Summary of Key Briefing Points
1030-1130am MST SUN Feb 21, 2016

Current Conditions as of SUN 12Z-15Z February 21

Tropics and Mid-latitudes

Over the Tropical Pacific:

- "Blossoming" activity spread across the box domain, centered around 5N
- Associated convection south of equator and west of Dateline - MJO signal?
- Mid-latitude cyclone wrapping up n. of HI
    - connection to tropical outflow in east part of FD (suggested in latest WV image)
- Winston ravaged Fiji - moving westward (eye not as pronounced as yesterday)
- Upper level southerlies and westerlies around southern hemisphere trough (N. hemisphere anticyclone) - this whole complex has shifted eastward compared to yesterday
    - Strong westerlies showing up in RHB 12z sounding - 10N, 142W

Tropical Outlook

- GFS EC models agree on quasi zonal convection across FD Sunday
- GFS remains enthusiastic for Monday and Tuesday in FD
- EC ratcheting back in this region
- Poleward outflow from convection in SH to continue
- Both EC and GFS agree that there will be convection north of equator in FD for the next week
    - Details on amounts and maximum locations differ as usual
- Winston moving westward

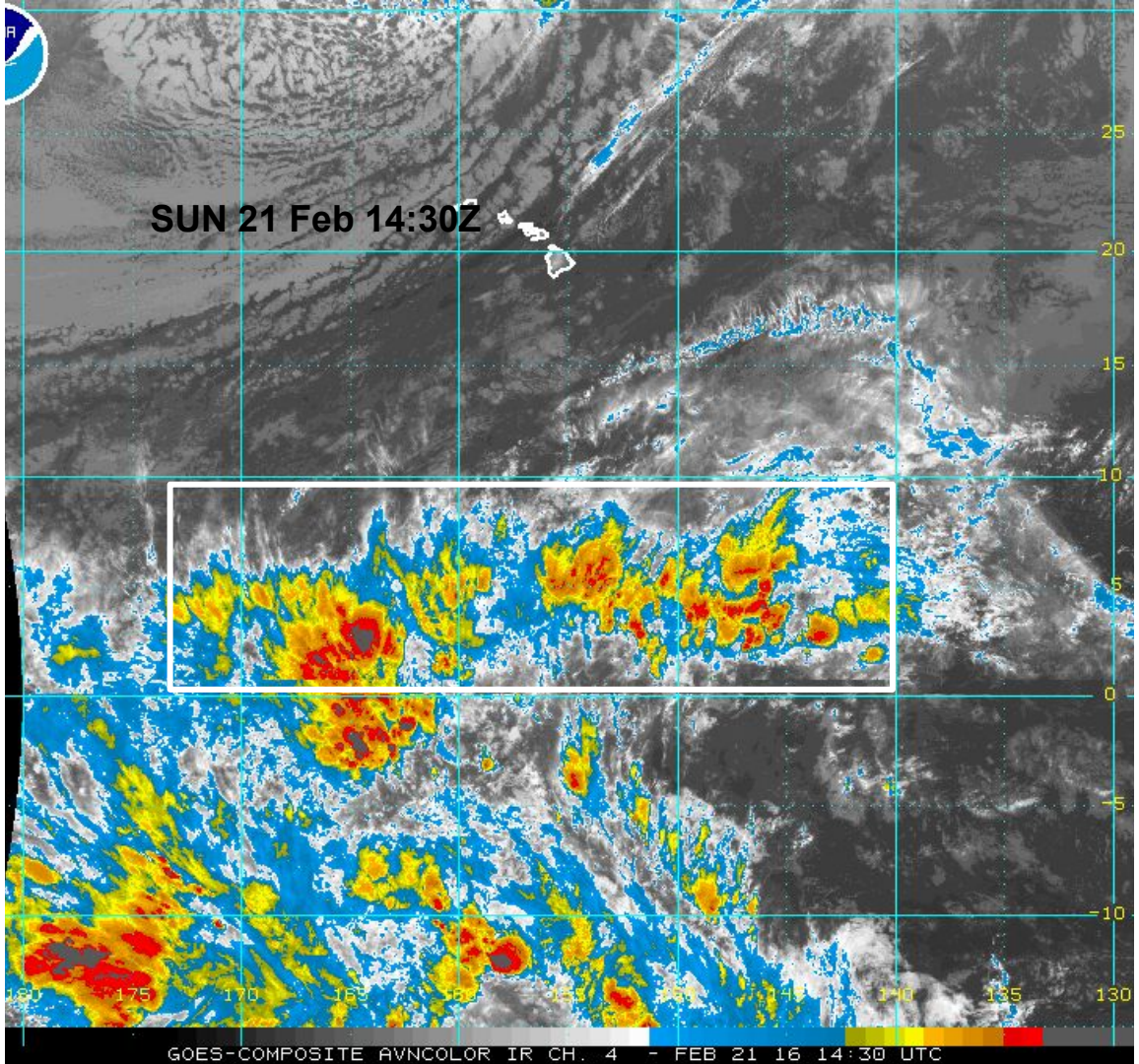
Midlatitude Conditions/Outlook

Short Term:

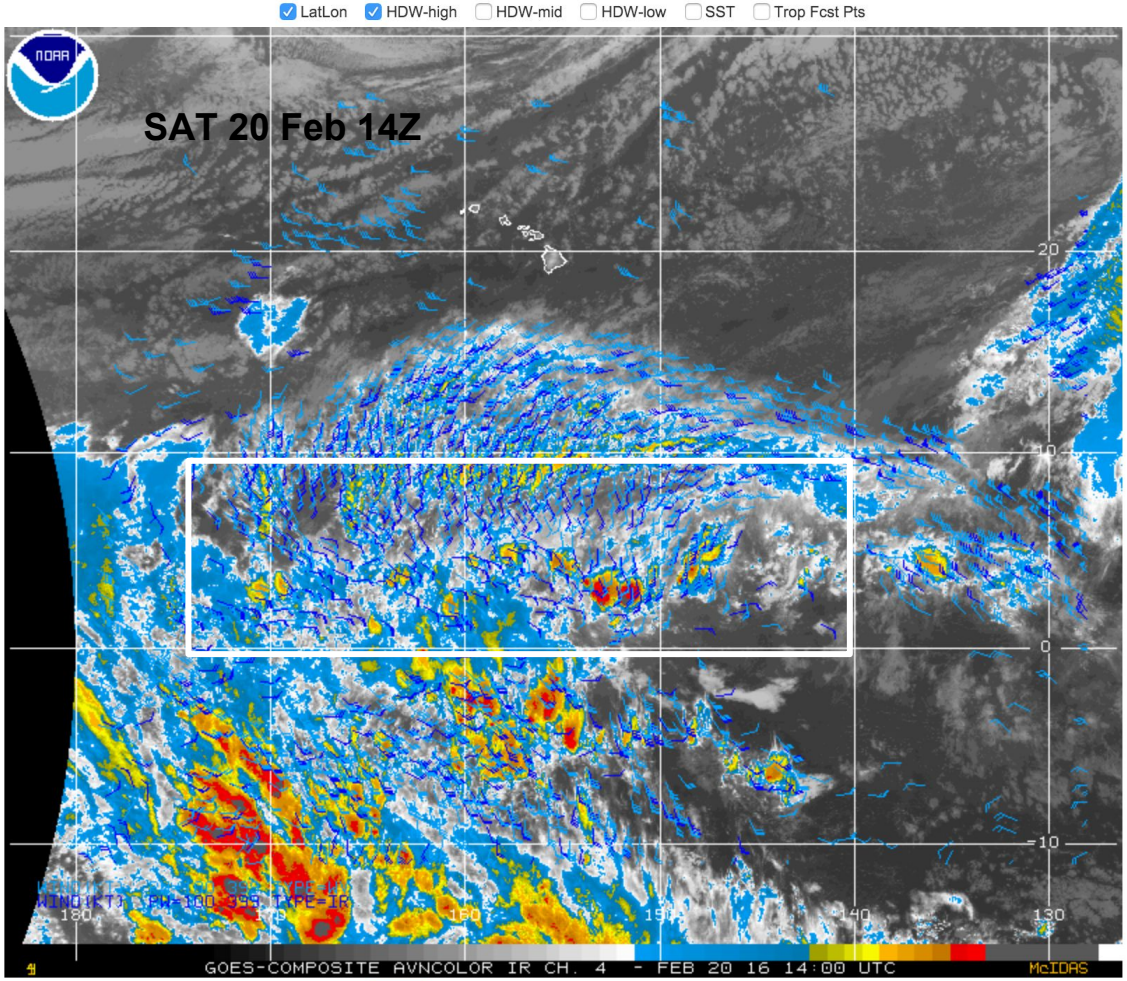
- CA quiet

- **Medium - Long Term:**

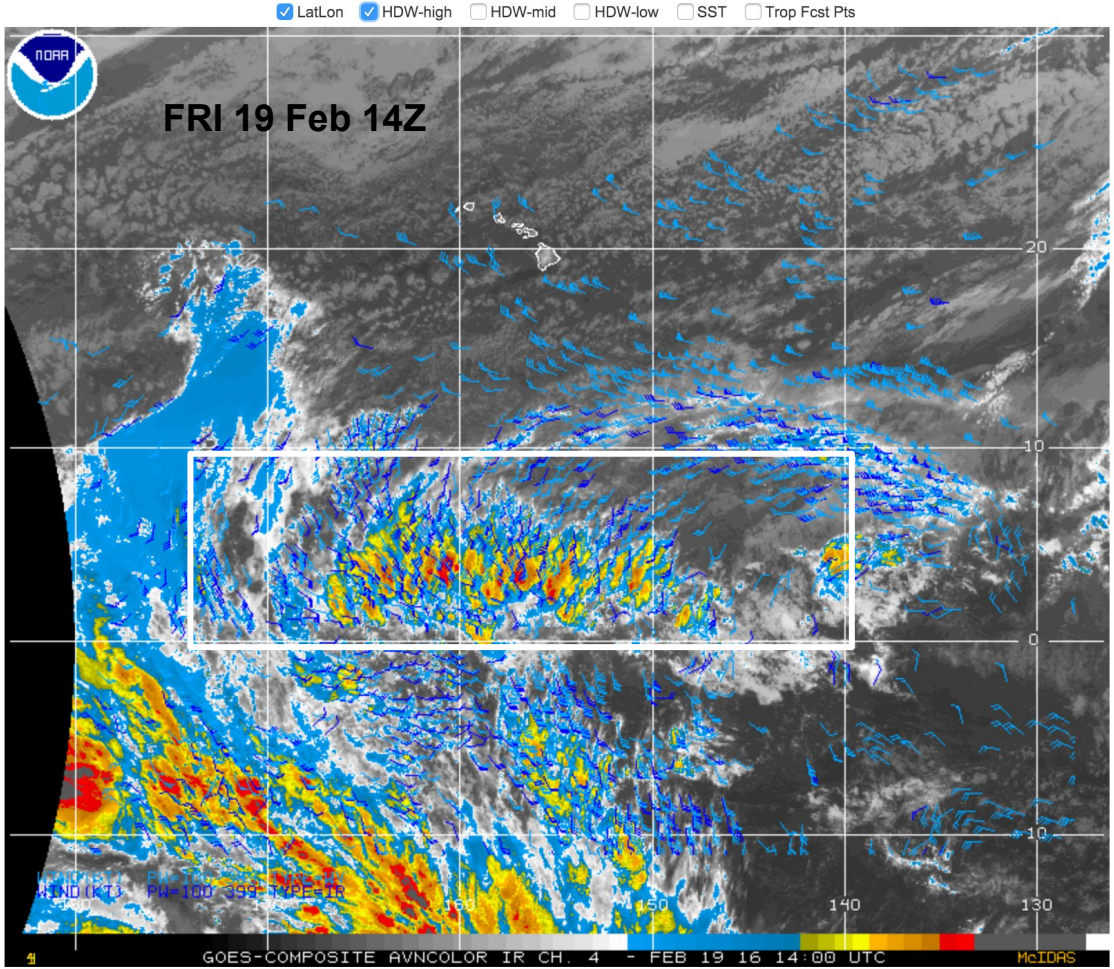
- Divergence among models for a possible CAL storm next weekend
  - EC suggesting central-southern CA may see precip next Sunday
  - No such indication in GFS
- No appreciable CA pcpn expected over the next 7-10 days
- Another east coast storm W-TH - bears watching
- Week 2-3 in EC and GFS indicate major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


SUN 21 Feb 14:30Z
25
20
15
10
5
0
-5
-10
175
170
135
130
GOES-COMPOSITE AVNCOLOR IR CH. 4 - FEB 21 16 14:30 UTC

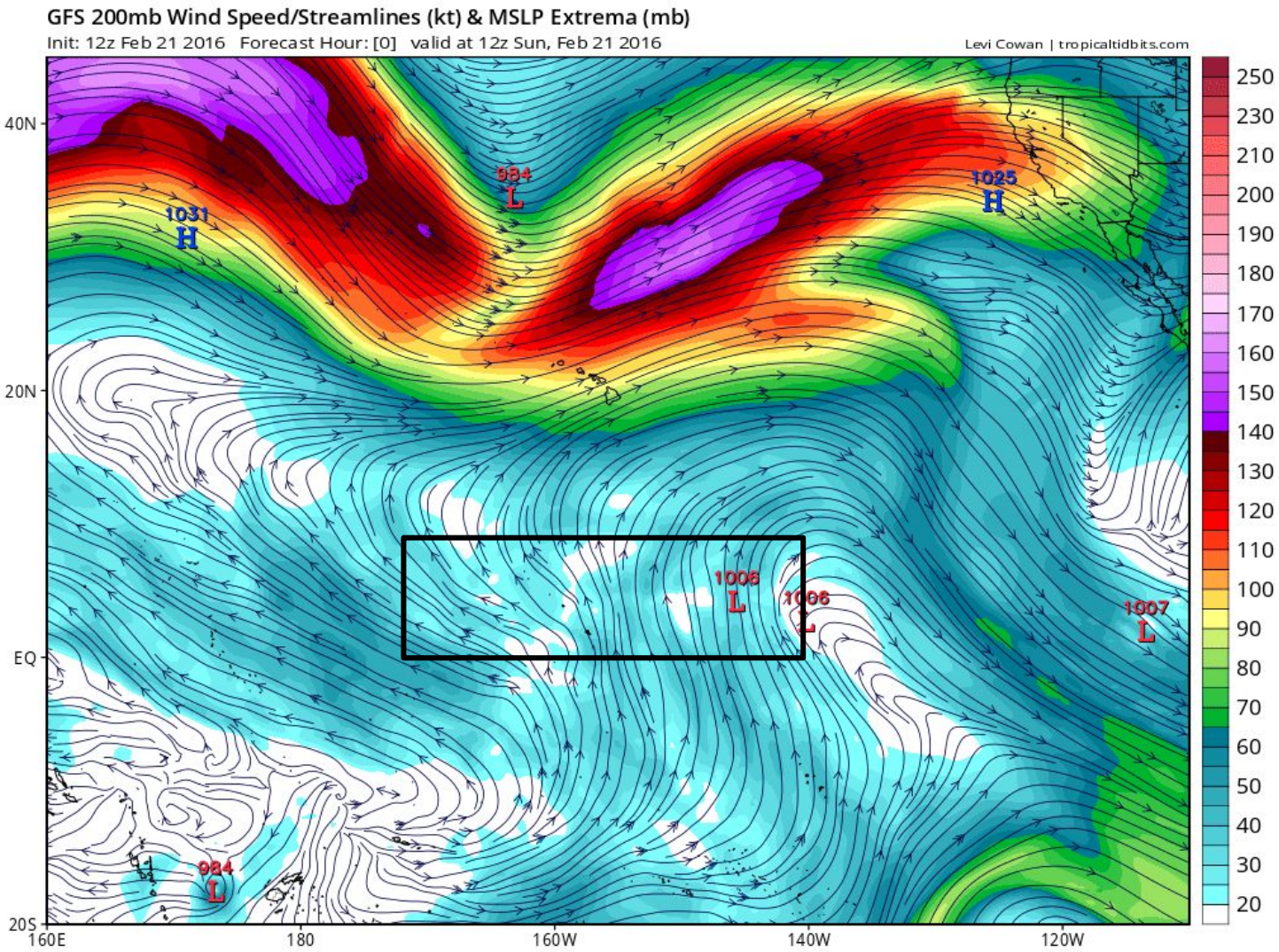
GOES Composite - El Niño Support – AVN Color Infrared Loop

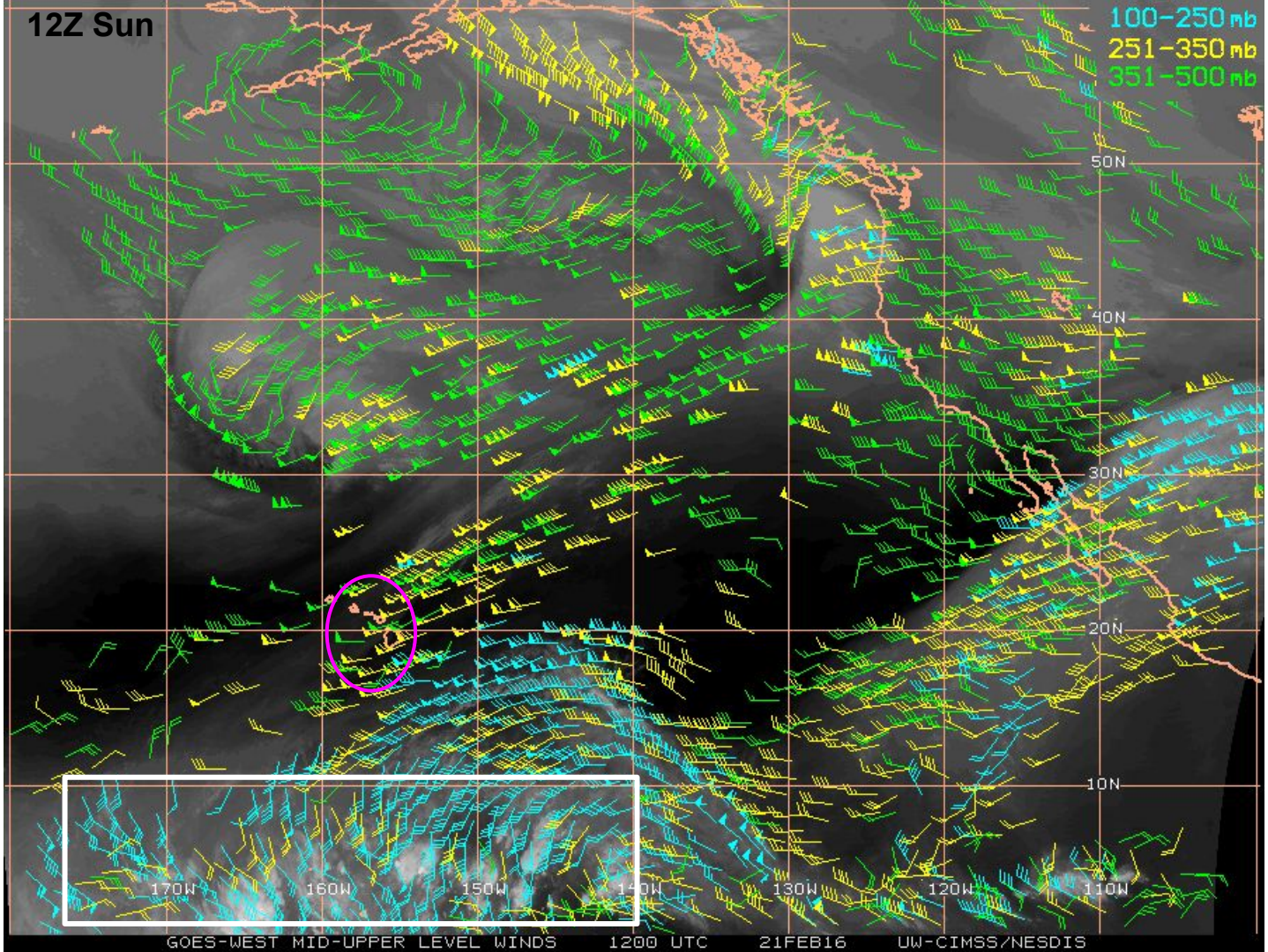


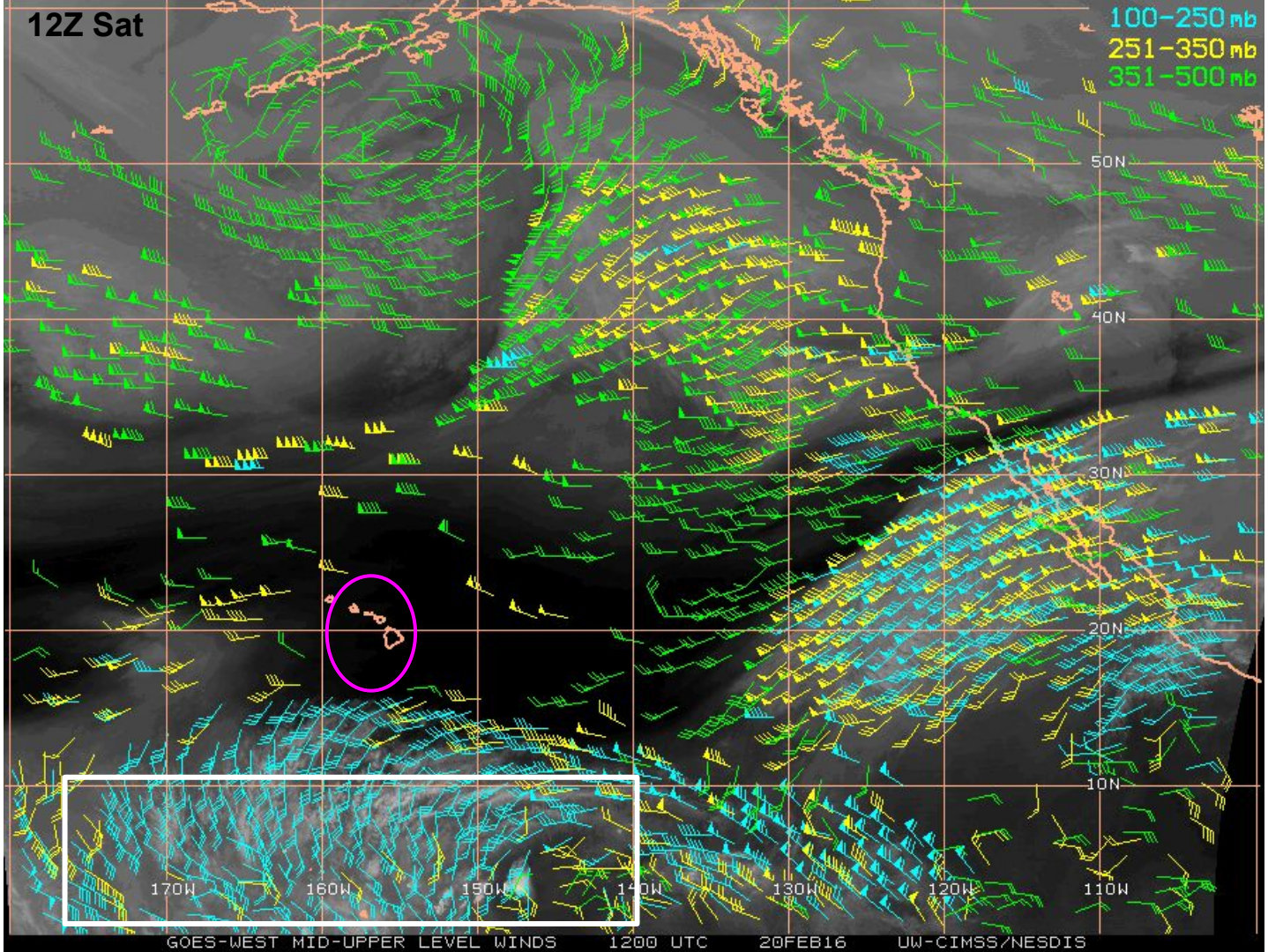
GOES Composite - El Niño Support – AVN Color Infrared Loop



