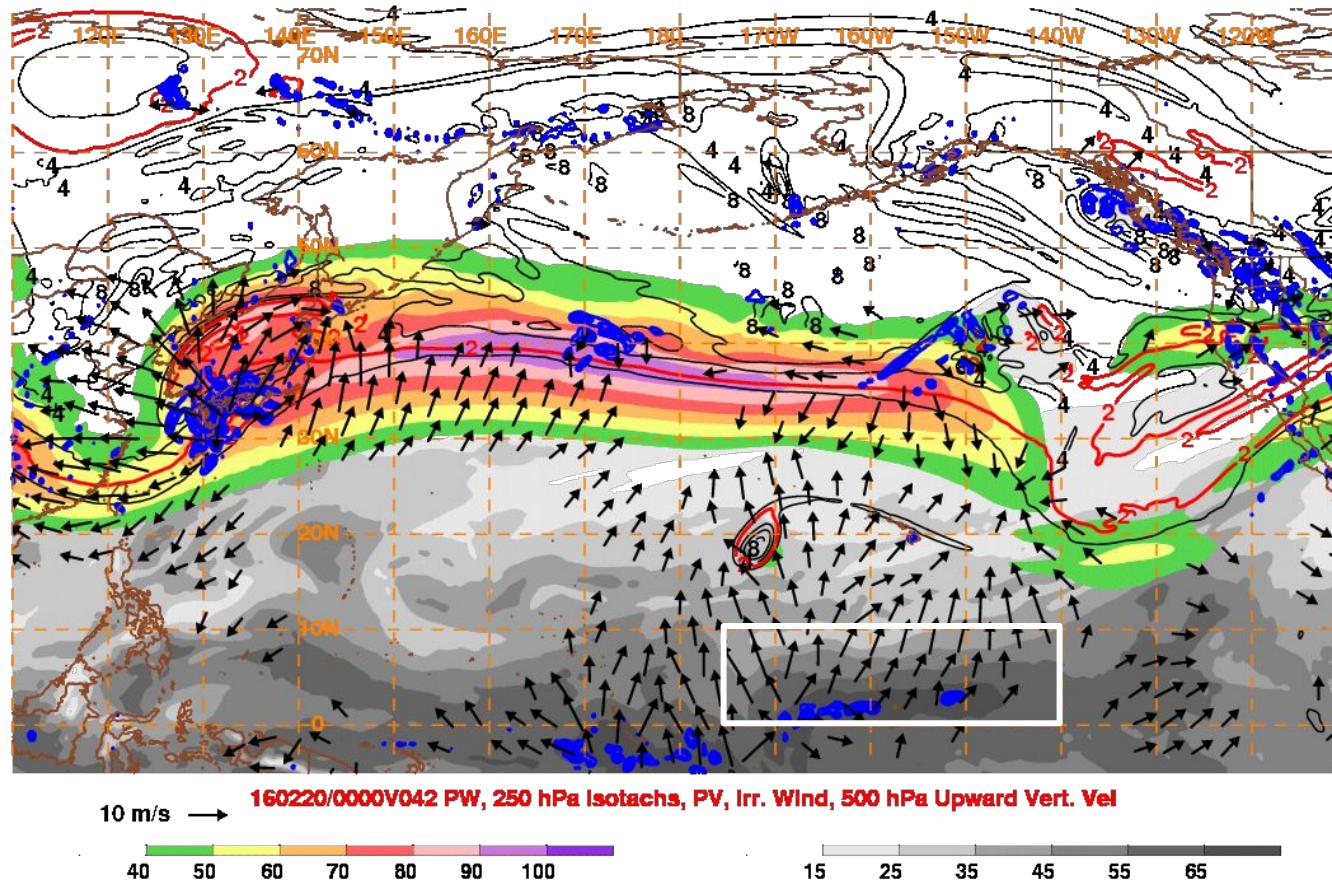
# Analysis 06Z THU Feb 18: 200 mb DIV Wind Vectors



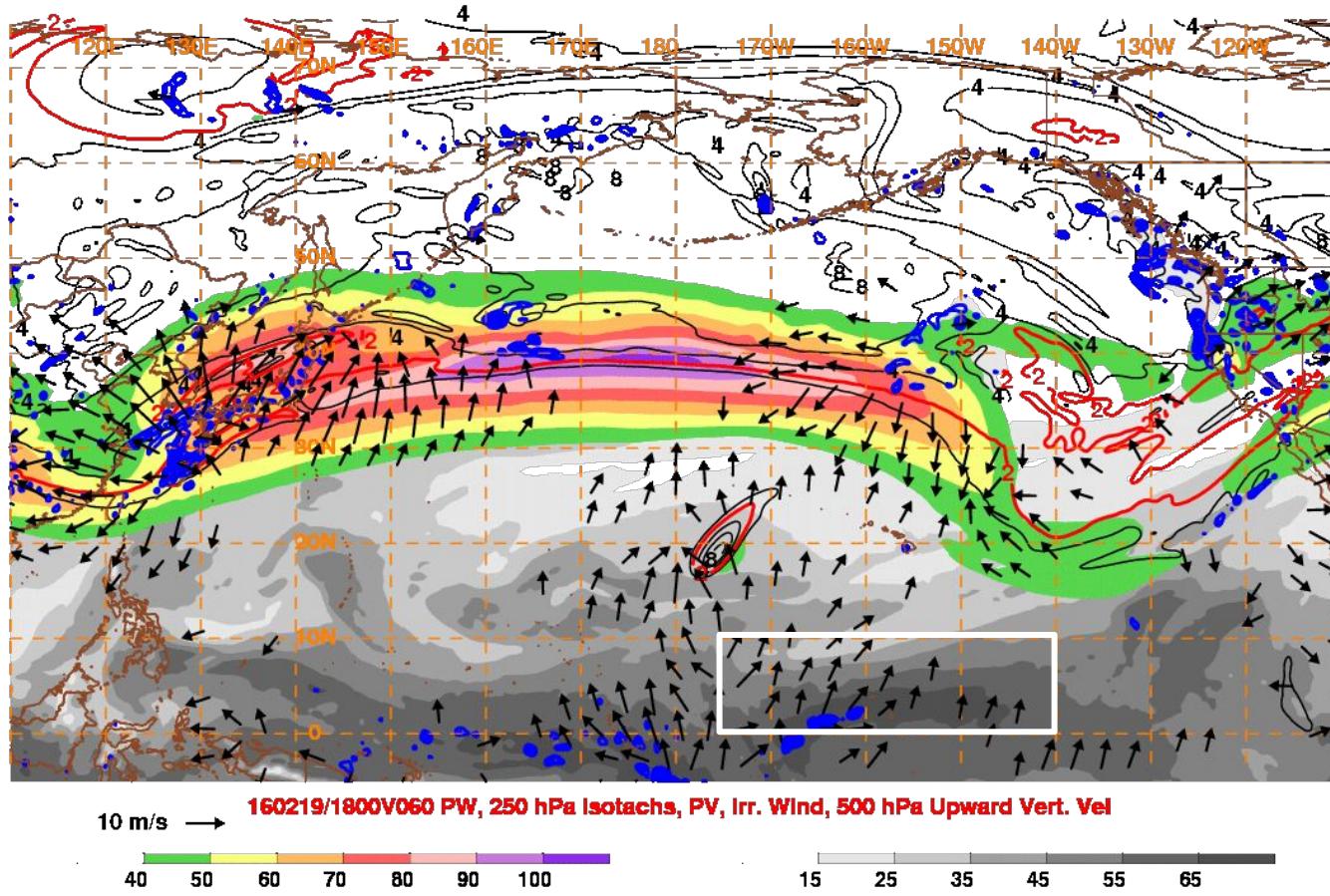
# GFS 18HR FCST Valid 00Z FRI Feb 19: 200 mb DIV Wind Vectors



# GFS 42HR FCST Valid 00Z SAT Feb 20: 200 mb DIV Wind Vectors



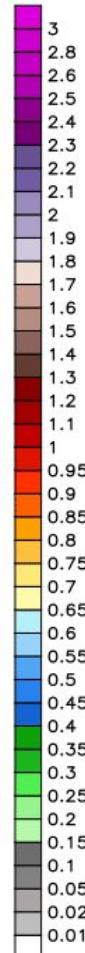
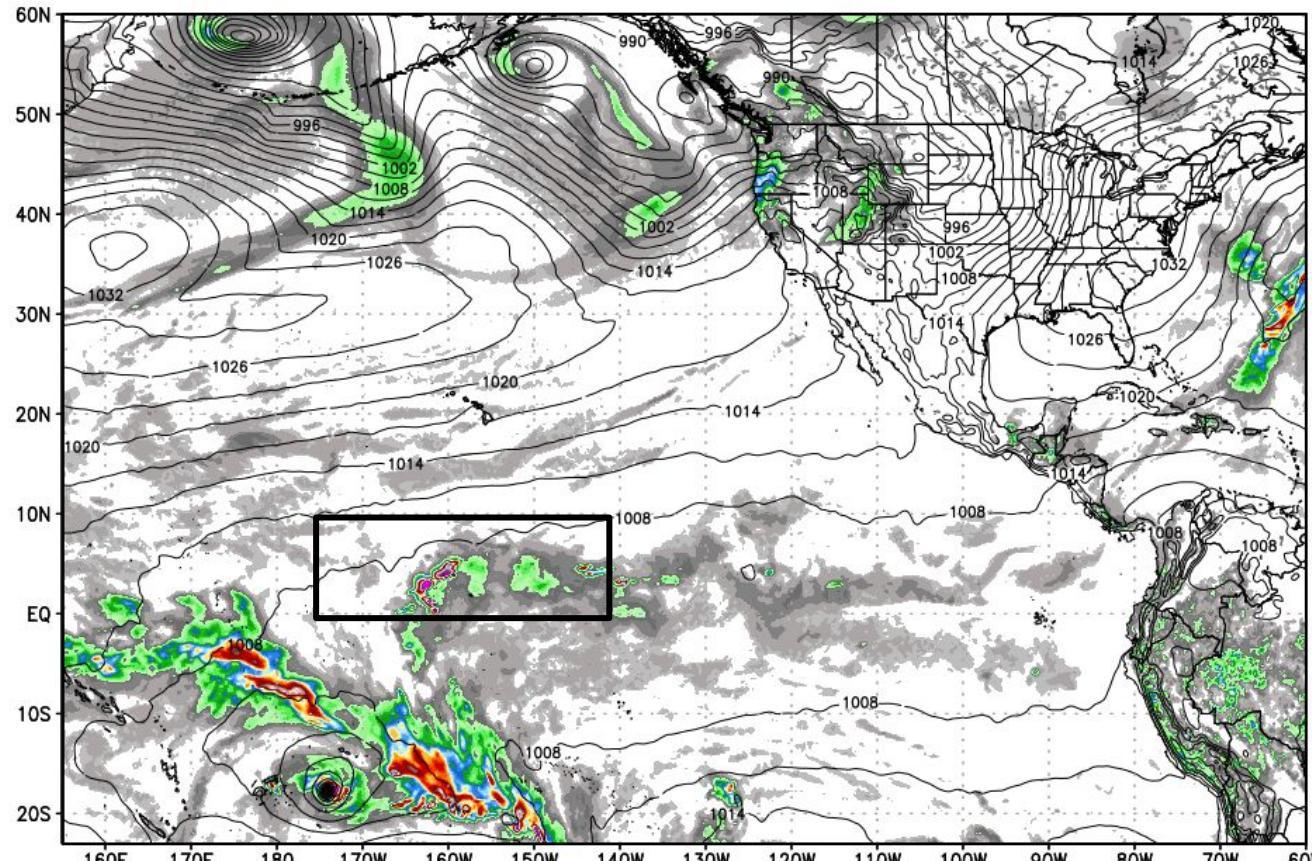
## GFS 66HR FCST Valid 00Z SAT Feb 20: 200 mb DIV Wind Vectors



ECMWF 6-hourly Precipitation [inches] between 18Z18FEB2016 -- 00Z19FEB2016 & MSLP [hPa]  
INIT: 00Z18FEB2016 fx: [024] hr --> Fri 00Z19FEB2016

Courtesy WeatherBell

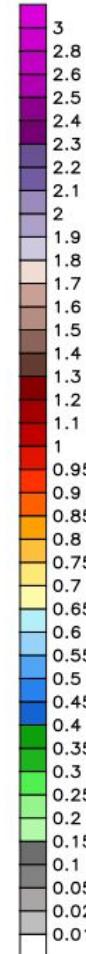
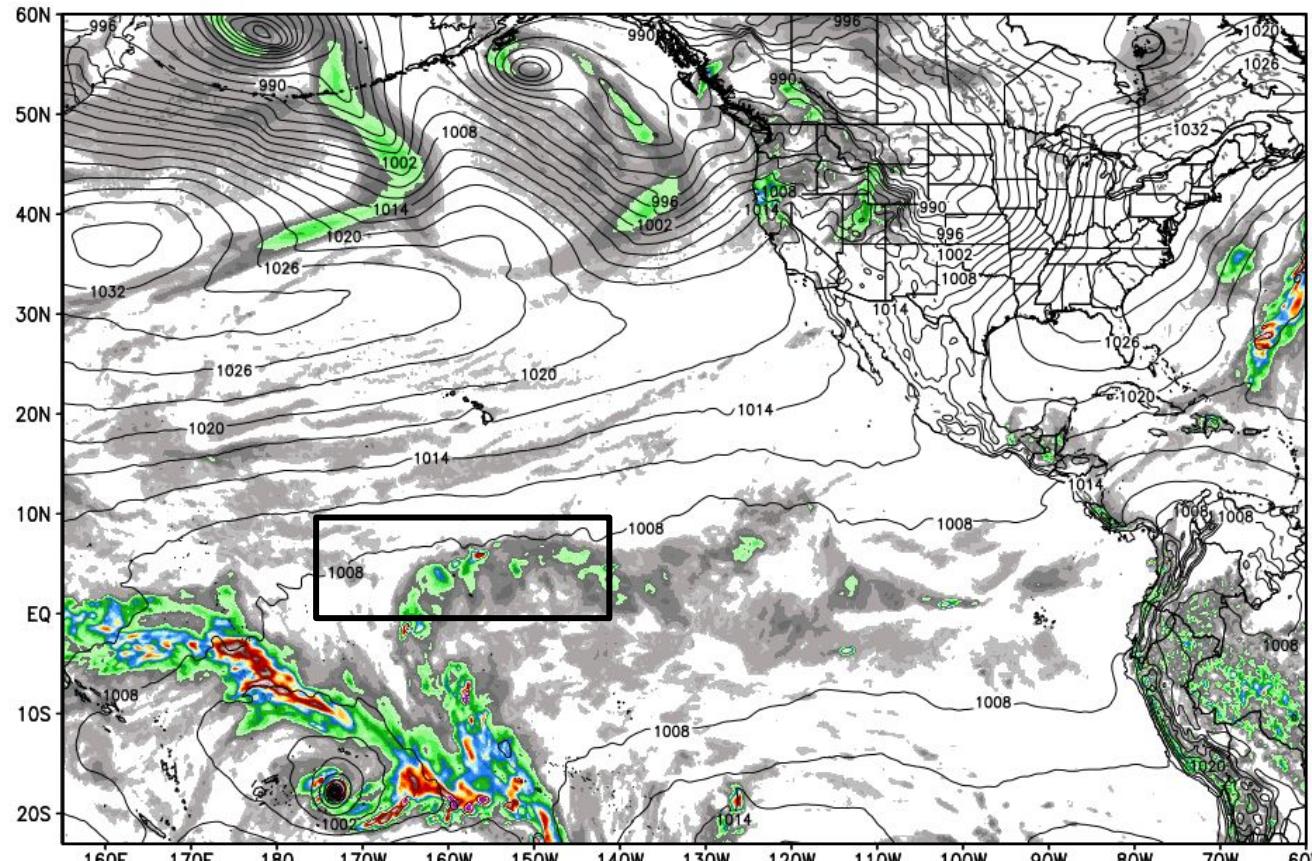
Latest 24 HR ECMWF Valid 00Z FRI Feb19



