

Summary of Key Briefing Points
1030-1130am MST FRI Feb 19, 2016

Current Conditions as of FRI 12Z-15Z February 19

Tropics and Mid-latitudes

Over the Tropical Pacific:

- Convection: Scattered deep convection in west-east line from 167W-150W this morning
- Active large scale convection in SH/SPCZ region
- Upper level S/SE winds in FD,
- Strong cross-equatorial flow, anticyclonic turning of upper flow in our 0-10N FD

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

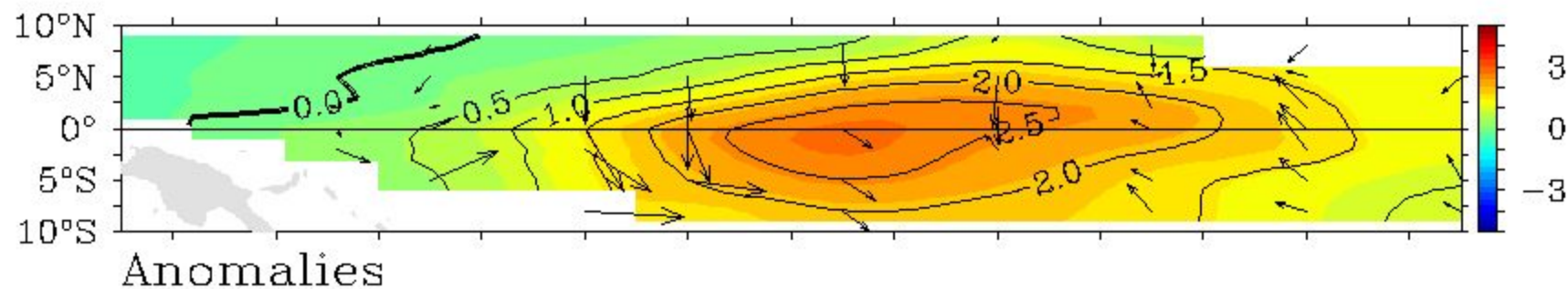
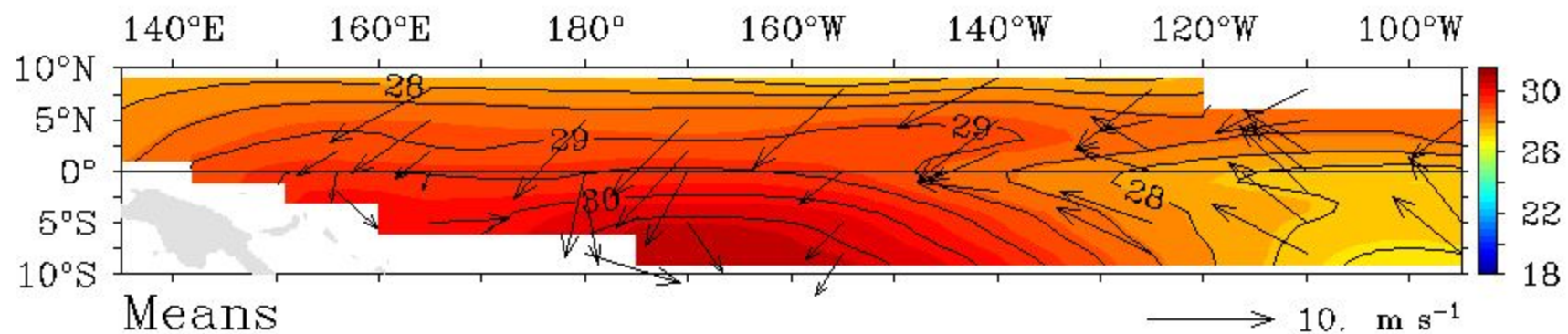
Short Term:

- 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

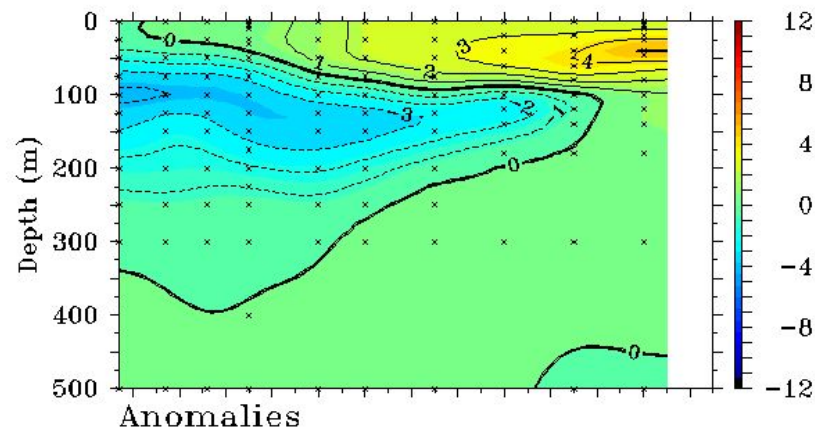
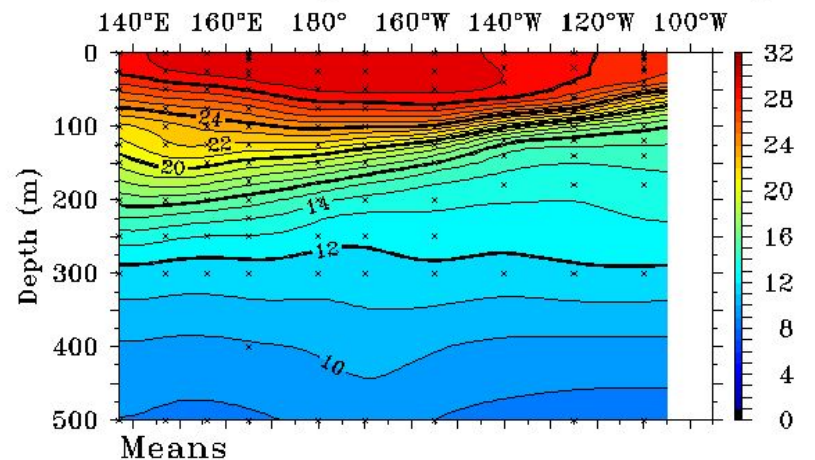
TAO/TRITON SST ($^{\circ}\text{C}$) and Winds (m s^{-1})



Five-Day Mean Ending on February 18 2016

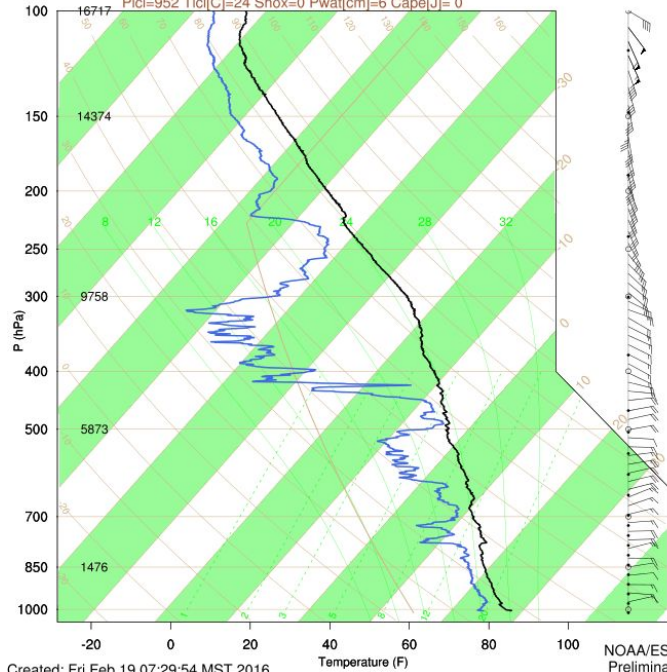
TAO/TRITON 5-Day Temperature ($^{\circ}\text{C}$)

End Date: February 18 2016 2°S to 2°N Average



Kiritimati Is: 02/18/2016 2330Z 2.01N 157.40W

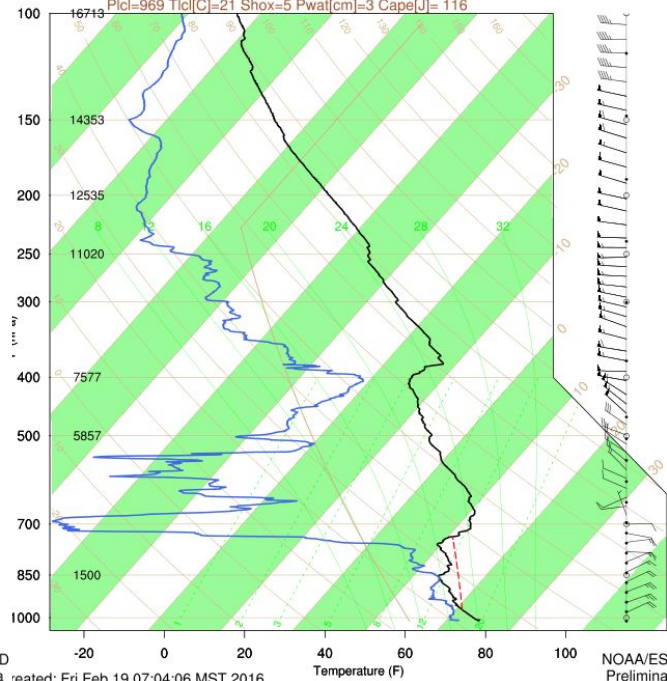
Ptcl=952 Tlcl[C]=24 Shox=0 Pwat[cm]=6 Cape[J]= 0



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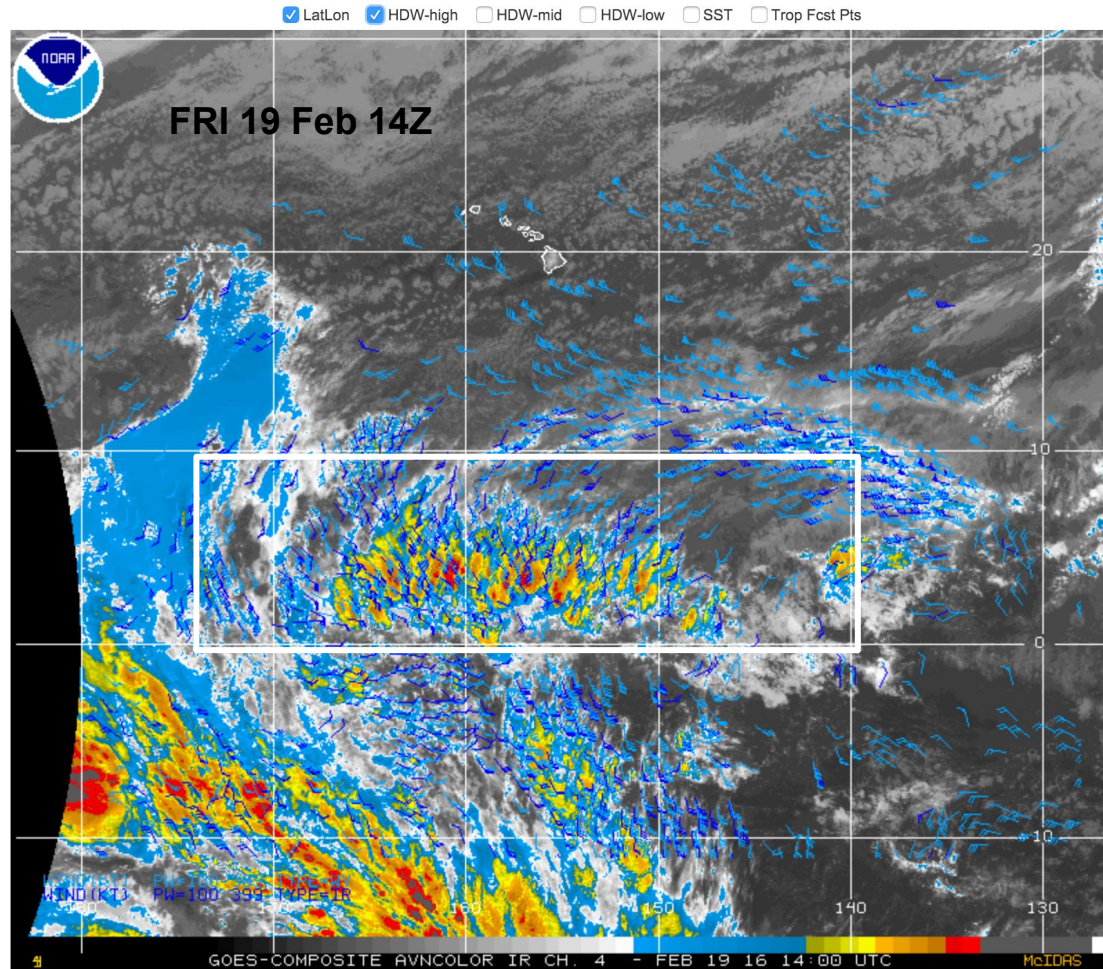
Ronald H. Brown: 02/19/2016 1121Z (14.94N,149.84W)

Ptcl=969 Tlcl[C]=21 Shox=5 Pwat[cm]=3 Cape[J]= 116

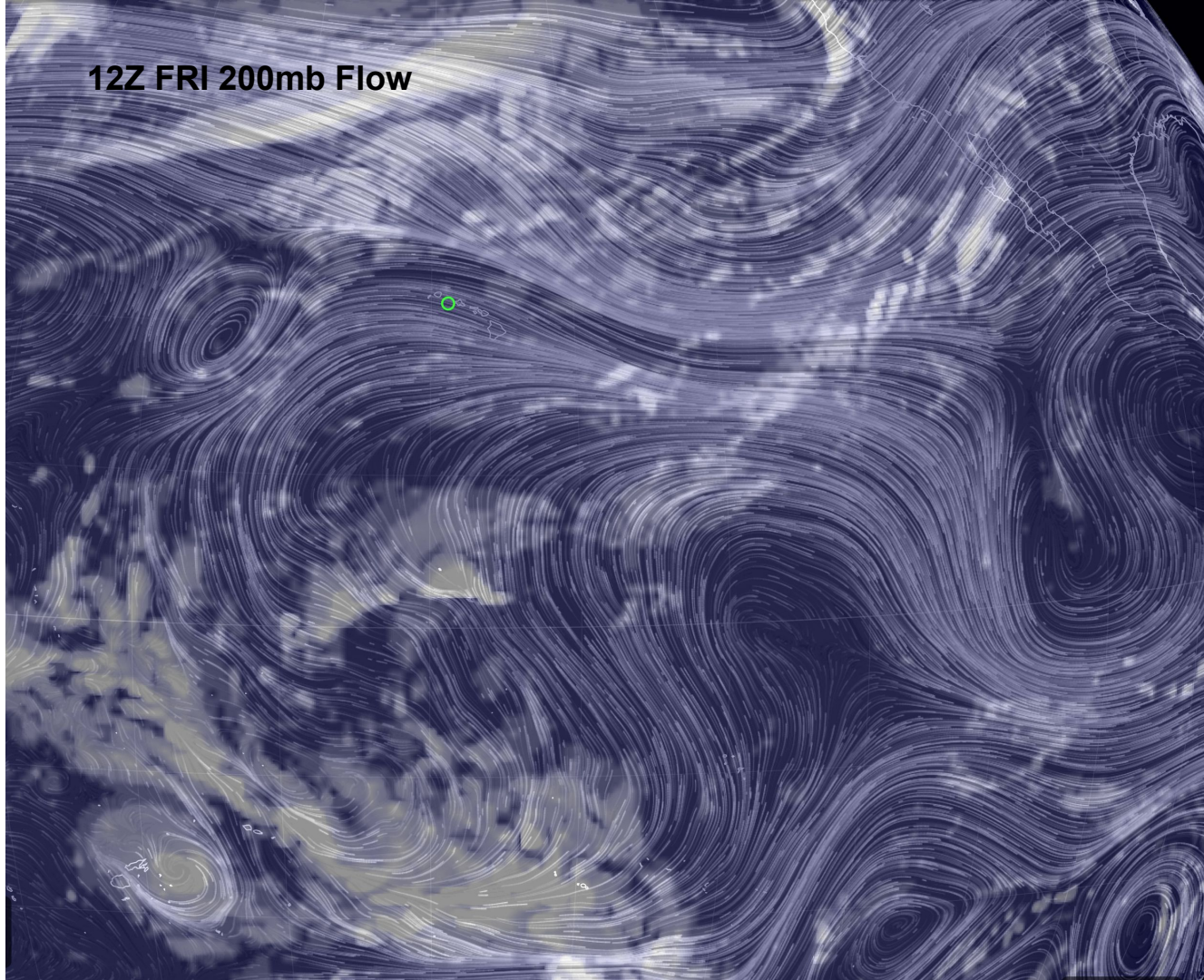


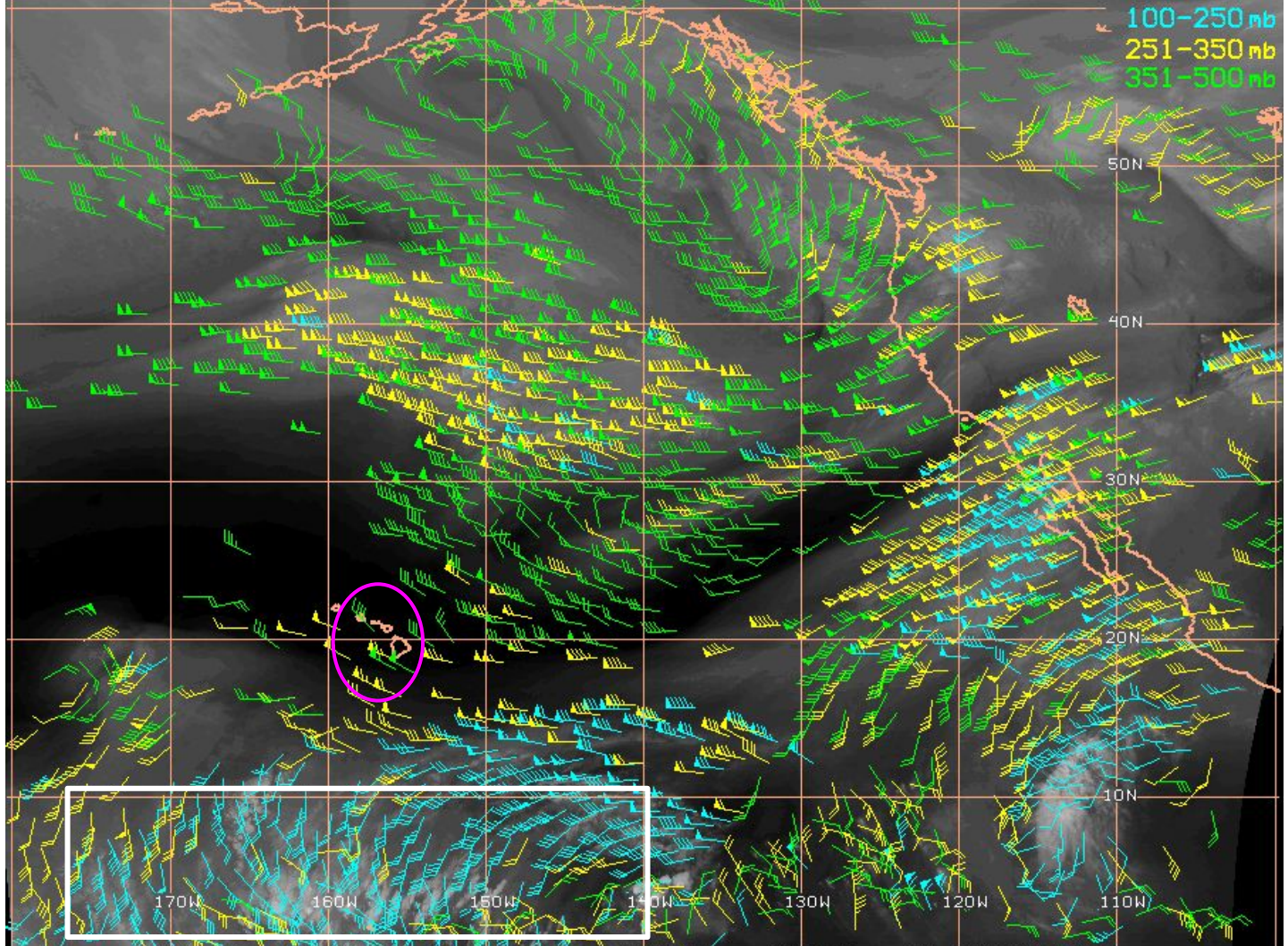
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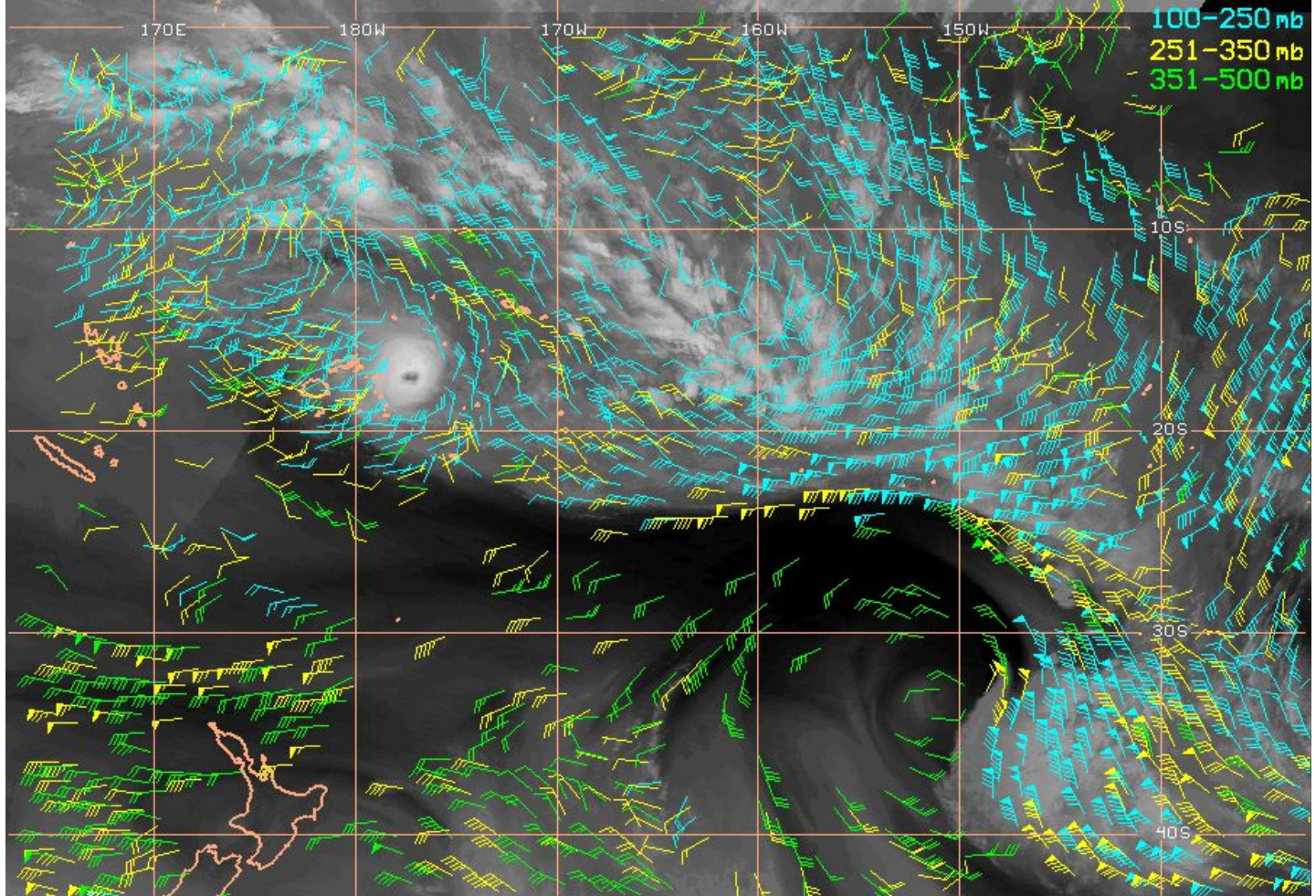
GOES Composite - El Niño Support – AVN Color Infrared Loop

