

Summary of Key Briefing Points
1030-1130am MST TUE Feb 23, 2016

Current Conditions as of TUE 12Z-15Z February 23

Tropics and Mid-latitudes

Over the Tropical Pacific:

- Scatter Activity 3-7N 153W-157W
- Activity of moderate strength, cells drifting NWard.
- Large scale anticyclonic cross-eq flow 130W-160W, centered near 10N

Tropical Outlook

- Convection in FD become quiet for next several days
- Main convection in SPCZ----to remain very active, and eastward displaced

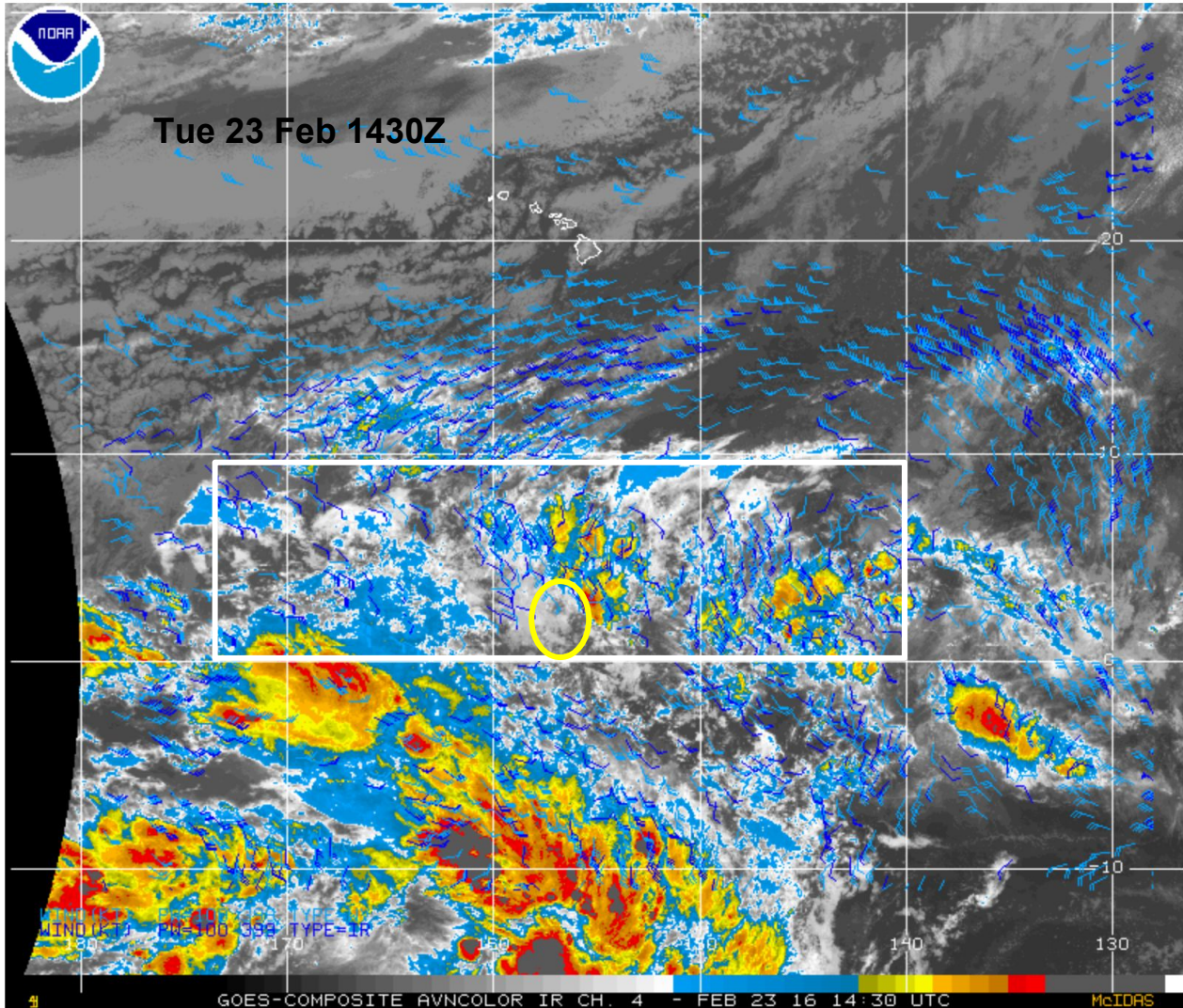
Midlatitude Conditions/Outlook

Short Term:

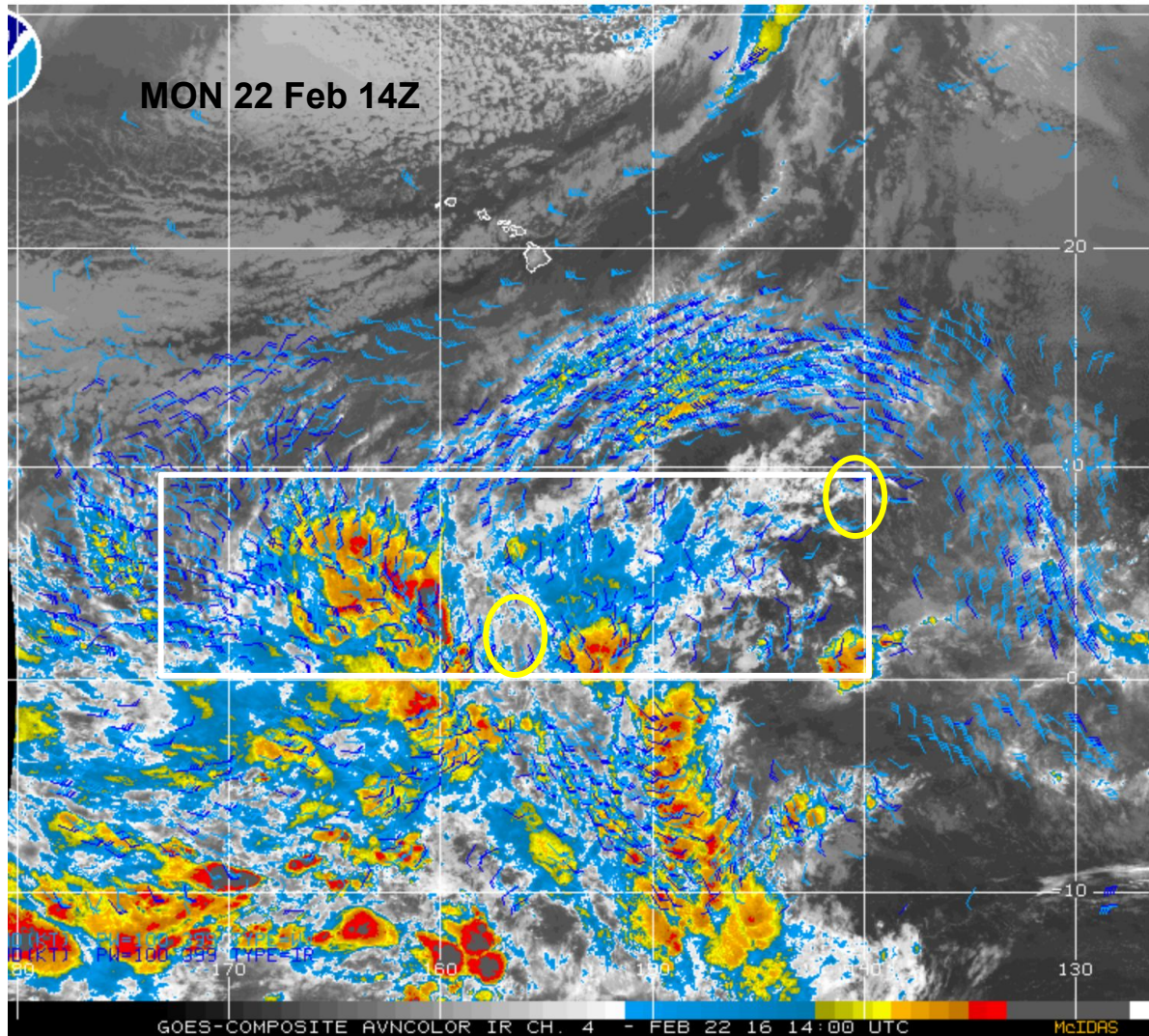
- CA quiet
- **Medium - Long Term:**
- Divergence among models for a possible CAL storm next weekend
 - EC suggesting central-southern CA may see precip next Sunday
 - No such indication in GFS
- No appreciable CA pcpn expected over the next 7-10 days
- Another east coast storm W-TH - bears watching
- Week 2-3 in EC and GFS indicate major change in the Pacific circulation



Tue 23 Feb 1430Z

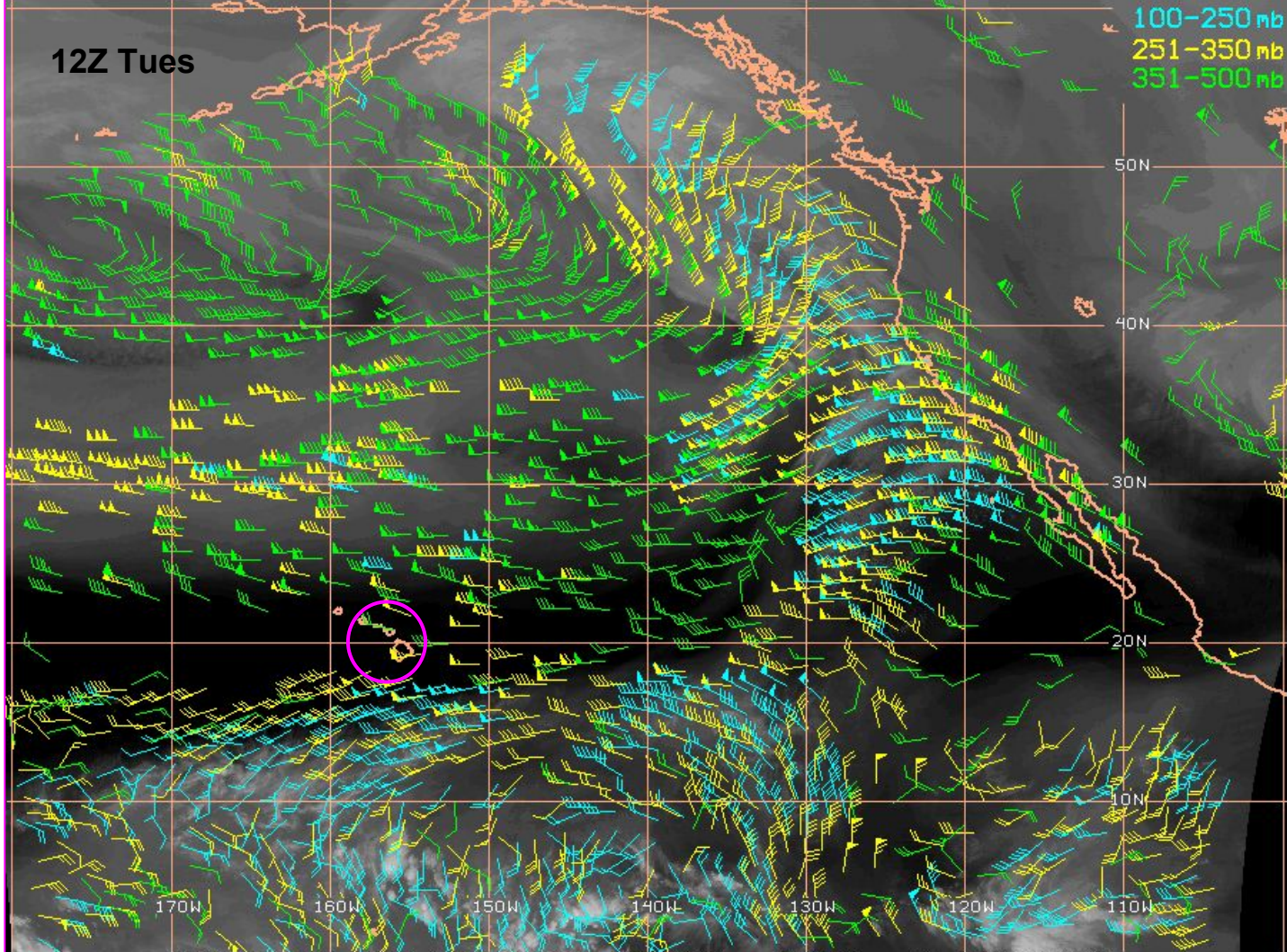


MON 22 Feb 14Z



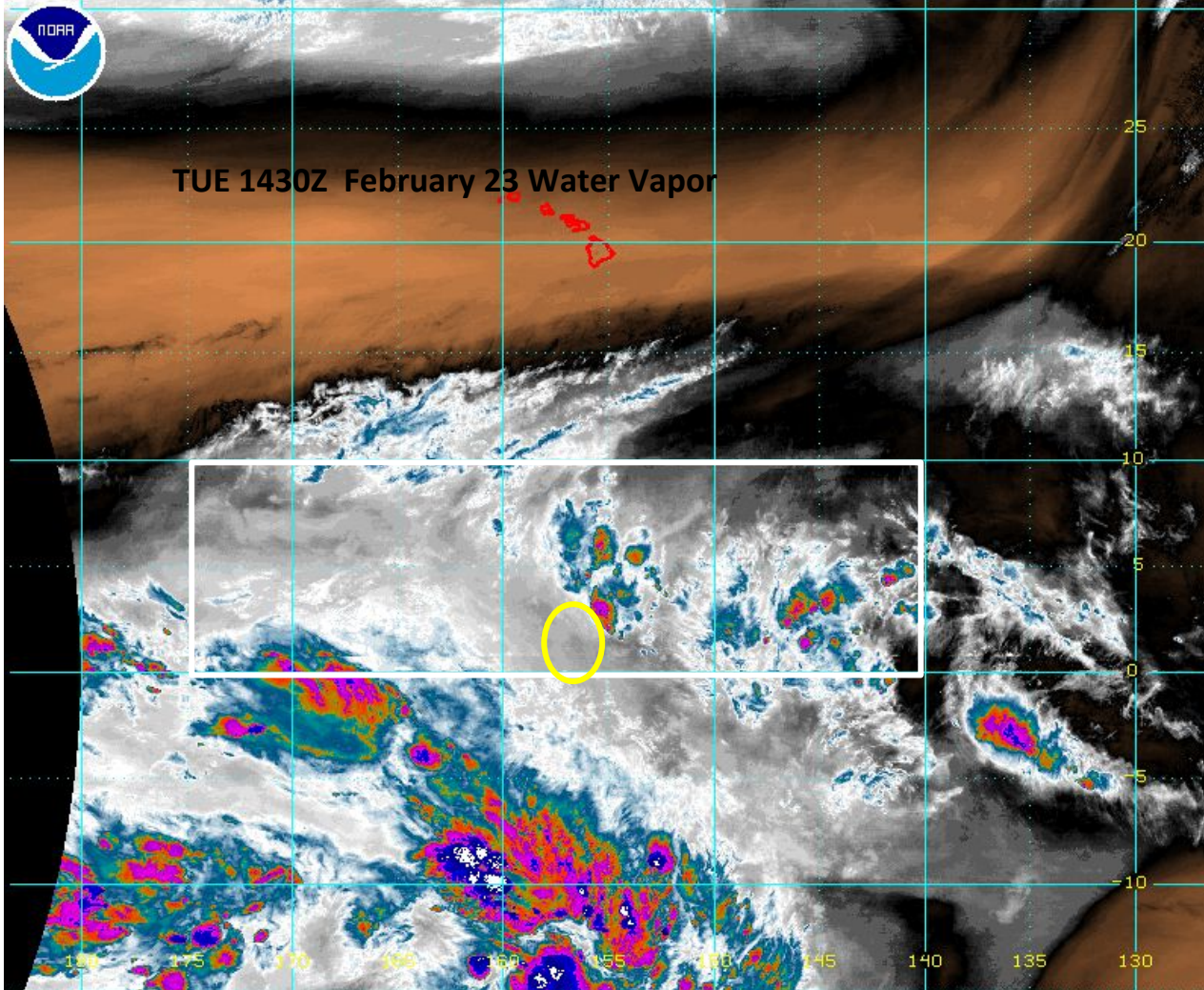
12Z Tues

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



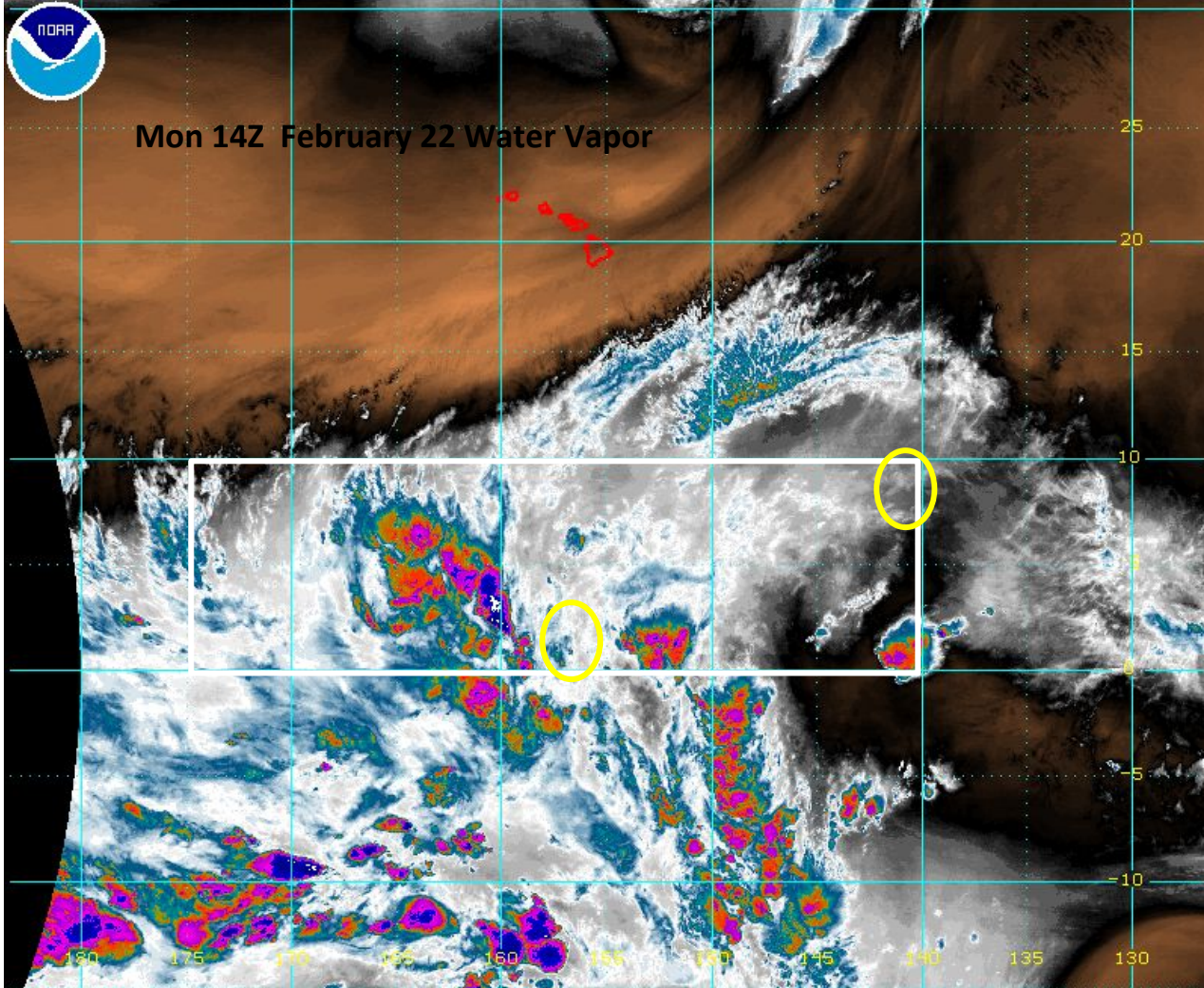


TUE 1430Z February 23 Water Vapor



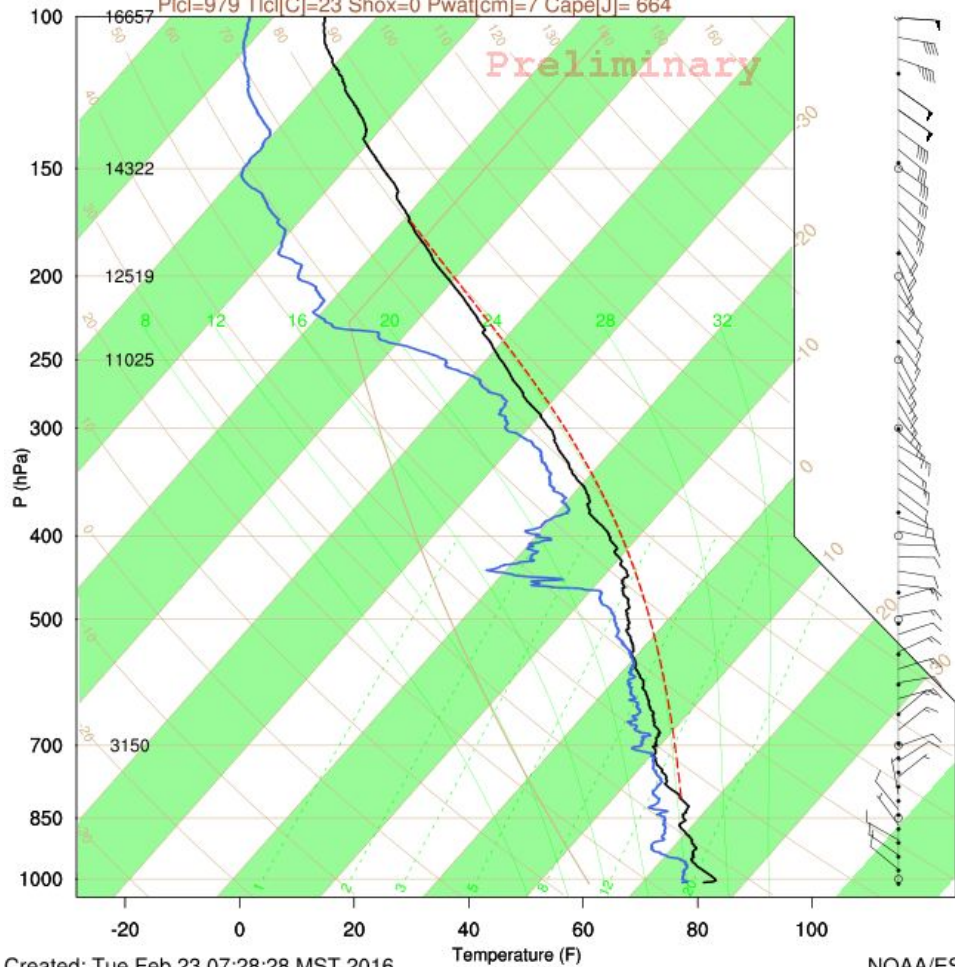


Mon 14Z February 22 Water Vapor



Kiritimati Is: 02/23/2016 1116Z 2.01N 157.40W

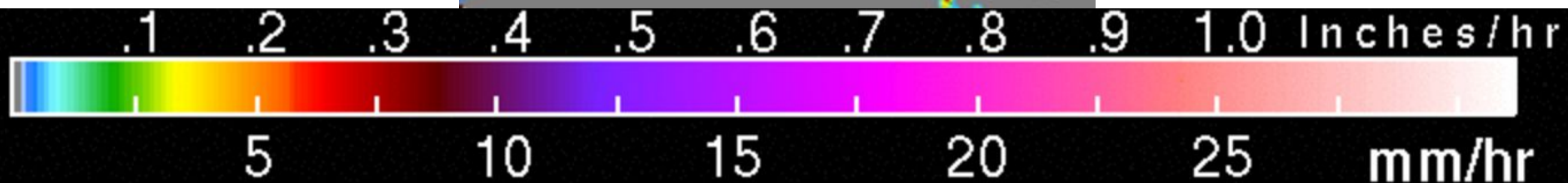
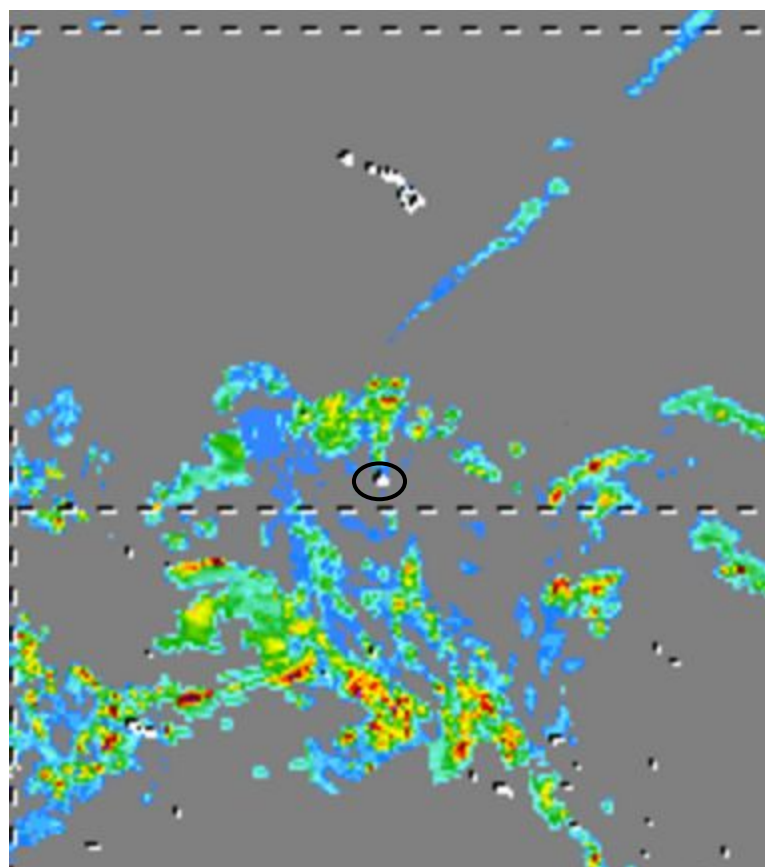
Ptcl=979 Tlcl[C]=23 Shox=0 Pwat[cm]=7 Cape[J]= 664