ECMWF 6-hourly Precipitation [inches] between 18Z18FEB2016 -- 00Z19FEB2016 & MSLP [hPa]  
INIT: 00Z17FEB2016 fx: [048] hr --> Fri 00Z19FEB2016

Courtesy WeatherBell

Latest 48 HR ECMWF Valid 00Z FRI Feb19

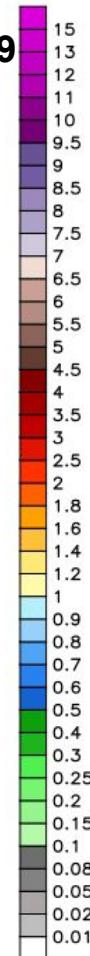
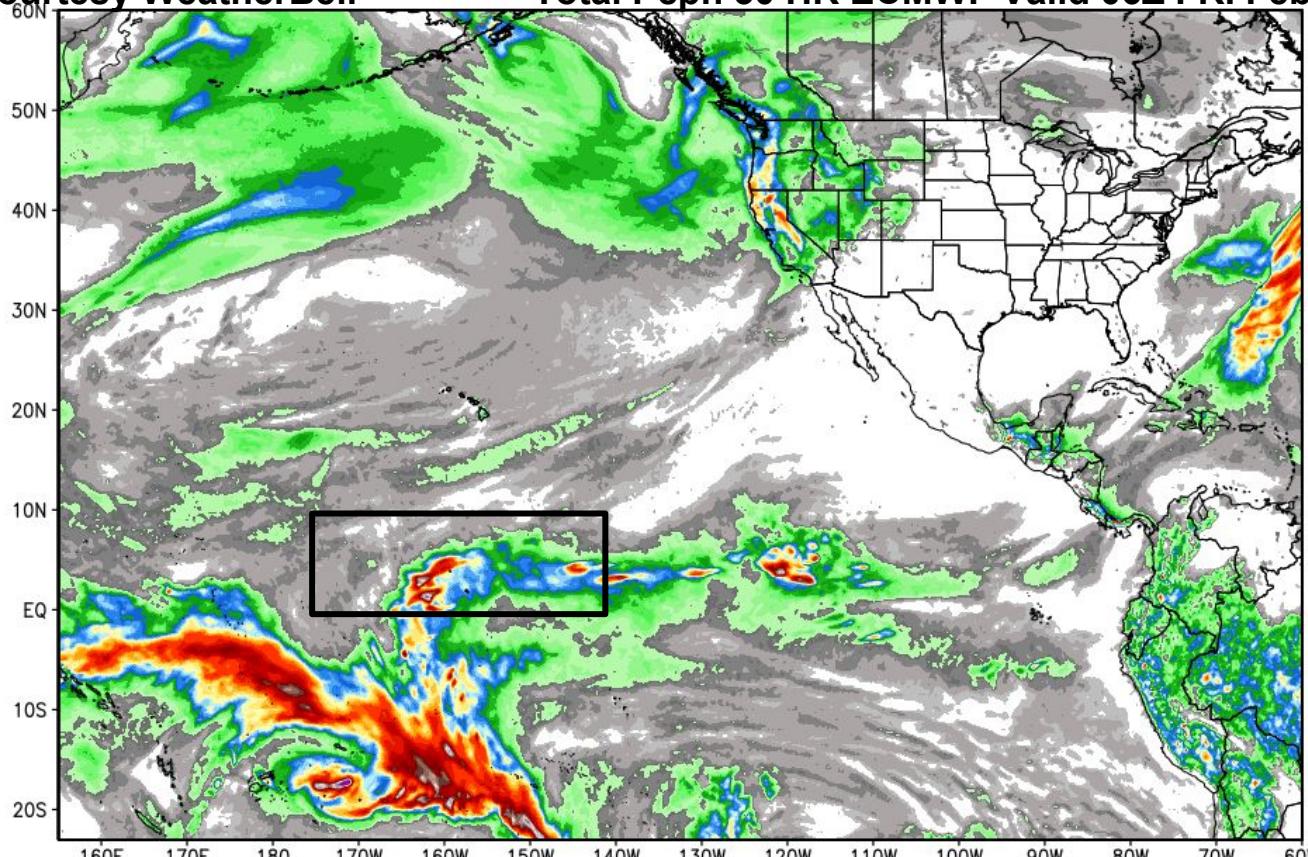


ECMWF Total Precipitation [inches] between 00Z18FEB2016 -- 06Z19FEB2016  
INIT: 00Z18FEB2016 fx: [030] hr --> Fri 06Z19FEB2016

Max 13.7 in

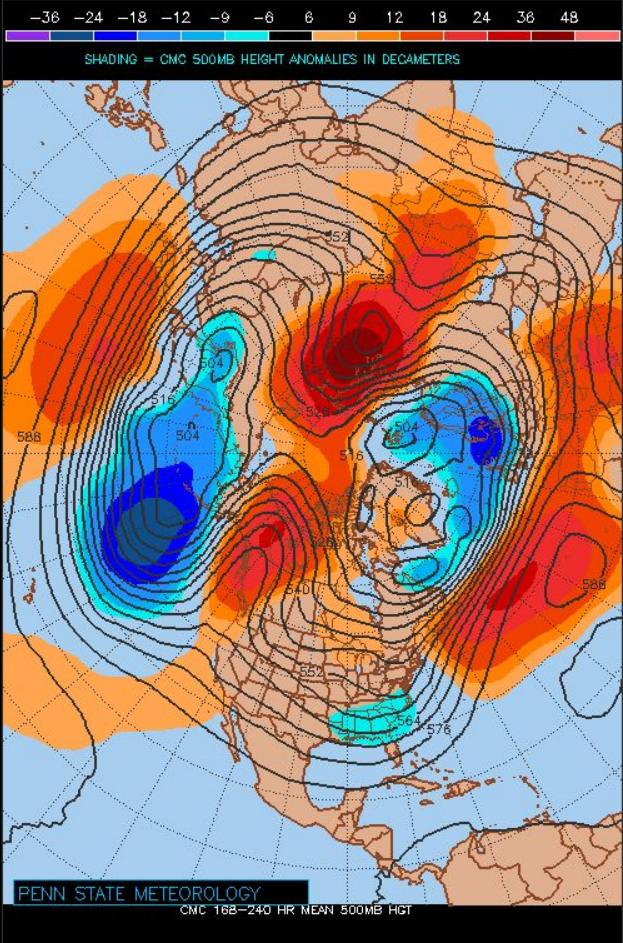
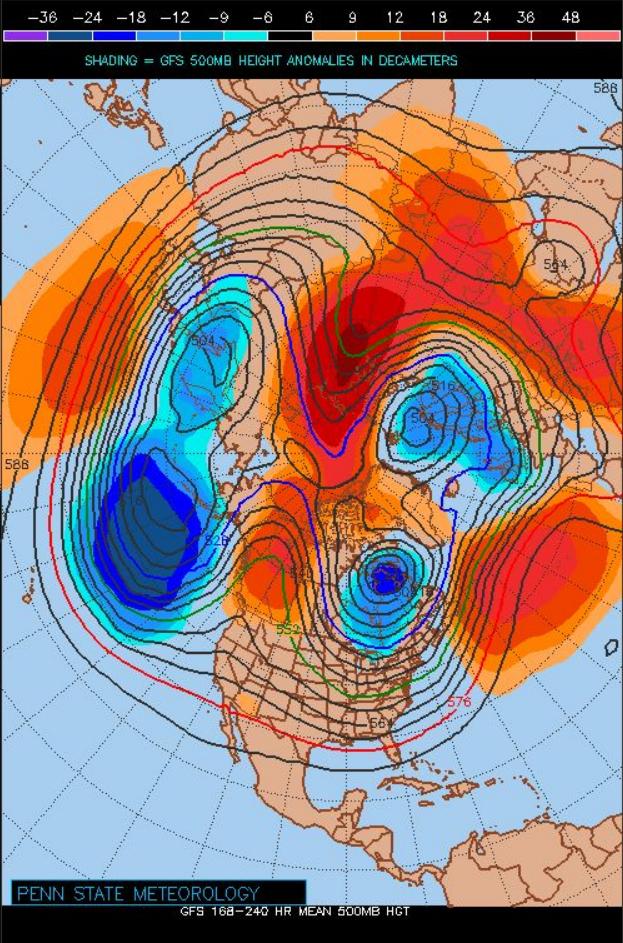
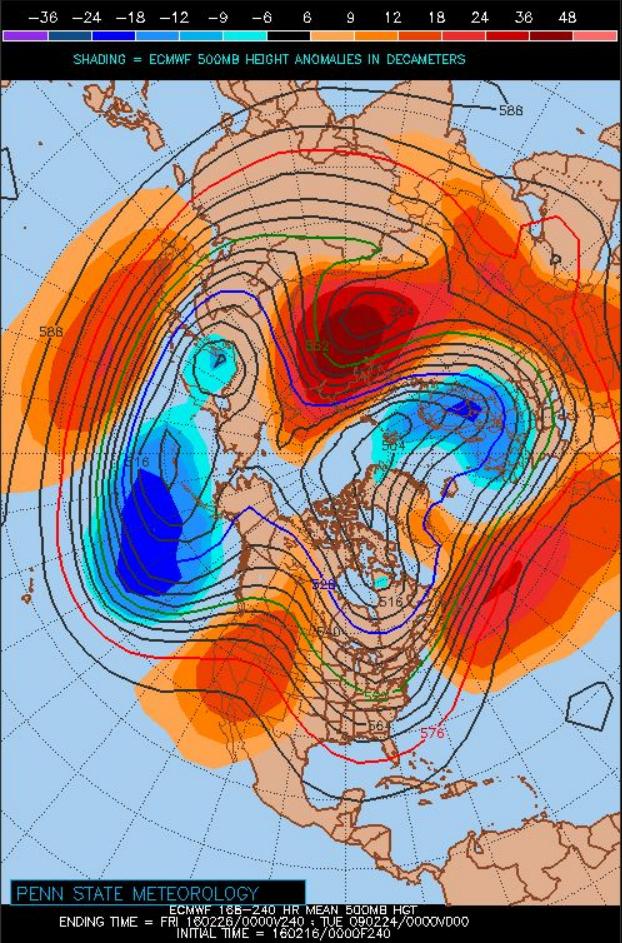
Courtesy WeatherBell

Total Pcpn 30 HR ECMWF Valid 06Z FRI Feb19



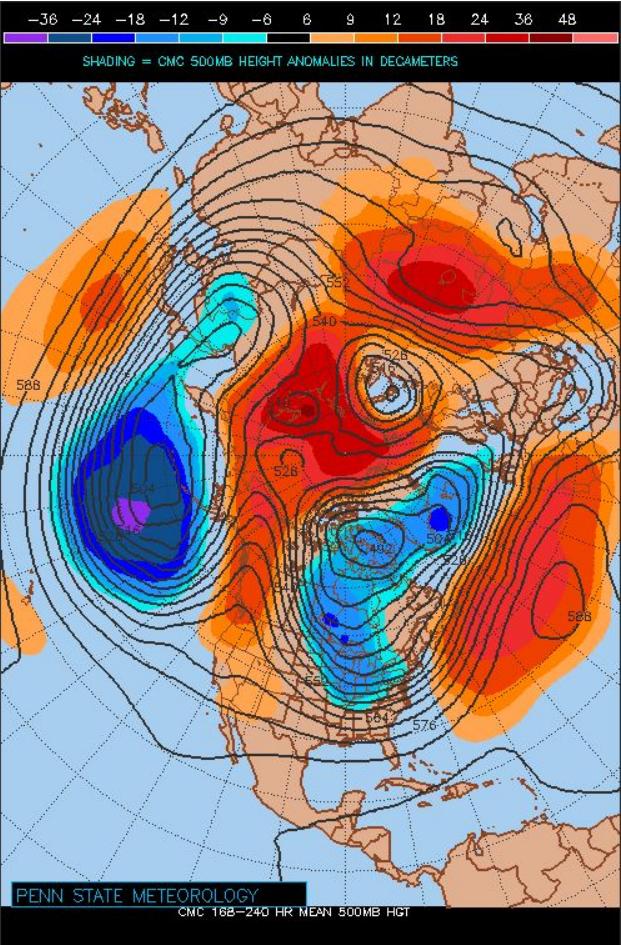
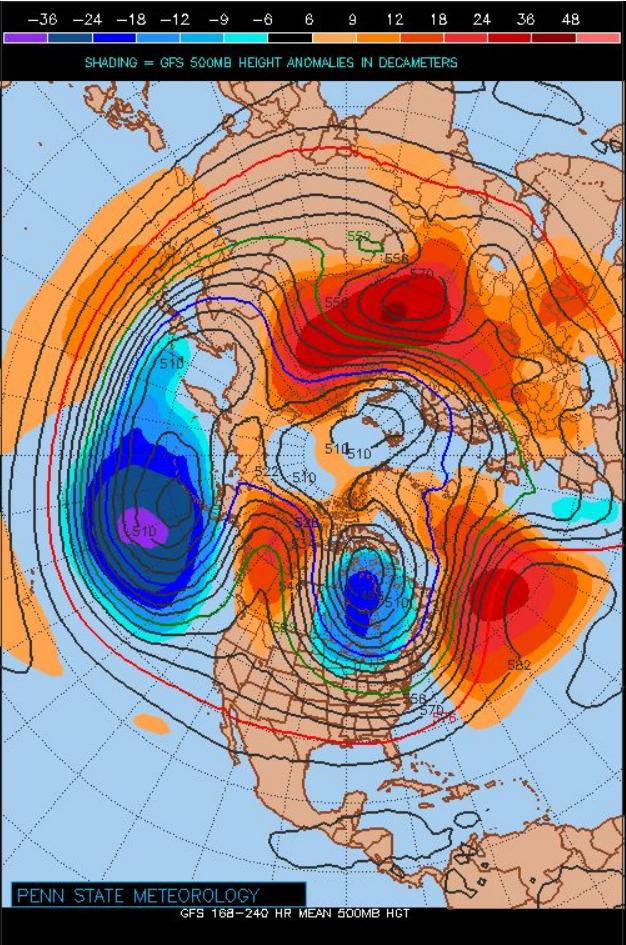
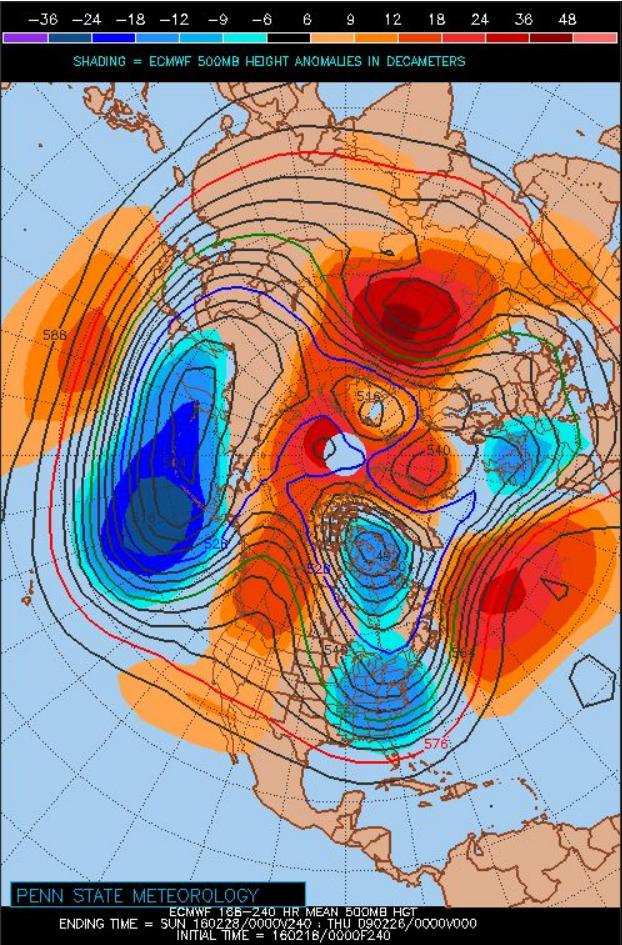
# Medium - Long Range Forecast