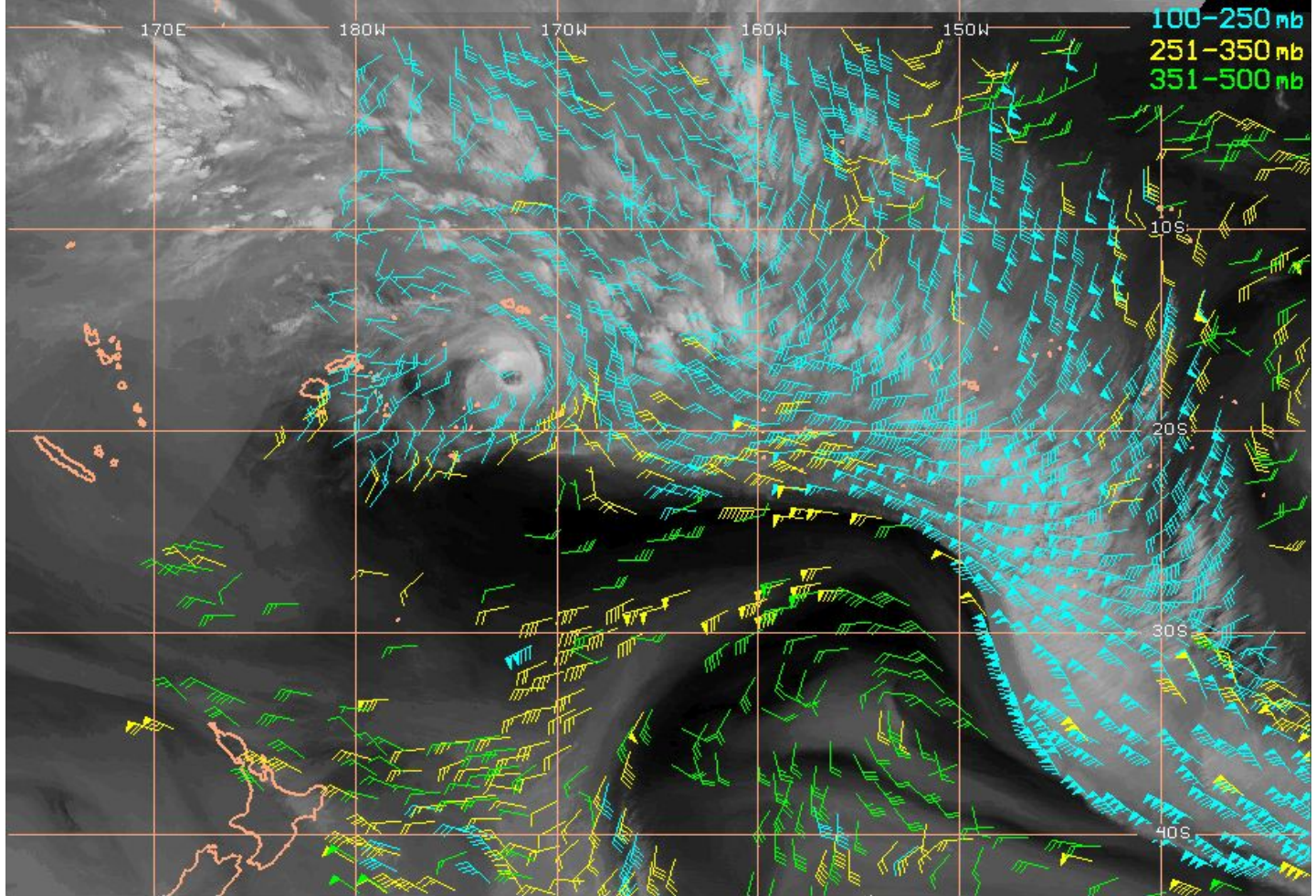


12Z FRI 200mb Flow



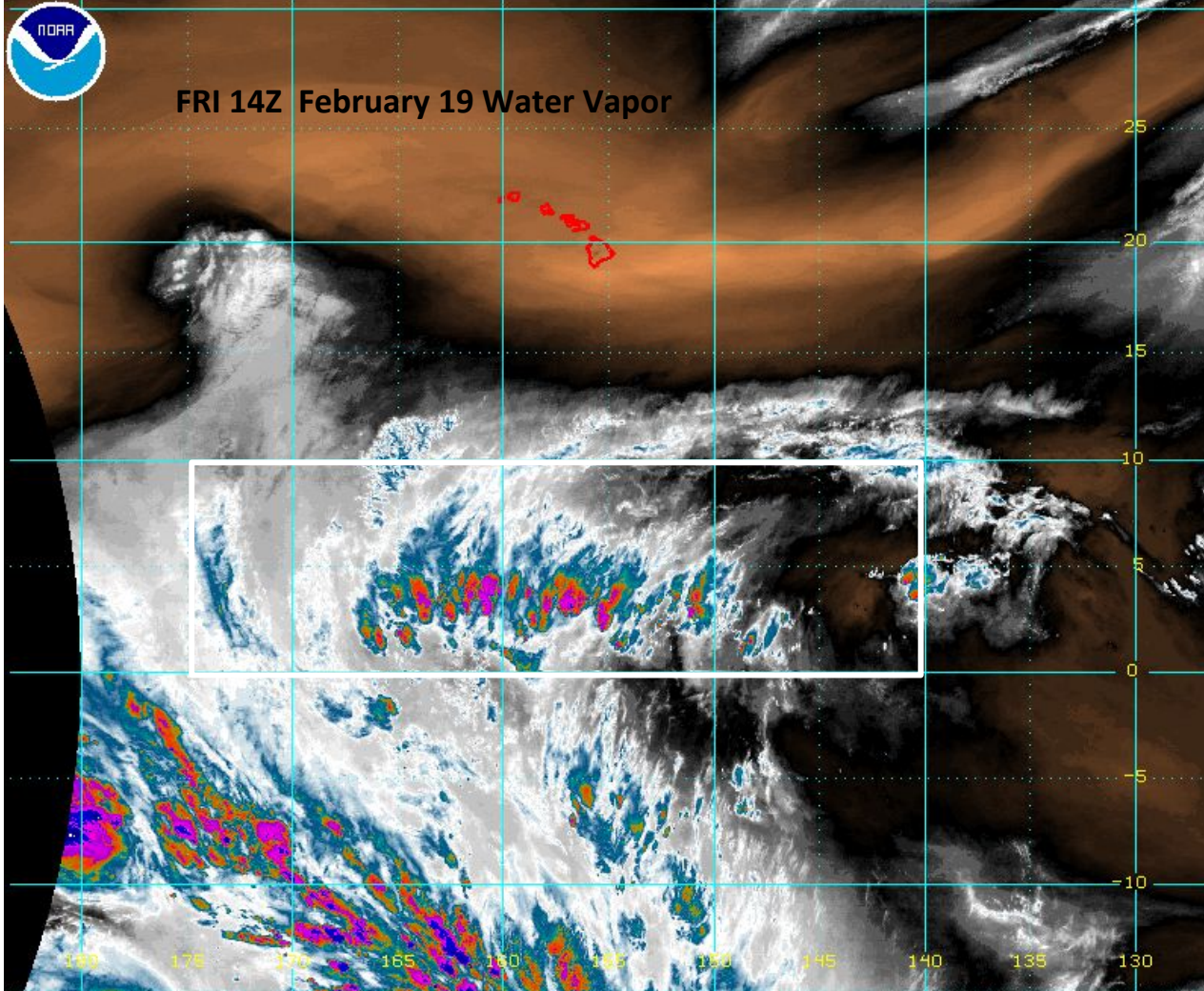






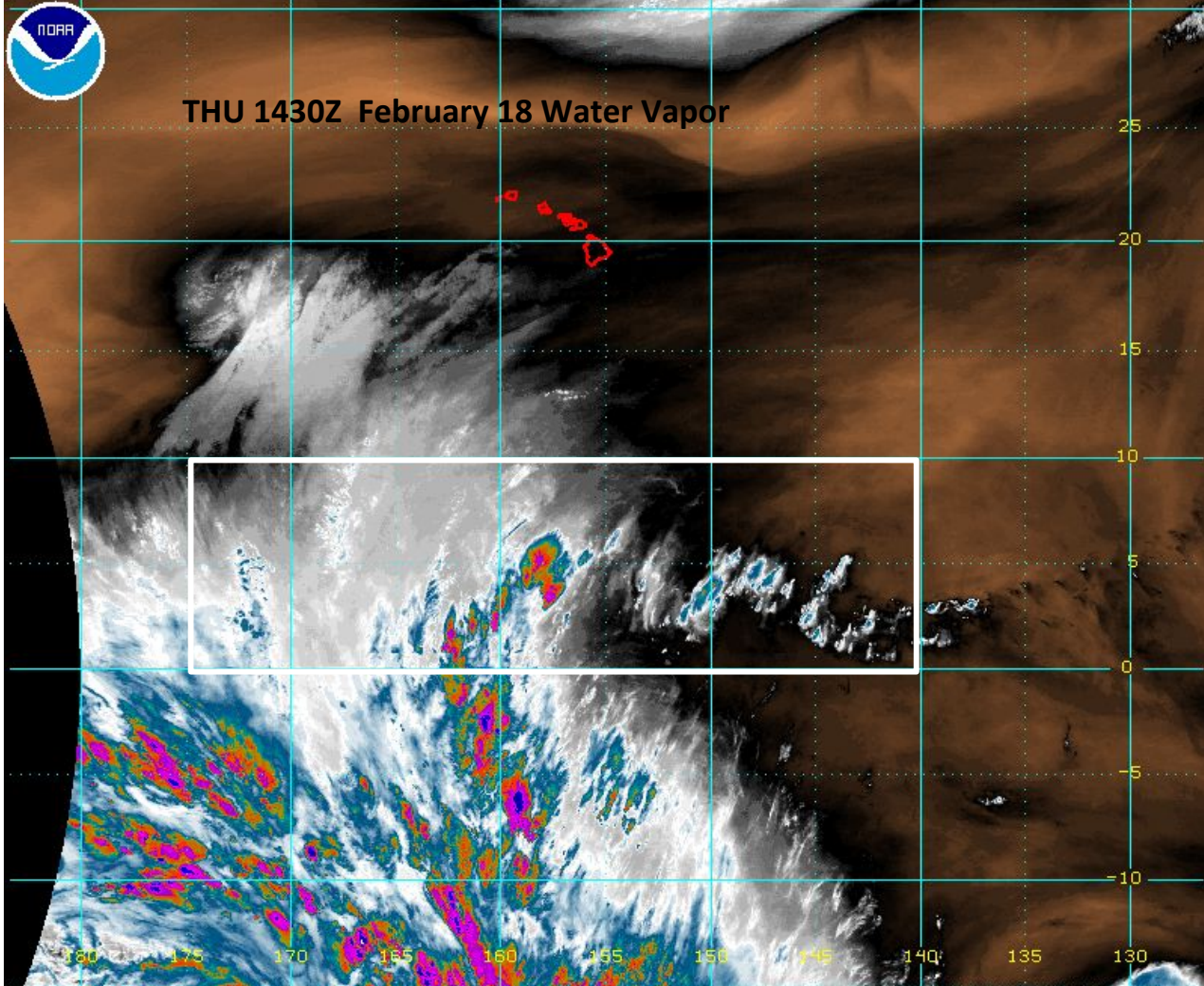


FRI 14Z February 19 Water Vapor

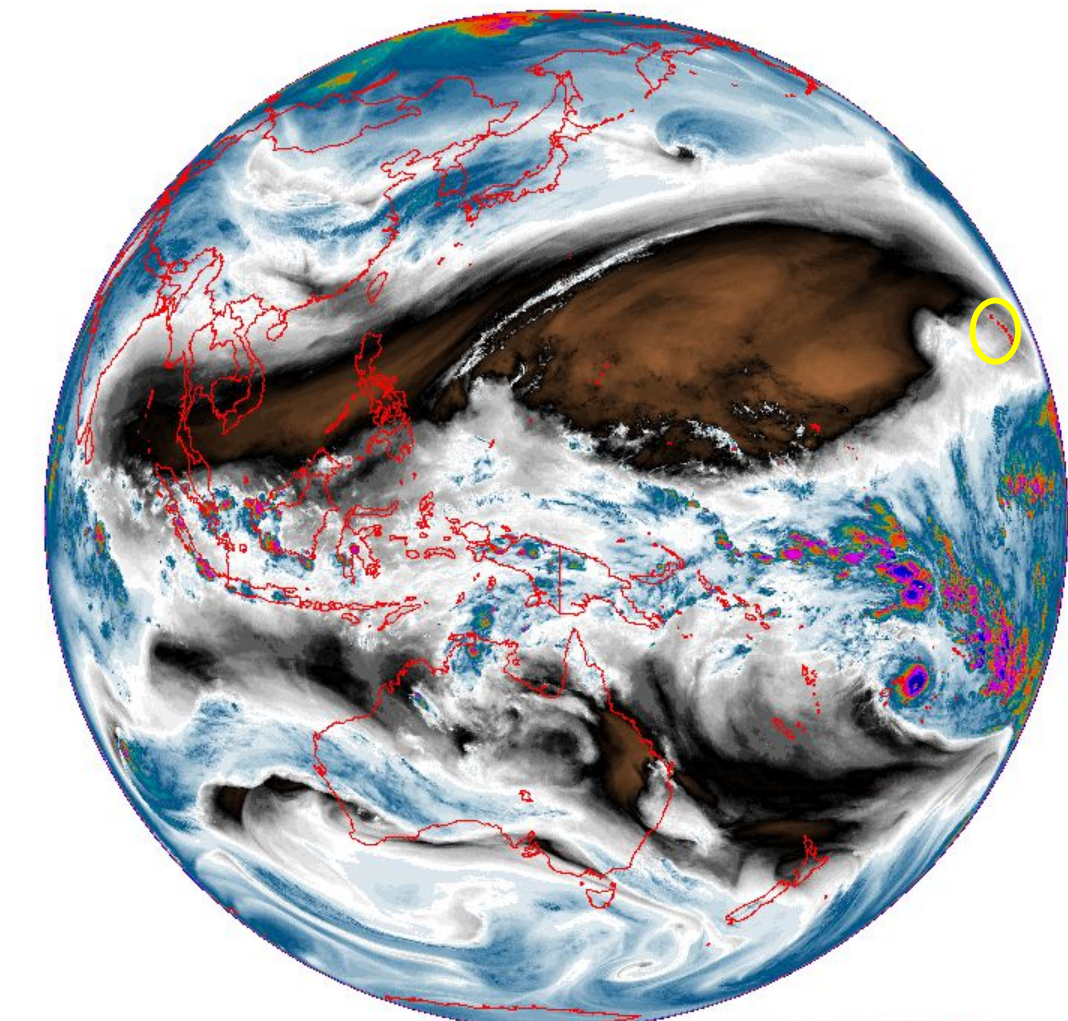




THU 1430Z February 18 Water Vapor



Water Vapor
14Z FRI



Kiritimati Sonde-Reality FRI

This sounding was a learning experience:

Launch: Launch in heavy rain. Surface met shows about 0.18" in 6 minutes, or 1.8" per hour rate. We tried to get more gas into balloon, but it may have only been 600 psi. Initial ascent rate <3 m/s, a little slow.

1:45LT: Rain has slowed to .3" per hour.

200LT: Surface met shows 0.1" per hour rain rate. Wind is very calm at surface, <1m/s.

202LT: Balloon has iced up and is coming down. Balloon bag is too wet for a relaunch, so we can't fill another balloon, will watch this sonde. Sonde dropped from 5777m to 3662m, then started back up, reached 5082 m, dropped to 4146 m, started up again, reached 5078 m, started back down, dropped to 4126 m, started back up.

236LT: wind sensor has dropped to 0 wind speed. Rain rate 0.2"/hour.

255LT: It has stopped raining and is cloudy out.

310LT: Wind picking up on surface, now above 1 m/s.

315LT: Sonde has dropped six times and is going up again. If it drops again, I'm stopping sounding, if it goes up, I'm stopping sounding at 400 hPa.

320LT: Coming back down, stopping sounding.

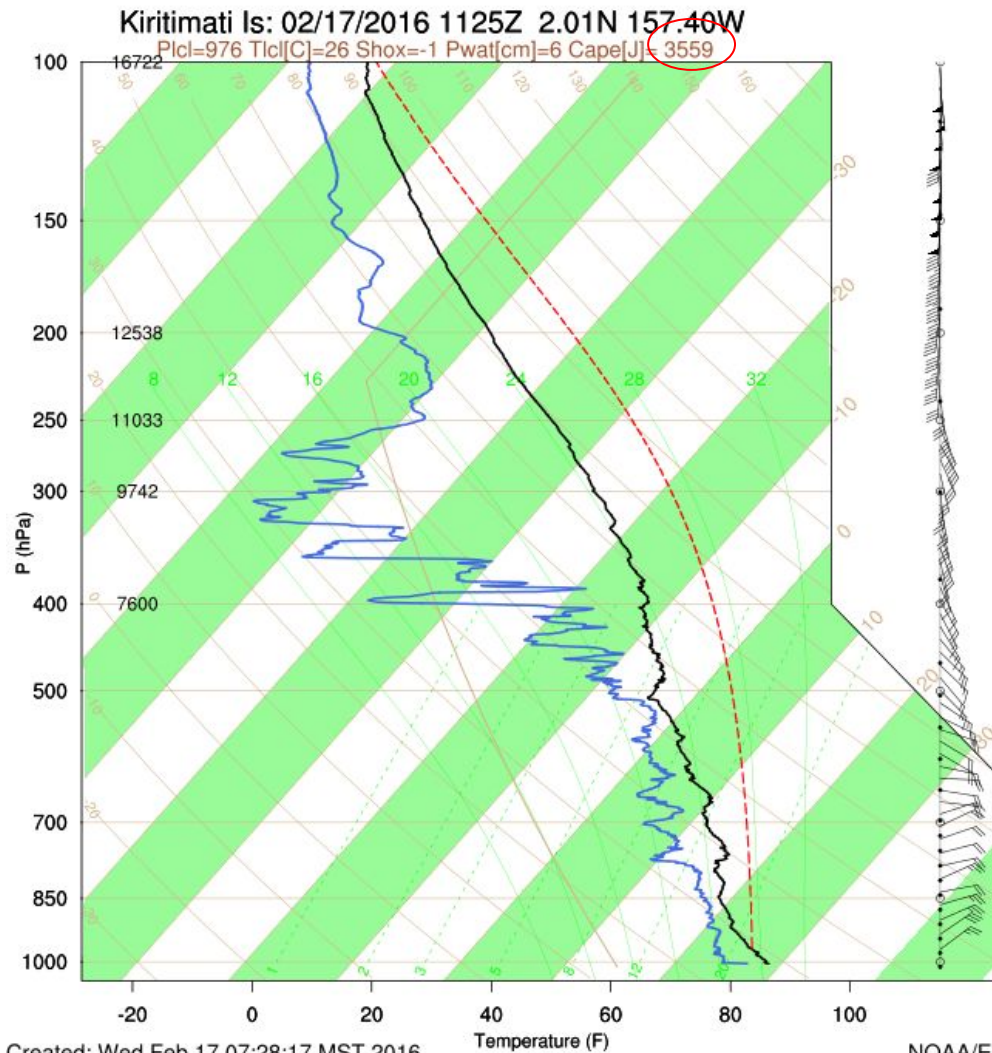
This flight would have required a lot more gas. Learning as we go along, sometimes the hard way.

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

Temperature (F)

NOAA/ESRL PSD

Kiritimati Sonde 1125Z WED



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.