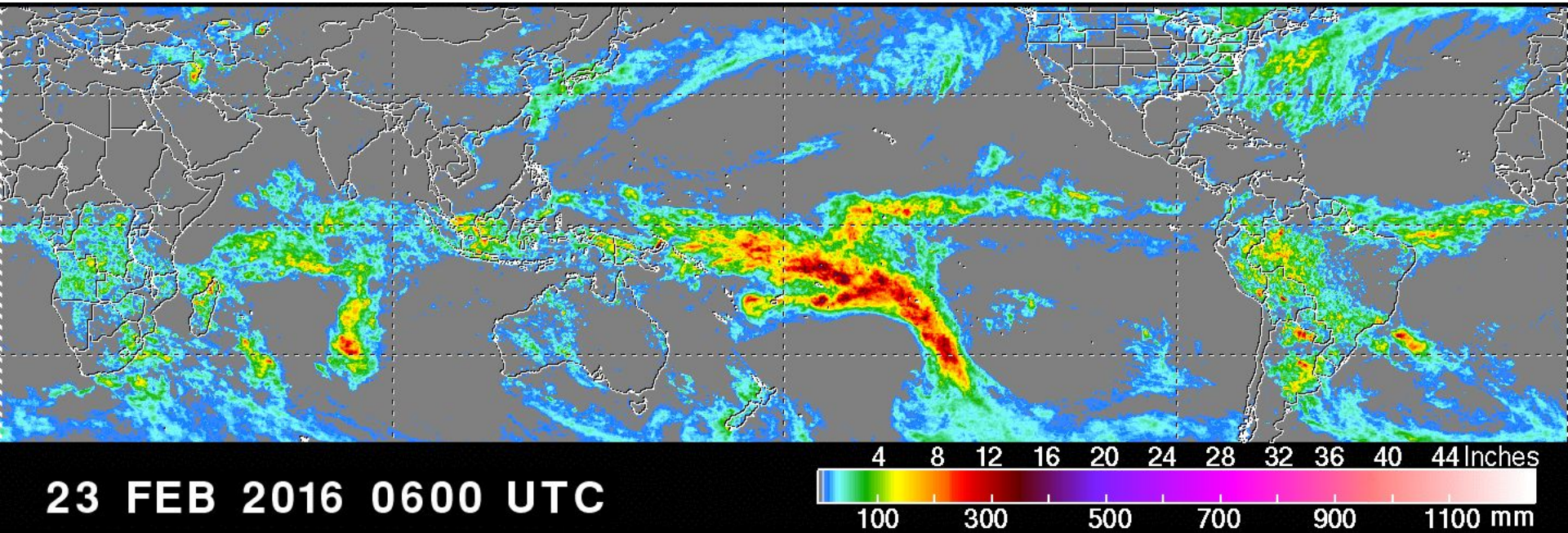
Created: Tue Feb 23 07:28:28 MST 2016

NOAA/ESRL PSD

TRMM 3-Hr Pcpn
Ending 06Z Tues



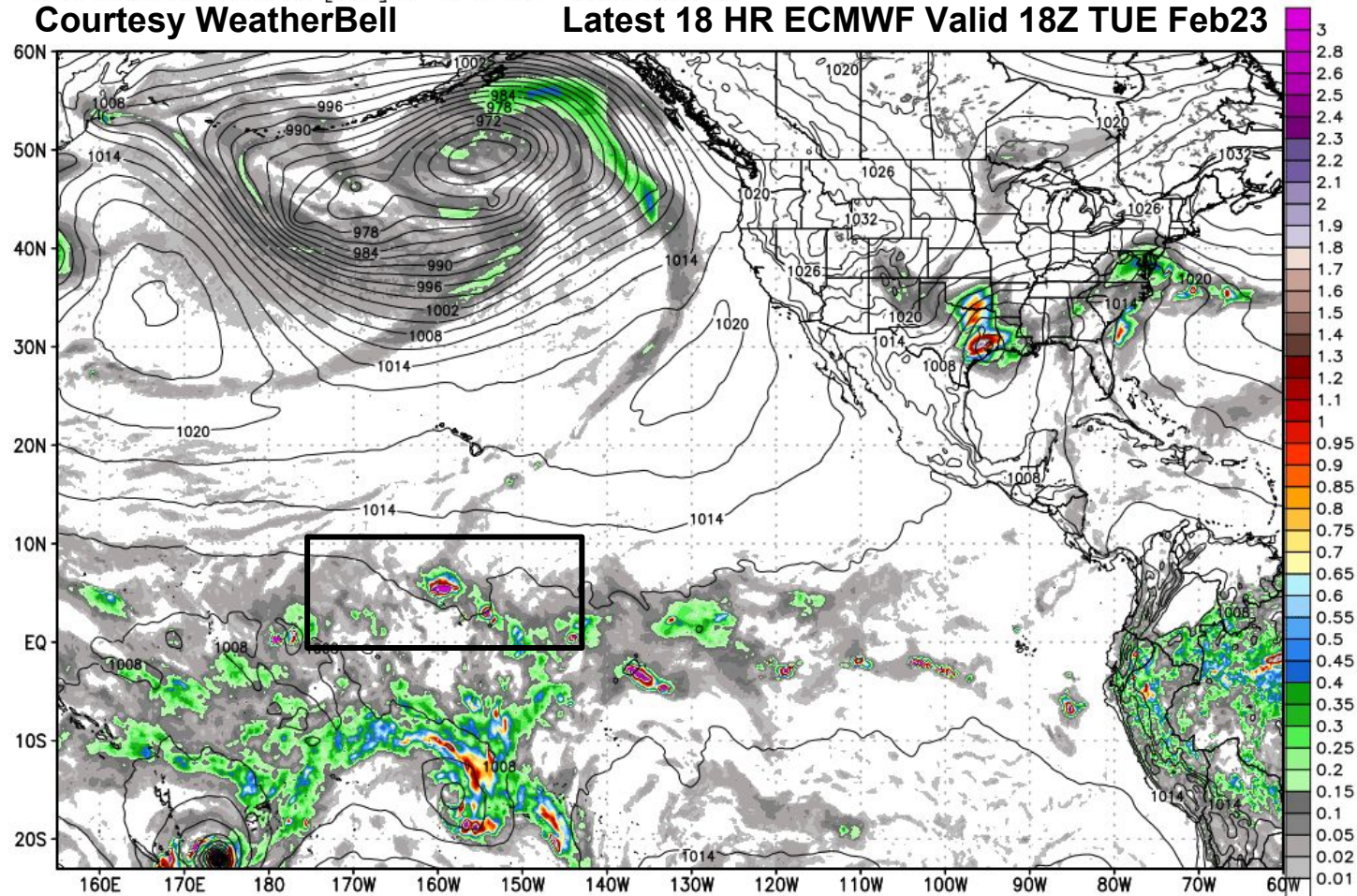
GPM 7 Day Accumulation Ending 06Z 23 Feb



ECMWF 6-hourly Precipitation [inches] between 12Z23FEB2016 -- 18Z23FEB2016 & MSLP [hPa]
INIT: 00Z23FEB2016 fx: [018] hr --> Tue 18Z23FEB2016

Courtesy WeatherBell

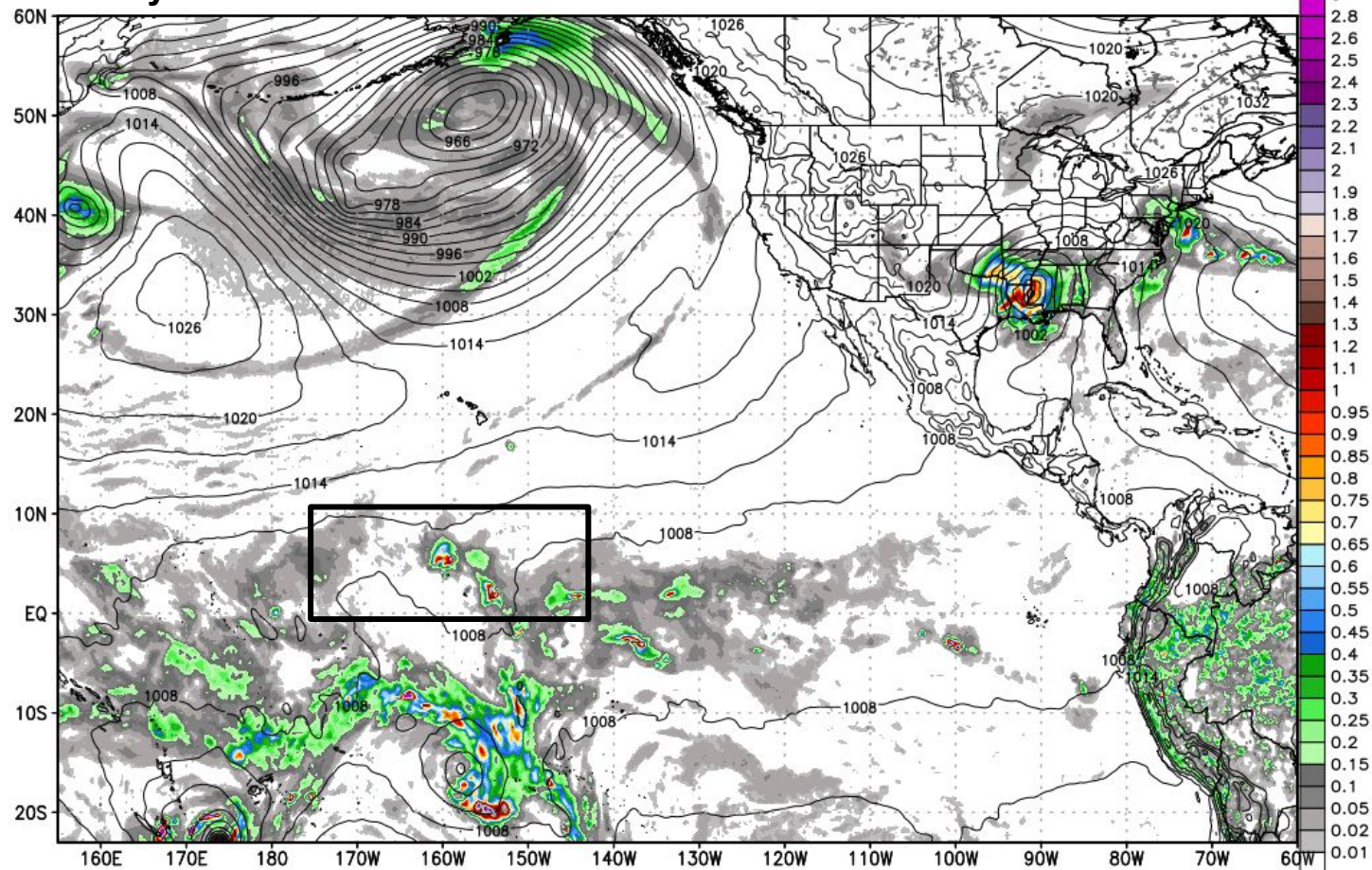
Latest 18 HR ECMWF Valid 18Z TUE Feb23



ECMWF 6-hourly Precipitation [inches] between 18Z23FEB2016 -- 00Z24FEB2016 & MSLP [hPa]
INIT: 00Z23FEB2016 fx: [024] hr --> Wed 00Z24FEB2016

Courtesy WeatherBell

Latest 24 HR ECMWF Valid 00Z TWED Feb24



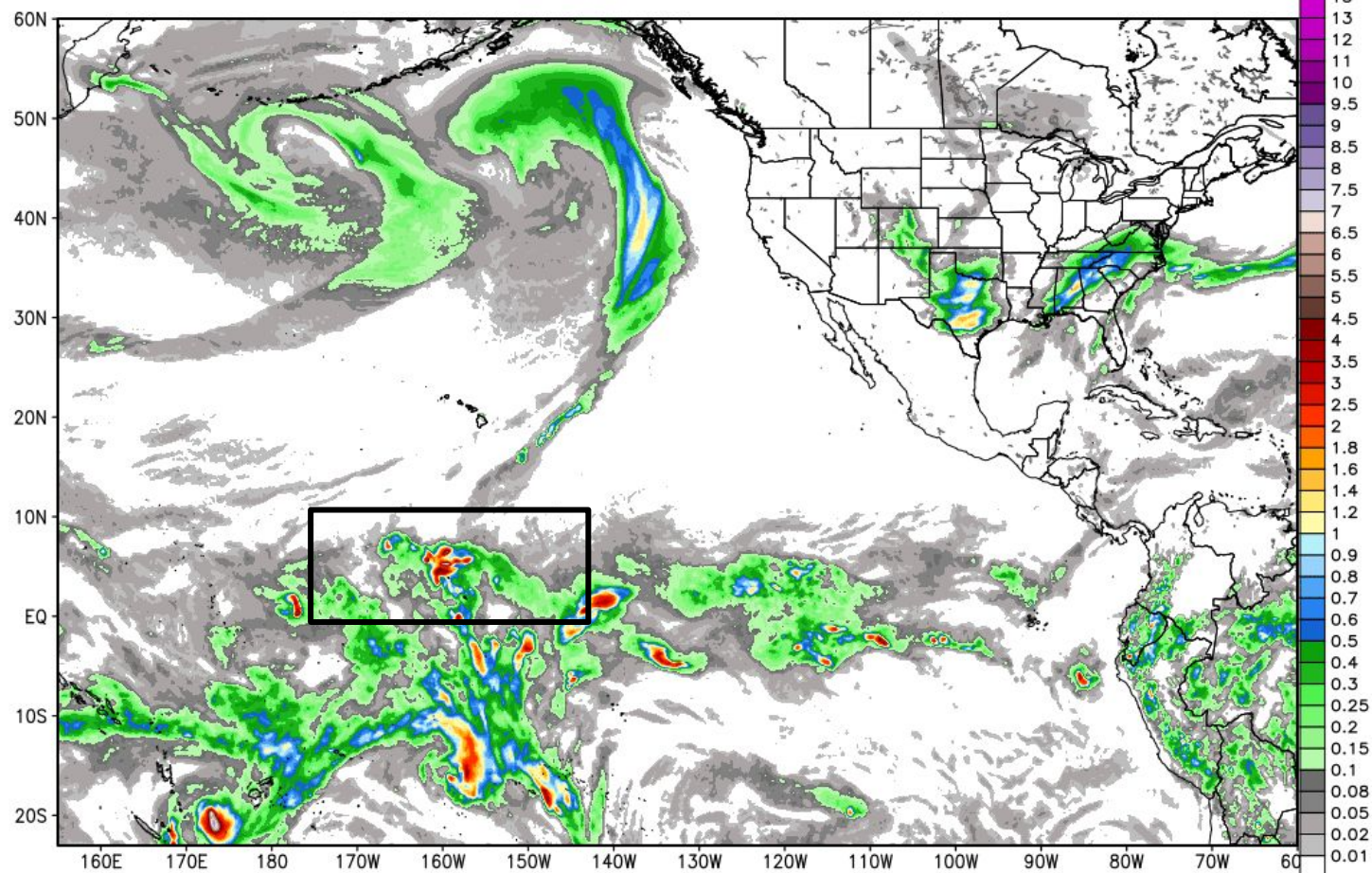
ECMWF Total Precipitation [inches] between 00Z23FEB2016 -- 12Z23FEB2016

INIT: 00Z23FEB2016 fx: [012] hr --> Tue 12Z23FEB2016

Max 8.2 in

Total PCPN

Latest 12 HR ECMWF END 12Z TUE Feb23



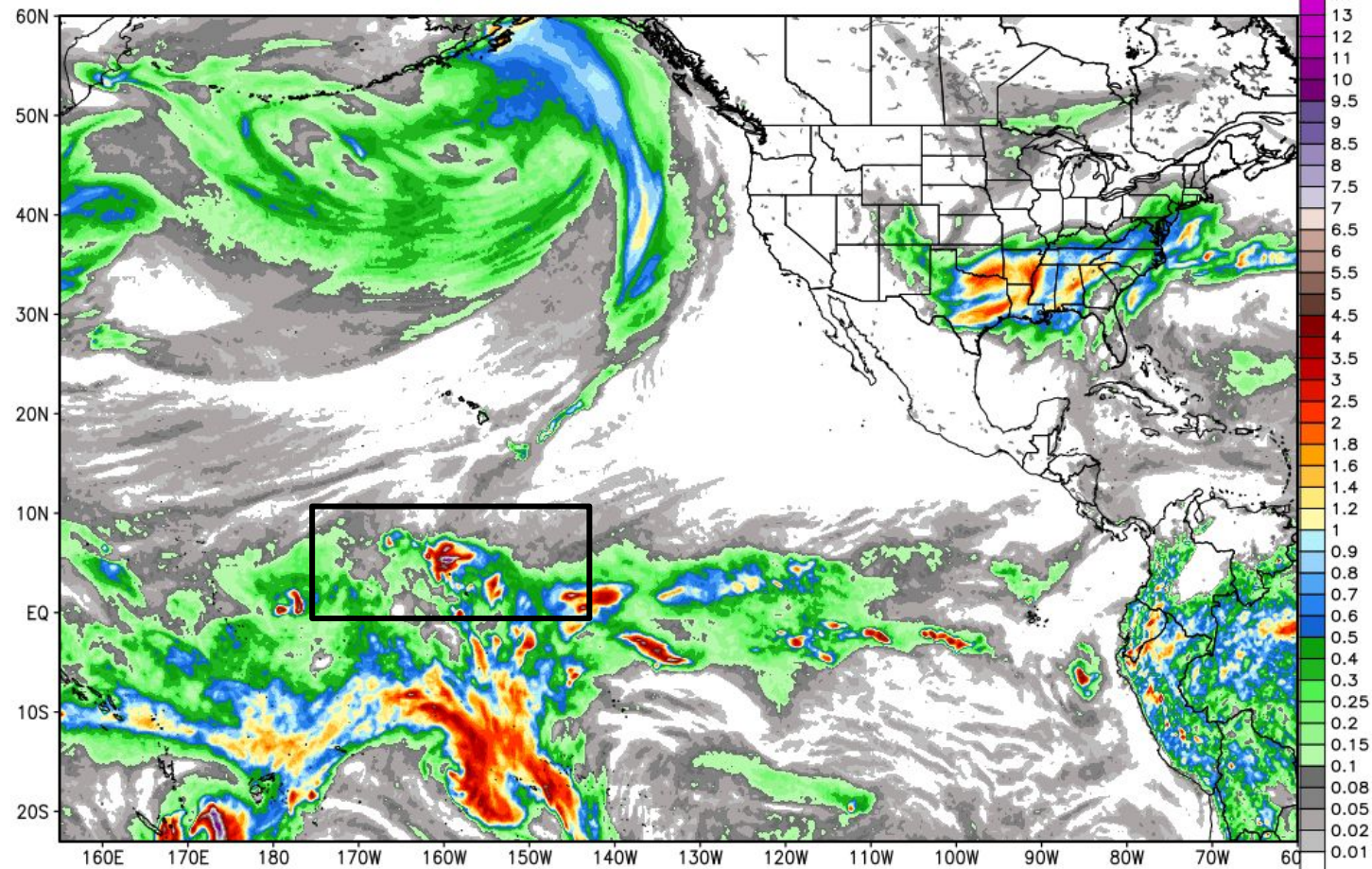
ECMWF Total Precipitation [inches] between 00Z23FEB2016 -- 06Z24FEB2016

INIT: 00Z23FEB2016 fx: [030] hr --> Wed 06Z24FEB2016

Max 11.6 in

Total PCPN

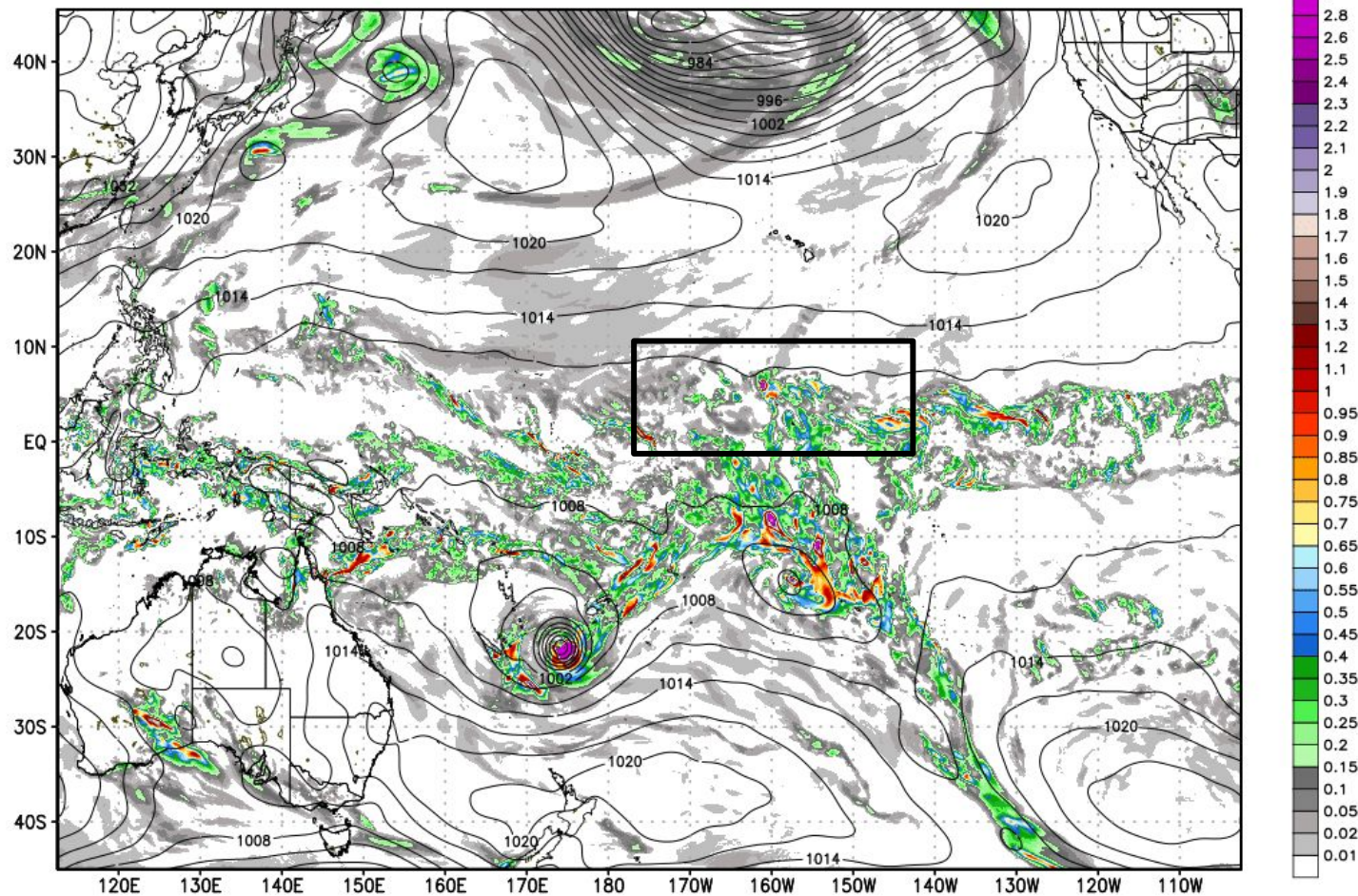
Latest 30 HR ECMWF END 06Z WED Feb24



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 12Z23FEB2016 fx: [006] hr --> Tue 18Z23FEB2016

Max: 7.3 in.

