Summary of Key Briefing Points
1030-1130am MST WED Feb 24, 2016

Current Conditions as of WED 12Z-15Z February 24

Tropics and Mid-latitudes

Over the Tropical Pacific:

- Quite convection in FD
- Main activity in SH SPCZ
- cross-eq flow weaker today than past many days

Tropical Outlook

- Main convection in SPCZ----to remain very active, and eastward displaced

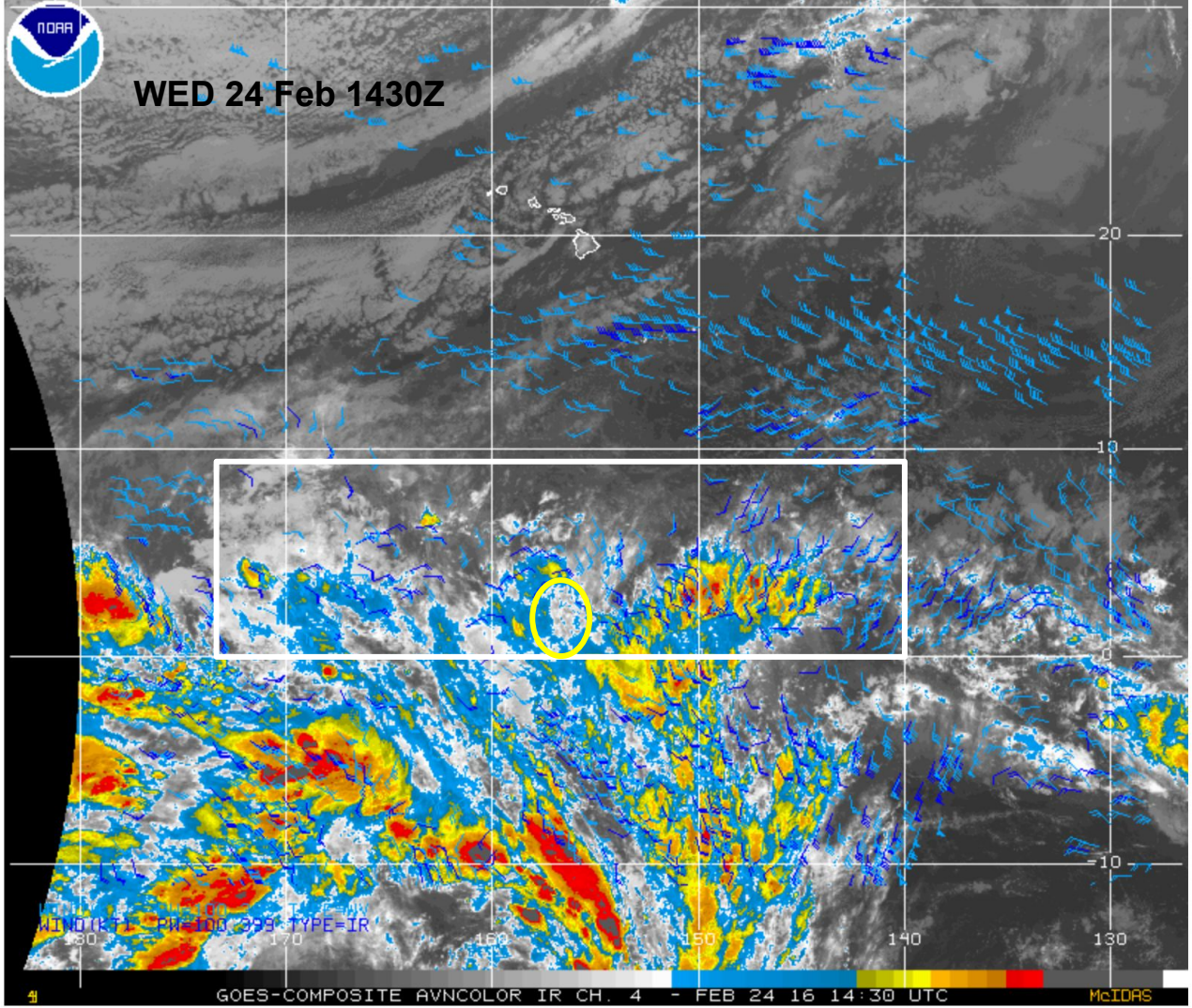
Midlatitude Conditions/Outlook

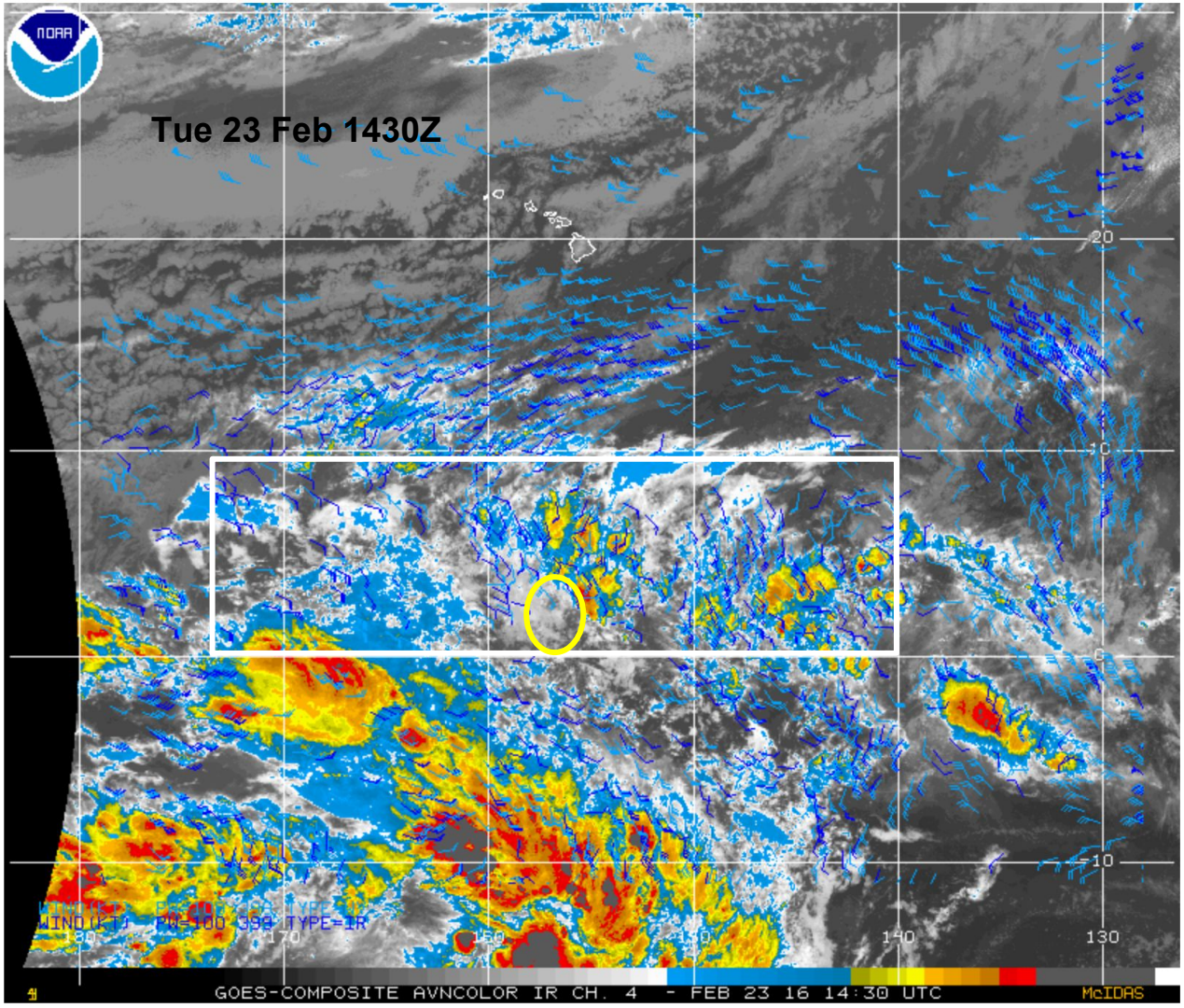
Short Term:

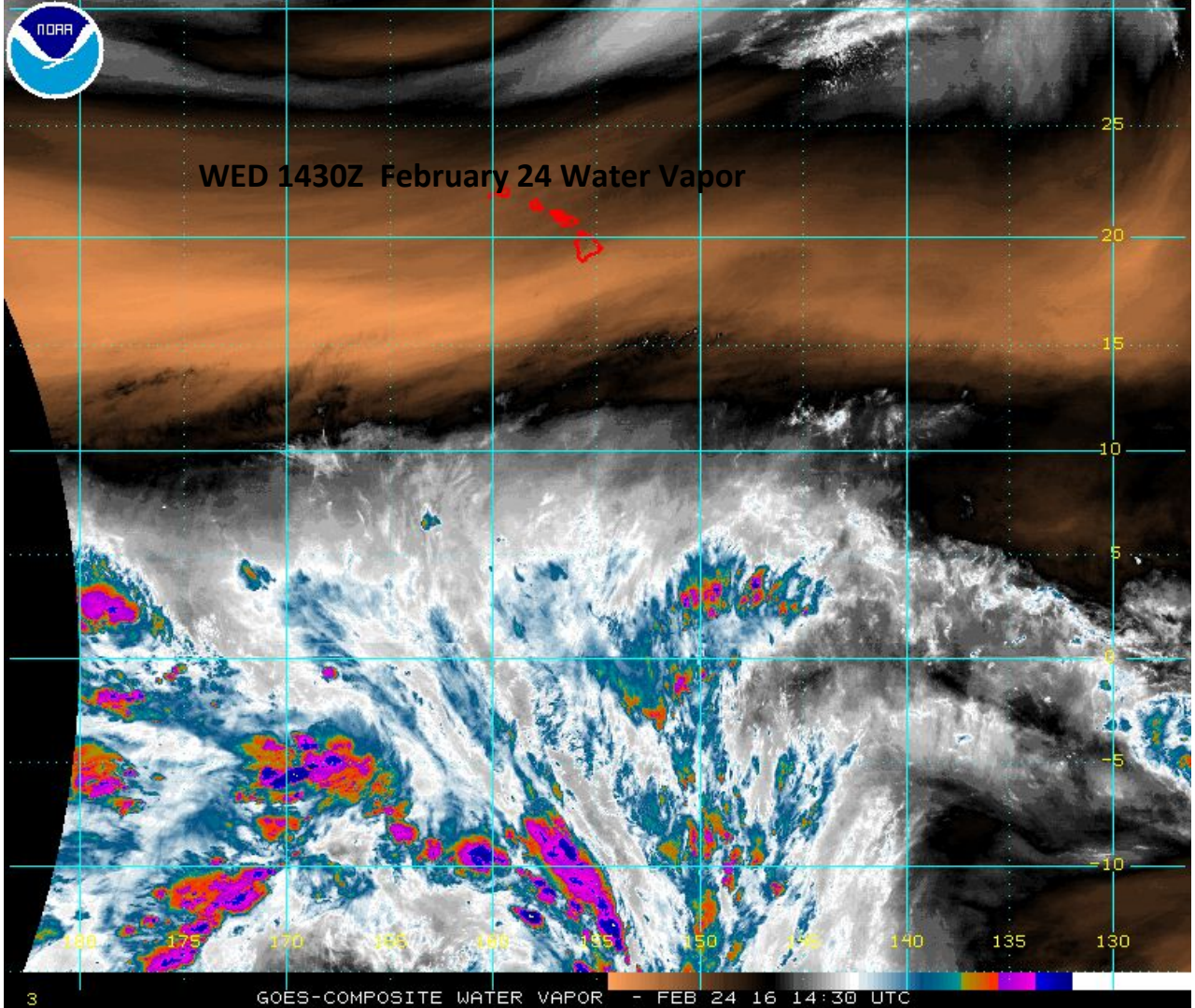
- CA quiet, rains expected by weekend in N

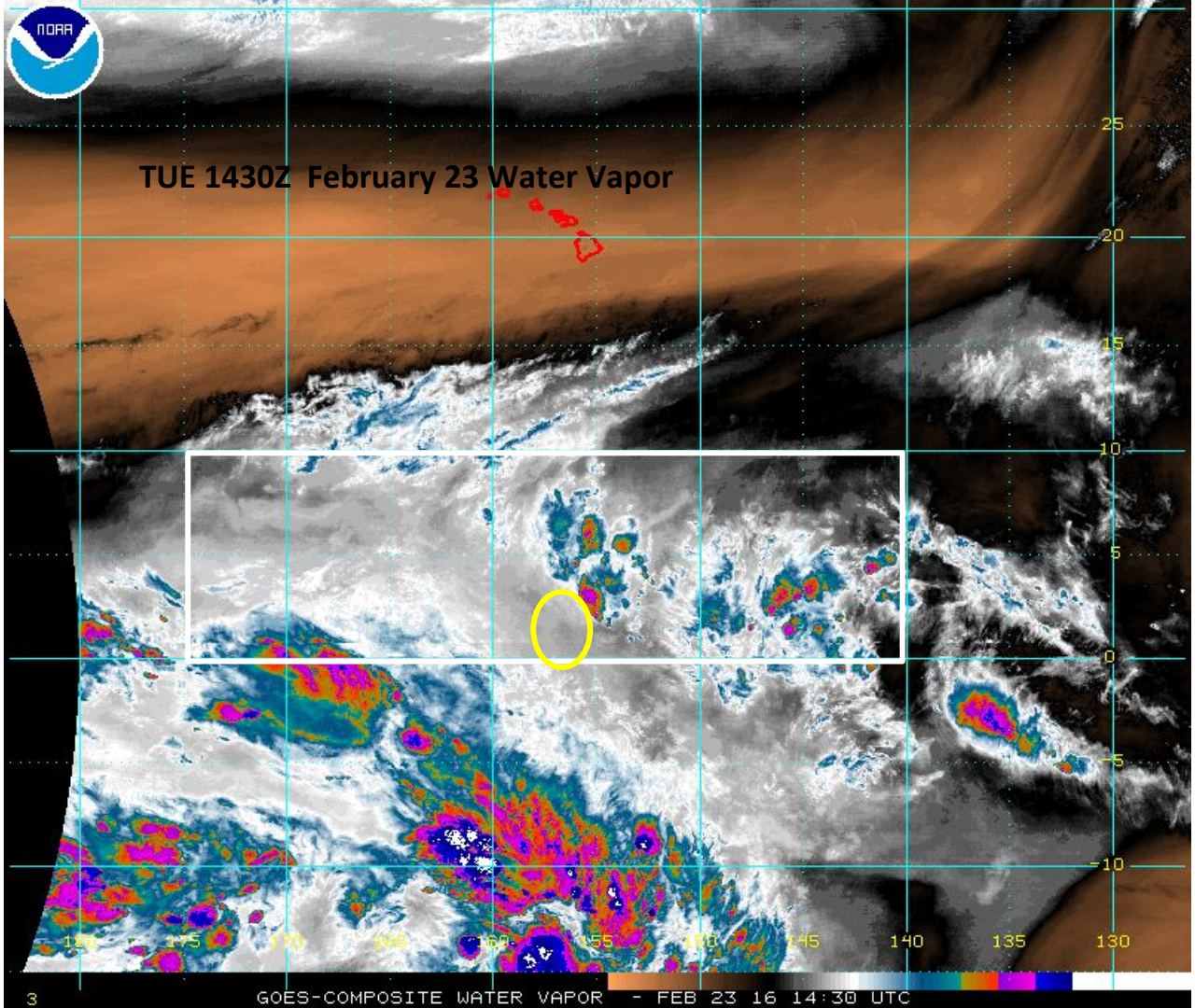
- **Medium - Long Term:**

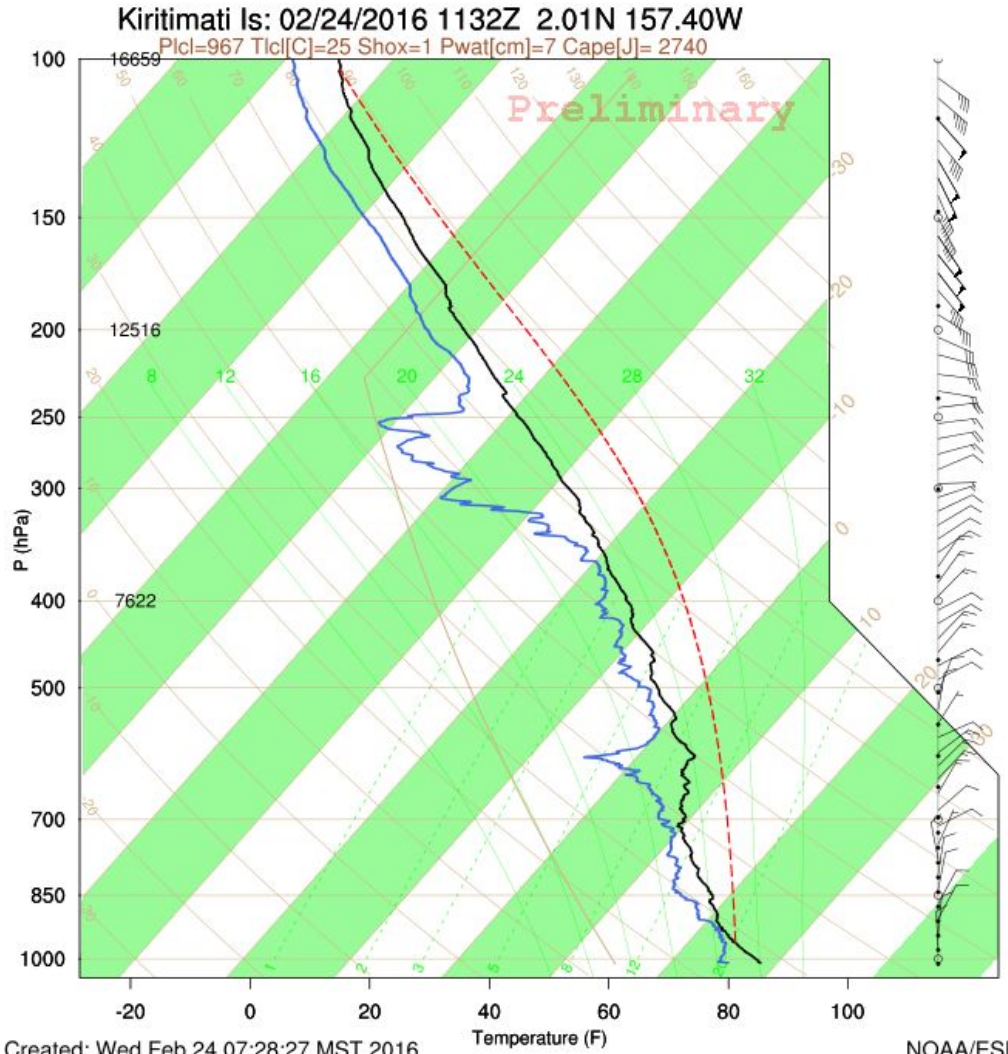
- possible Central CA rain early next week
- No appreciable CA pcpn expected over the next 7-10 days
- Day 10-15 in EC and GFS indicate major change in the EPacific circulation


WED 24 Feb 1430Z
20
10
0
-10
180
170
160
150
140
130
GOES-COMPOSITE AVNCOLOR IR CH. 4 - FEB 24 16 14:30 UTC
McIDAS


Tue 23 Feb 1430Z
20
10
0
-10
180
170
160
150
140
130
GOES-COMPOSITE AVNCOLOR IR CH. 4 - FEB 23 16 14:30 UTC
McIDAS


WED 1430Z February 24 Water Vapor
25
20
15
10
5
0
-5
-10
175
170
150
140
135
130
3
GOES-COMPOSITE WATER VAPOR - FEB 24 16 14:30 UTC


TUE 1430Z February 23 Water Vapor
25
20
15
10
5
0
-5
-10
145
140
135
130
3
GOES-COMPOSITE WATER VAPOR - FEB 23 16 14:30 UTC


Kiritimati Is: 02/24/2016 1132Z 2.01N 157.40W
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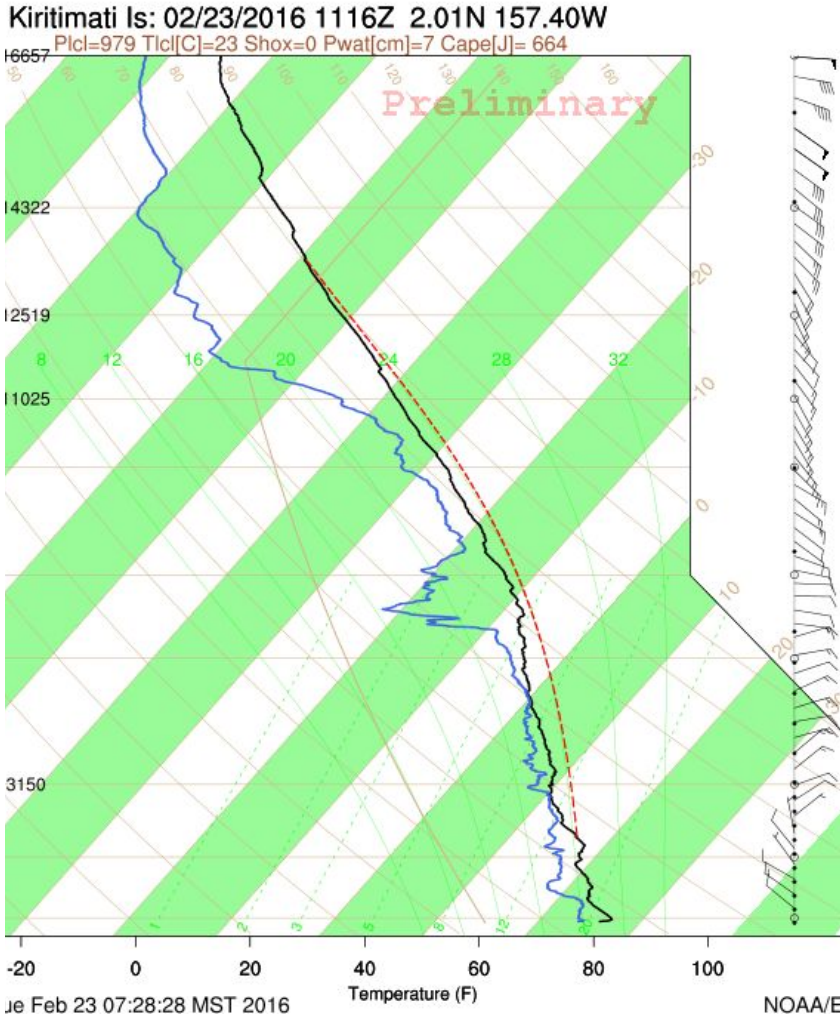
Preliminary
P (hPa)
Temperature (F)
Created: Wed Feb 24 07:28:27 MST 2016
NOAA/ESRL PSD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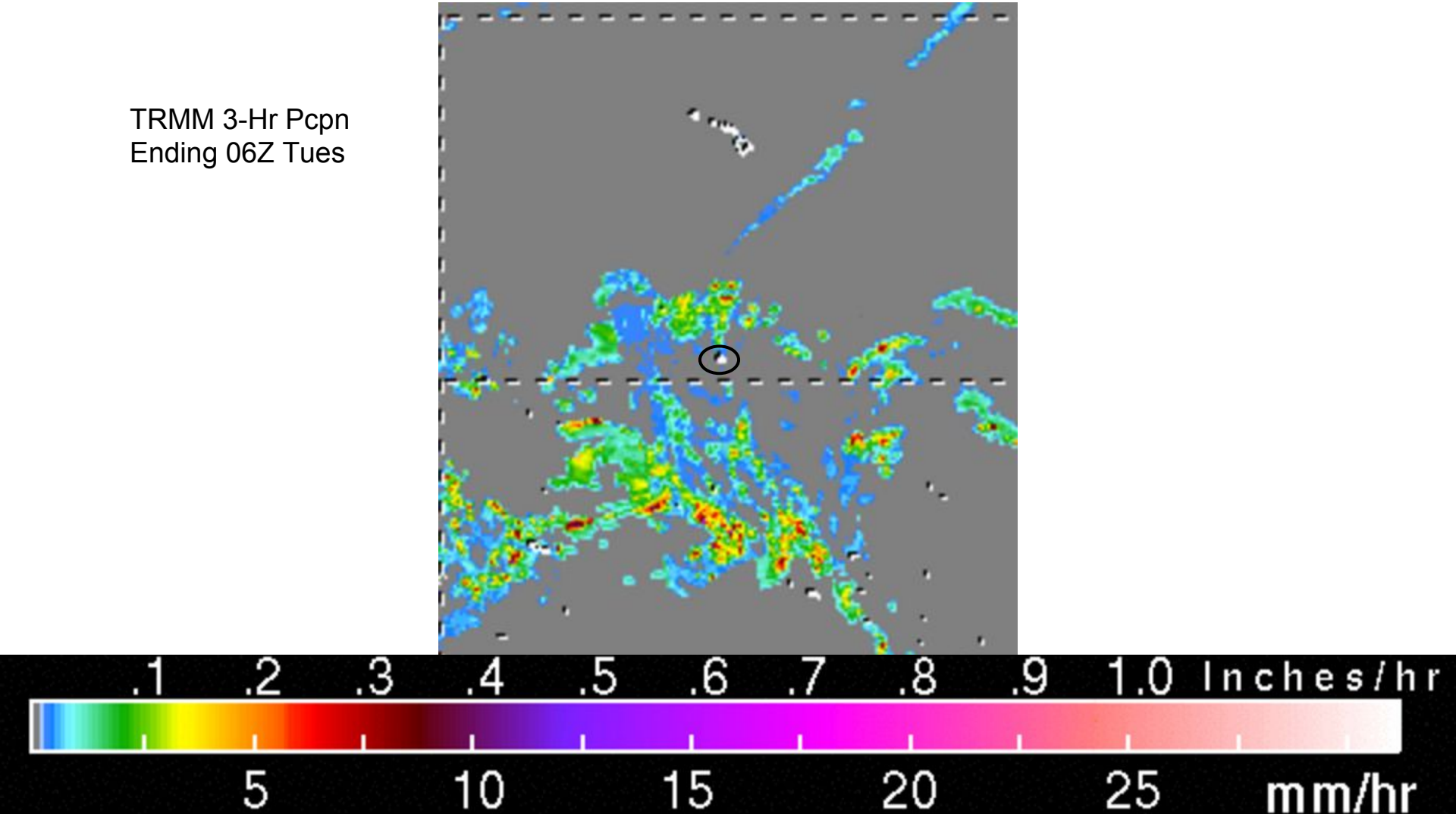
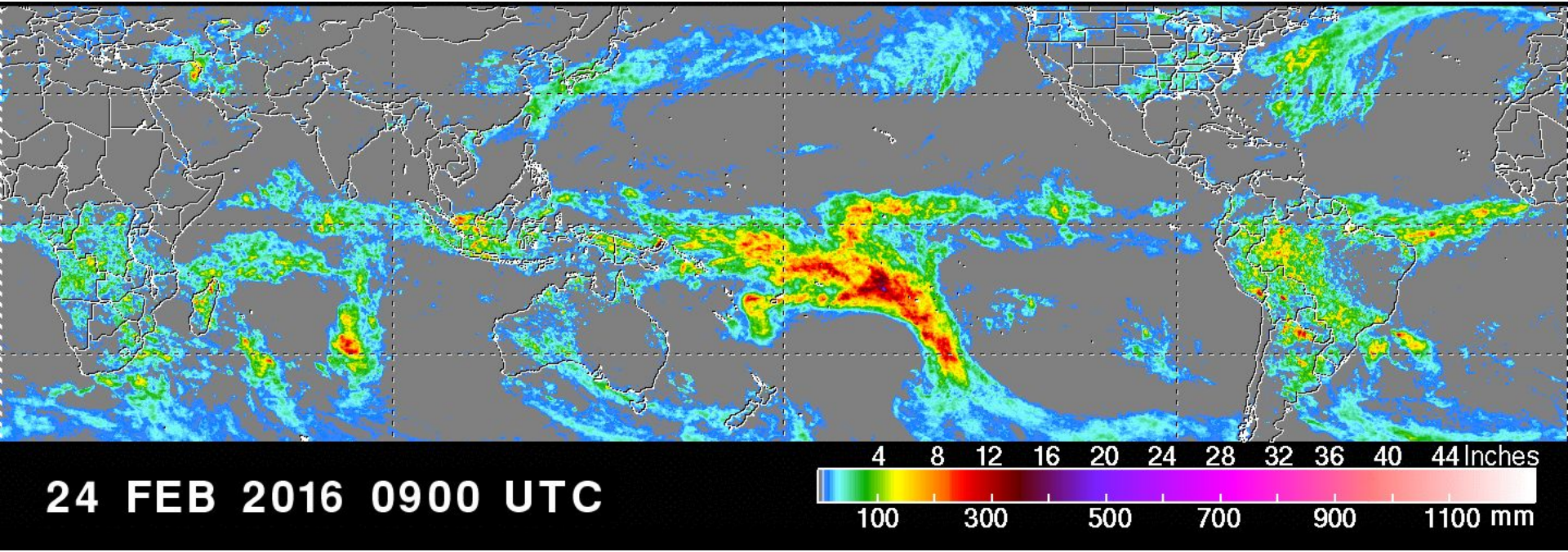
Preliminary
Temperature (F)
ue Feb 23 07:28:28 MST 2016
NOAA/E