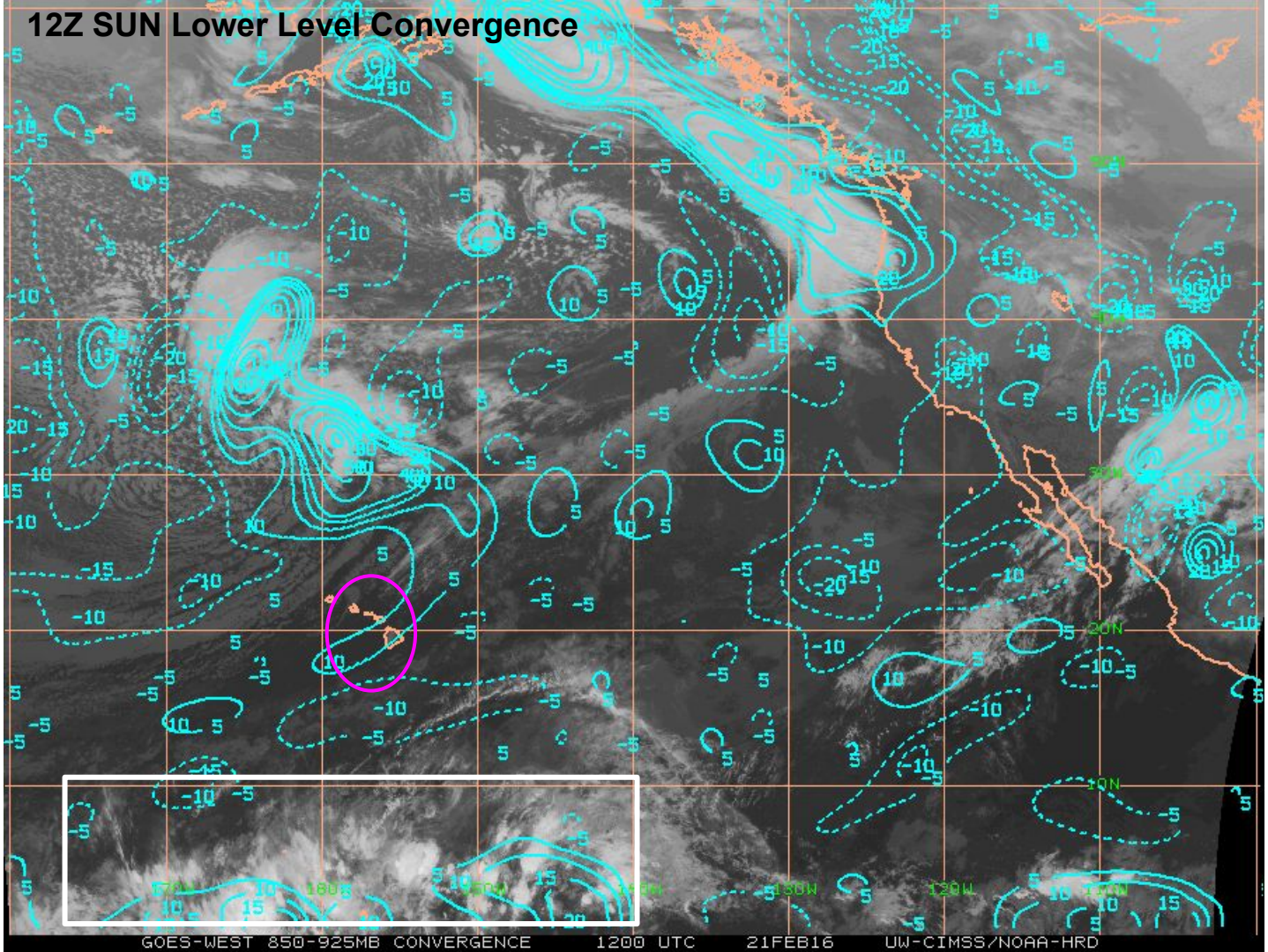
GFS 21 Feb
12Z Analysis
200 mb Winds

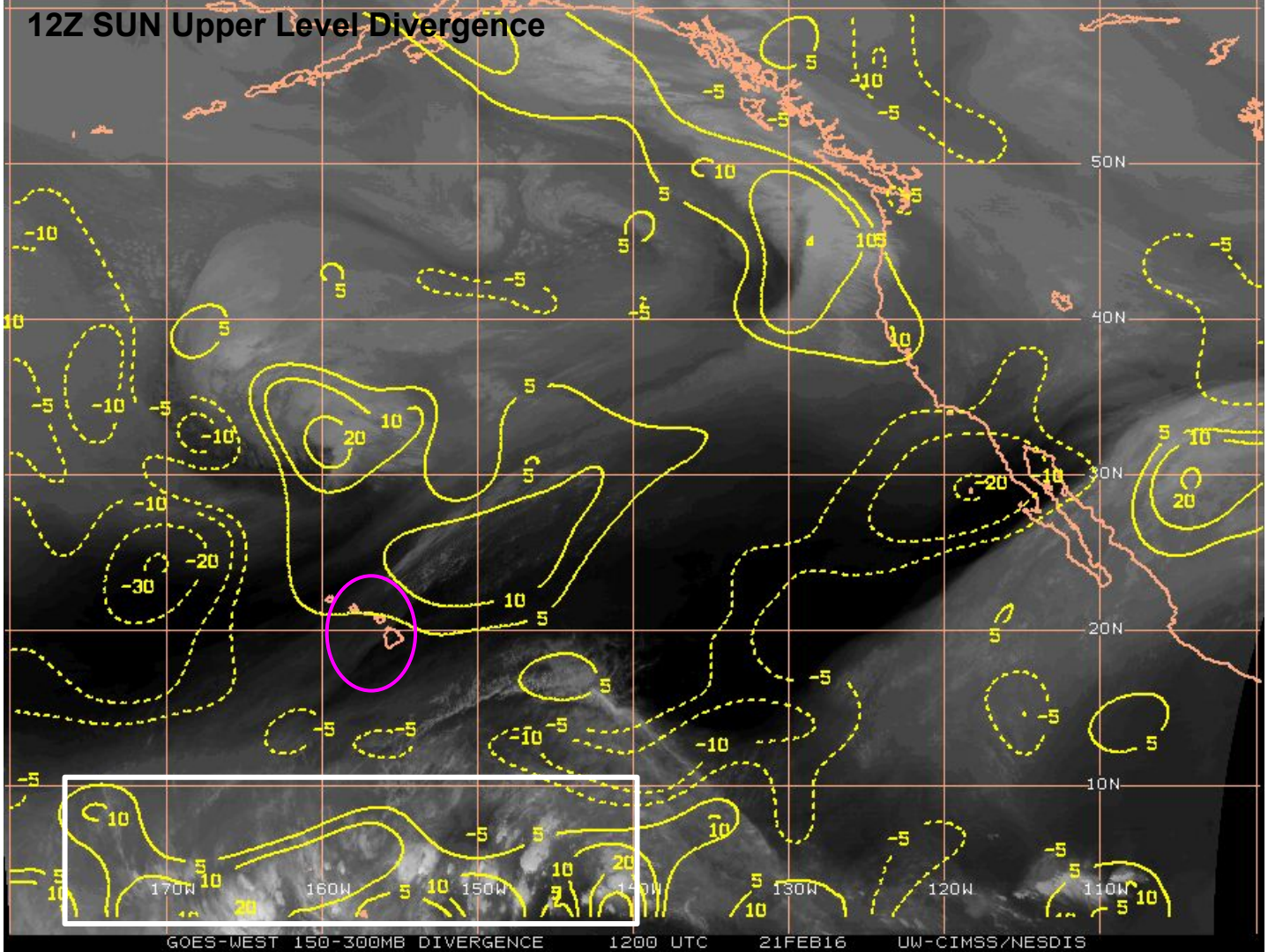



12Z Sun
100-250 mb
251-350 mb
351-500 mb
50N
40N
30N
20N
10N
170W
160W
150W
140W
130W
120W
110W
GOES-WEST MID-UPPER LEVEL WINDS 1200 UTC 21FEB16 UW-CIMSS/NESDIS

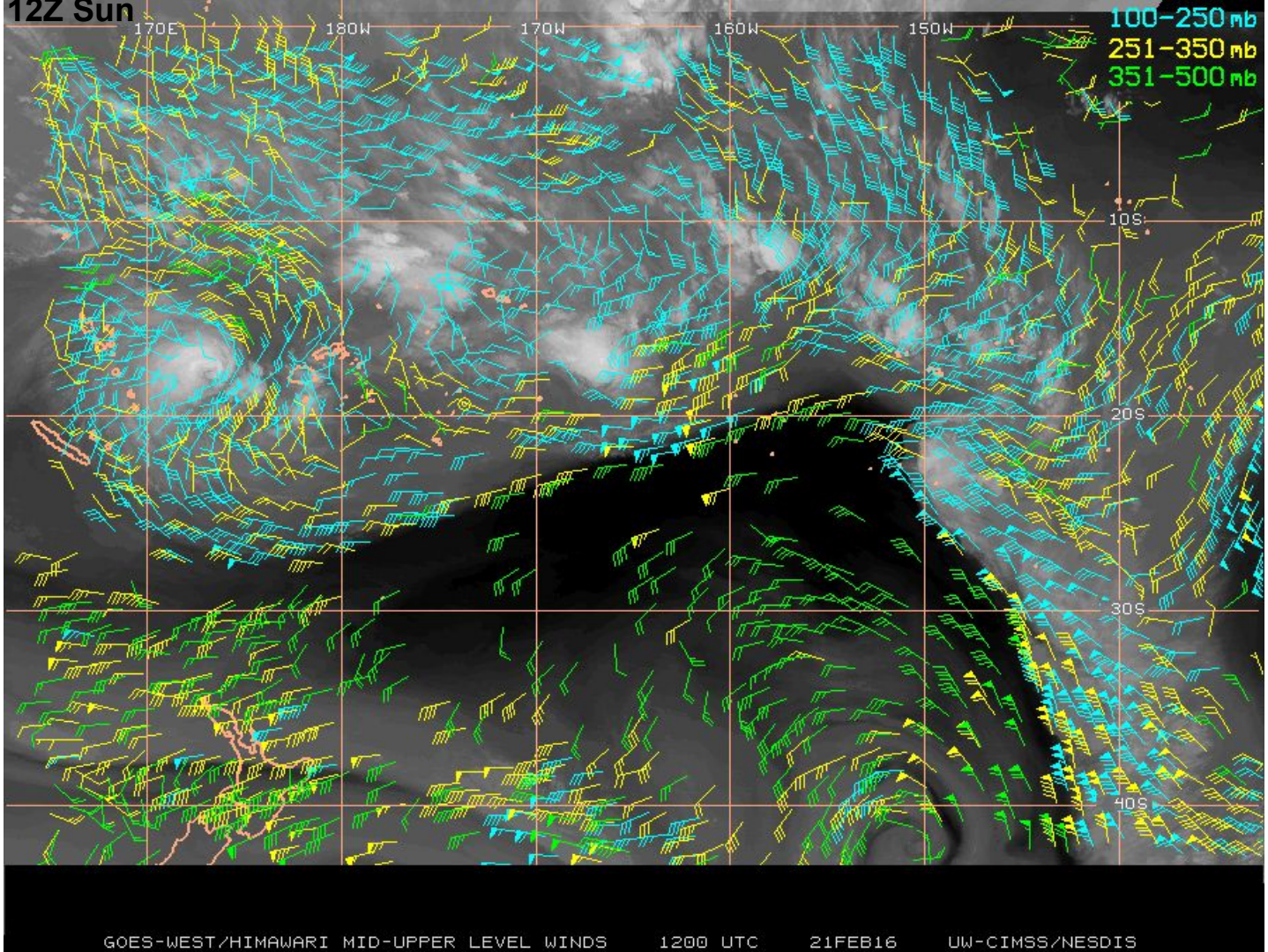

12Z Sat
100-250 mb
251-350 mb
351-500 mb
50N
40N
30N
20N
10N
170W
160W
150W
140W
130W
120W
110W
GOES-WEST MID-UPPER LEVEL WINDS 1200 UTC 20FEB16 UW-CIMSS/NESDIS

12Z SUN Lower Level Convergence

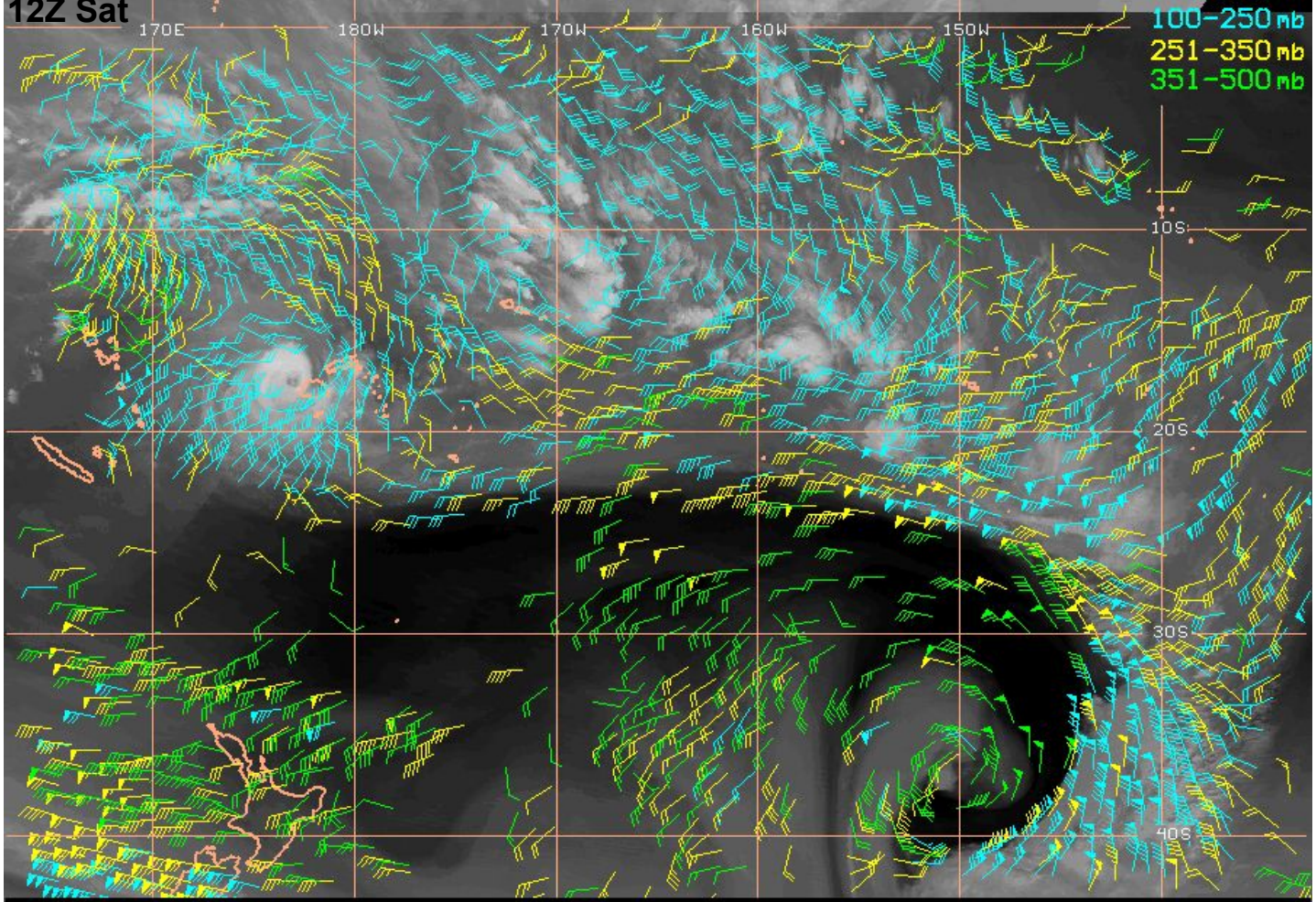



12Z SUN Upper Level Divergence
50N
40N
30N
20N
10N
170W
160W
150W
140W
130W
120W
110W
GOES-WEST 150-300MB DIVERGENCE 1200 UTC 21FEB16 UW-CIMSS/NESDIS

12Z Sun

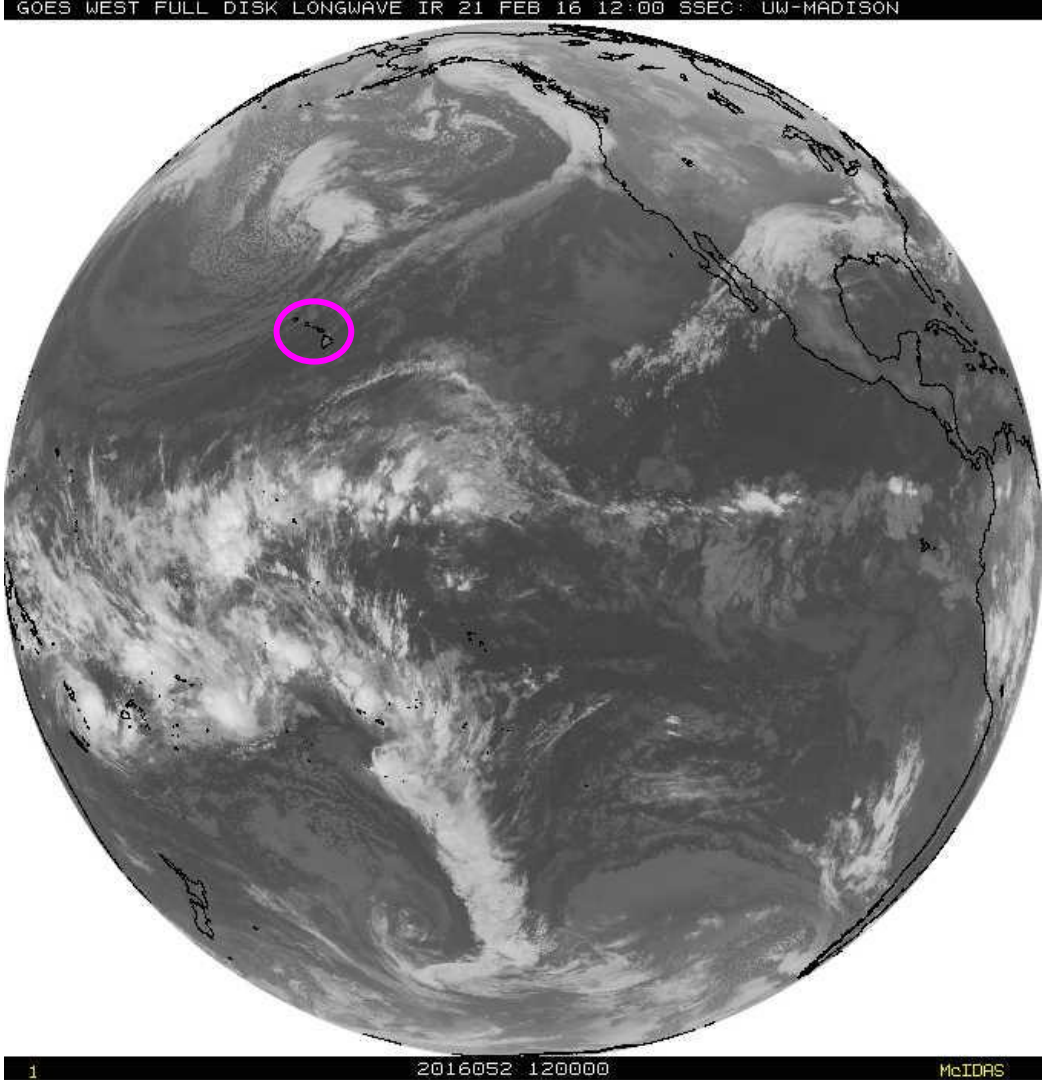

170E
180W
170W
160W
150W
10S
20S
30S
40S
100-250 mb
251-350 mb
351-500 mb
GOES-WEST/HIMAWARI MID-UPPER LEVEL WINDS 1200 UTC 21FEB16 UW-CIMSS/NESDIS