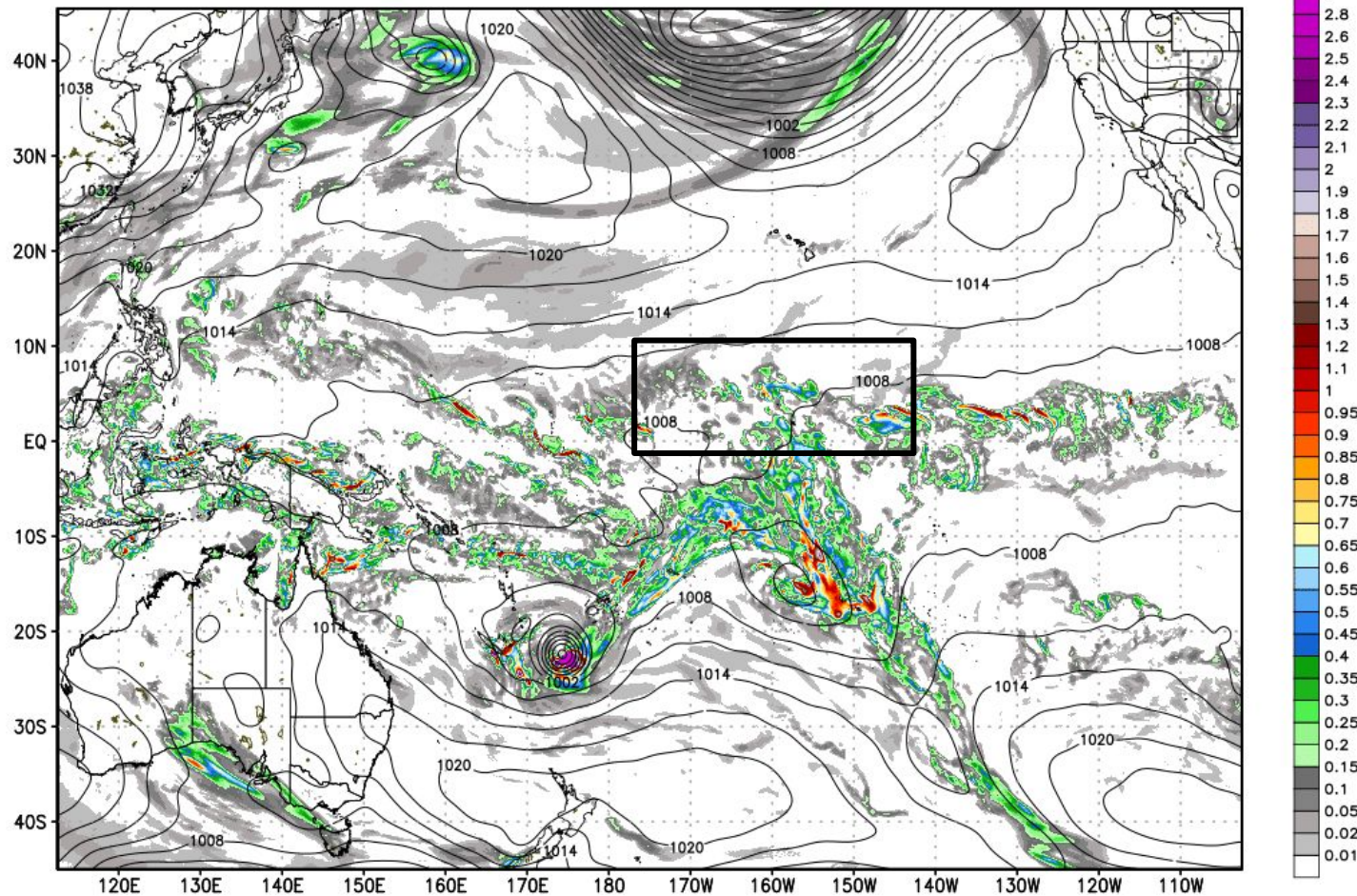
GFS 6HR Valid 18Z TUE 23 Feb



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 12Z23FEB2016 fx: [012] hr --> Wed 00Z24FEB2016

Max: 6.3 in.

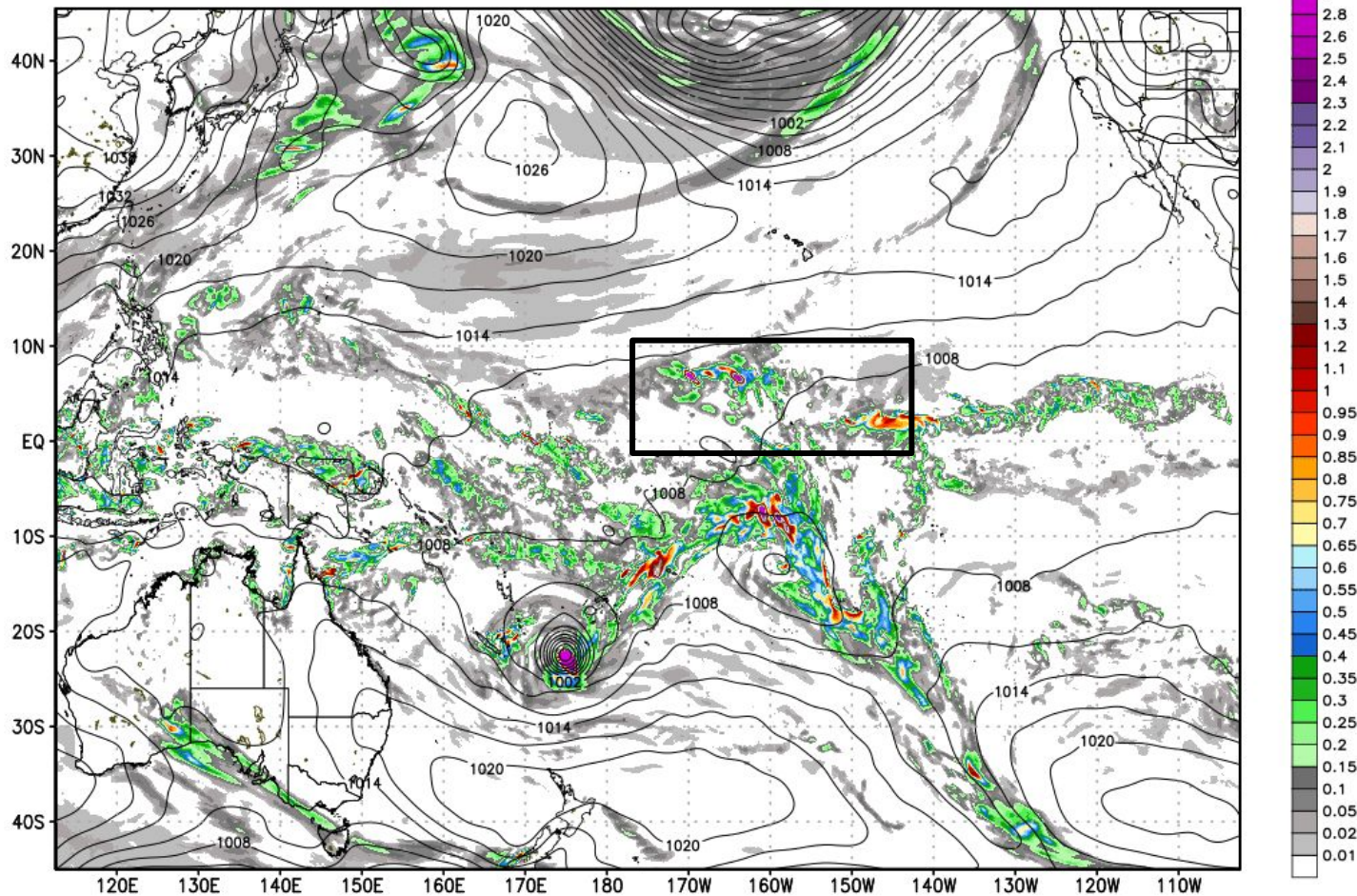
GFS 12HR Valid 00Z WED 24 Feb



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 12Z22FEB2016 fx: [036] hr --> Wed 00Z24FEB2016

Max: 11.7 in.

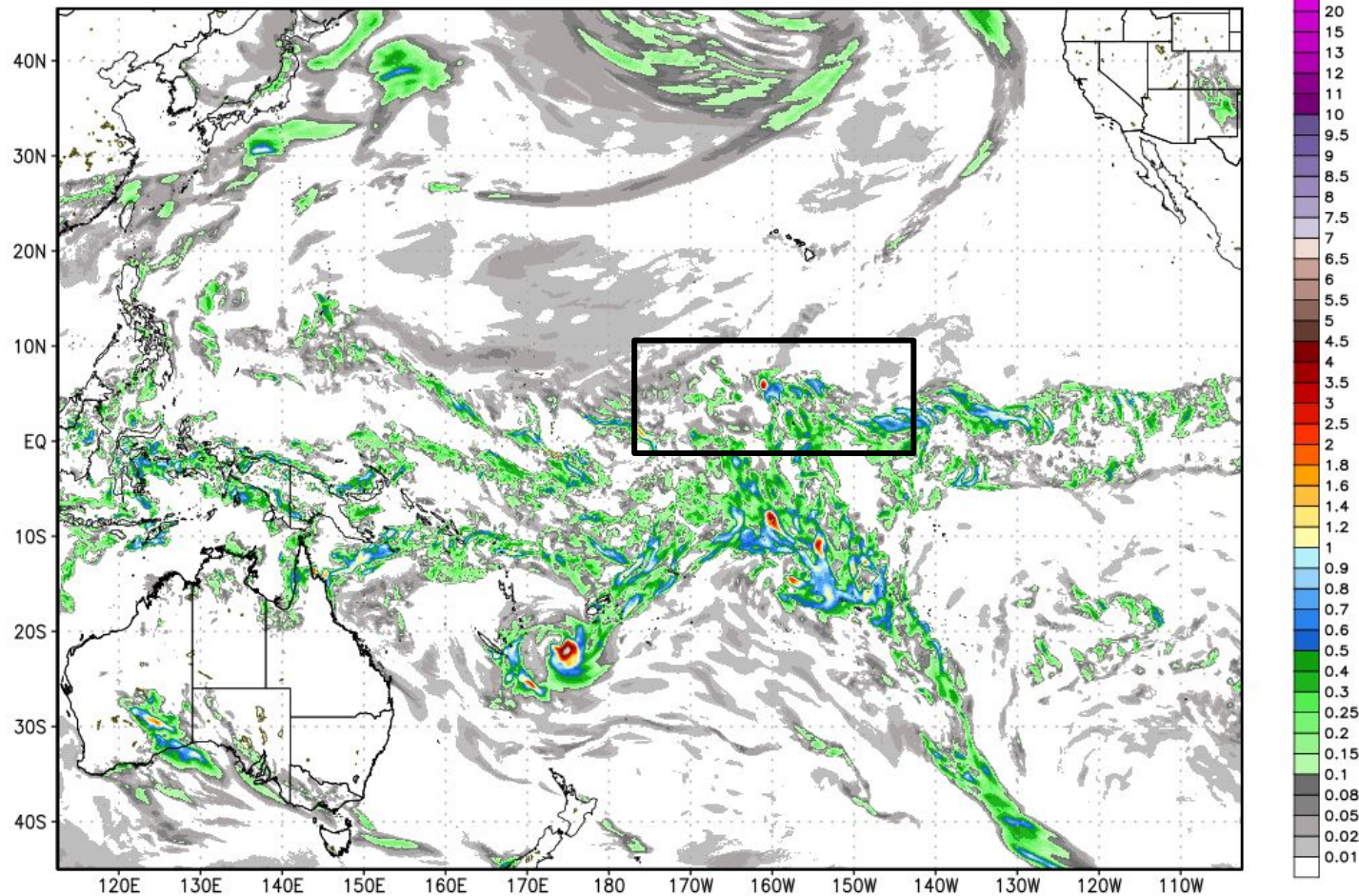
Prior GFS 36HR Valid 00Z WED 24 Feb



NCEP GFS Accum Precip [inch]
INIT: 12Z23FEB2016 fx: [006] hr --> Tue 18Z23FEB2016

Max: 7.3 in.

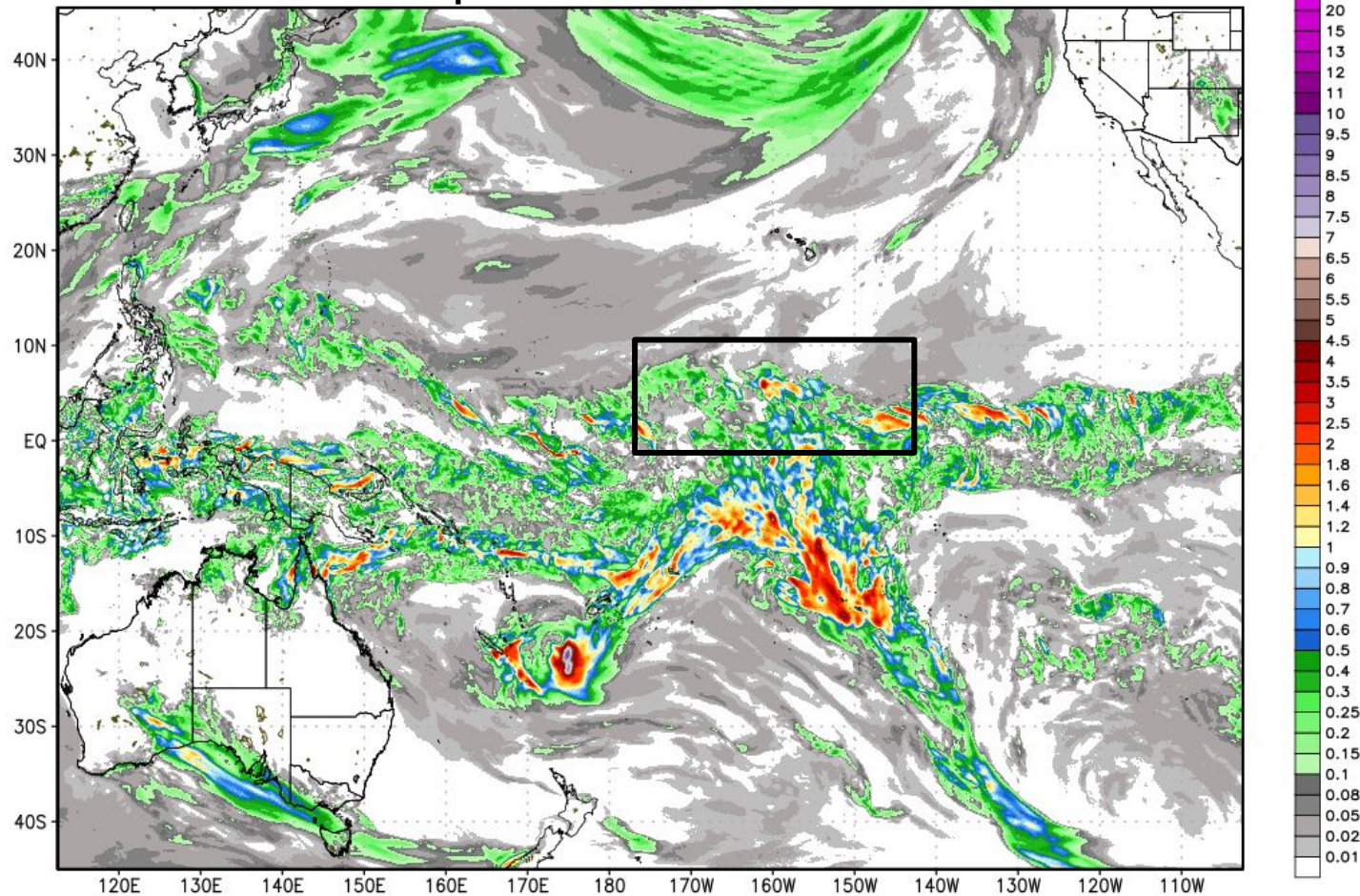
GFS 6HR Total Pcpn Valid 18Z TUE 23 Feb



NCEP GFS Accum Precip [inch]
INIT: 12Z23FEB2016 fx: [018] hr --> Wed 06Z24FEB2016

Max: 10.0 in.

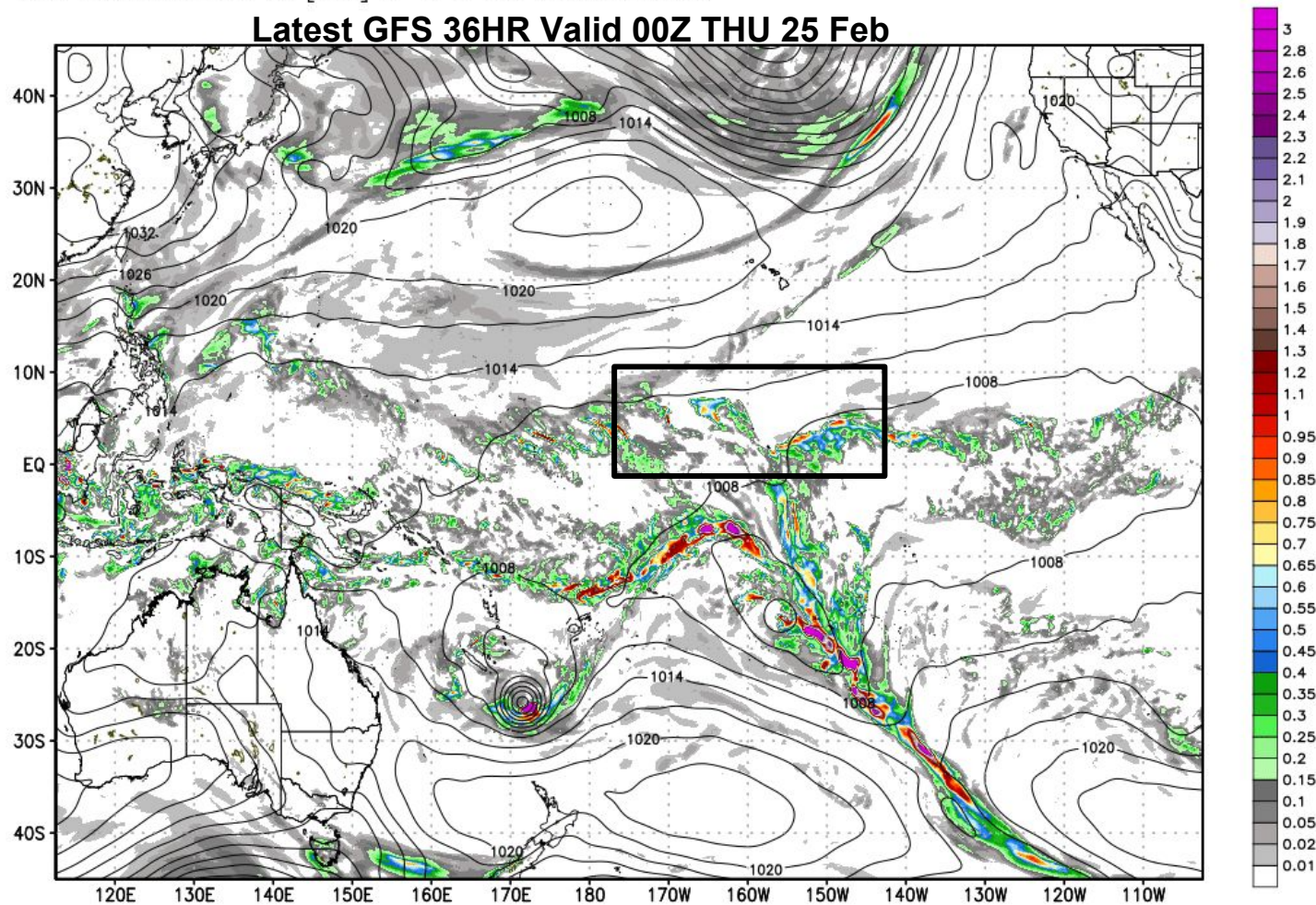
GFS 18HR Total Pcpn Valid 06Z WED 24 Feb



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 12Z23FEB2016 fx: [036] hr --> Thu 00Z25FEB2016

Max: 8.6 in.