Day 7-10 Initialized 00Z TUE 16 Feb

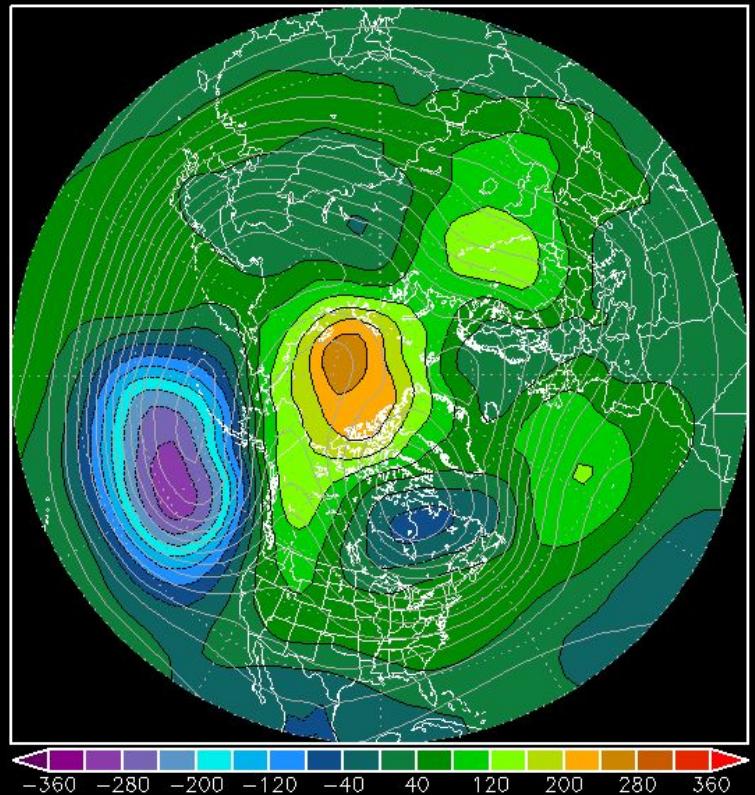


# Medium - Long Range Forecast

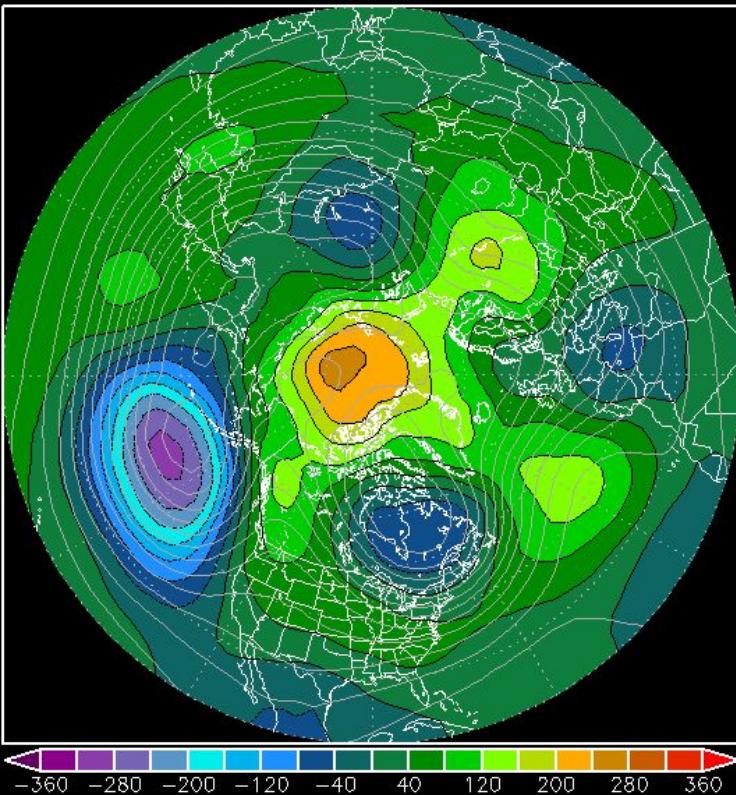
## Day 7-10 Initialized 00Z THU 18 Feb



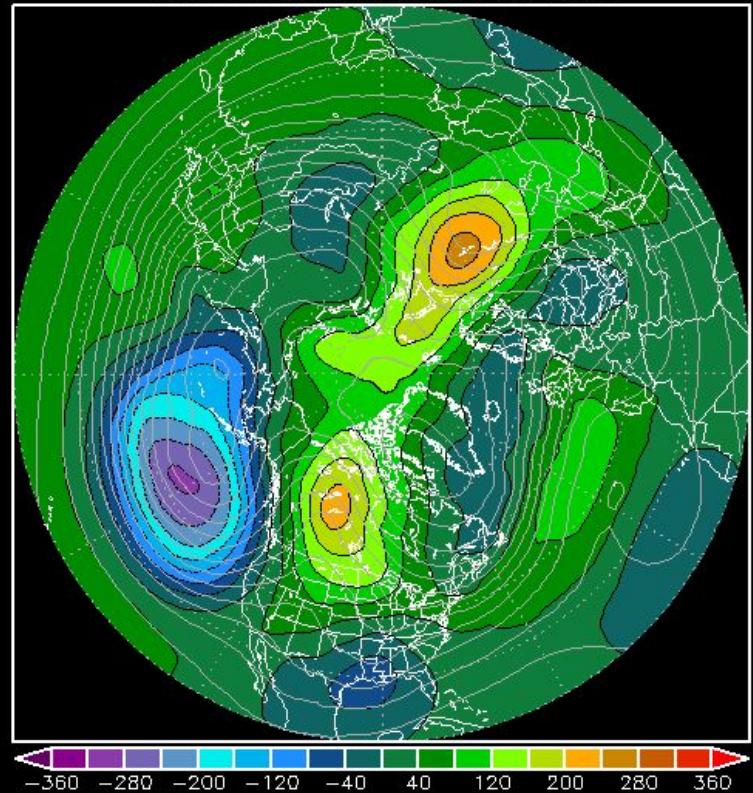
NCEP ENSEMBLE MEAN ANOMALY – 500mbZ(m)  
360H Forecast from: 00Z Wed FEB,17 2016  
Valid time: 00Z Thu MAR,03 2016



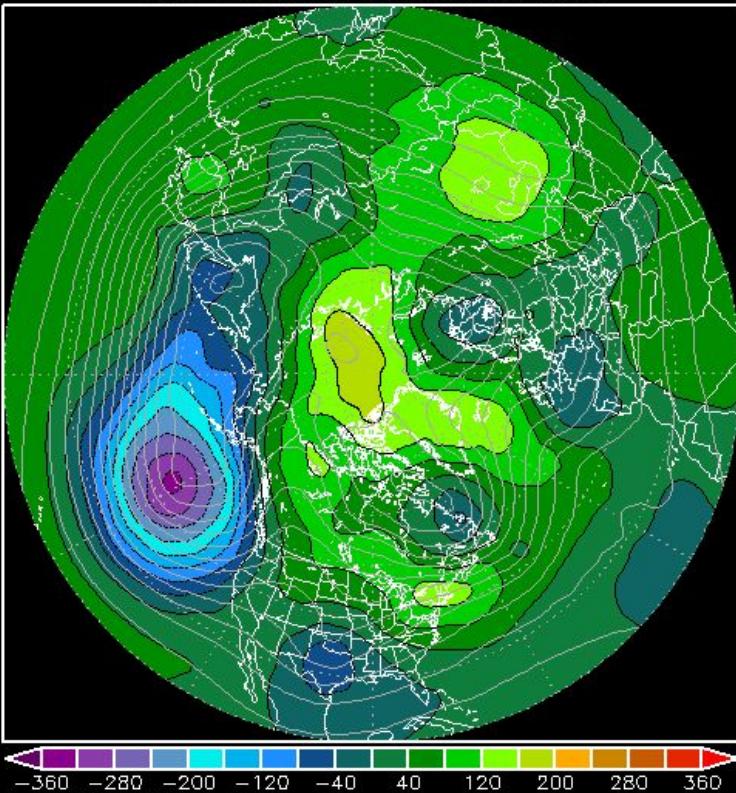
NCEP ENSEMBLE MEAN ANOMALY – 500mbZ(m)  
336H Forecast from: 00Z Thu FEB,18 2016  
Valid time: 00Z Thu MAR,03 2016



500mb HEIGHT ANOMALY(m), ESRL/PSD  
360H Forecast from: 00Z Wed FEB 17 2016  
Valid time: 00Z Thu MAR 03 2016

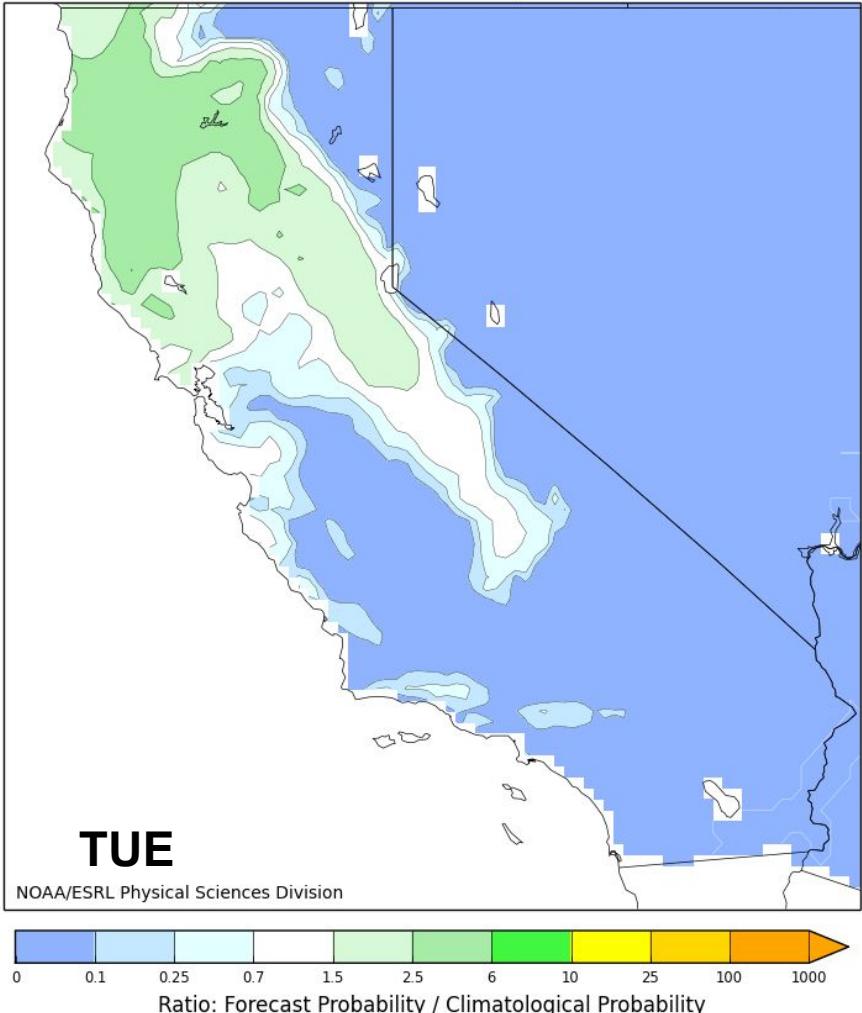


500mb HEIGHT ANOMALY(m), ESRL/PSD  
336H Forecast from: 00Z Thu FEB 18 2016  
Valid time: 00Z Thu MAR 03 2016



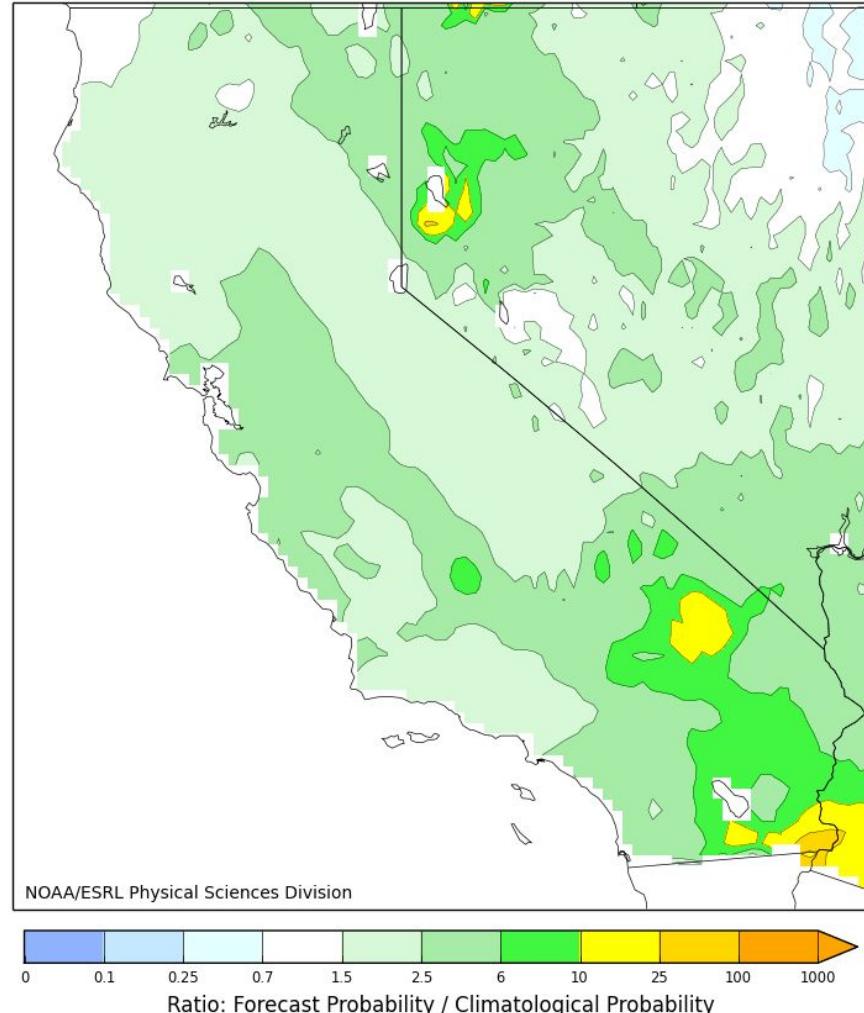
**000-168hr fcst from 00Z Tue Feb 16. Valid 00Z Tue Feb 16 - 00Z Tue Feb 23**

Ratio. Forecast/Climo Prob of Precip > 50mm. CSGD.