12Z Sat

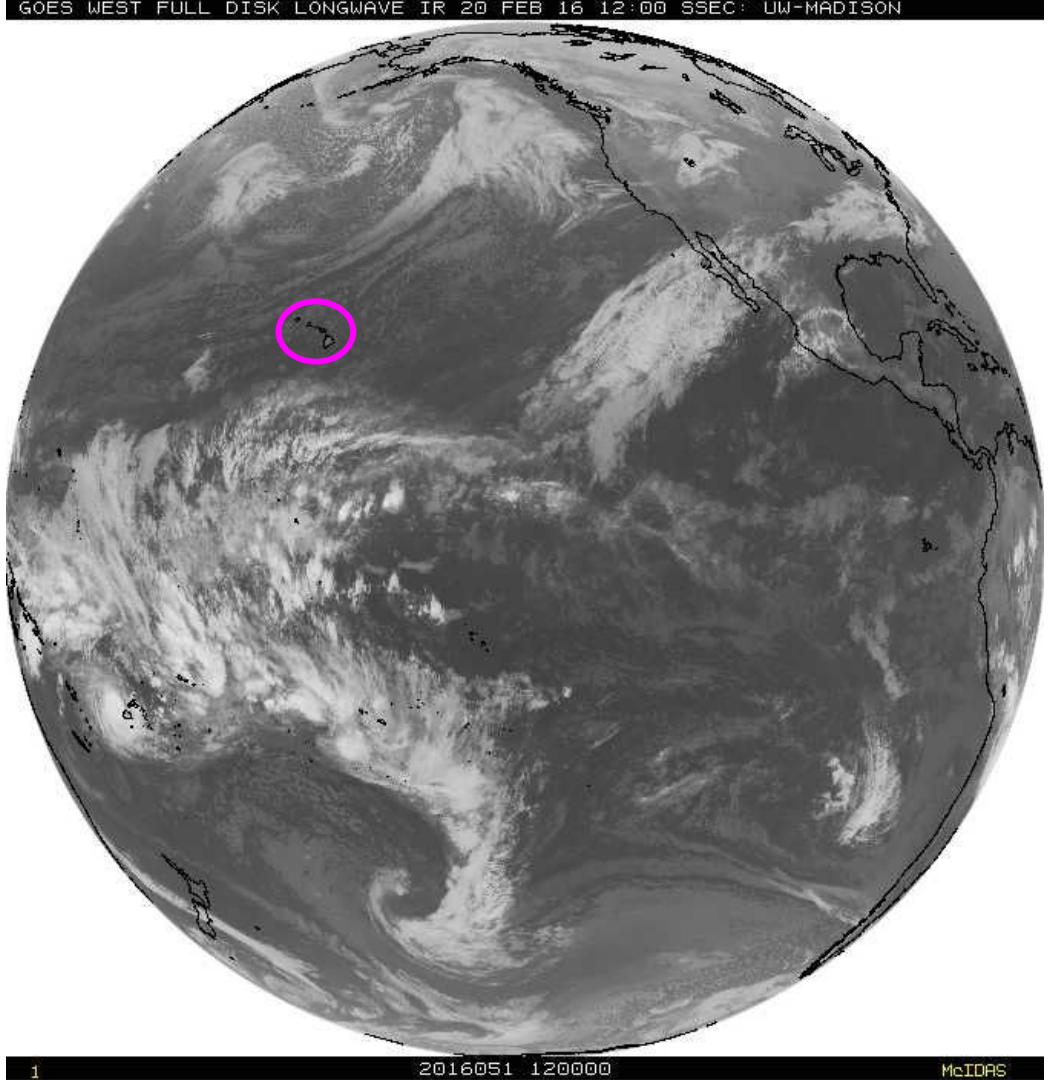


GOES-WEST/HIMAWARI MID-UPPER LEVEL WINDS 1200 UTC 20FEB16 UW-CIMSS/NESDIS

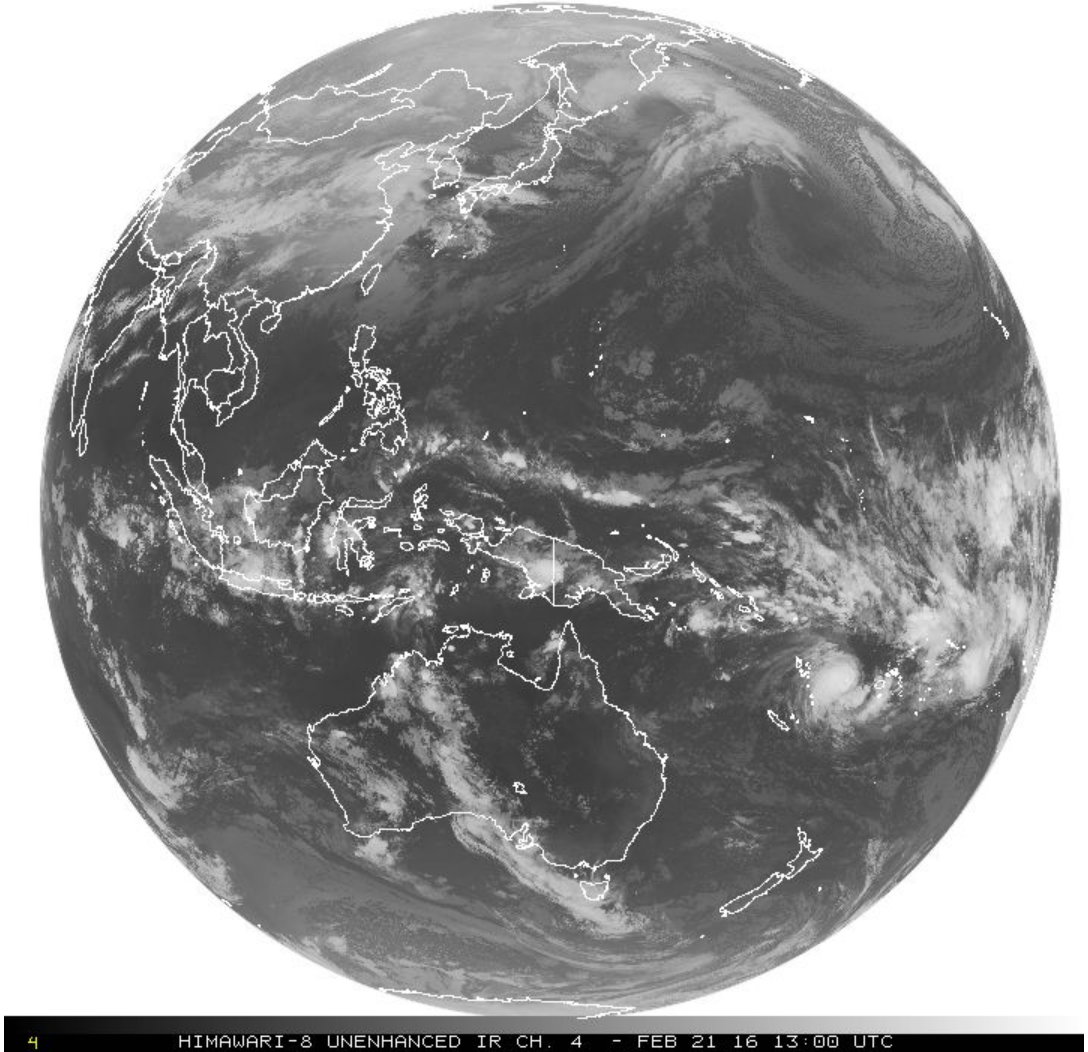
SUN 12Z IR


GOES WEST FULL DISK LONGWAVE IR 21 FEB 16 12:00 SSEC: UW-MADISON
1
2016052 120000
McIDAS

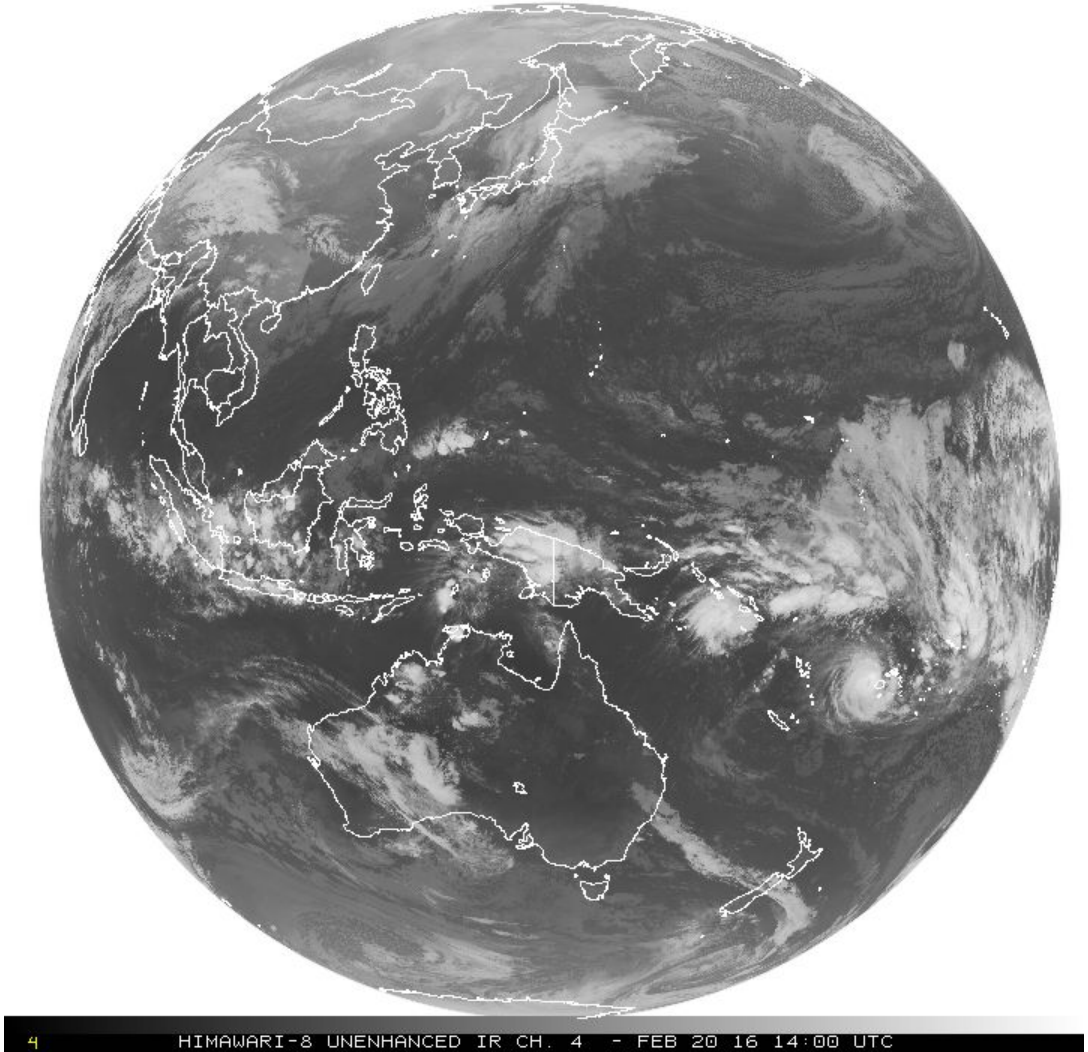
Sat 12Z IR

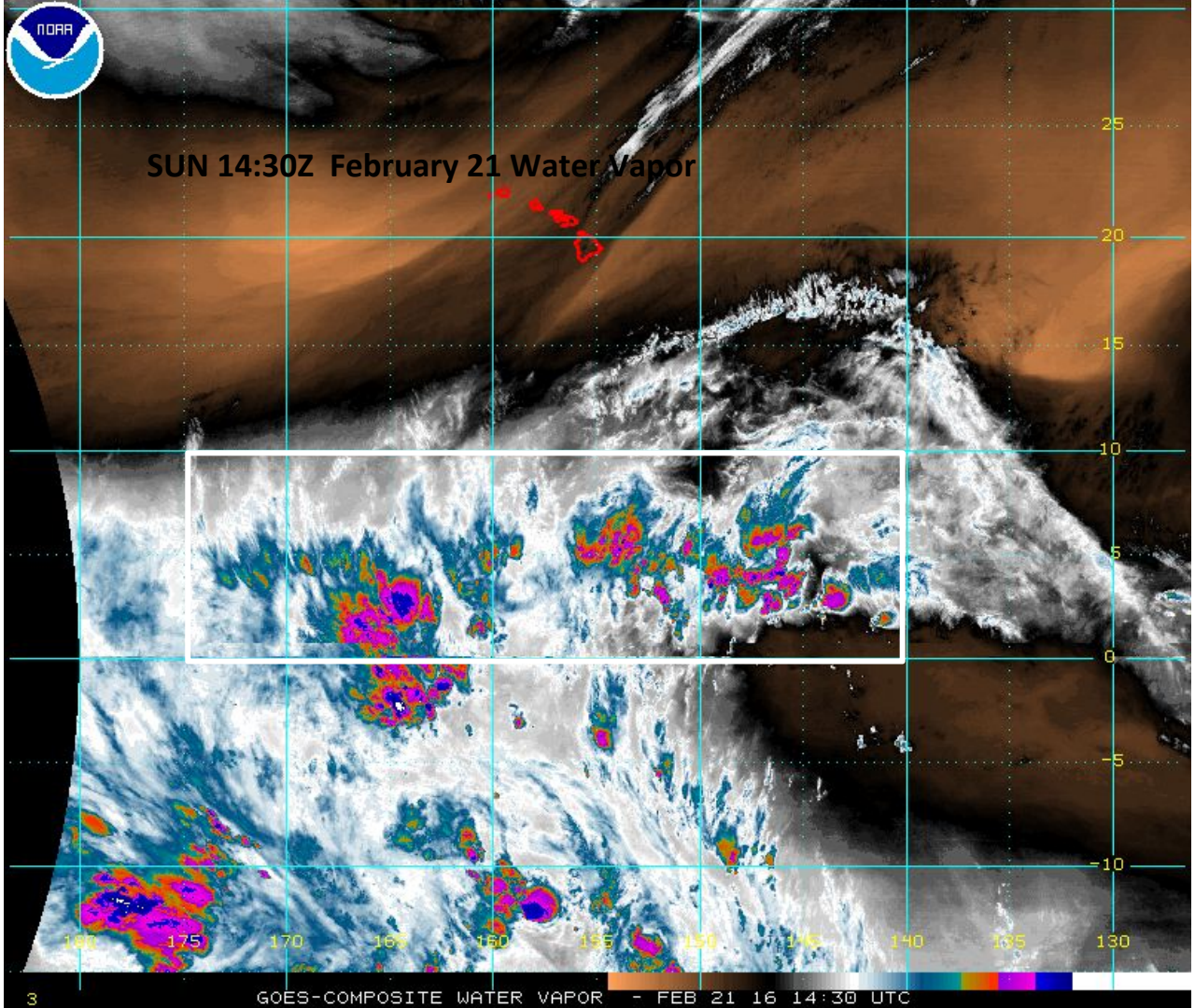

GOES WEST FULL DISK LONGWAVE IR 20 FEB 16 12:00 SSEC: UW-MADISON
1
2016051 120000
McIDAS

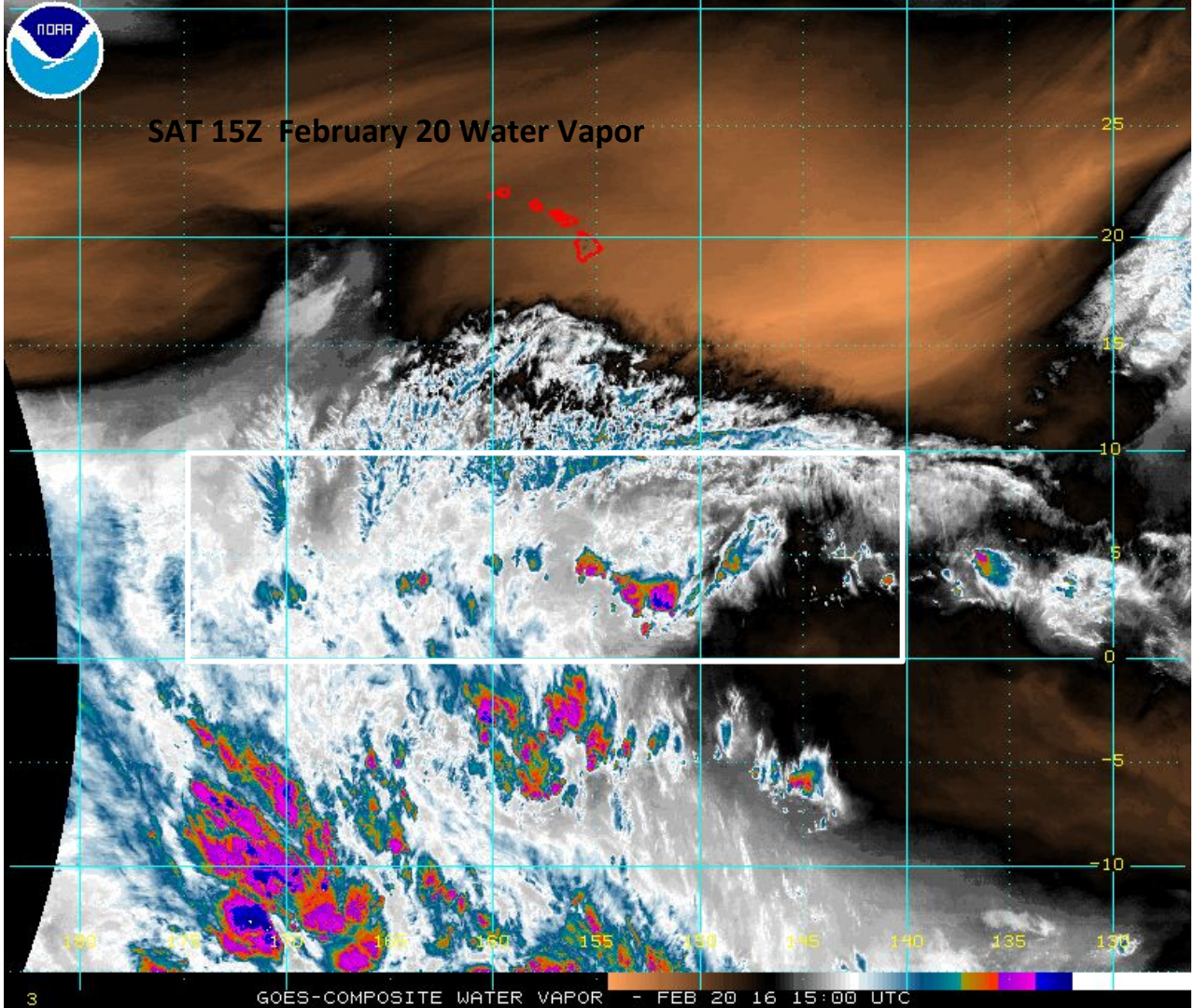
SUN 13Z IR

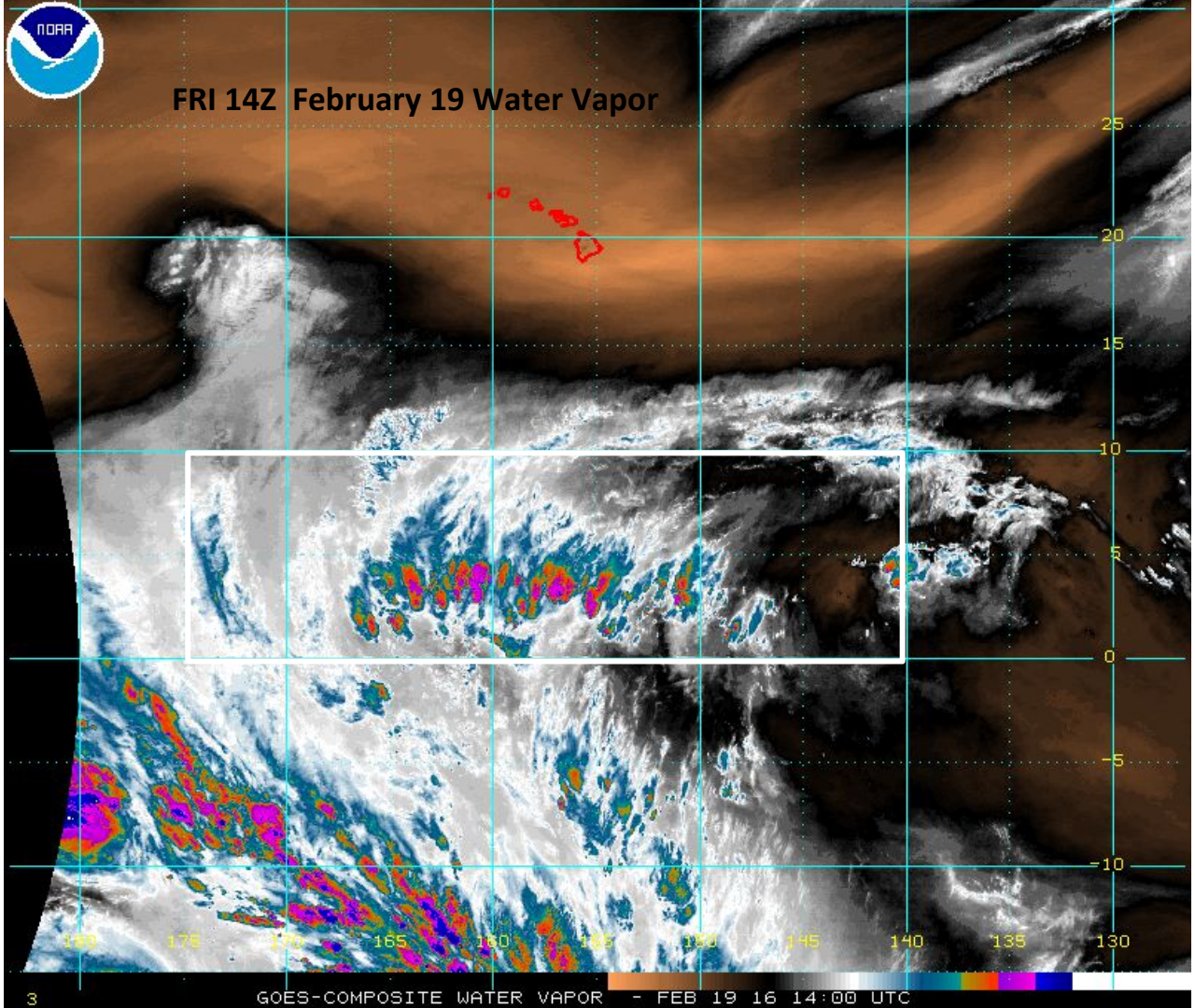


Sat 14Z IR

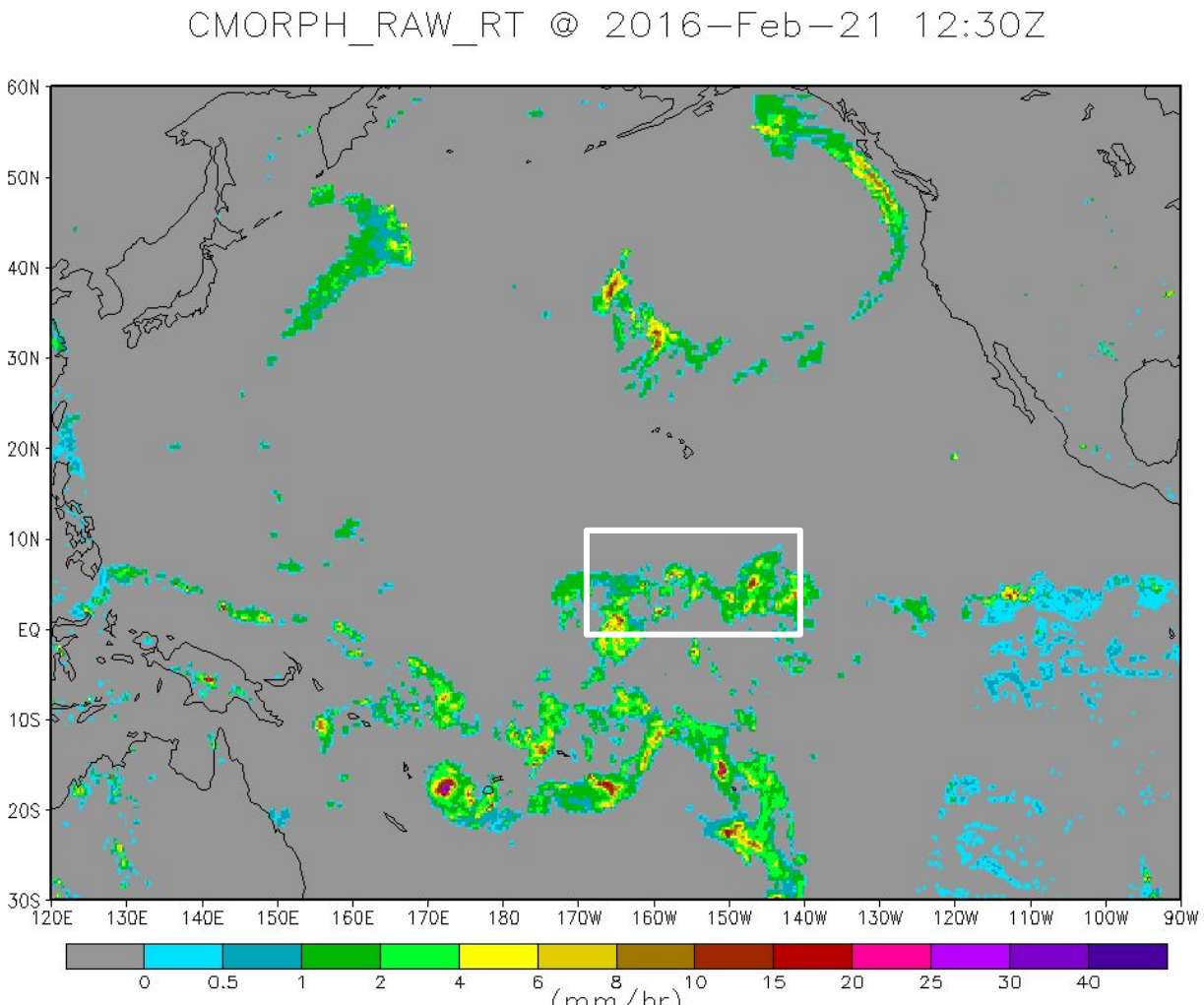



SUN 14:30Z February 21 Water Vapor
25
20
15
10
5
0
-5
-10
175
170
140
135
130
3
GOES-COMPOSITE WATER VAPOR - FEB 21 16 14:30 UTC

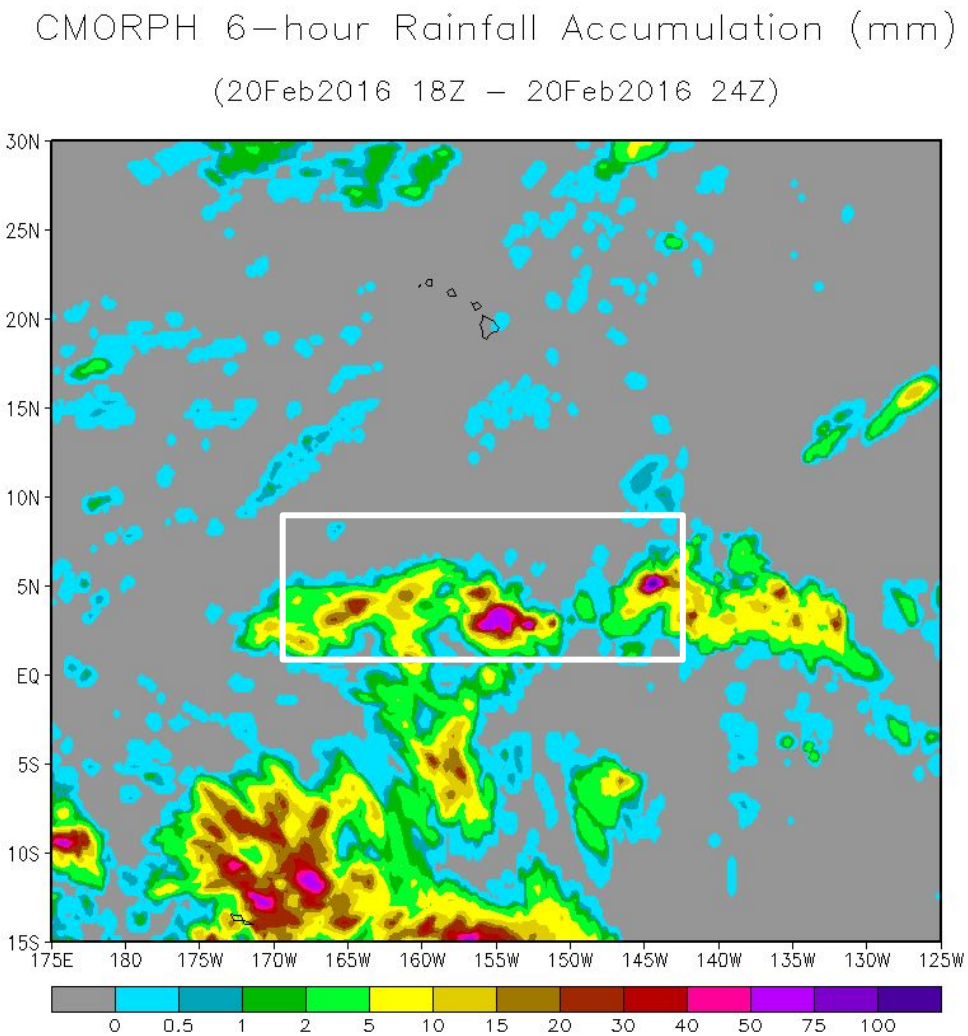

SAT 15Z February 20 Water Vapor
25
20
15
10
5
0
-5
-10
155
145
140
135
3
GOES-COMPOSITE WATER VAPOR - FEB 20 16 15:00 UTC


FRI 14Z February 19 Water Vapor
25
20
15
10
5
0
-5
-10
175
165
160
145
140
135
130
3