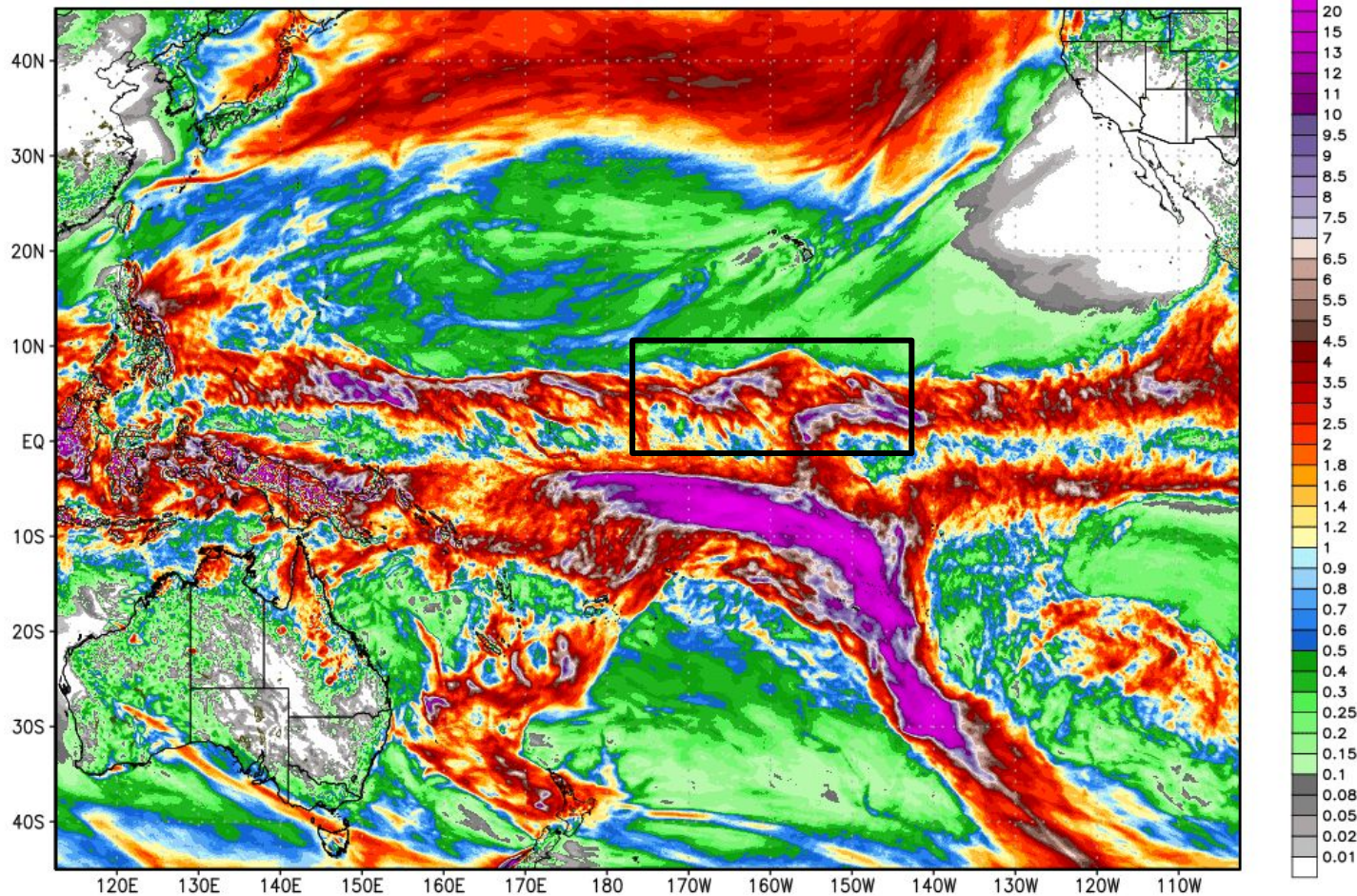
Latest GFS 36HR Valid 00Z THU 25 Feb



NCEP GFS Accum Precip [inch]
INIT: 06Z23FEB2016 fx: [240] hr --> Fri 06Z04MAR2016

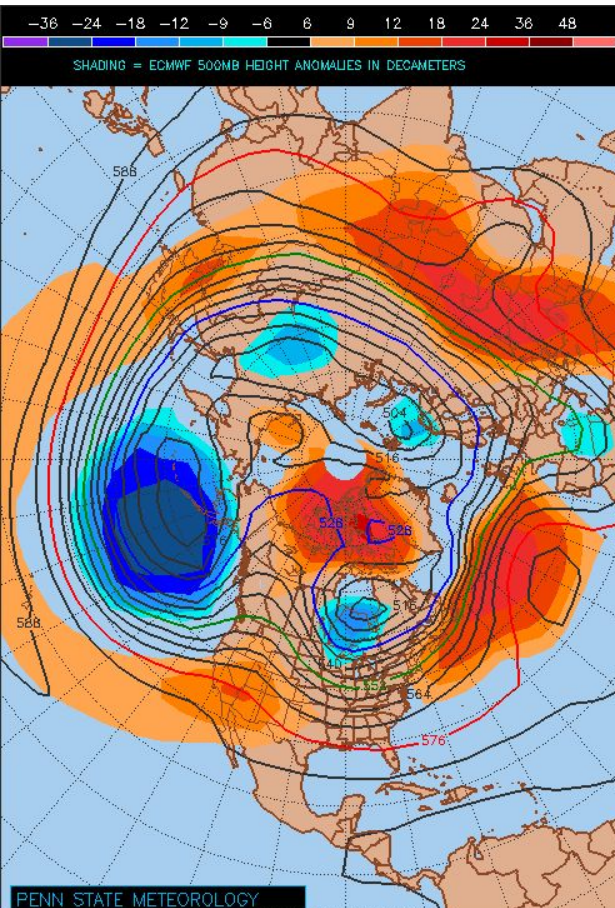
Max: 82.5 in.

GFS 10 Day Total Pcpn: Ending Fri March 4

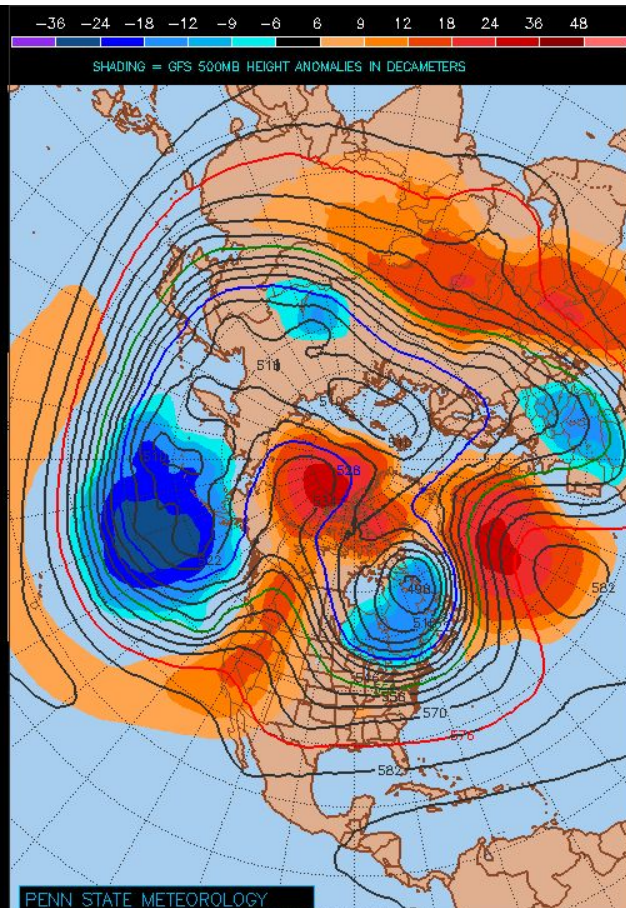


Medium - Long Range Forecast

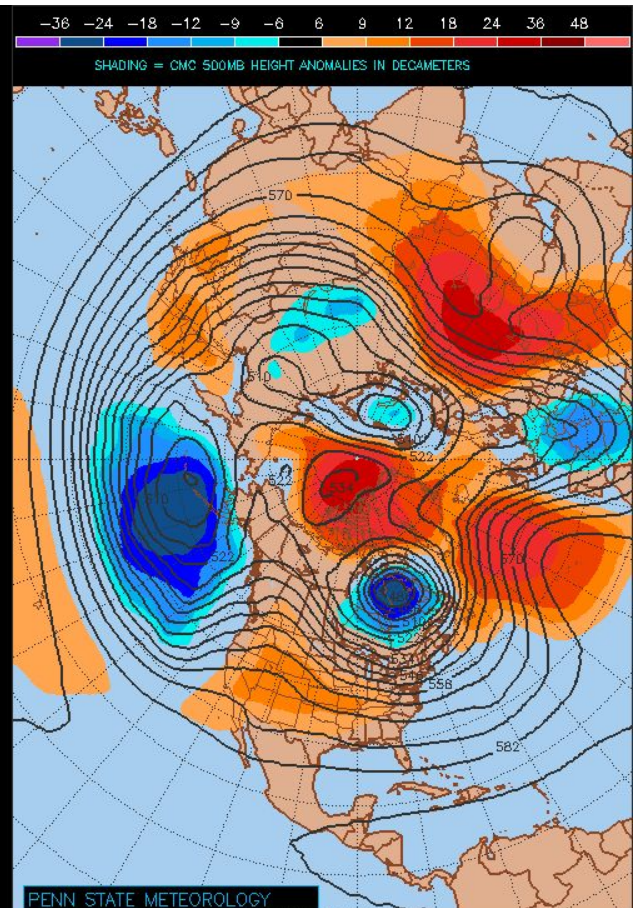
Day 7-10 Initialized 00Z SAT 20 Feb



ECMWF 168-240 HR MEAN 500MB HGT
ENDING TIME = THU 160303/0000Z2410 SUN 080301/0000V000
INITIAL TIME = 160222/0000F240



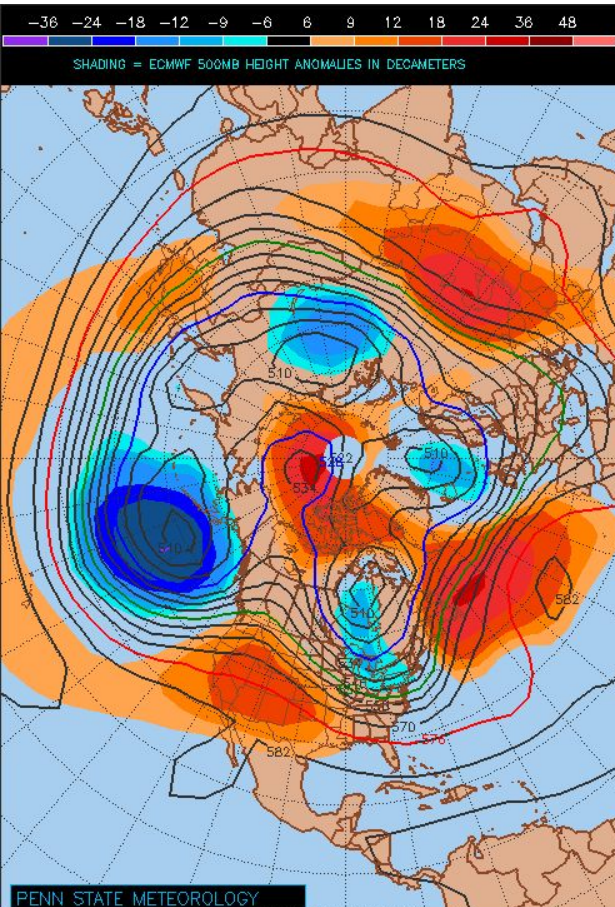
GFS 168-240 HR MEAN 500MB HGT



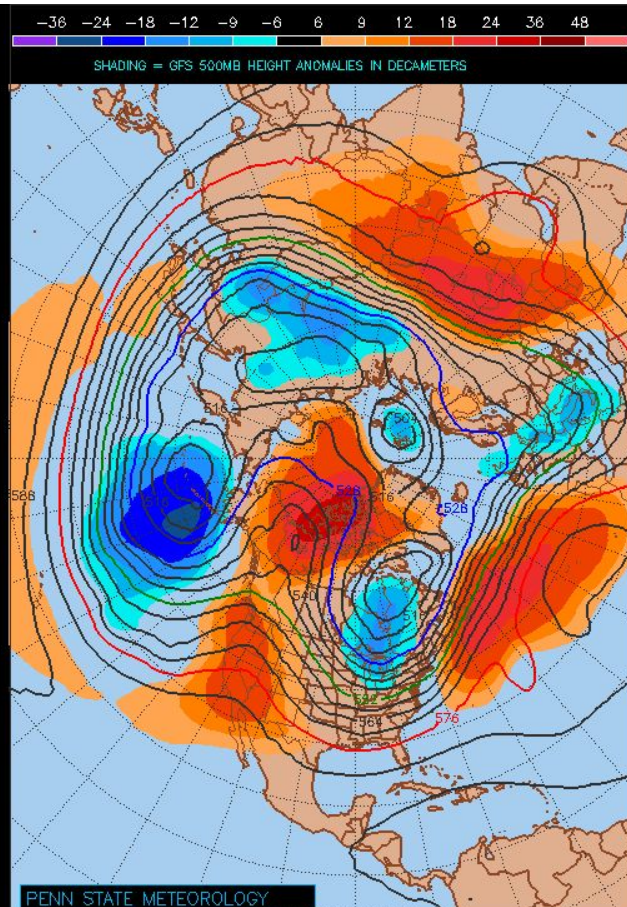
CMC 168-240 HR MEAN 500MB HGT

Medium - Long Range Forecast

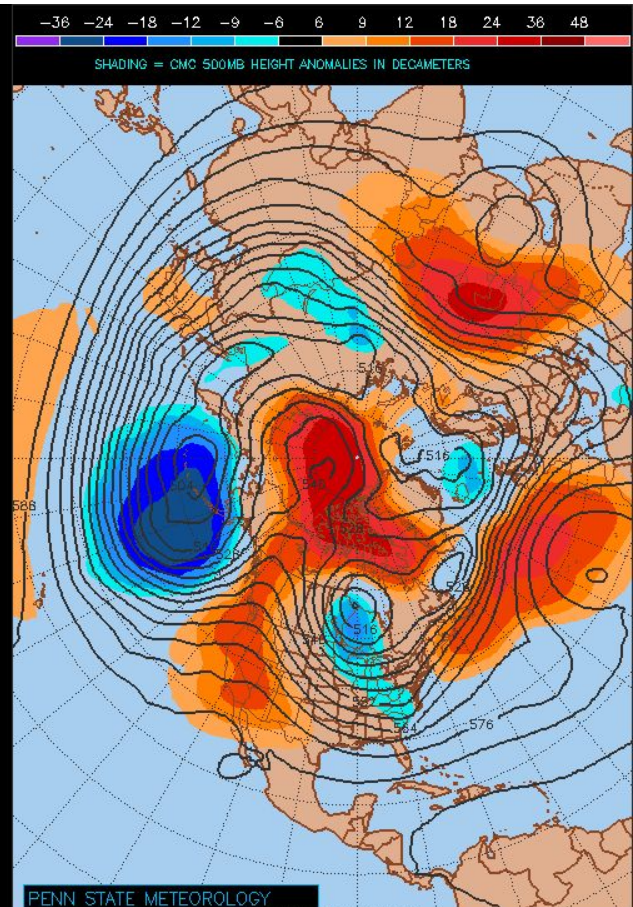
Day 7-10 Initialized 00Z TUE 23 Feb



ECMWF 168-240 HR MEAN 500MB HGT
ENDING TIME = FRI 160304/0000V240 MON 080302/0000V000
INITIAL TIME = 160223/0000F240



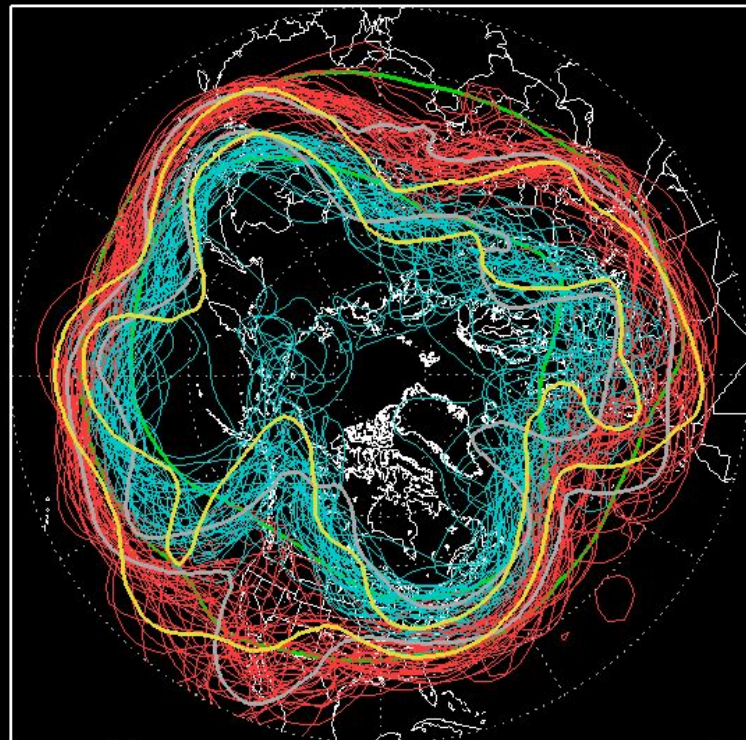
GFS 168-240 HR MEAN 500MB HGT



CMC 168-240 HR MEAN 500MB HGT

NCEP ENSEMBLE 500mb Z

288H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Sun MAR,06 2016

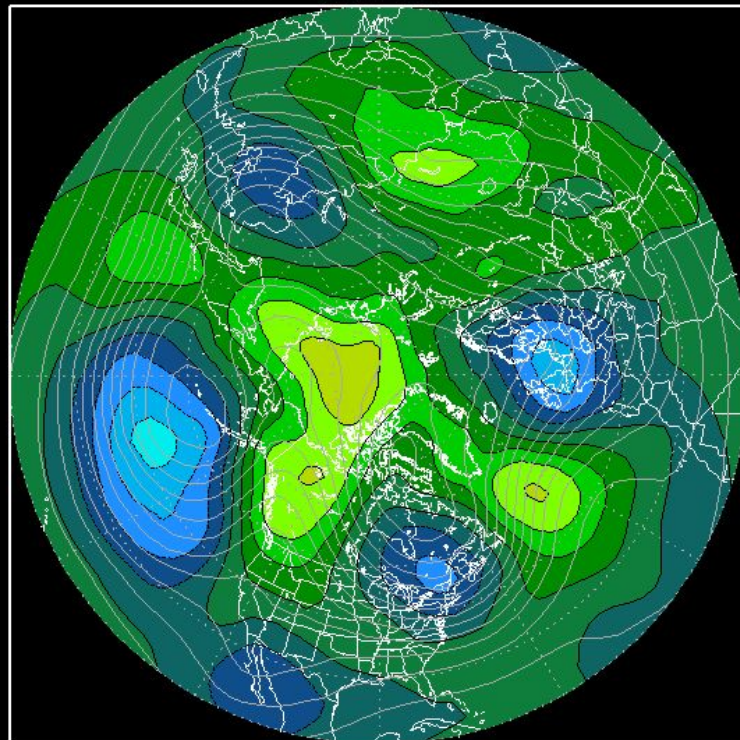


00z Runs:(21) 12z Runs:(21)

5460m 5700m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

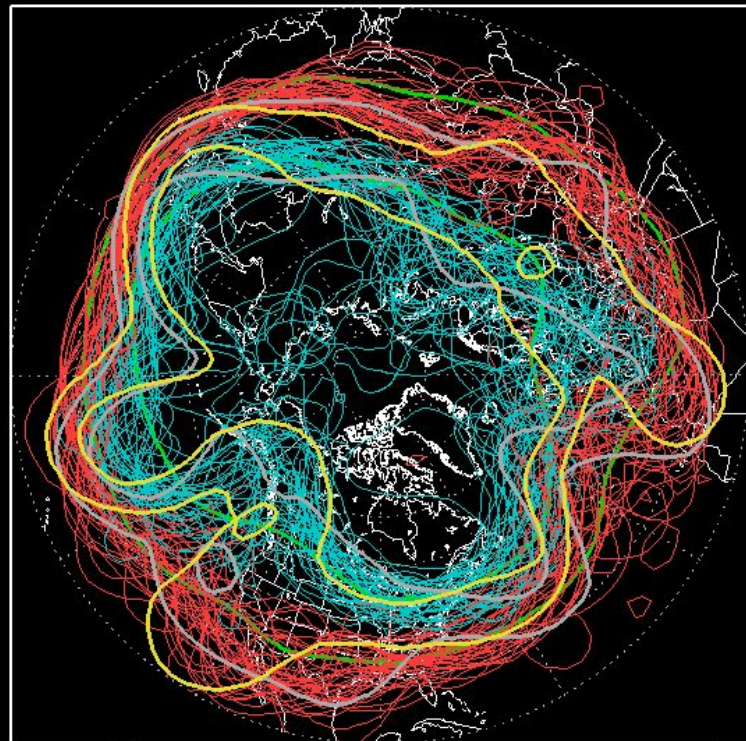
288H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Sun MAR,06 2016



-360 -280 -200 -120 -40 40 120 200 280 360

NCEP ENSEMBLE 500mb Z

336H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Tue MAR,08 2016



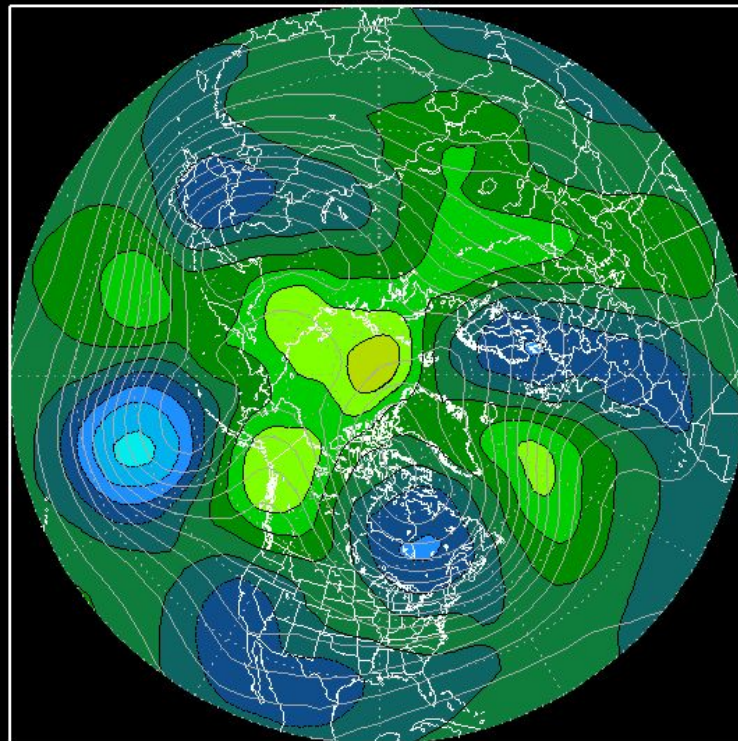
00z Runs:(21)

12z Runs:(21)

— 5460m — 5700m — Cntrl 00z — Cntrl 12z — CLIM

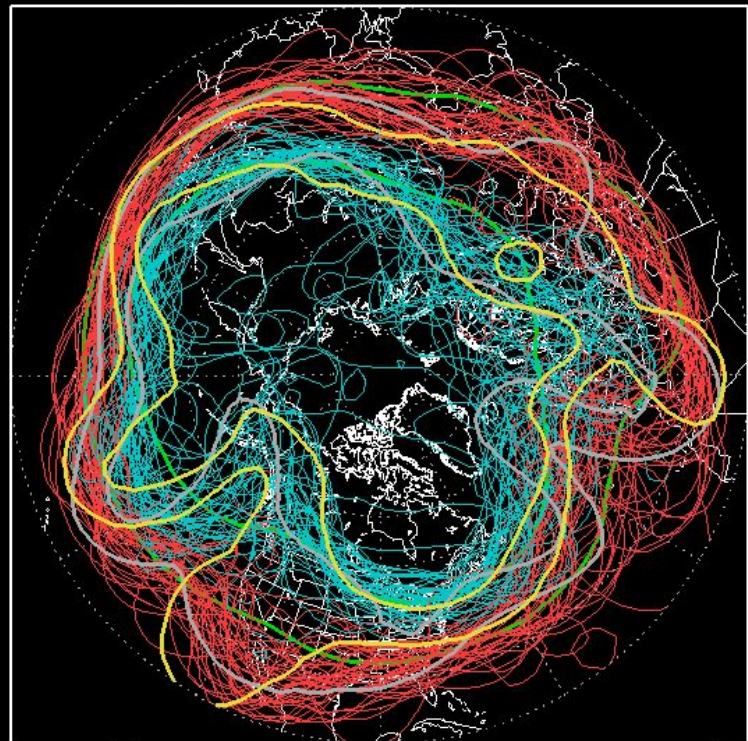
NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