TRMM 3-Hr Pcpn
Ending 06Z Tues



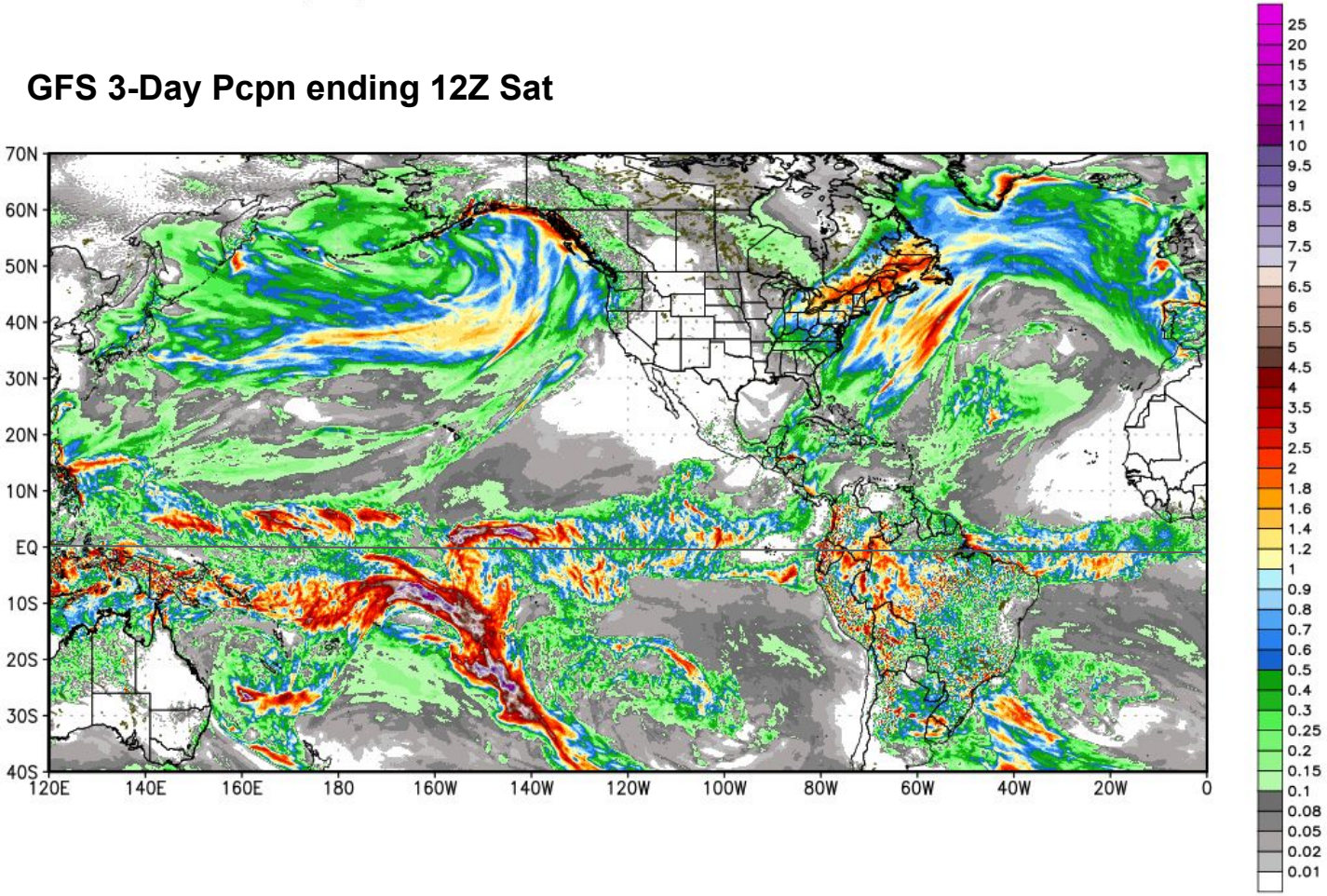
GPM 7 Day Accumulation Ending 09Z 24 Feb



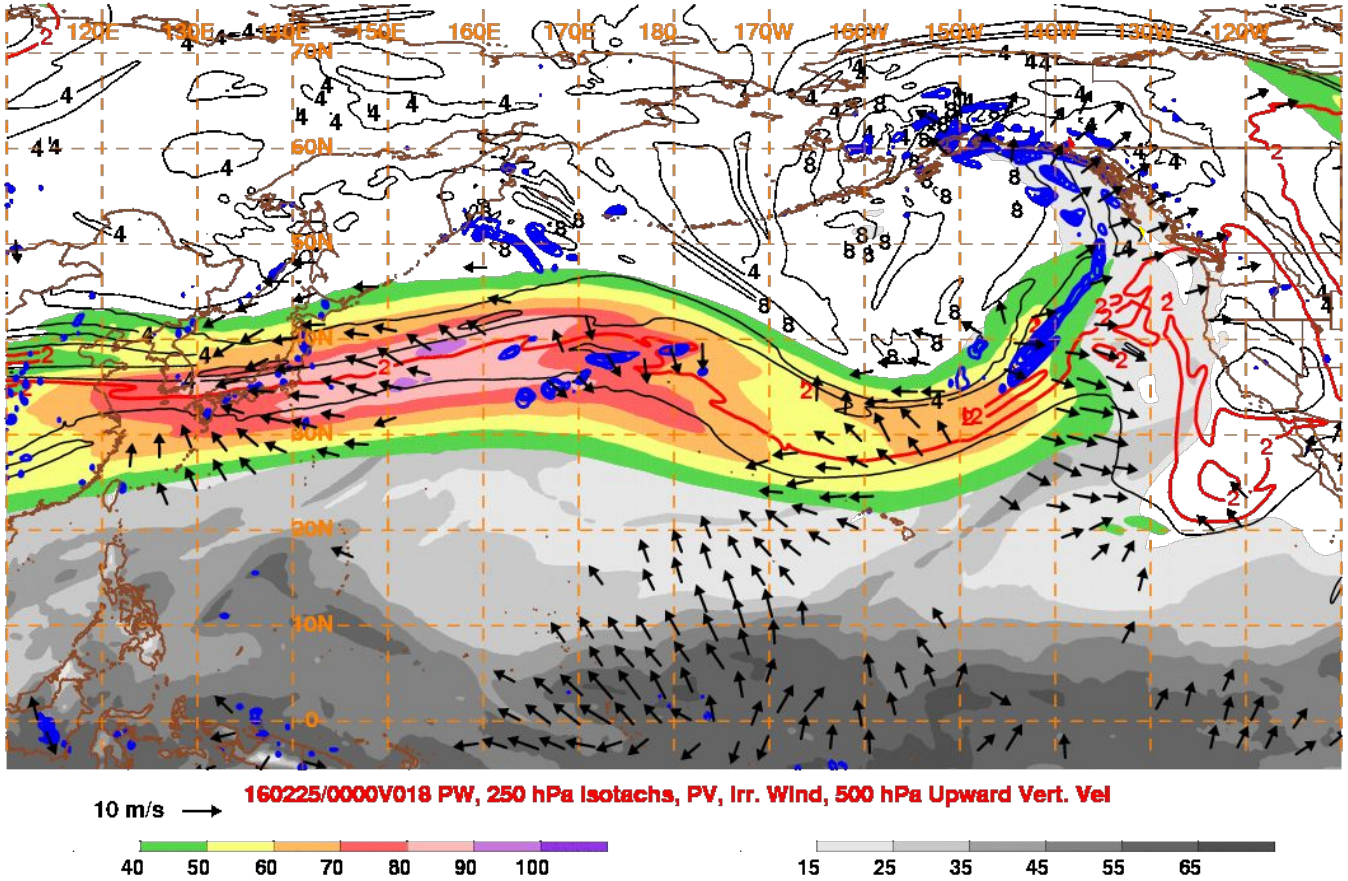
NCEP GFS Accum Precip [inch]
INIT: 12Z24FEB2016 fx: [072] hr --> Sat 12Z27FEB2016

Max: 31.2 in.

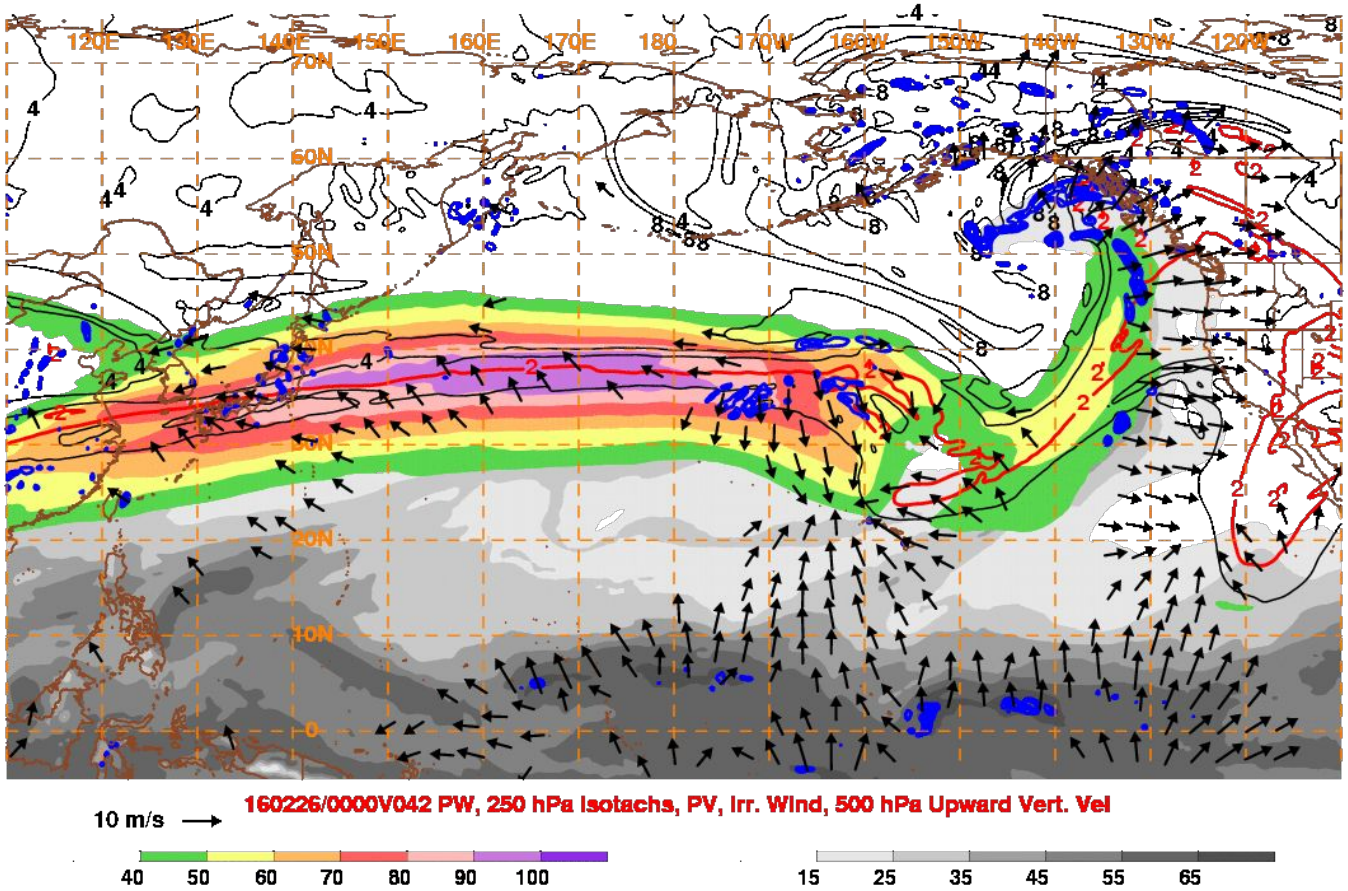
GFS 3-Day Pcpn ending 12Z Sat



00Z Thu


120E
130E
140E
150E
160E
170E
180
170W
160W
150W
140W
130W
120W
70N
60N
50N
40N
30N
20N
10N
0
10 m/s
160225/0000V018 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
40
50
60
70
80
90
100
15
25
35
45
55
65

00Z Fri


120E
130E
140E
150E
160E
170E
180
170W
160W
150W
140W
130W
120W
70N
60N
50N
40N
30N
20N
10N
0
160226/0000V042 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
10 m/s
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80
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100
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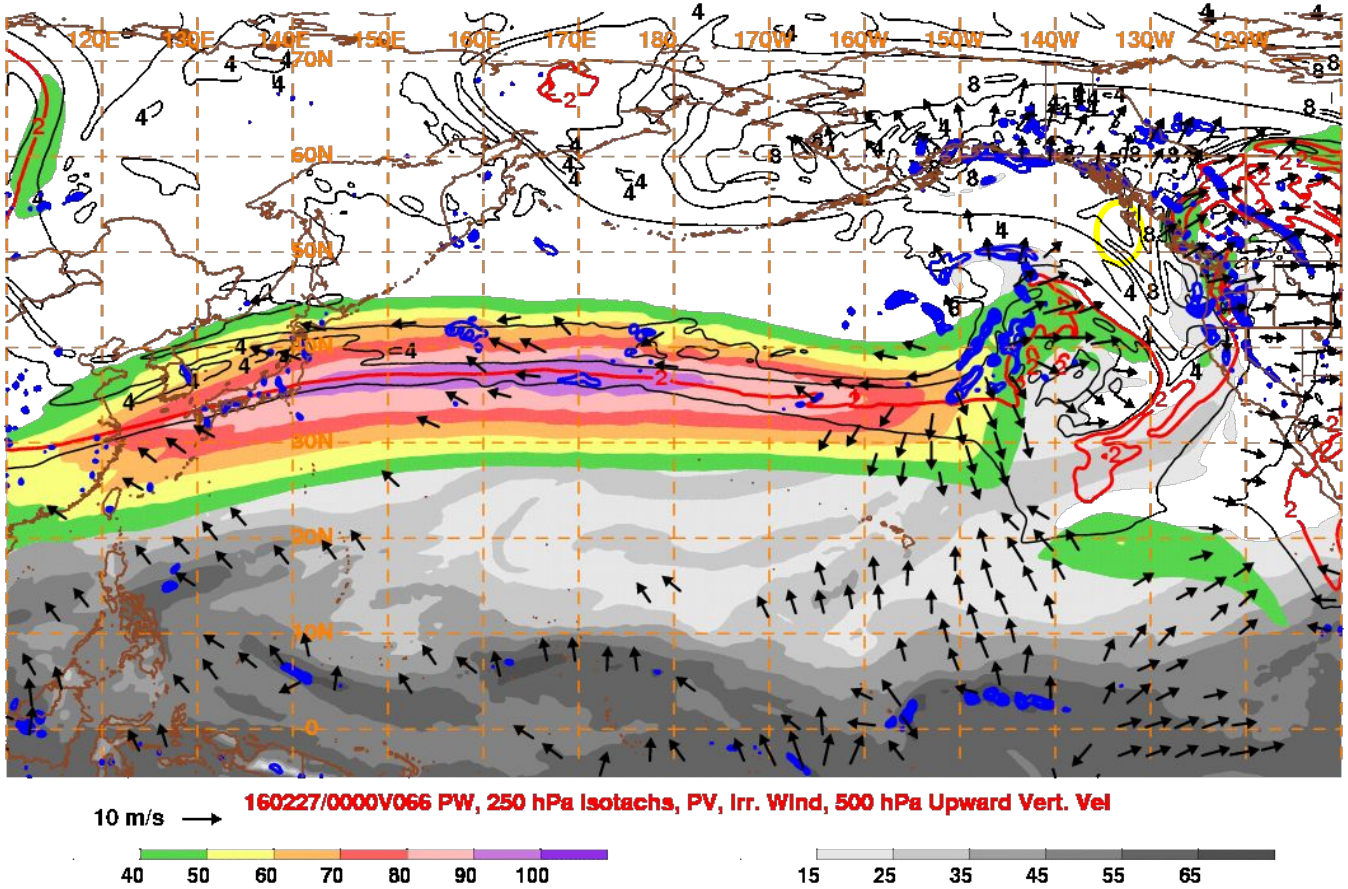
55
65

00Z Sat


120E
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170W
160W
150W
140W
130W
120W
70N
60N
50N
40N
30N
20N
10N
0
10 m/s
160227/0000V066 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
40
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80
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25
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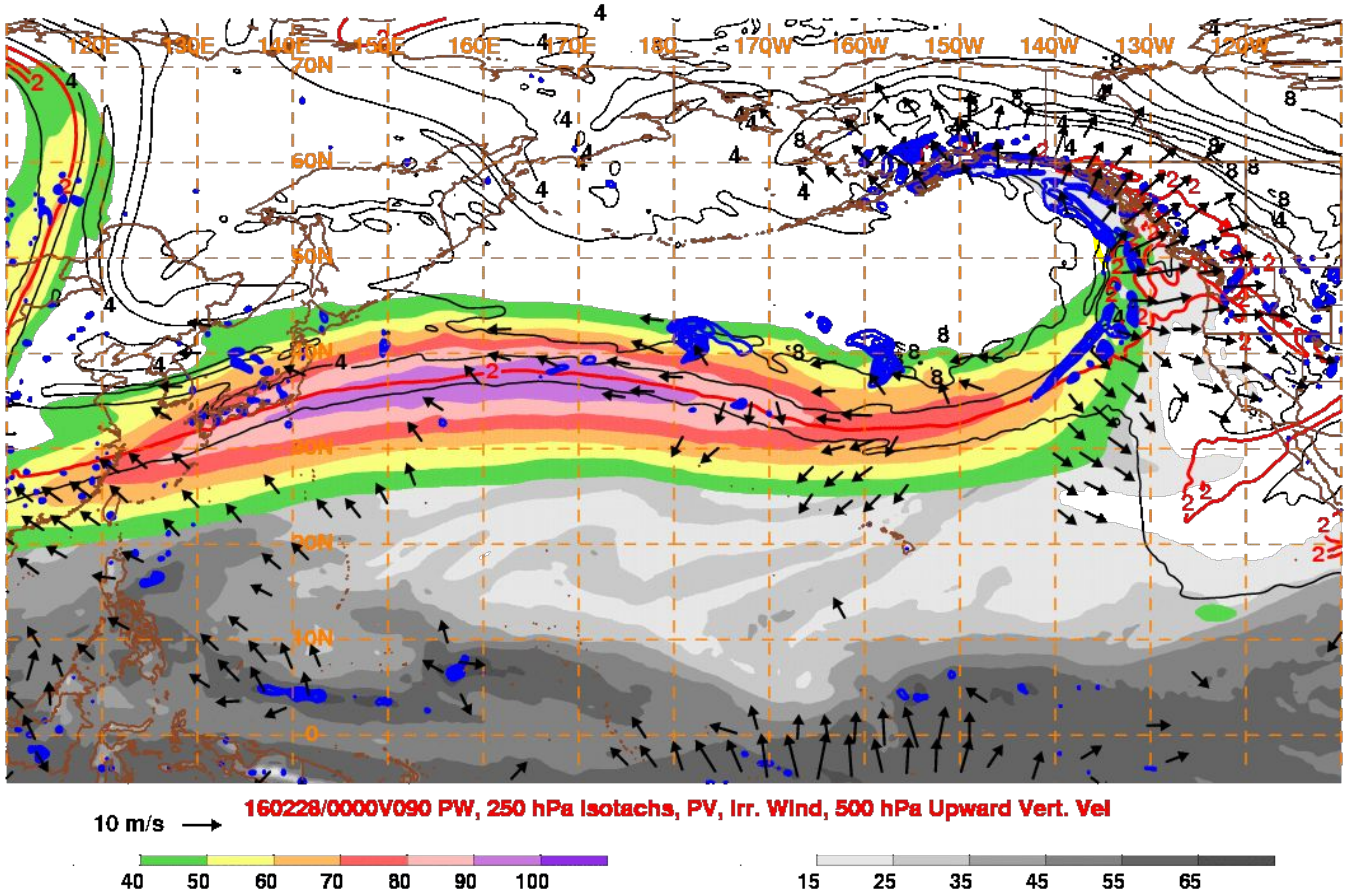
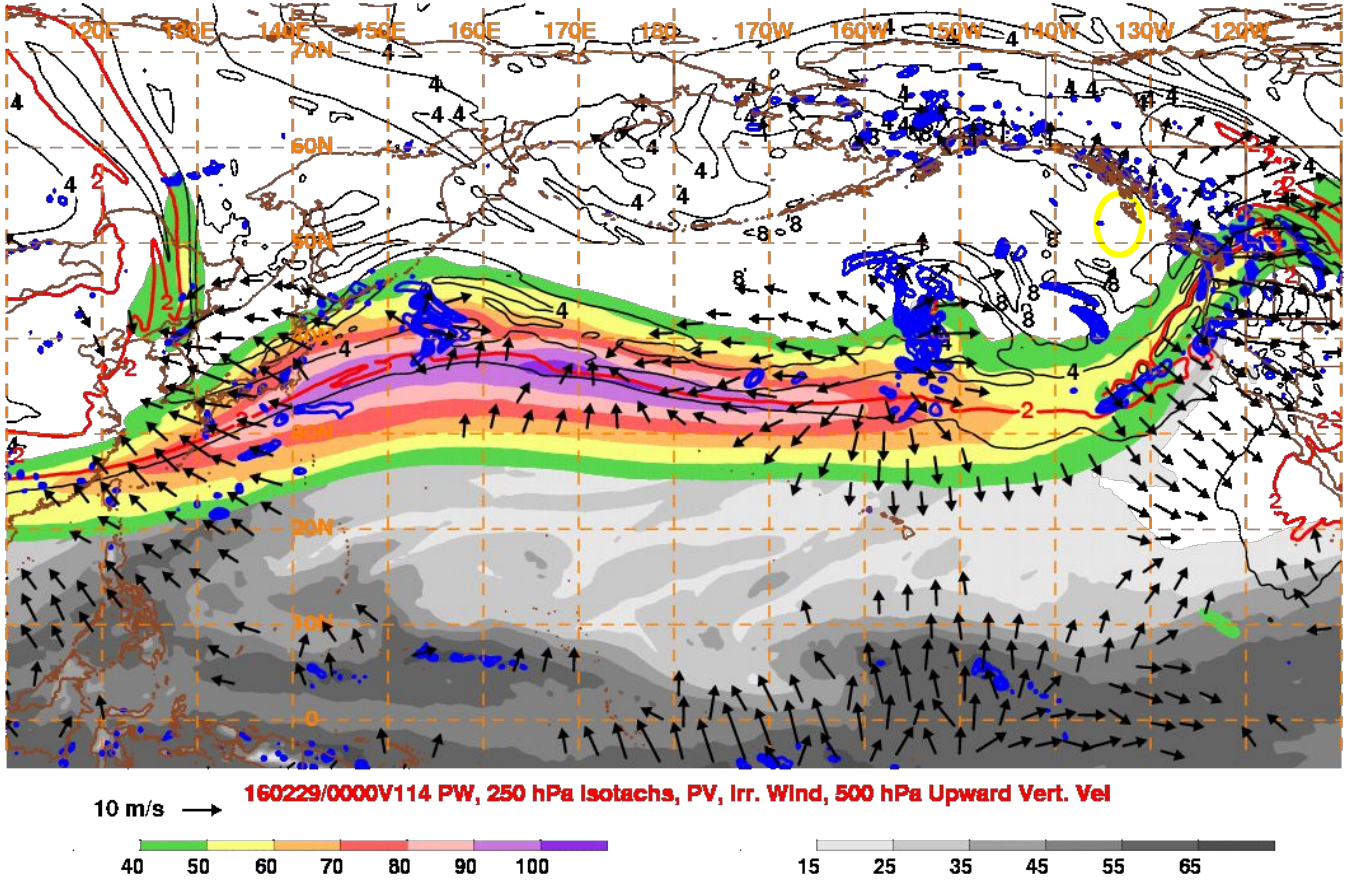
55
65

00Z Sun


120E
130E
140E
150E
160E
170E
180
170W
160W
150W
140W
130W
120W
70N
60N
50N
40N
30N
20N
10N
0
160228/0000V090 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
10 m/s
40
50
60
70
80
90
100
15
25
35
45
55
65

00Z Mon


120E
130E
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160E
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150W
140W
130W
120W
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40N
30N
20N
10N
0
160229/0000V114 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
10 m/s
40
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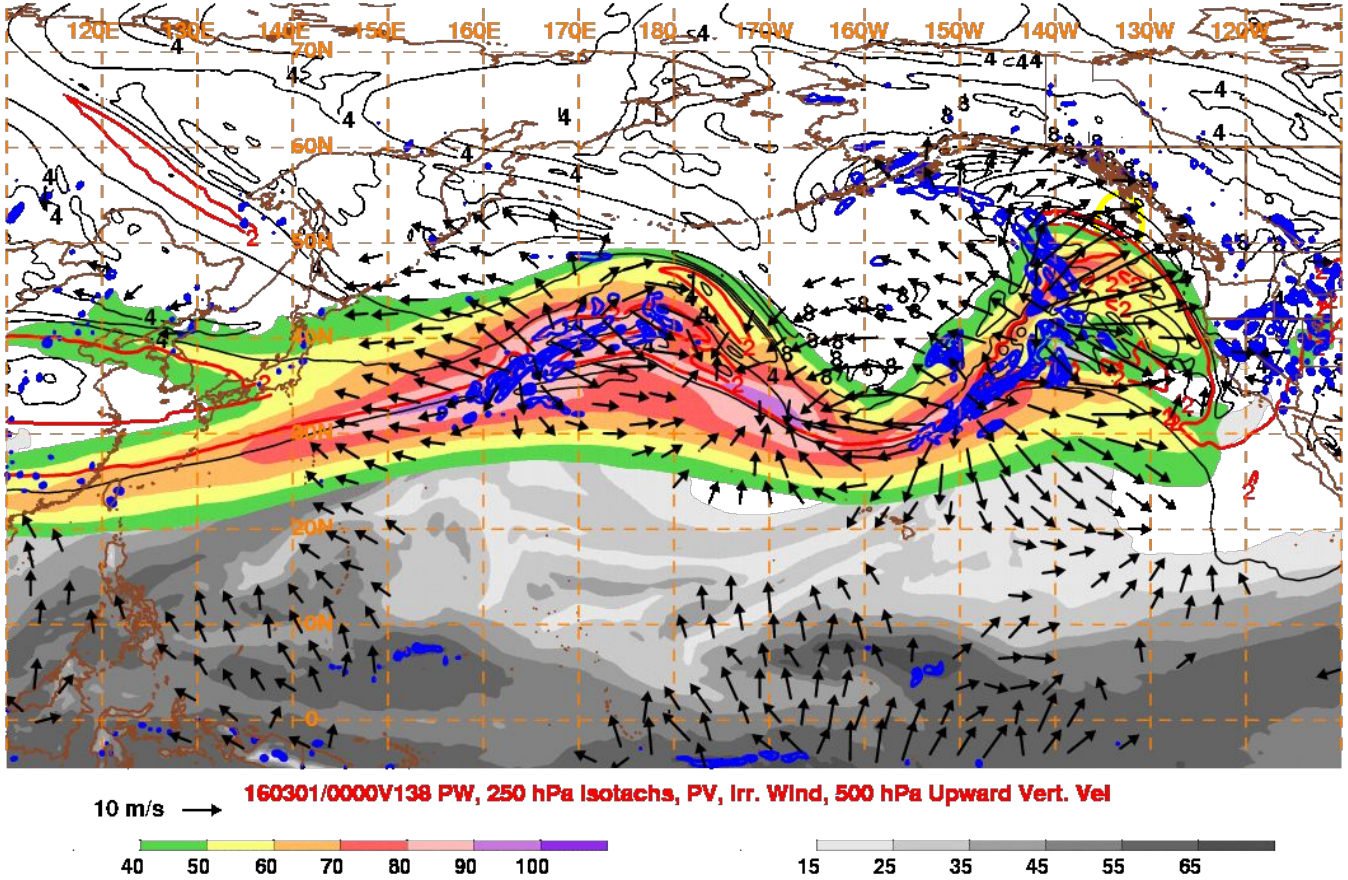
80
90
100
15
25
35
45
55
65