GOES-COMPOSITE WATER VAPOR - FEB 19 16 14:00 UTC

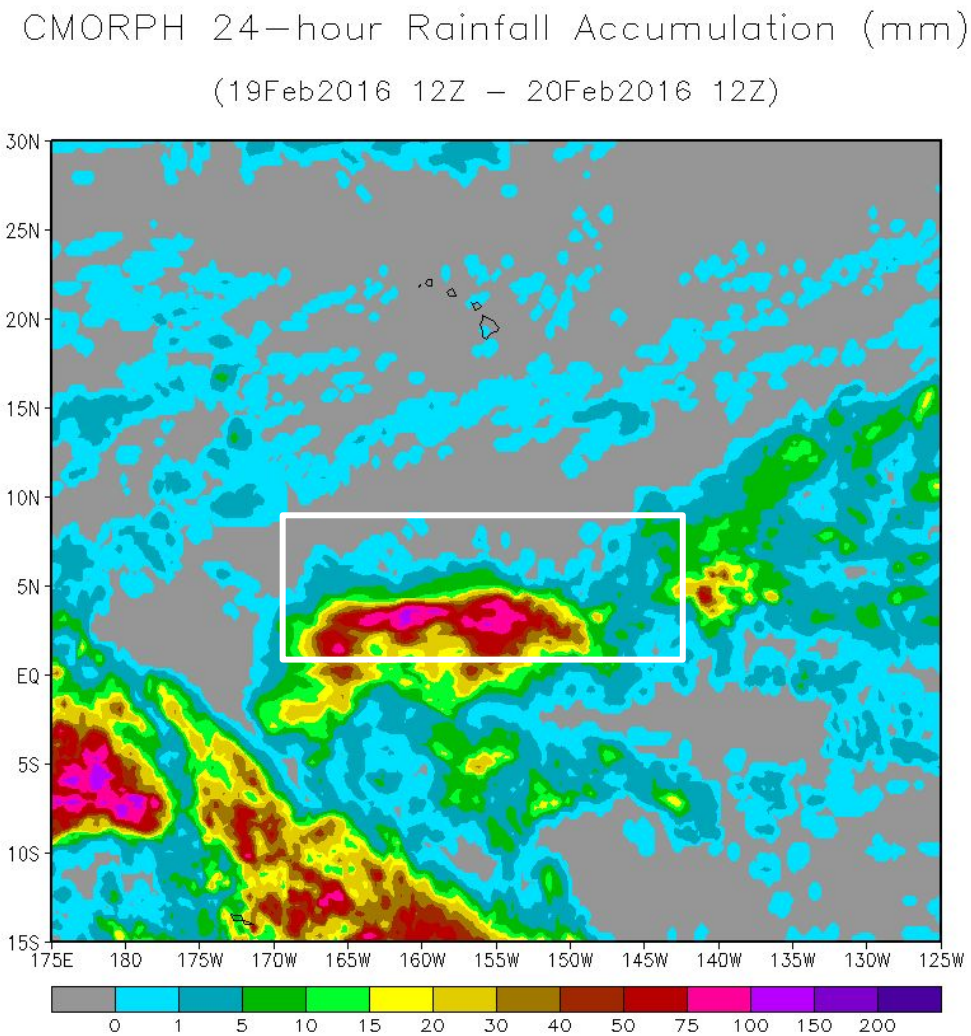
QMORPH
21Feb 12:30Z



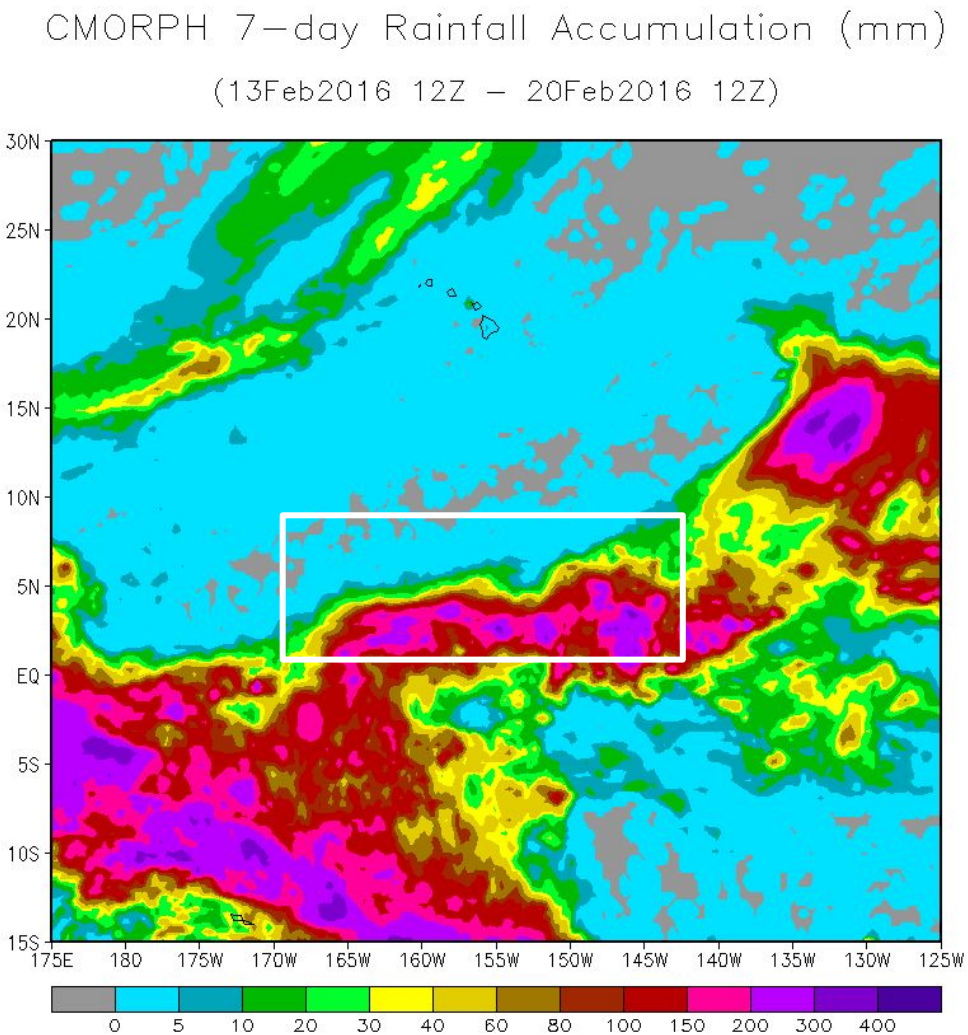
CMORPH 6 HF
Precip Ending
21 Feb 00Z



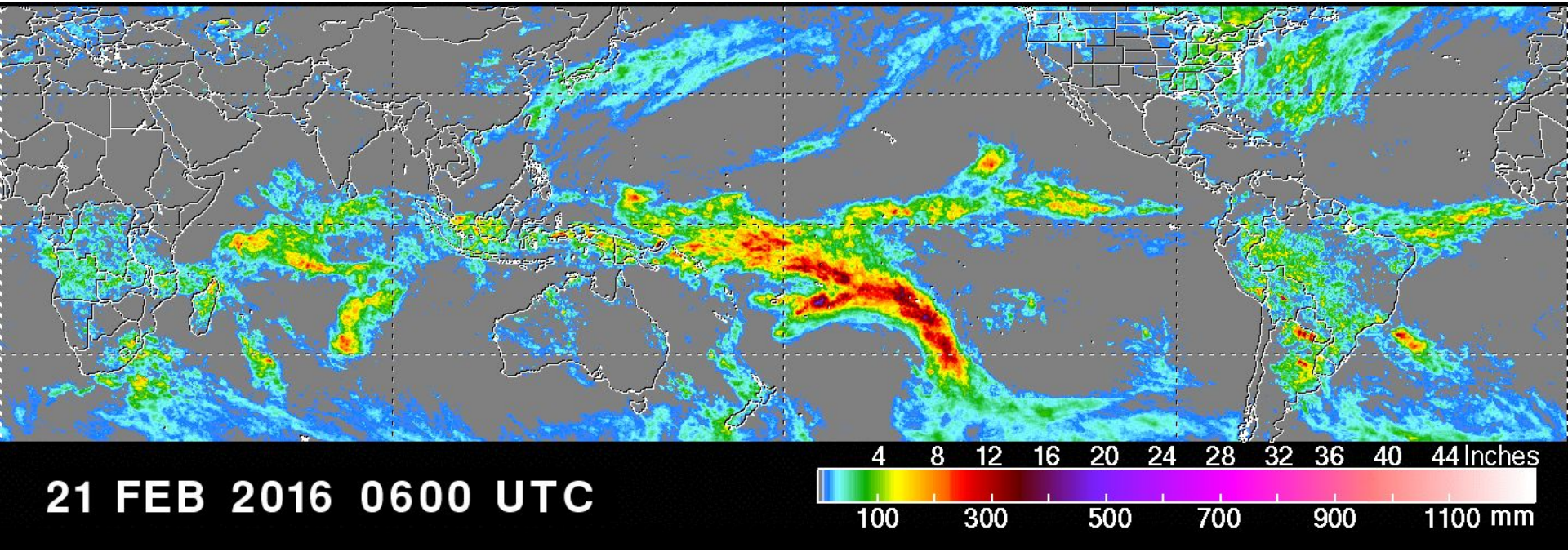
CMORPH 24 HR Precip Ending 20 Feb 12Z



CMORPH 7 Day Precip Ending 20 Feb 12Z



GPM 7 Day Accumulation Ending 06Z 21 Feb



Kiritimati Sun

UPS Working

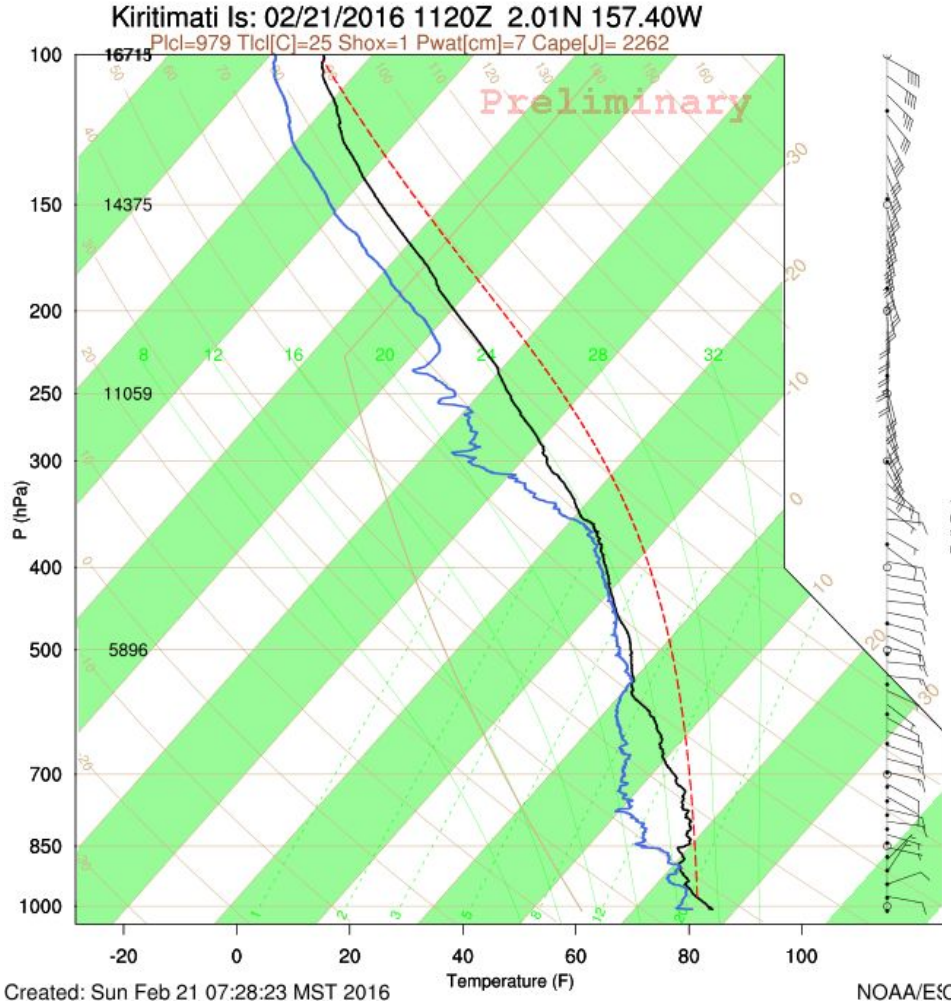
UPS UPDATE: The UPS is working as designed. The problem is that the generator they are using at night is running at 55 Hz, and the one during the day at 60 Hz. The UPS needs 50 Hz +/- 6%, or 60 Hz +/-6%, and 55 Hz doesn't meet that criteria. I don't know if the frequency can be changed or not. This means that with this UPS, our night launches are made without UPS protection.

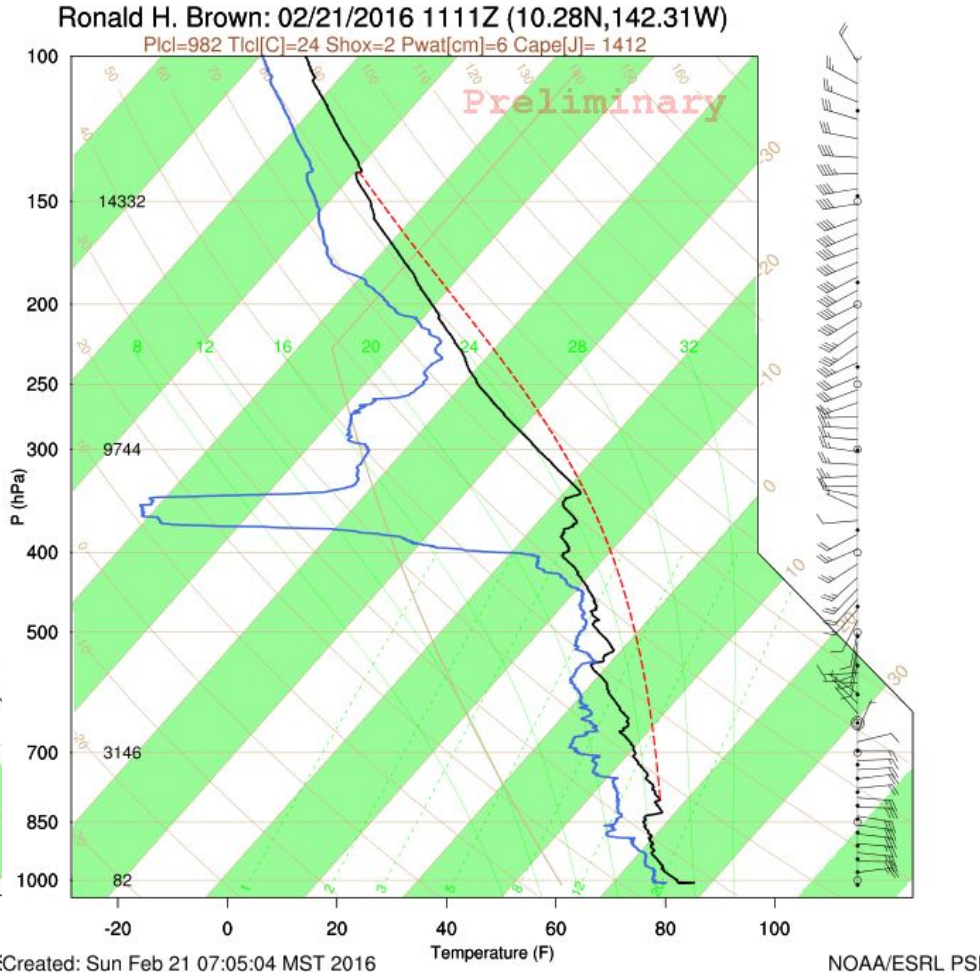
Launch: 120LT, 1120UT: Cloud covered sky. It is spitting a little, but not really raining. We can tell there is a moon, since there is a lot of light, you can see the surf clearly.