336H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Tue MAR,08 2016



NCEP ENSEMBLE 500mb Z

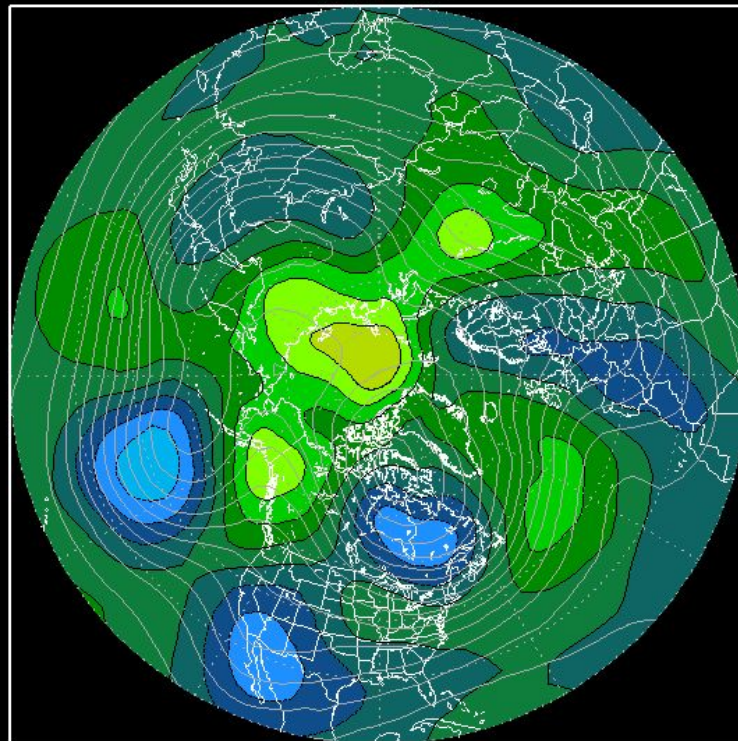
360H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Wed MAR,09 2016



00z Runs:(21) 12z Runs:(21)
5460m 5700m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

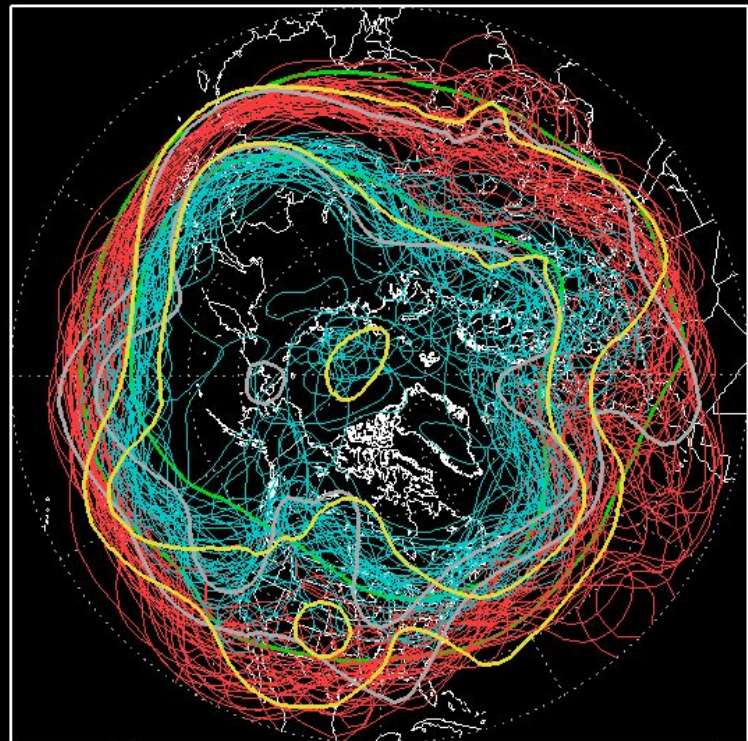
360H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Wed MAR,09 2016



-360 -280 -200 -120 -40 40 120 200 280 360

NCEP ENSEMBLE 500mb Z

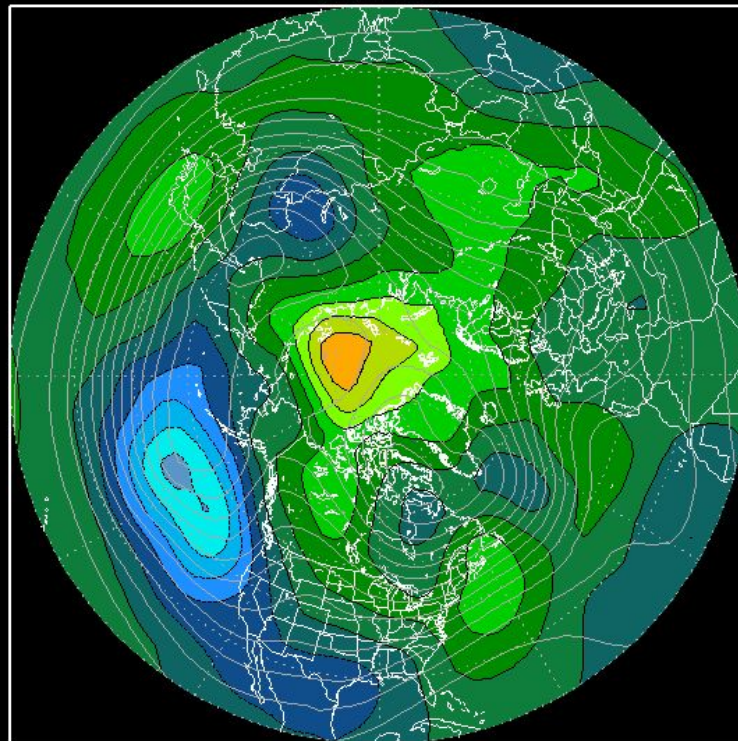
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016



00z Runs:(21) 12z Runs:(21)
5460m 5700m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

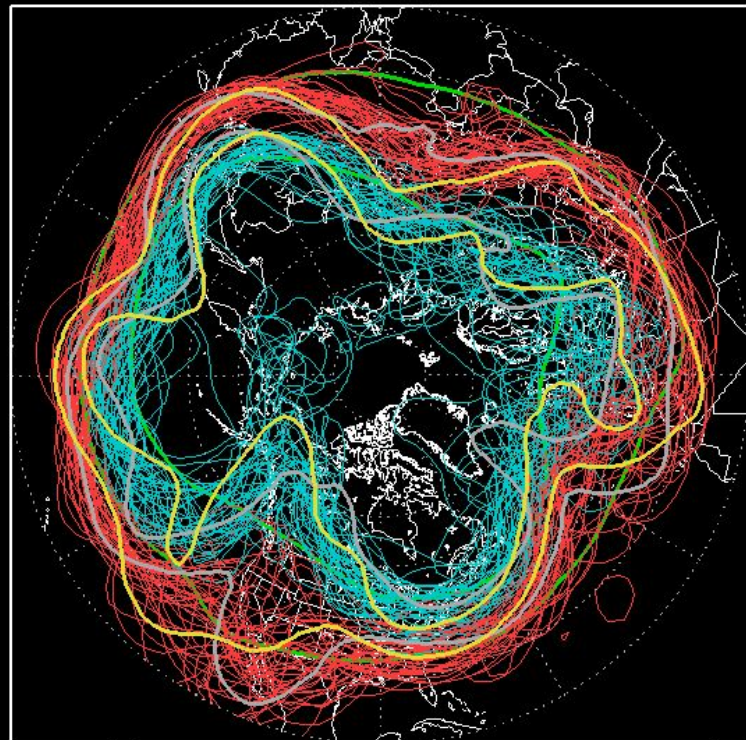
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016



-360 -280 -200 -120 -40 40 120 200 280 360

NCEP ENSEMBLE 500mb Z

288H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Sun MAR,06 2016

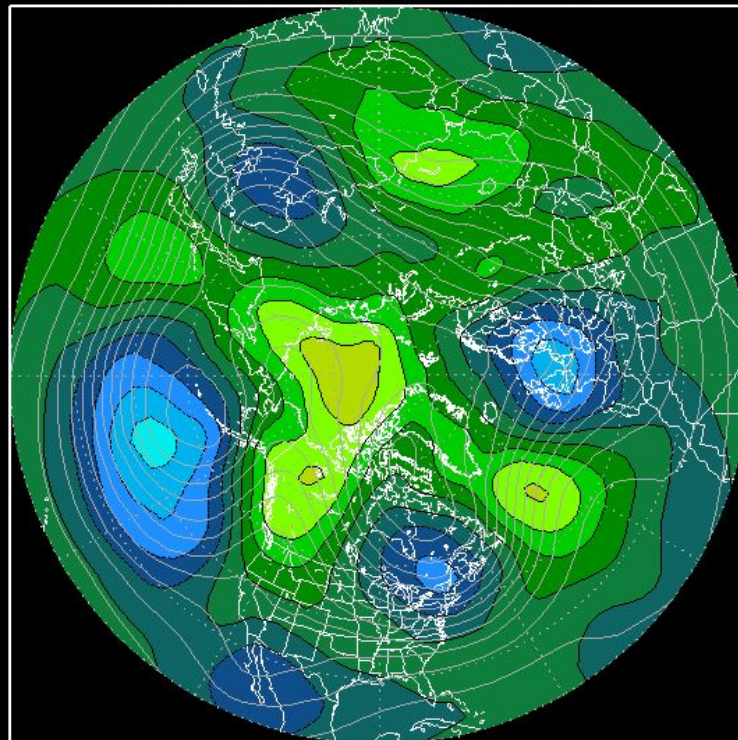


00z Runs:(21) 12z Runs:(21)

5460m 5700m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

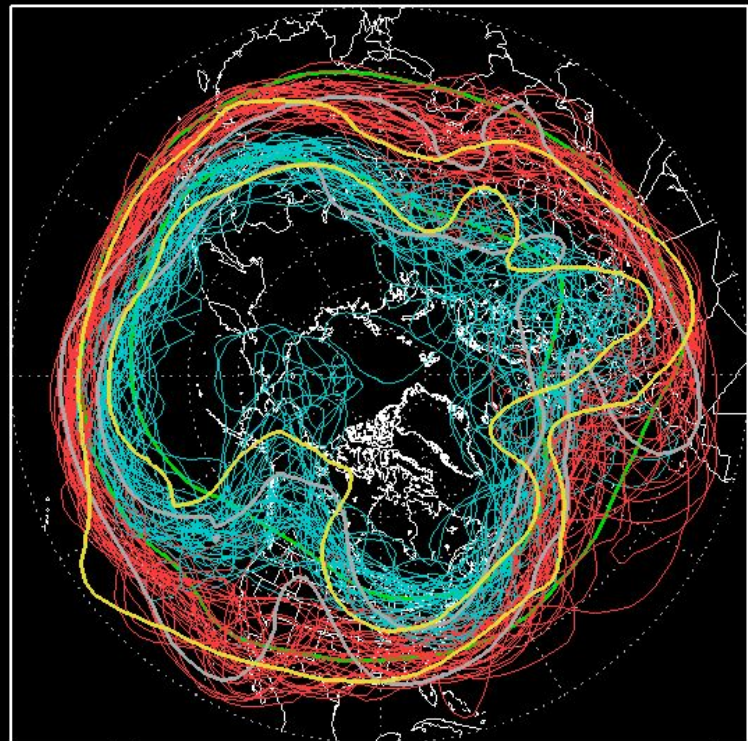
288H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Sun MAR,06 2016



-360 -280 -200 -120 -40 40 120 200 280 360

NCEP ENSEMBLE 500mb Z

312H Forecast from: 00Z Mon FEB,22 2016
Valid time: 00Z Sun MAR,06 2016

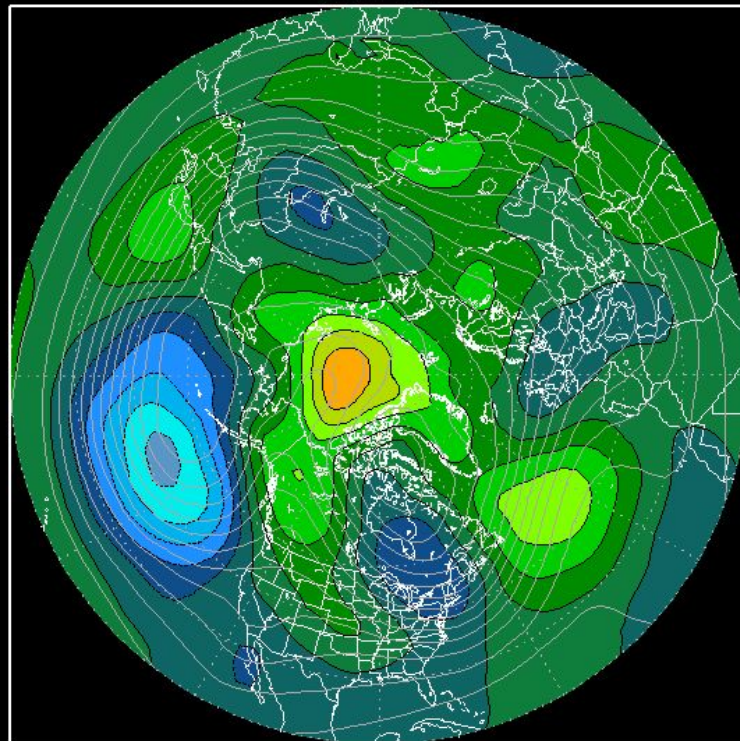


00z Runs:(21) 12z Runs:(21)

5460m 5700m Cntrl 00z Cntrl 12z CLIM

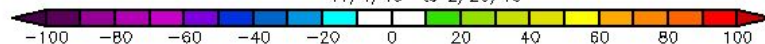
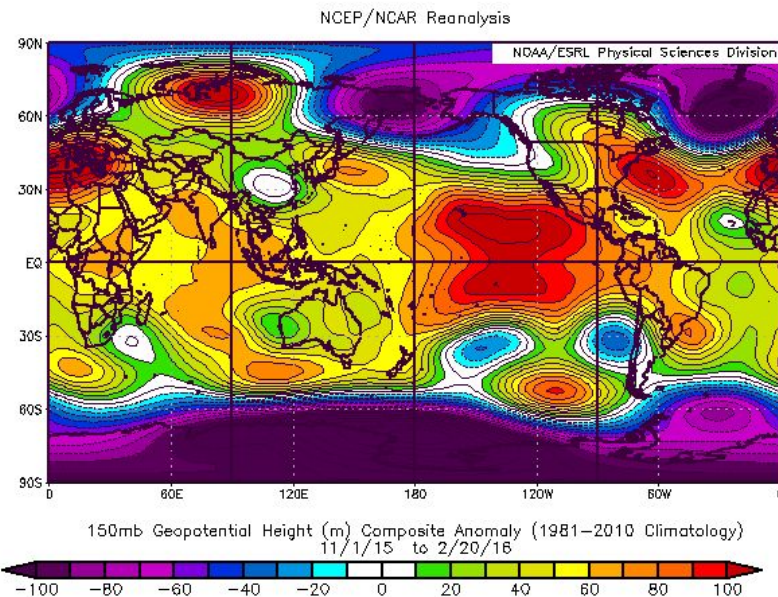
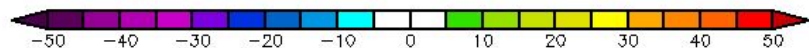
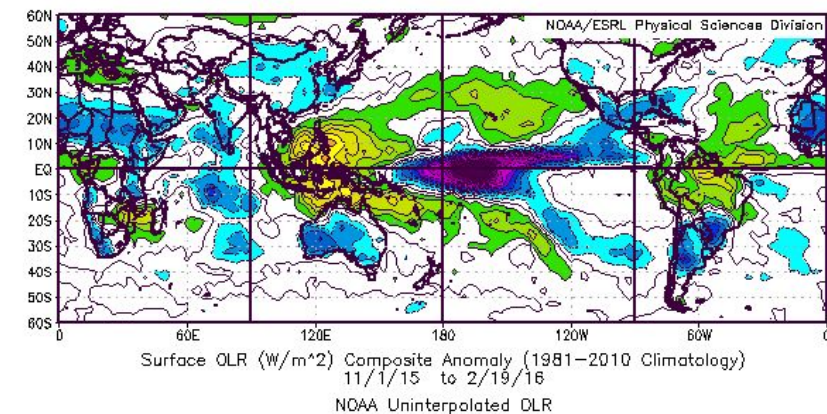
NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

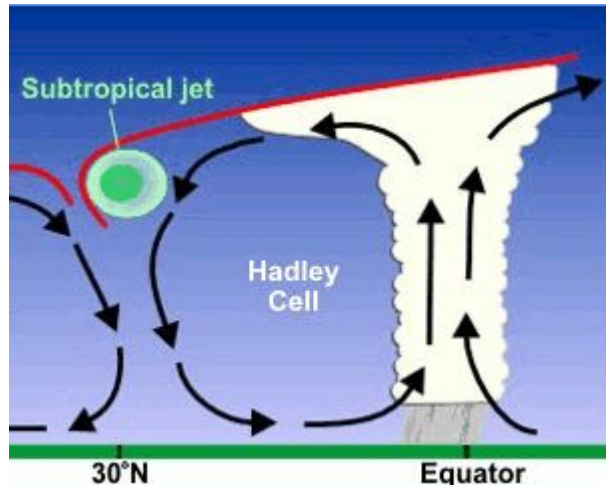
312H Forecast from: 00Z Mon FEB,22 2016
Valid time: 00Z Sun MAR,06 2016



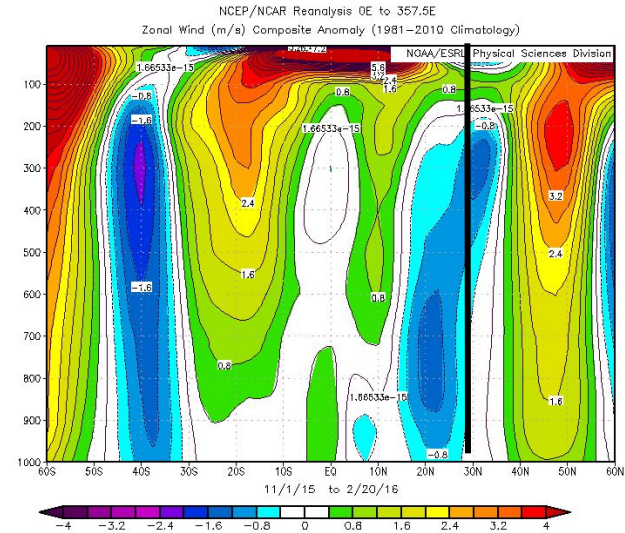
Beginnings of a Narrative for Nov-Apr 2016

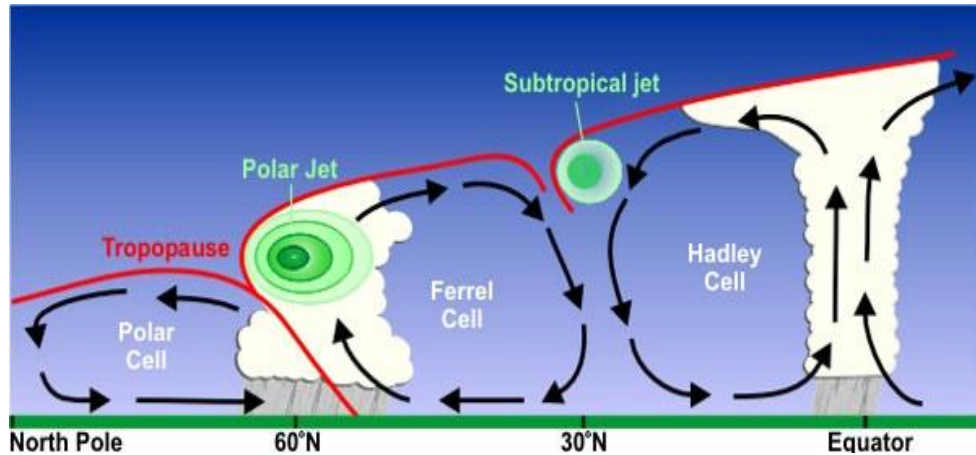
1 November - 20 February 2016





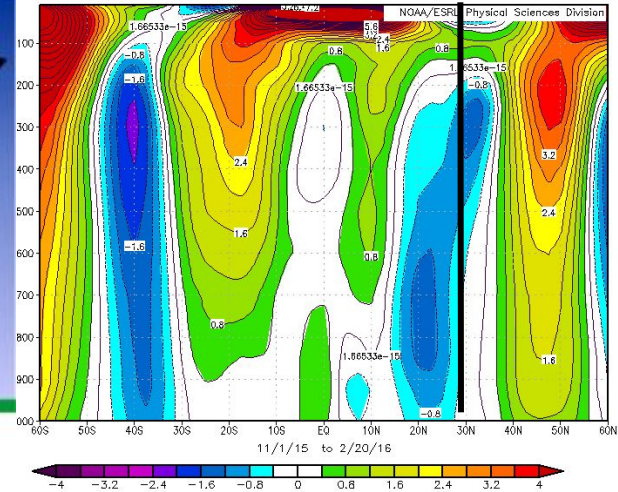
1 Nov - 20 Feb 2016 Zonal U





1 Nov - 20 Feb 2016 Zonal U

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



$$\text{iT} \equiv \int (R_T + F_S + LP) dA$$

$$\text{iE} \equiv - \int \int_{1000}^{50} \frac{\partial}{\partial y} (u'v') dp dA$$

Thermally Driven and Eddy-Driven Jet Variability in Reanalysis*

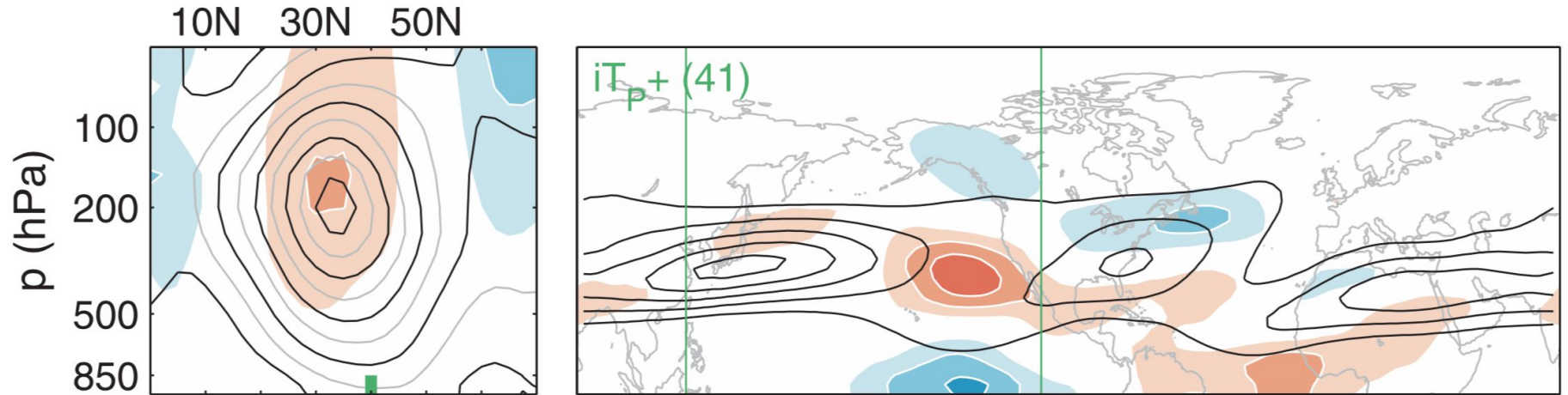
CAMILLE LI

*Bjerknes Centre for Climate Research, and Uni Bjerknes Centre, Uni Research, and
Department of Earth Science, University of Bergen, Bergen, Norway*