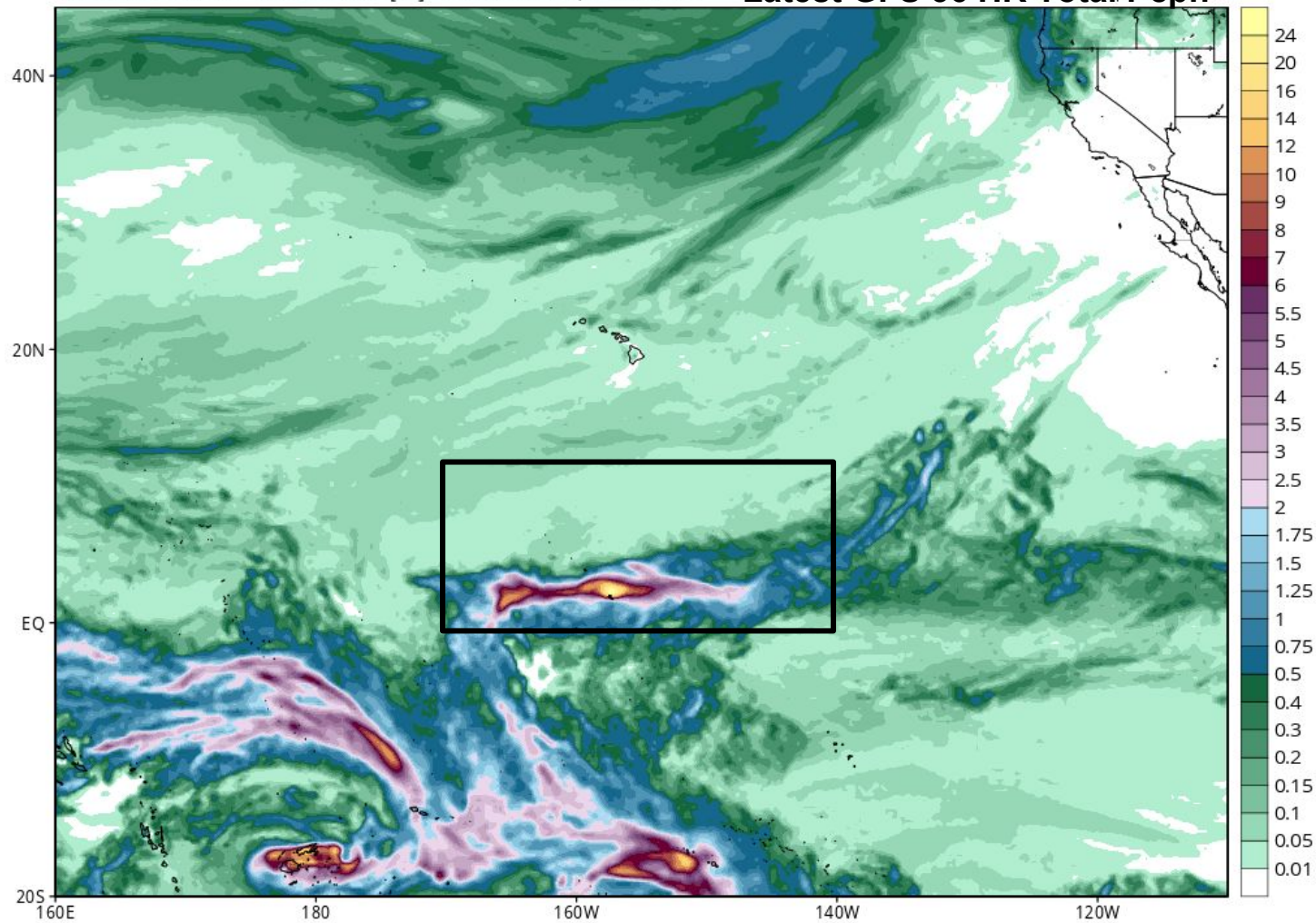
305LT: Stars and broken cirrus overhead. May not be quite as breezy as earlier. Sonde on way down.

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

GFS Total Accumulated Precipitation (inches) from 12z19Feb2016 to 00z21Feb2016

Init: 12z Feb 19 2016 Forecast Hour: [36] valid at 00z Sun, Feb 21 2016

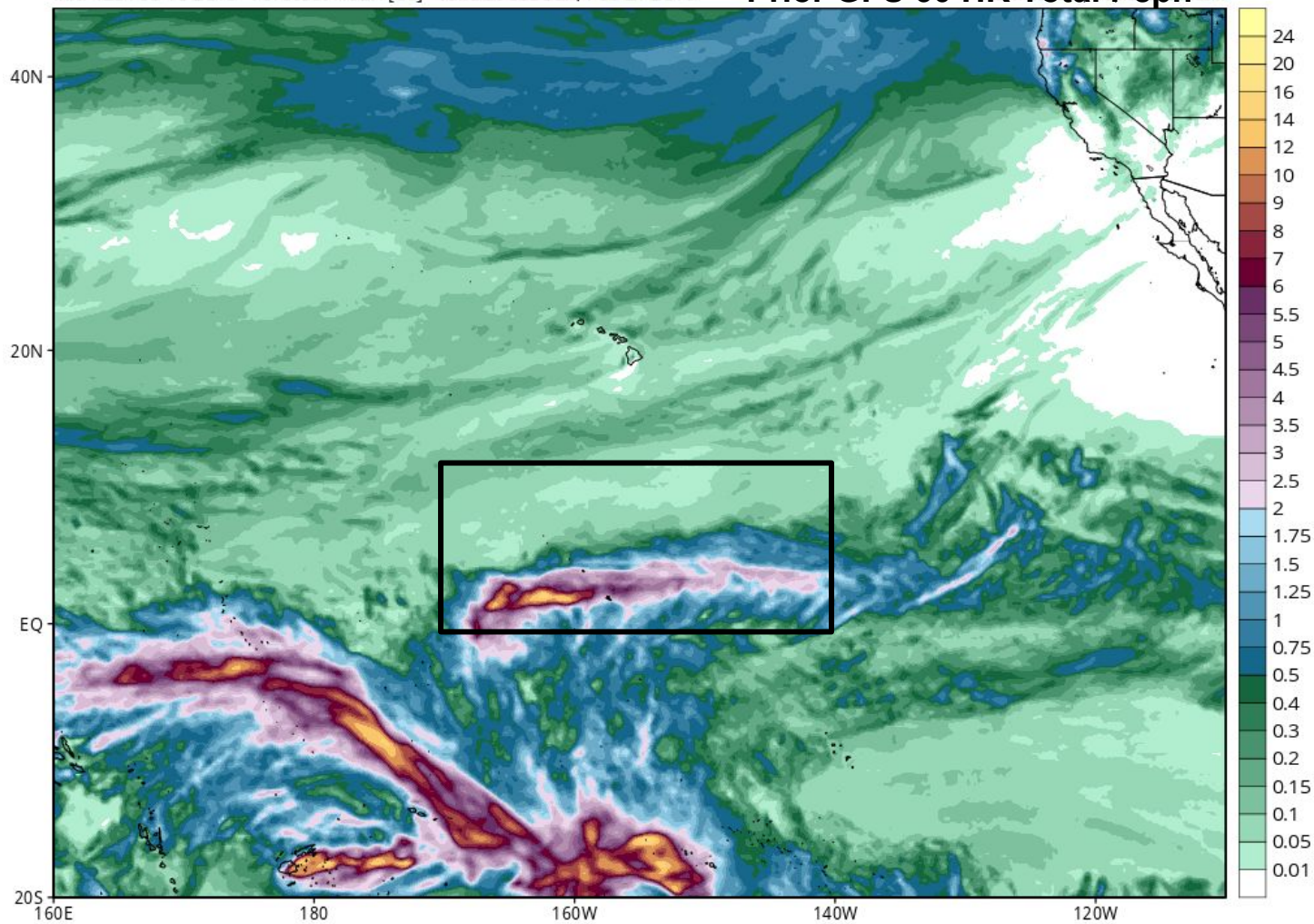
Latest GFS 36 HR Total Popn



GFS Total Accumulated Precipitation (inches) from 12z18Feb2016 to 00z21Feb2016

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Prior GFS 60 HR Total Pcpn

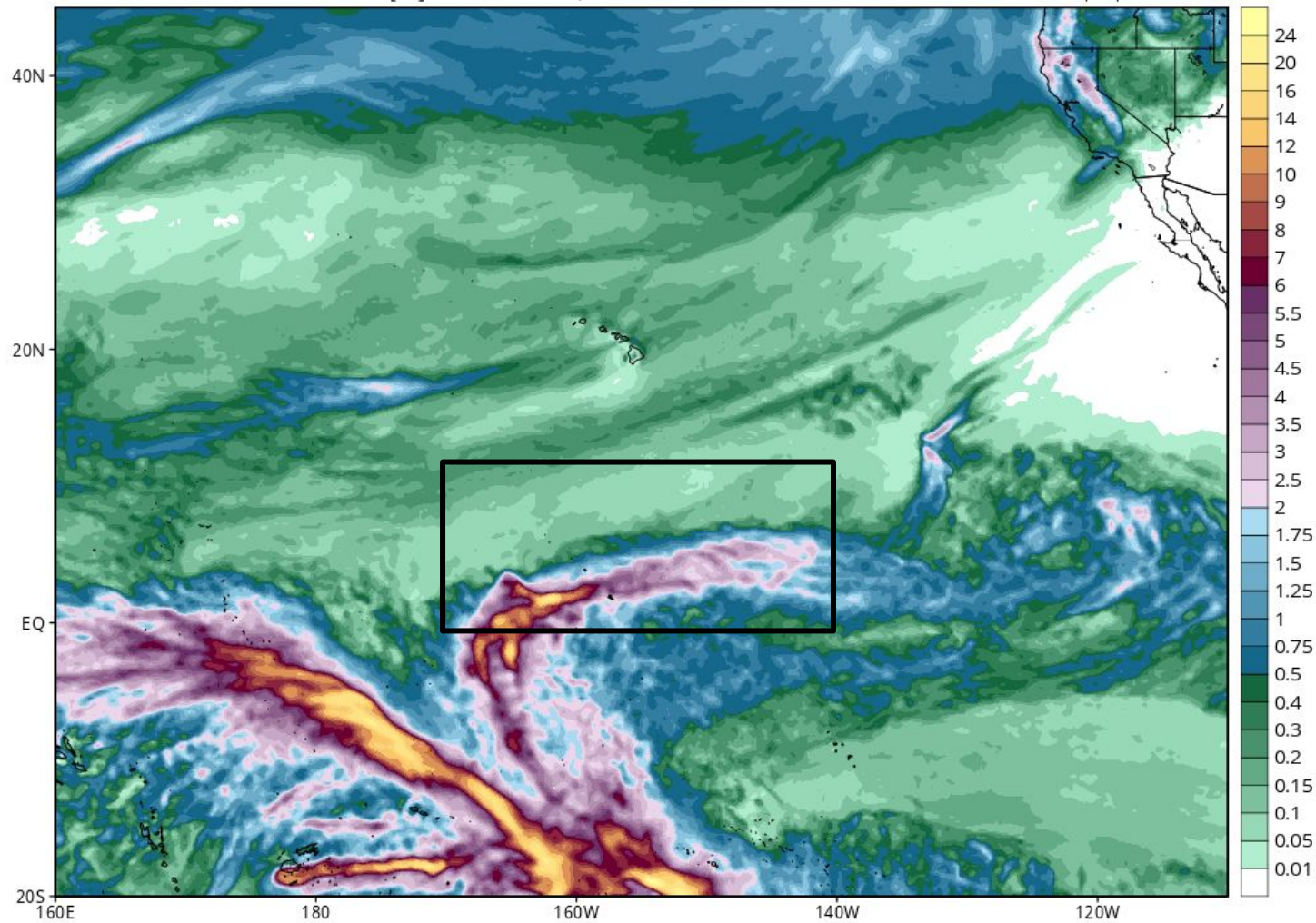


GFS Total Accumulated Precipitation (inches) from 12z17Feb2016 to 00z21Feb2016

Init: 12z Feb 17 2016 Forecast Hour: [84] valid at 00z Sun, Feb 21 2016

Prior GFS 84 HR Total Pcpn

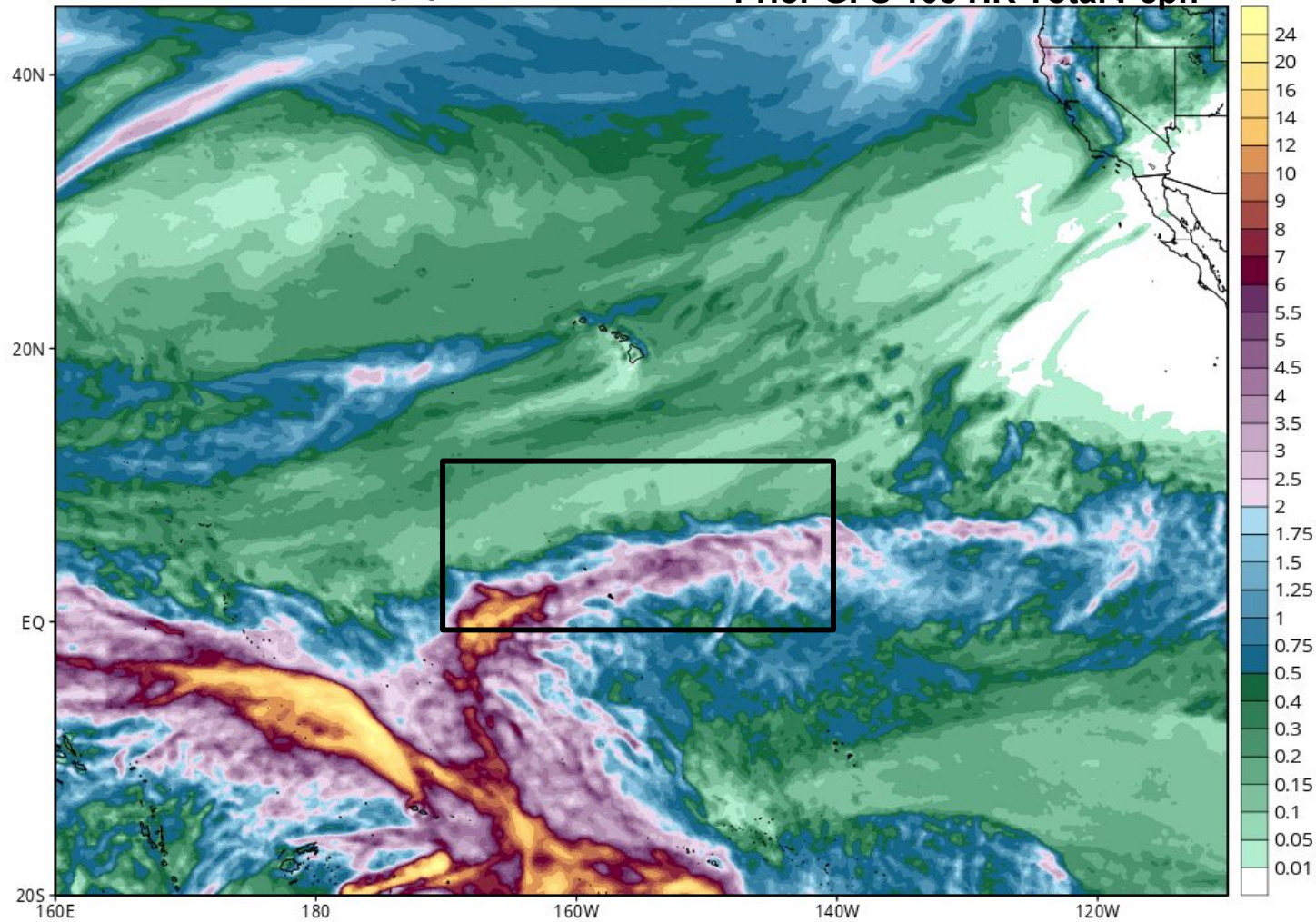
Levi Cowan | tropicalidbits.com

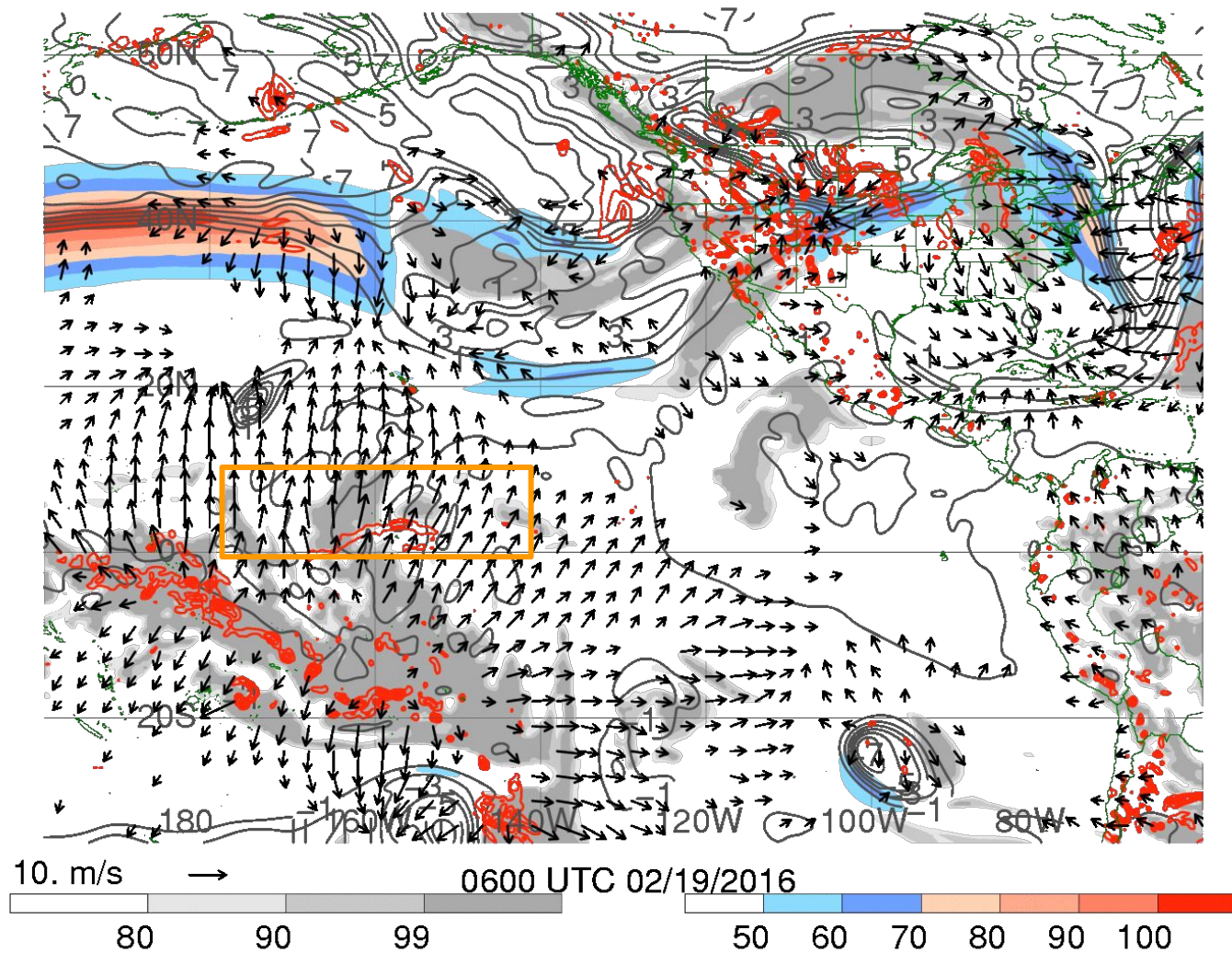


GFS Total Accumulated Precipitation (inches) from 12z16Feb2016 to 00z21Feb2016

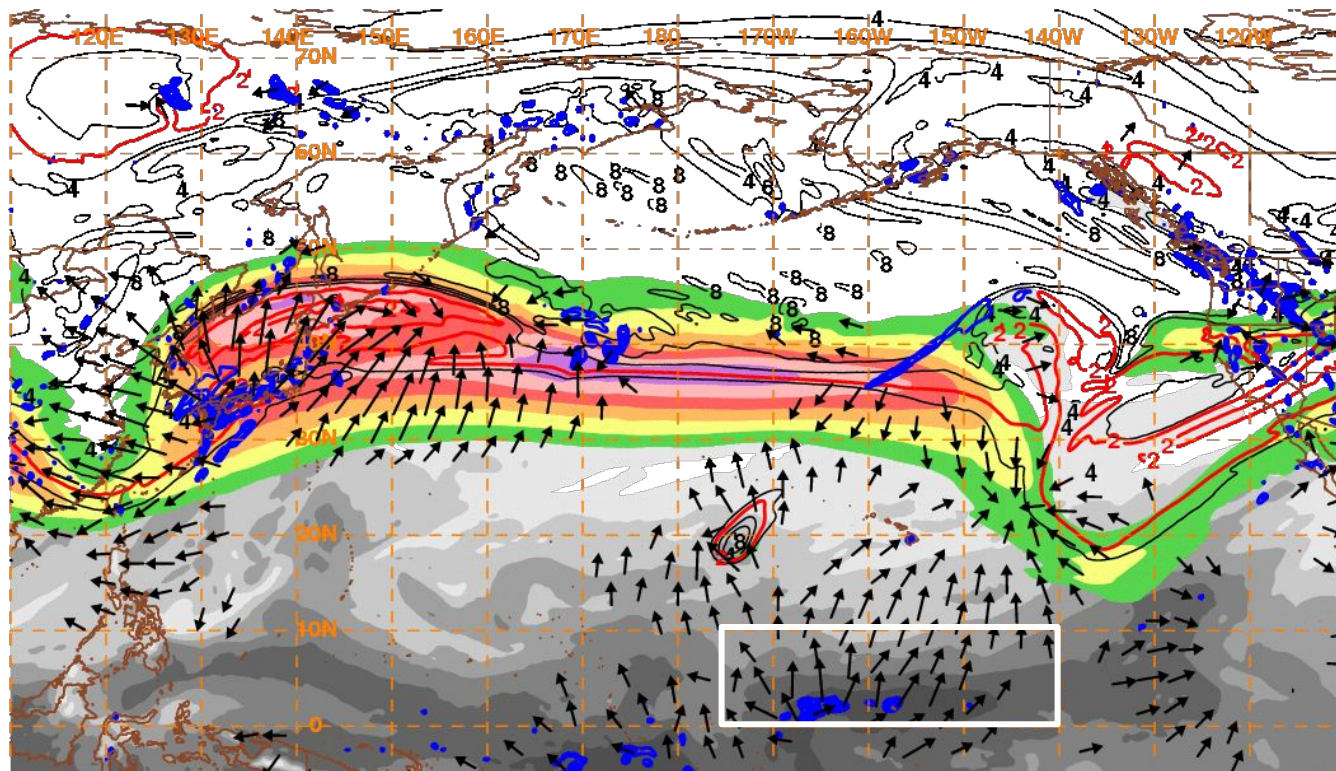
Init: 12z Feb 16 2016 Forecast Hour: [108] valid at 00z Sun, Feb 21 2016