145LT: I can see where the moon is behind a cloud with a bright edge. Enough light that ocean horizon is visible. Entire sky covered with clouds. Warm and muggy with occasional drops.

215LT: Cloud conditions about same. Breeze may have picked up a little, it seems a little drier. No drops seem to be falling.

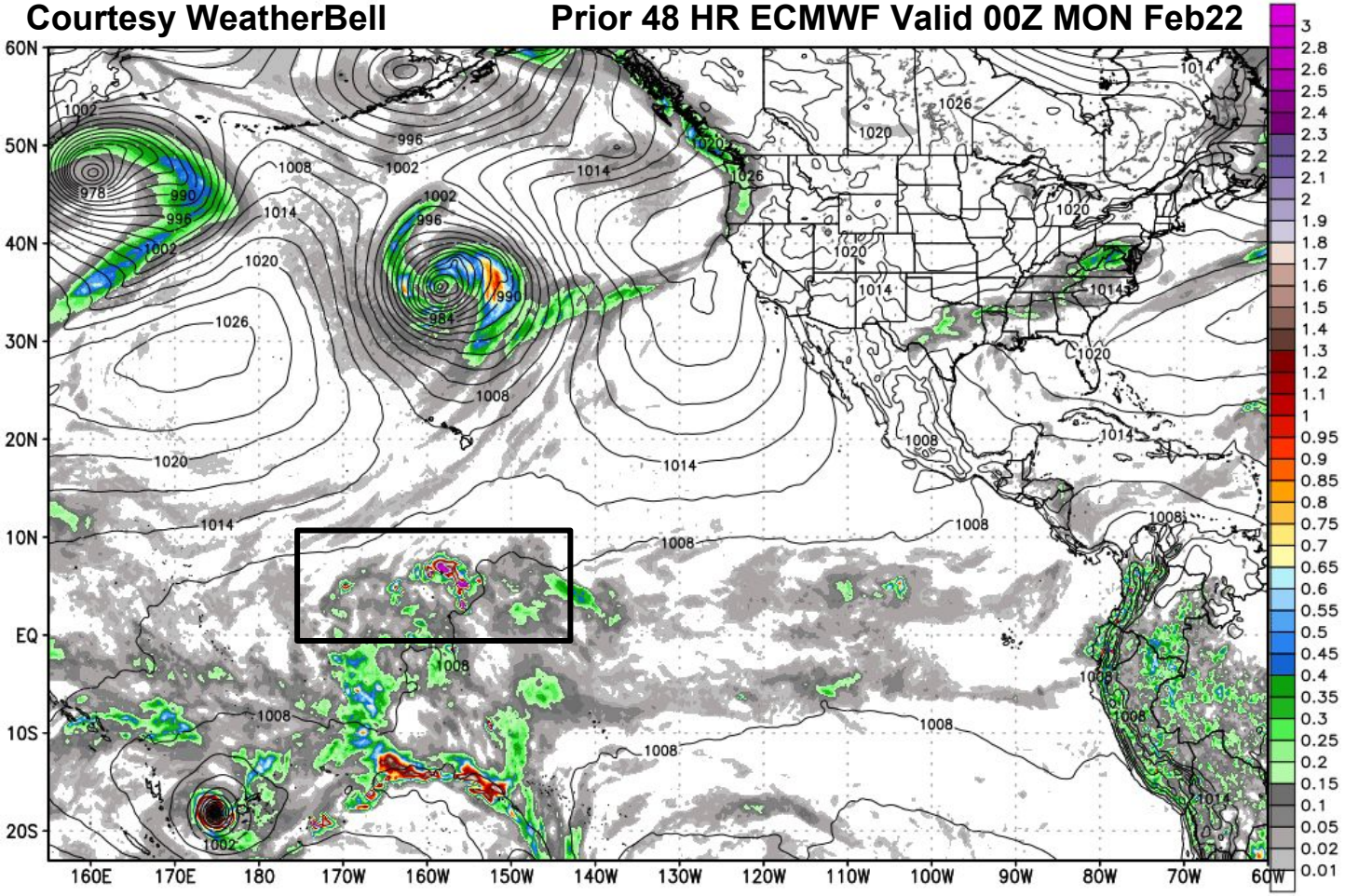
250LT; Disk of moon now visible through clouds. Sky still covered by clouds, can see where clouds meet ocean horizon. Seems to be drying out some.


Kiritimati Is: 02/21/2016 1120Z 2.01N 157.40W
Plcl=979 Tlcl[C]=25 Shox=1 Pwat[cm]=7 Cape[J]= 2262
Preliminary
P (hPa)
Temperature (F)
16715
14375
11059
5896
Created: Sun Feb 21 07:28:23 MST 2016
NOAA/E


Ronald H. Brown: 02/21/2016 1111Z (10.28N,142.31W)
Plcl=982 Tlcl[C]=24 Shox=2 Pwat[cm]=6 Cape[J]= 1412
Preliminary
P (hPa)
Temperature (F)
14332
9744
3146
82
Created: Sun Feb 21 07:05:04 MST 2016
NOAA/ESRL PS

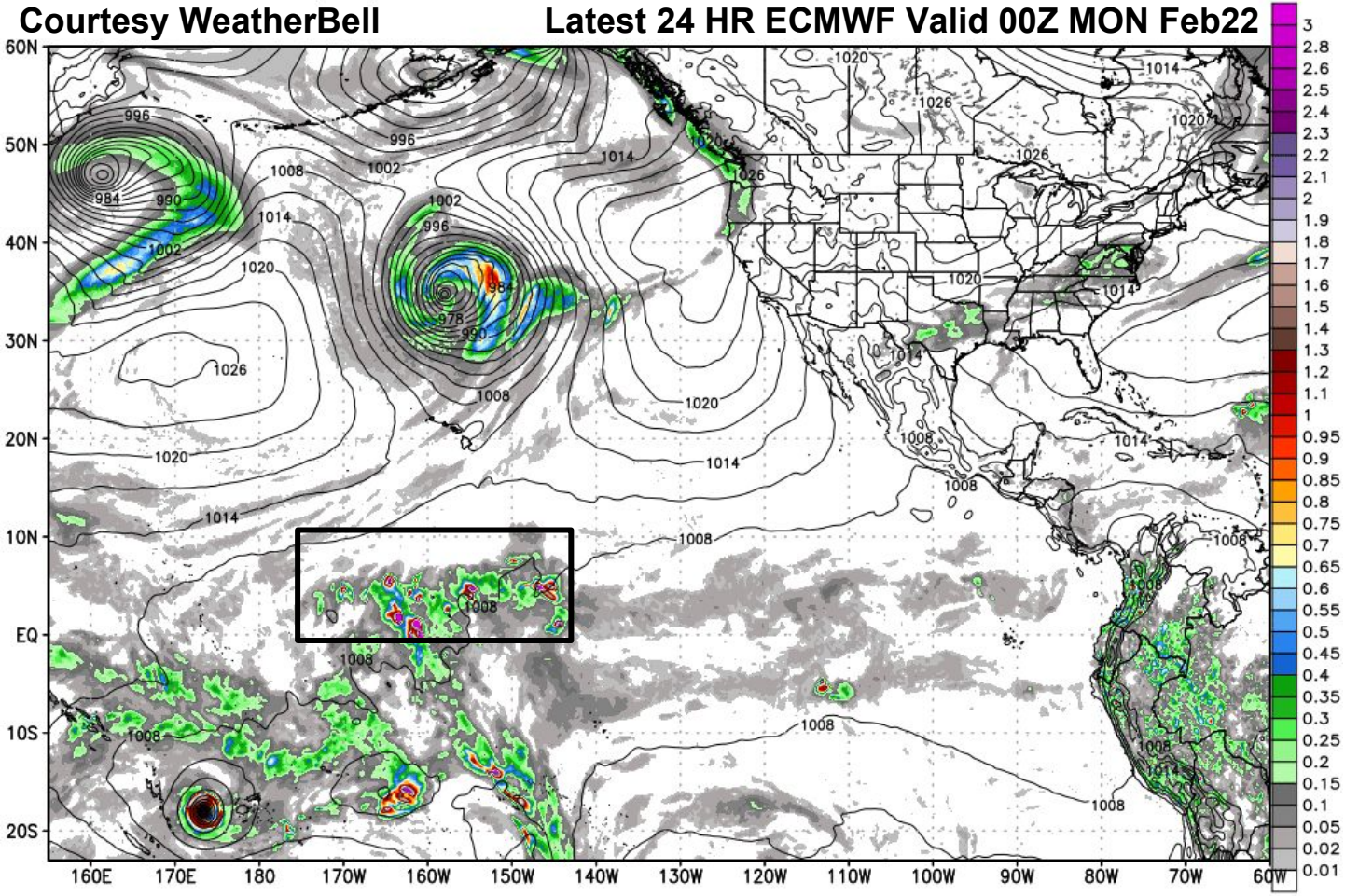
ECMWF 6-hourly Precipitation [inches] between 18Z21FEB2016 -- 00Z22FEB2016 & MSLP [hPa]
INIT: 00Z20FEB2016 fx: [048] hr --> Mon 00Z22FEB2016

Courtesy WeatherBell **Prior 48 HR ECMWF Valid 00Z MON Feb22**



ECMWF 6-hourly Precipitation [inches] between 18Z21FEB2016 -- 00Z22FEB2016 & MSLP [hPa]
INIT: 00Z21FEB2016 fx: [024] hr --> Mon 00Z22FEB2016

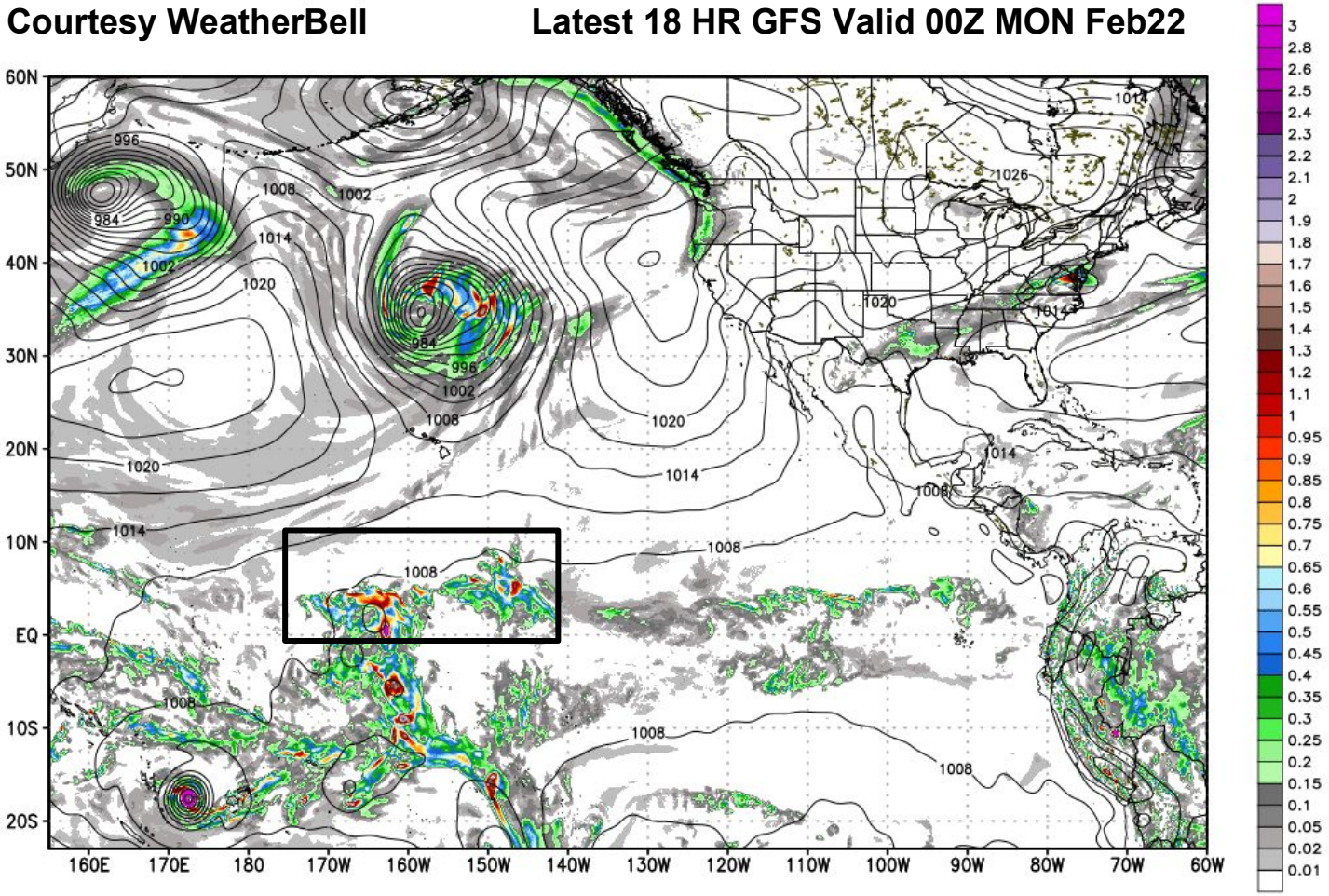
Courtesy WeatherBell **Latest 24 HR ECMWF Valid 00Z MON Feb22**



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z21FEB2016 fx: [018] hr --> Mon 00Z22FEB2016

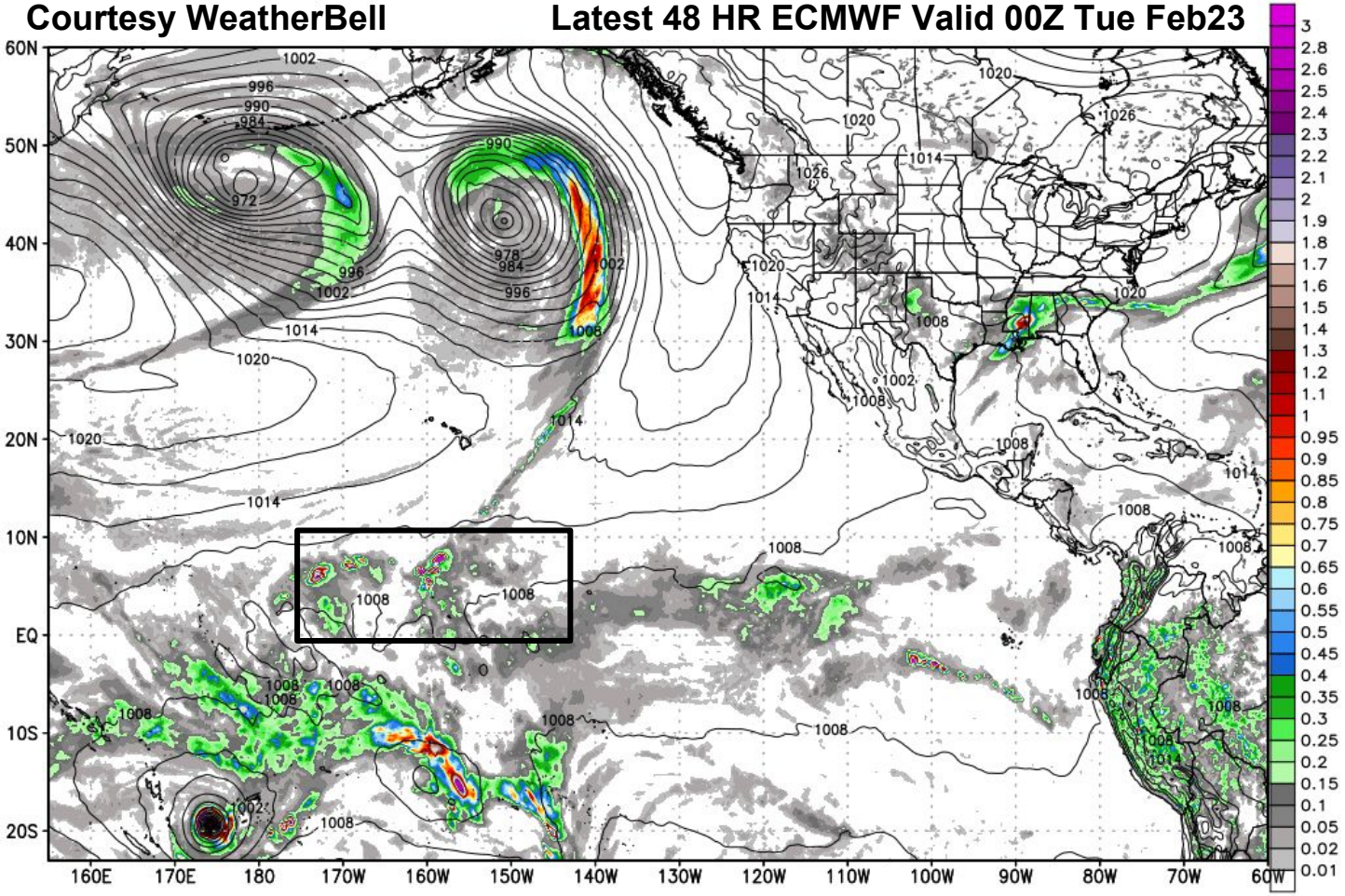
Max: 8.7 in.

Courtesy WeatherBell **Latest 18 HR GFS Valid 00Z MON Feb22**



ECMWF 6-hourly Precipitation [inches] between 18Z22FEB2016 -- 00Z23FEB2016 & MSLP [hPa]
INIT: 00Z21FEB2016 fx: [048] hr --> Tue 00Z23FEB2016

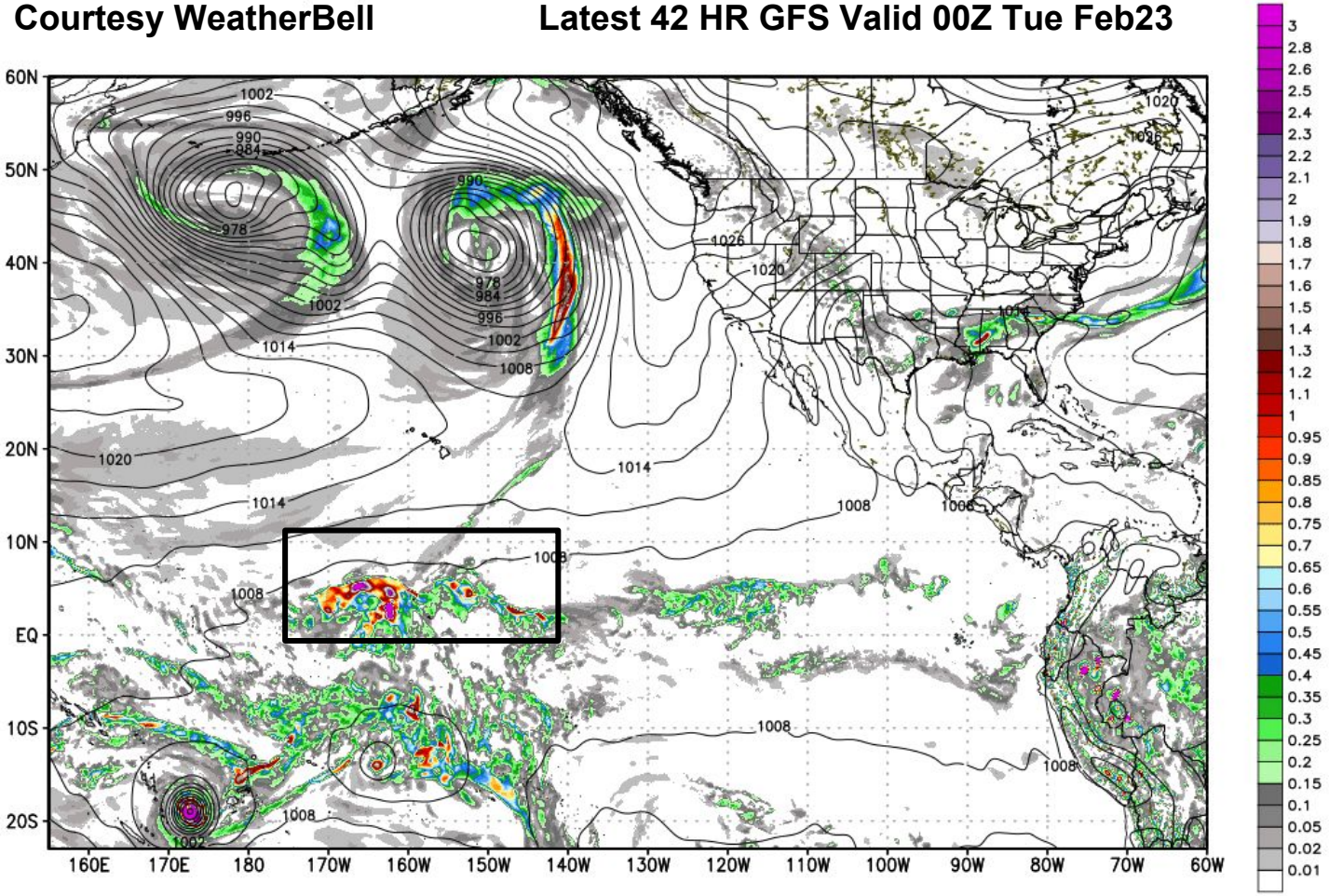
Courtesy WeatherBell **Latest 48 HR ECMWF Valid 00Z Tue Feb23**



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z21FEB2016 fx: [042] hr --> Tue 00Z23FEB2016