00Z Tue


120E
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120W
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50N
40N
30N
20N
10N
0
160301/0000V138 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
10 m/s
40
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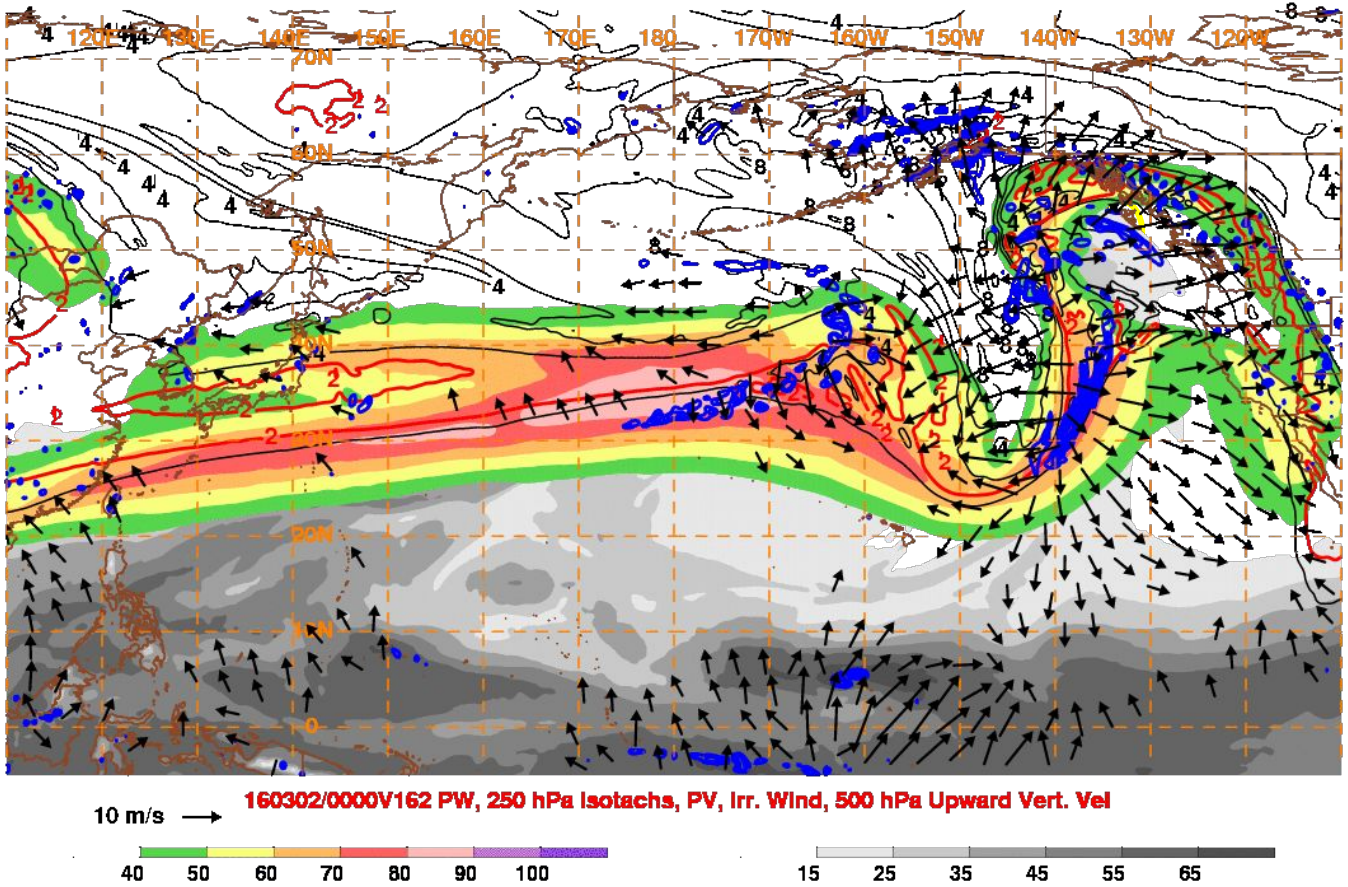
55
65

00Z Wed


120E
130E
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160E
170E
180
170W
160W
150W
140W
130W
120W
70N
60N
50N
40N
30N
20N
10N
0
10 m/s
160302/0000V162 PW, 250 hPa Isotachs, PV, Irr. Wind, 500 hPa Upward Vert. Vel
40
50
60
70
80
90
100
15
25
35
45
55
65

ECMWF Total Precipitation [inches] between 00Z24FEB2016 -- 00Z02MAR2016
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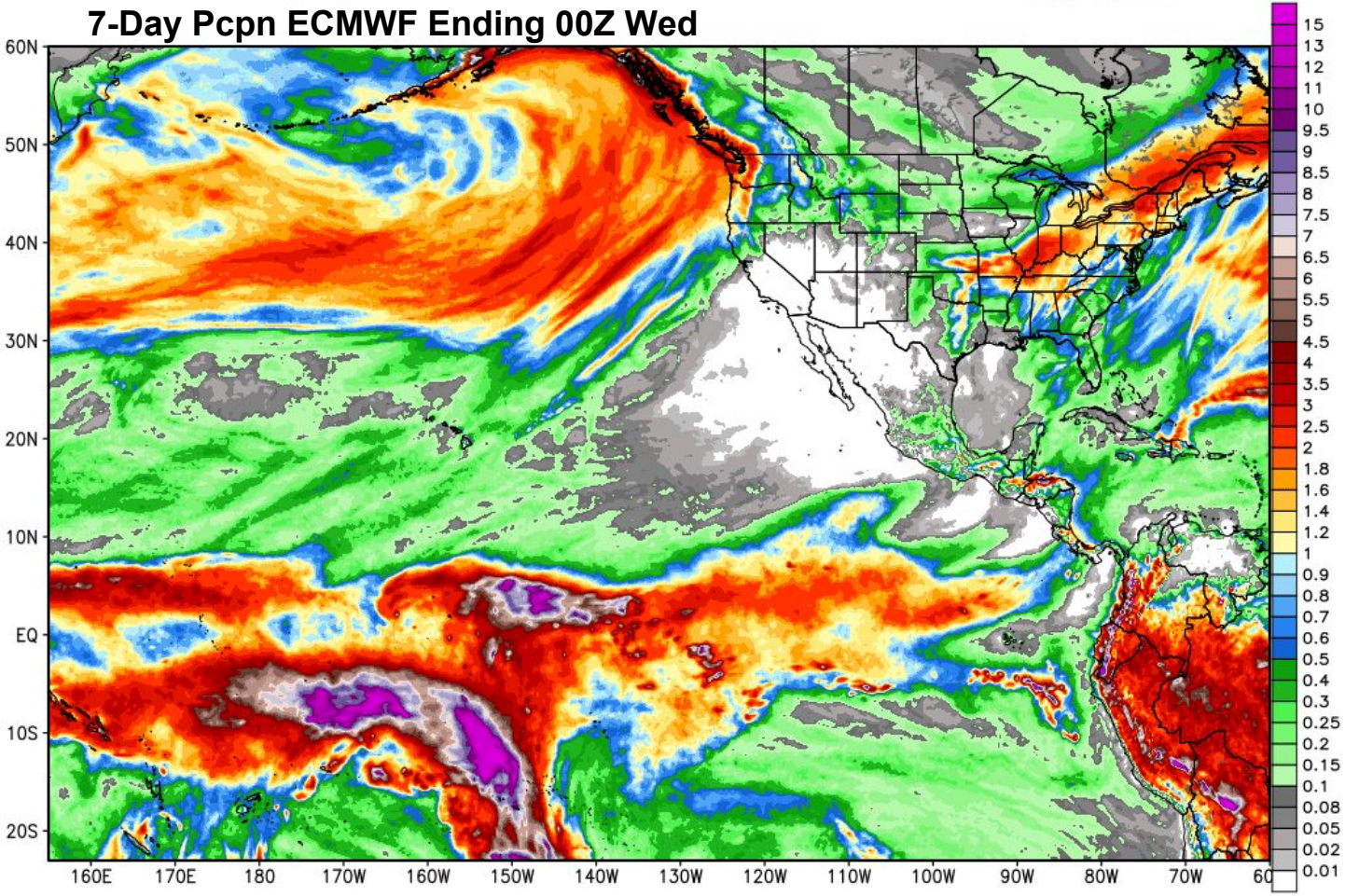
Max 28.3 in

7-Day Pcpn ECMWF Ending 00Z Wed



NCEP GFS Accum Precip [inch]
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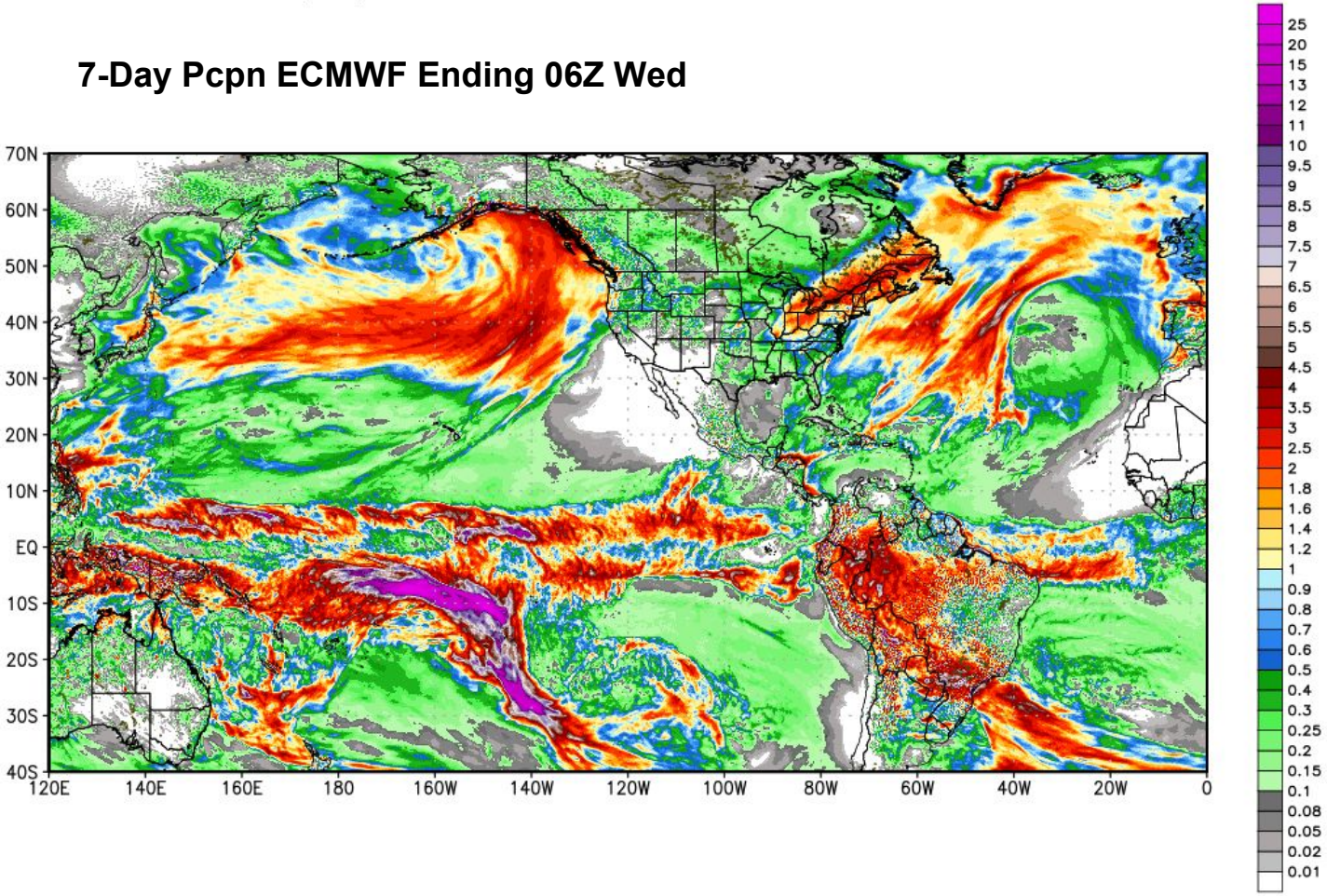
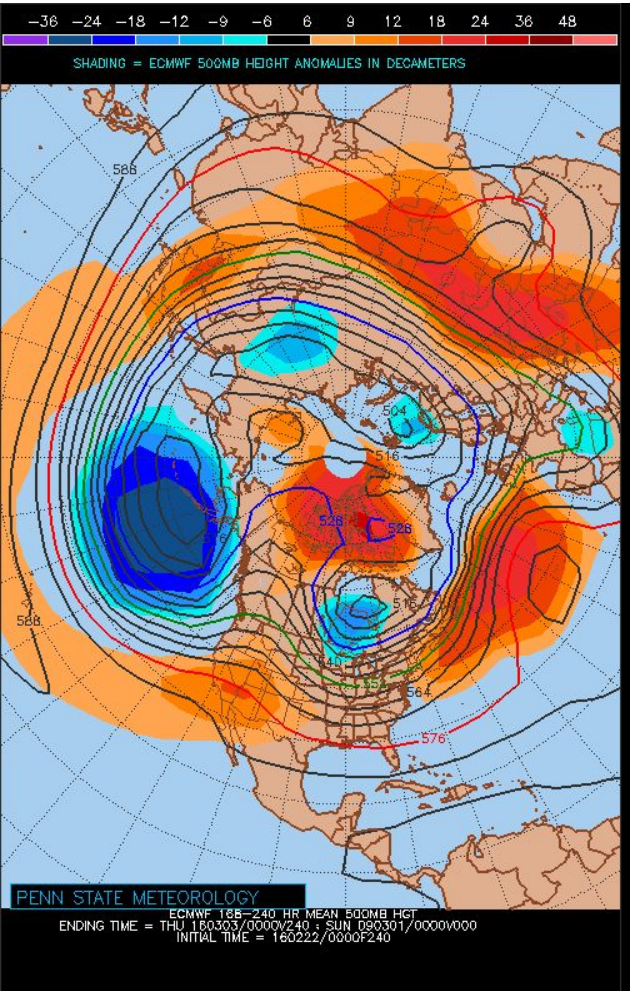
Max: 56.8 in.