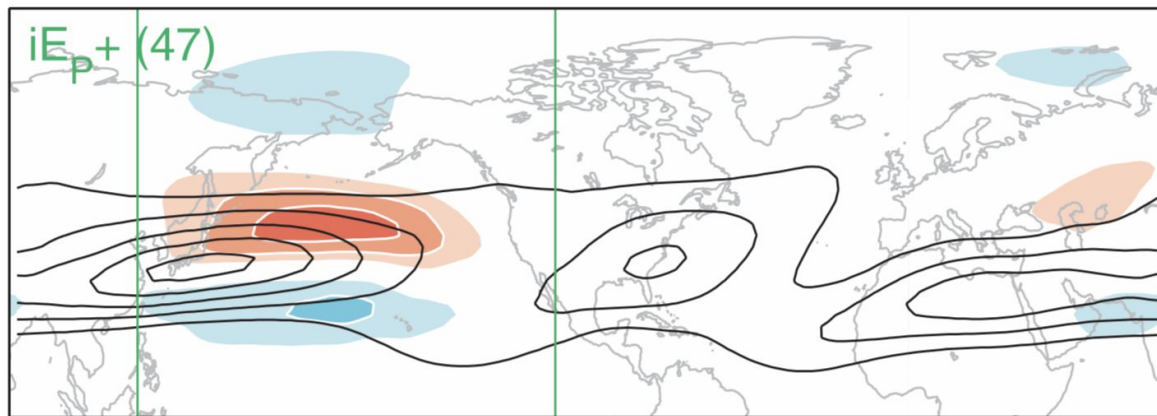
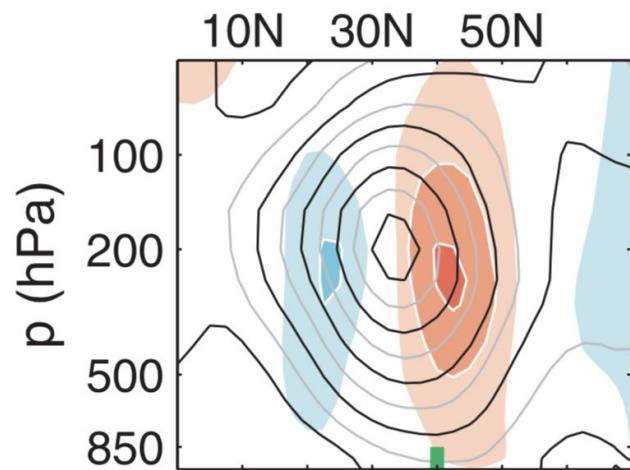
JUSTIN J. WETTSTEIN

*Bjerknes Centre for Climate Research, Bergen, Norway, and Climate Analysis Section, Climate and
Global Dynamics Division, National Center for Atmospheric Research, Boulder, Colorado*

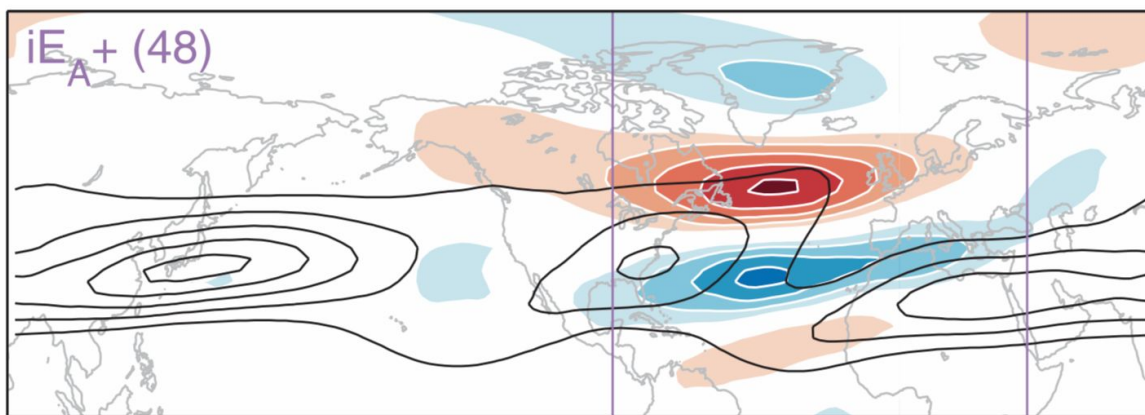
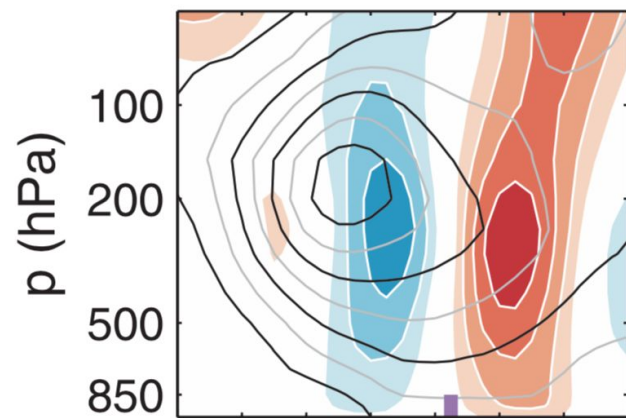
LI AND WETTSTEIN



Composite of zonal winds for winter months (NDJFMA) having strong thermal driving ($iT+$)

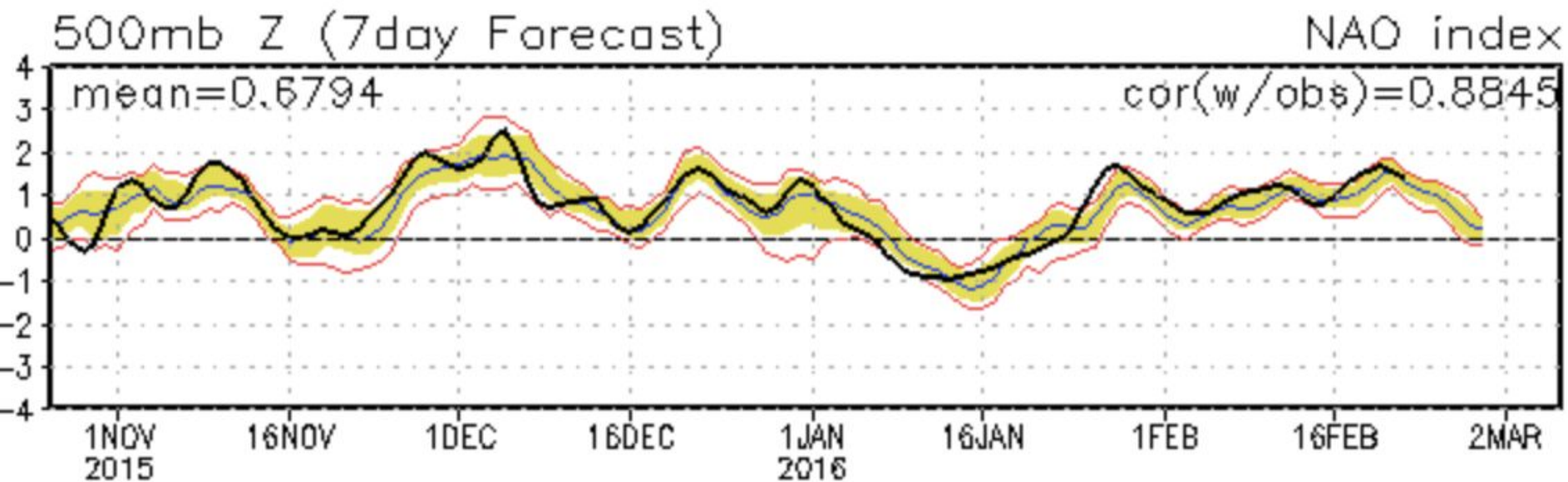


Composite of zonal winds for winter months (NDJFMA) having strong eddy driving (iE+)



Composite of zonal winds for winter months (NDJFMA) having strong eddy driving (iE+)

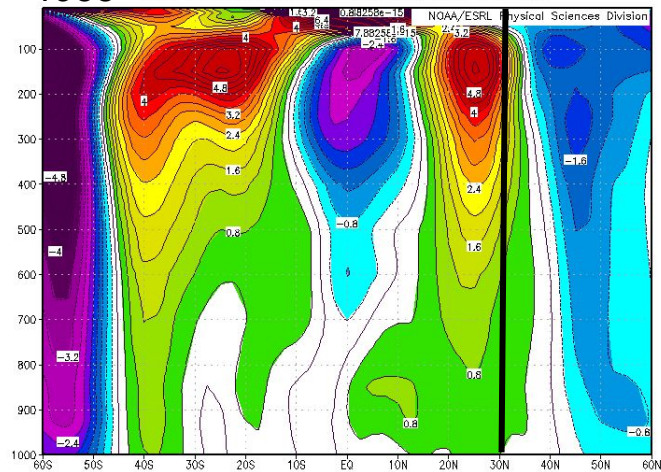
Nov - Feb 2016 NAO Index



NOV-APR ZONAL U

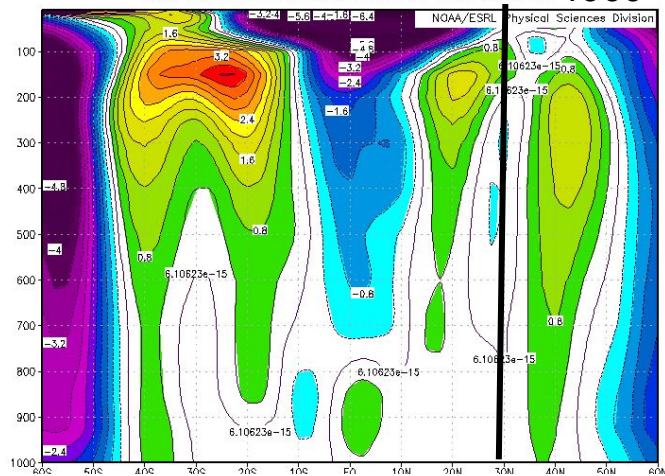
1958

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



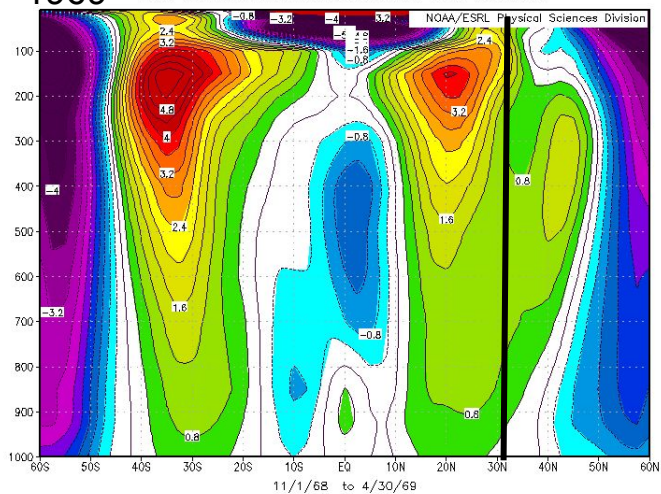
NCEP/NCAR Reanalysis OE to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)

1966



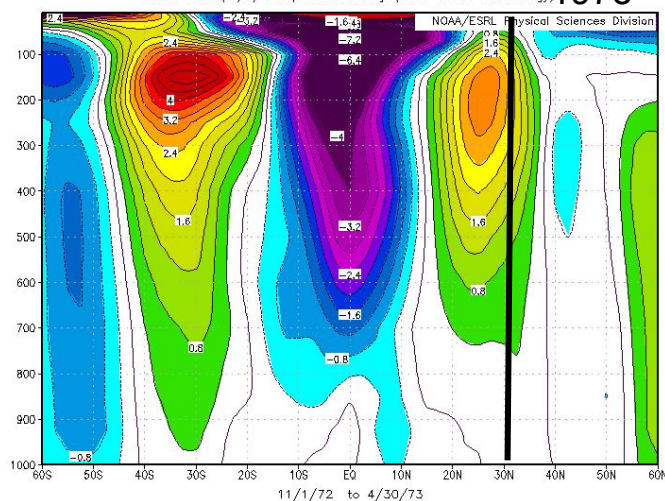
1969

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

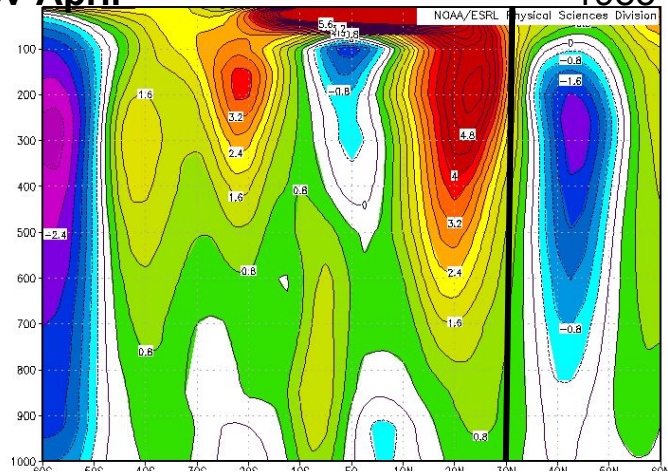


NCEP/NCAR Reanalysis OE to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)

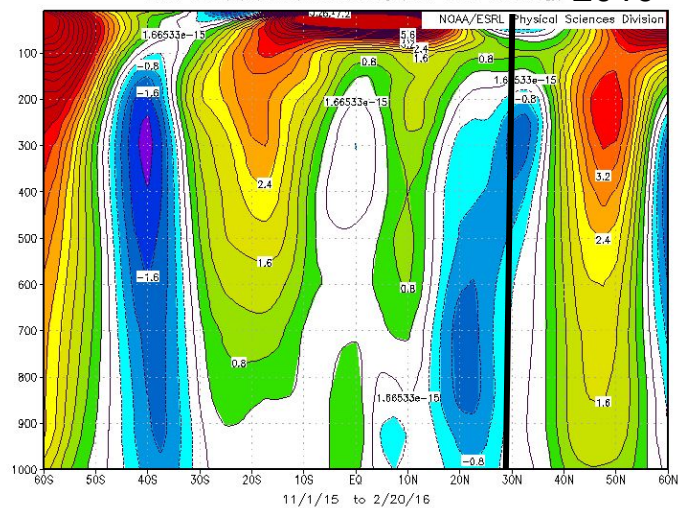
1973

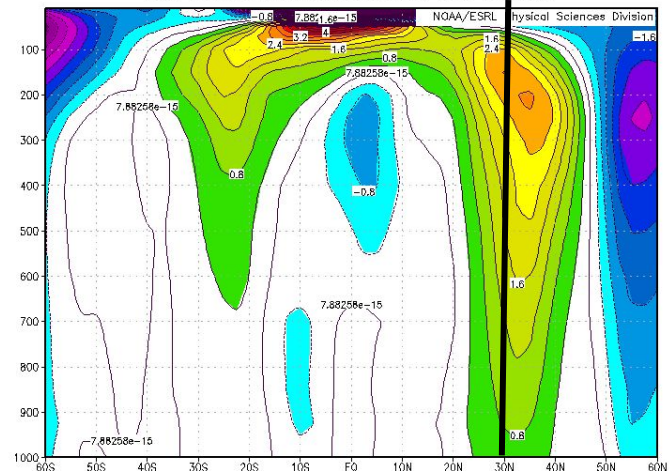
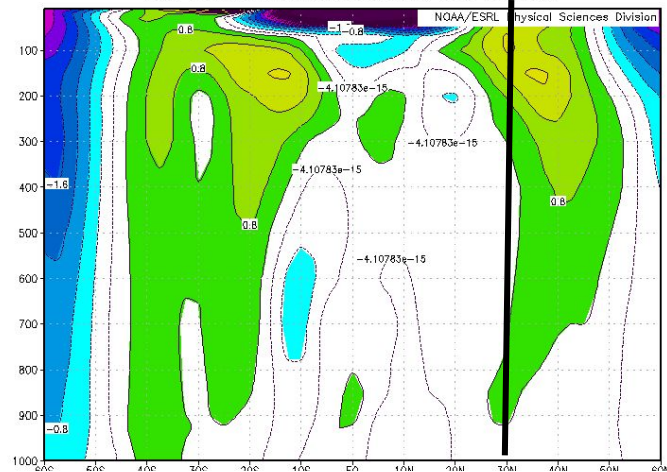


Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology) 1983



NCEP/NCAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology) 2016

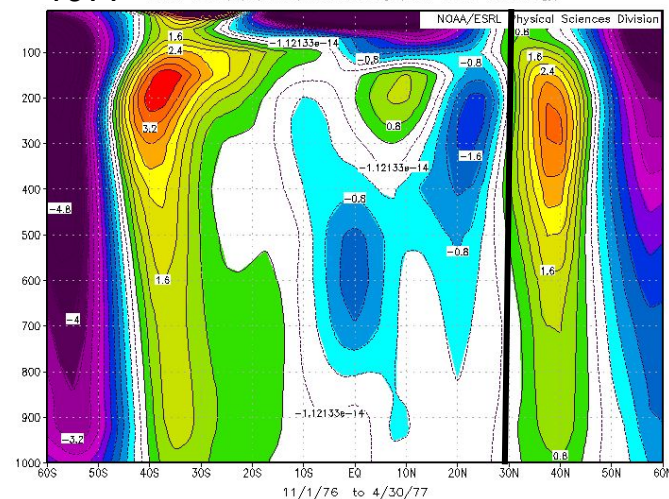




1977

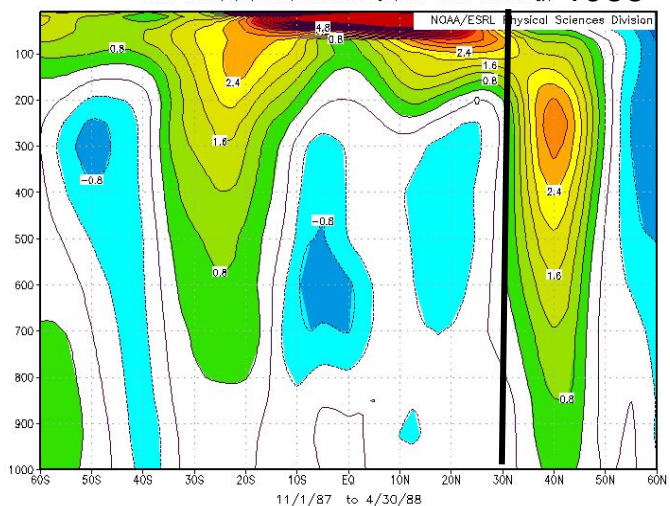
NCEP/NCAR Reanalysis 0E to 357.5E

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



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

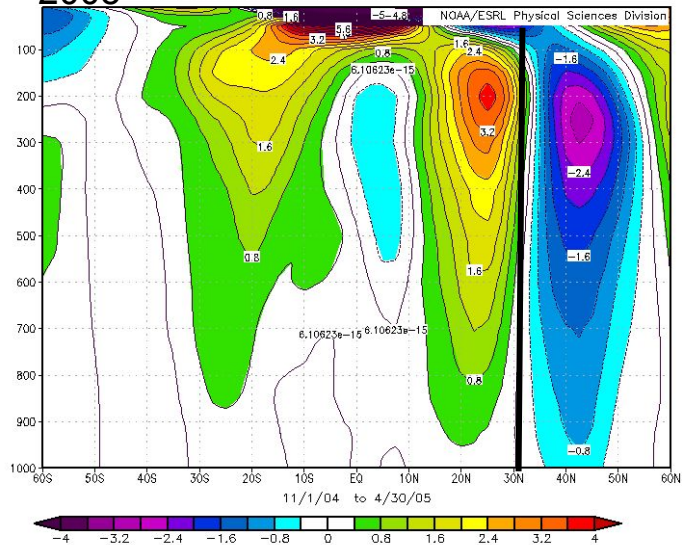
1988



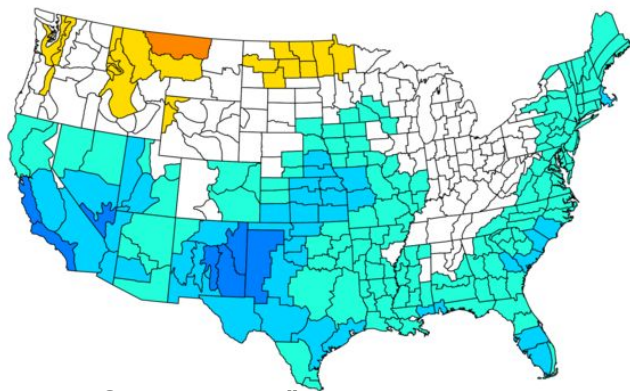
NOV-APR Zonal U

2005

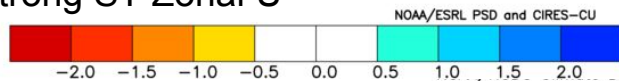
NCEP/NCAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)



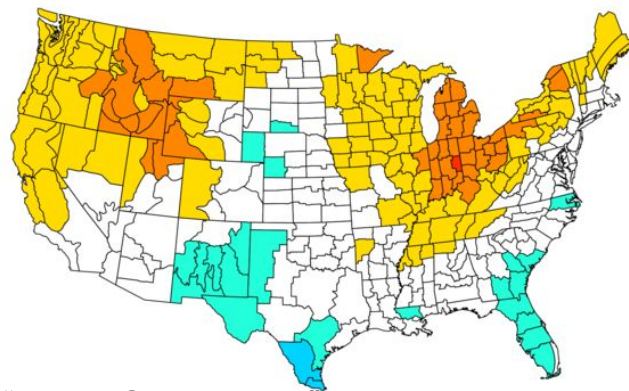
NOAA/NCDC Climate Division Composite Standardized Precipitation Anomalies
 Nov to Apr 1972–73, 1982–83, 1997–98, 1957–58, 1968–69, 1991–92, 2004–05
 Versus 1950–1995 Longterm Average



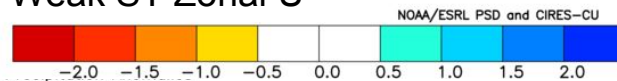
“Strong ST Zonal U”



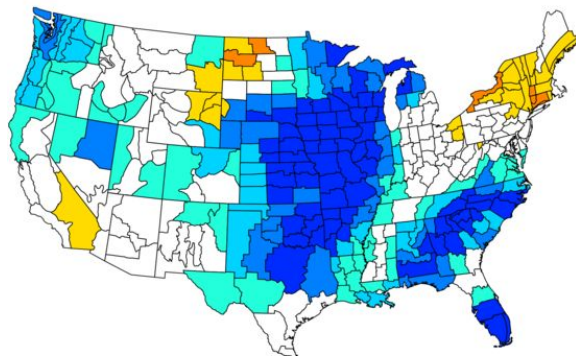
NOAA/NCDC Climate Division Composite Standardized Precipitation Anomalies
 Nov to Apr 1965–66, 1976–77, 1986–87, 1987–88, 2002–03, 2009–10
 Versus 1950–1995 Longterm Average



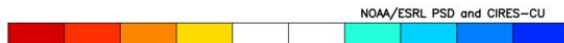
“Weak ST Zonal U”