Prior GFS 108 HR Total Pcpn





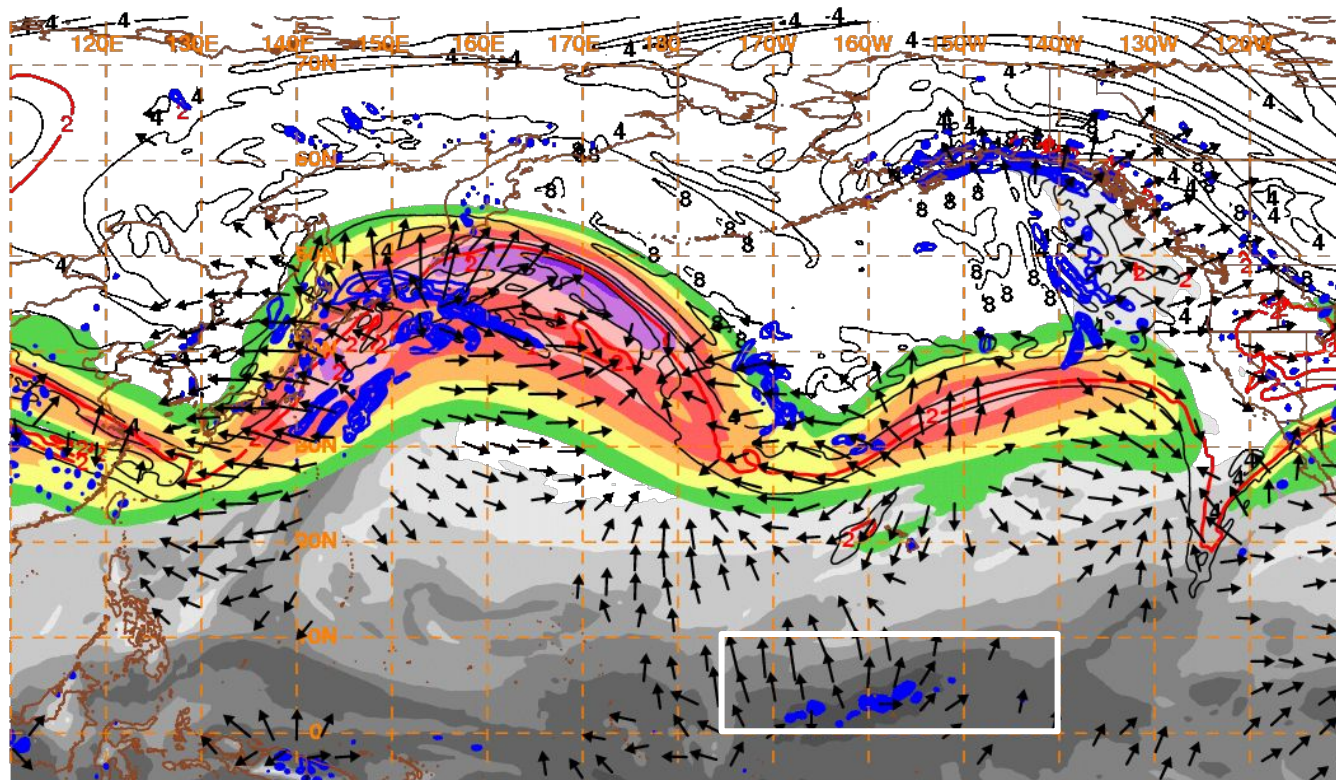
GFS 18HR FCST Valid 00Z SAT Feb 20: 200 mb DIV Wind Vectors



10 m/s → 160220/0000V018 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel



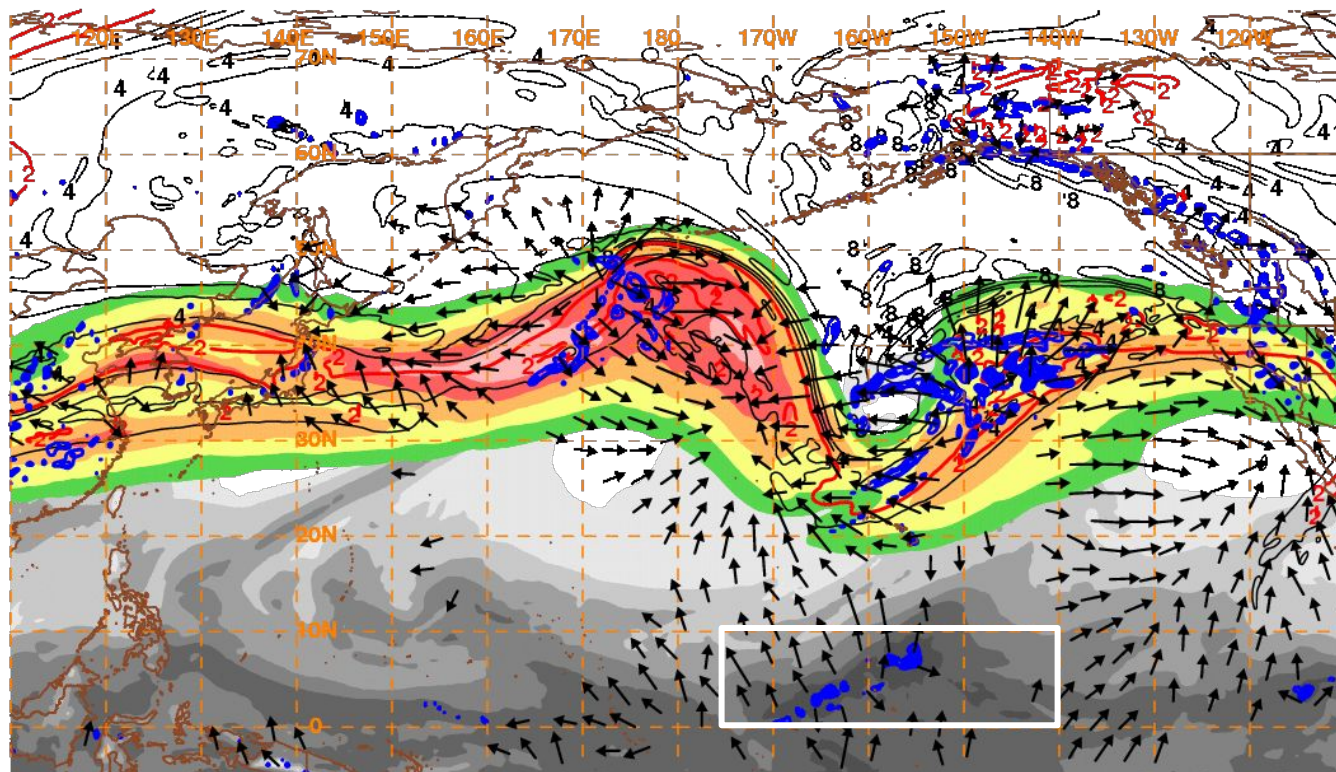
GFS 42HR FCST Valid 00Z SUN Feb 21: 200 mb DIV Wind Vectors



10 m/s → 160221/0000V042 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel



GFS 66HR FCST Valid 00Z MON Feb 22: 200 mb DIV Wind Vectors



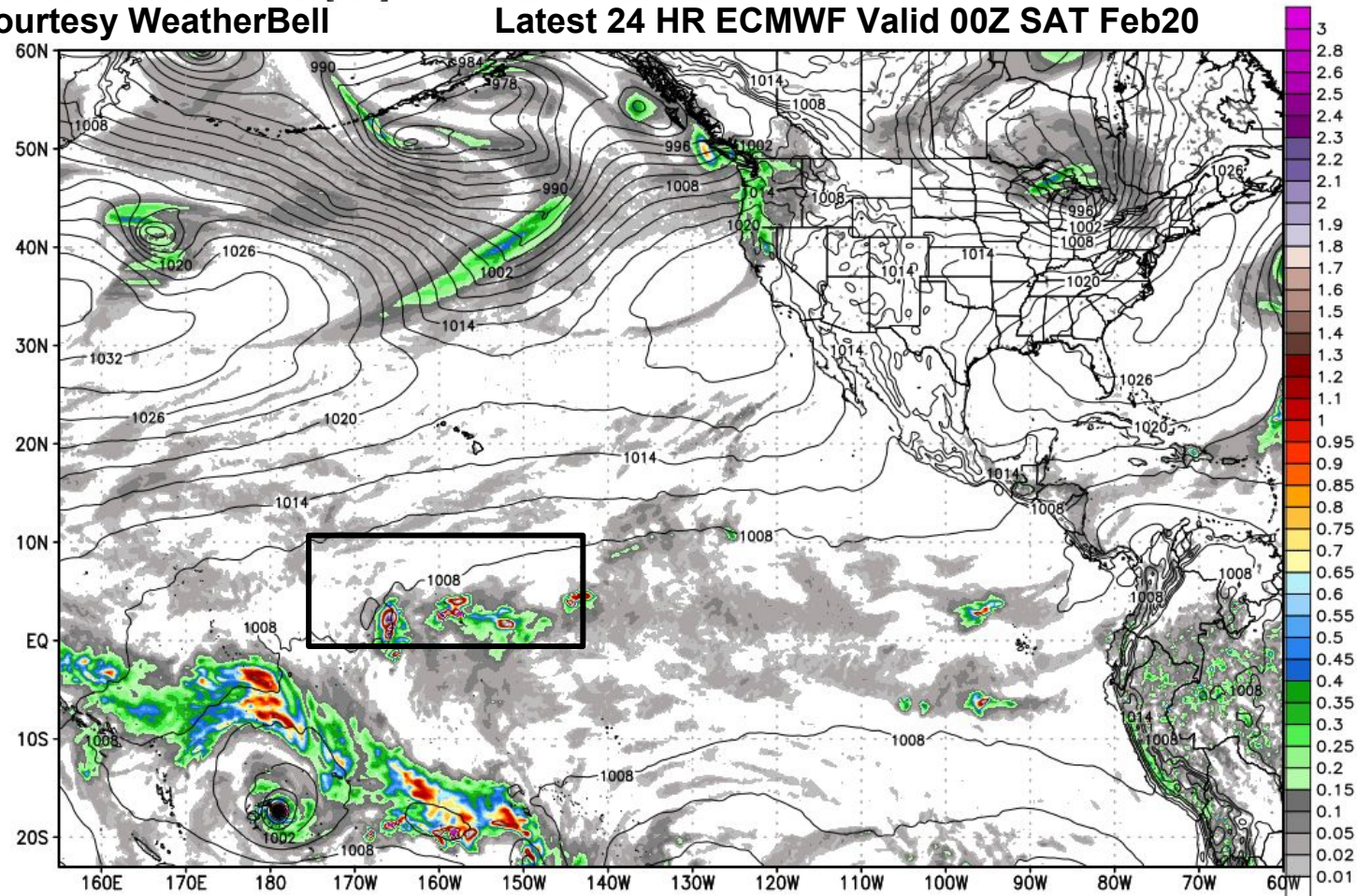
10 m/s → 160222/0000V066 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel



ECMWF 6-hourly Precipitation [inches] between 18Z19FEB2016 -- 00Z20FEB2016 & MSLP [hPa]
INIT: 00Z19FEB2016 fx: [024] hr --> Sat 00Z20FEB2016

Courtesy WeatherBell

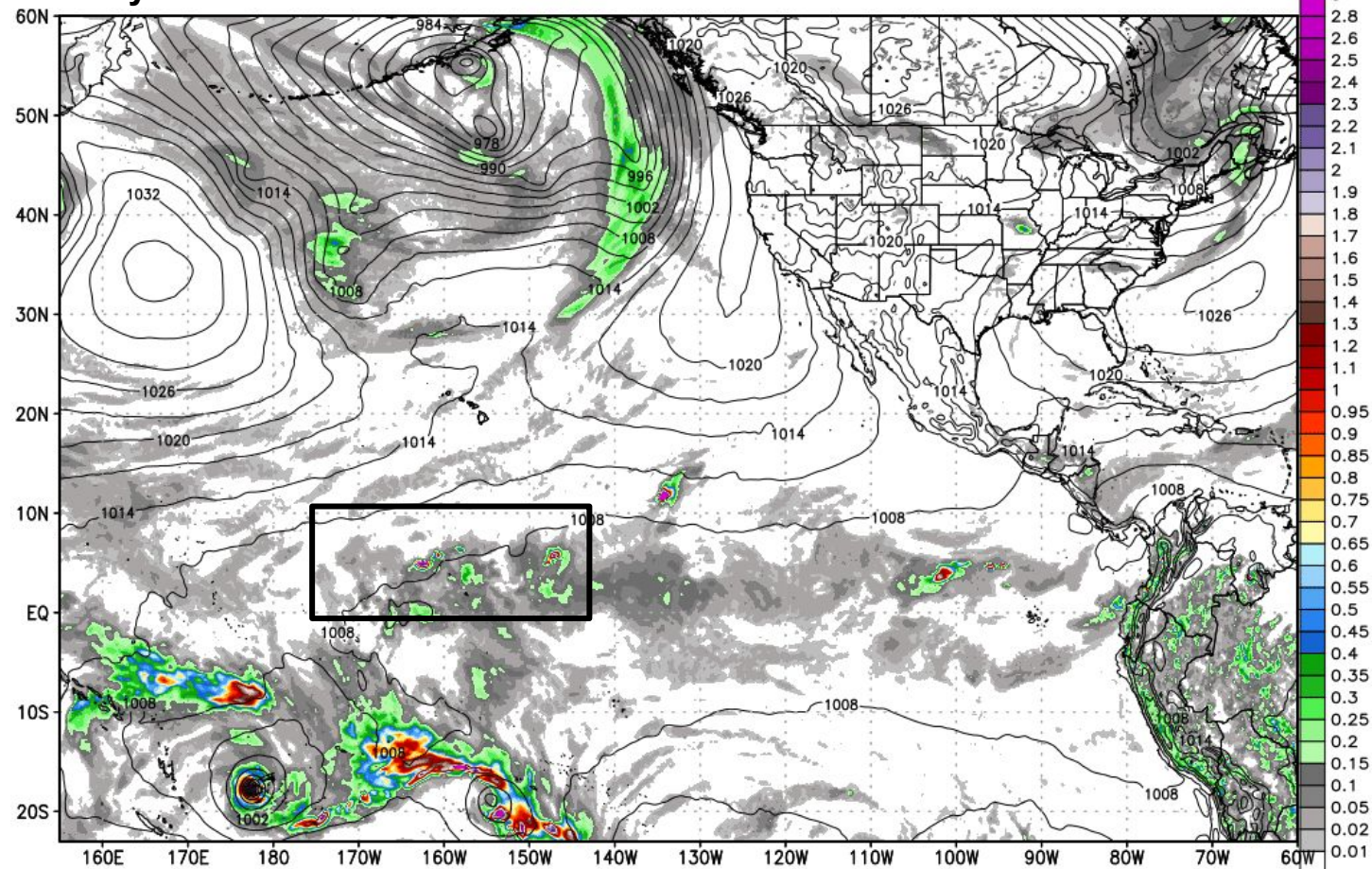
Latest 24 HR ECMWF Valid 00Z SAT Feb20



ECMWF 6-hourly Precipitation [inches] between 18Z20FEB2016 -- 00Z21FEB2016 & MSLP [hPa]
INIT: 00Z19FEB2016 fx: [048] hr --> Sun 00Z21FEB2016

Courtesy WeatherBell

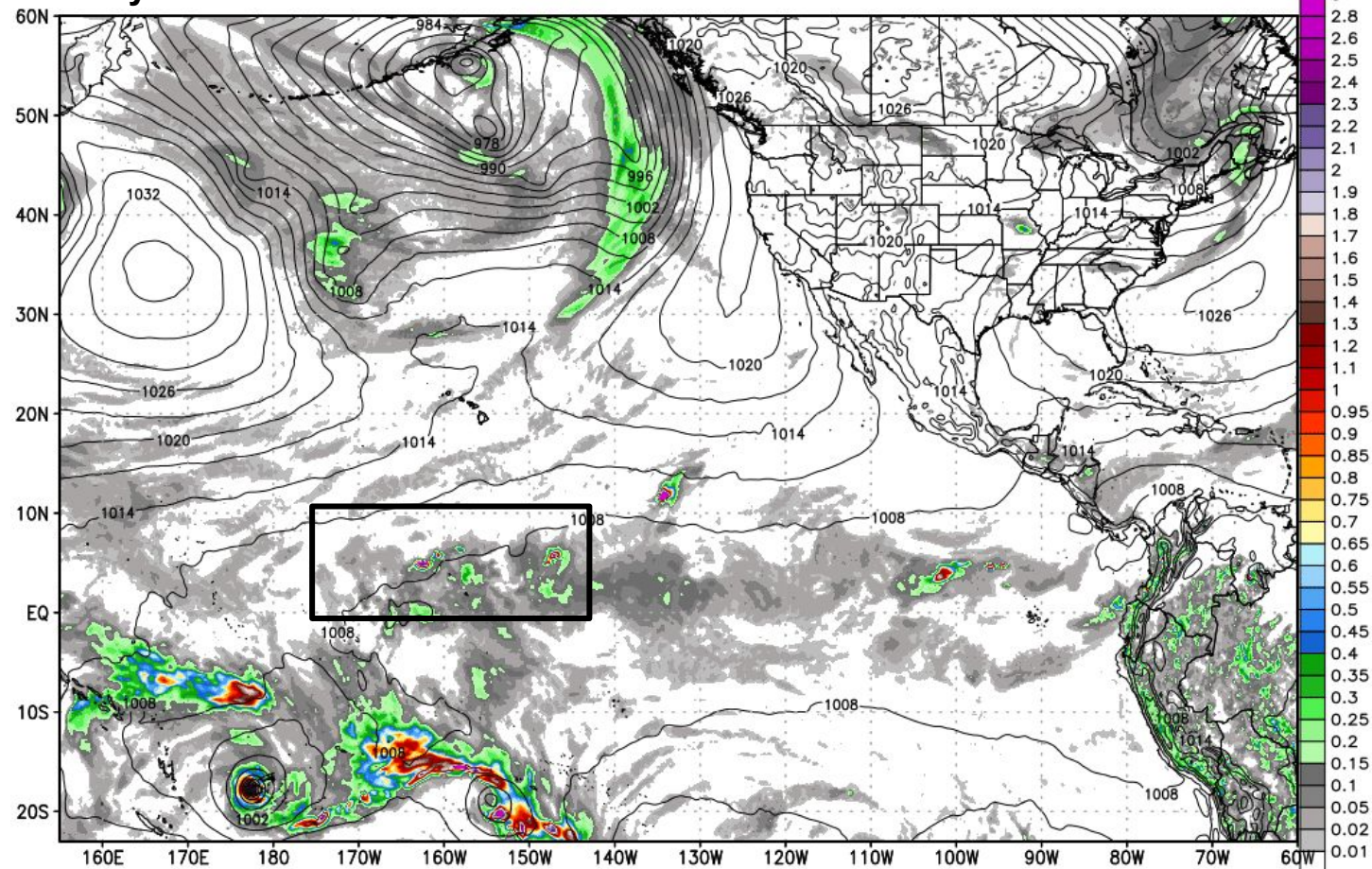
Latest 48 HR ECMWF Valid 00Z SUN Feb21



ECMWF 6-hourly Precipitation [inches] between 18Z20FEB2016 -- 00Z21FEB2016 & MSLP [hPa]
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Courtesy WeatherBell