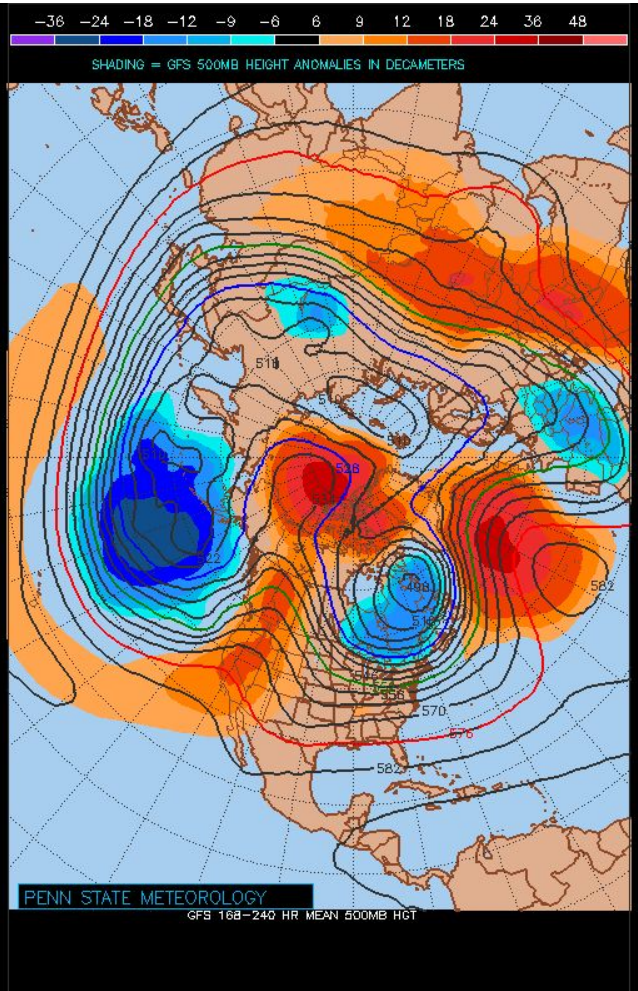
7-Day Pcpn ECMWF Ending 06Z Wed

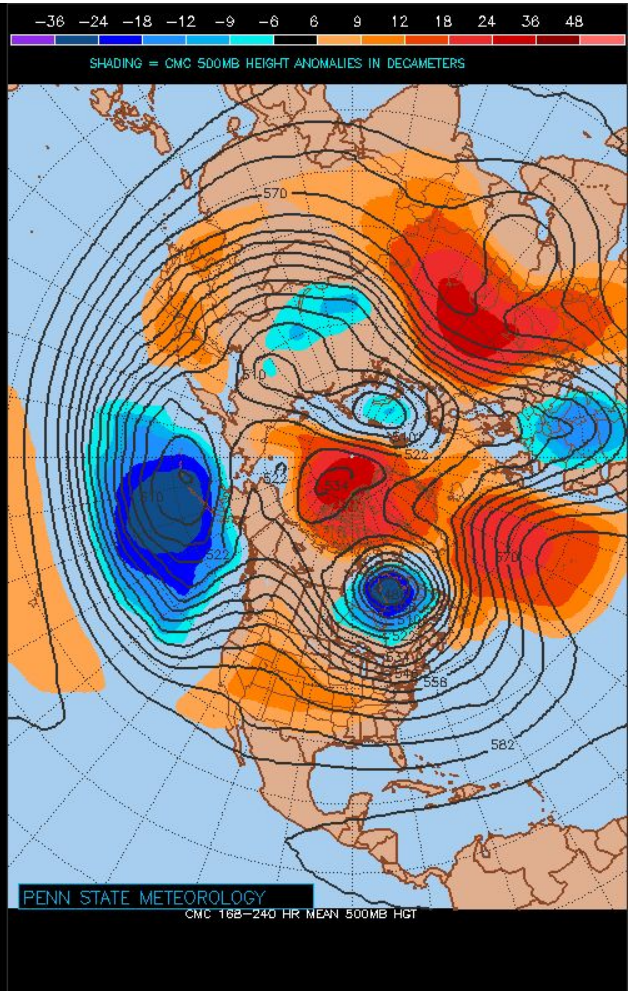


Medium - Long Range Forecast

Day 7-10 Initialized 00Z SAT 20 Feb

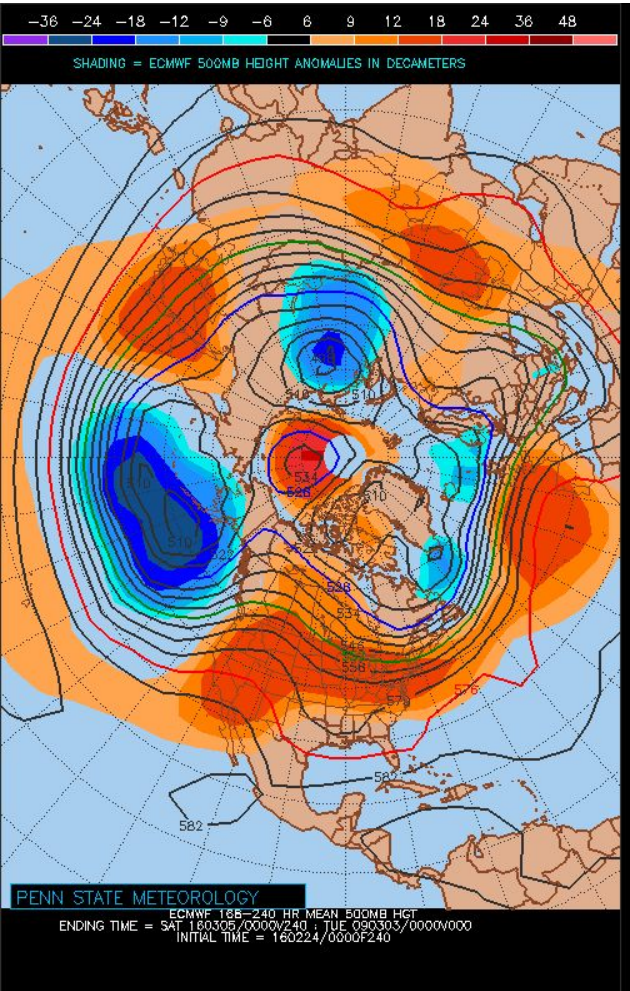


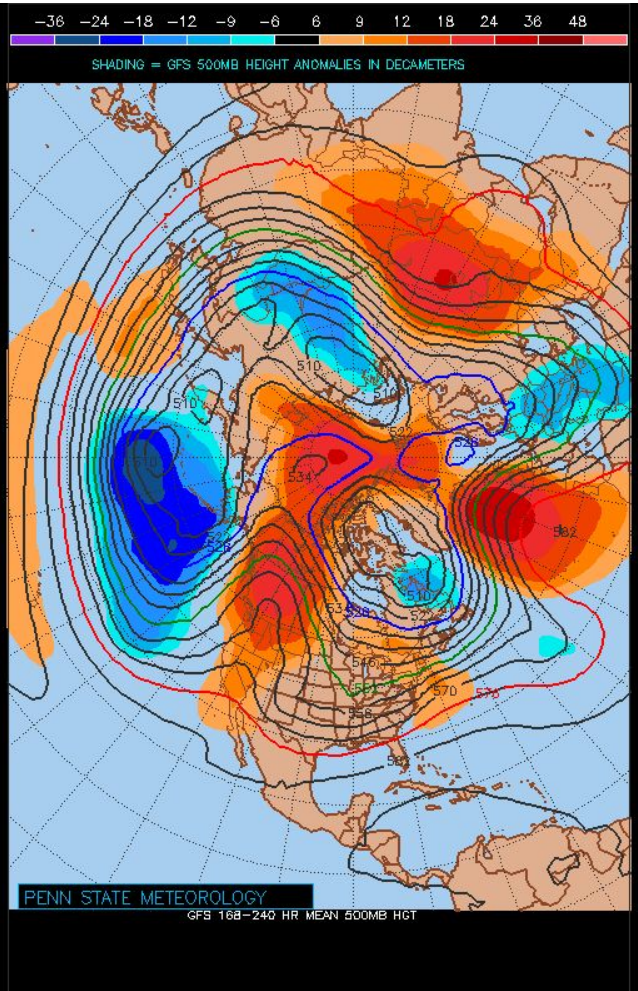


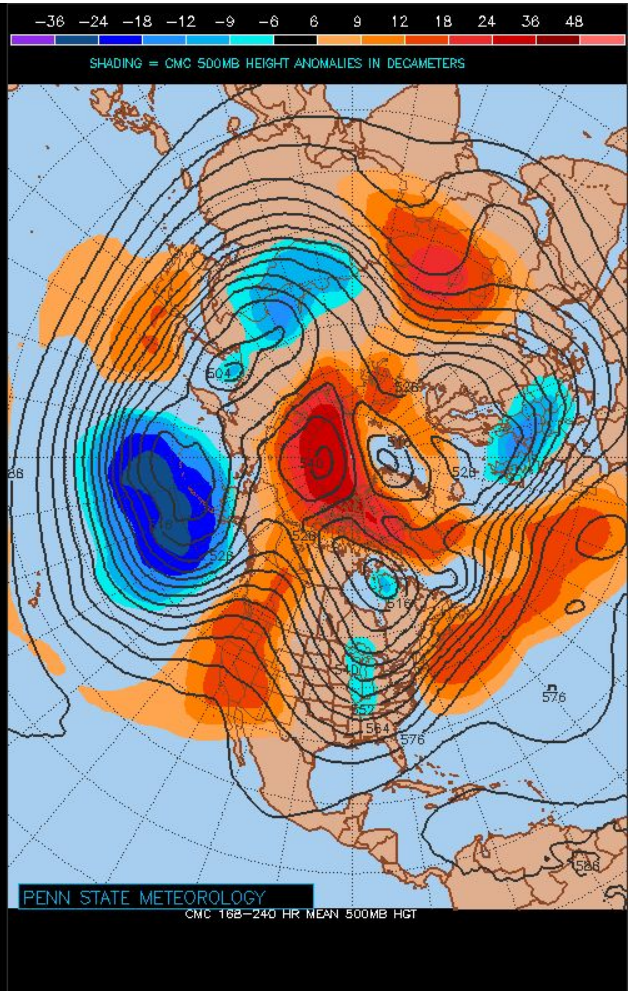


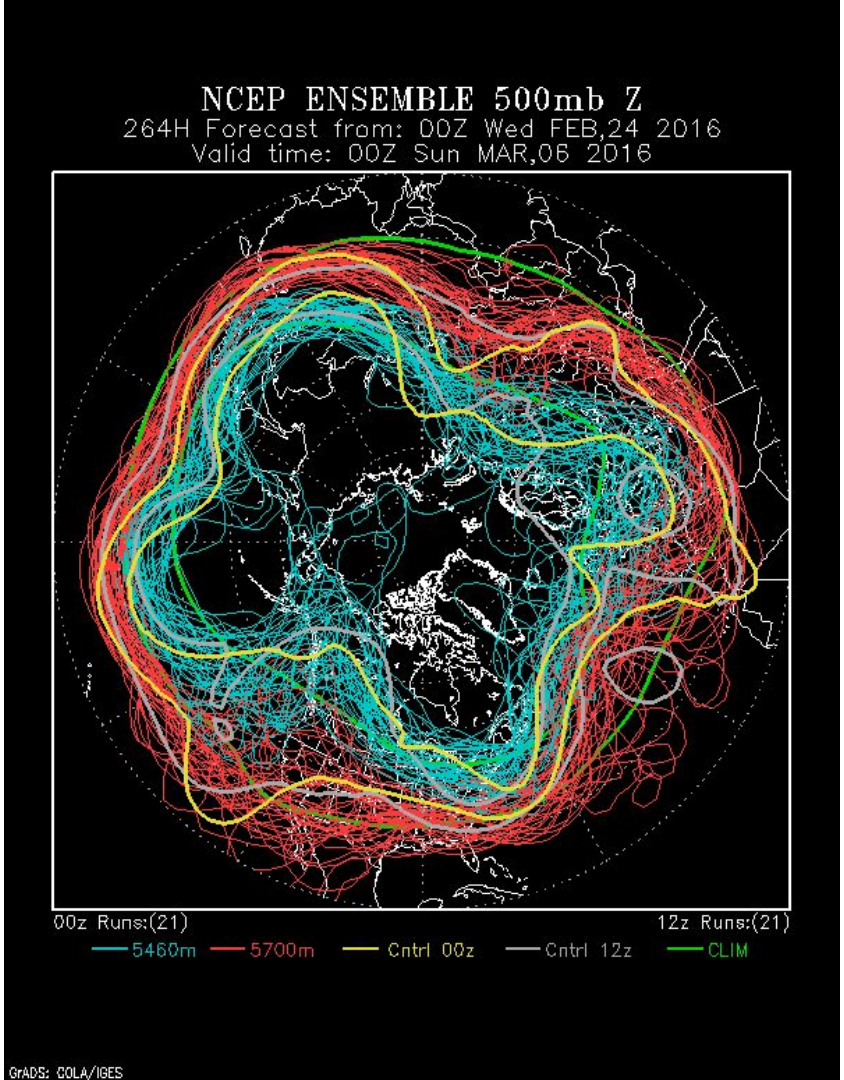
Medium - Long Range Forecast

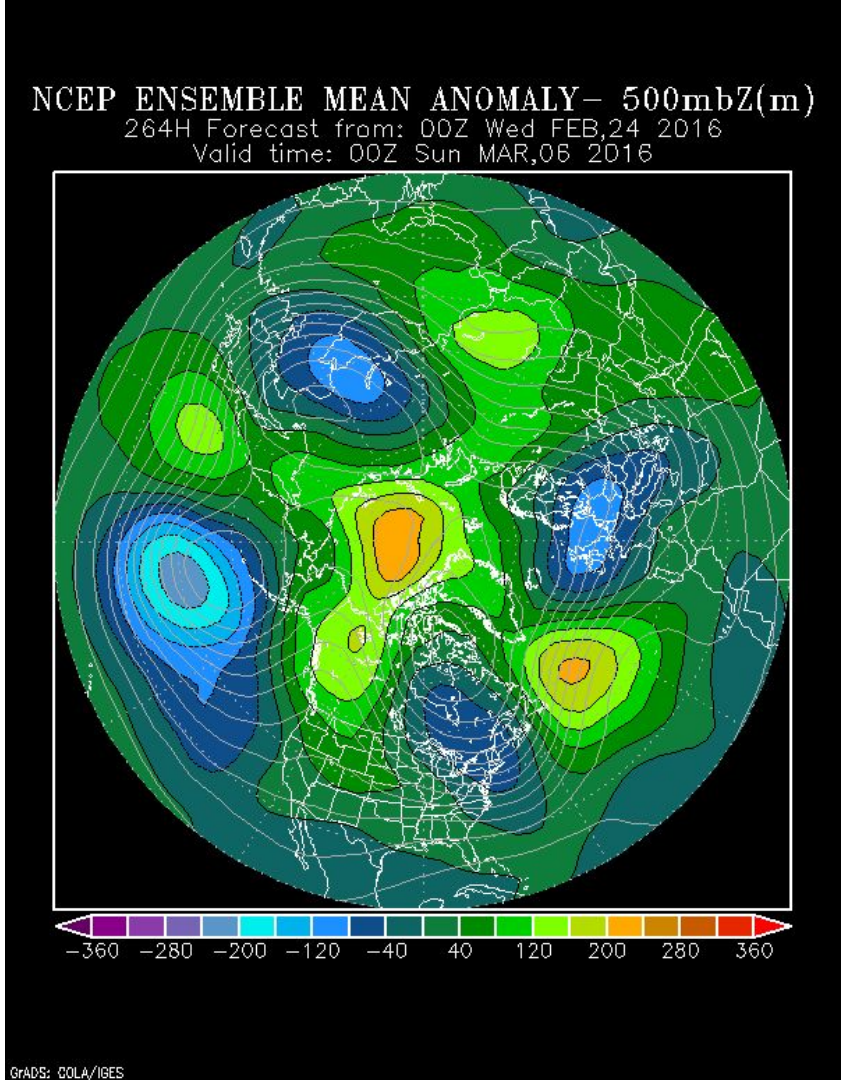
Day 7-10 Initialized 00Z WED 24 Feb








NCEP ENSEMBLE 500mb Z
264H Forecast from: 00Z Wed FEB,24 2016
Valid time: 00Z Sun MAR,06 2016
00z Runs:(21)
12z Runs:(21)
5460m
5700m
Cntrl 00z
Cntrl 12z
CLIM
GrADS: COLA/IGES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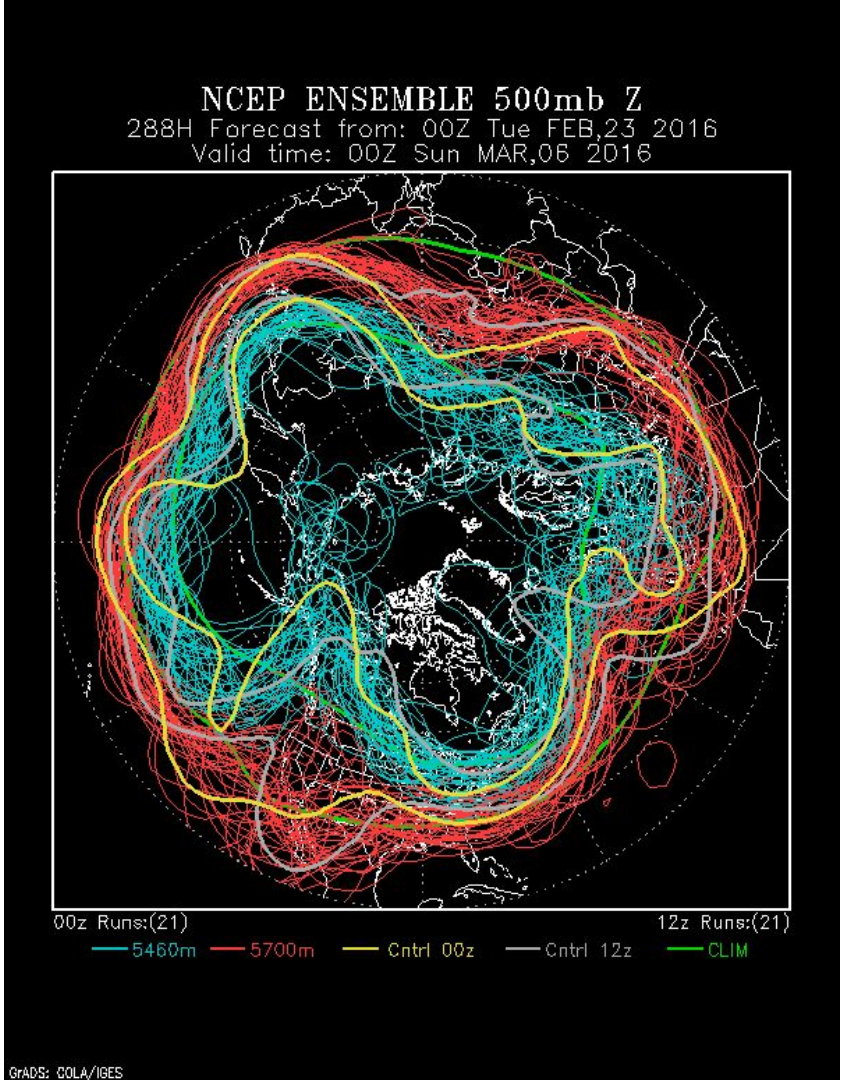
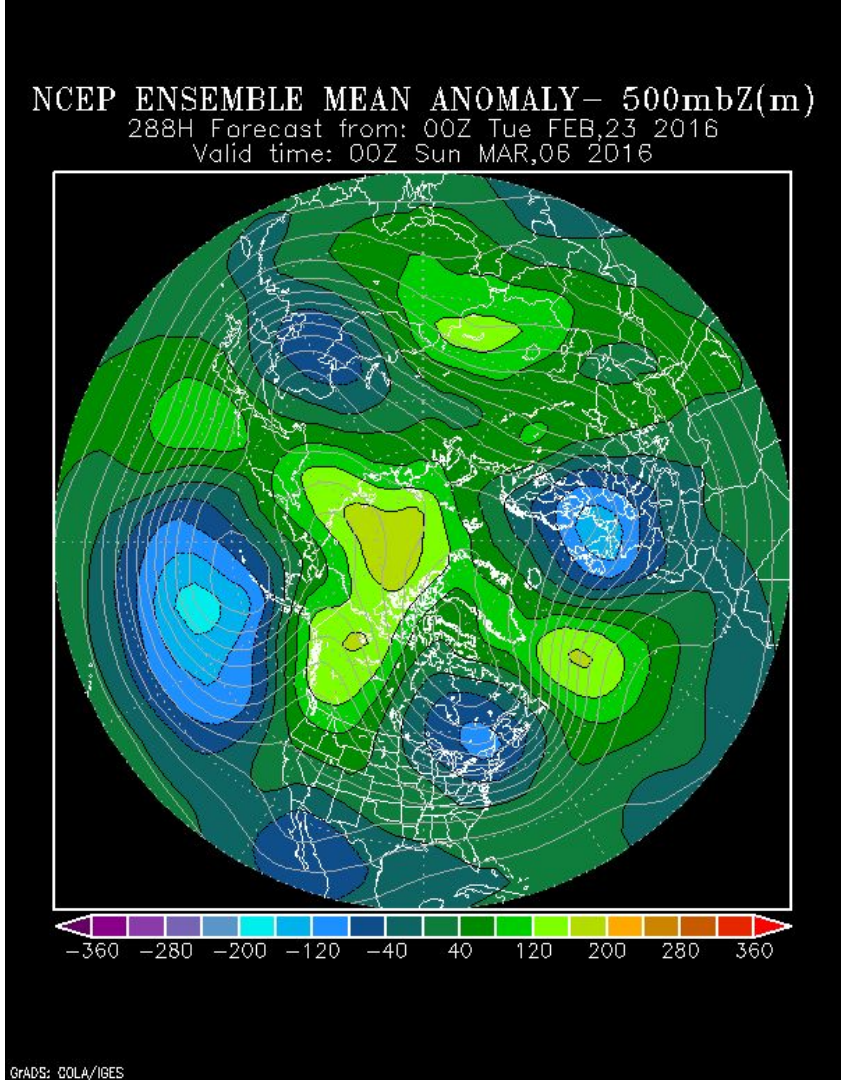
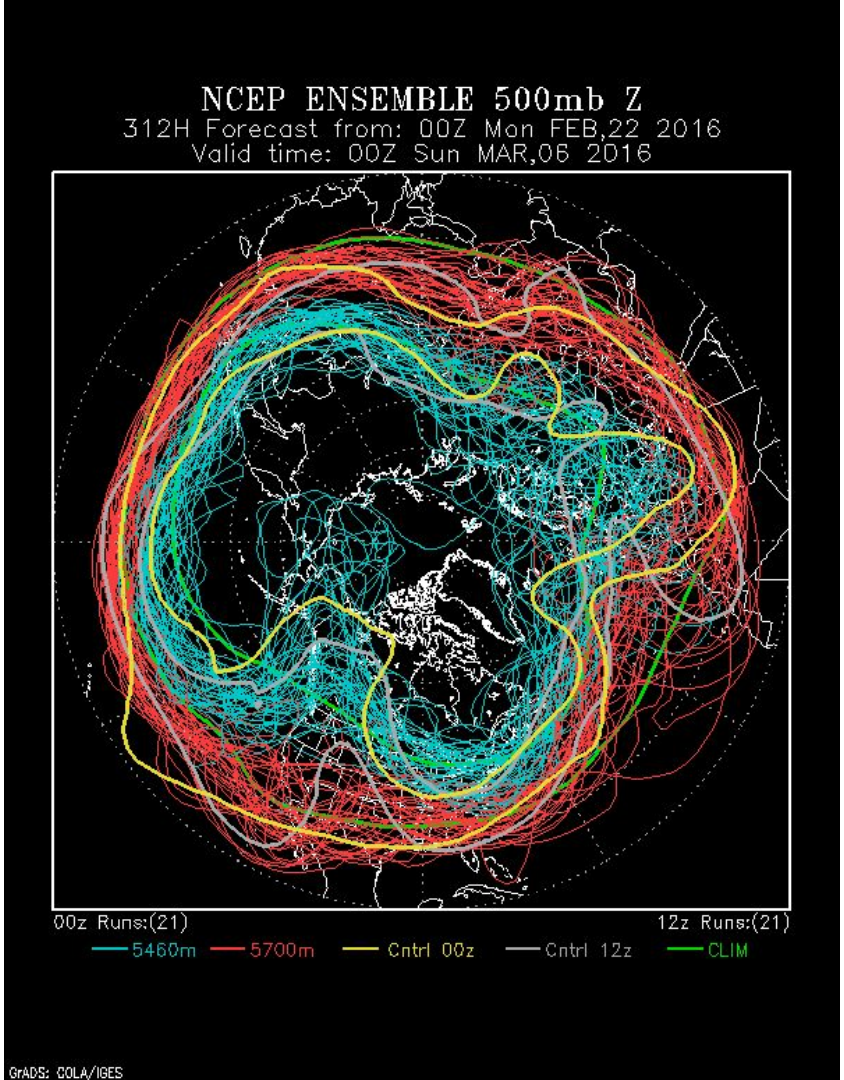
264H Forecast from: 00Z Wed FEB,24 2016
Valid time: 00Z Sun MAR,06 2016
-360 -280 -200 -120 -40 40 120 200 280 360
GrADS: COLA/IGES


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
GrADS: COLA/IGES


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
GrADS: COLA/IGES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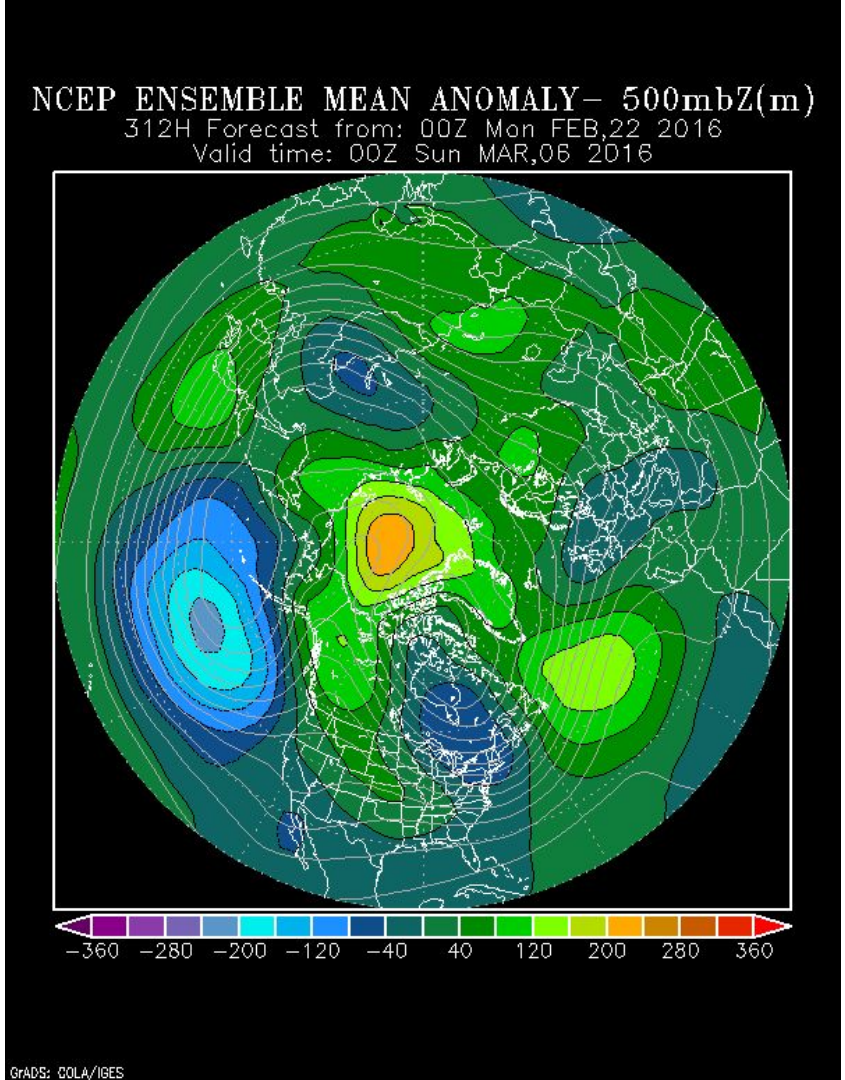
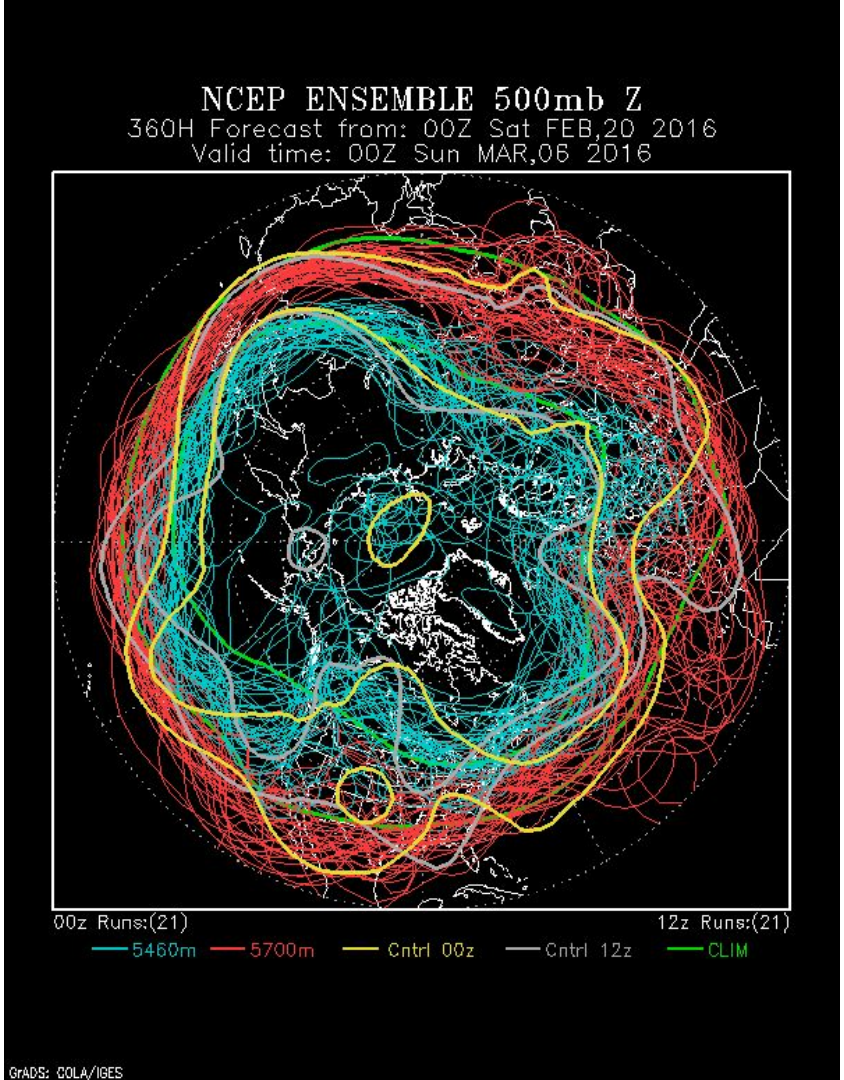
312H Forecast from: 00Z Mon FEB,22 2016
Valid time: 00Z Sun MAR,06 2016
00z Runs:(21)
12z Runs:(21)
5460m
5700m
Cntrl 00z
Cntrl 12z
CLIM
GrADS: COLA/IGES


NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)
312H Forecast from: 00Z Mon FEB,22 2016
Valid time: 00Z Sun MAR,06 2016
-360 -280 -200 -120 -40 40 120 200 280 360
GrADS: COLA/IGES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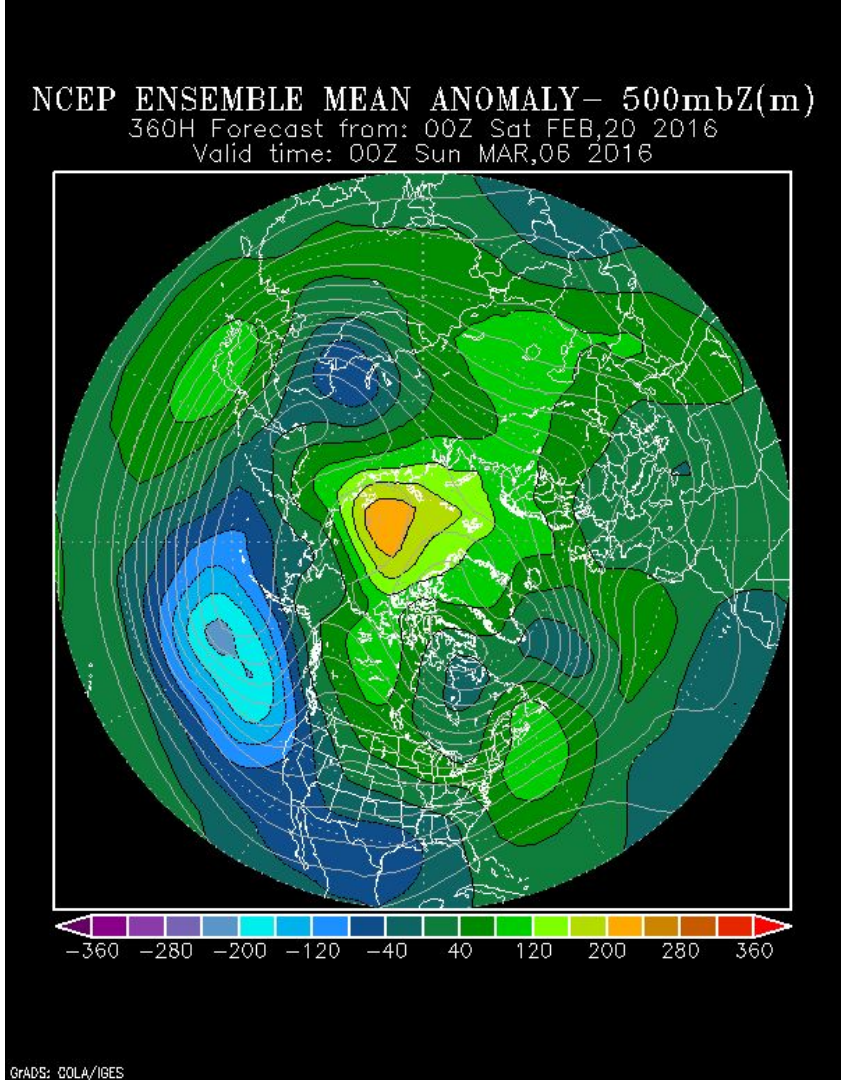
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016
00z Runs:(21)
12z Runs:(21)
5460m
5700m
Cntrl 00z
Cntrl 12z
CLIM
GrADS: COLA/IGES


NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016
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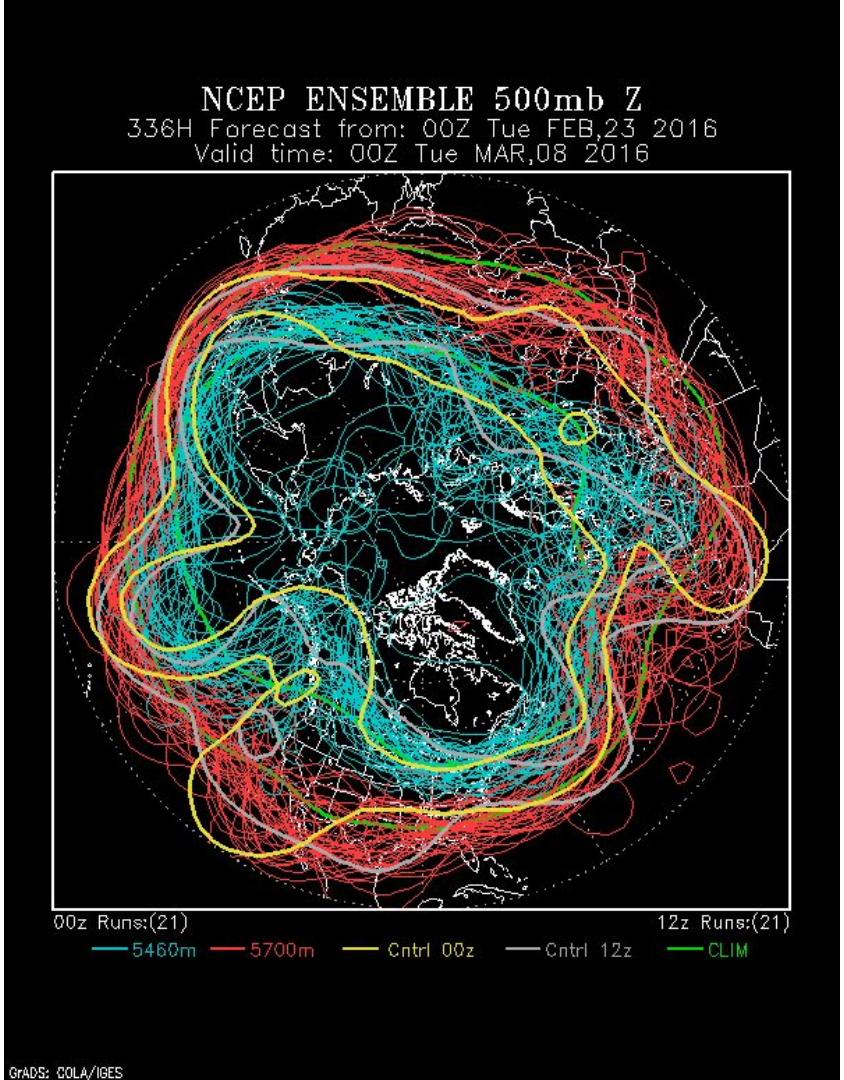
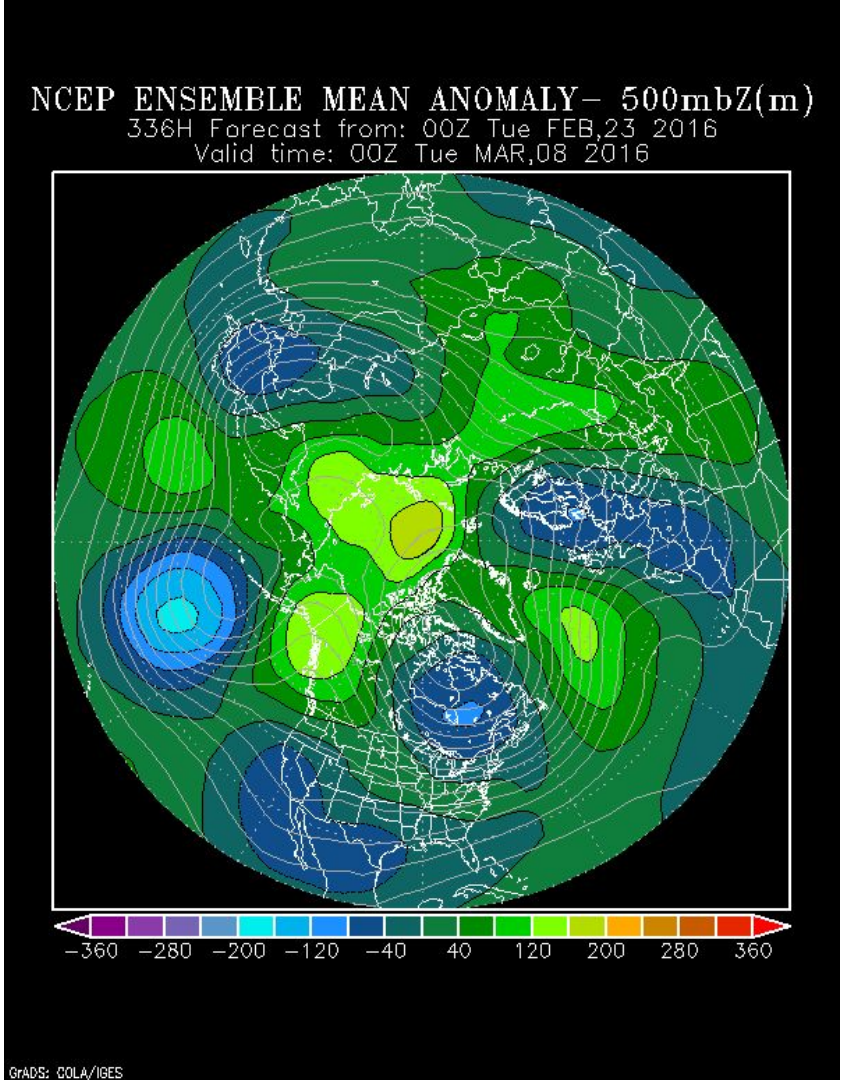
GrADS: COLA/IGES


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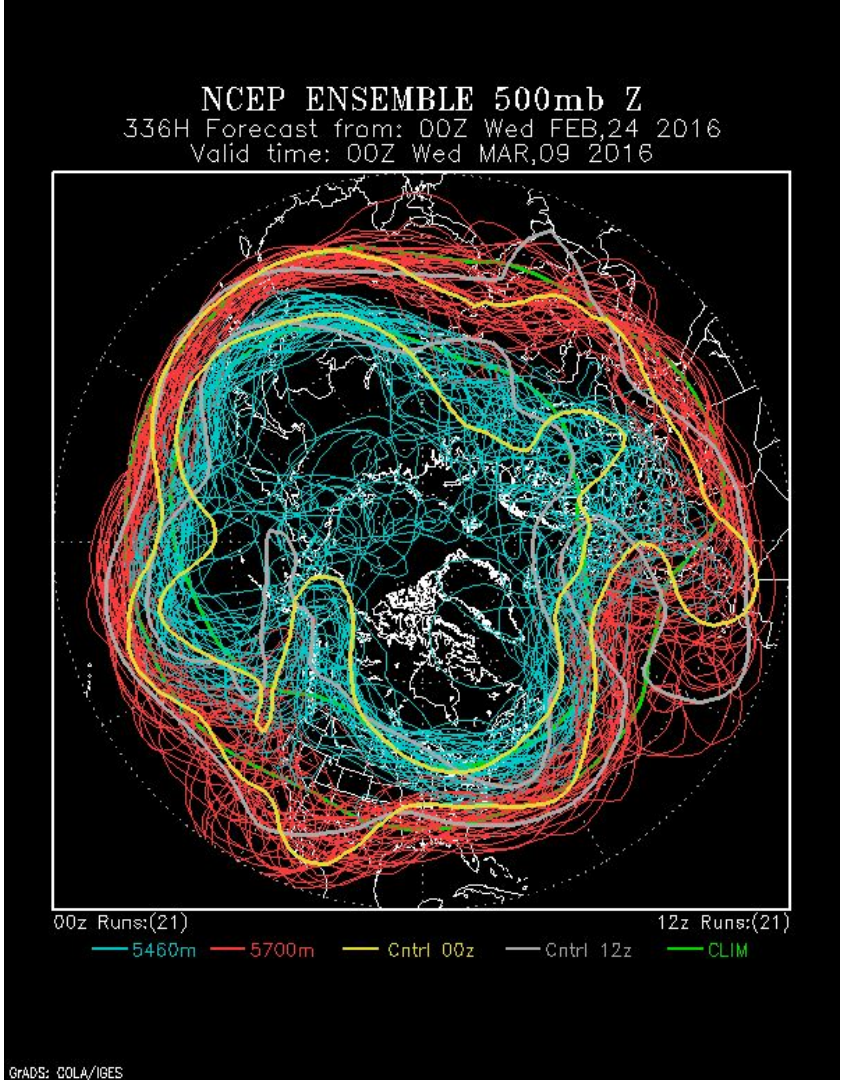
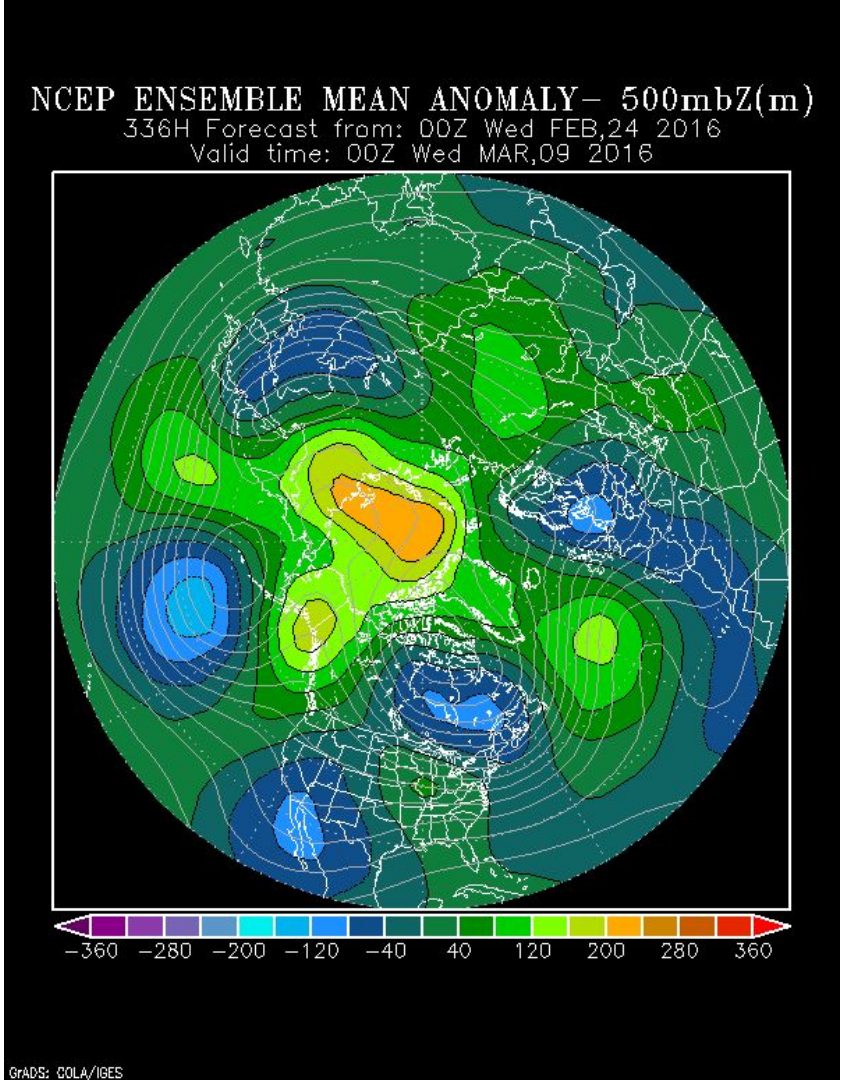
GrADS: COLA/IGES