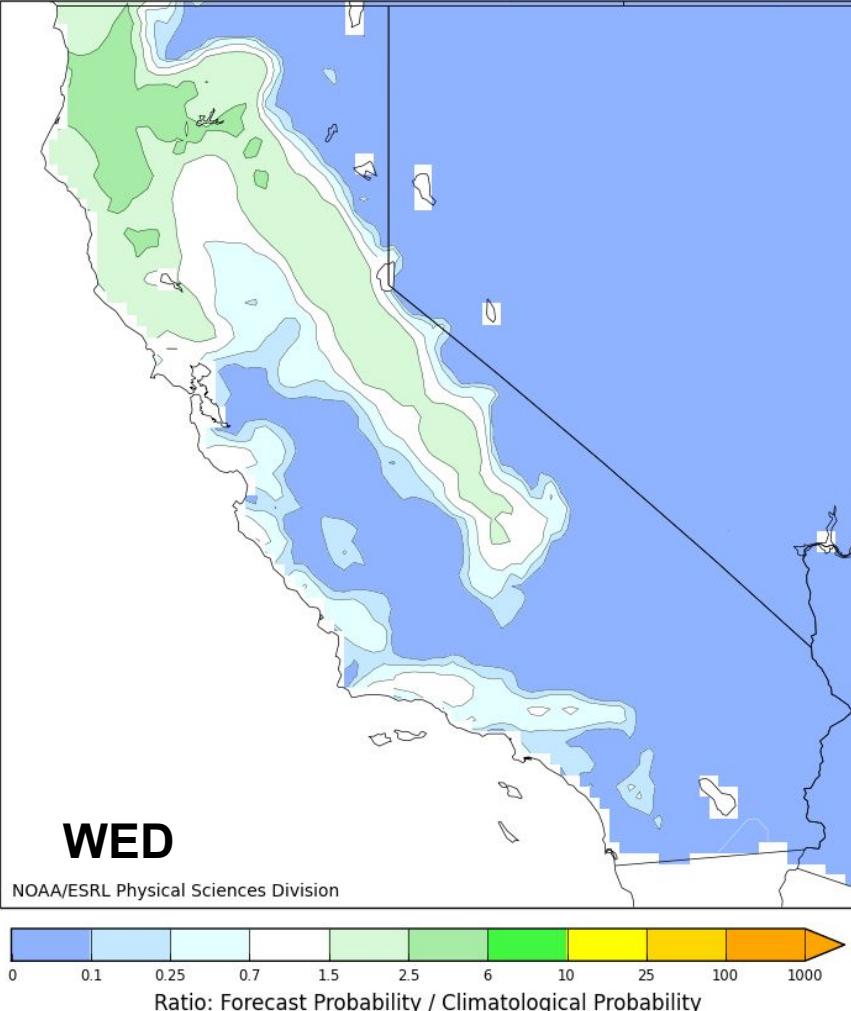


**198-360hr fcst from 00Z Tue Feb 16. Valid 06Z Wed Feb 24 - 00Z Wed Mar 02**

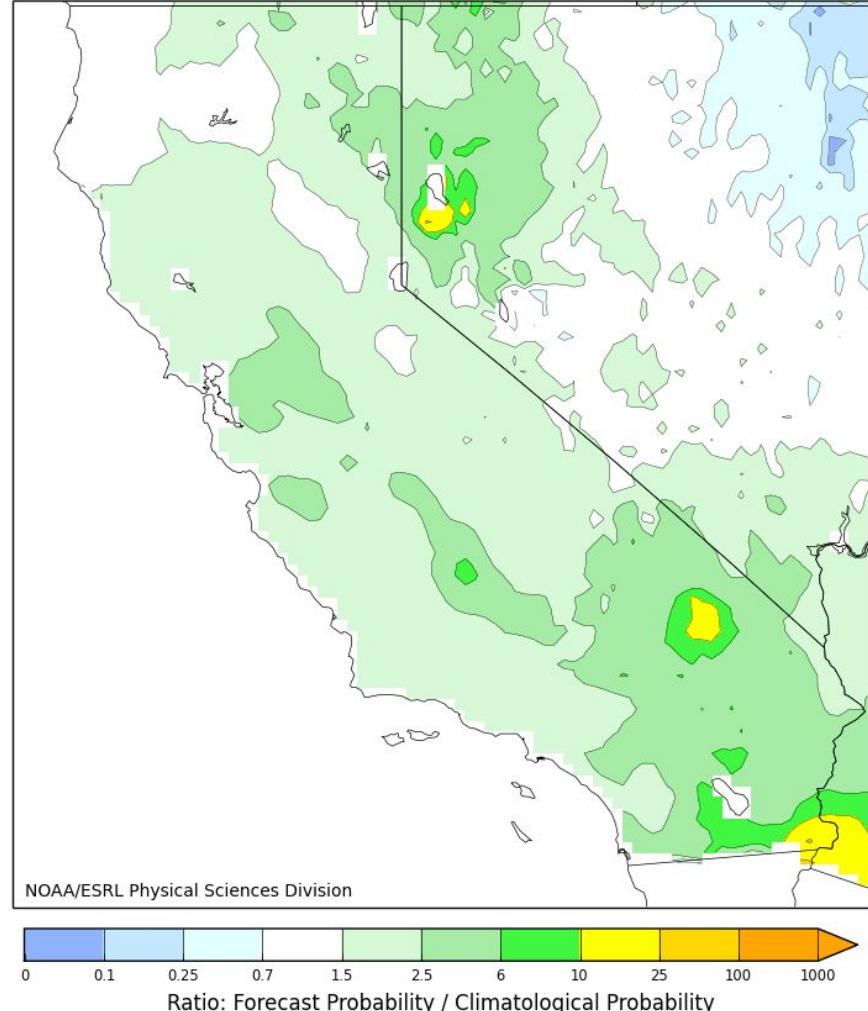
Ratio. Forecast/Climo Prob of Precip > 50mm. CSGD.



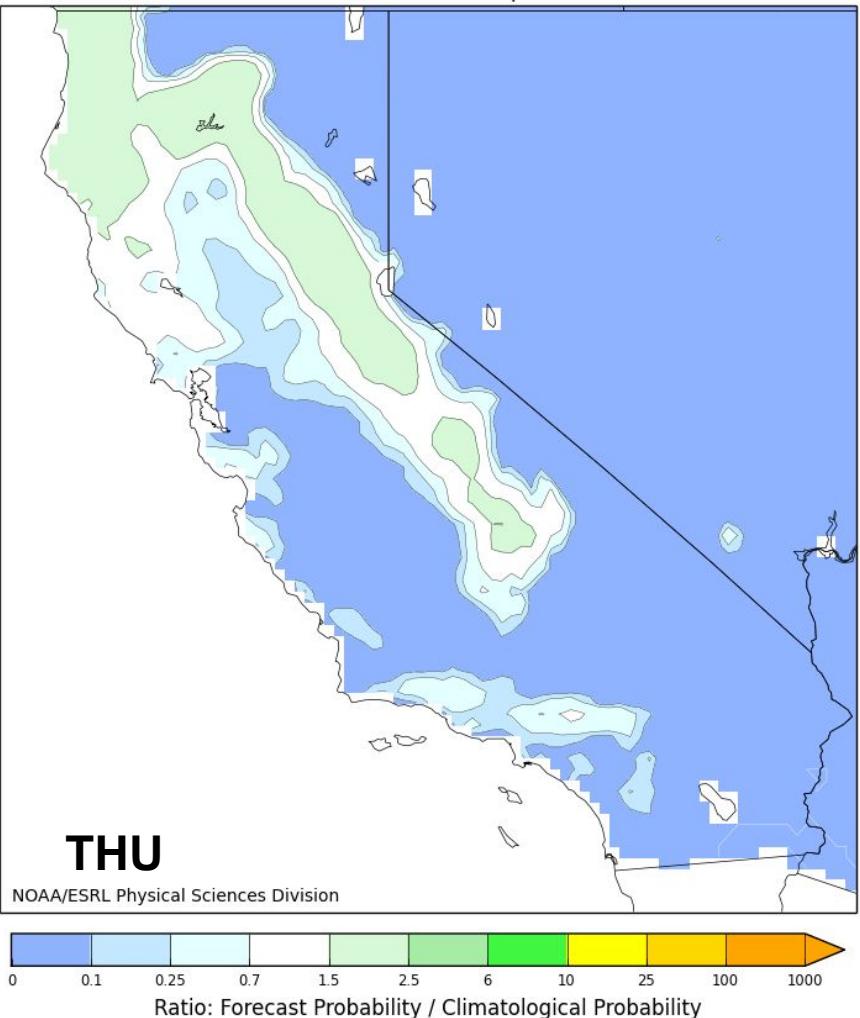
**000-168hr fcst from 00Z Wed Feb 17. Valid 00Z Wed Feb 17 - 00Z Wed Feb 24**  
Ratio. Forecast/Climo Prob of Precip > 50mm. CSGD.



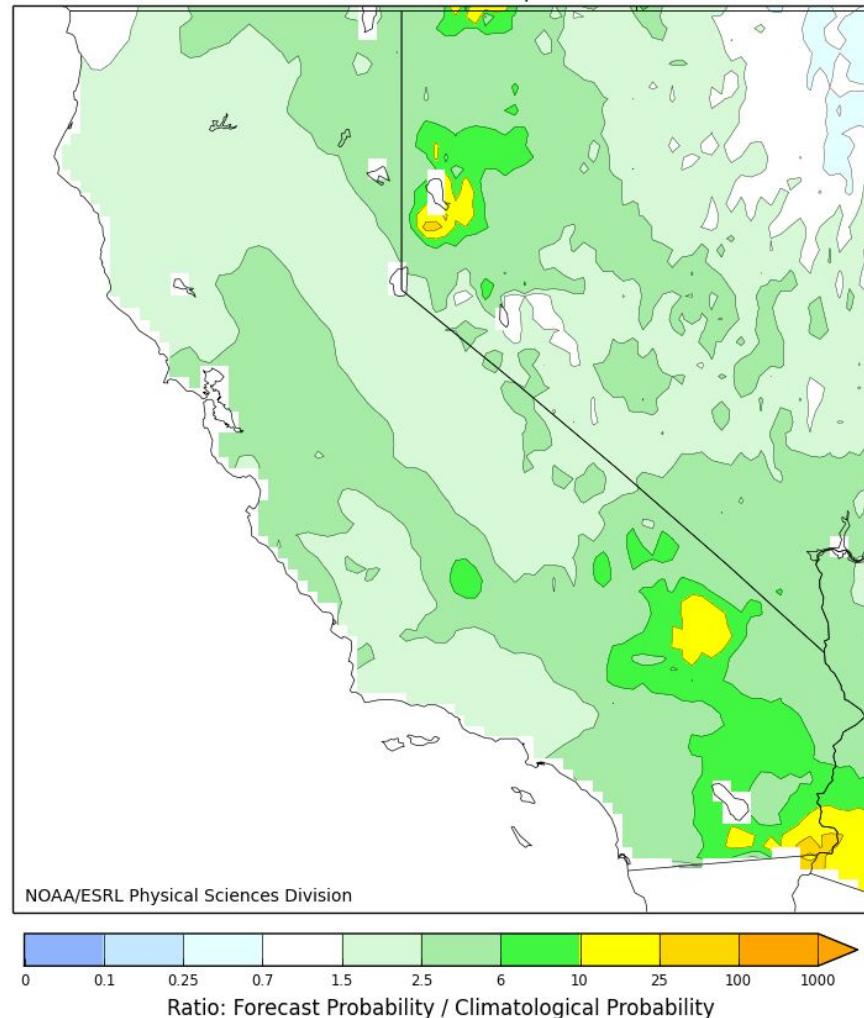
**198-360hr fcst from 00Z Wed Feb 17. Valid 06Z Thu Feb 25 - 00Z Thu Mar 03**  
Ratio. Forecast/Climo Prob of Precip > 50mm. CSGD.



**000-168hr fcst from 00Z Thu Feb 18. Valid 00Z Thu Feb 18 - 00Z Thu Feb 25**  
Ratio. Forecast/Climo Prob of Precip > 50mm. CSGD.

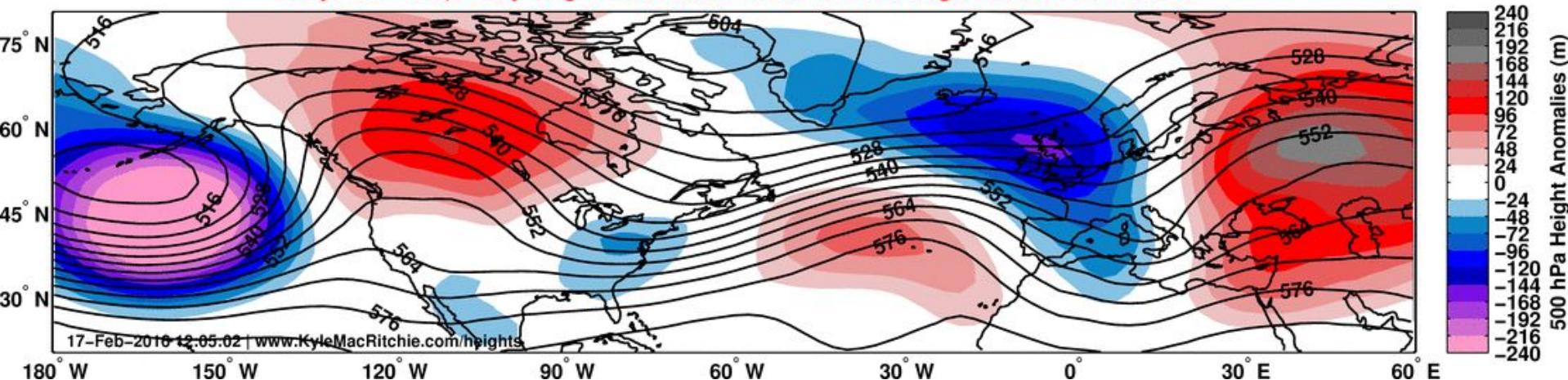


**198-360hr fcst from 00Z Thu Feb 18. Valid 06Z Fri Feb 26 - 00Z Fri Mar 04**  
Ratio. Forecast/Climo Prob of Precip > 50mm. CSGD.