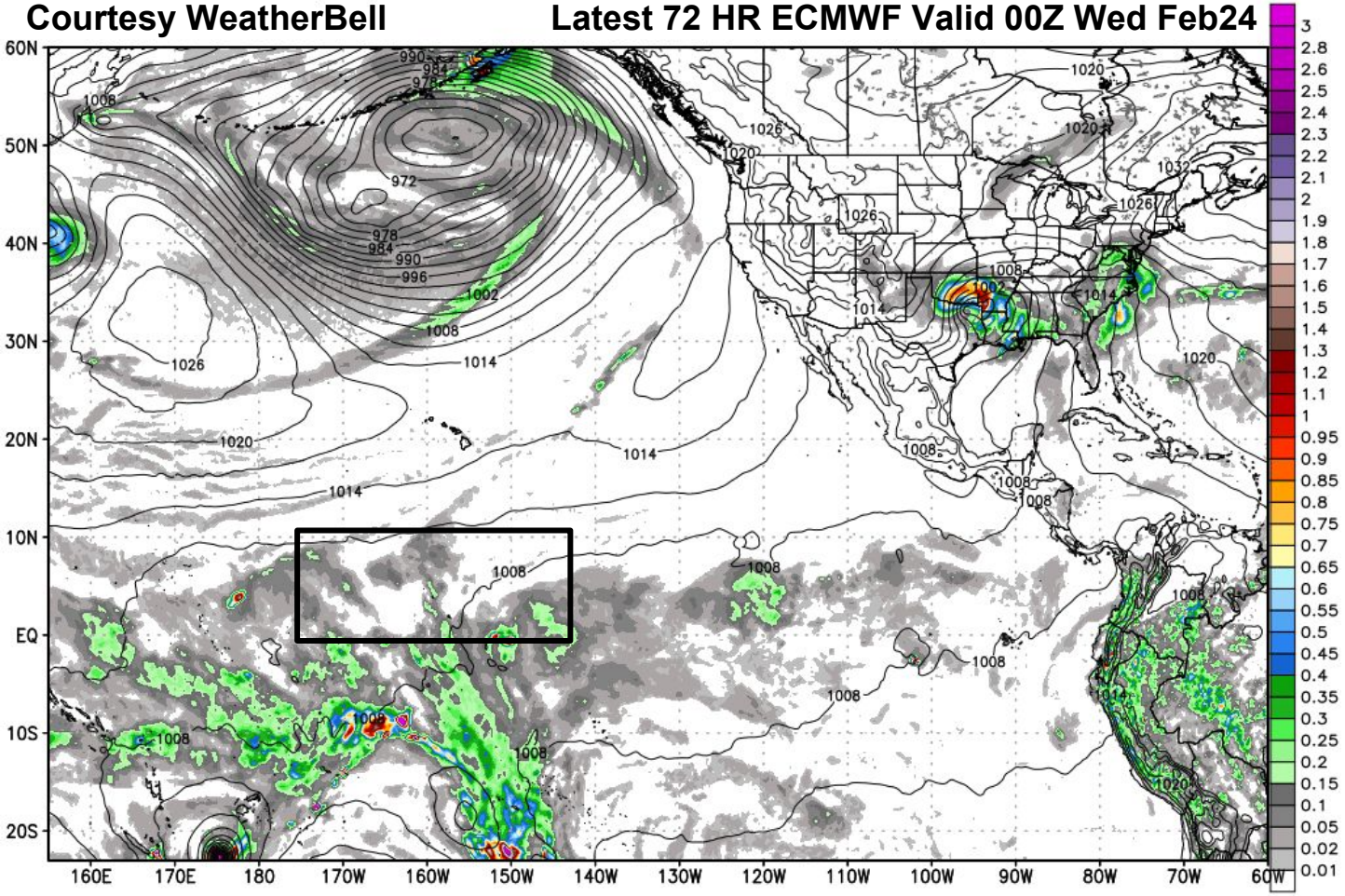
Max: 8.6 in.

Courtesy WeatherBell **Latest 42 HR GFS Valid 00Z Tue Feb23**



ECMWF 6-hourly Precipitation [inches] between 18Z23FEB2016 -- 00Z24FEB2016 & MSLP [hPa]
INIT: 00Z21FEB2016 fx: [072] hr --> Wed 00Z24FEB2016

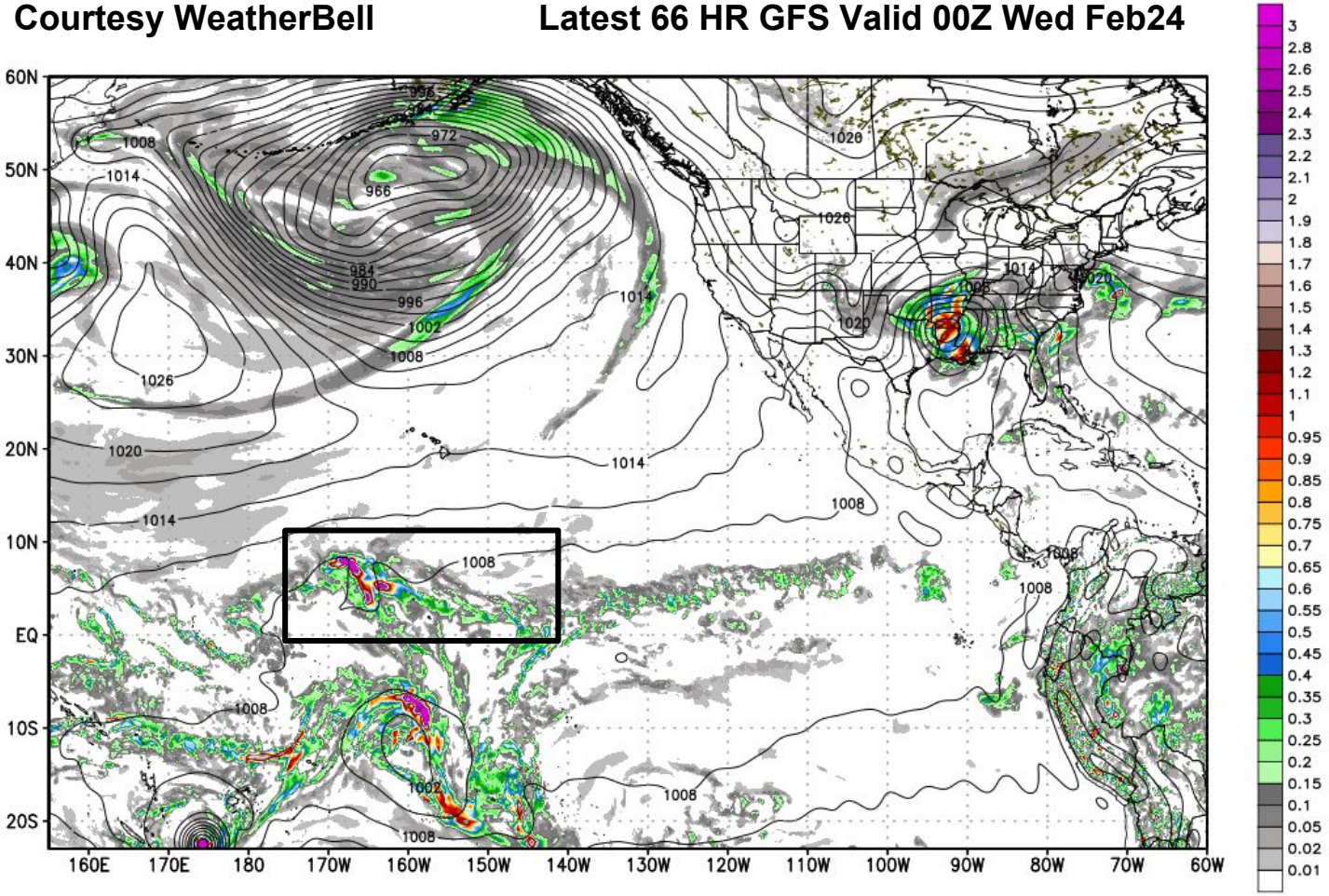
Courtesy WeatherBell **Latest 72 HR ECMWF Valid 00Z Wed Feb24**



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z21FEB2016 fx: [066] hr --> Wed 00Z24FEB2016

Max: 11.5 in.

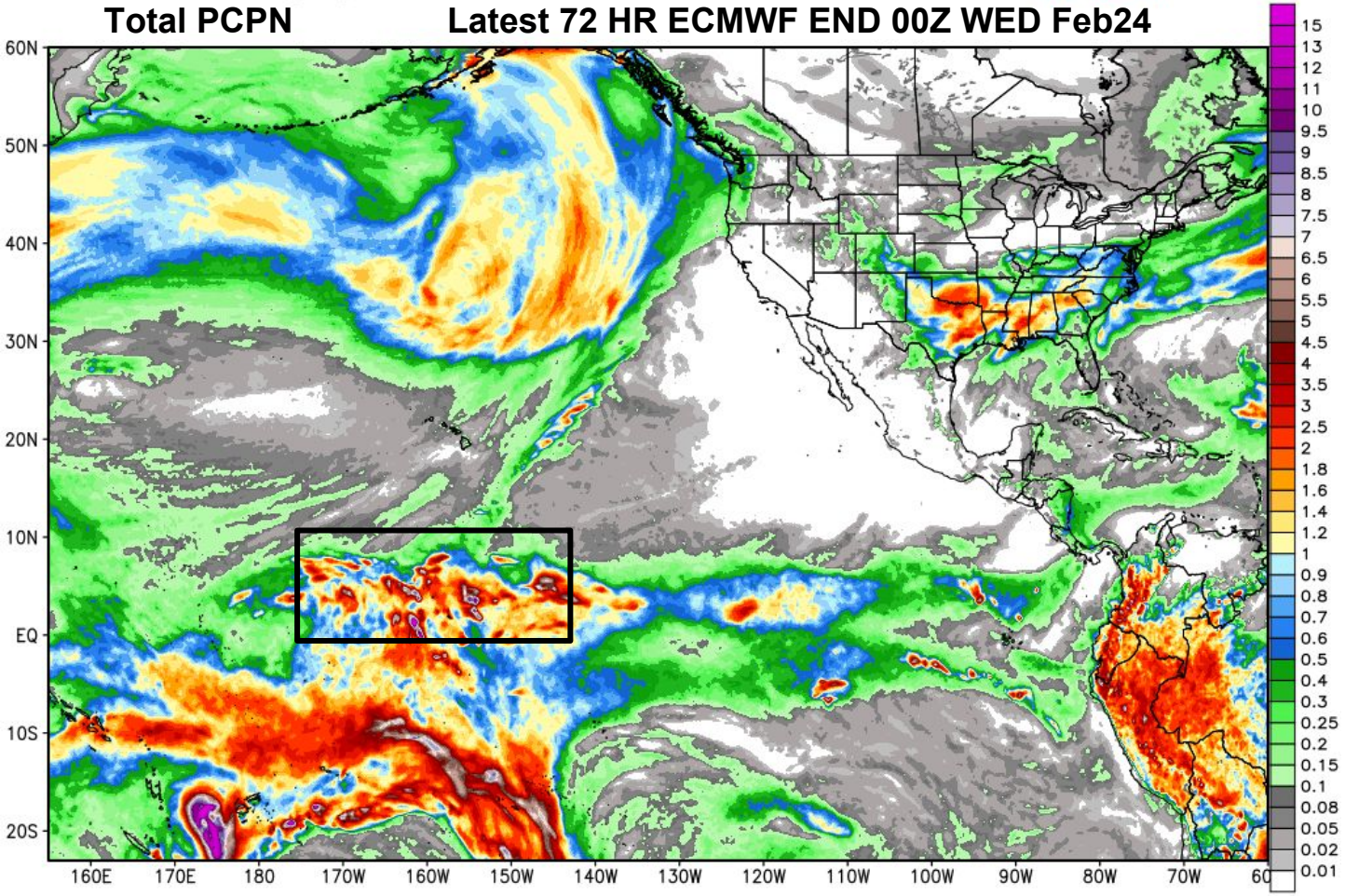
Courtesy WeatherBell **Latest 66 HR GFS Valid 00Z Wed Feb24**



ECMWF Total Precipitation [inches] between 00Z21FEB2016 -- 00Z24FEB2016
INIT: 00Z21FEB2016 fx: [072] hr --> Wed 00Z24FEB2016

Max 28.5 in

Total PCPN **Latest 72 HR ECMWF END 00Z WED Feb24**



NCEP GFS Accum Precip [inch]
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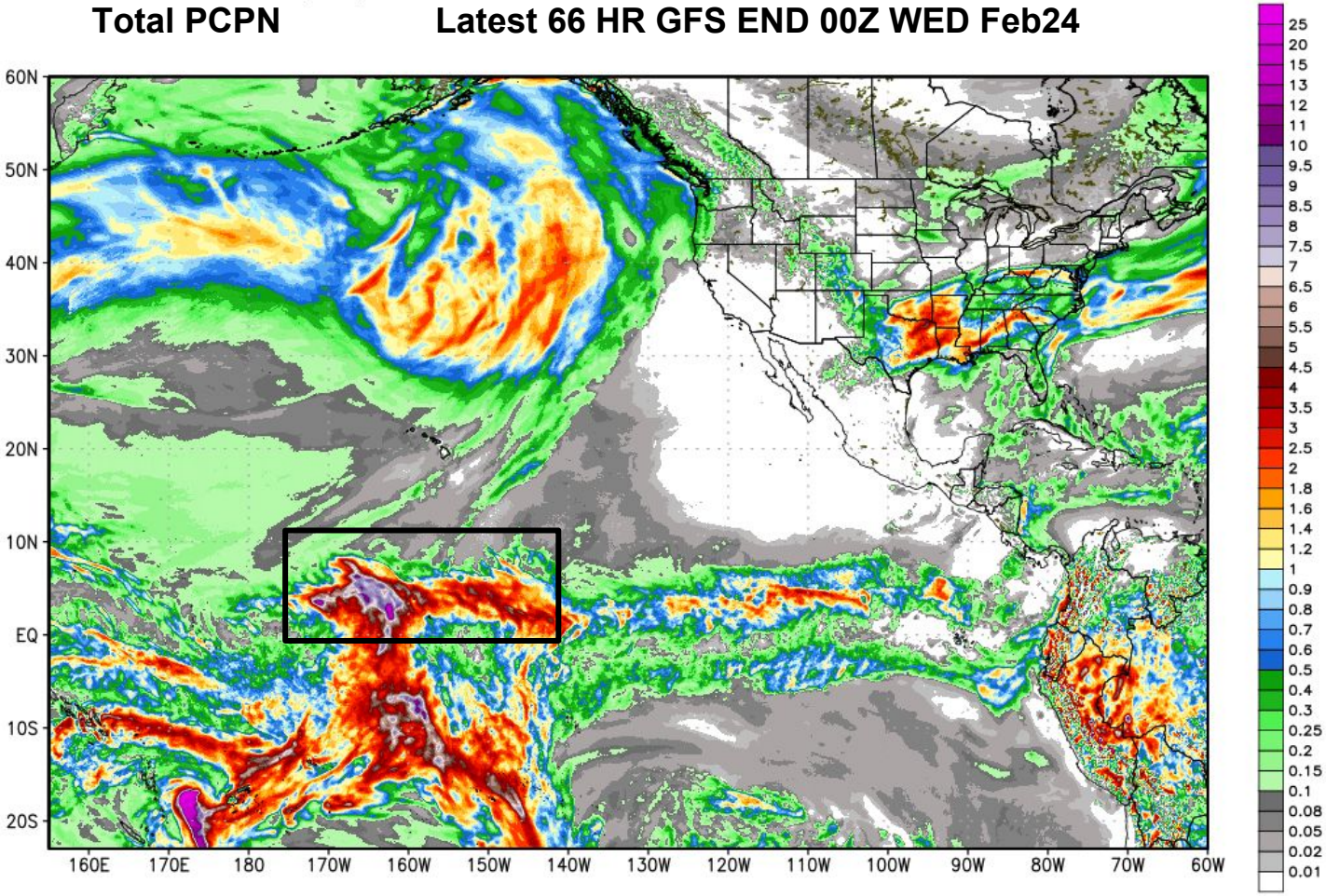
Max: 35.1 in.

Total PCPN **Latest 66 HR GFS END 00Z WED Feb24**



ECMWF Total Precipitation [inches] between 00Z21FEB2016 -- 00Z28FEB2016
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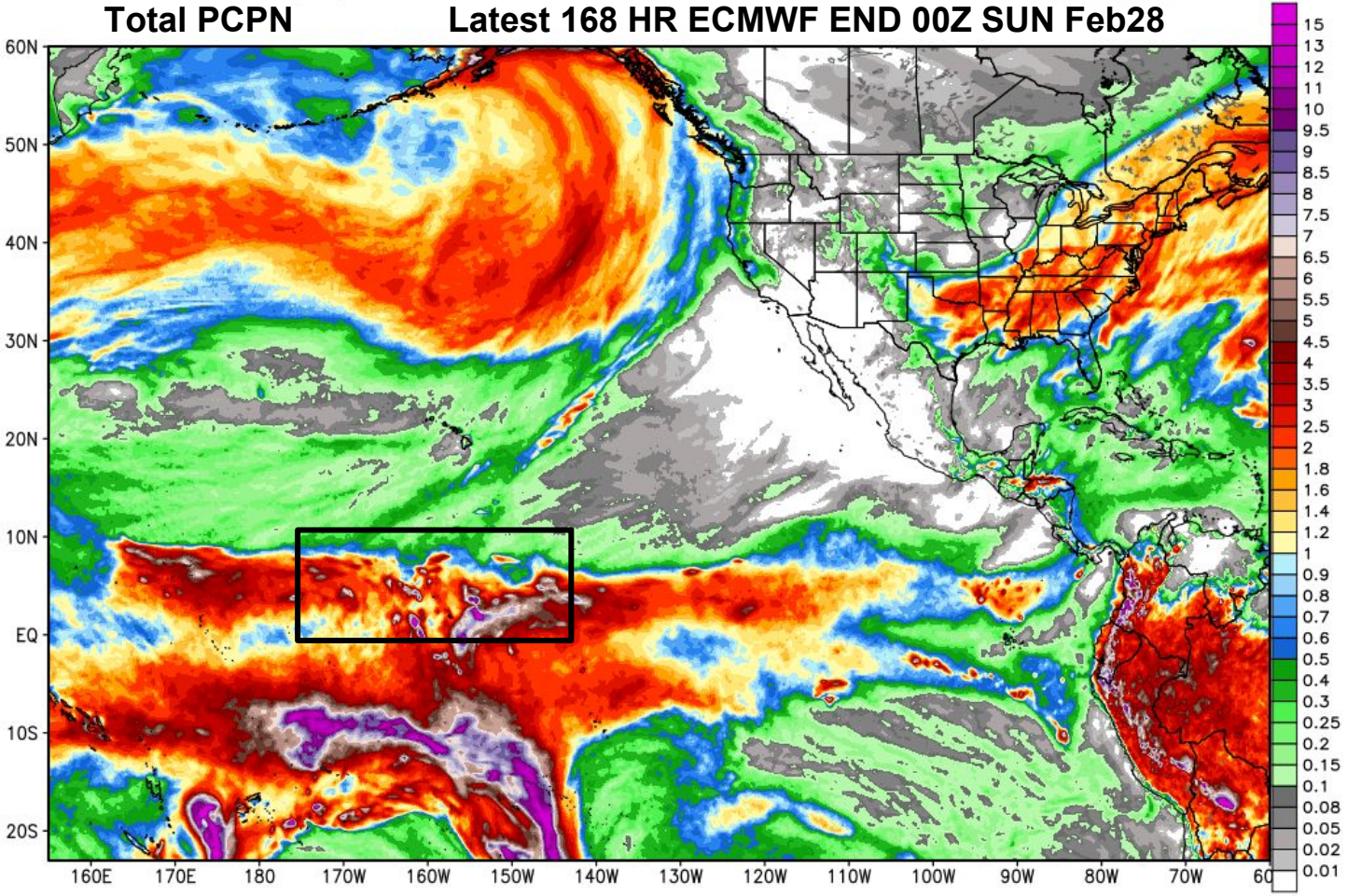
Max 28.9 in

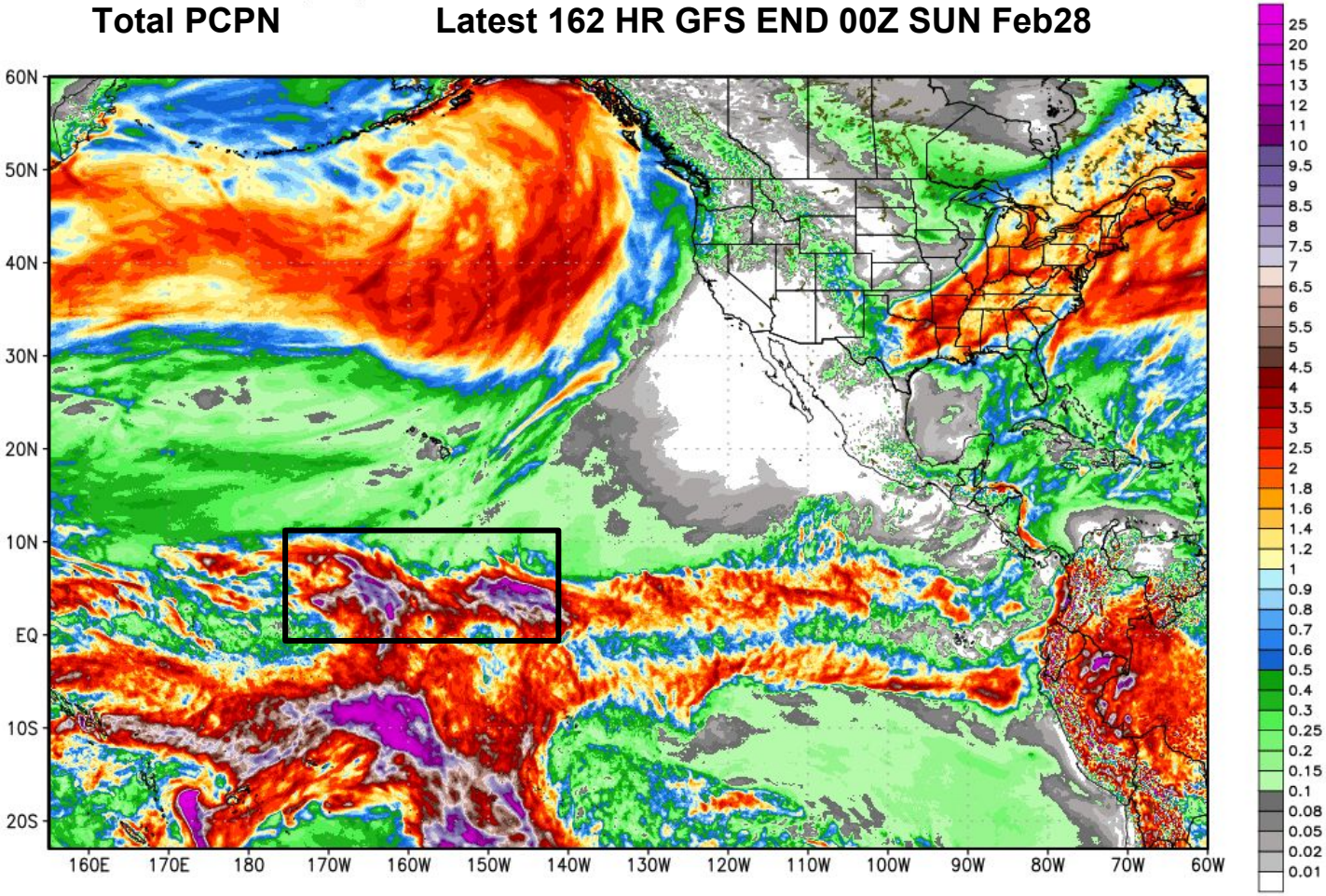
Total PCPN **Latest 168 HR ECMWF END 00Z SUN Feb28**