NCEP ENSEMBLE 500mb Z
336H Forecast from: 00Z Wed FEB,24 2016
Valid time: 00Z Wed MAR,09 2016
00z Runs:(21)
12z Runs:(21)
5460m
5700m
Cntrl 00z
Cntrl 12z
CLIM
GrADS: COLA/IGES


NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)
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Valid time: 00Z Wed MAR,09 2016
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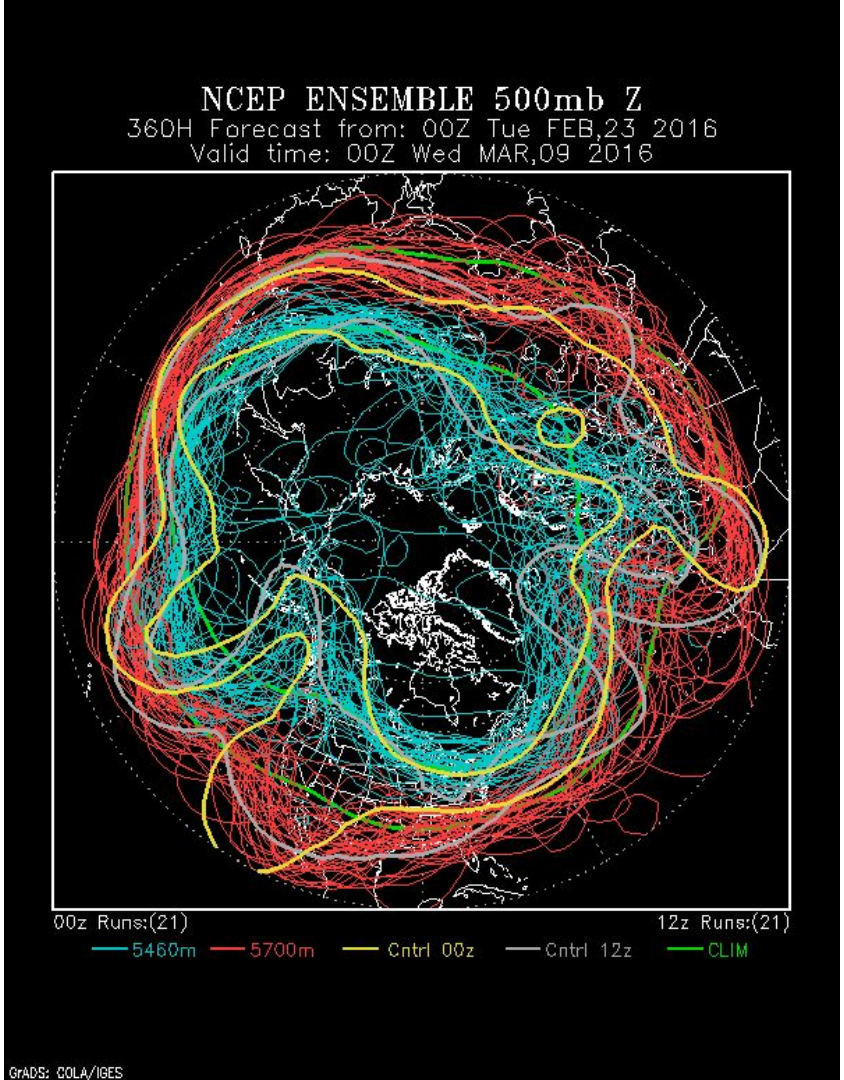
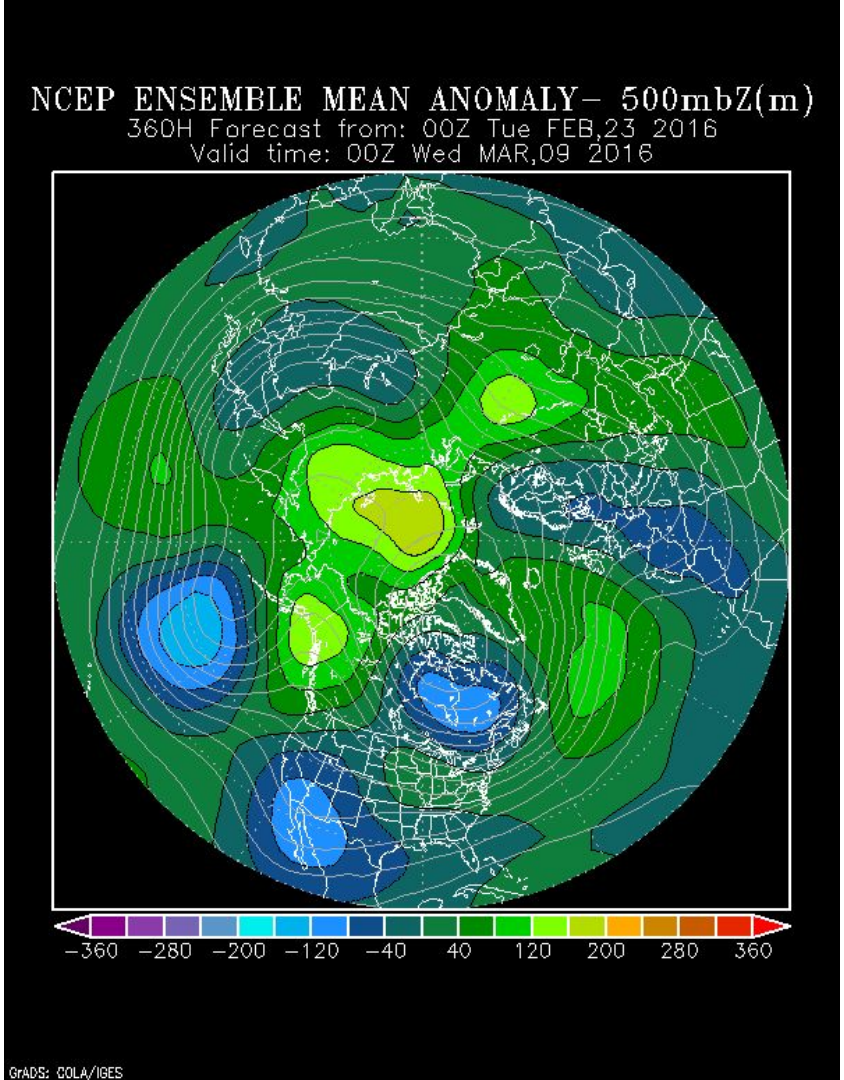
GrADS: COLA/IGES


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
GrADS: COLA/IGES


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
GrADS: COLA/IGES

Sensitivity of Extratropics to Tropical Forcing

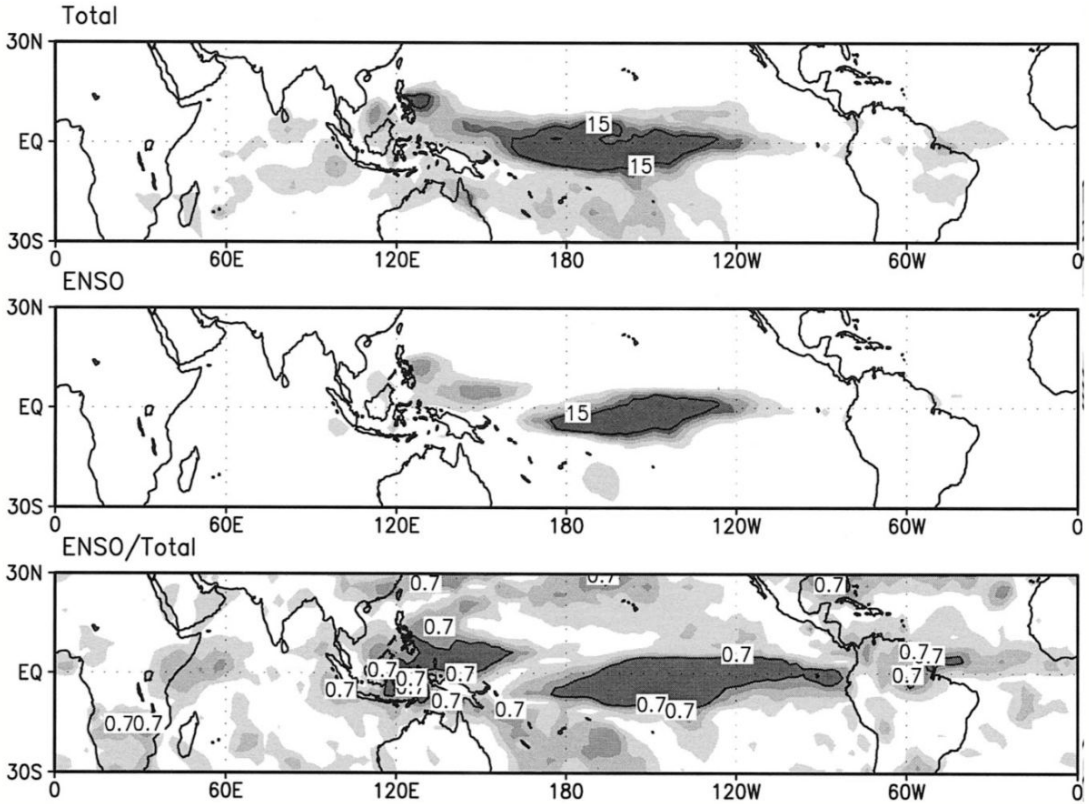


FIG. 4. Observed winter (DJF) seasonally averaged (top) total variance of precipitation, (middle) ENSO component of the precipitation variance, and (bottom) the ratio of the ENSO component to the total variance. The period of analysis is 1980–99, and precipitation is based on the GPCP data. Results are shown for the Tropics within 30°N–30°S. Contour interval is 3 (mm day^{-1})^2 in (top) and (middle), and 0.2 in (bottom).

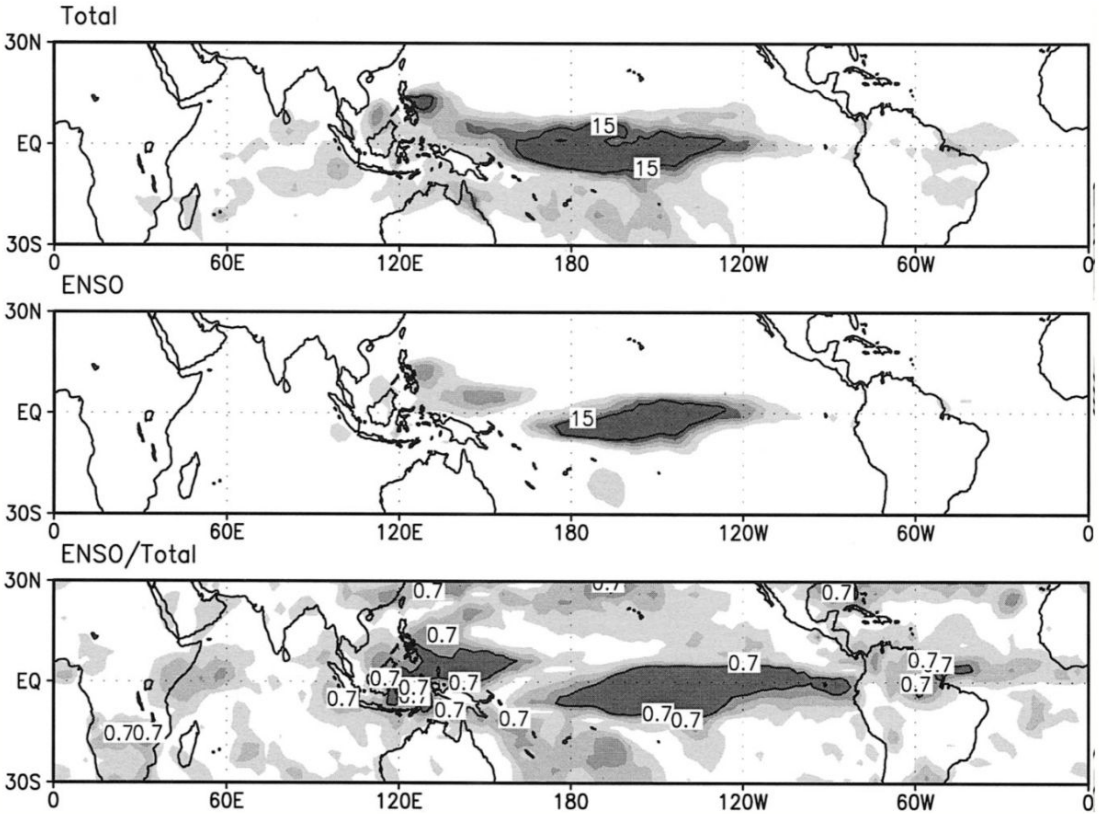


FIG. 4. Observed winter (DJF) seasonally averaged (top) total variance of precipitation, (middle) ENSO component of the precipitation variance, and (bottom) the ratio of the ENSO component to the total variance. The period of analysis is 1980–99, and precipitation is based on the GPCP data. Results are shown for the Tropics within 30°N–30°S. Contour interval is 3 (mm day^{-1})^2 in (top) and (middle), and 0.2 in (bottom).

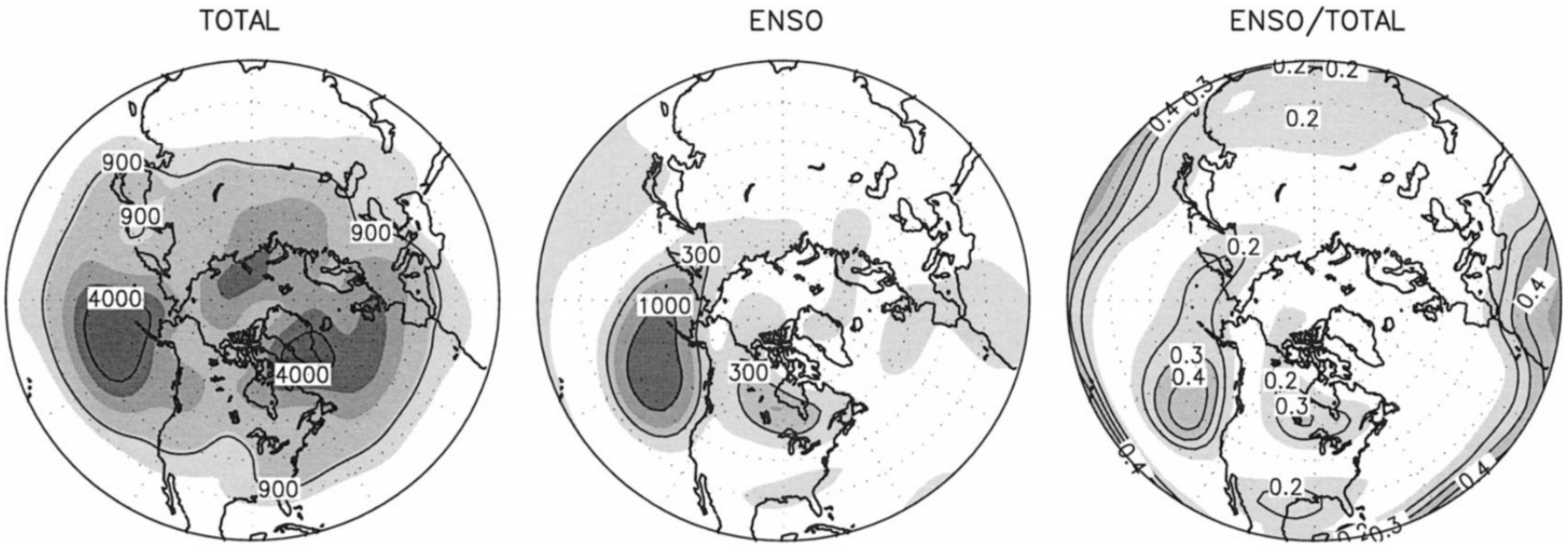


FIG. 5. Observed winter (DJF) seasonally averaged total (left) variance of 500-hPa heights, (middle) ENSO component of the 500-hPa height variance, and (right) the ratio of the ENSO component to the total variance. The period of analysis is 1950–99, and results are shown for the NH polar cap to 20°N. Contour interval is 1000 $(m)^2$ in (left) and (middle), and 0.1 in (right).

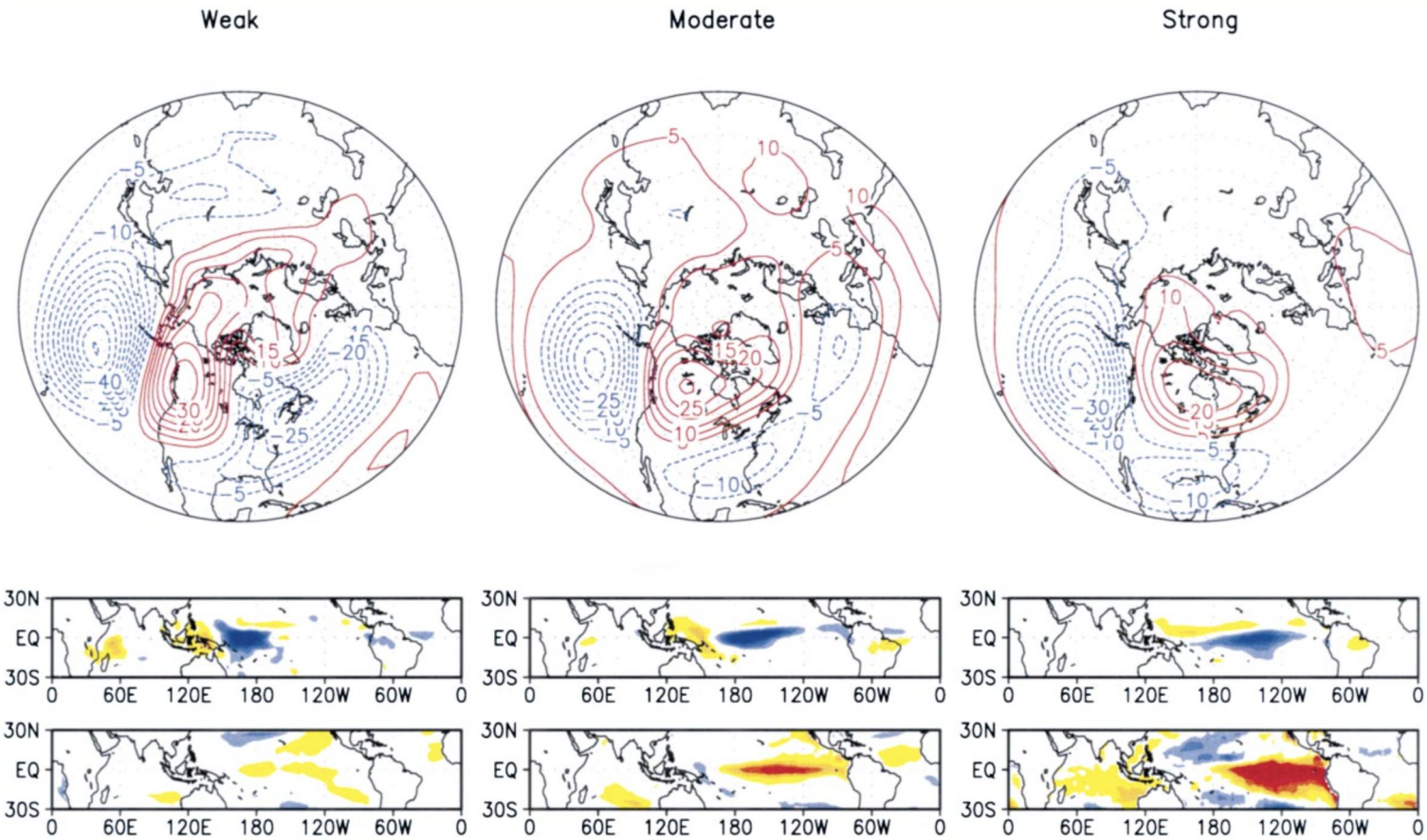


FIG. 13. GCM ensemble winter (DJF) anomalies of (top) 500-hPa height, (middle) tropical rainfall, and (bottom) tropical SST for varying strengths of equatorial Pacific warm events during (left) 1980, (middle) 1958, and (right) 1983. The year refers to the Jan of the season. The height and rainfall anomalies have been scaled by the amplitude of the EOF1 index of ENSO for each case. Contours for height are drawn every 5 m, with positive (negative) values solid (dashed). Shading interval for rainfall is every 1 mm day^{-1}, with positive (negative) anomalies in blue (red). Shading interval for SST is every 0.5°C, with positive (negative) anomalies in red (blue).

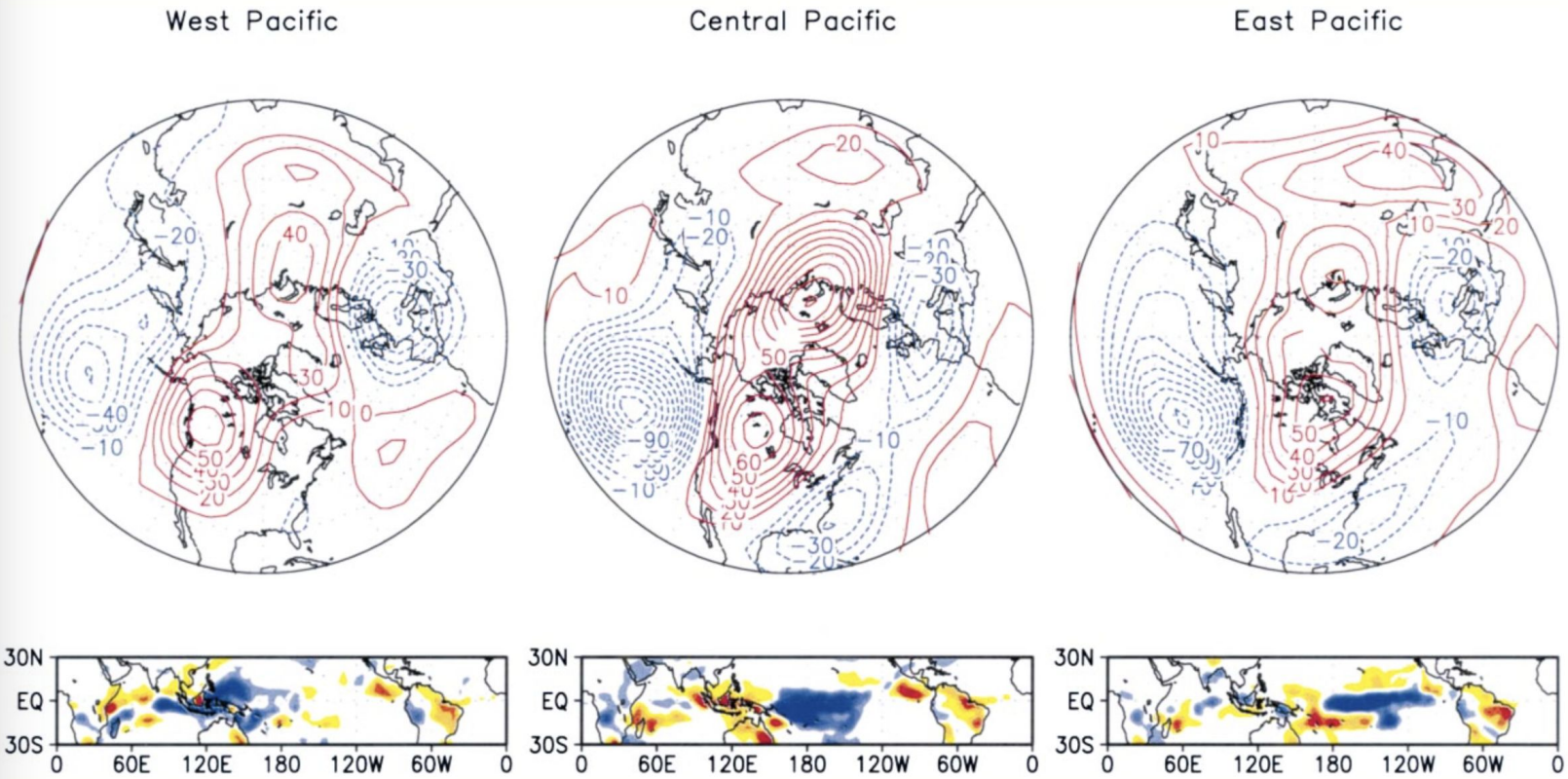


FIG. 15. Perpetual Jan MRF9 simulations of (top) 500-hPa height and (bottom) tropical rainfall anomalies for varying positions of equatorial positive SST anomalies located in the (left) West, (middle) Central, and (right) East Pacific. Results are based on a 24-month ensemble average. Contours for height are drawn every 10 m, with positive (negative) values solid (dashed). Shading interval for rainfall is every 1 mm day^{-1}, with positive (negative) anomalies in blue (red).