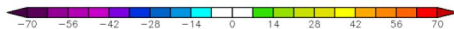
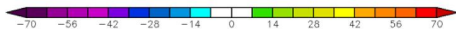
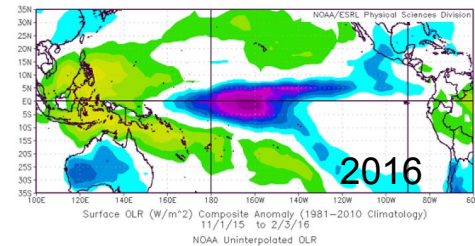
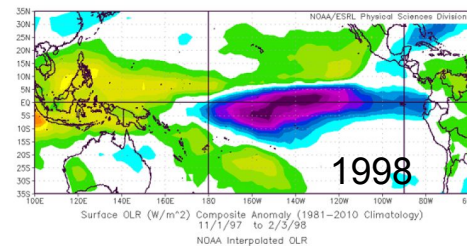
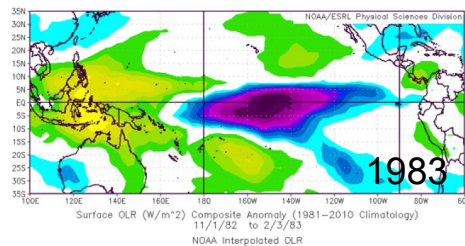
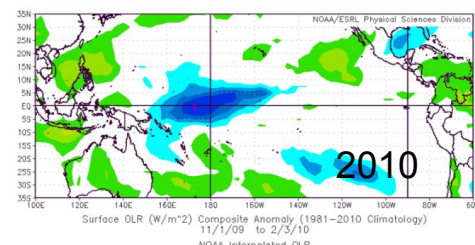
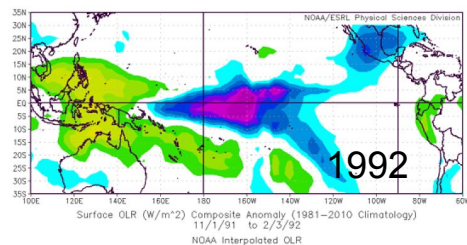
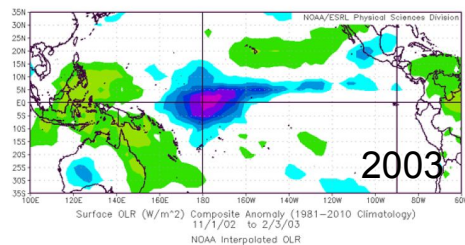
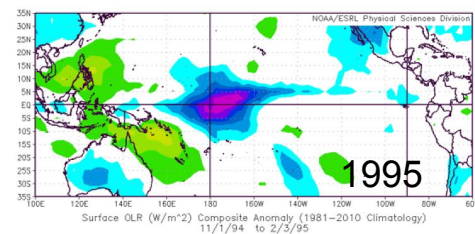
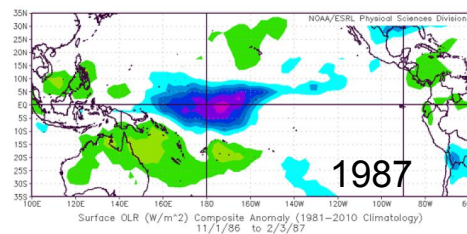
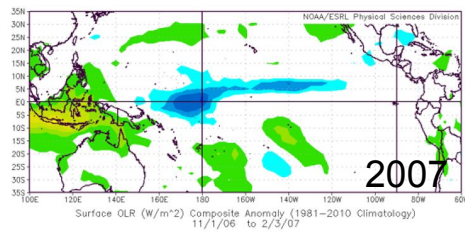
Standardized
 Nov to Jan 2015–16
 Versus 1950–1995 Longterm Average



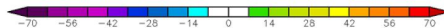
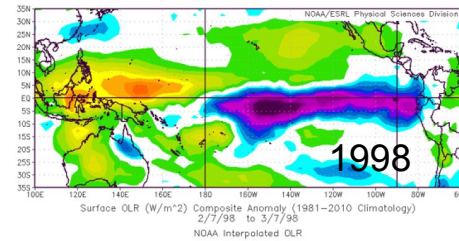
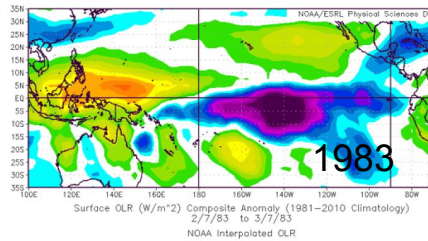
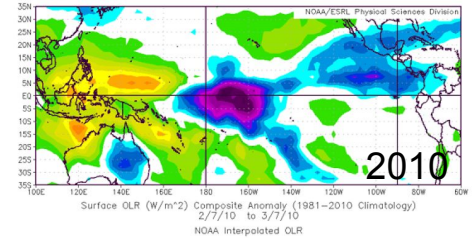
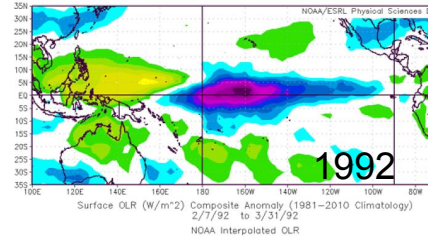
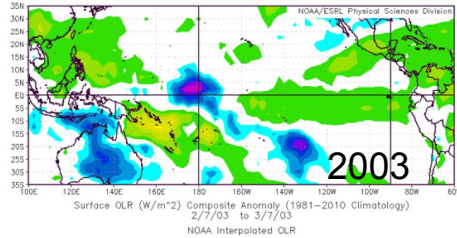
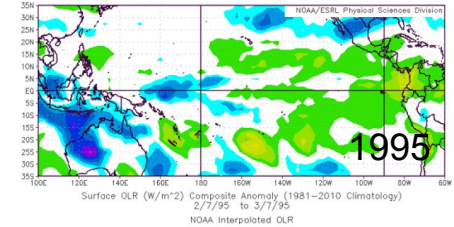
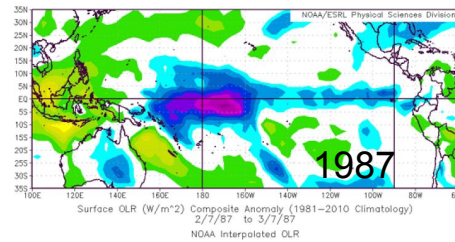
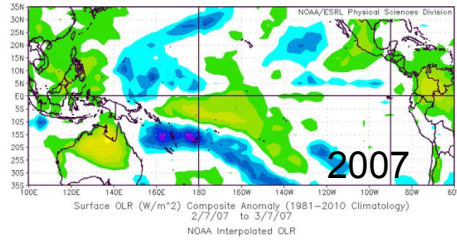
2016



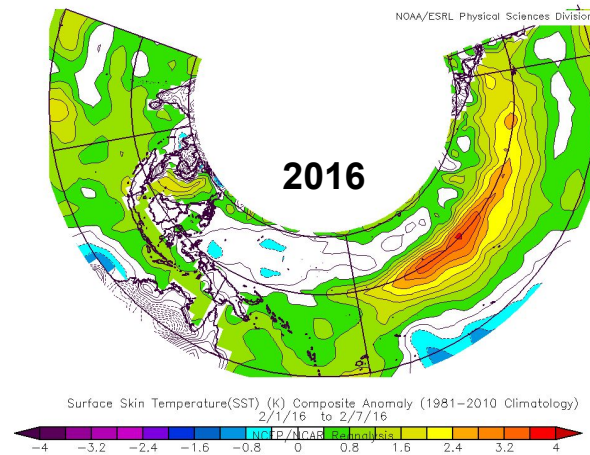
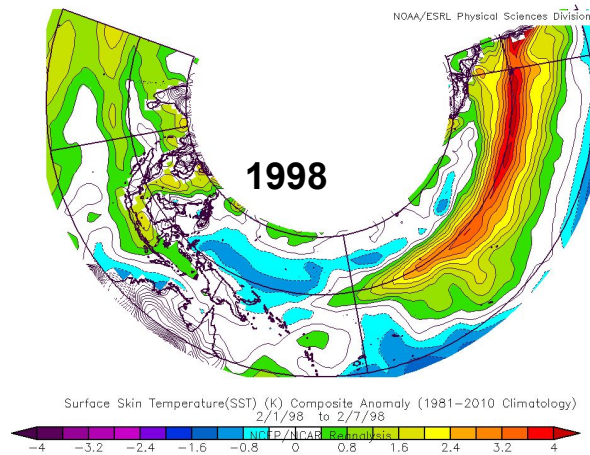
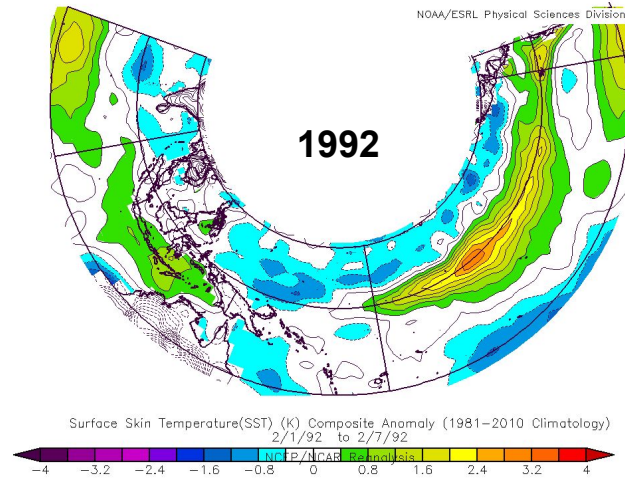
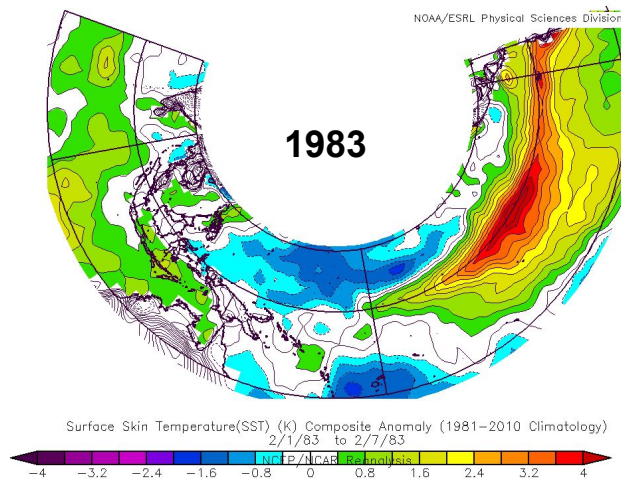
Observed OLR Anomalies : 1 Nov - 3 Feb

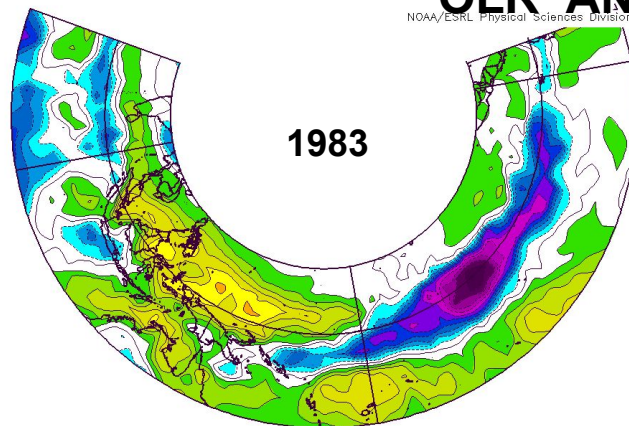


Observed OLR Anomalies : 7 Feb - 7 Mar

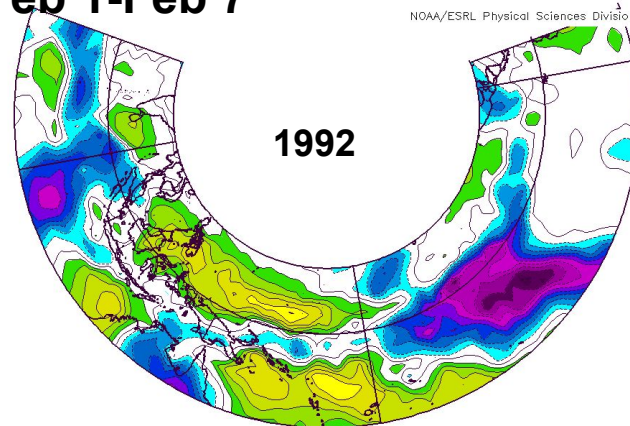
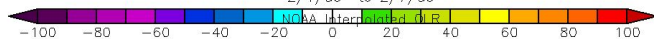


SST ANOM Feb 1-Feb 7

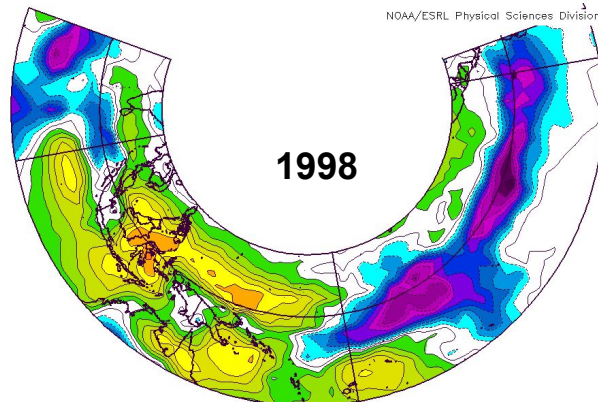
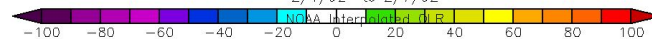




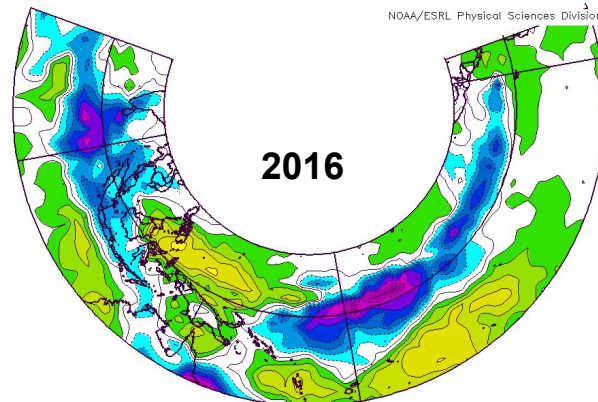
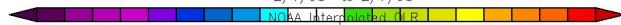
Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/83 to 2/7/83



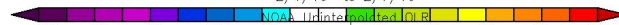
Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/92 to 2/7/92



Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/98 to 2/7/98



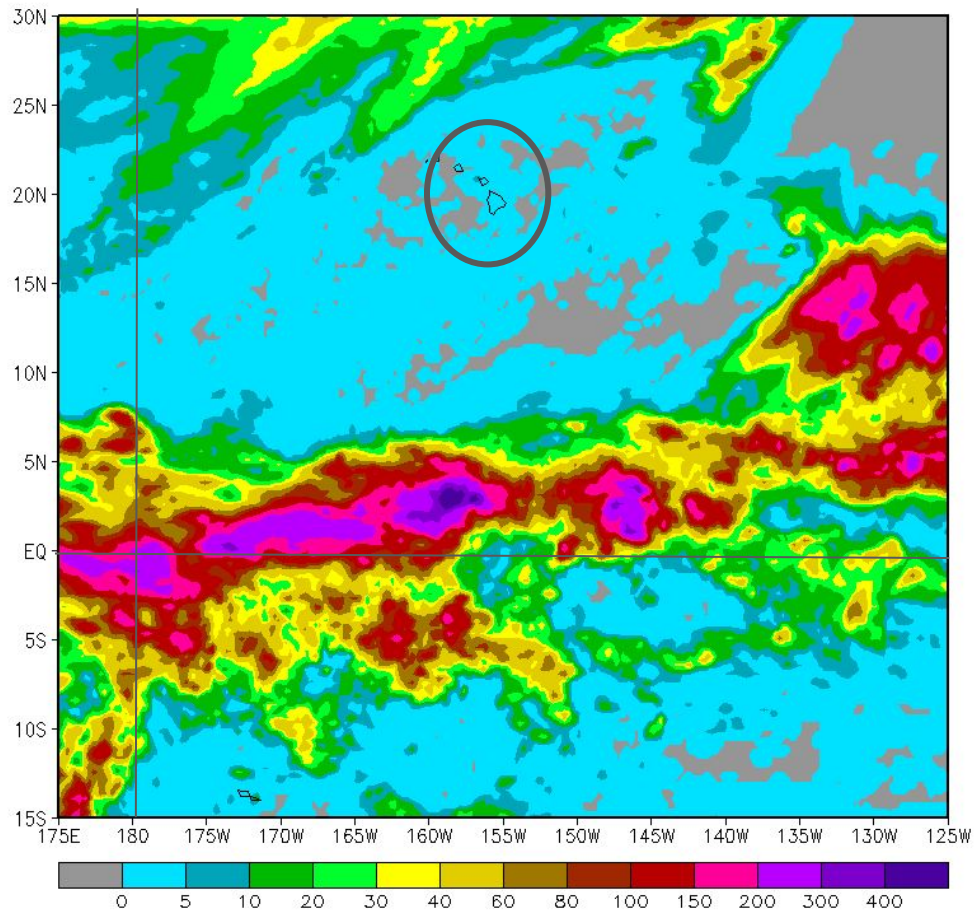
Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/16 to 2/7/16



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

CMORPH: 7-Day

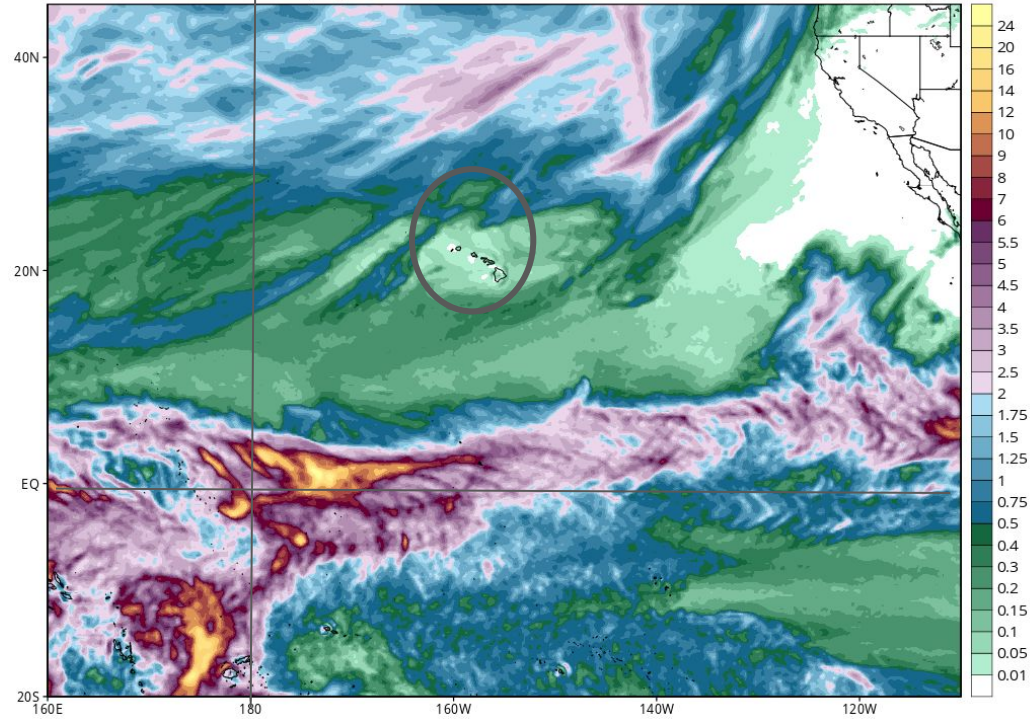
8 - 15 Feb



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



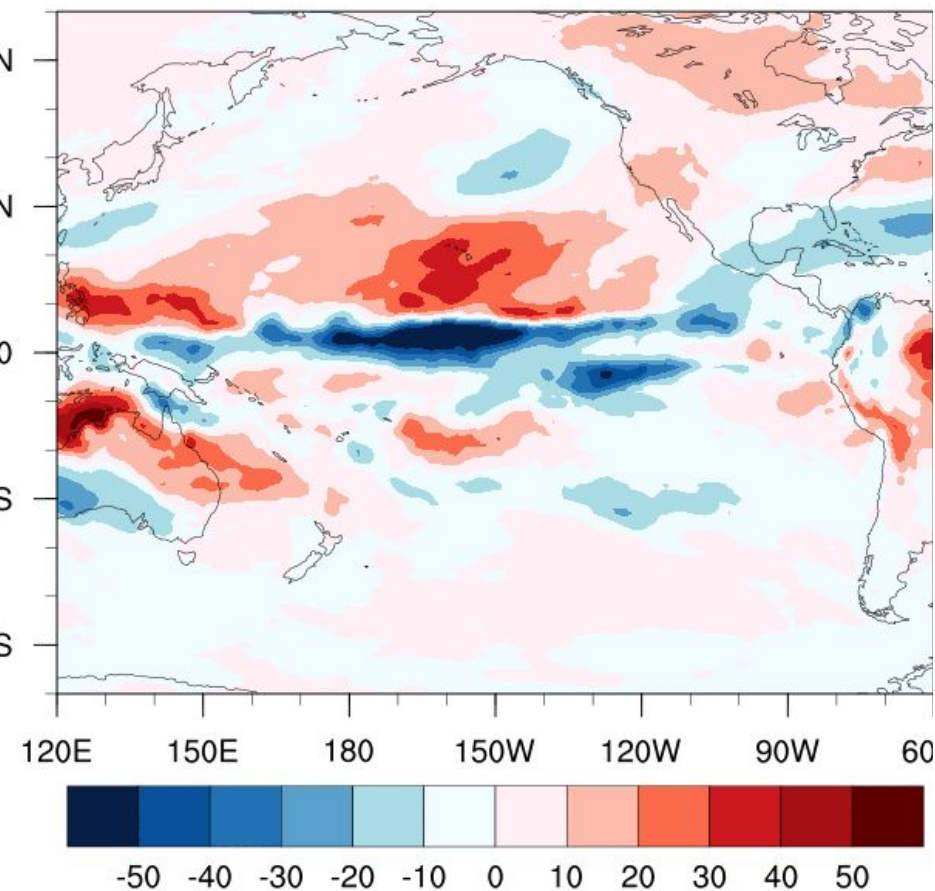
Initial Condition Dependency of the El Niño Signal

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

OLR

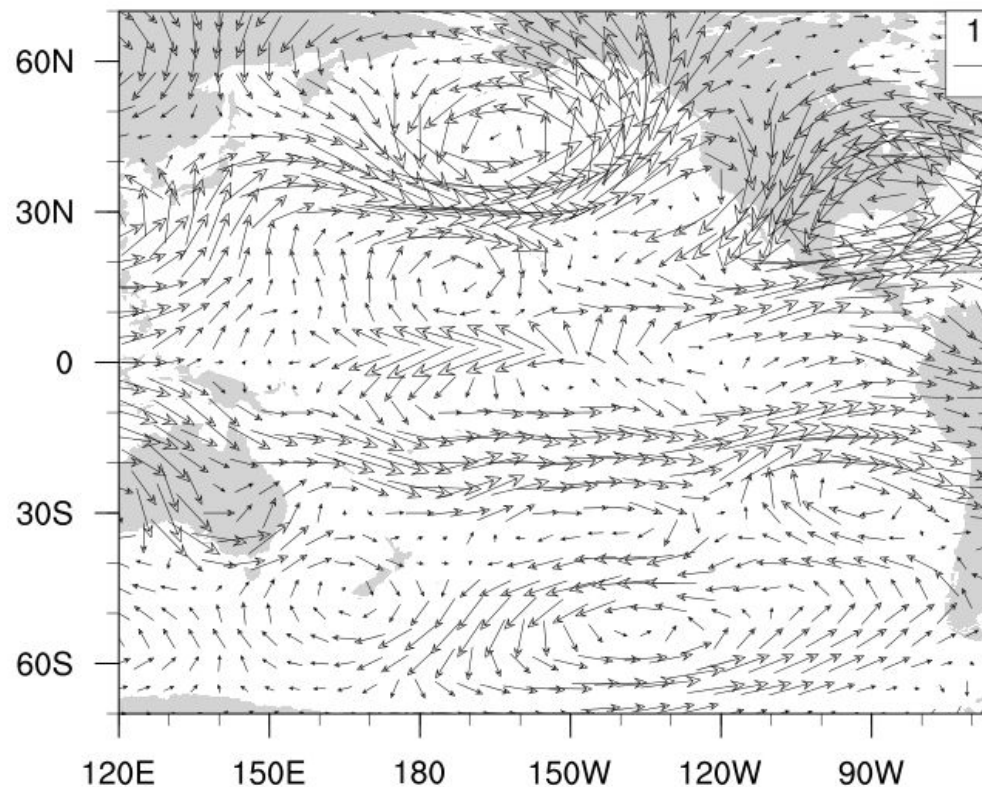
2016/02/21-2016/02/29

W m-2



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

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

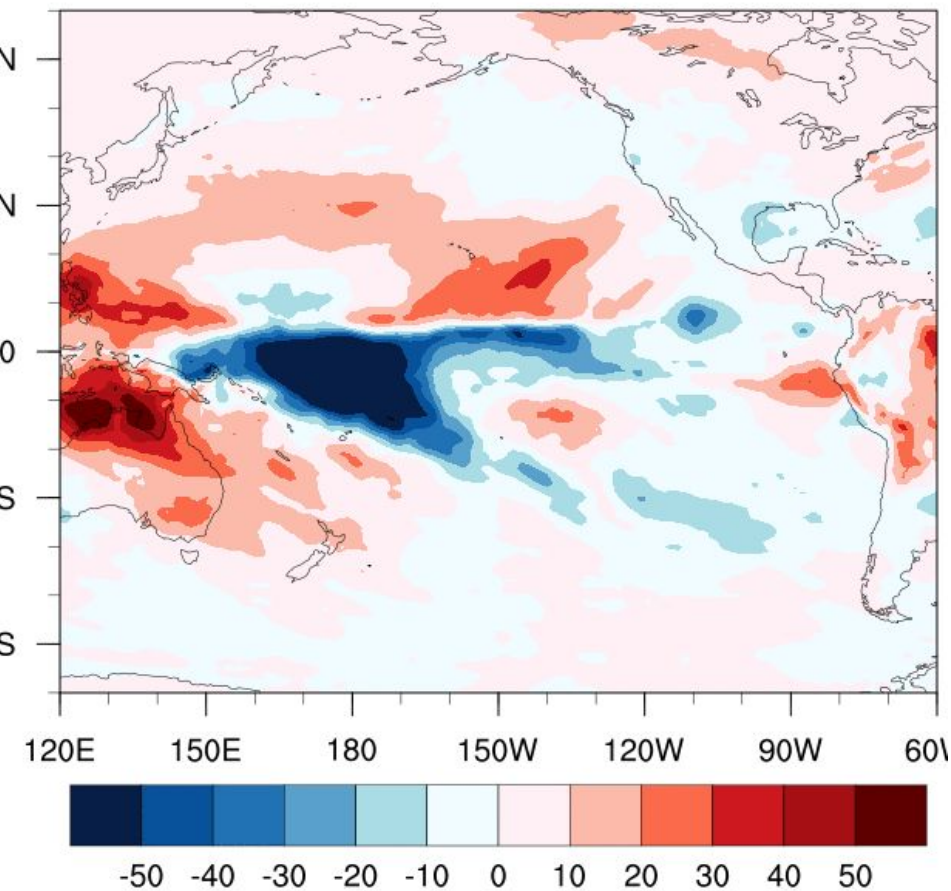


Day 15-22 Comparison (Analyzed SST - Climo SST)