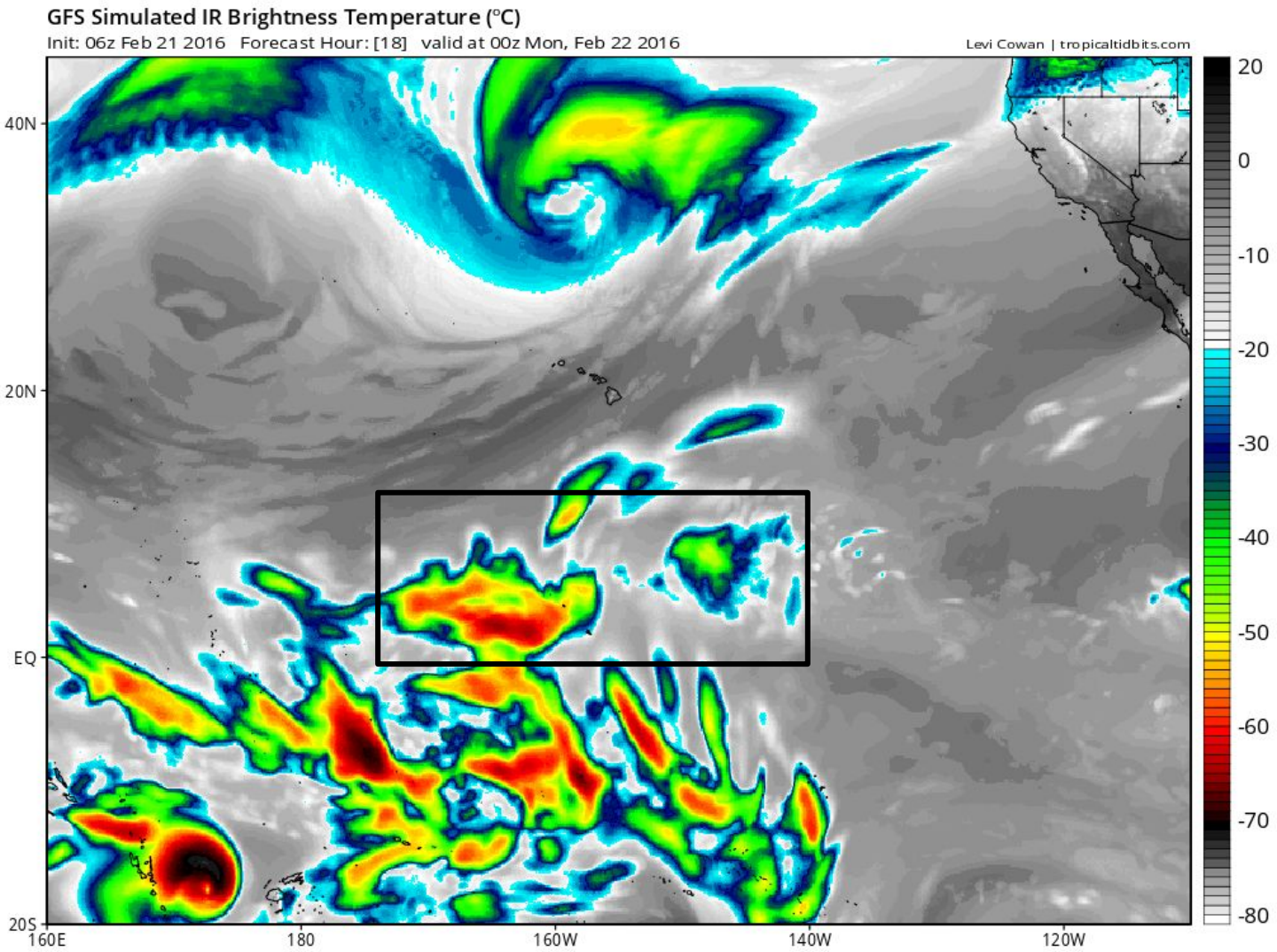


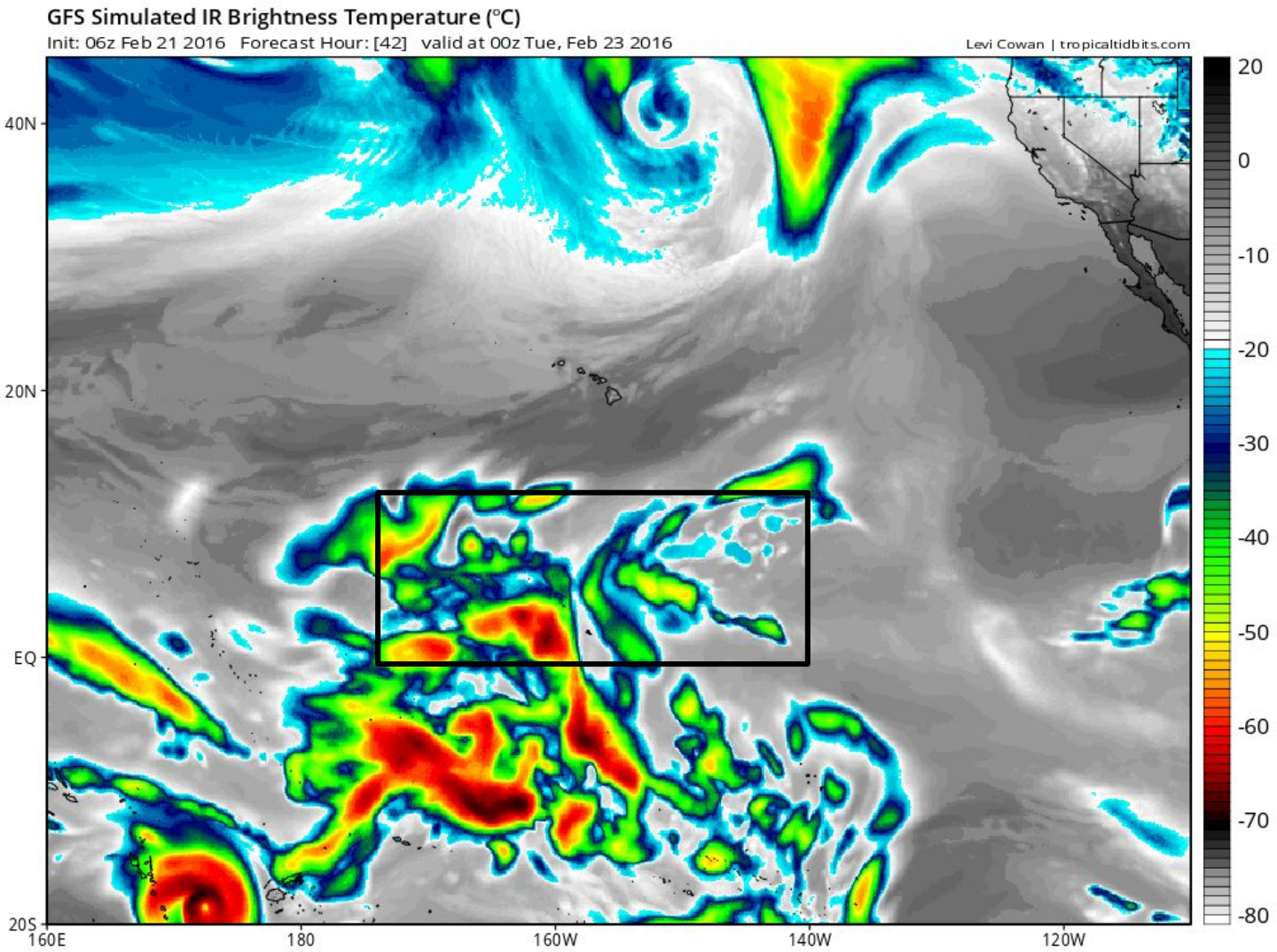
NCEP GFS Accum Precip [inch]
INIT: 06Z21FEB2016 fx: [162] hr --> Sun 00Z28FEB2016

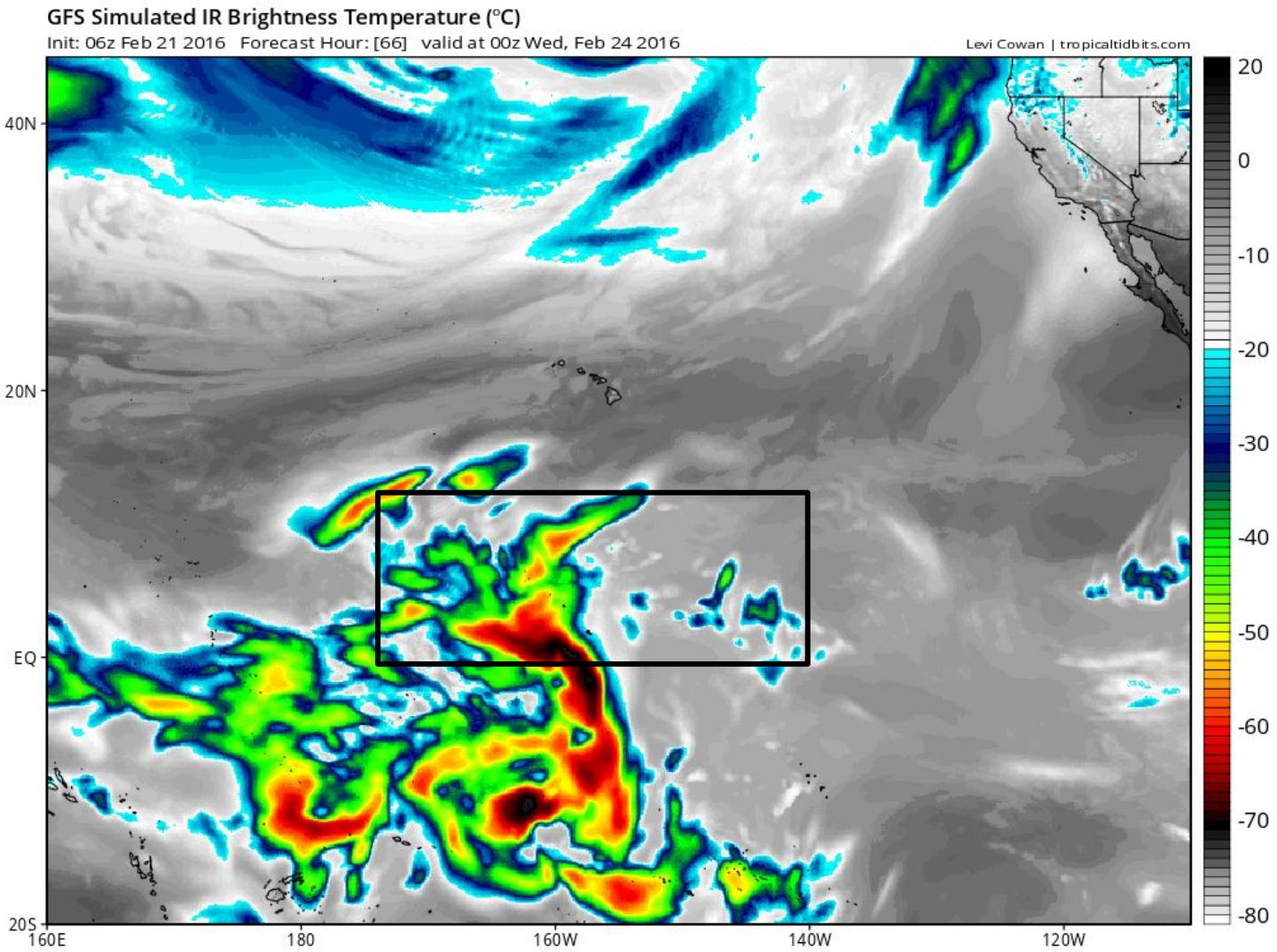
Max: 63.7 in.

Total PCPN **Latest 162 HR GFS END 00Z SUN Feb28**

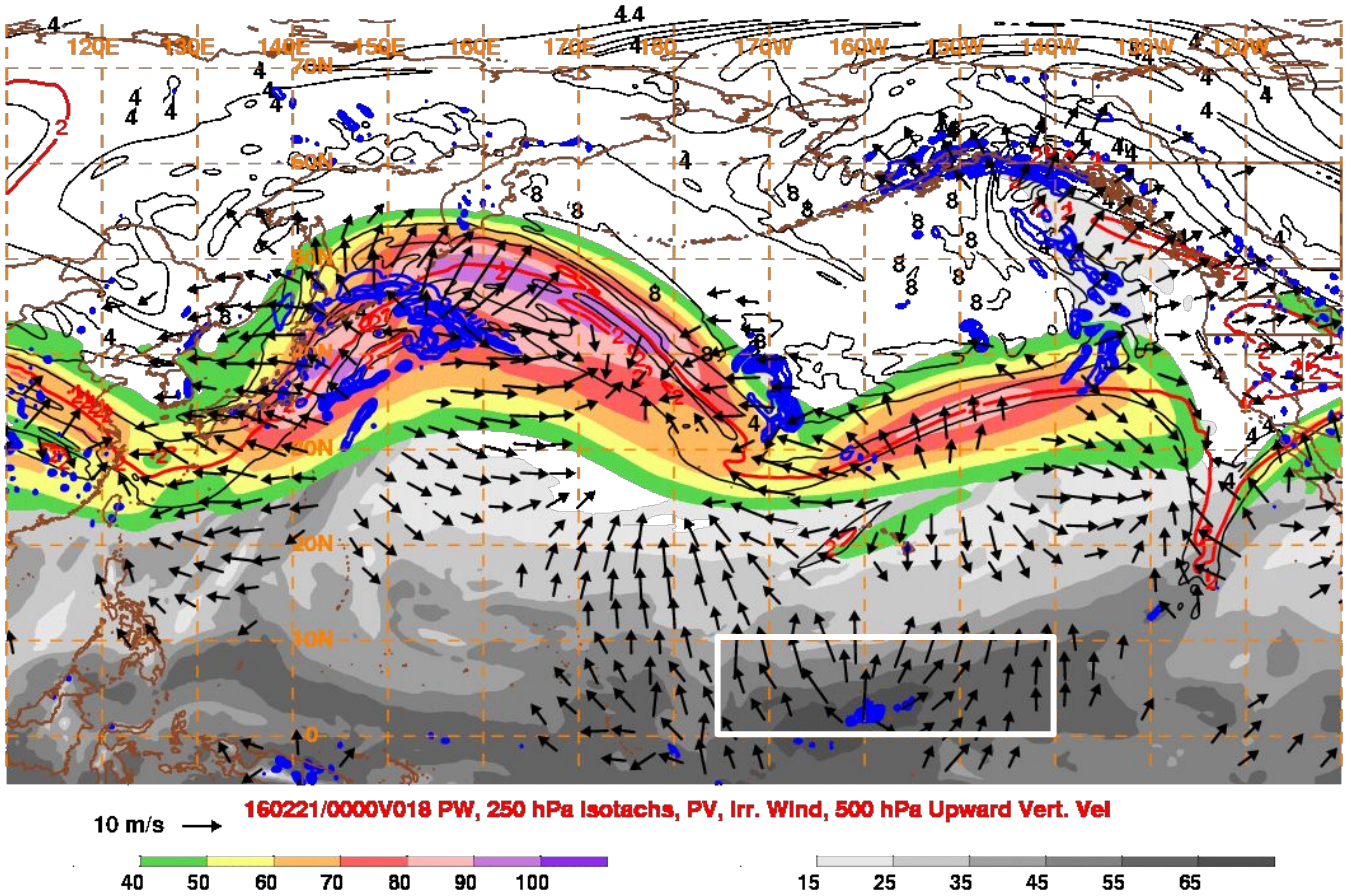



GFS Simulated IR Brightness Temperature (°C)
Init: 06z Feb 21 2016 Forecast Hour: [18] valid at 00z Mon, Feb 22 2016
Levi Cowan | tropicaltidbits.com
40N
20N
EQ
20S
160E
180
160W
140W
120W
20
0
-10
-20
-30
-40
-50
-60
-70
-80

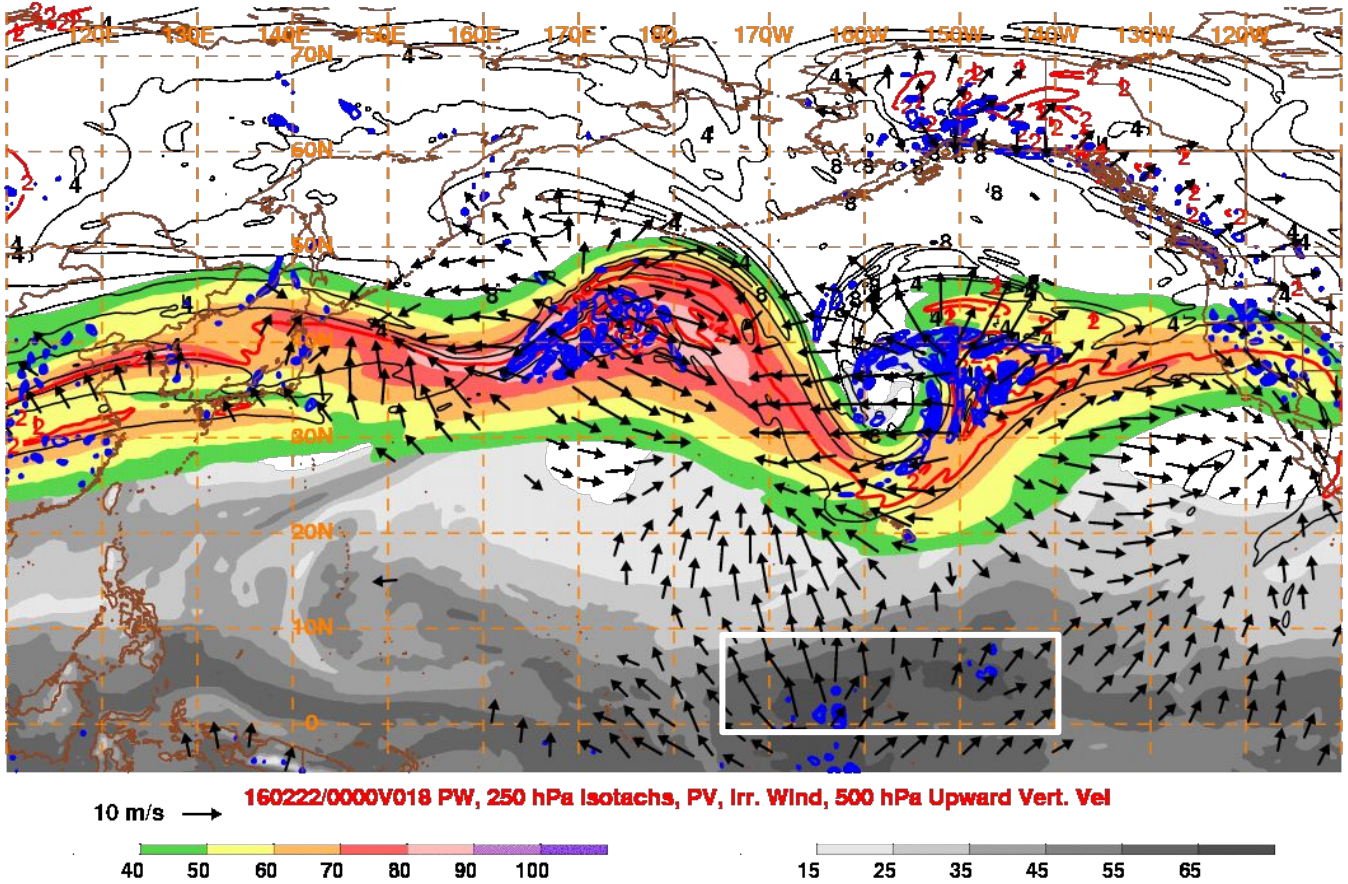

GFS Simulated IR Brightness Temperature (°C)
Init: 06z Feb 21 2016 Forecast Hour: [42] valid at 00z Tue, Feb 23 2016
Levi Cowan | tropicaltidbits.com
40N
20N
EQ
20S
160E
180
160W
140W
120W
20
0
-10
-20
-30
-40
-50
-60
-70
-80


GFS Simulated IR Brightness Temperature (°C)
Init: 06z Feb 21 2016 Forecast Hour: [66] valid at 00z Wed, Feb 24 2016
Levi Cowan | tropicaltidbits.com
40N
20N
EQ
20S
160E
180
160W
140W
120W
20
0
-10
-20
-30
-40
-50
-60
-70
-80