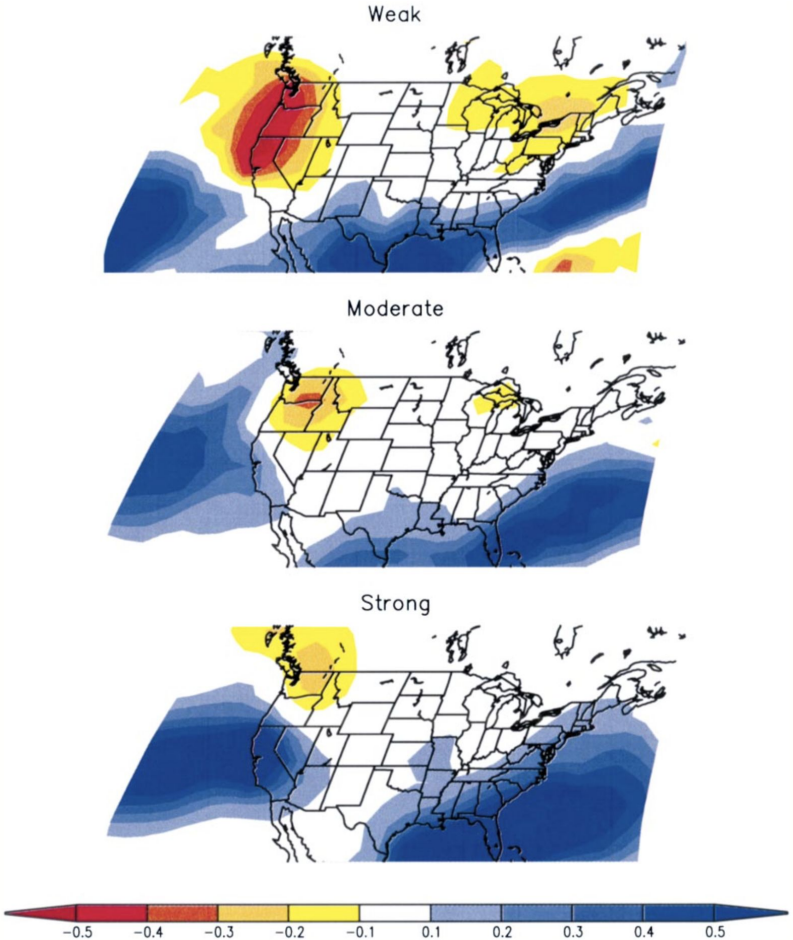
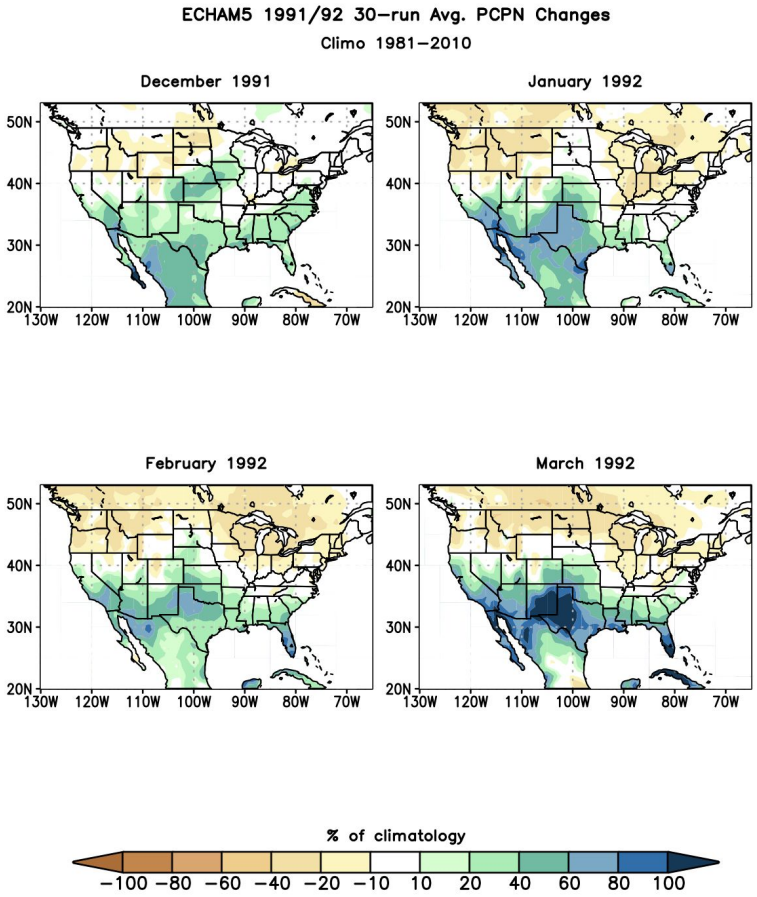
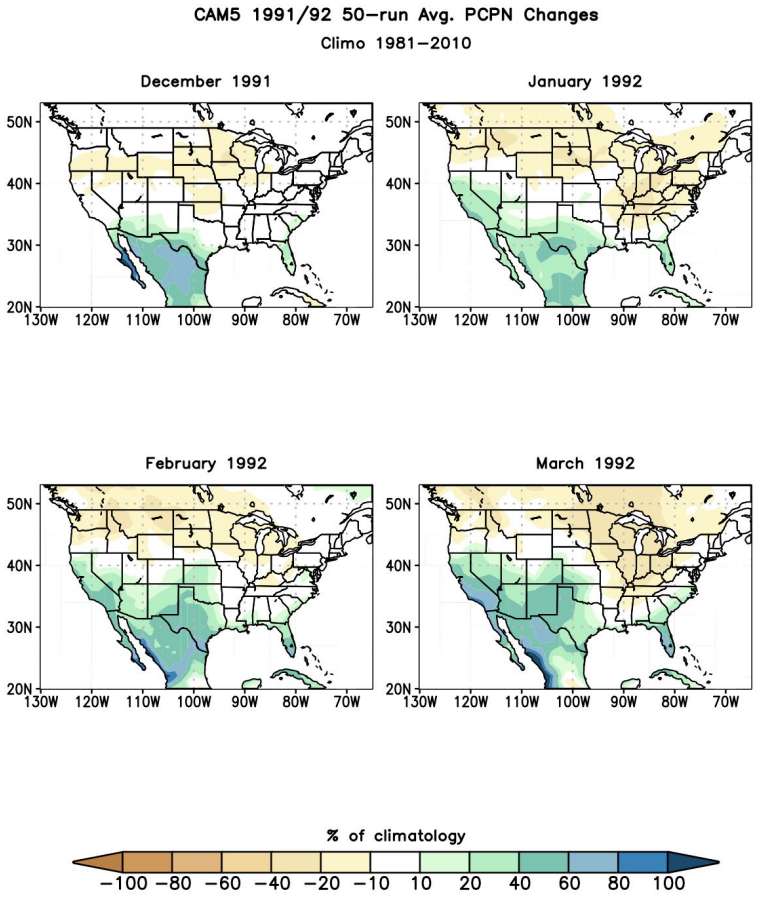


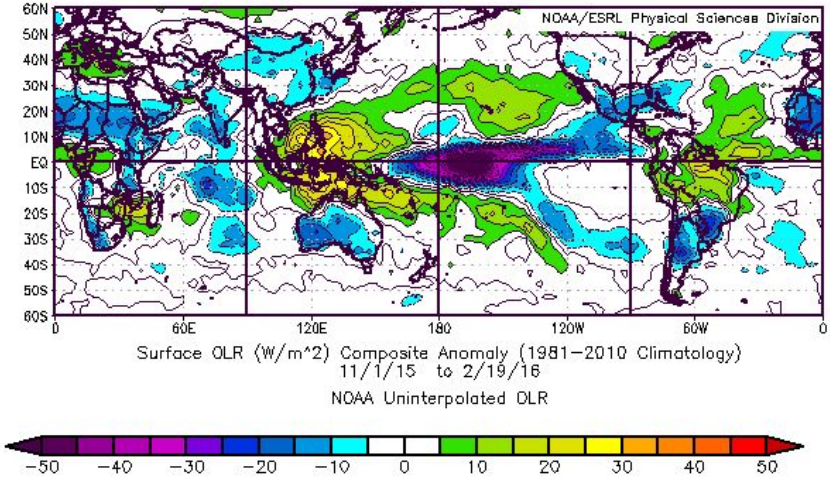
FIG. 14. GCM ensemble winter (DJF) anomalies of North American precipitation for varying strengths of equatorial Pacific warm events during (top) 1980, (middle) 1958, and (bottom) 1983. The year refers to the Jan of the season. The precipitation anomalies have been scaled by the amplitude of the EOF1 index for each case. Shading interval is 0.1 mm day^{-1} with positive (negative) anomalies in blue (red).

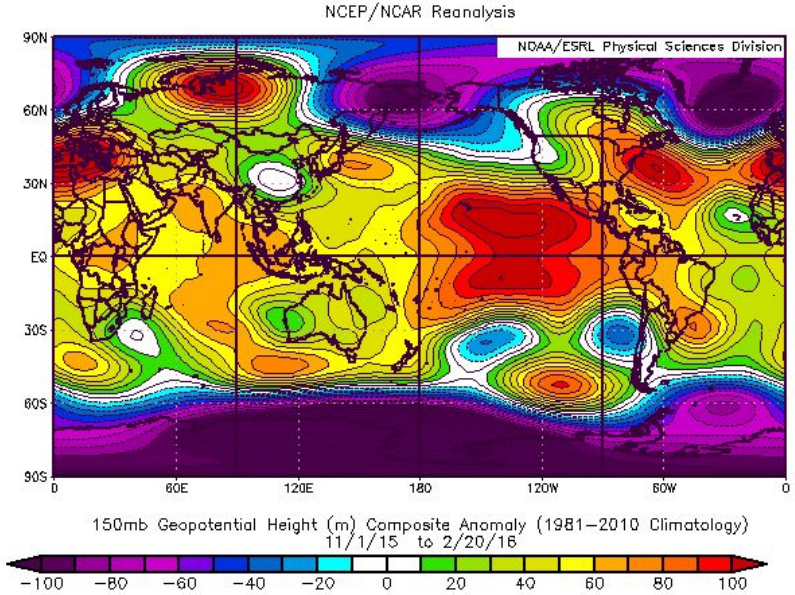

ECHAM5 1991/92 30-run Avg. PCPN Changes
Climo 1981-2010
December 1991
January 1992
February 1992
March 1992
50N
40N
30N
20N
130W
120W
110W
100W
90W
80W
70W
% of climatology
-100 -80 -60 -40 -20 -10 10 20 40 60 80 100


CAM5 1991/92 50-run Avg. PCPN Changes
Climo 1981-2010
December 1991
January 1992
February 1992
March 1992
50N
40N
30N
20N
130W
120W
110W
100W
90W
80W
70W
% of climatology
-100 -80 -60 -40 -20 -10 10 20 40 60 80 100

Beginnings of a Narrative for Nov-Apr 2016

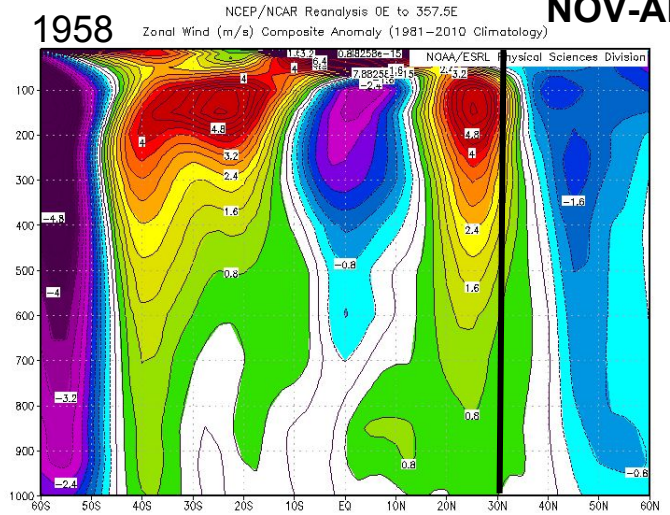
1 November - 20 February 2016



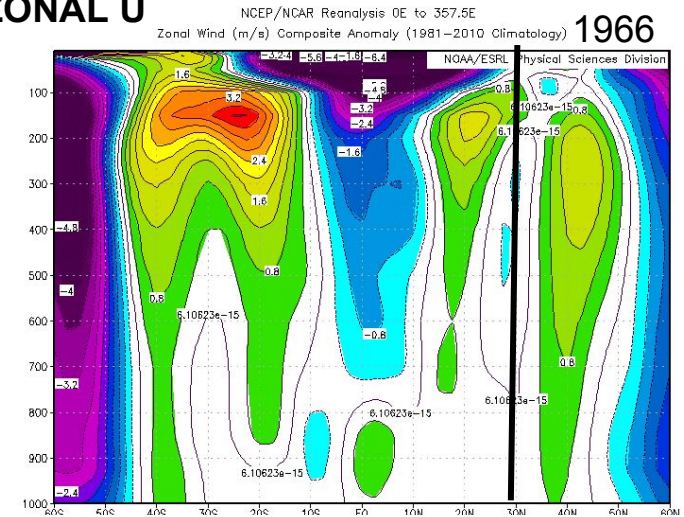


NOV-APR ZONAL U

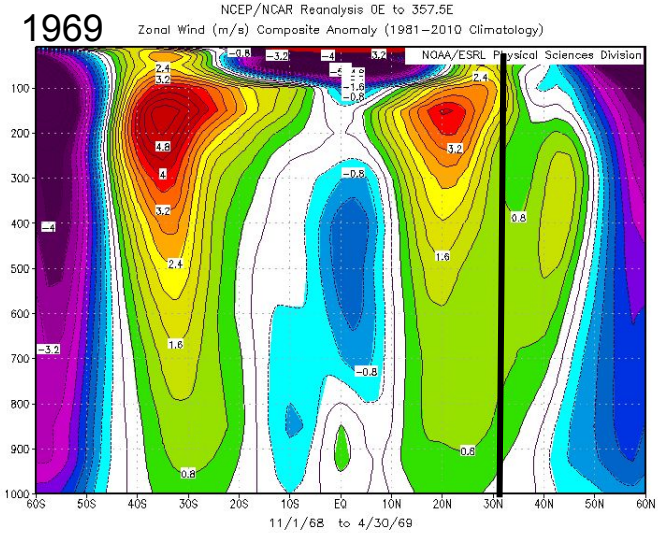
1958



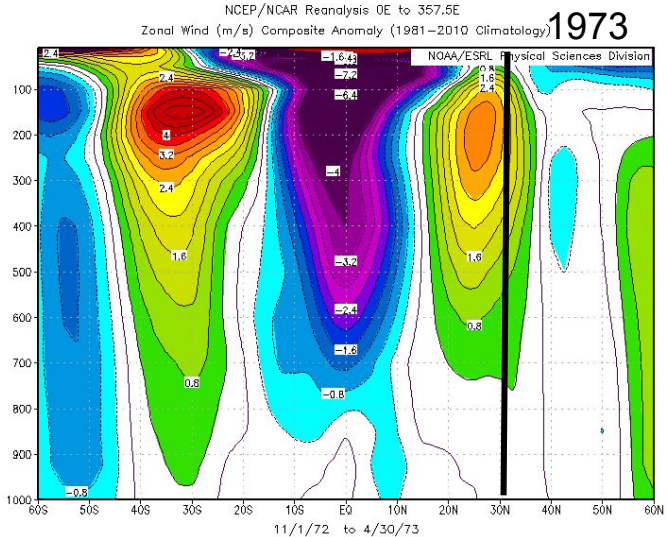
1966



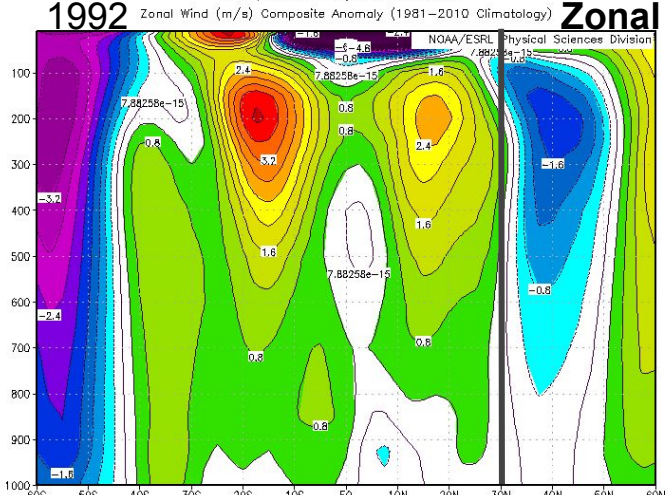
1969

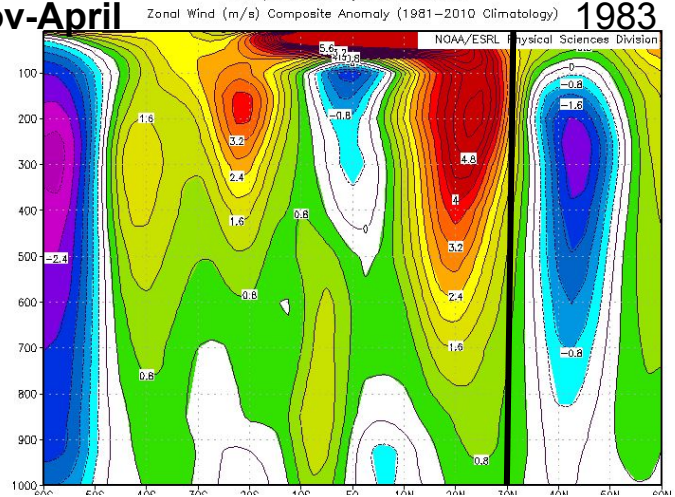


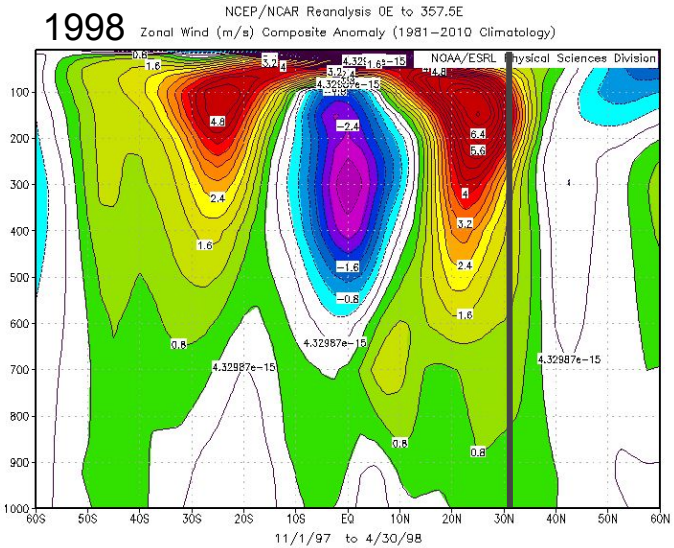
1973

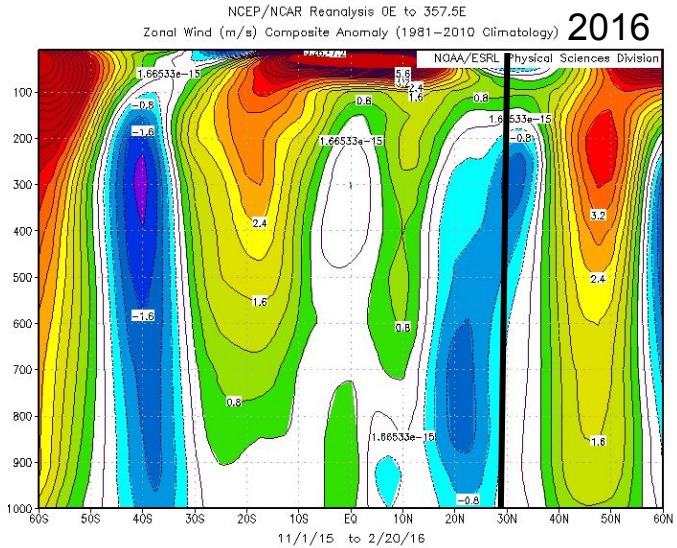


Zonal U Nov-April



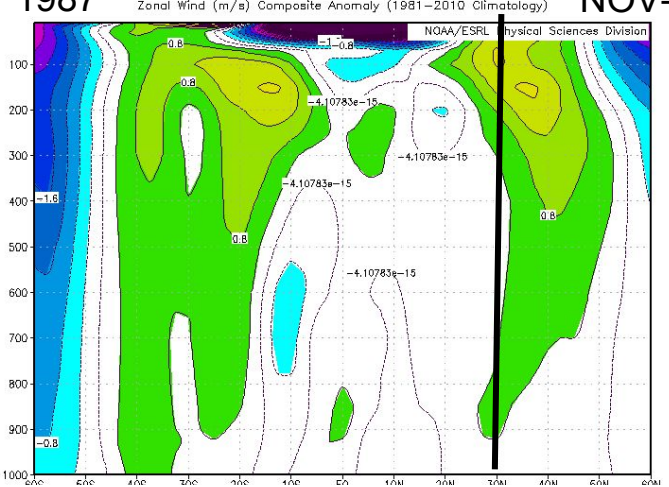




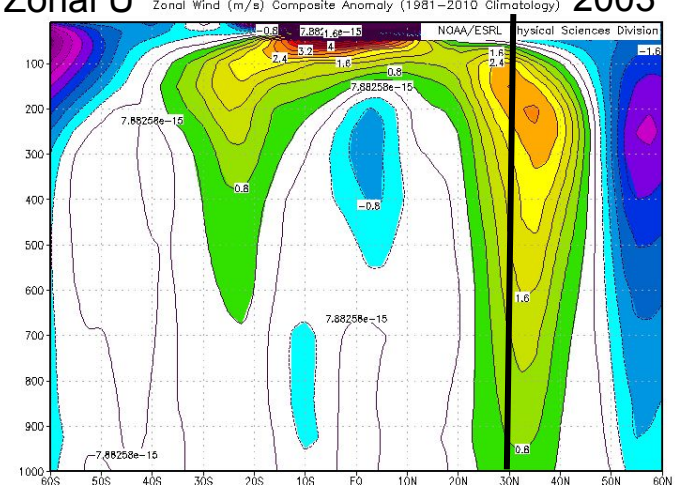


NOV-APR Zonal U

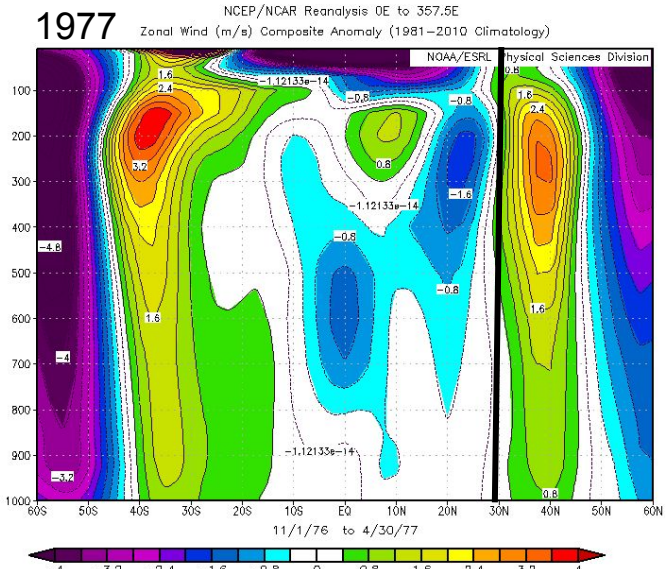
1987



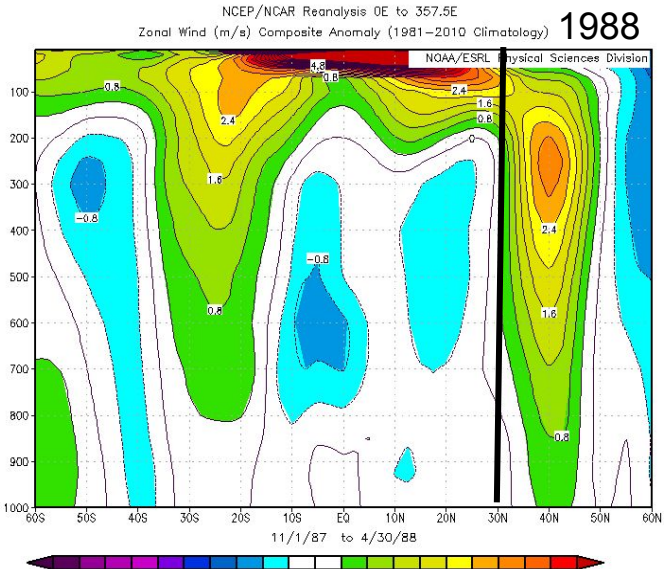
2005



1977

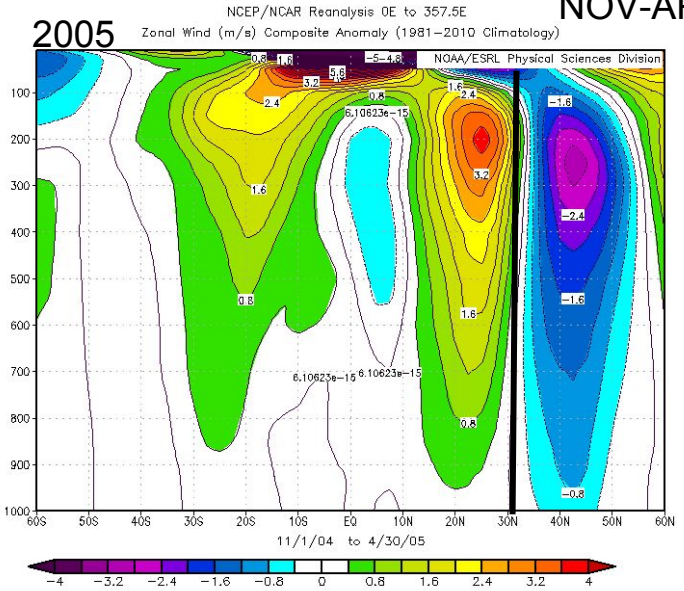


1988

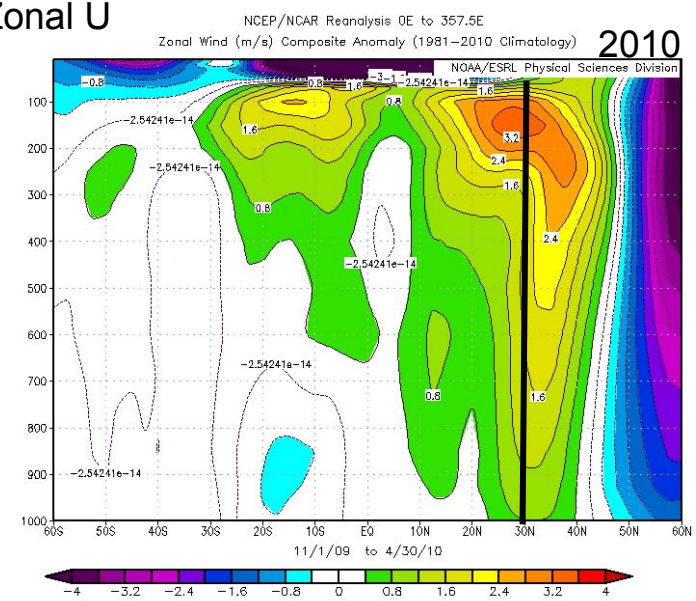


NOV-APR Zonal U

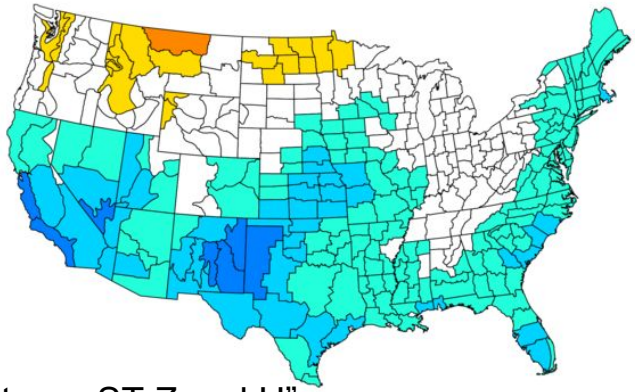
2005



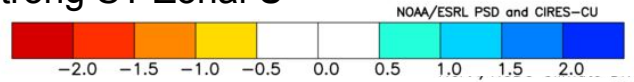
2010



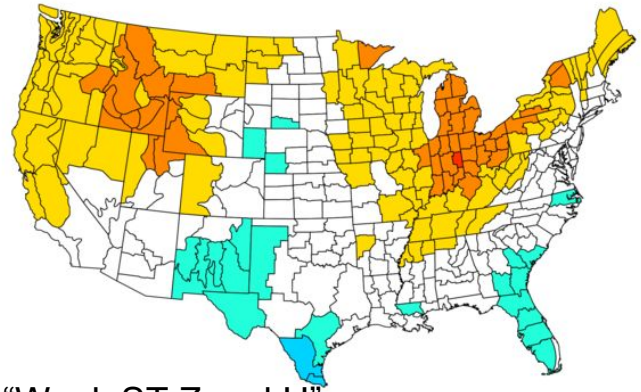
NOAA/NCDC Climate Division Composite Standardized Precipitation Anomalies
Nov to Apr 1972–73,1982–83,1997–98,1957–58,1968–69,1991–92,2004–05
Versus 1950–1995 Longterm Average



"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



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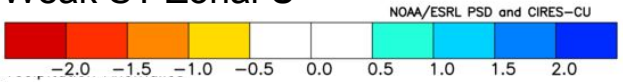
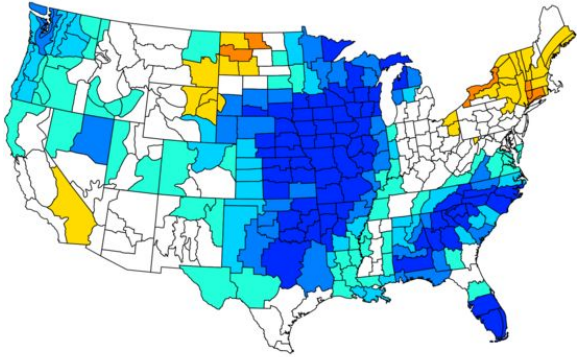
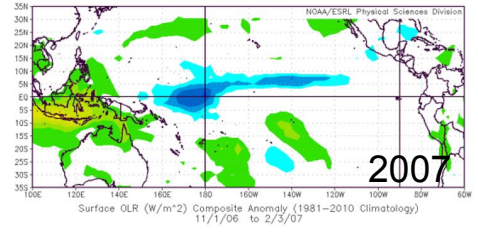


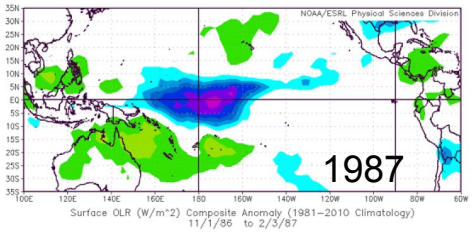
Standardiz
Nov to Jan 2015–16
Versus 1950–1995 Longterm Average