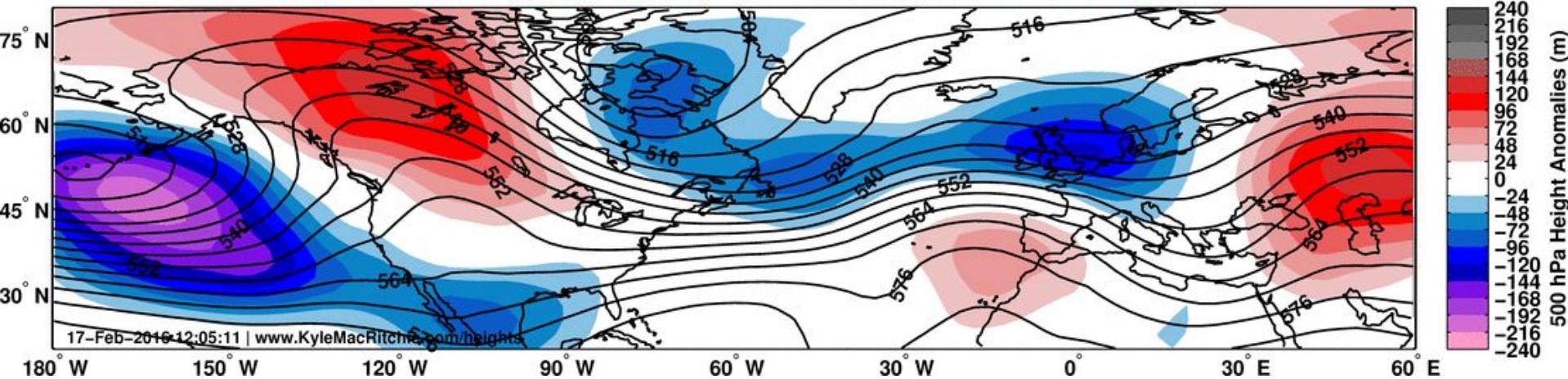
CFS (Ens. Mean) 500 hPa Hgts Anoms & Total | North America/Europe | Run at Wed 17-Feb-2016 00z

Days 11 – 15 | 5 Day Avg. Valid: Sat 27-Feb-2016 through Wed 02-Mar-2016



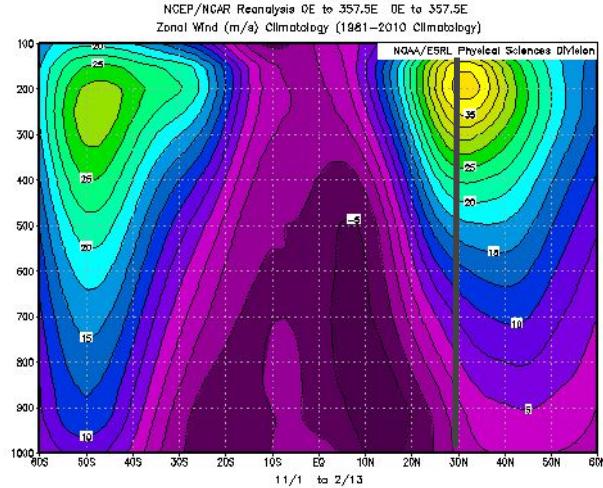
CFS (Ens. Mean) 500 hPa Hgts Anoms & Total | North America/Europe | Run at Wed 17-Feb-2016 00z

Days 16 – 20 | 5 Day Avg. Valid: Thu 03-Mar-2016 through Mon 07-Mar-2016

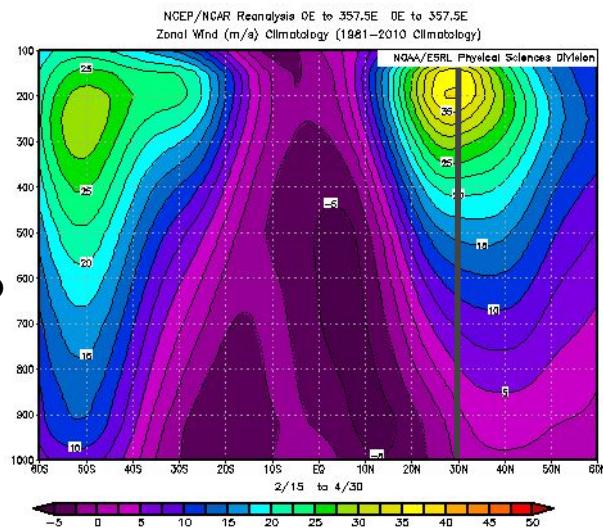


The Curious Incident of the Zonal Mean Zonal Wind in 2016

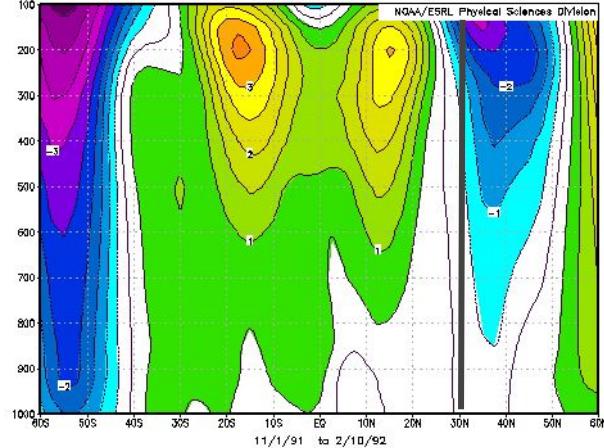
**Zonal Mean U**  
**Nov 1- Feb 13 Climo**



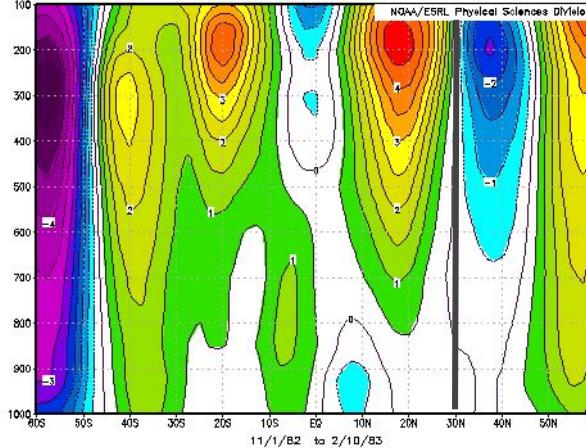
**Zonal Mean U**  
**Feb 15 - Apr 30 Climo**



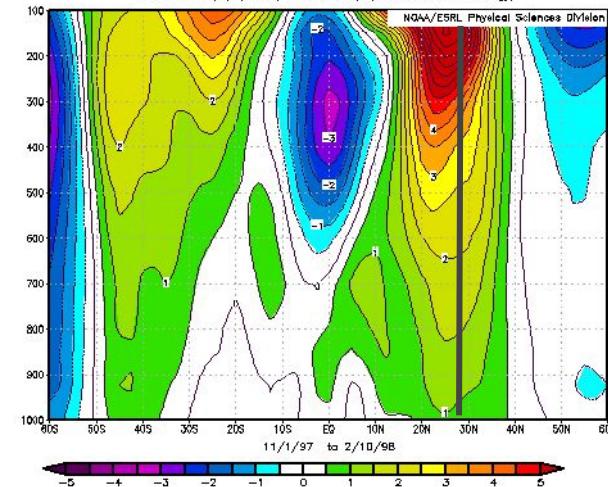
**1992** NCEP/NCAR Reanalysis OE to 357.5E  
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)



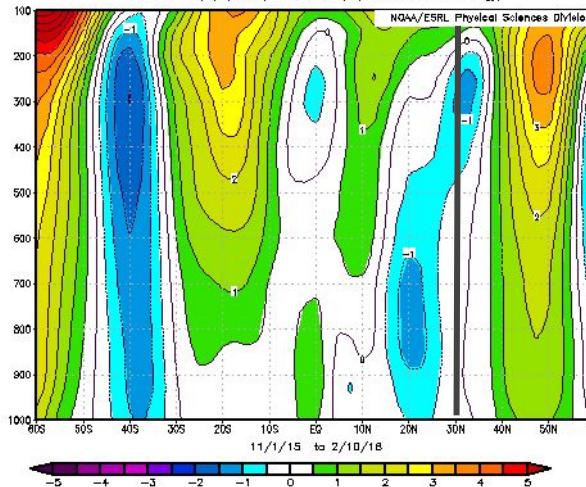
**1983** NCEP/NCAR Reanalysis OE to 357.5E  
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)



**1998** NCEP/NCAR Reanalysis OE to 357.5E  
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)

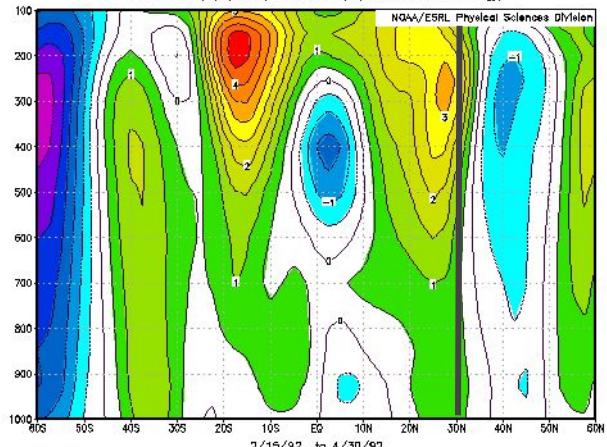


**2016** NCEP/NCAR Reanalysis OE to 357.5E  
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)



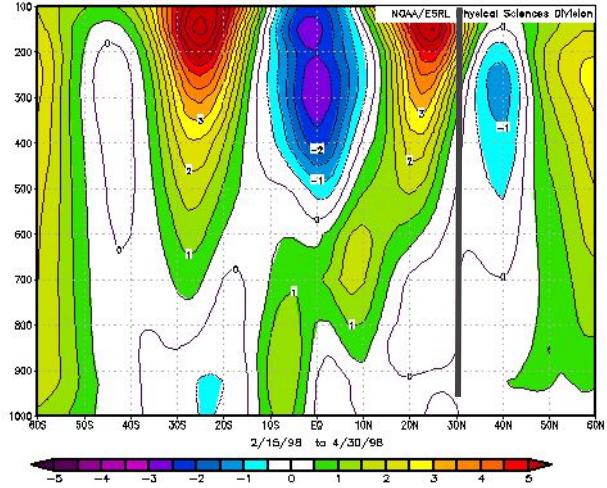
# 1992

NCEP/NCAR Reanalysis 0E to 357.5E  
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)



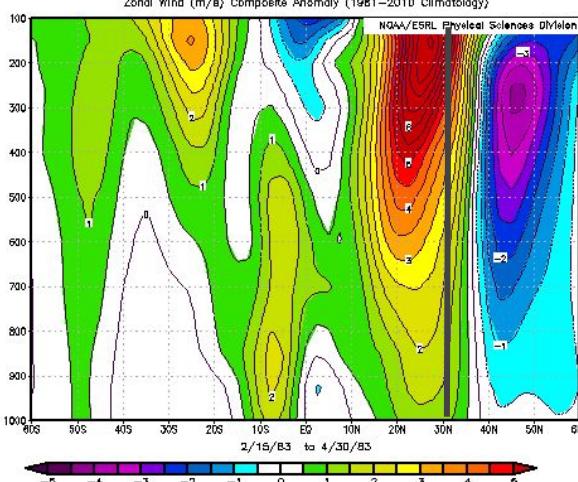
# 1998

Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)

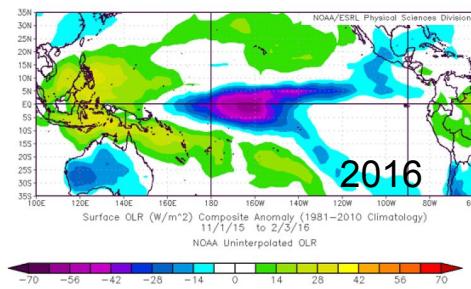
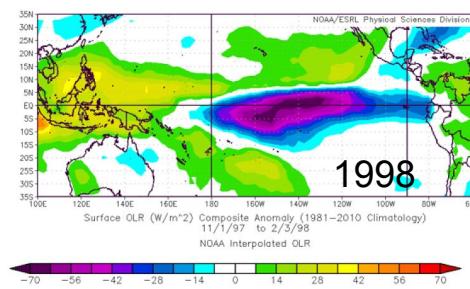
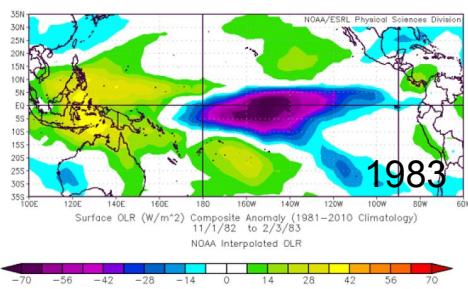
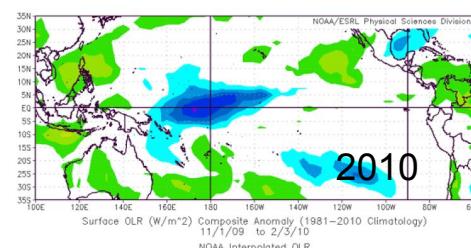
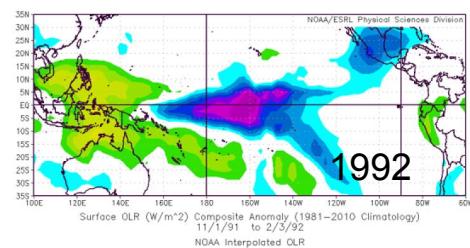
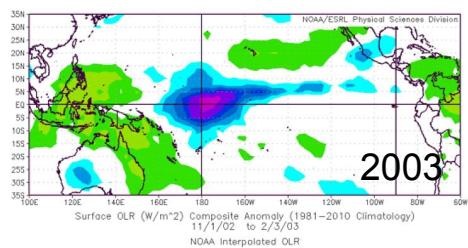
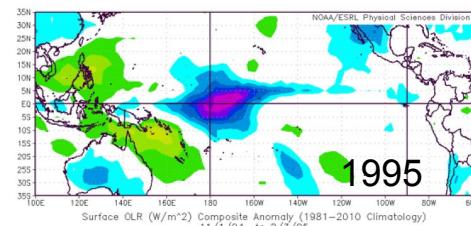
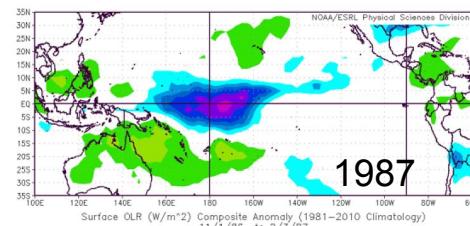
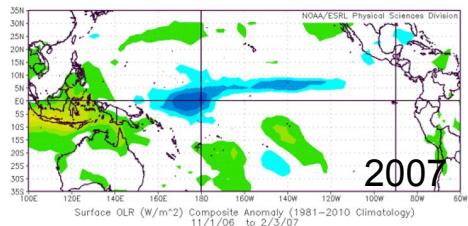