OLR

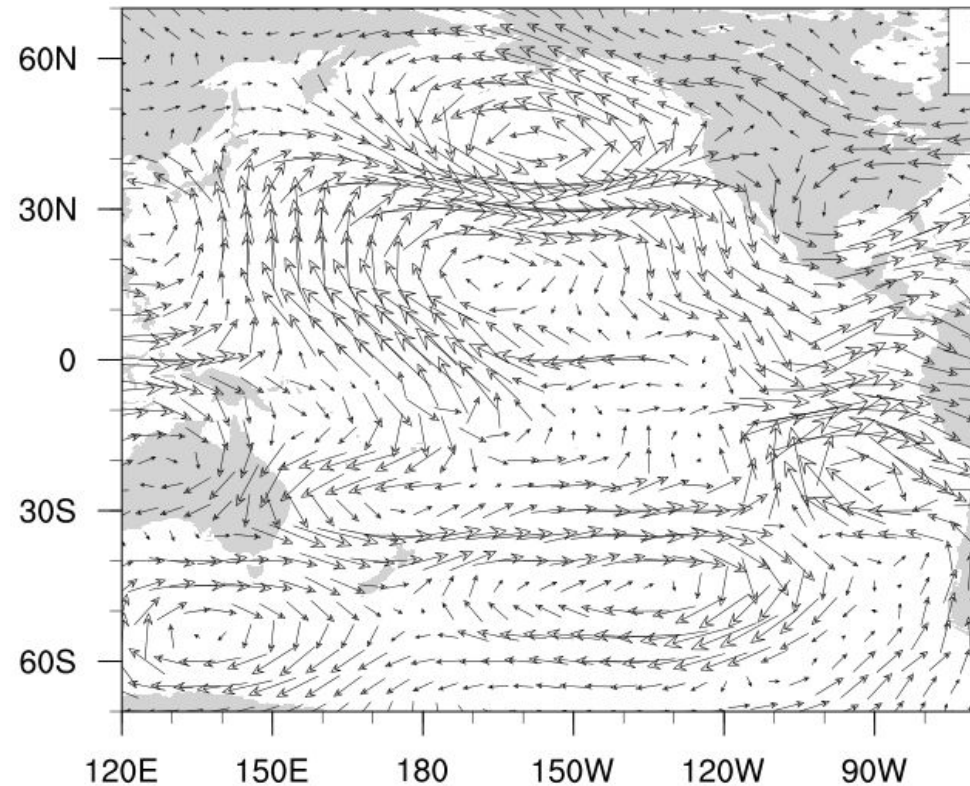
2016/02/21-2016/02/29

W m⁻²



Day 15-22 Comparison (Analyzed SST - Climo SS

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

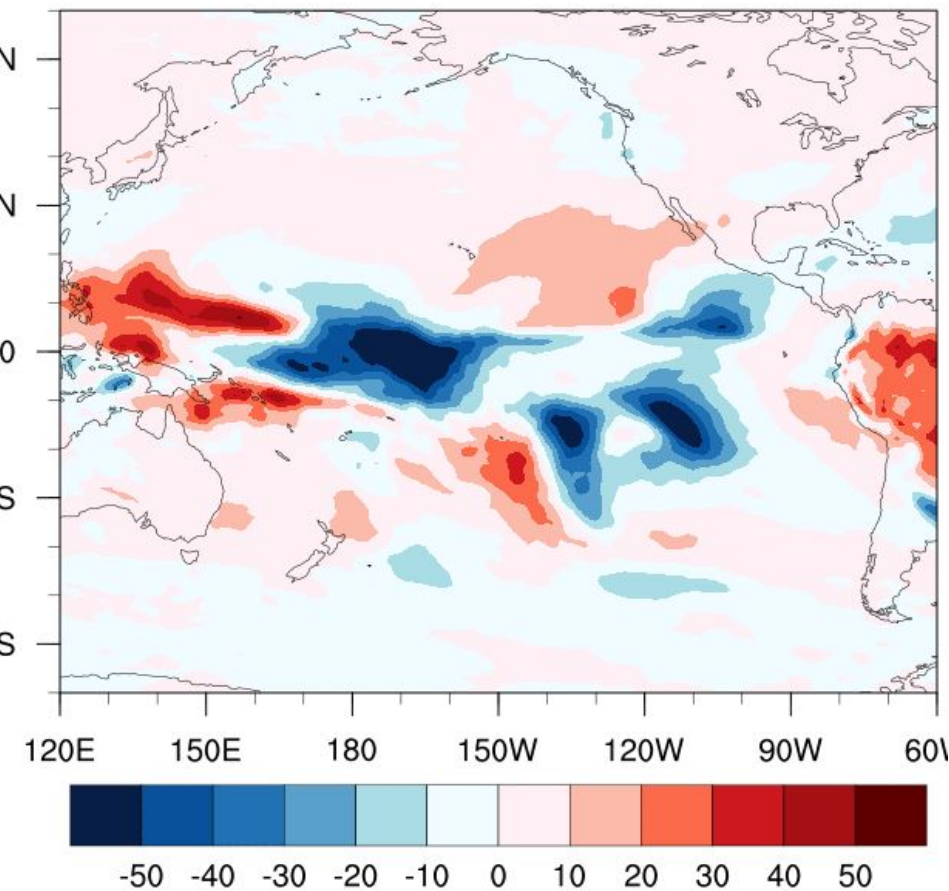


Day 8-14 Comparison (Analyzed SST - Climo SST)

OLR

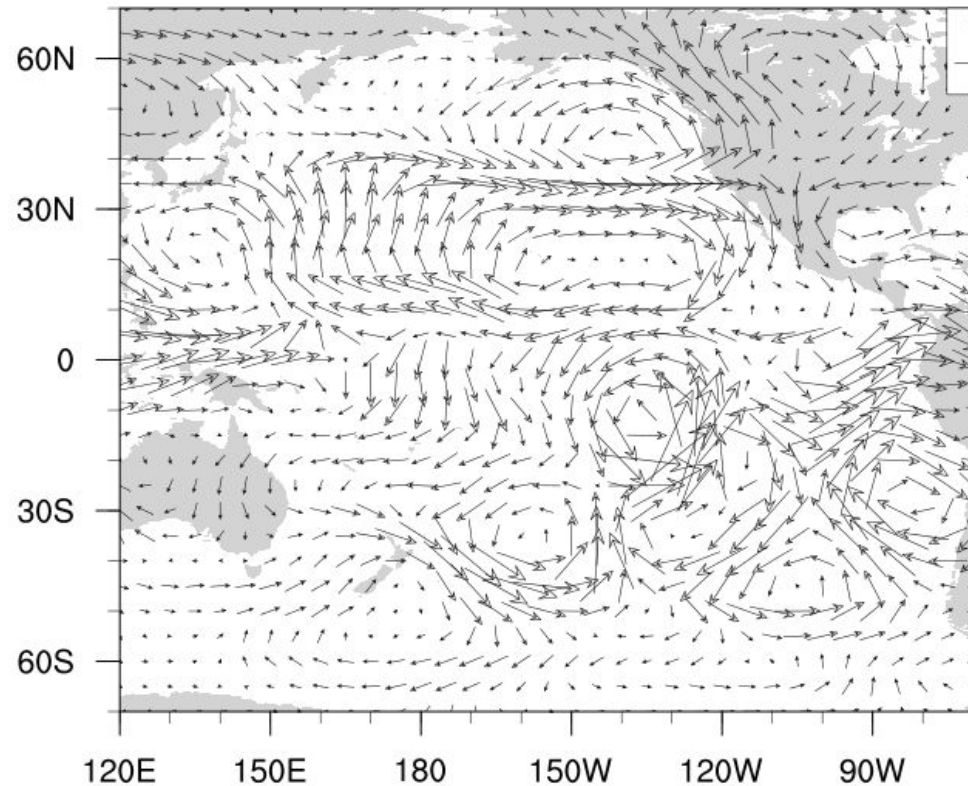
2016/02/22-2016/02/29

W m⁻²



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

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

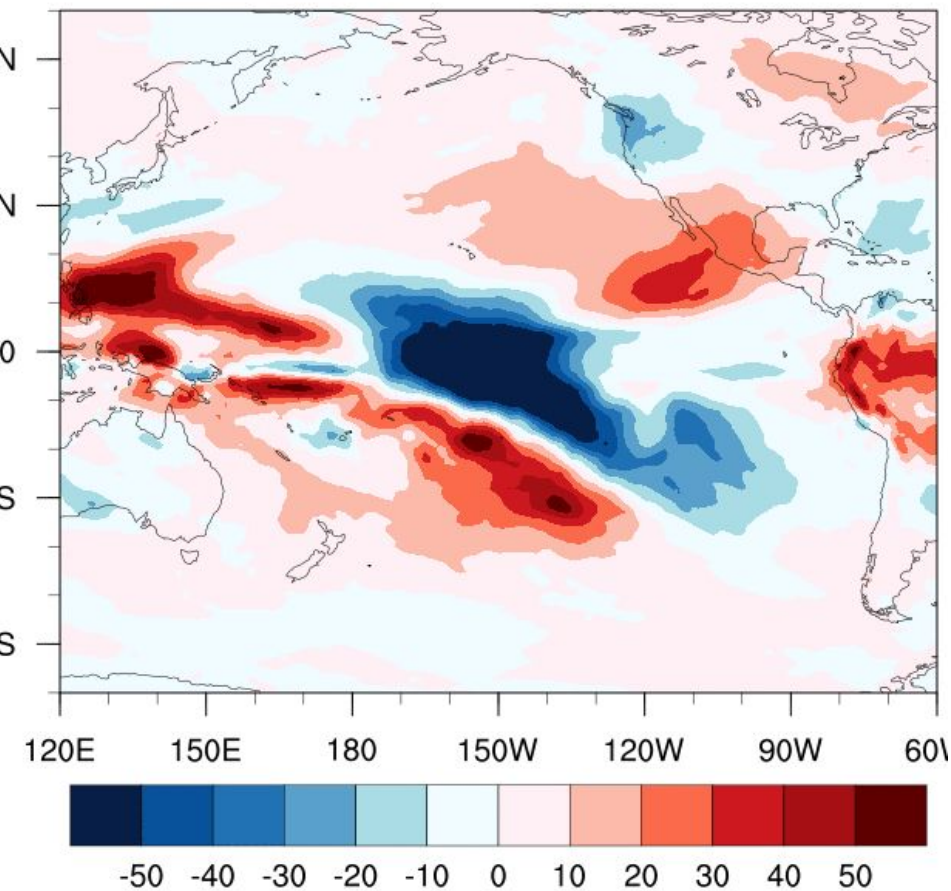


Day 15-22 Comparison (Analyzed SST - Climo SST)

OLR

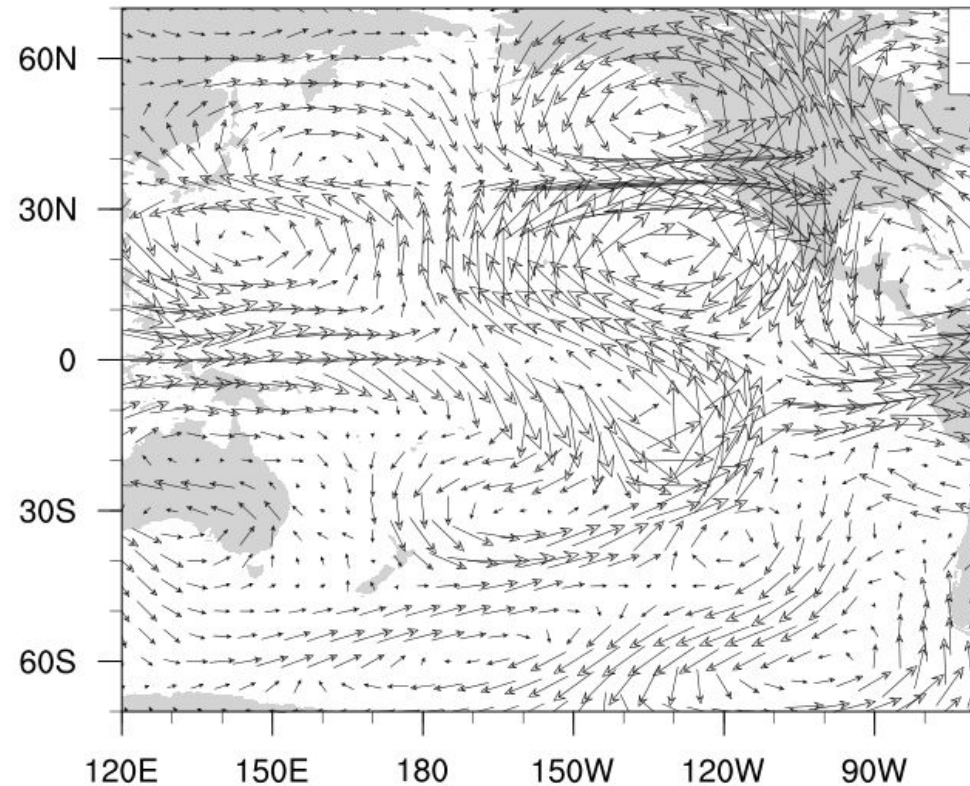
2016/02/29-2016/03/08

W m⁻²



Day 15-22 Comparison (Analyzed SST - Climo SS

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

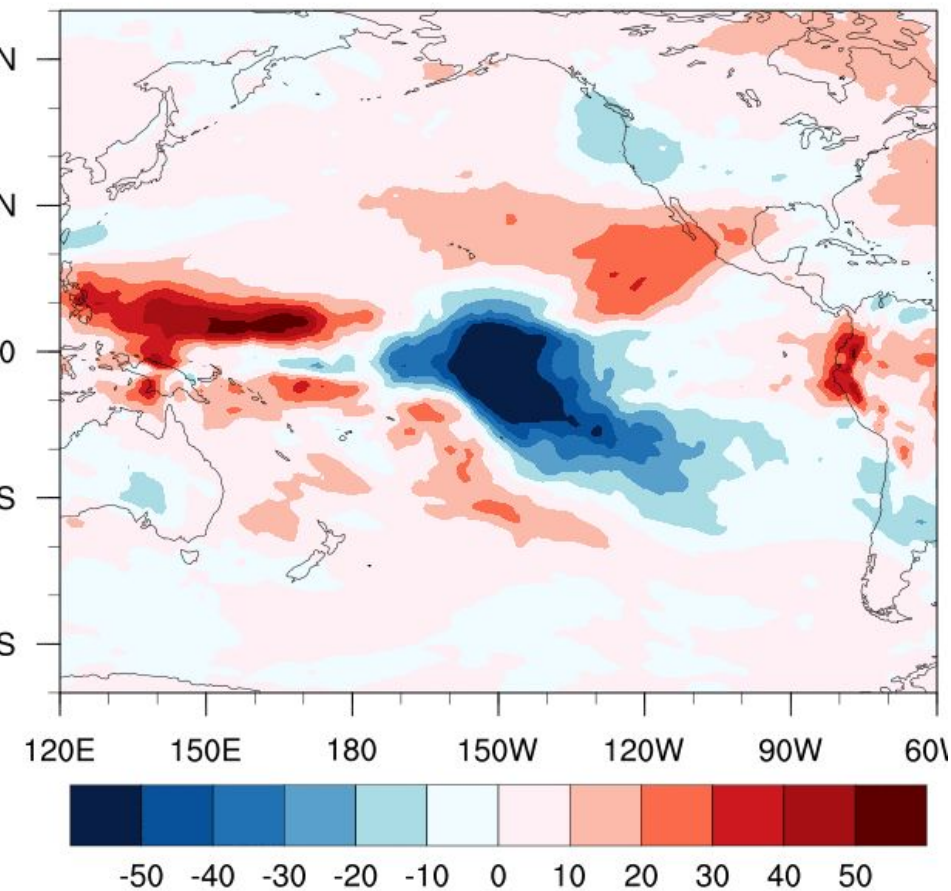


Day 23-30 Comparison (Analyzed SST - Climo SST)

OLR

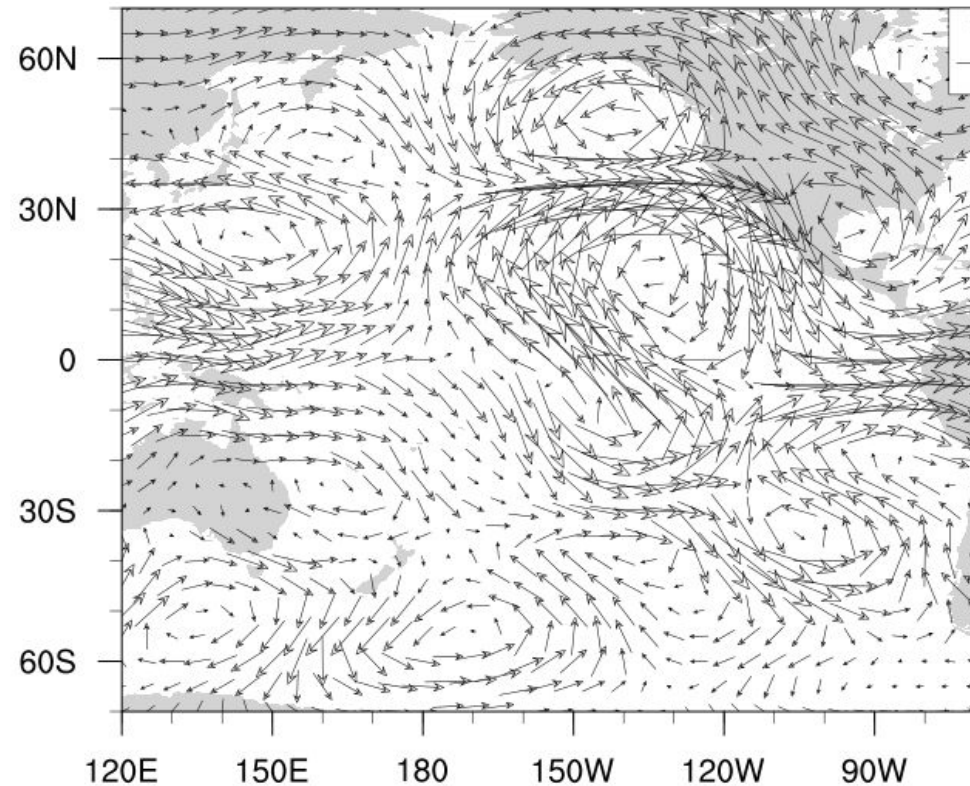
2016/03/08-2016/03/16

W m-2



Day 23-30 Comparison (Analyzed SST - Climo SS

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

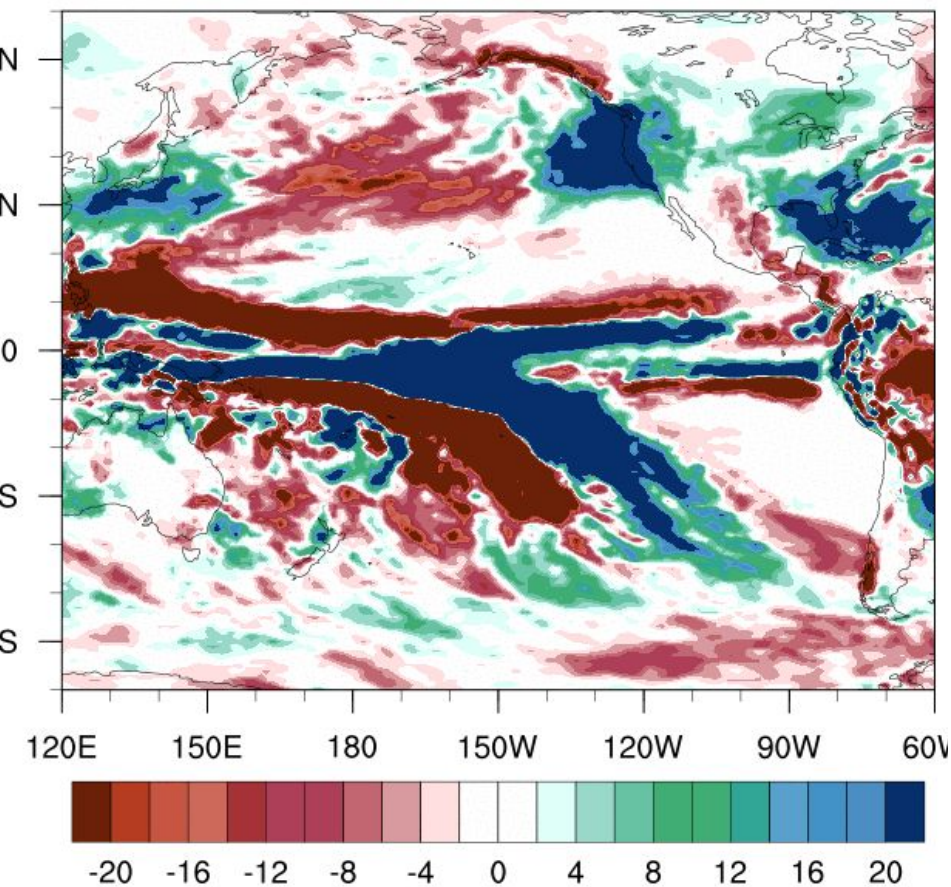


Day 15-22 Comparison (Analyzed SST - Climo SST)

Precipitation

2016/02/29-2016/03/08

mm



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

Precipitation

2016/03/08-2016/03/16

mm