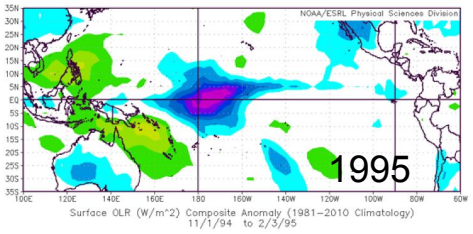


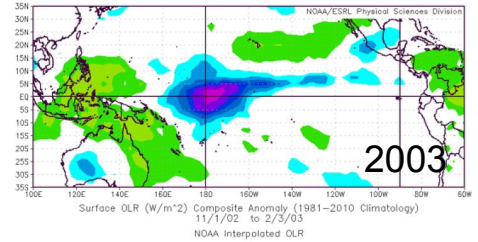
2016

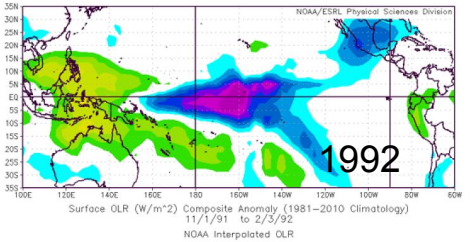
Observed OLR Anomalies : 1 Nov - 3 Feb

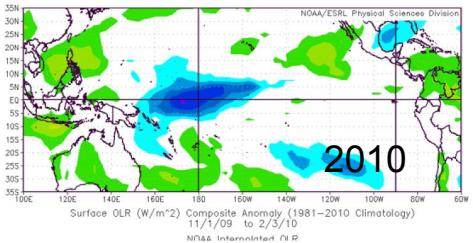


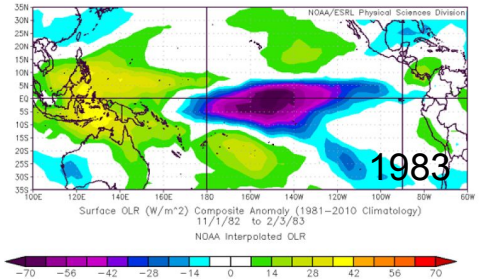


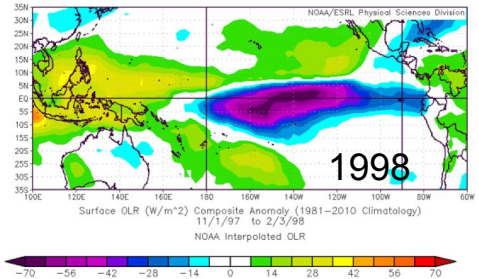


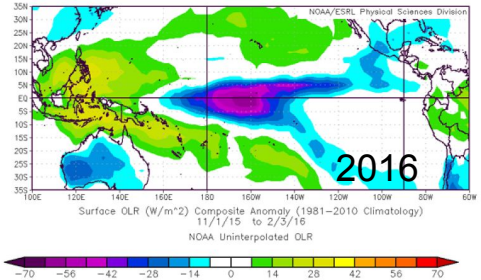




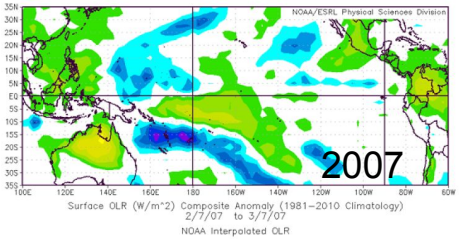


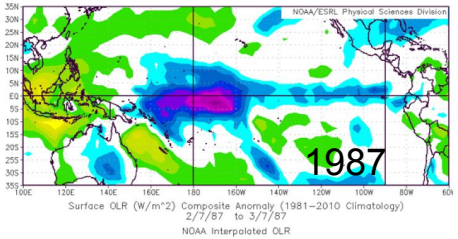


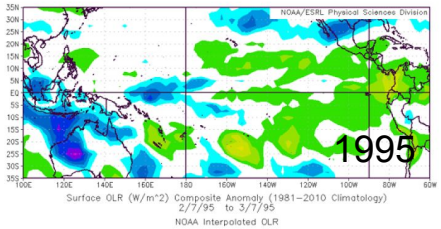


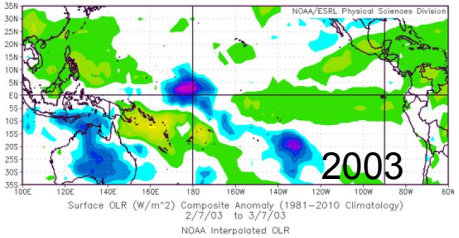


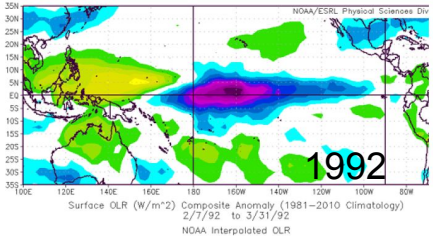
Observed OLR Anomalies : 7 Feb - 7 Mar

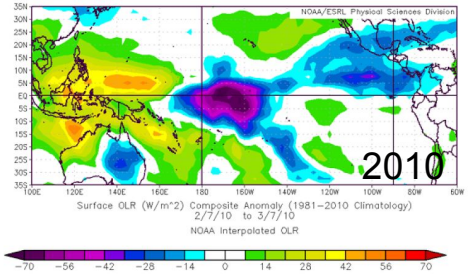


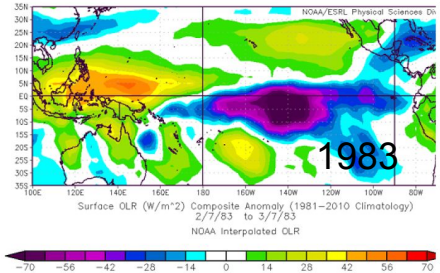


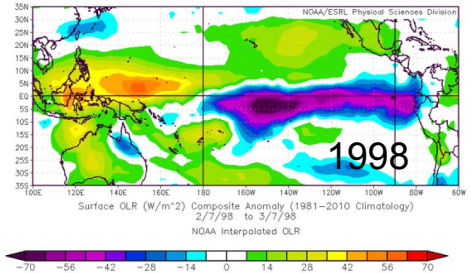




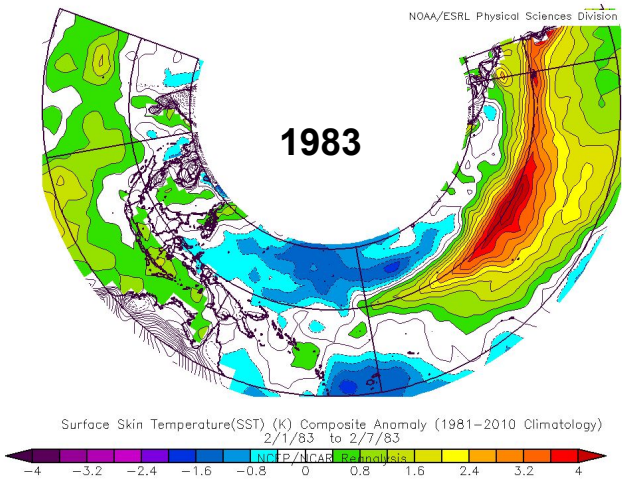


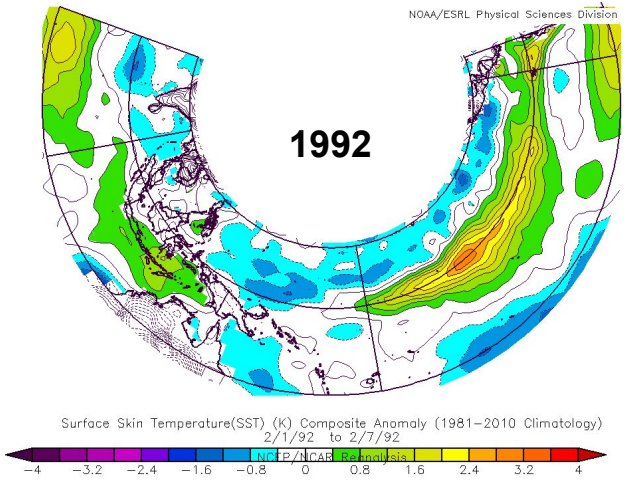


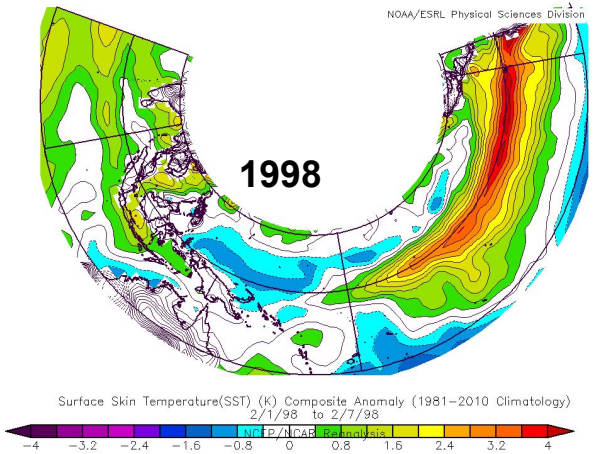


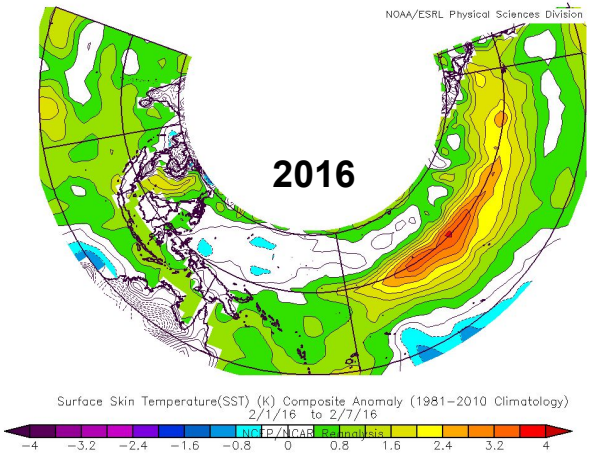


SST ANOM Feb 1-Feb 7

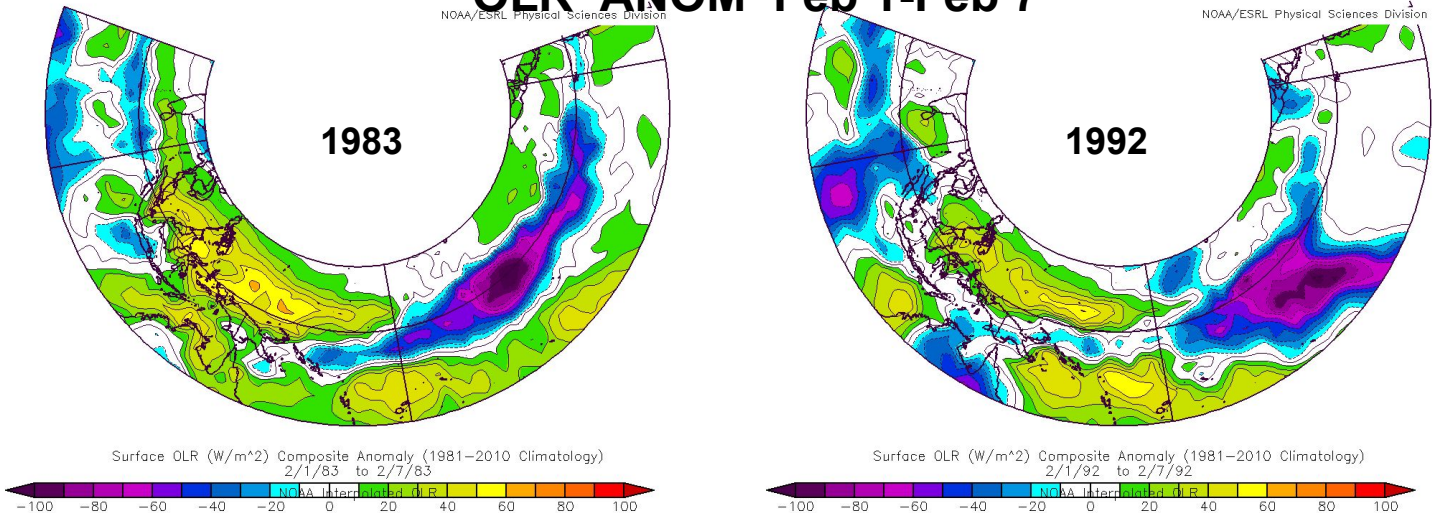


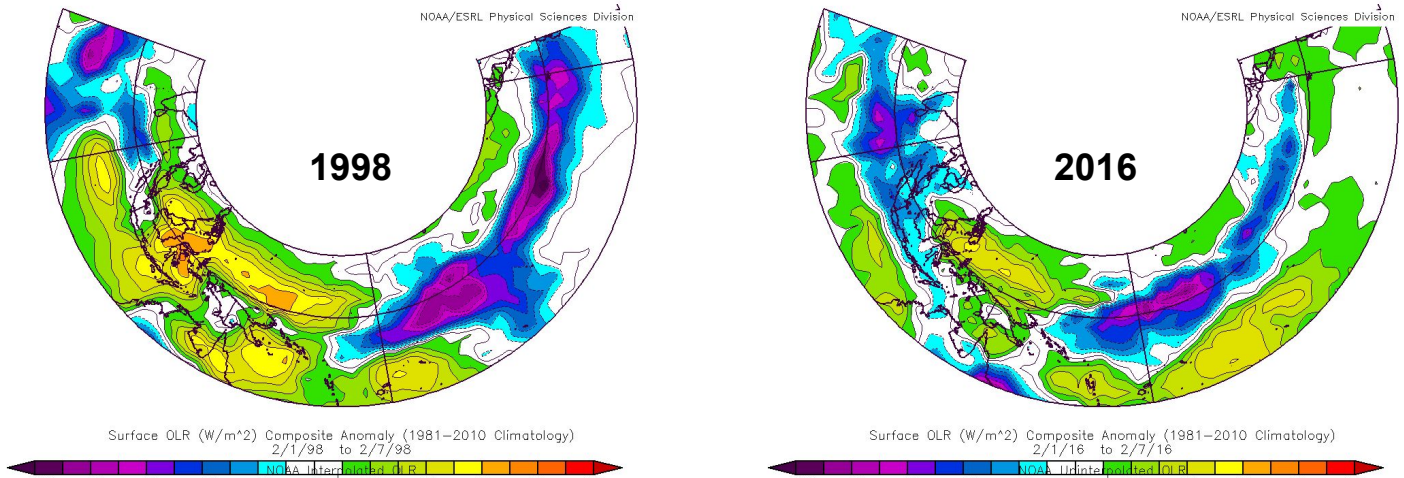






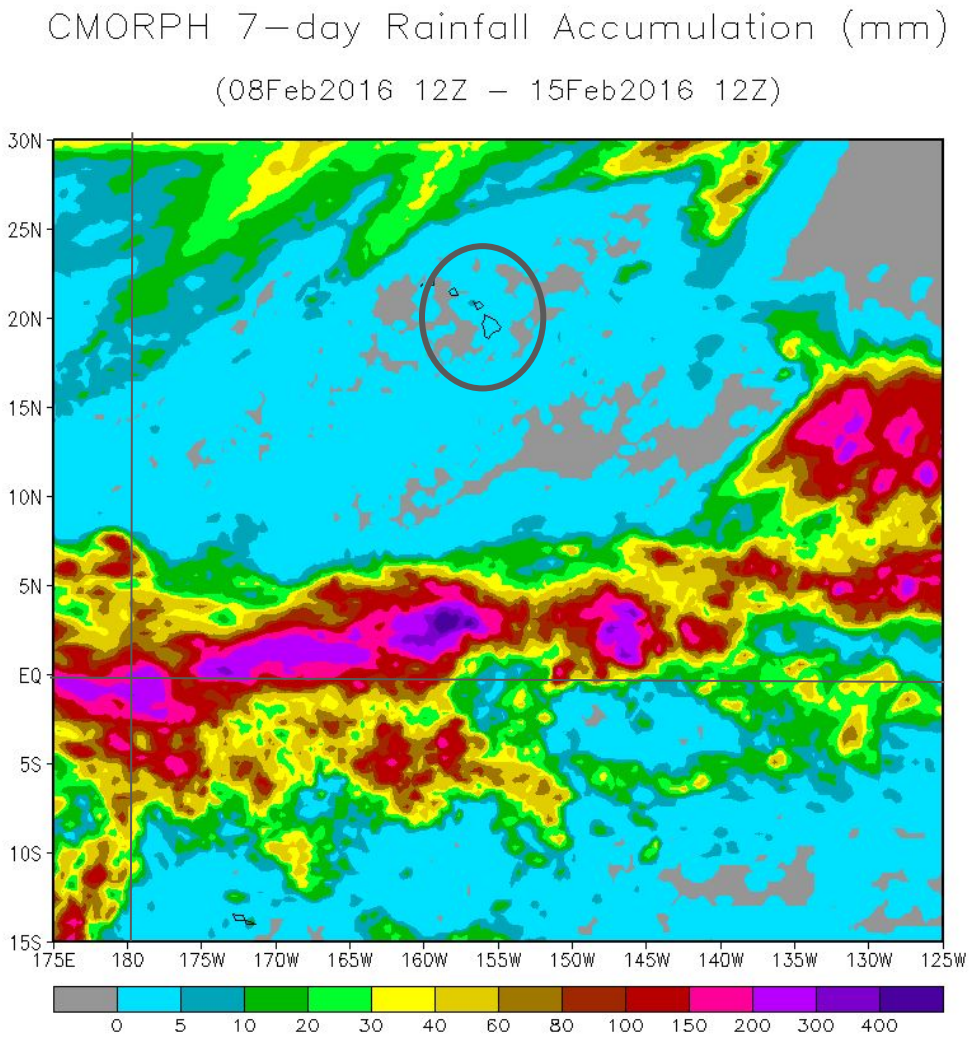
OLR ANOM Feb 1-Feb 7

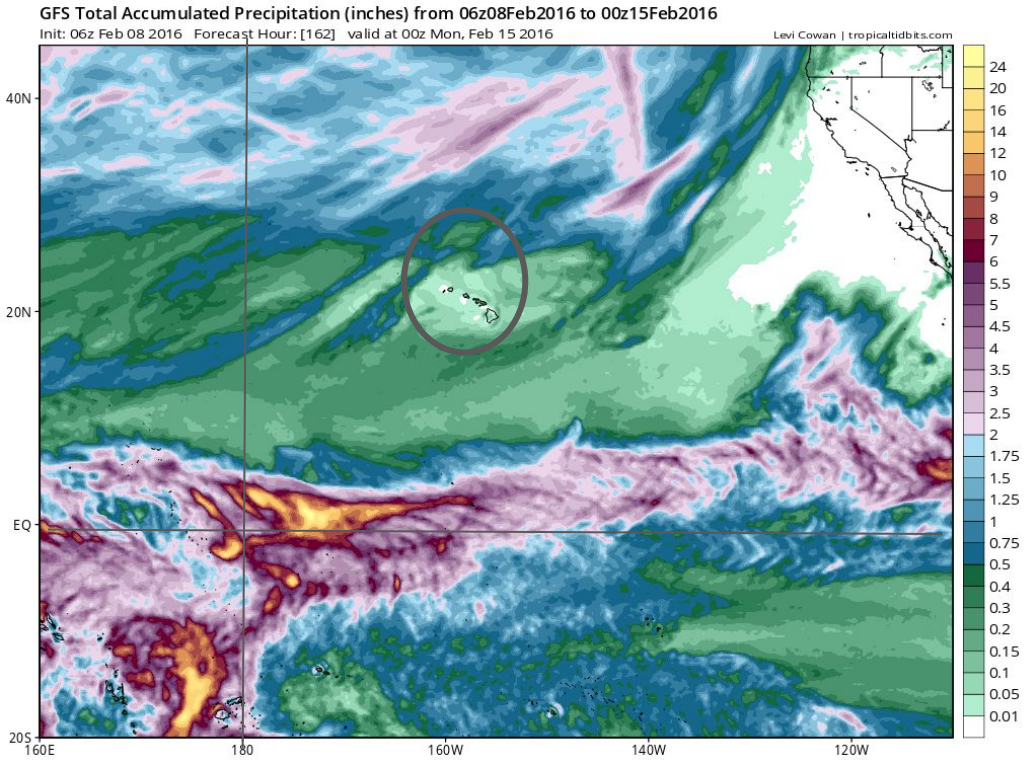




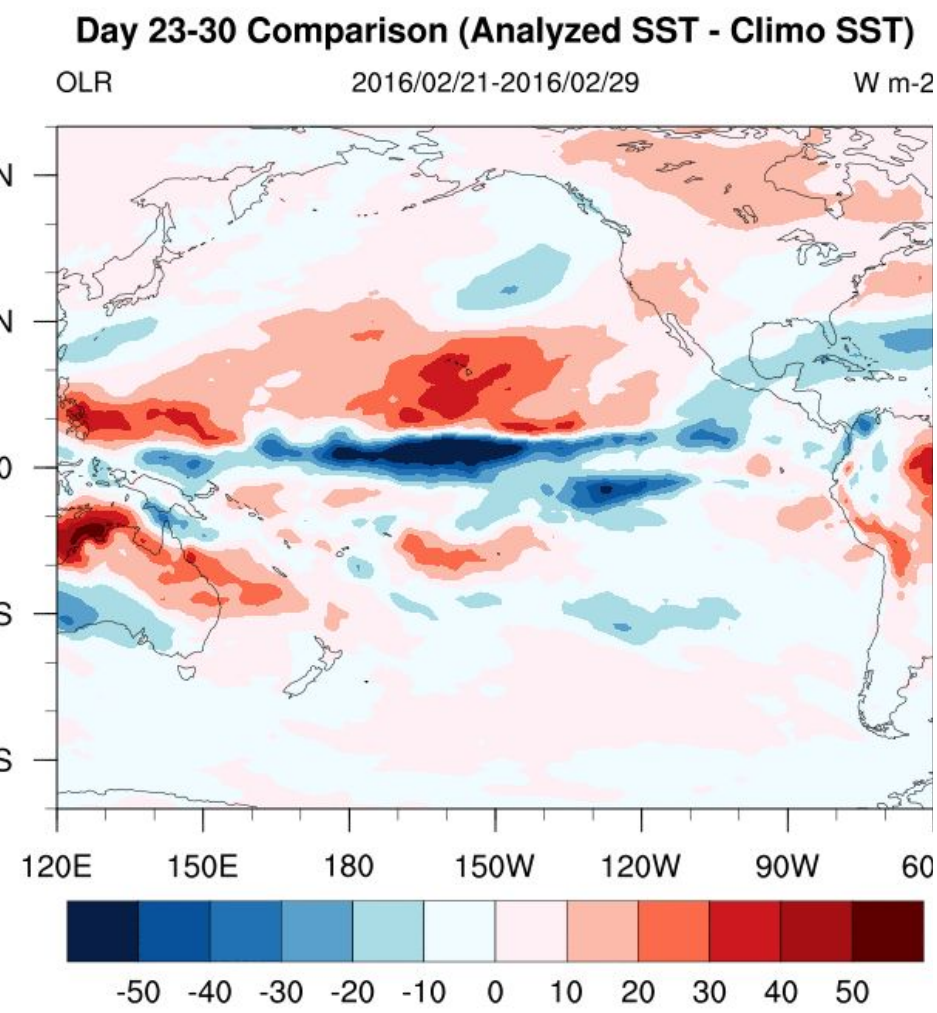
CMORPH: 7-Day

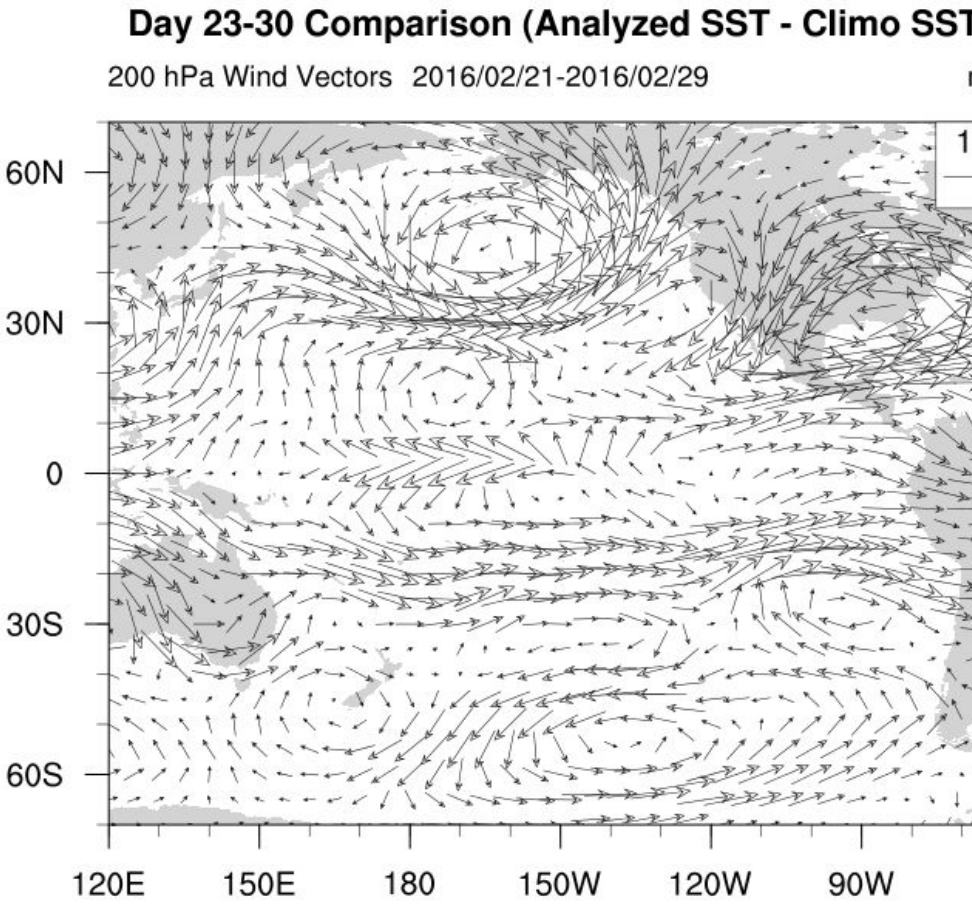
8 - 15 Feb

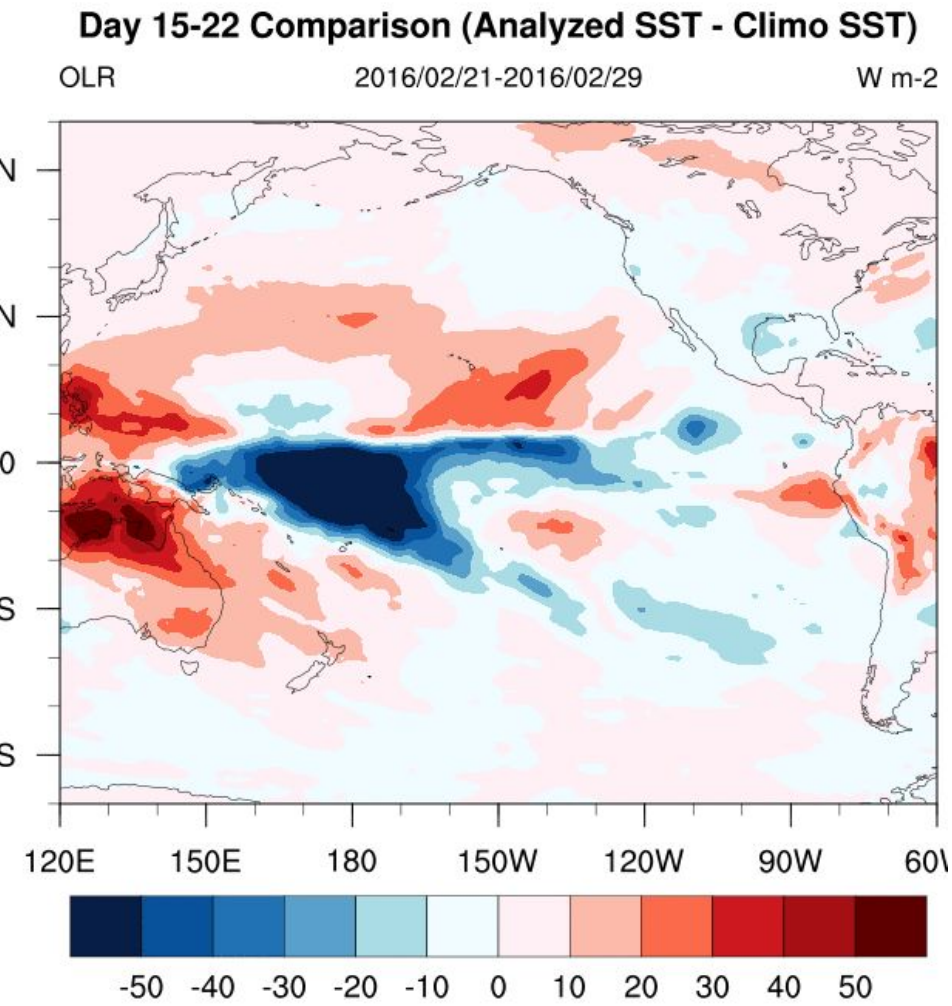


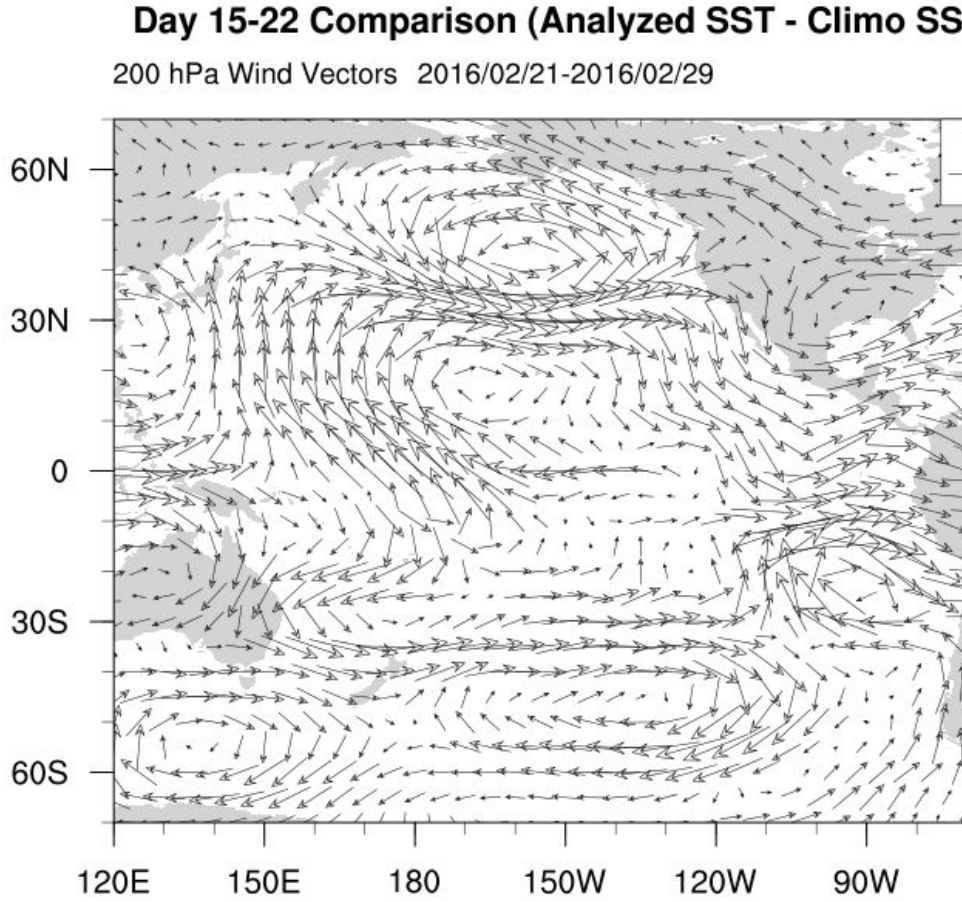

GFS Total Accumulated Precipitation (inches) from 06z08Feb2016 to 00z15Feb2016
Init: 06z Feb 08 2016 Forecast Hour: [162] valid at 00z Mon, Feb 15 2016
Levi Cowan | tropicaltidbits.com
40N
20N
EQ
20S
160E
180
160W
140W
120W
24
20
16
14
12
10
9
8
7
6
5.5
5
4.5
4
3.5
3
2.5
2
1.75
1.5
1.25
1
0.75
0.5
0.4
0.3
0.2
0.15
0.1
0.05
0.01