# 1983

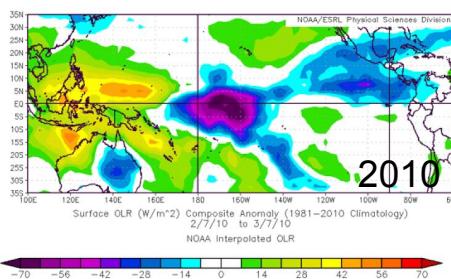
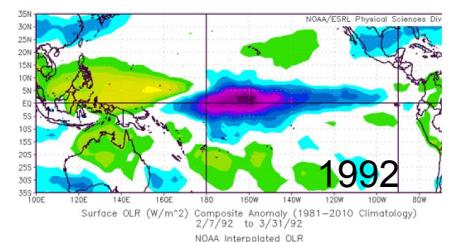
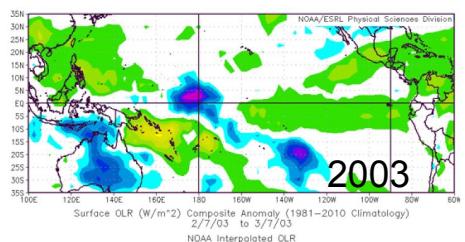
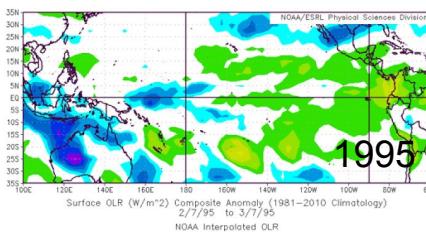
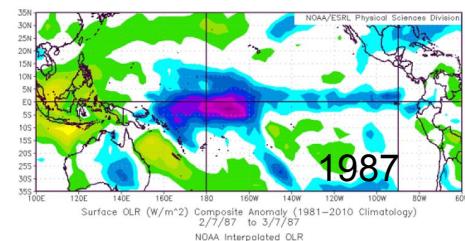
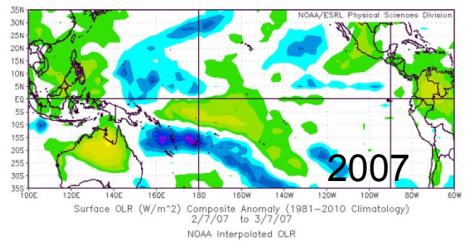
NCEP/NCAR Reanalysis 0E to 357.5E  
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)



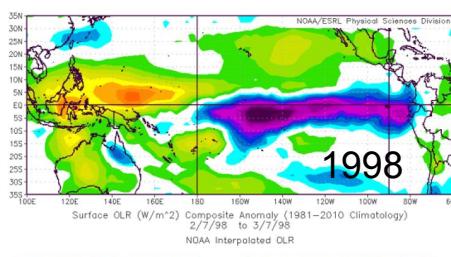
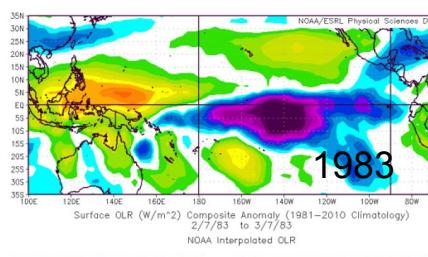
# Observed OLR Anomalies : 1 Nov - 3 Feb



# Observed OLR Anomalies : 7 Feb - 7 Mar



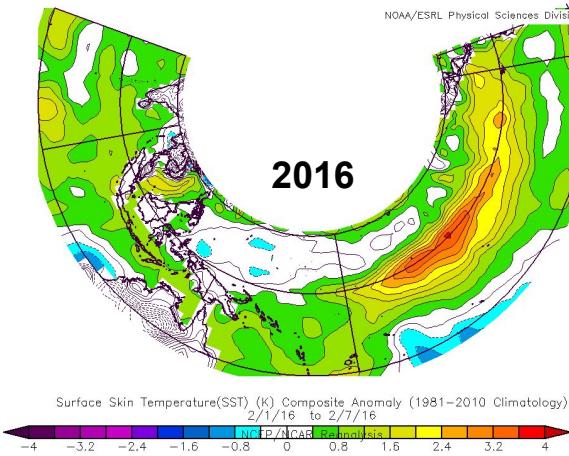
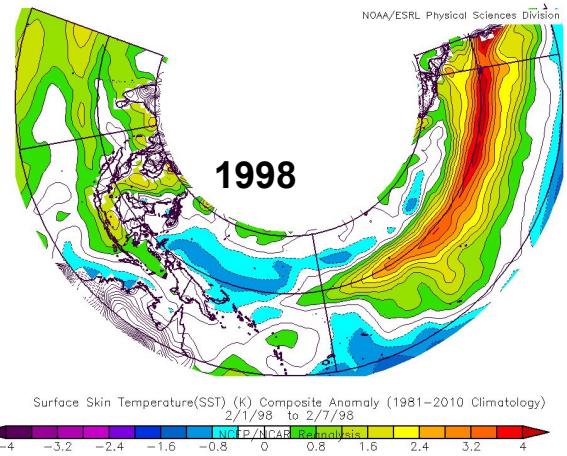
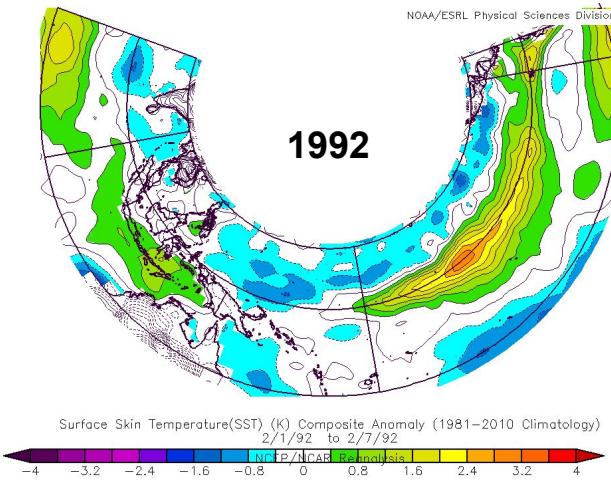
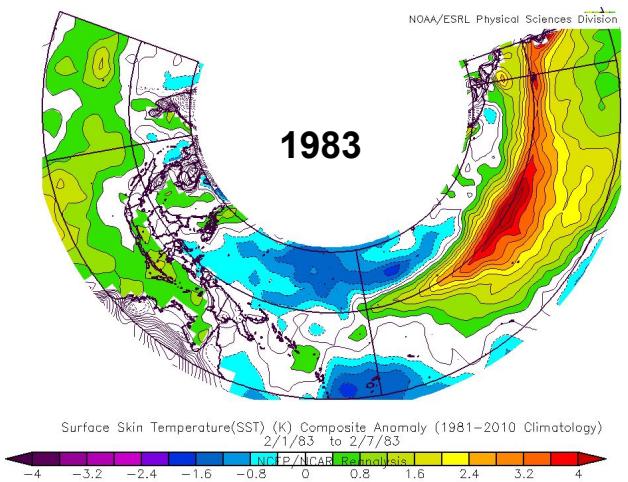
-70 -56 -42 -28 -14 0 14 28 42 56 70



-70 -56 -42 -28 -14 0 14 28 42 56 70

-70 -56 -42 -28 -14 0 14 28 42 56 70

# SST ANOM Feb 1-Feb 7



# OLR ANOM Feb 1-Feb 7

NOAA/ESRL Physical Sciences Division

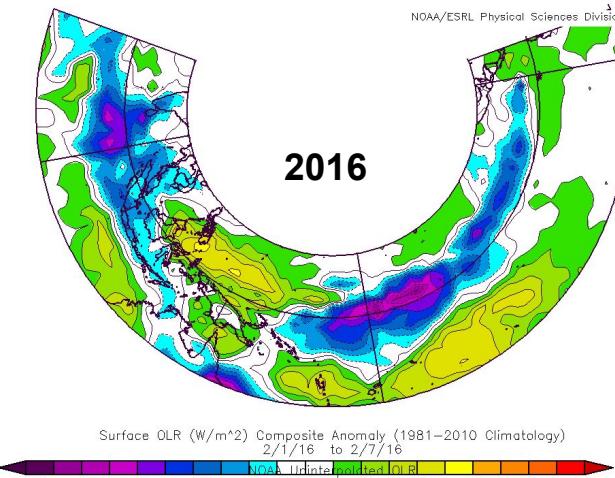
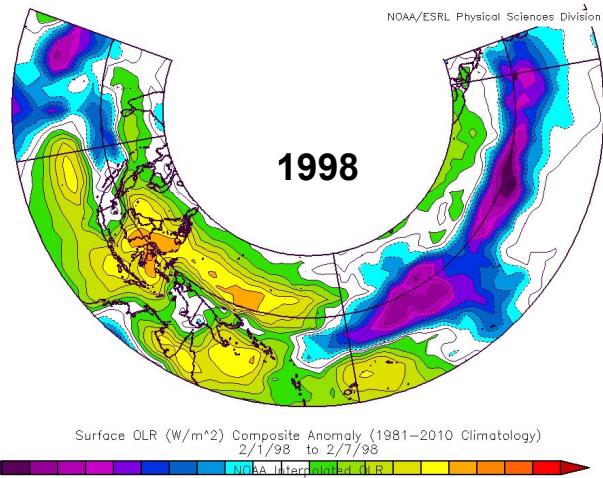
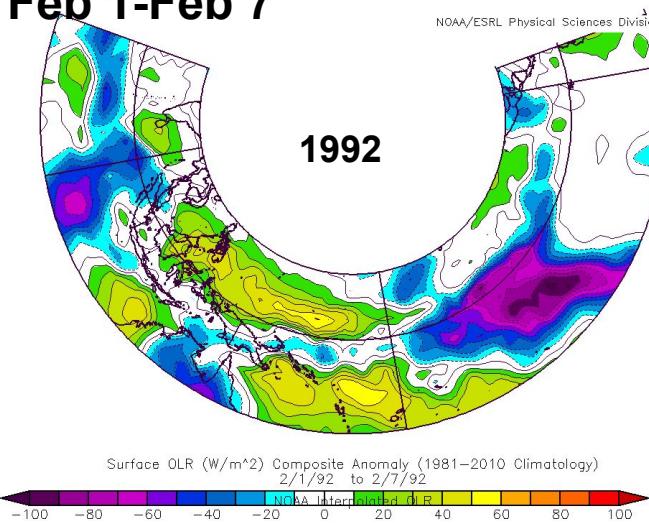
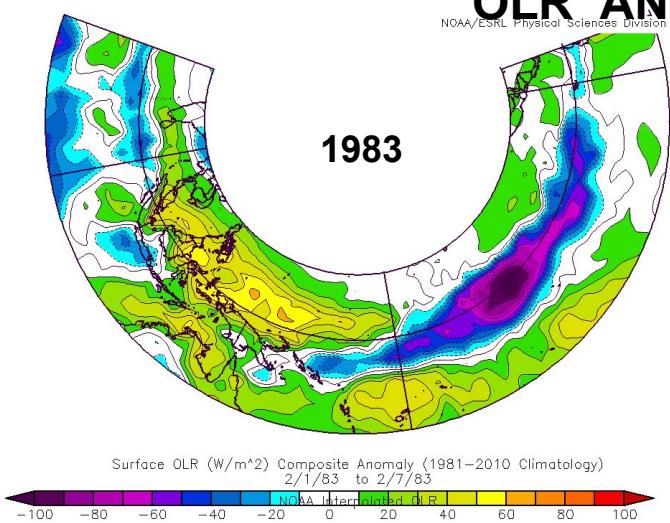
NOAA/ESRL Physical Sciences Division

1983

1992

1998

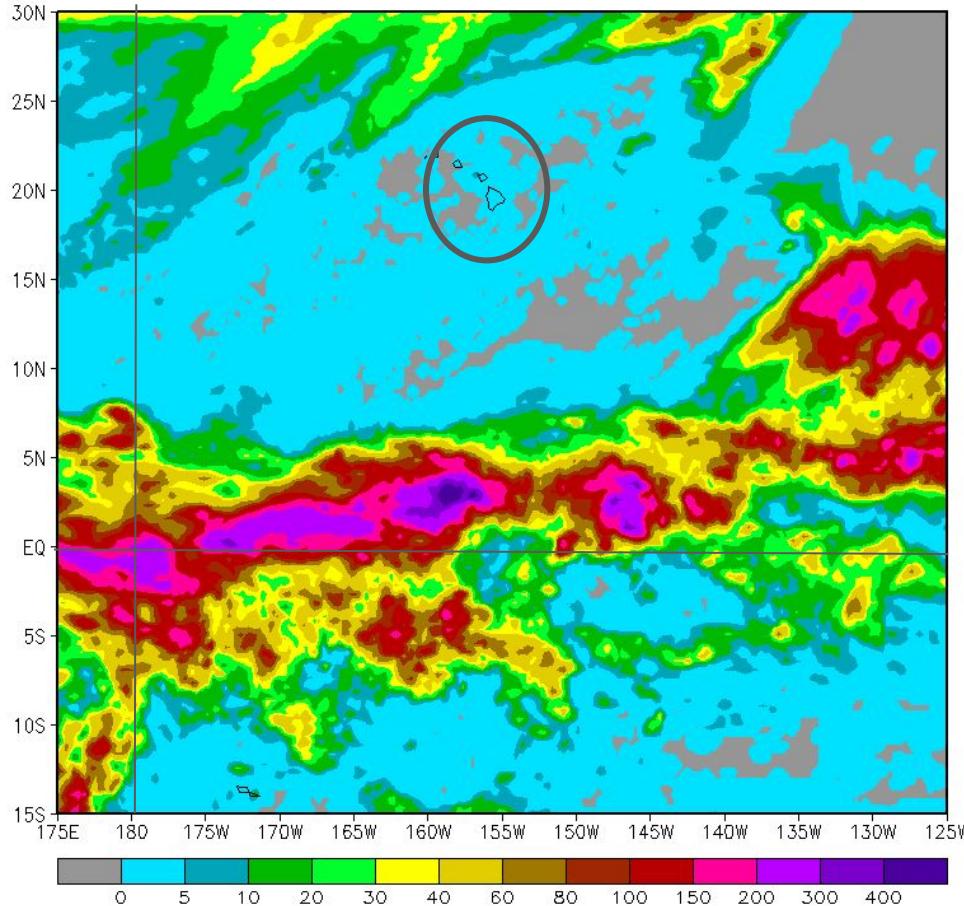
2016



CMORPH 7-day Rainfall Accumulation (mm)  
(08Feb2016 12Z – 15Feb2016 12Z)