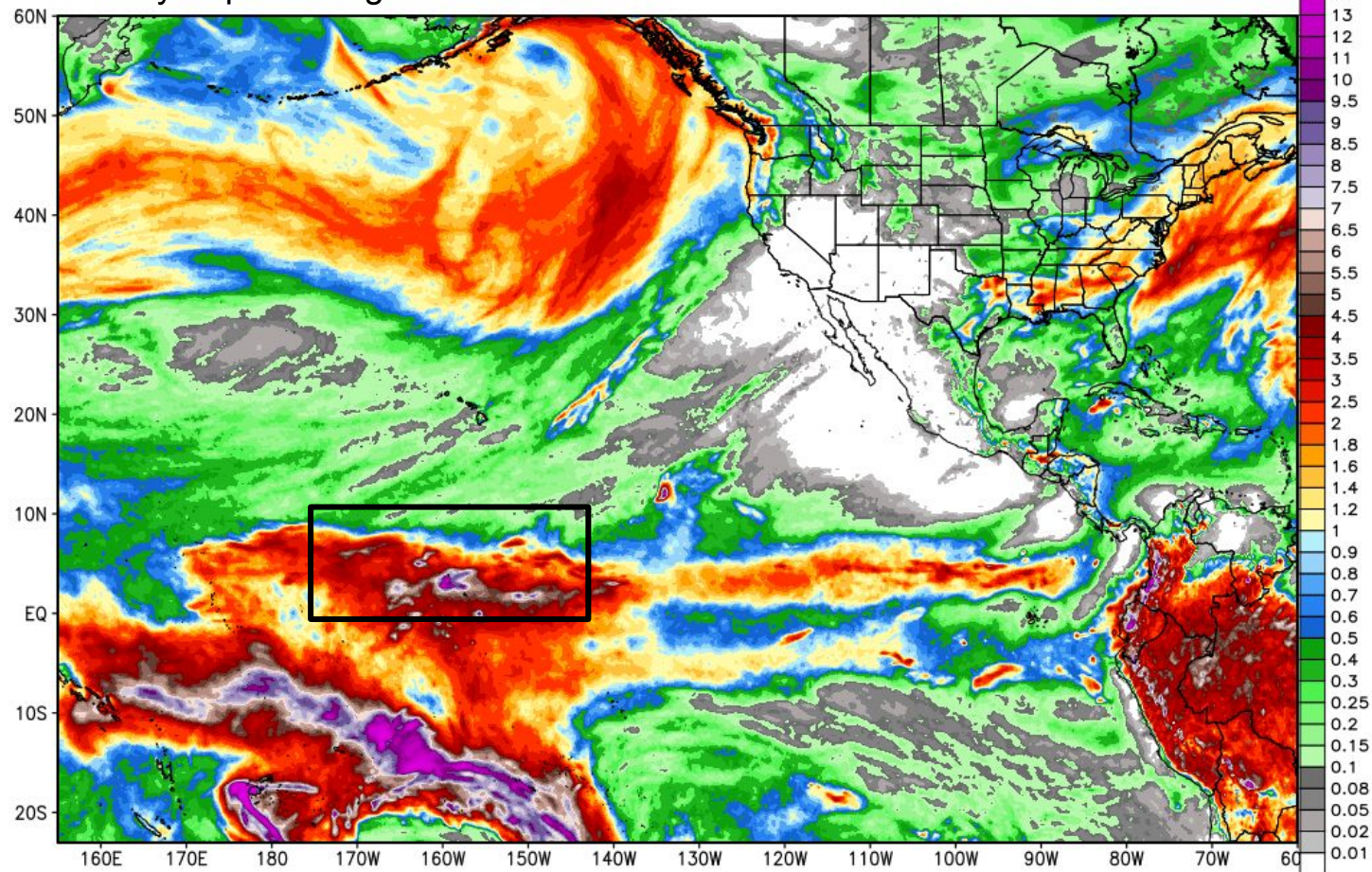
Latest 48 HR ECMWF Valid 00Z SAT Feb21



ECMWF Total Precipitation [inches] between 00Z19FEB2016 -- 00Z26FEB2016
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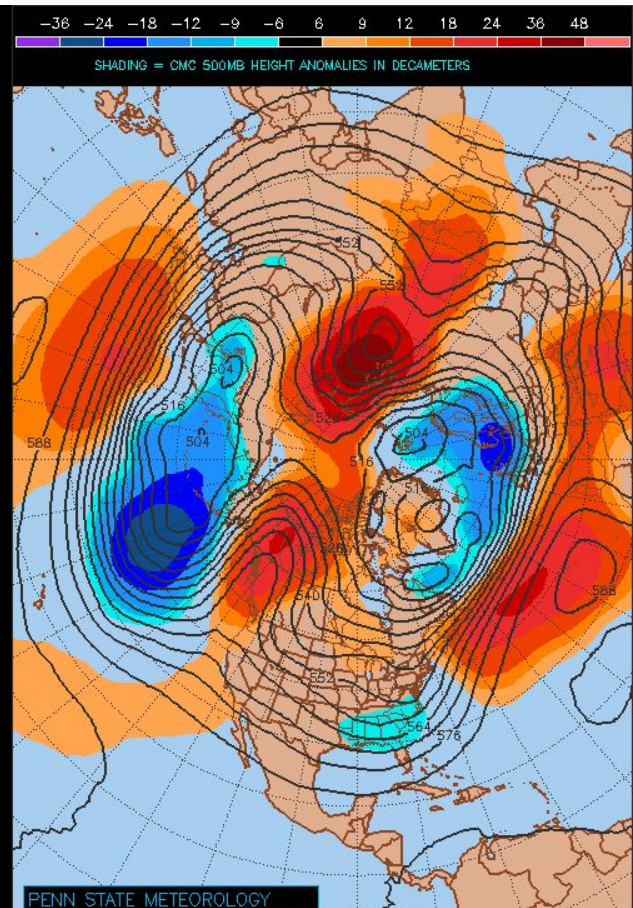
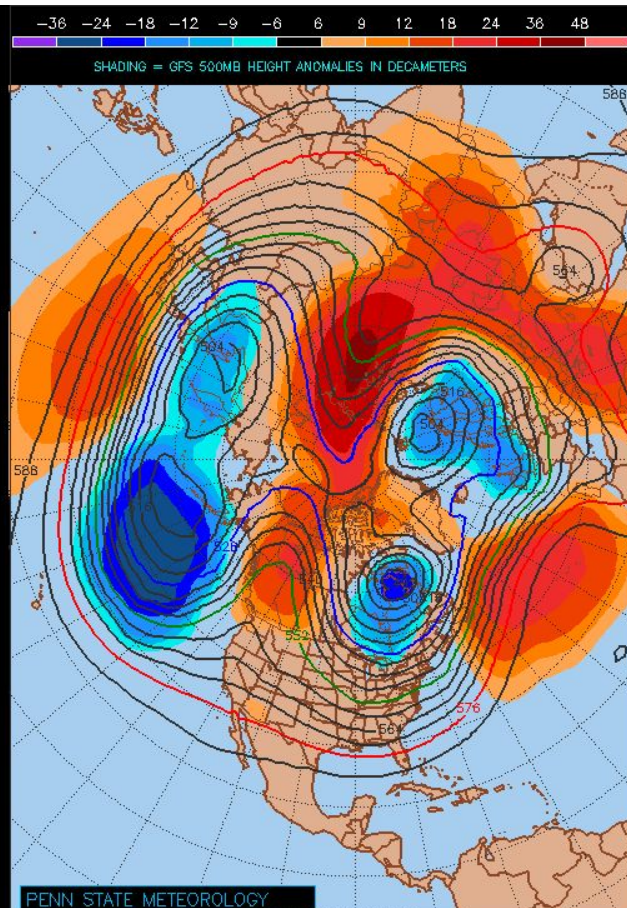
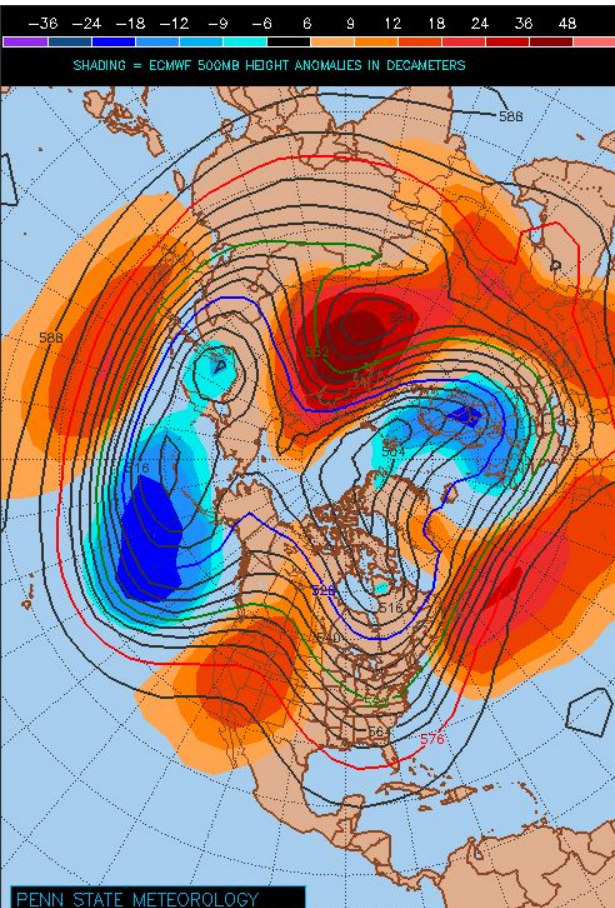
Max 26.7 in

7-Day Pcpn Ending 00Z Fri 26 Feb



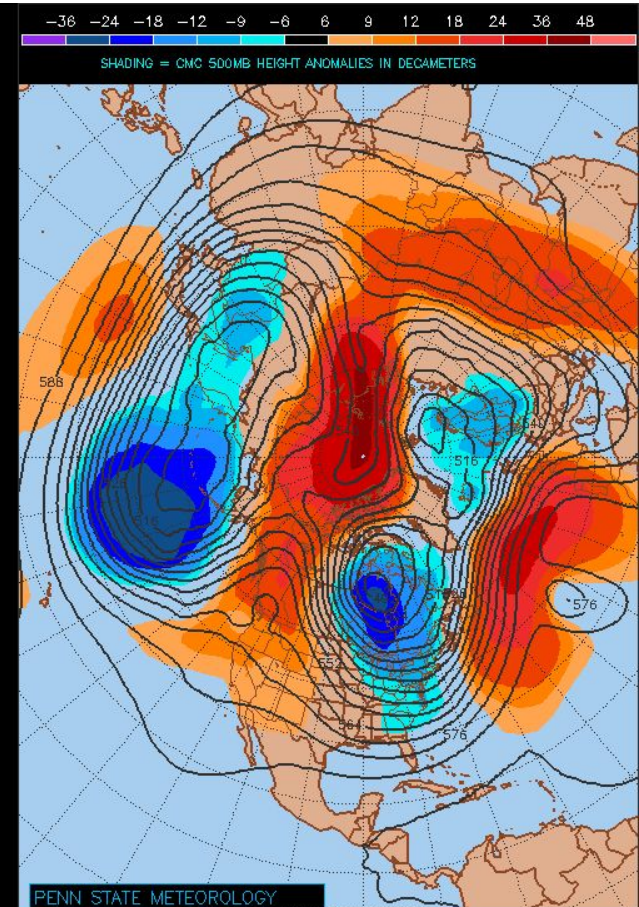
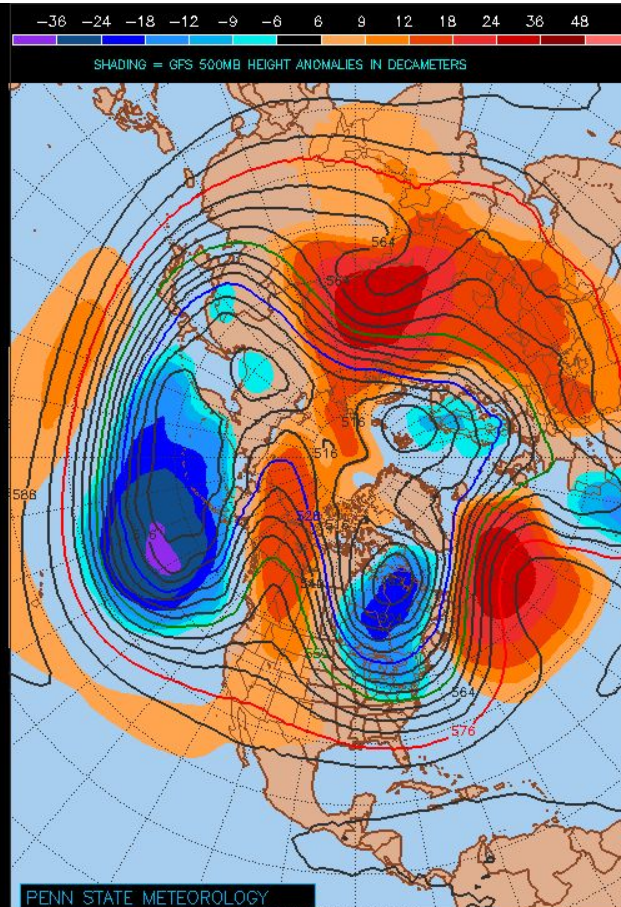
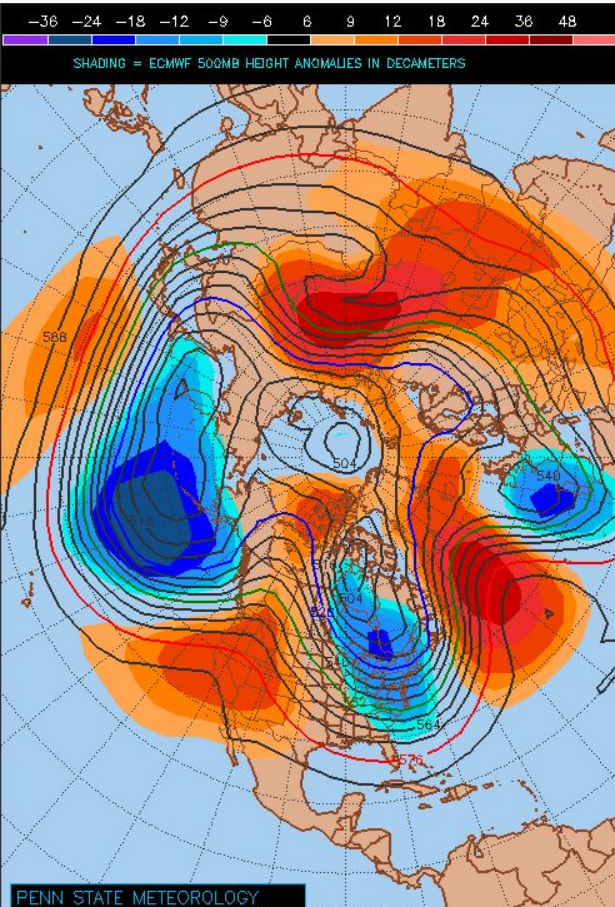
Medium - Long Range Forecast

Day 7-10 Initialized 00Z TUE 16 Feb



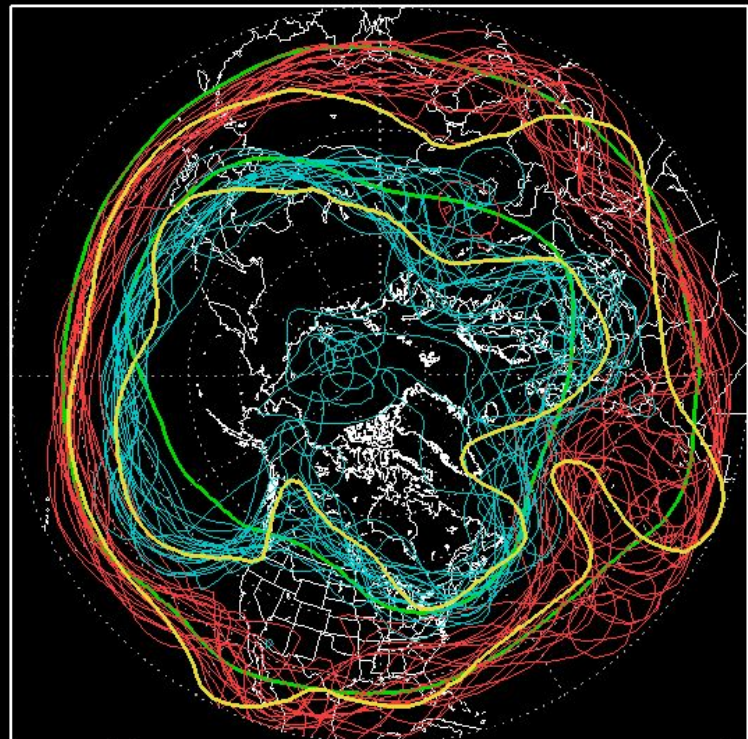
Medium - Long Range Forecast

Day 7-10 Initialized 00Z FRI 19 Feb



NCEP ENSEMBLE 500mb Z

312H Forecast from: 12Z Fri FEB,19 2016
Valid time: 12Z Thu MAR,03 2016

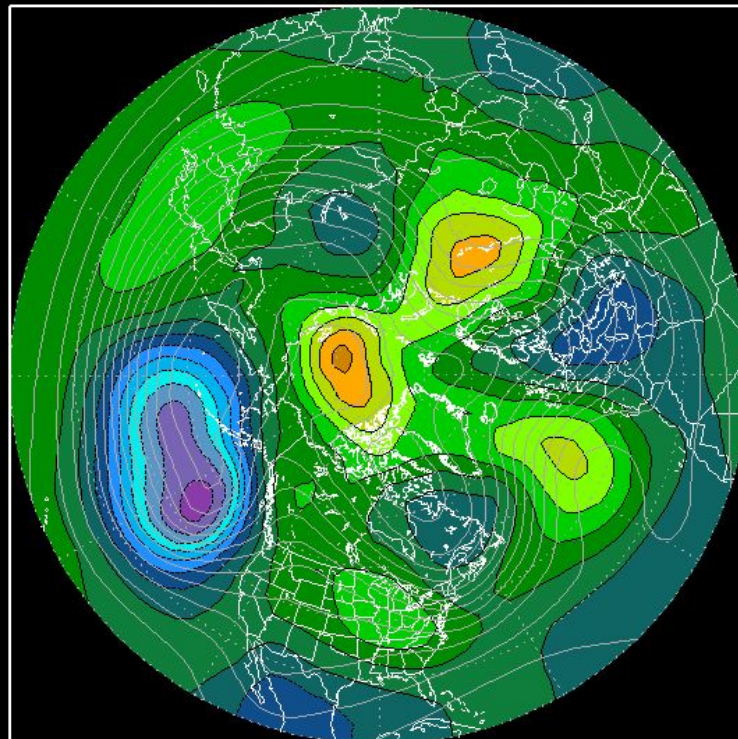


00z Runs:(21) 12z Runs:(0)

5460m 5760m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

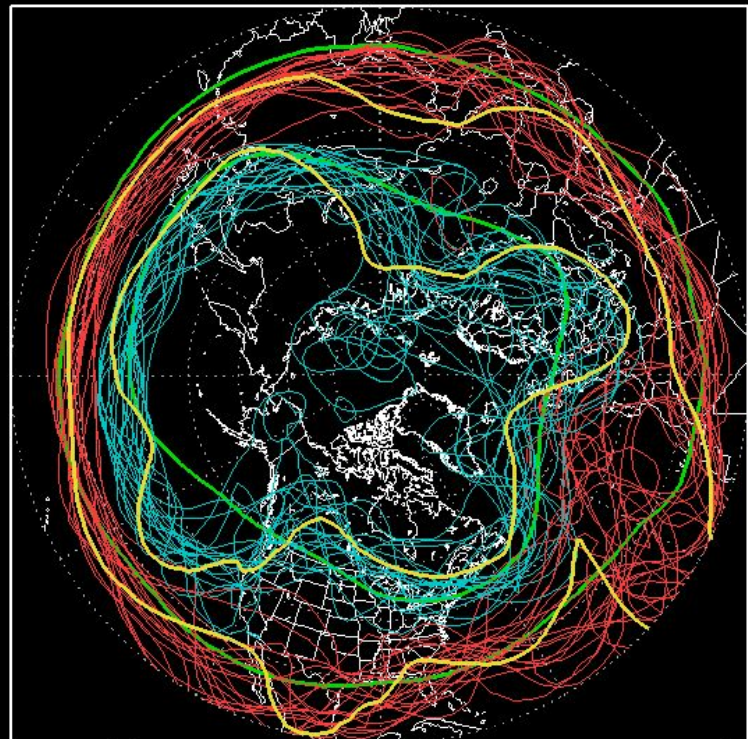
312H Forecast from: 12Z Fri FEB,19 2016
Valid time: 12Z Thu MAR,03 2016



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

NCEP ENSEMBLE 500mb Z

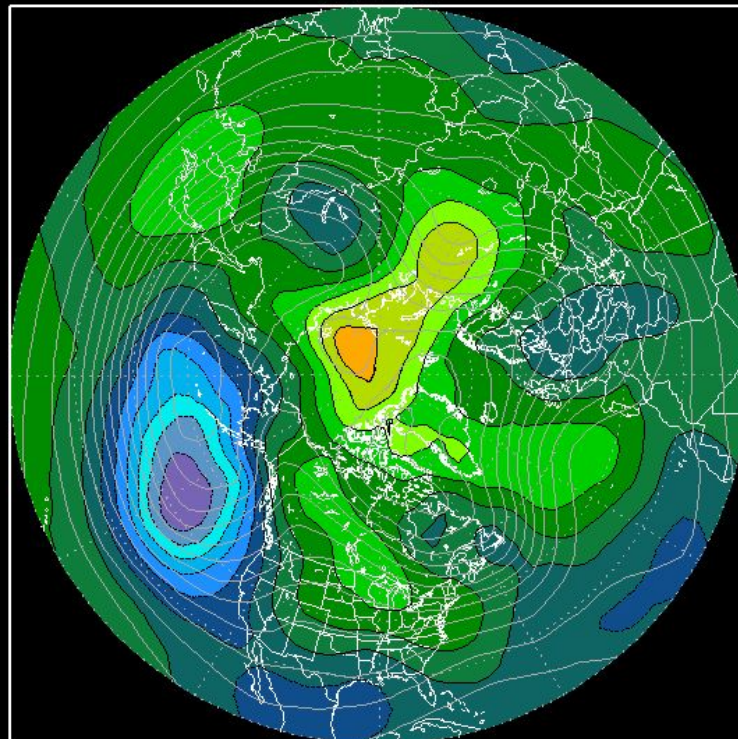
360H Forecast from: 12Z Fri FEB,19 2016
Valid time: 12Z Sat MAR,05 2016



00z Runs:(21) 12z Runs:(0)
5460m 5760m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