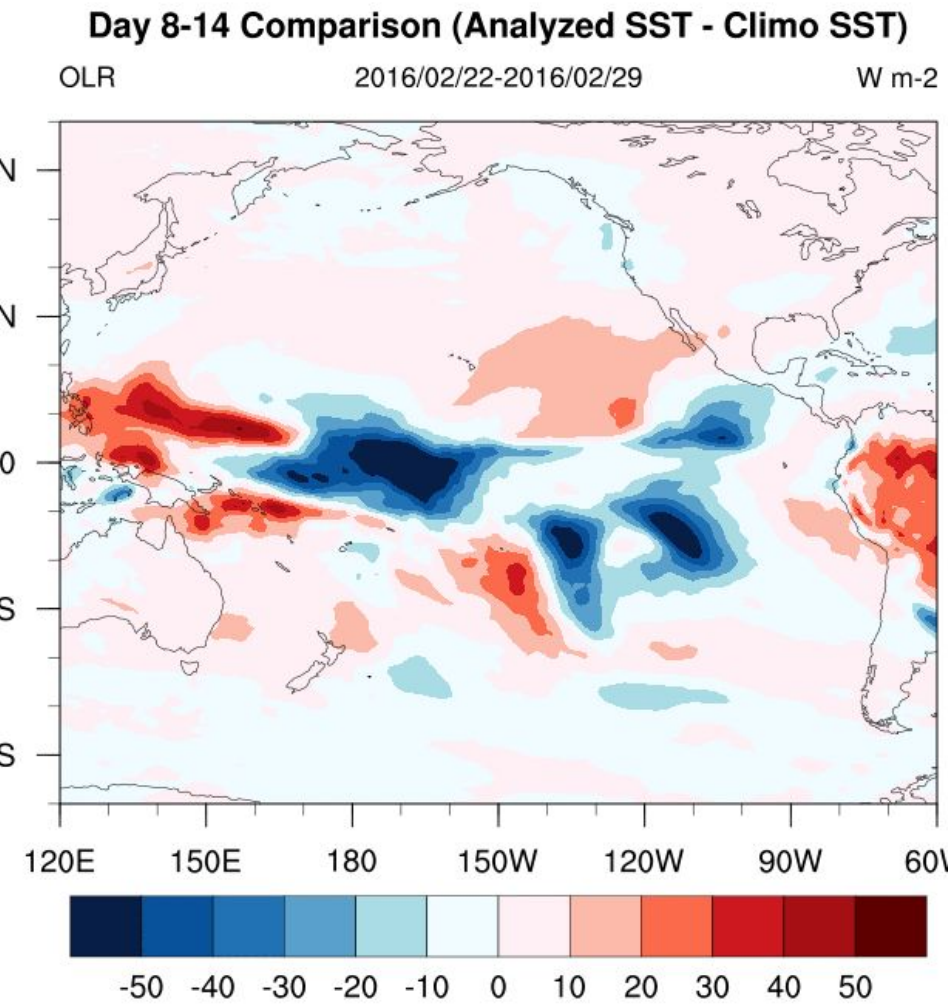
Initial Condition Dependency of the El Niño Signal

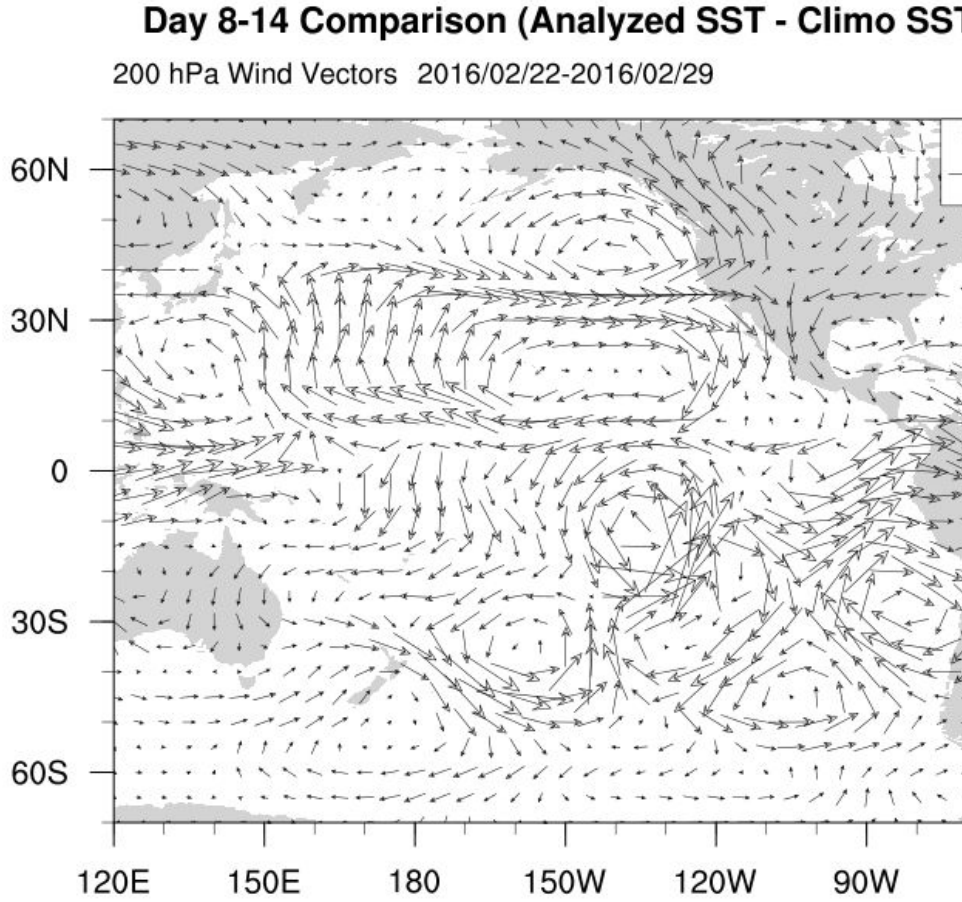

Day 23-30 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/21-2016/02/29
W m-2
120E
150E
180
150W
120W
90W
-50 -40 -30 -20 -10 0 10 20 30 40 50

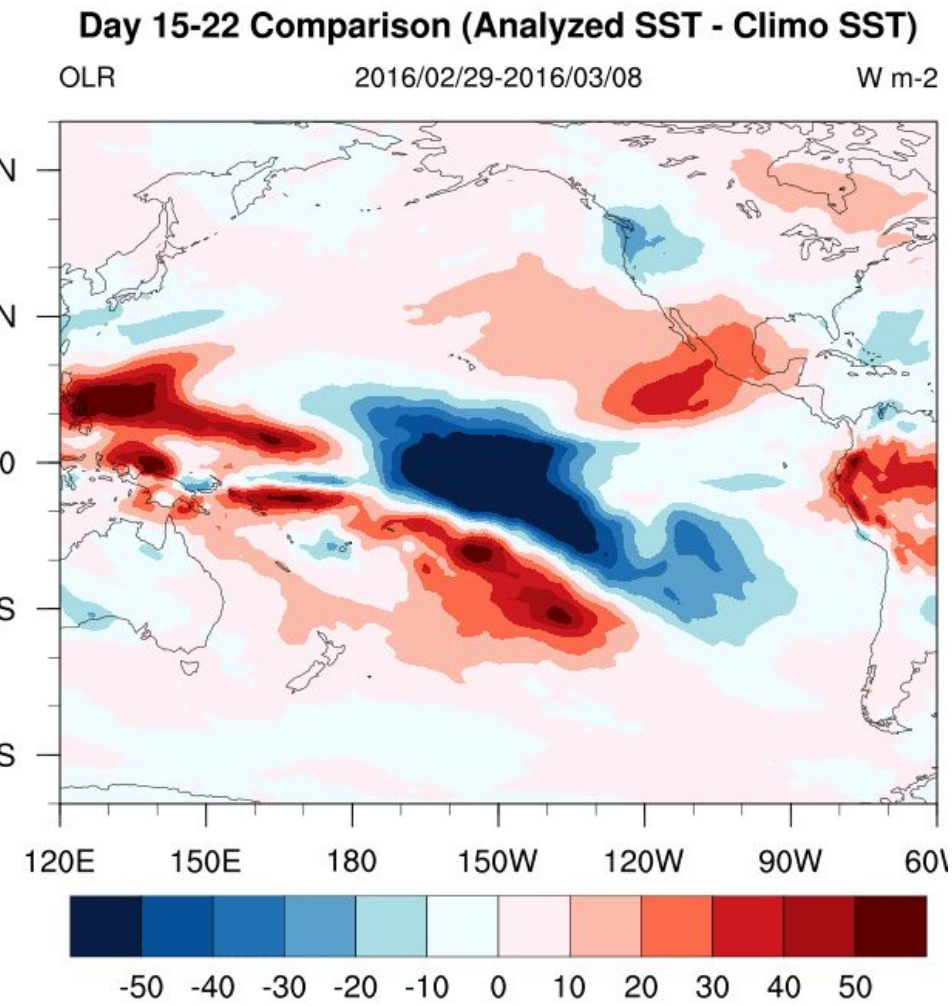

Day 23-30 Comparison (Analyzed SST - Climo SST
200 hPa Wind Vectors 2016/02/21-2016/02/29
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W

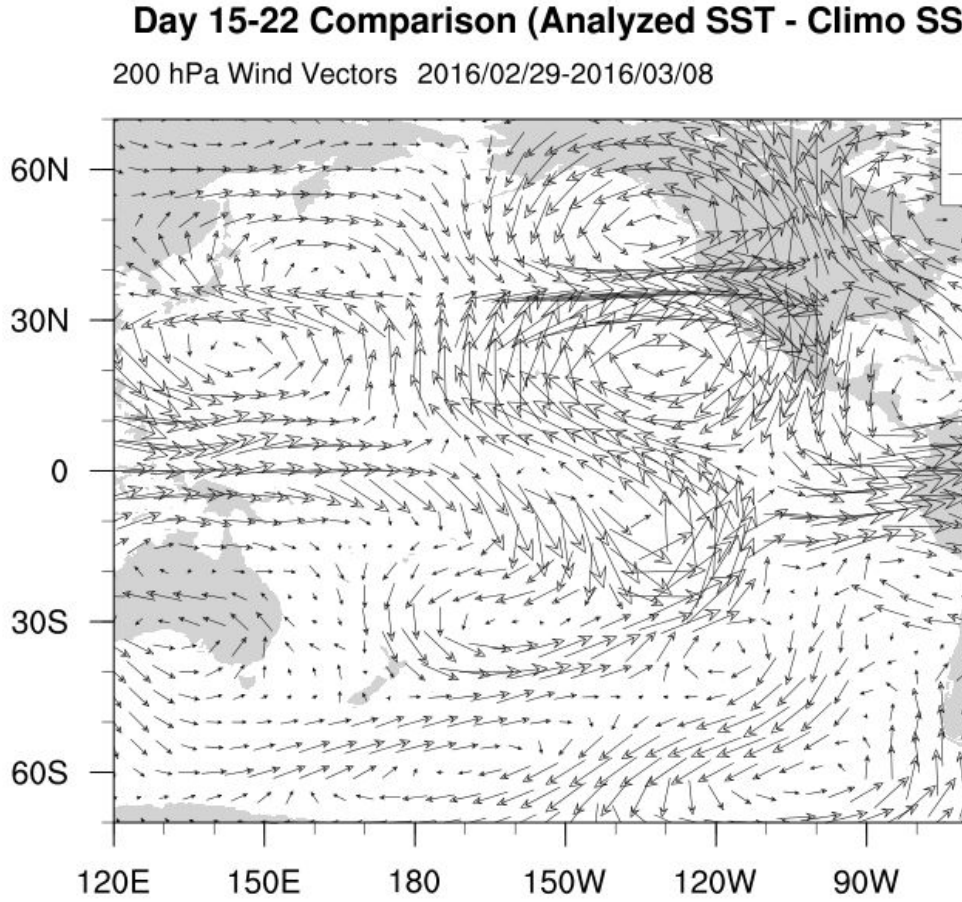

Day 15-22 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/21-2016/02/29
W m-2
N
N
0
S
S
120E
150E
180
150W
120W
90W
-50
-40
-30
-20
-10
0
10
20
30
40
50

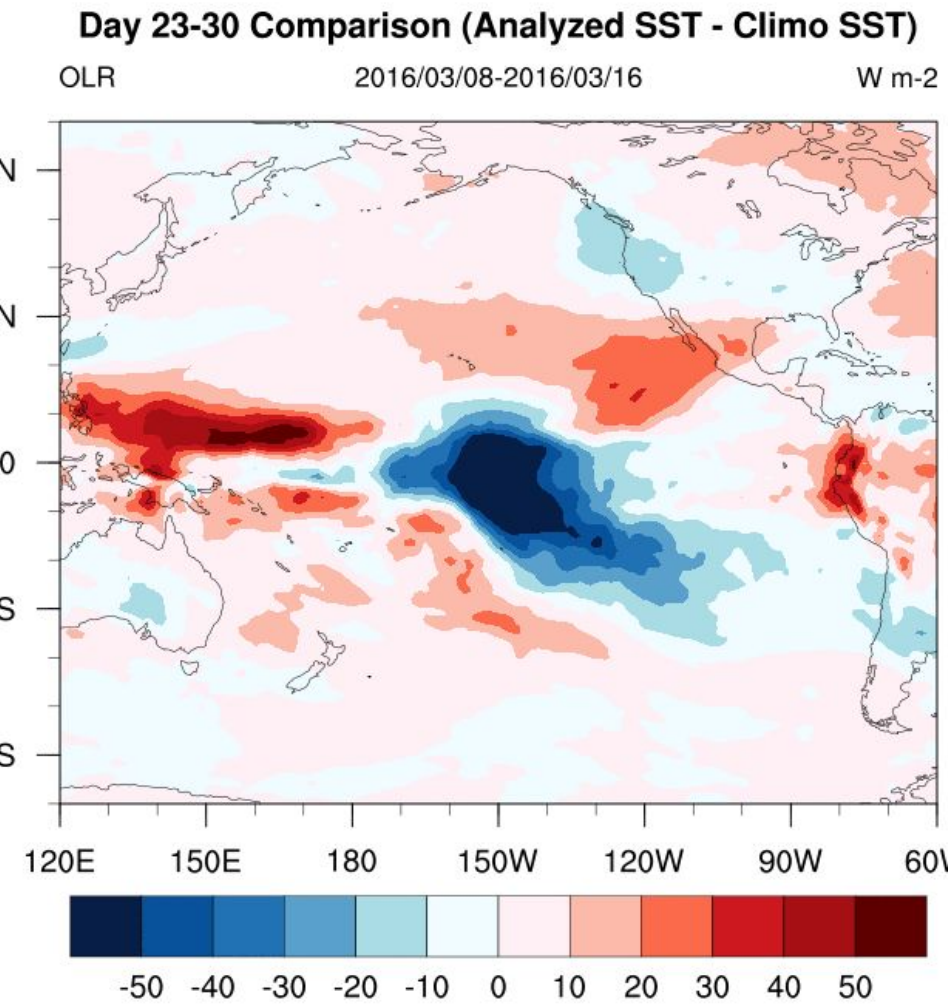

Day 15-22 Comparison (Analyzed SST - Climo SS
200 hPa Wind Vectors
2016/02/21-2016/02/29
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W

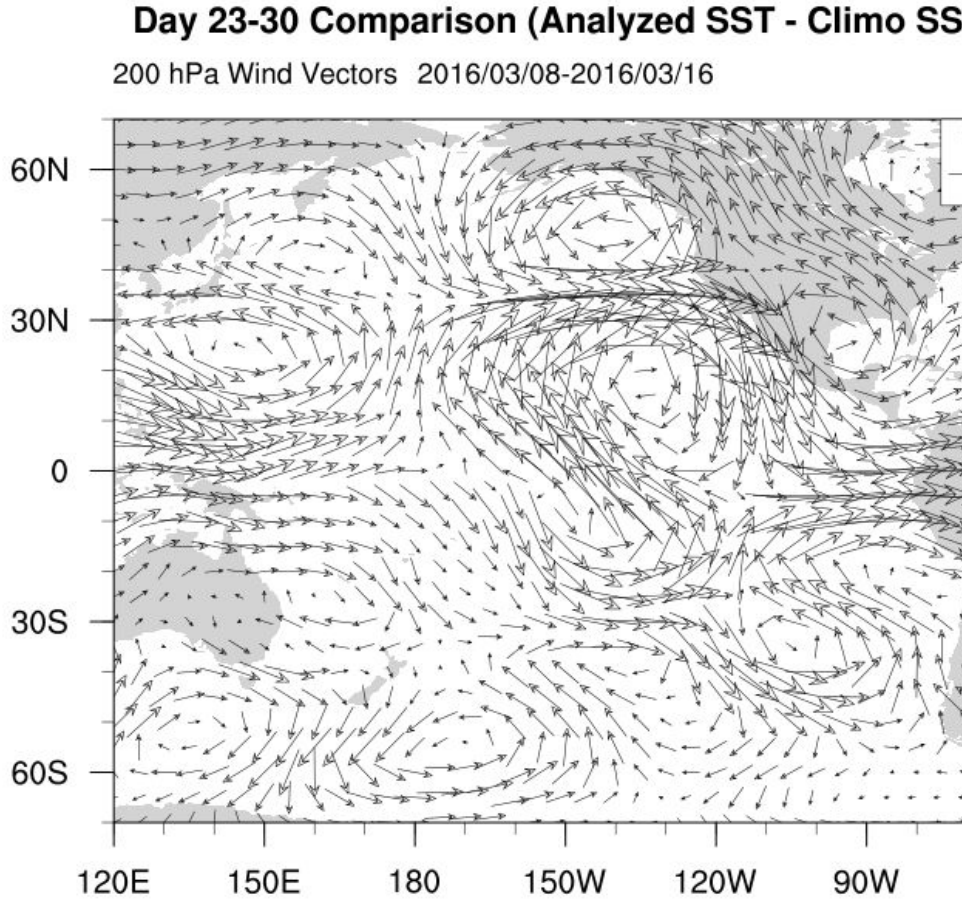

Day 8-14 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/22-2016/02/29
W m-2
120E
150E
180
150W
120W
90W
-50
-40
-30
-20
-10
0
10
20
30
40
50

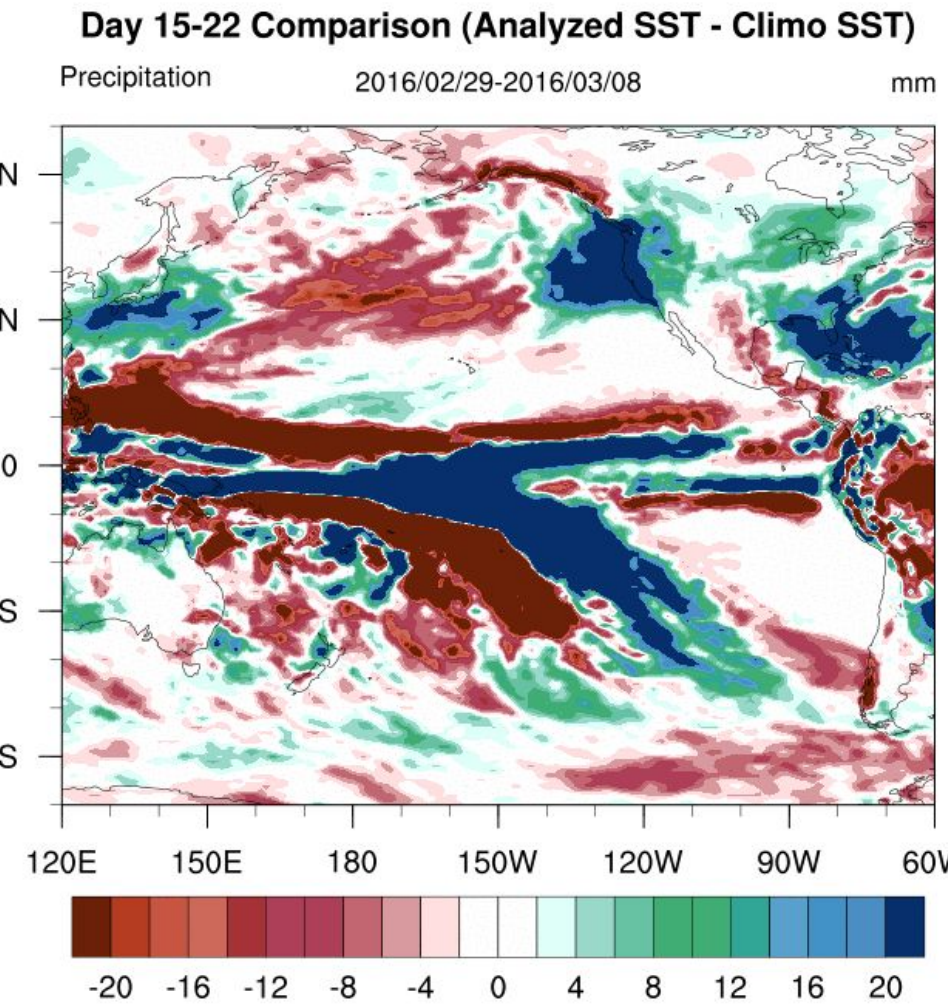

Day 8-14 Comparison (Analyzed SST - Climo SST
200 hPa Wind Vectors
2016/02/22-2016/02/29
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W

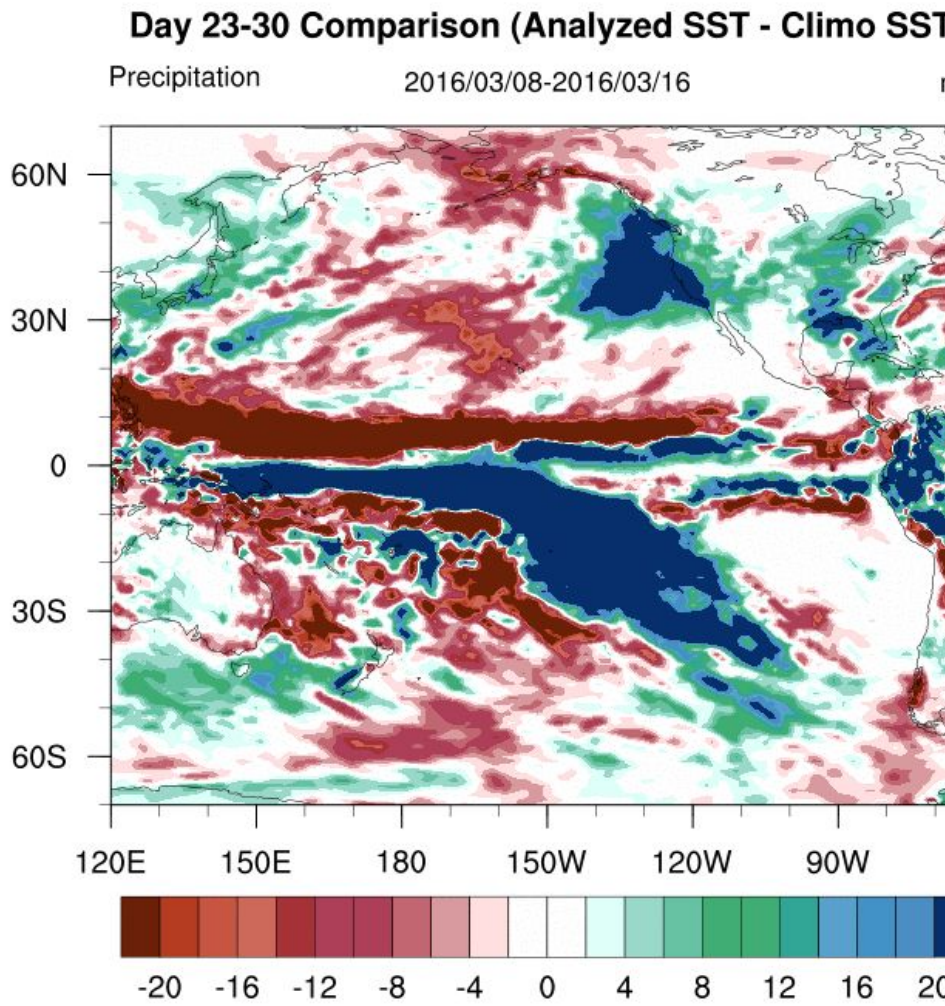

Day 15-22 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/29-2016/03/08
W m-2
N
N
0
S
S
120E
150E
180
150W
120W
90W
60\
-50
-40
-30
-20
-10
0
10
20
30
40
50


Day 15-22 Comparison (Analyzed SST - Climo SS
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-2
120E
150E
180
150W
120W
90W
-50
-40
-30
-20
-10
0
10
20
30
40
50


Day 23-30 Comparison (Analyzed SST - Climo SS
200 hPa Wind Vectors
2016/03/08-2016/03/16
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W


Day 15-22 Comparison (Analyzed SST - Climo SST)
Precipitation
2016/02/29-2016/03/08
mm
N
N
0
S
S
120E
150E
180
150W
120W
90W
60W
-20
-16
-12
-8
-4
0
4
8
12
16
20


Day 23-30 Comparison (Analyzed SST - Climo SST
Precipitation
2016/03/08-2016/03/16
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W
-20
-16
-12
-8
-4
0
4
8
12
16
20