CMORPH: 7-Day

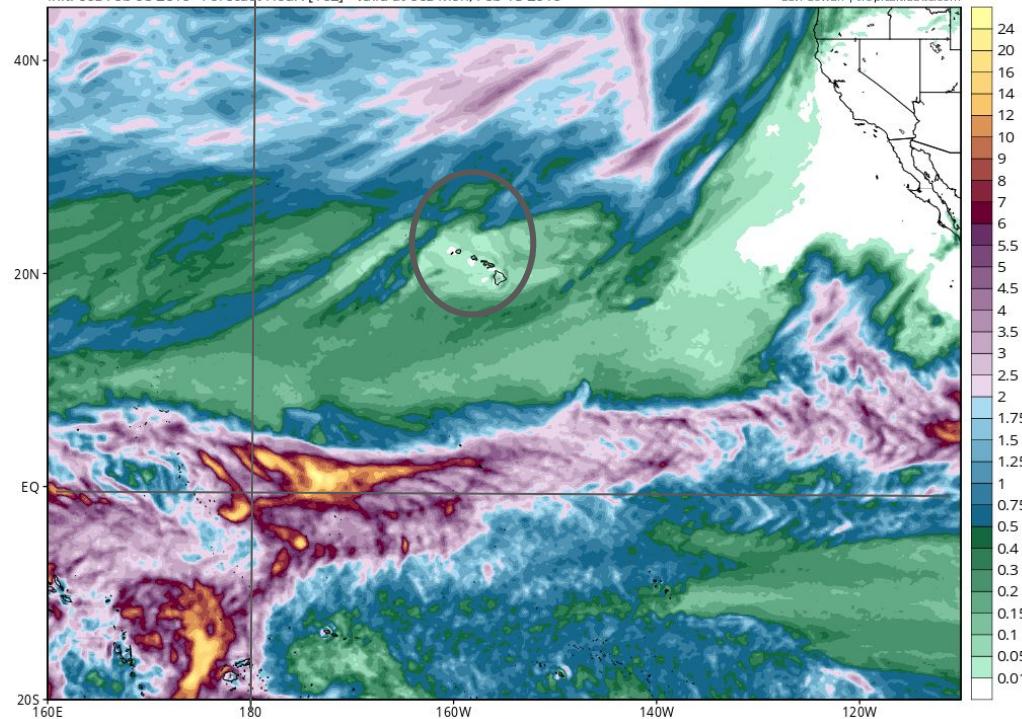
8 - 15 Feb



GFS Total Accumulated Precipitation (inches) from 06z08Feb2016 to 00z15Feb2016

Init: 06z Feb 08 2016 Forecast Hour: [162] valid at 00z Mon, Feb 15 2016

Levi Cowan | [tropicaltidbits.com](http://tropicaltidbits.com)



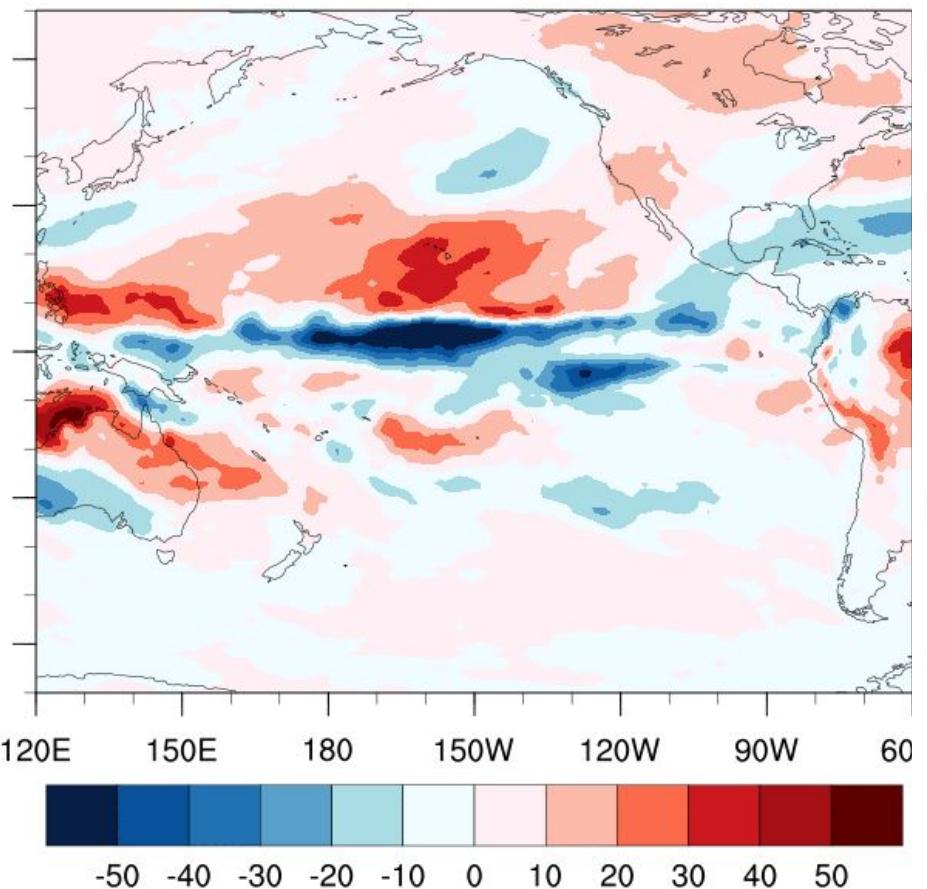
## Initial Condition Dependency of the El Niño Signal