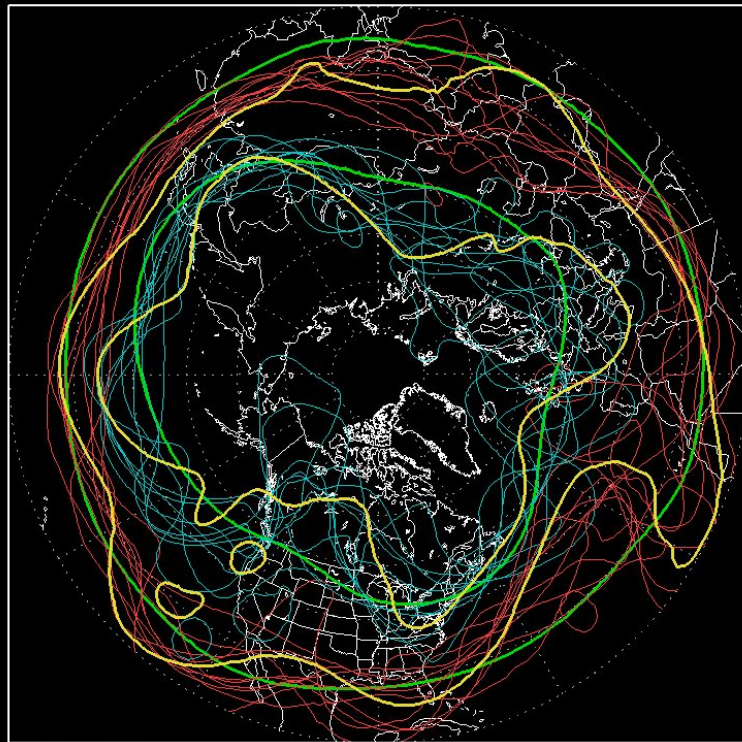
360H Forecast from: 12Z Fri FEB,19 2016
Valid time: 12Z Sat MAR,05 2016



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

500mb HEIGHT SPAG, ESRL/PSD

360H Forecast from: 00Z Fri FEB 19 2016
Valid time: 00Z Sat MAR 05 2016

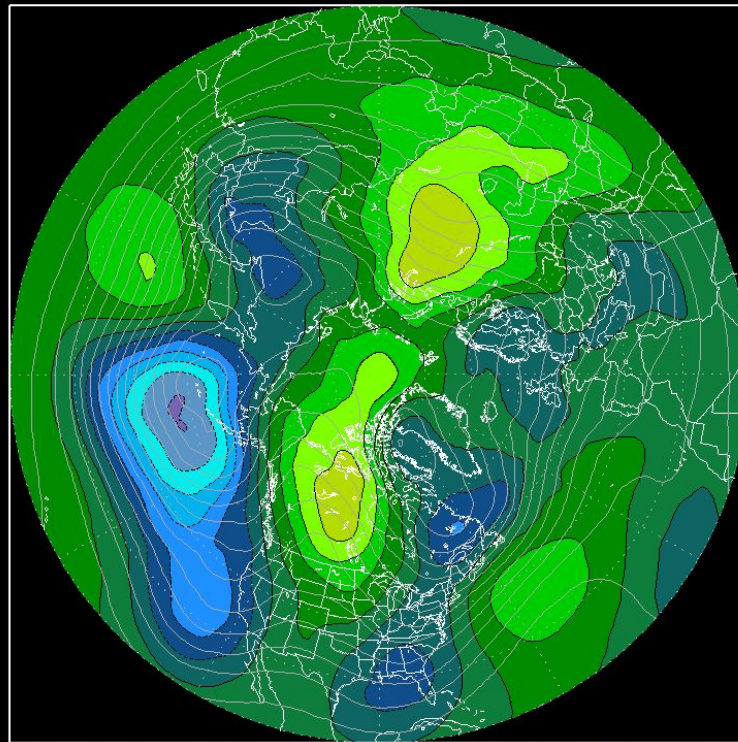


00z Runs:(11)

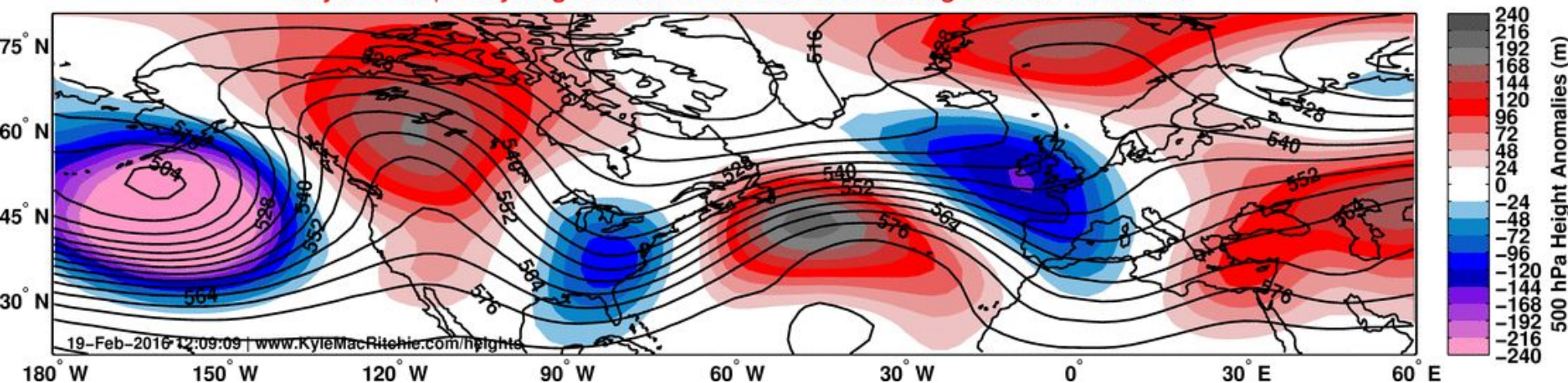
— 5460m — 5760m — Control 00z — CLIM

500mb HEIGHT ANOMALY(m), ESRL/PSD

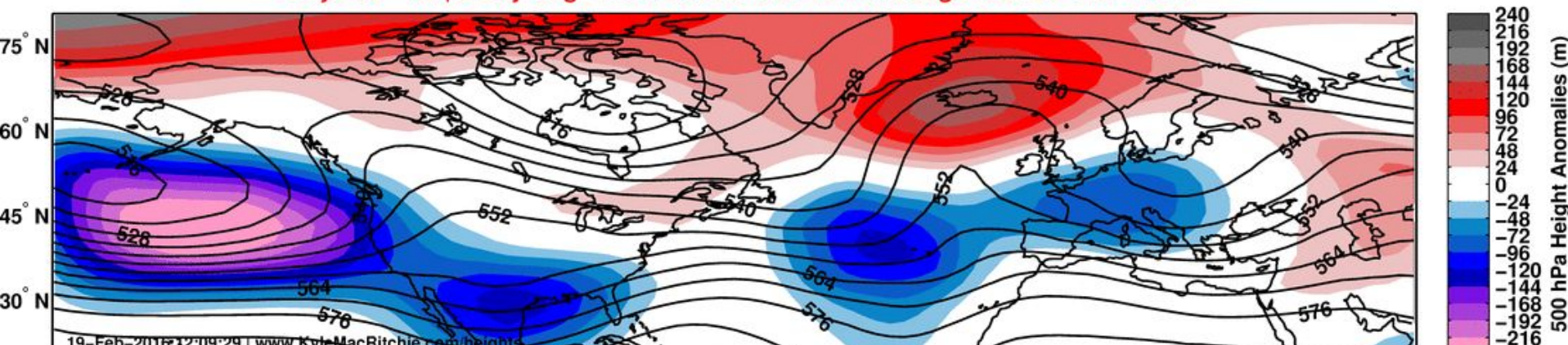
360H Forecast from: 00Z Fri FEB 19 2016
Valid time: 00Z Sat MAR 05 2016



CFS (Ens. Mean) 500 hPa Hgts Anoms & Total | North America/Europe | Run at Fri 19-Feb-2016 00z
Days 6 – 10 | 5 Day Avg. Valid: Wed 24-Feb-2016 through Sun 28-Feb-2016

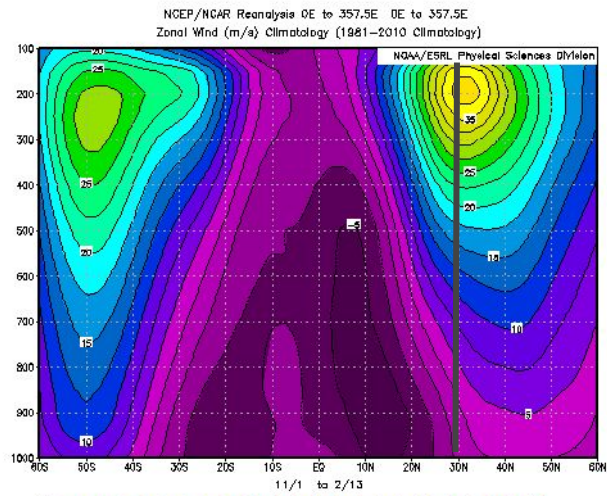


CFS (Ens. Mean) 500 hPa Hgts Anoms & Total | North America/Europe | Run at Fri 19-Feb-2016 00z
Days 16 – 20 | 5 Day Avg. Valid: Sat 05-Mar-2016 through Wed 09-Mar-2016

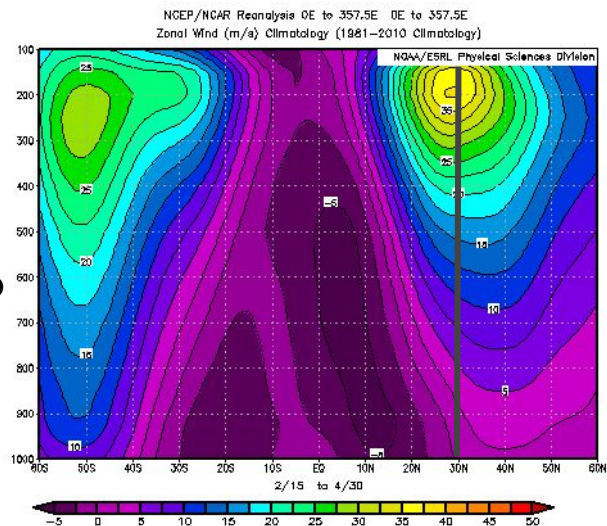


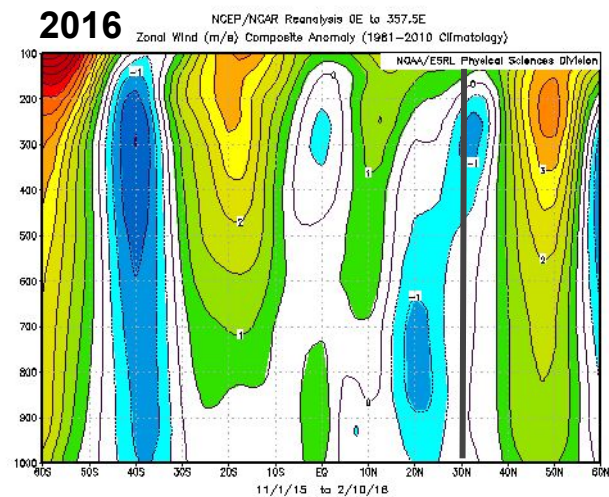
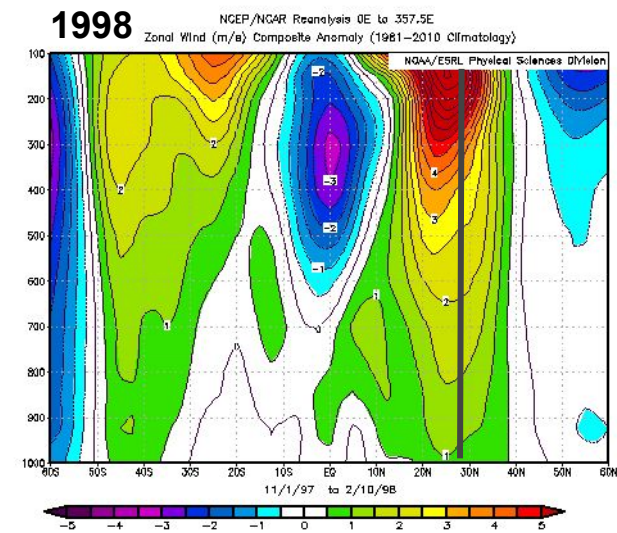
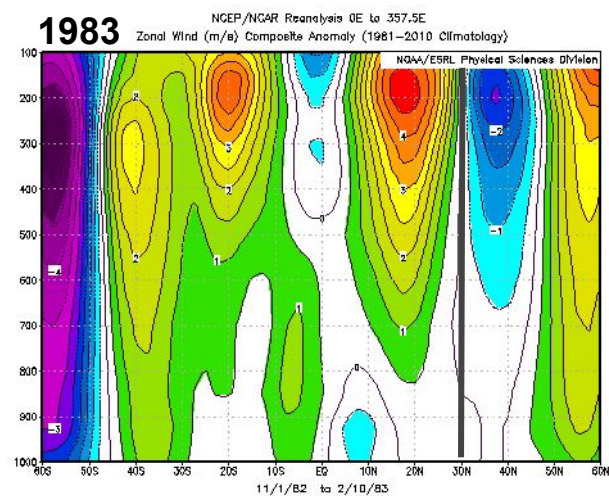
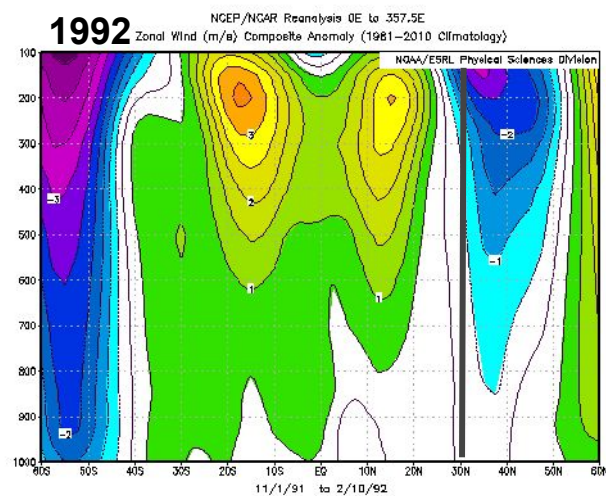
The Curious Incident of the Zonal Mean Zonal Wind in 2016

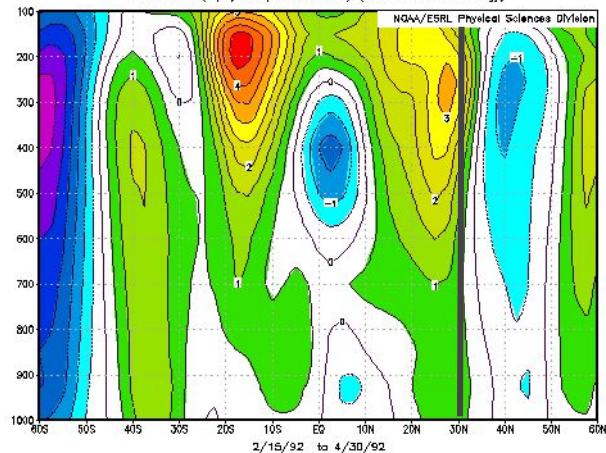
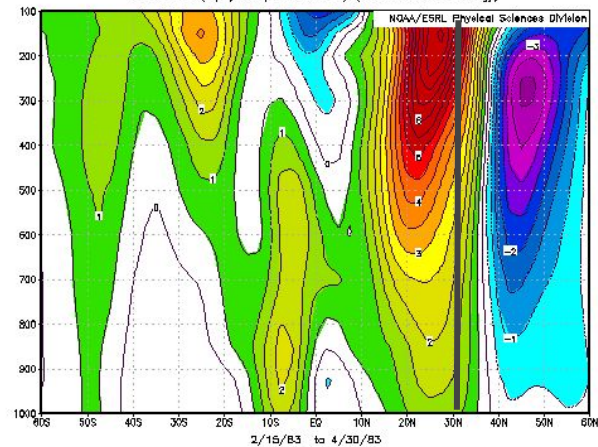
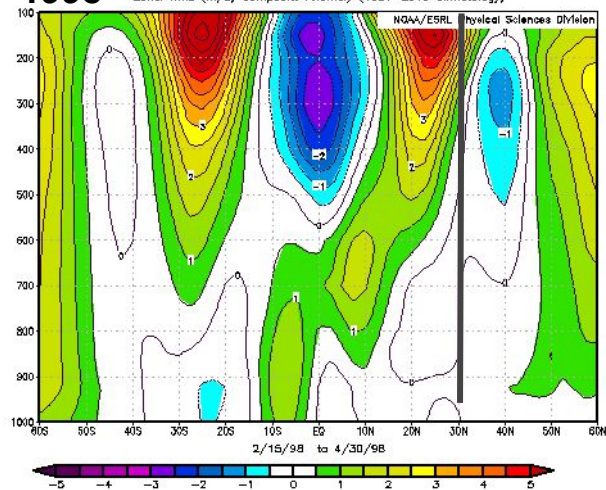
Zonal Mean U Nov 1- Feb 13 Climo



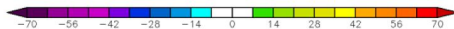
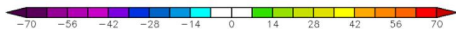
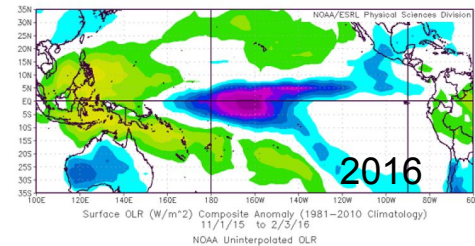
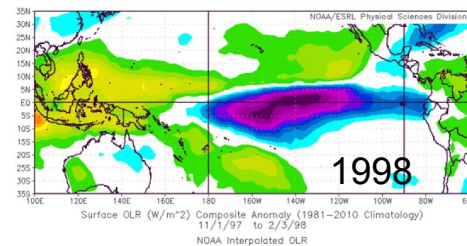
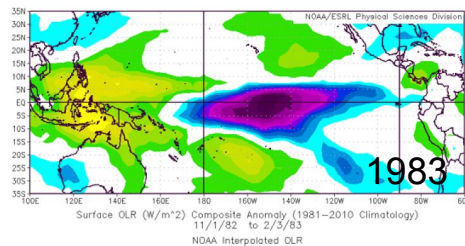
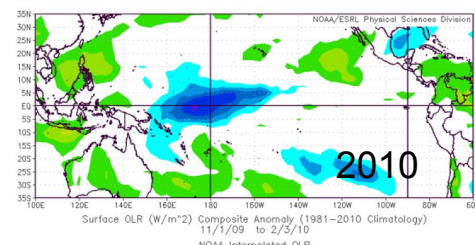
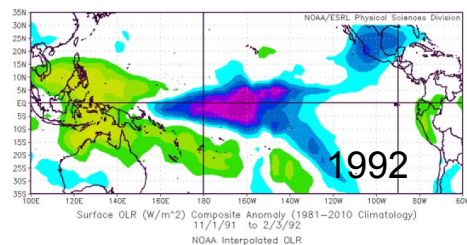
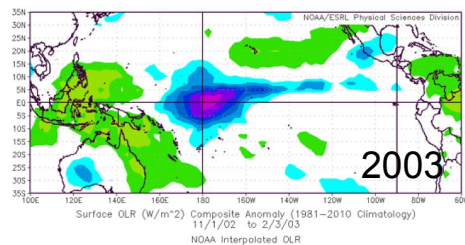
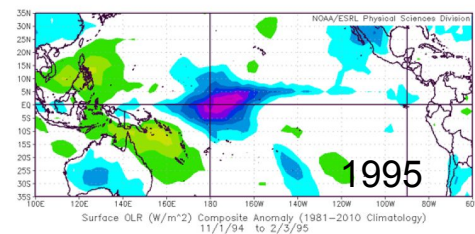
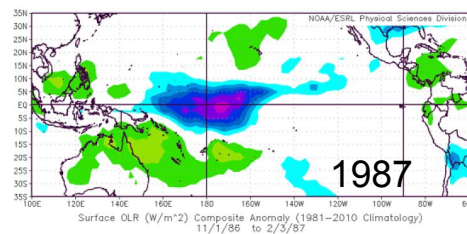
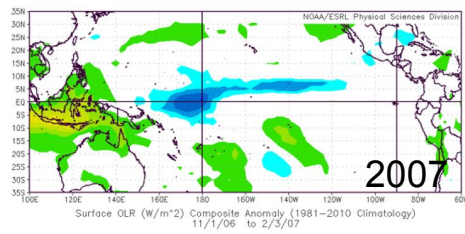
Zonal Mean U Feb 15 - Apr 30 Climo



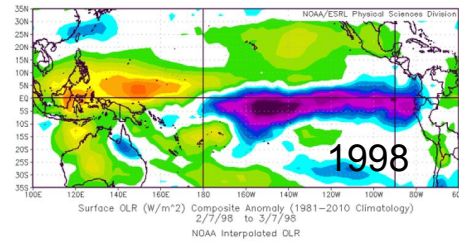
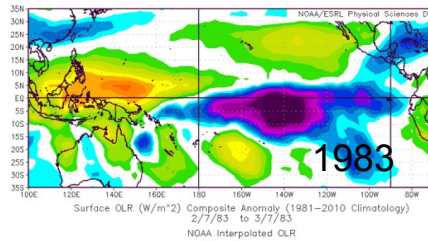
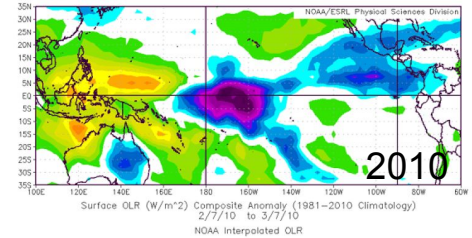
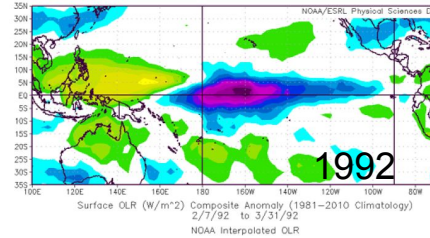
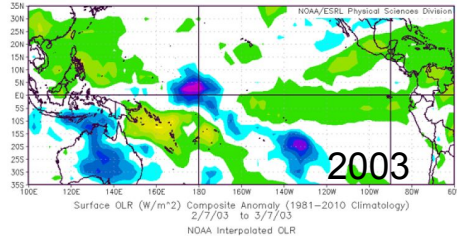
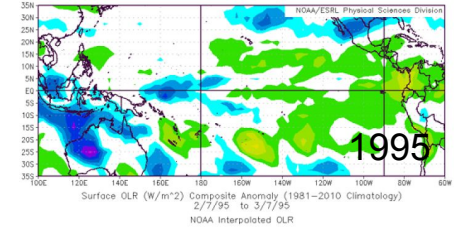
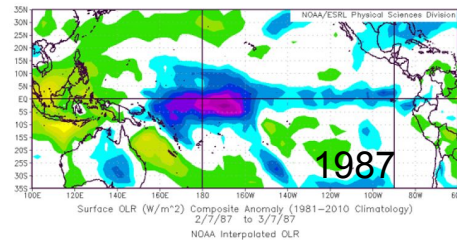
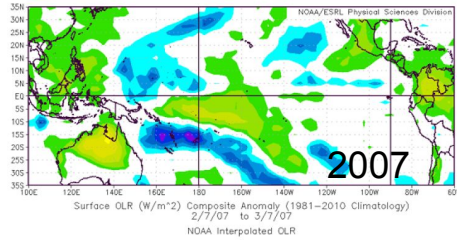