## Day 23-30 Comparison (Analyzed SST - Climo SST)

OLR

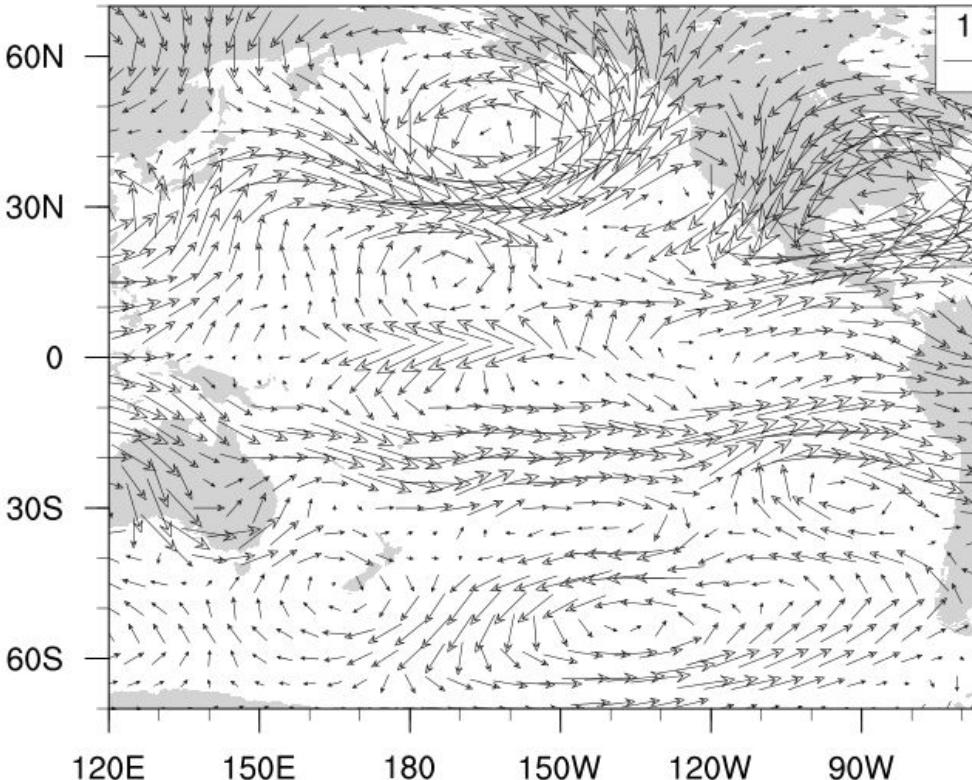
2016/02/21-2016/02/29

W m<sup>-2</sup>



## Day 23-30 Comparison (Analyzed SST - Climo SST)

200 hPa Wind Vectors 2016/02/21-2016/02/29

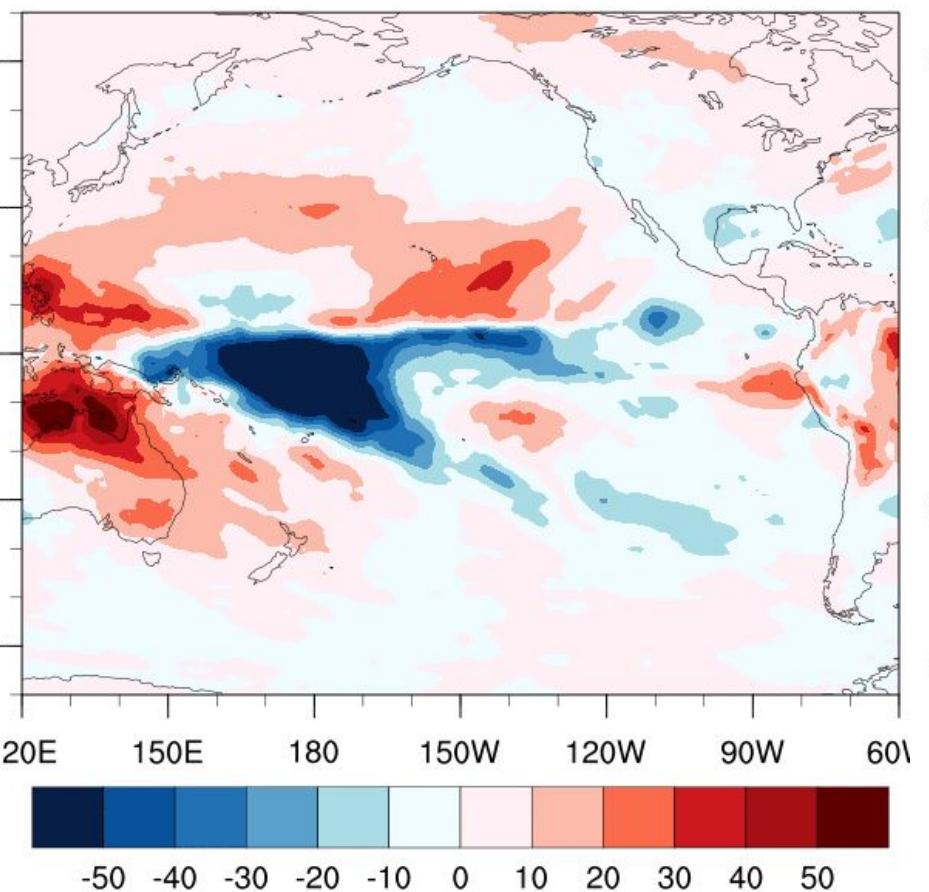


### Day 15-22 Comparison (Analyzed SST - Climo SST)

OLR

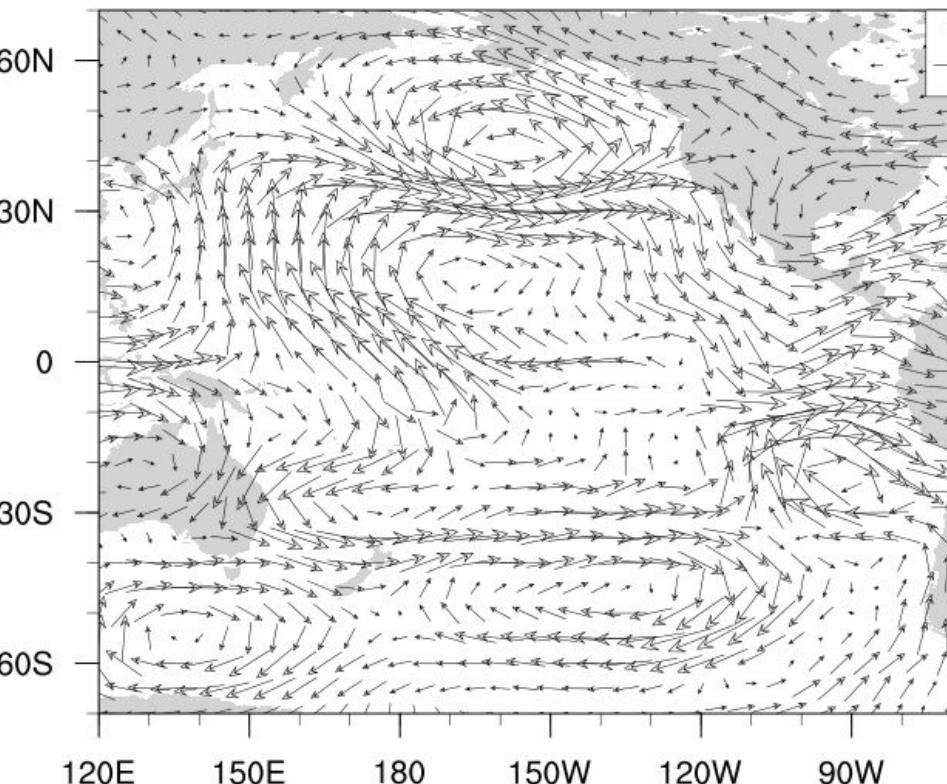
2016/02/21-2016/02/29

W m<sup>-2</sup>



### Day 15-22 Comparison (Analyzed SST - Climo SST)

200 hPa Wind Vectors 2016/02/21-2016/02/29

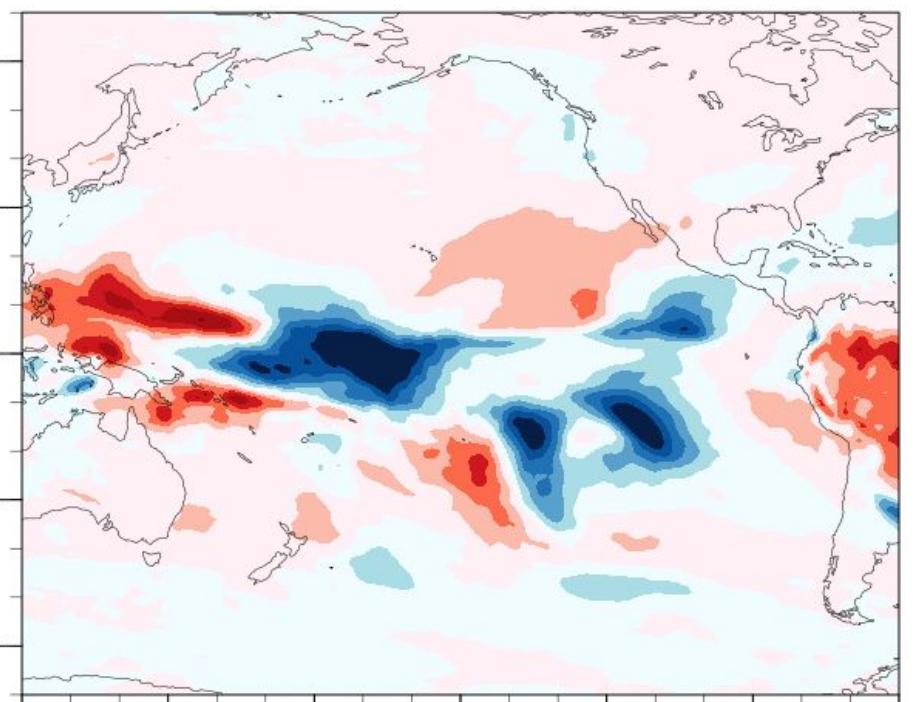


## Day 8-14 Comparison (Analyzed SST - Climo SST)

OLR

2016/02/22-2016/02/29

W m<sup>-2</sup>



## Day 8-14 Comparison (Analyzed SST - Climo SST)

200 hPa Wind Vectors 2016/02/22-2016/02/29

60N

30N

0

30S

60S

120E

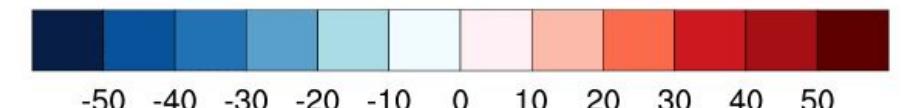
150E

180

150W

120W

90W

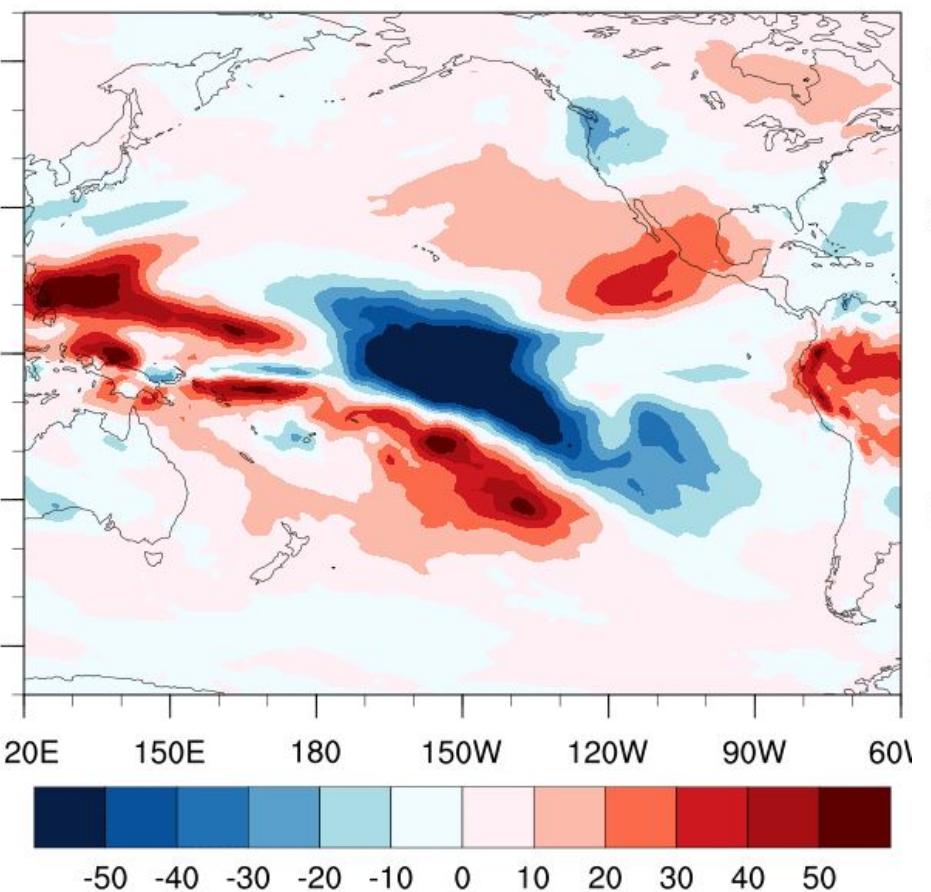


### Day 15-22 Comparison (Analyzed SST - Climo SST)

OLR

2016/02/29-2016/03/08

W m<sup>-2</sup>



### Day 15-22 Comparison (Analyzed SST - Climo SST)

200 hPa Wind Vectors 2016/02/29-2016/03/08

60N

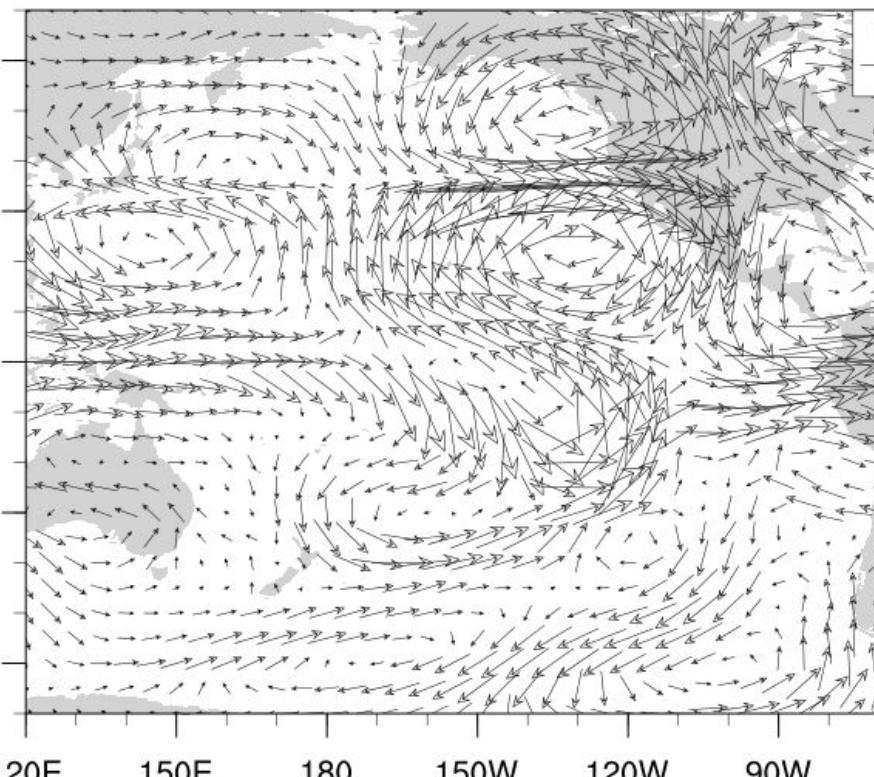
30N

0

30S

60S

120E 150E 180 150W 120W 90W

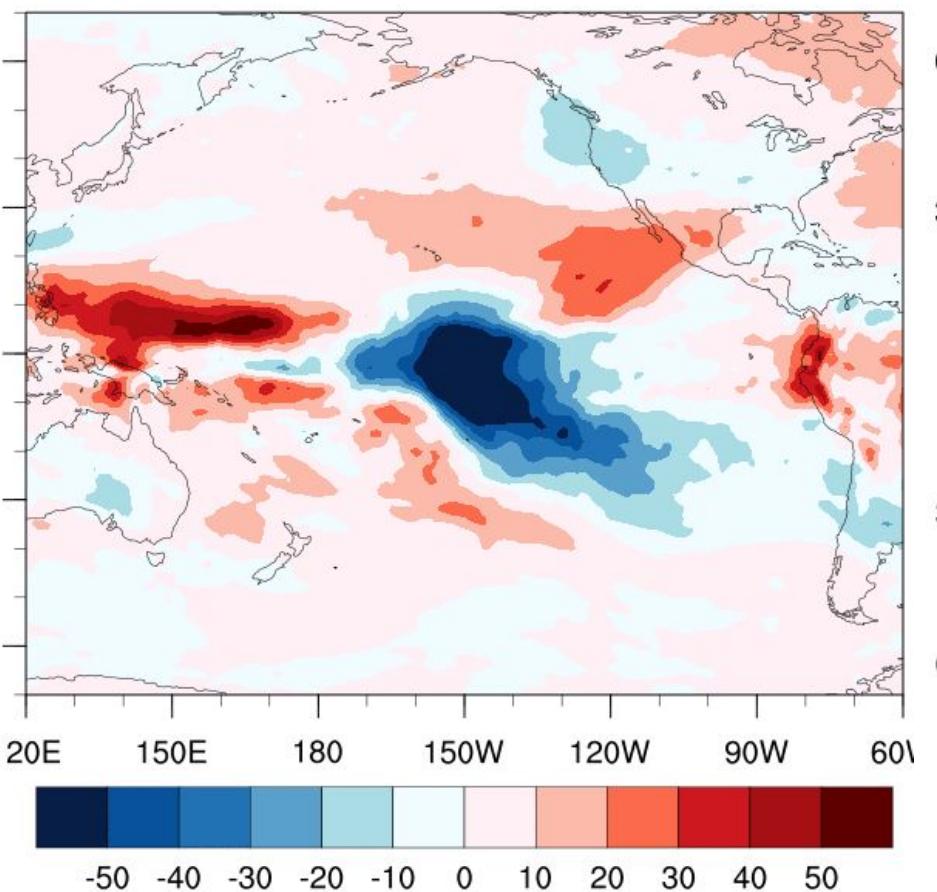


## Day 23-30 Comparison (Analyzed SST - Climo SST)

OLR

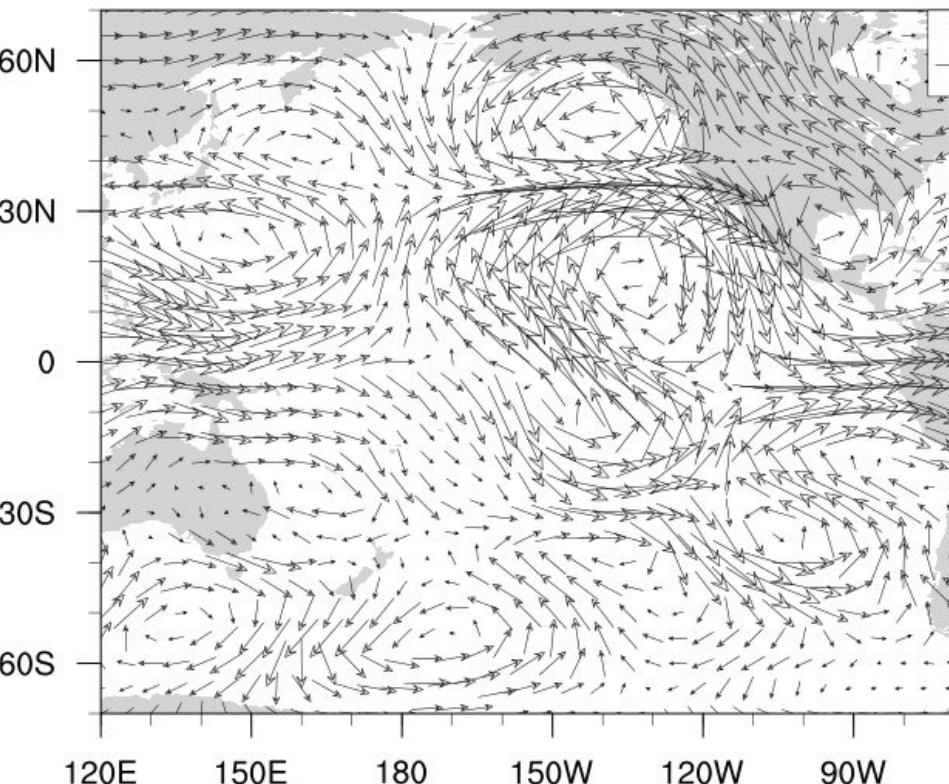
2016/03/08-2016/03/16

W m<sup>-2</sup>



## Day 23-30 Comparison (Analyzed SST - Climo SST)

200 hPa Wind Vectors 2016/03/08-2016/03/16

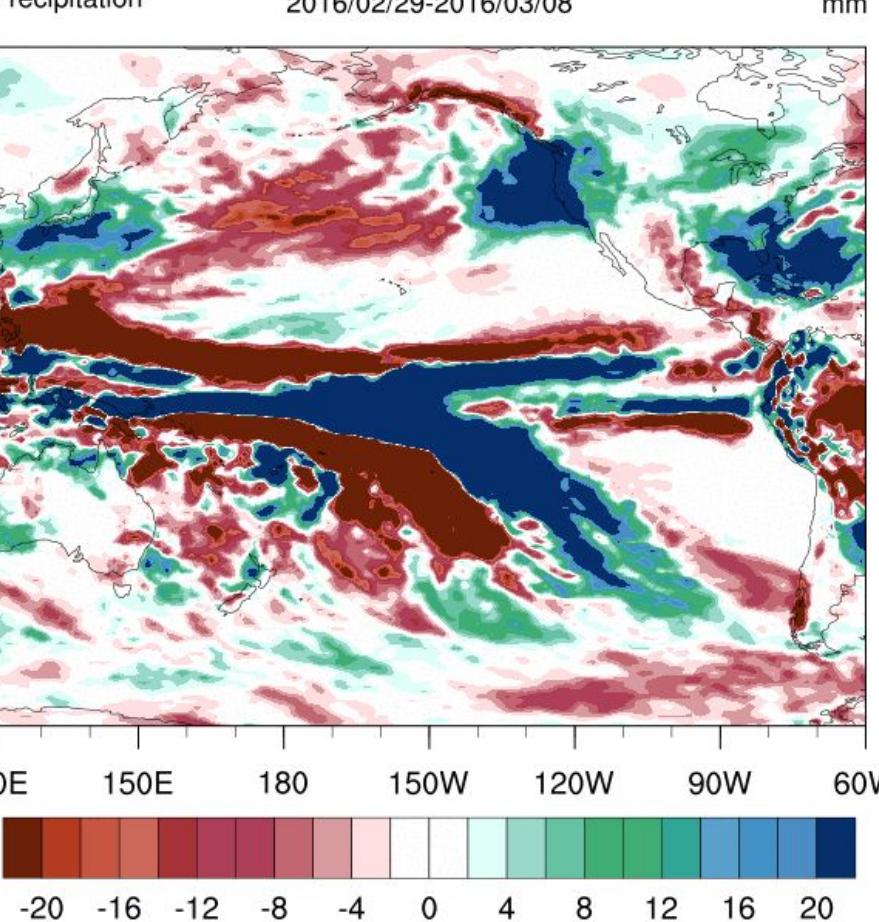
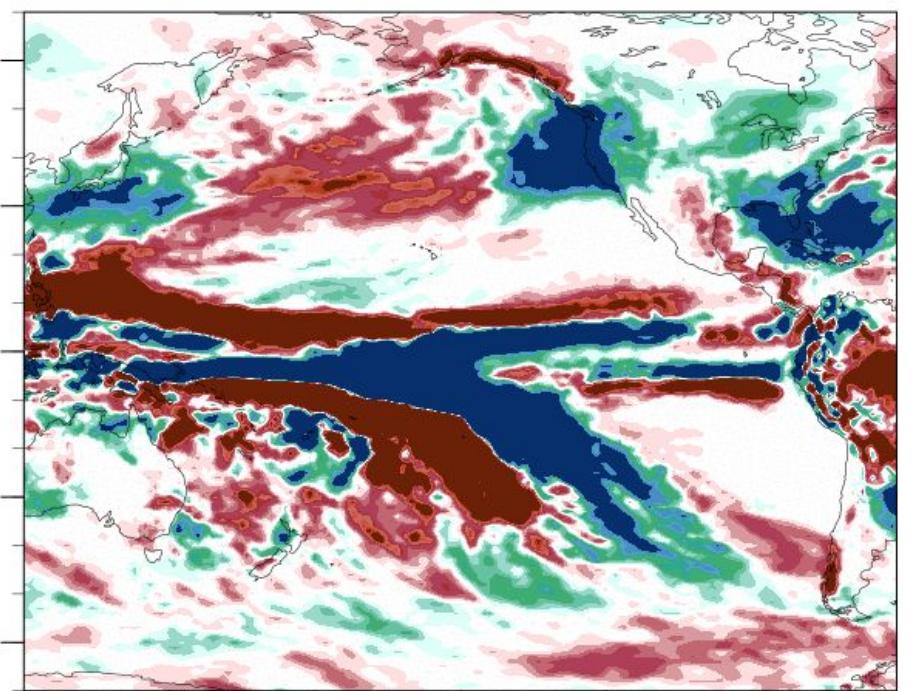


## Day 15-22 Comparison (Analyzed SST - Climo SST)

Precipitation

2016/02/29-2016/03/08

mm



## Day 23-30 Comparison (Analyzed SST - Climo SST)

Precipitation

2016/03/08-2016/03/16