1992NGEP/NGAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)**1983**NGEP/NGAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)**1998**NGEP/NGAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981–2010 Climatology)

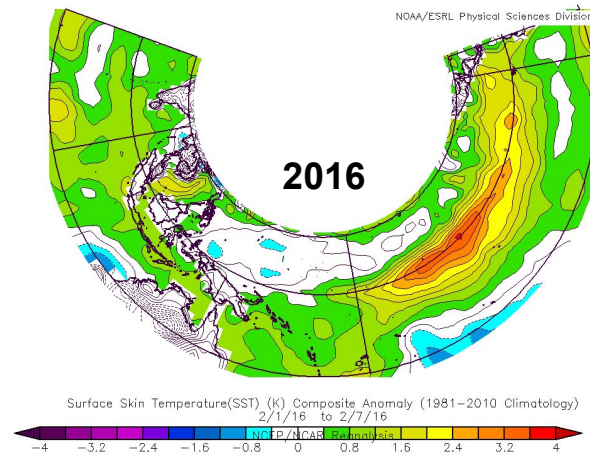
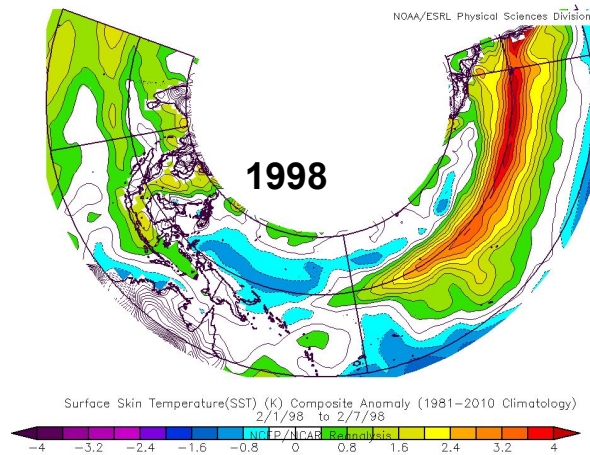
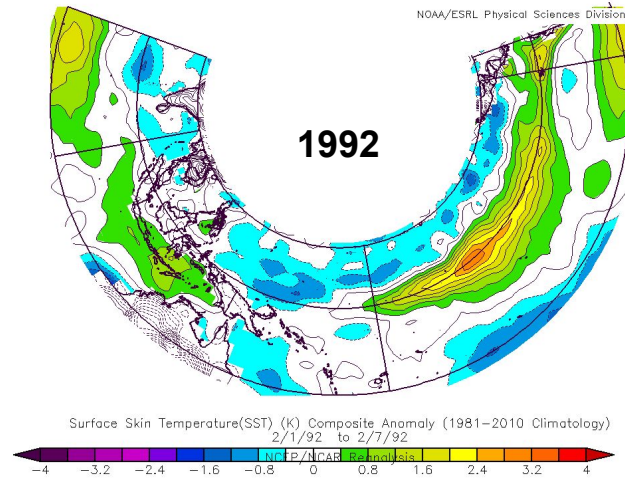
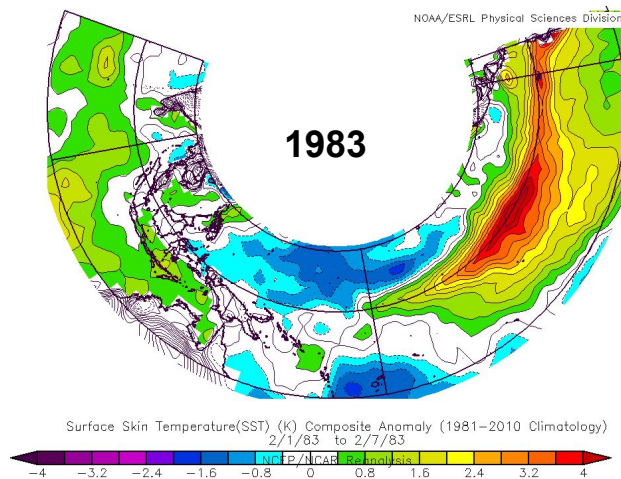
Observed OLR Anomalies : 1 Nov - 3 Feb

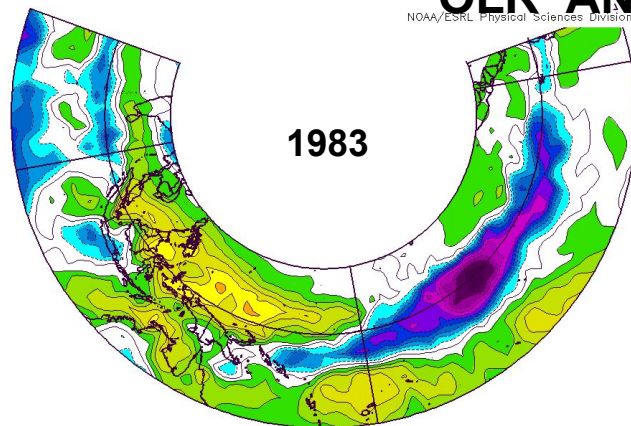


Observed OLR Anomalies : 7 Feb - 7 Mar

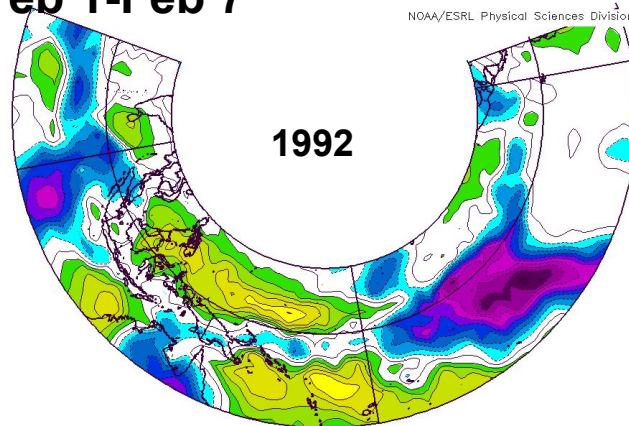
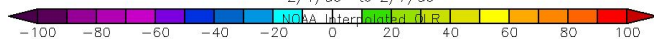


SST ANOM Feb 1-Feb 7

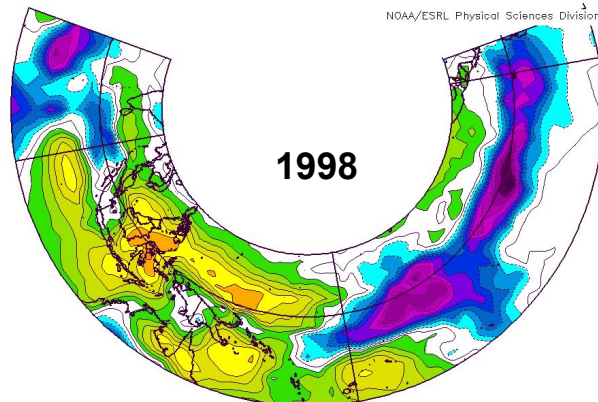
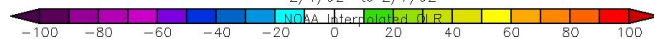




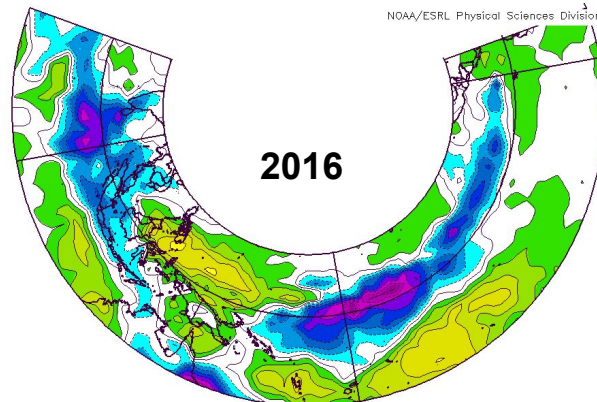
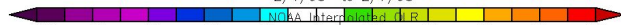
Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/83 to 2/7/83



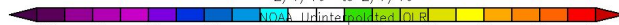
Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/92 to 2/7/92



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



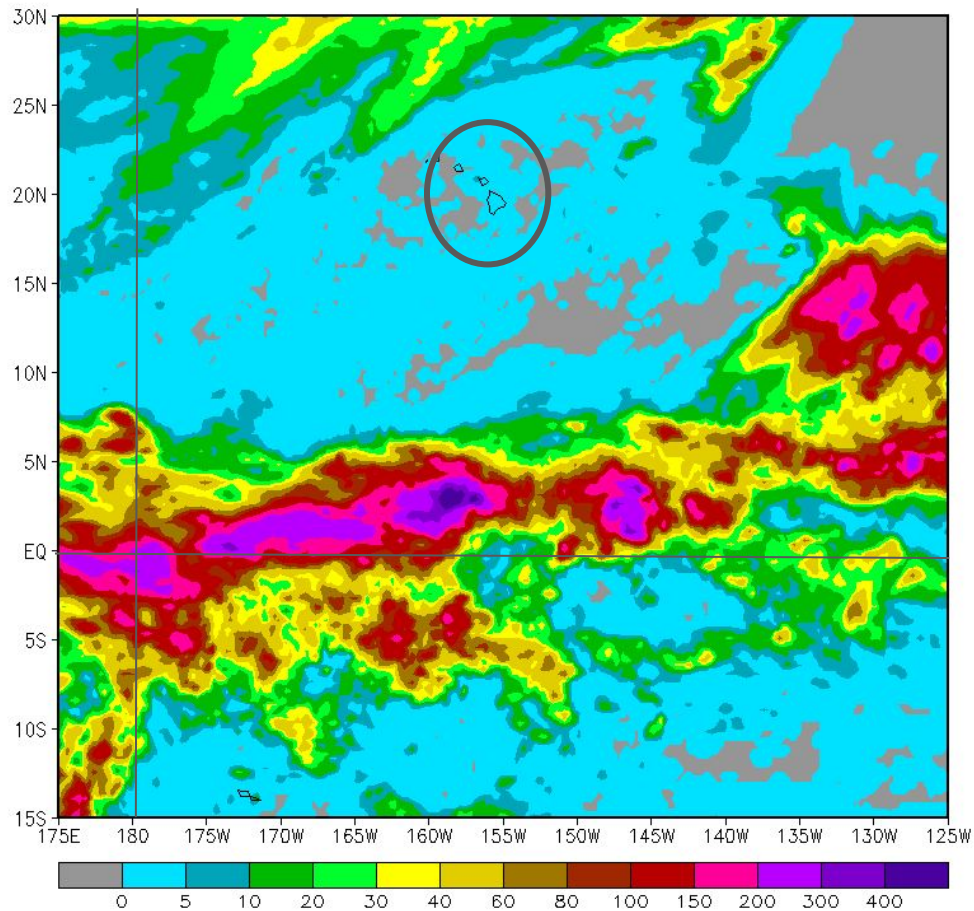
Surface OLR (W/m^2) Composite Anomaly (1981–2010 Climatology)
2/1/16 to 2/7/16



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

CMORPH: 7-Day

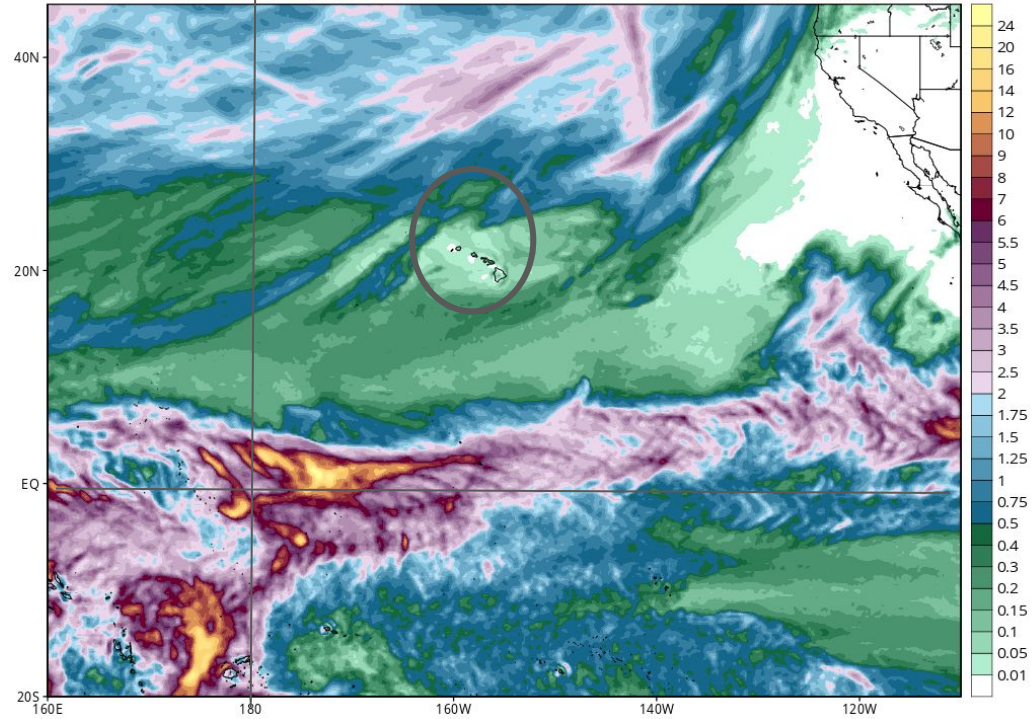
8 - 15 Feb



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

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

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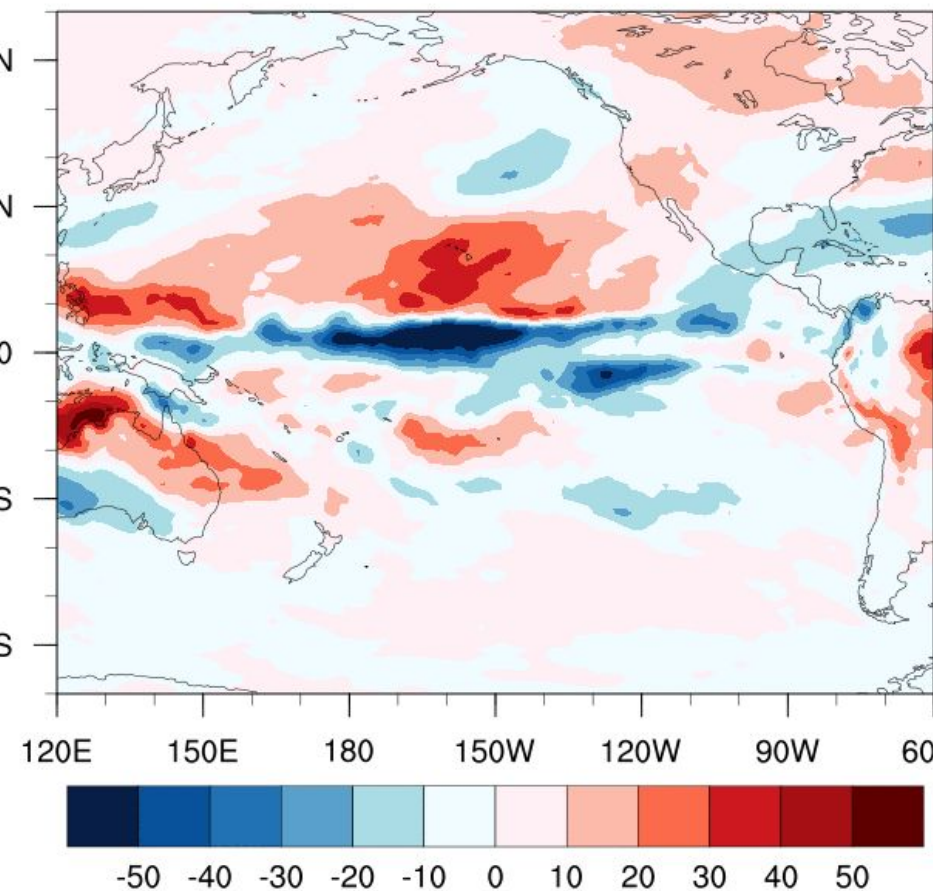
Initial Condition Dependency of the El Niño Signal

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

OLR

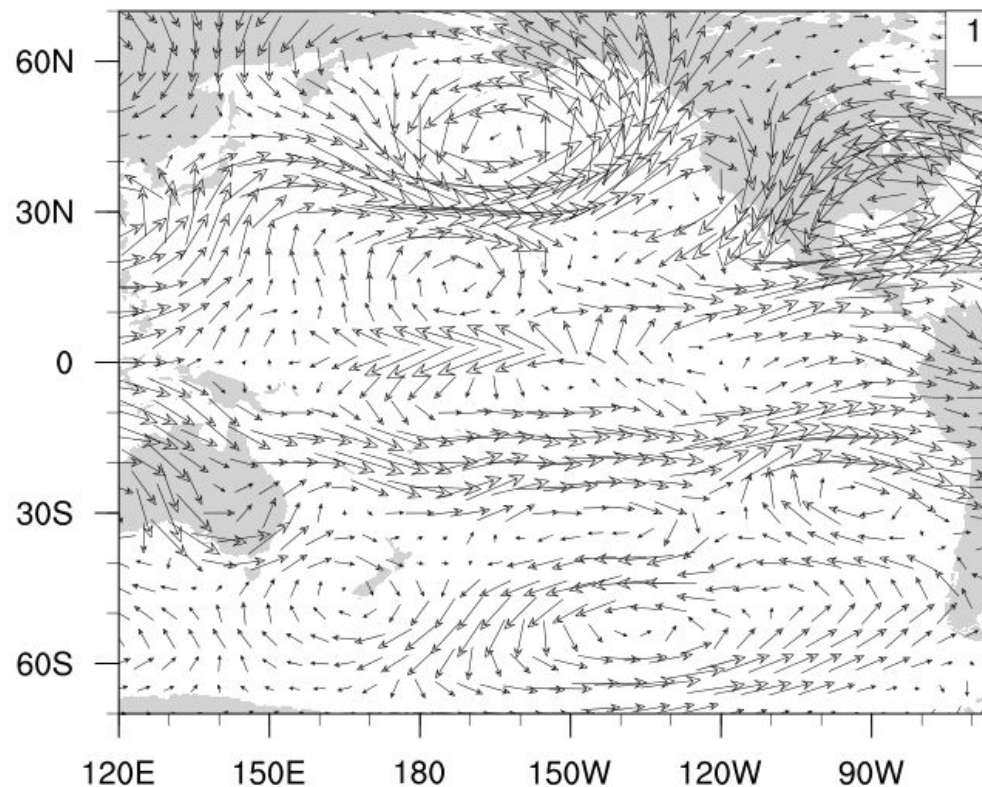
2016/02/21-2016/02/29

W m-2



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

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

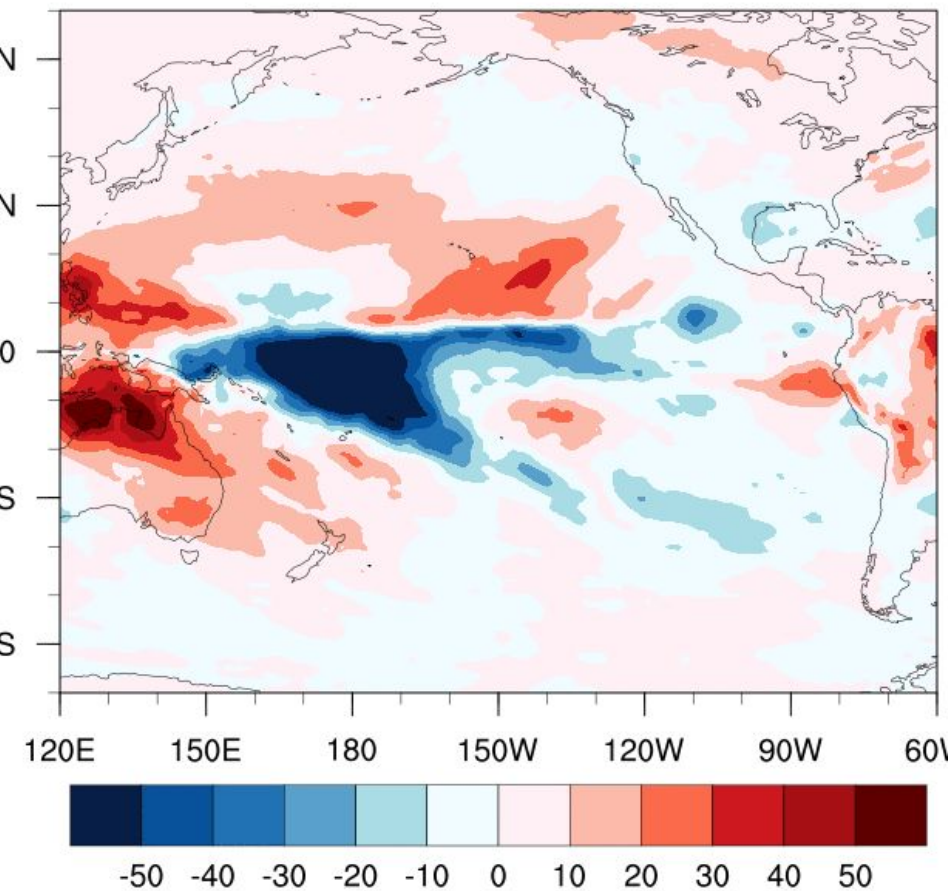


Day 15-22 Comparison (Analyzed SST - Climo SST)

OLR

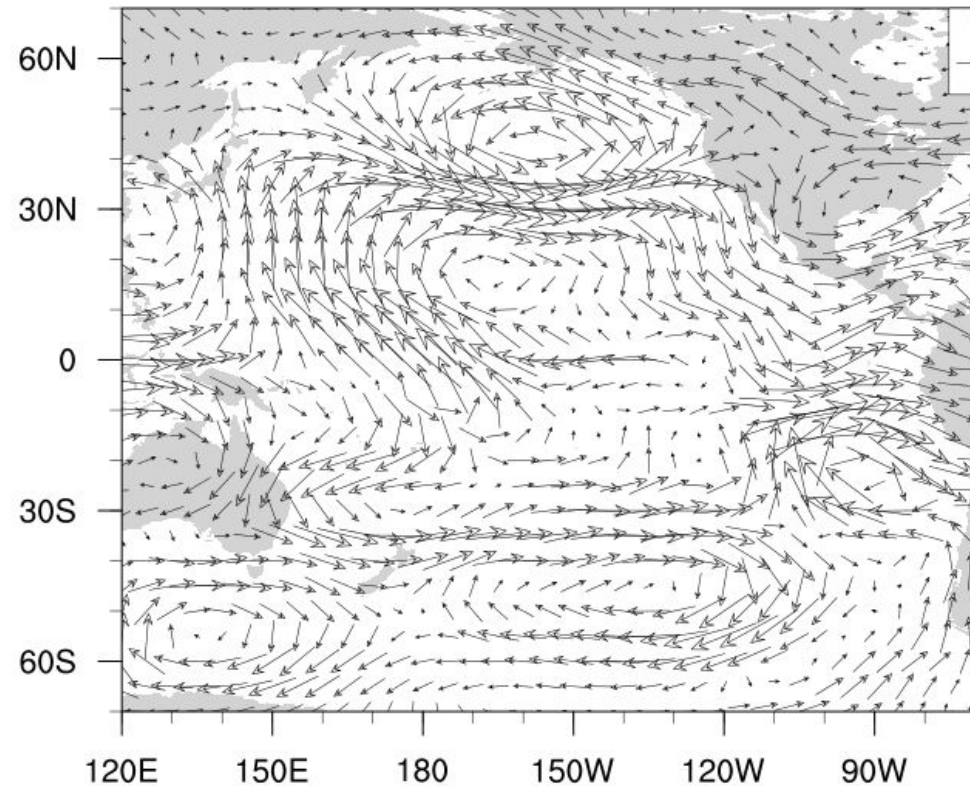
2016/02/21-2016/02/29

W m-2



Day 15-22 Comparison (Analyzed SST - Climo SS

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

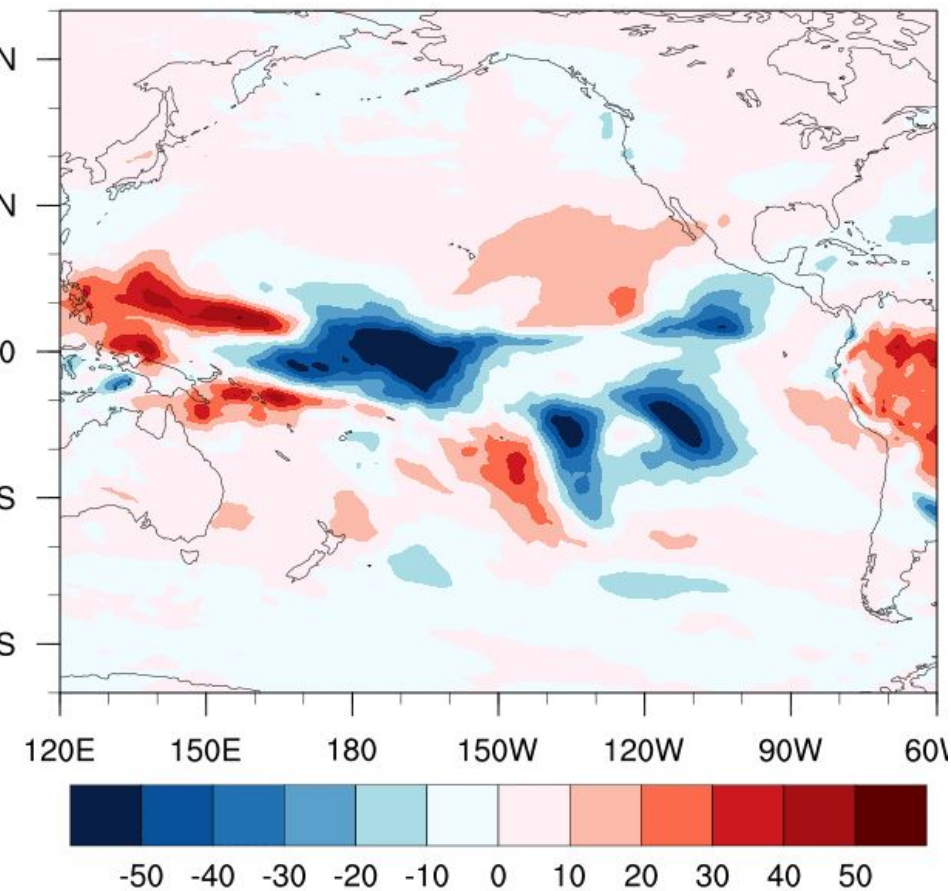


Day 8-14 Comparison (Analyzed SST - Climo SST)

OLR

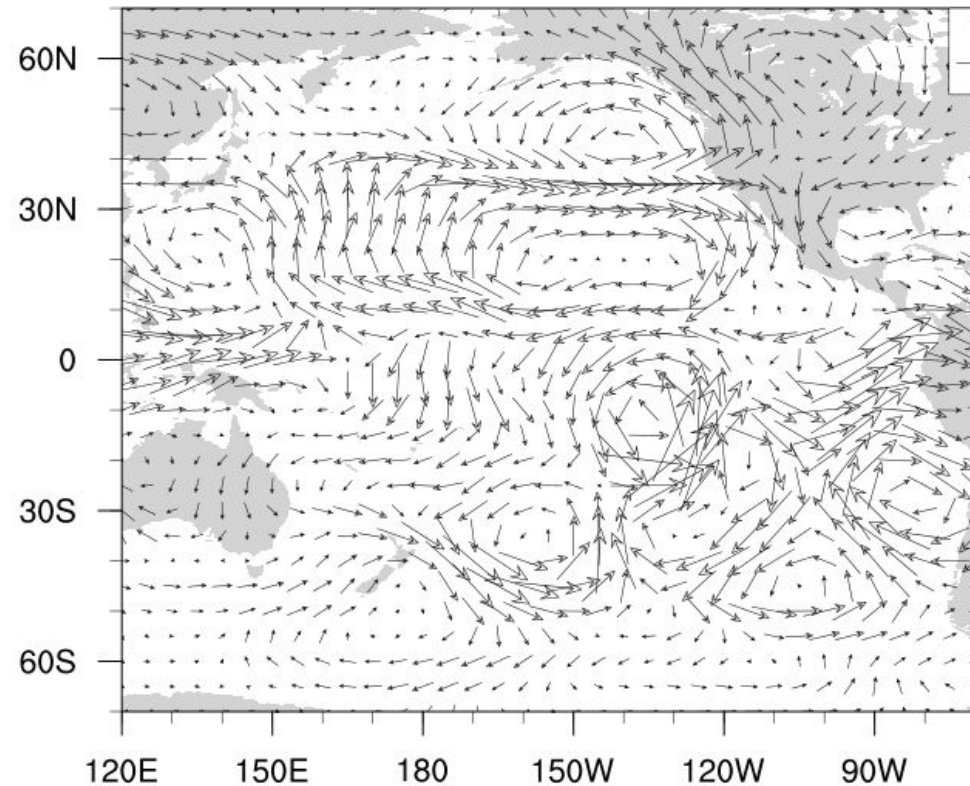
2016/02/22-2016/02/29

W m⁻²



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

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

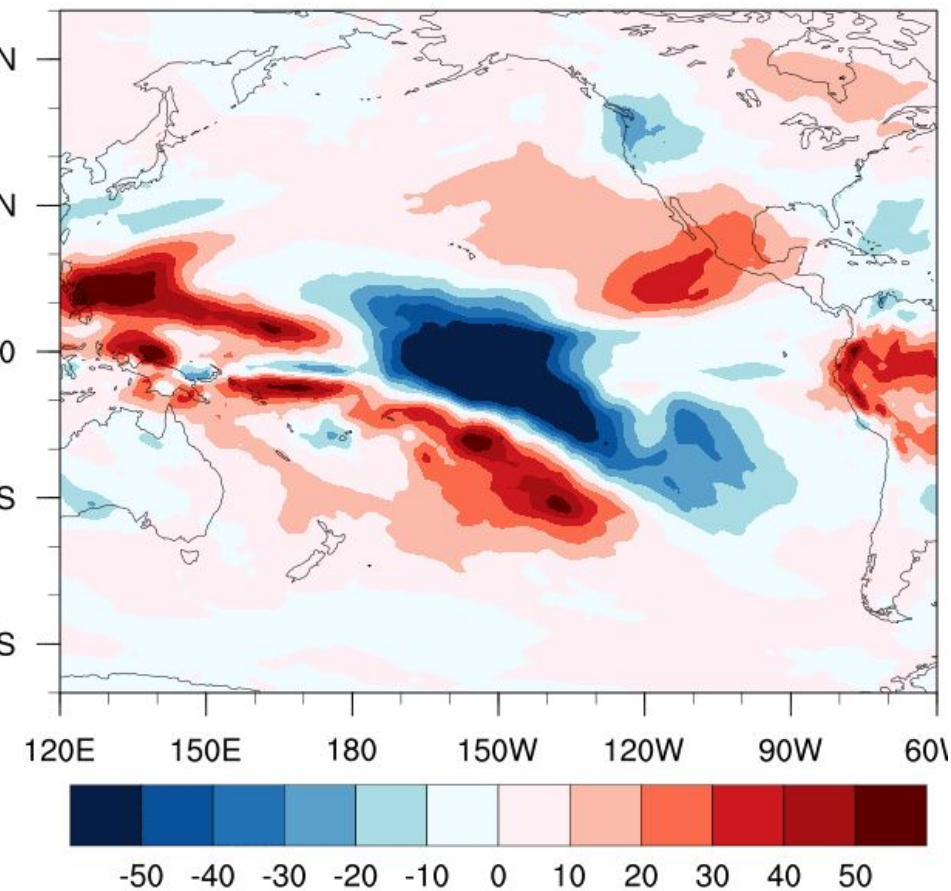


Day 15-22 Comparison (Analyzed SST - Climo SST)

OLR

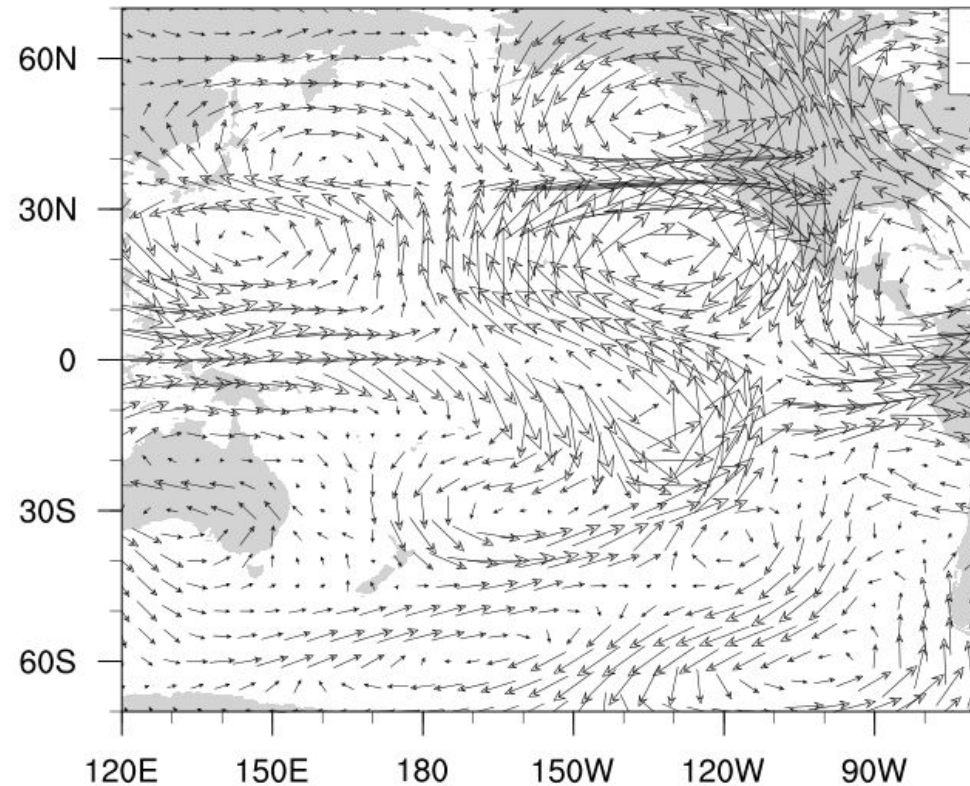
2016/02/29-2016/03/08

W m⁻²



Day 15-22 Comparison (Analyzed SST - Climo SS

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

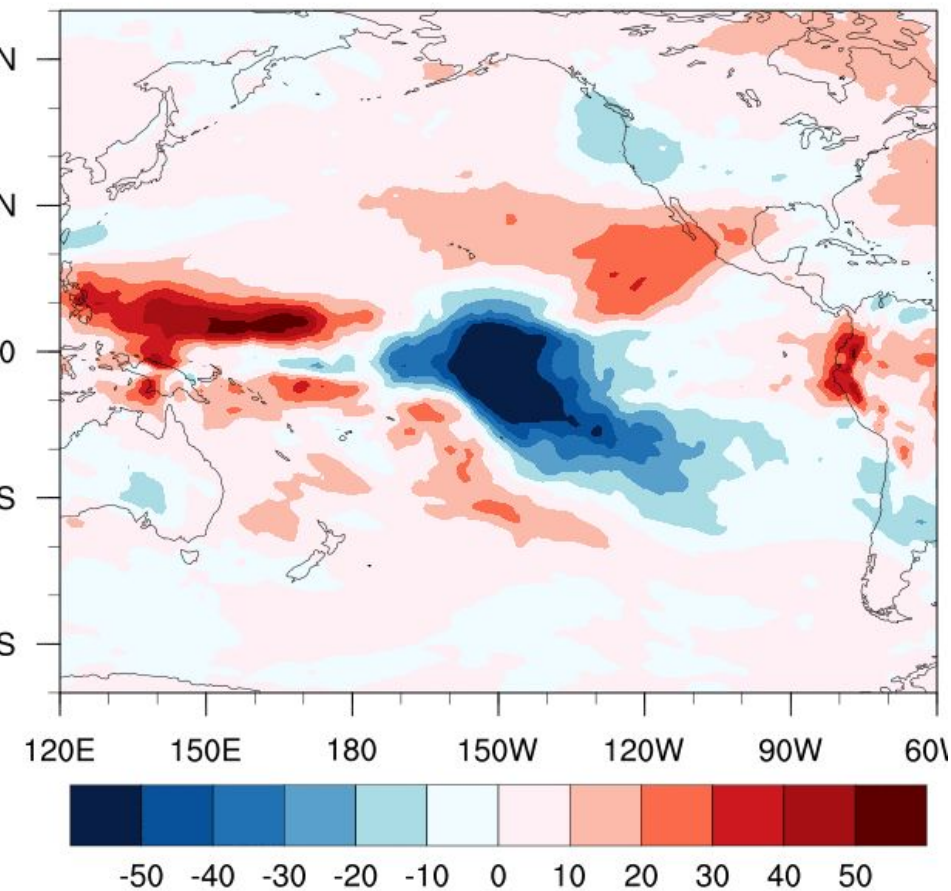


Day 23-30 Comparison (Analyzed SST - Climo SST)

OLR

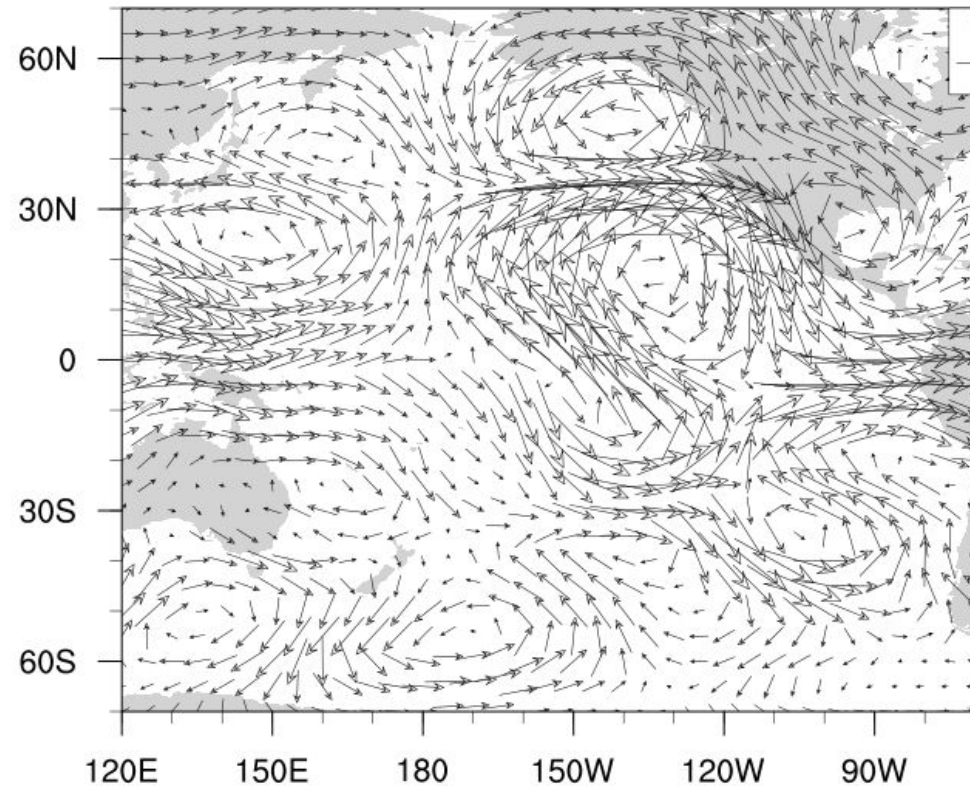
2016/03/08-2016/03/16

W m-2



Day 23-30 Comparison (Analyzed SST - Climo SS

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

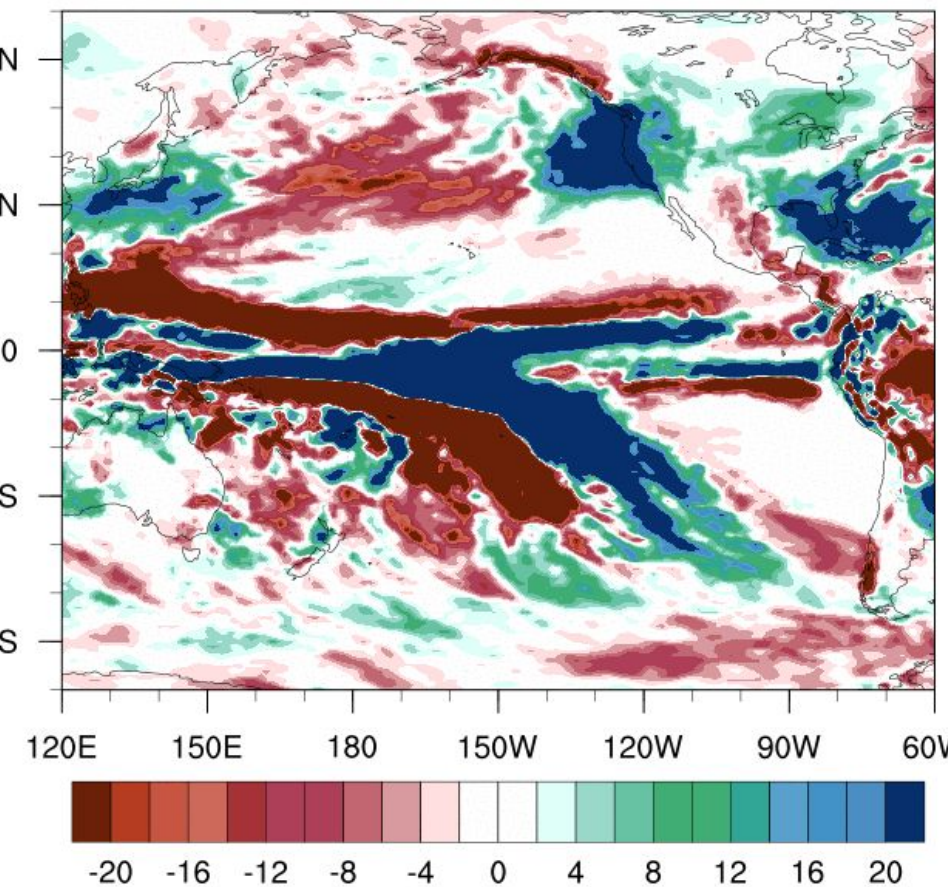


Day 15-22 Comparison (Analyzed SST - Climo SST)

Precipitation

2016/02/29-2016/03/08

mm



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

Precipitation

2016/03/08-2016/03/16