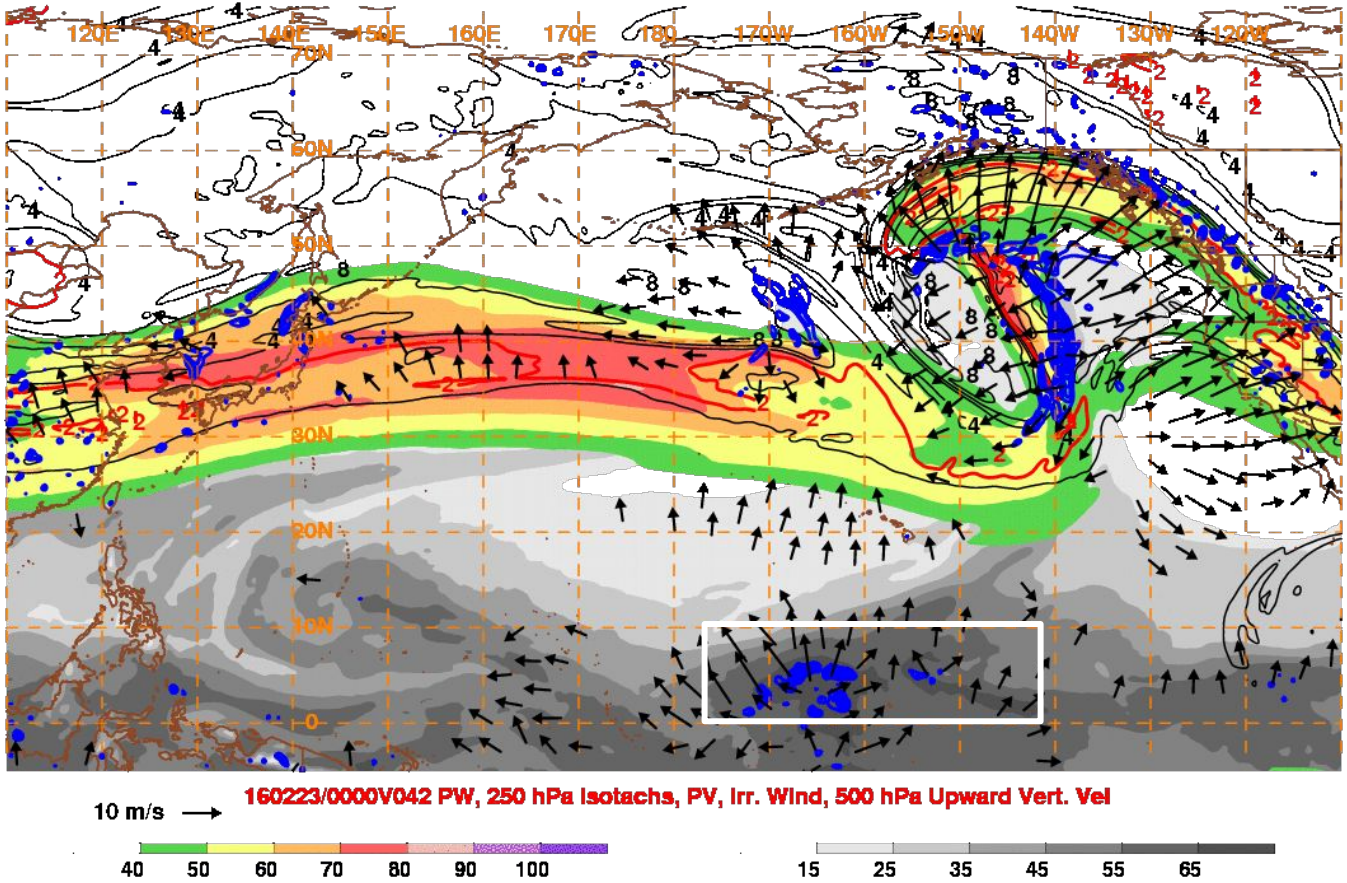
GFS 18HR FCST Valid 00Z SUN Feb 21: 200 mb DIV Wind Vectors



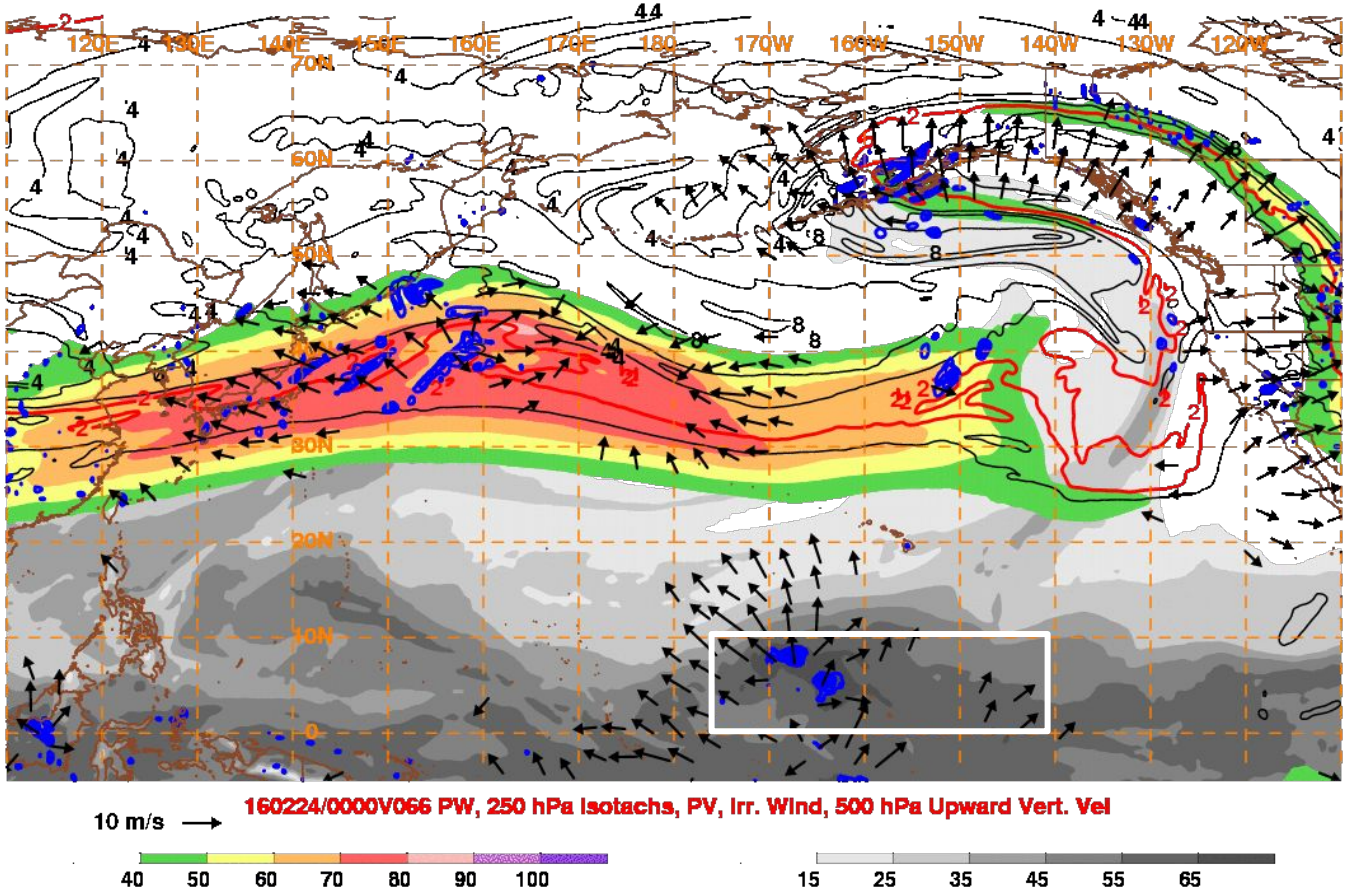
GFS 18HR FCST Valid 00Z MON Feb 22: 200 mb DIV Wind Vectors



GFS 42HR FCST Valid 00Z TUE Feb 23: 200 mb DIV Wind Vectors

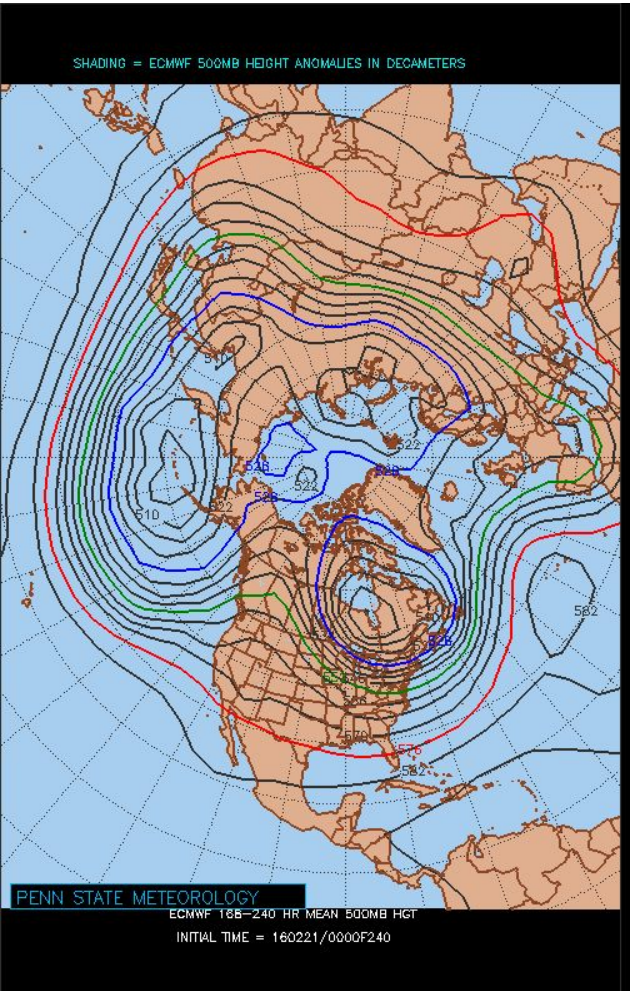


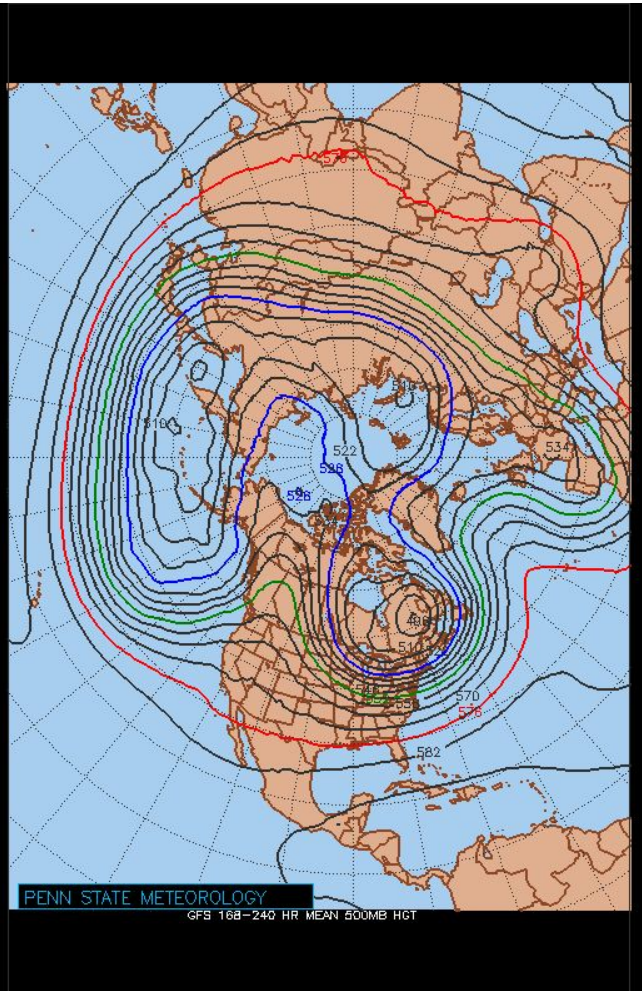
GFS 66HR FCST Valid 00Z WED Feb 24: 200 mb DIV Wind Vectors

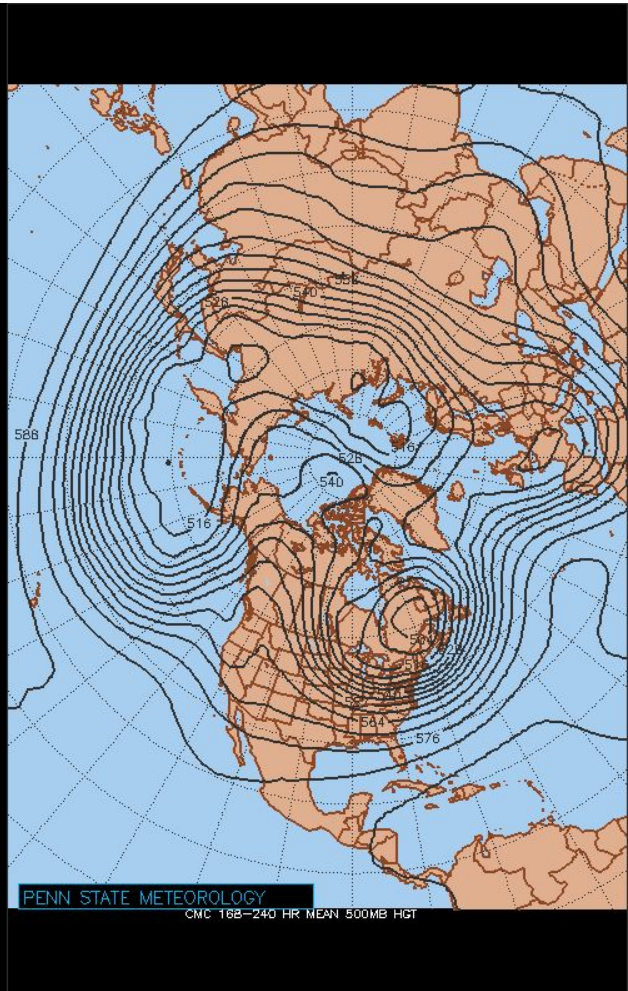


Medium - Long Range Forecast

Day 7-10 Initialized 00Z SUN 21 Feb

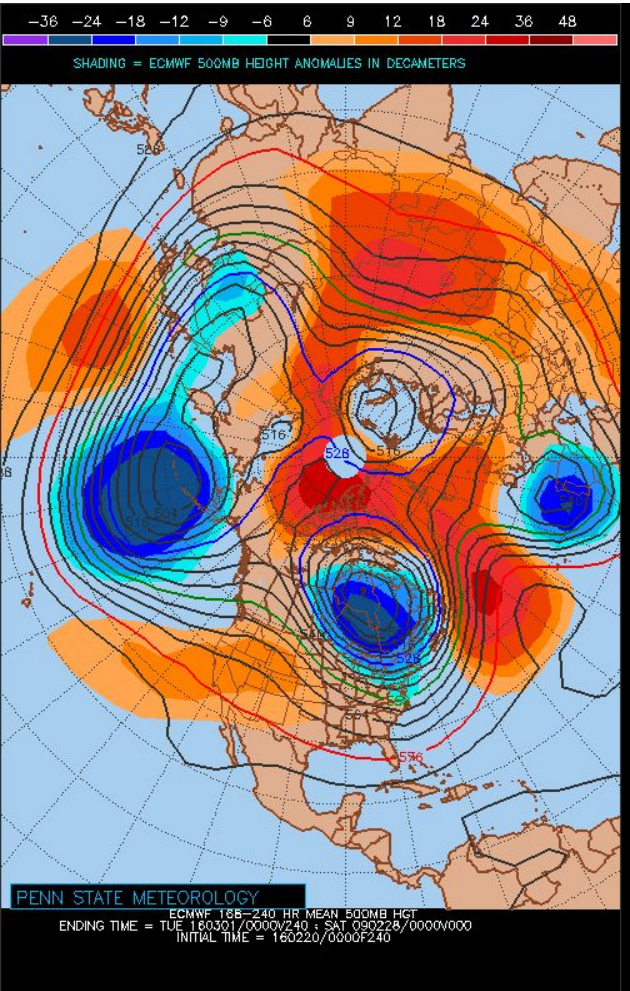


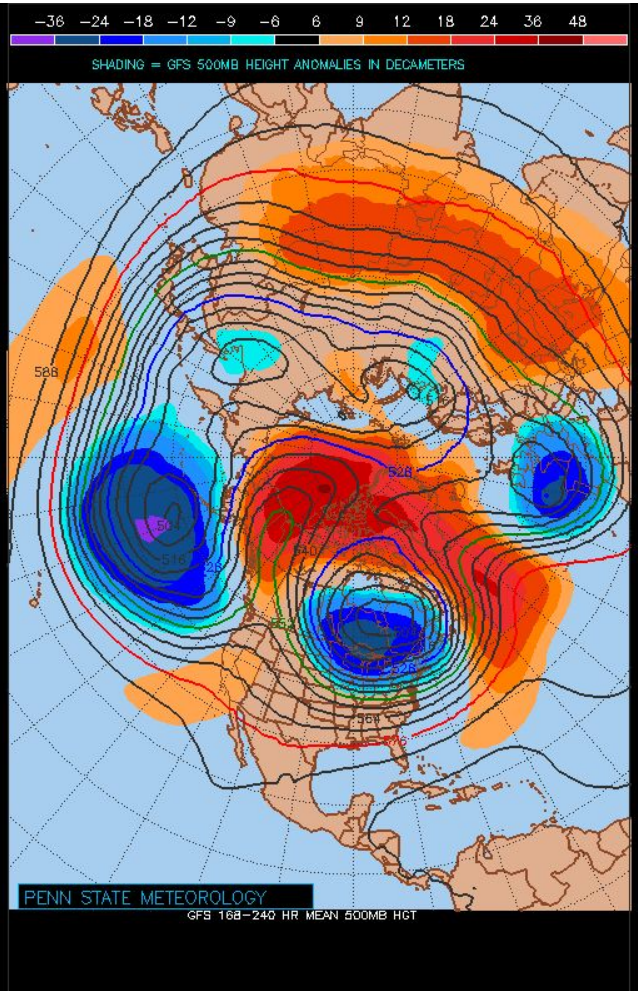


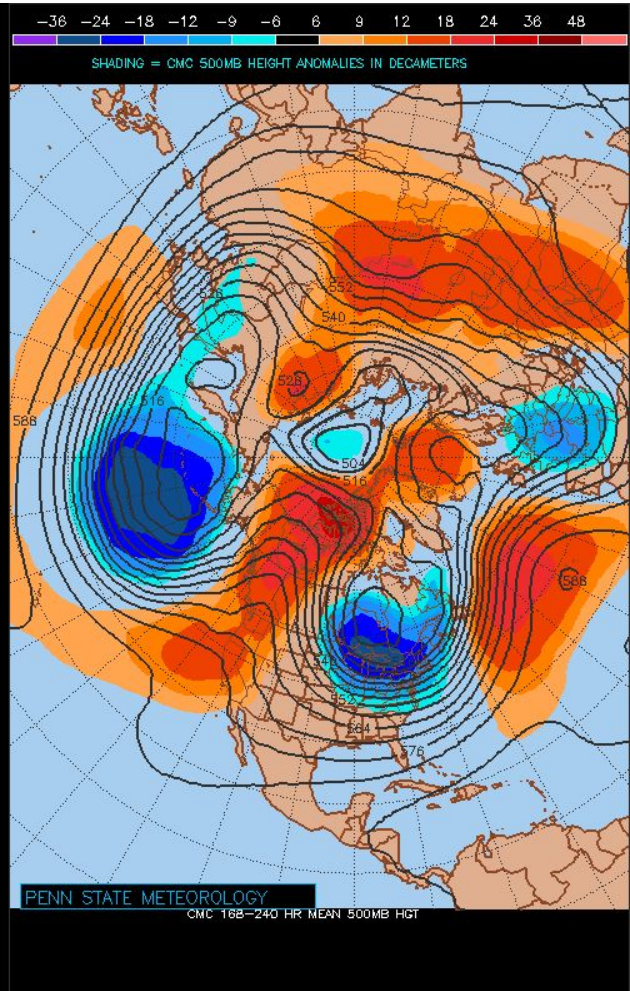


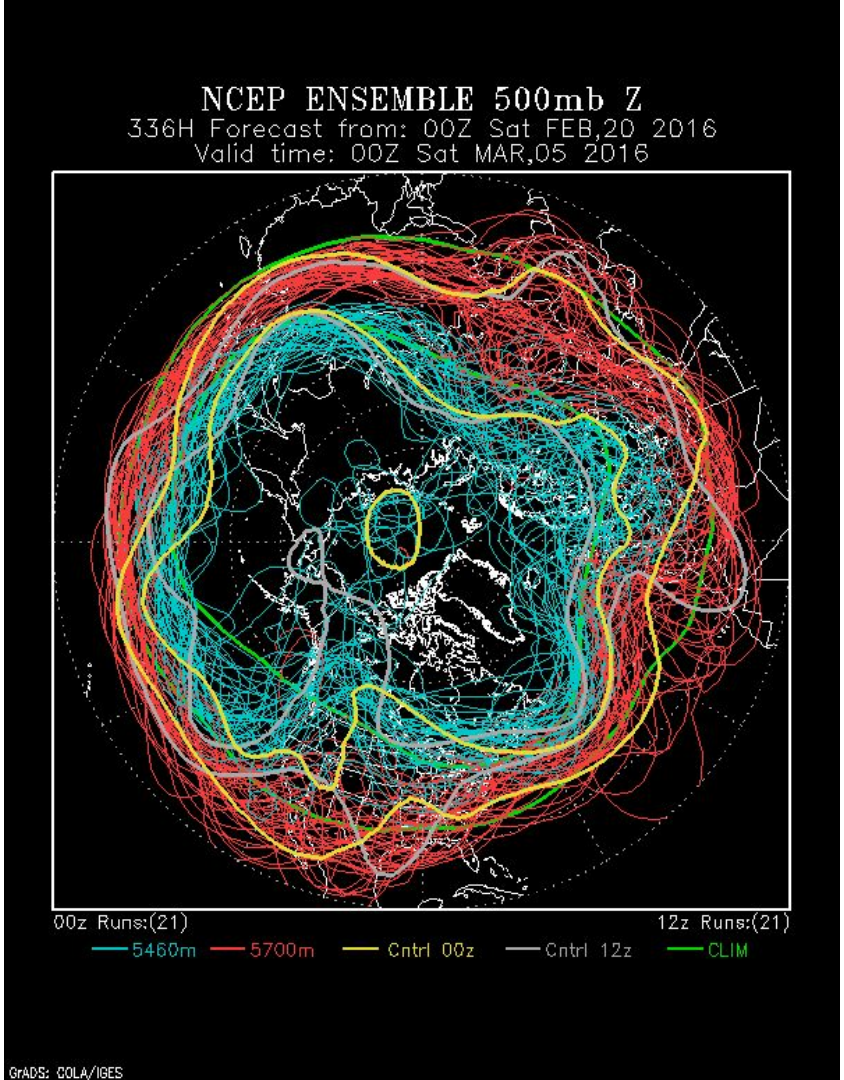
Medium - Long Range Forecast

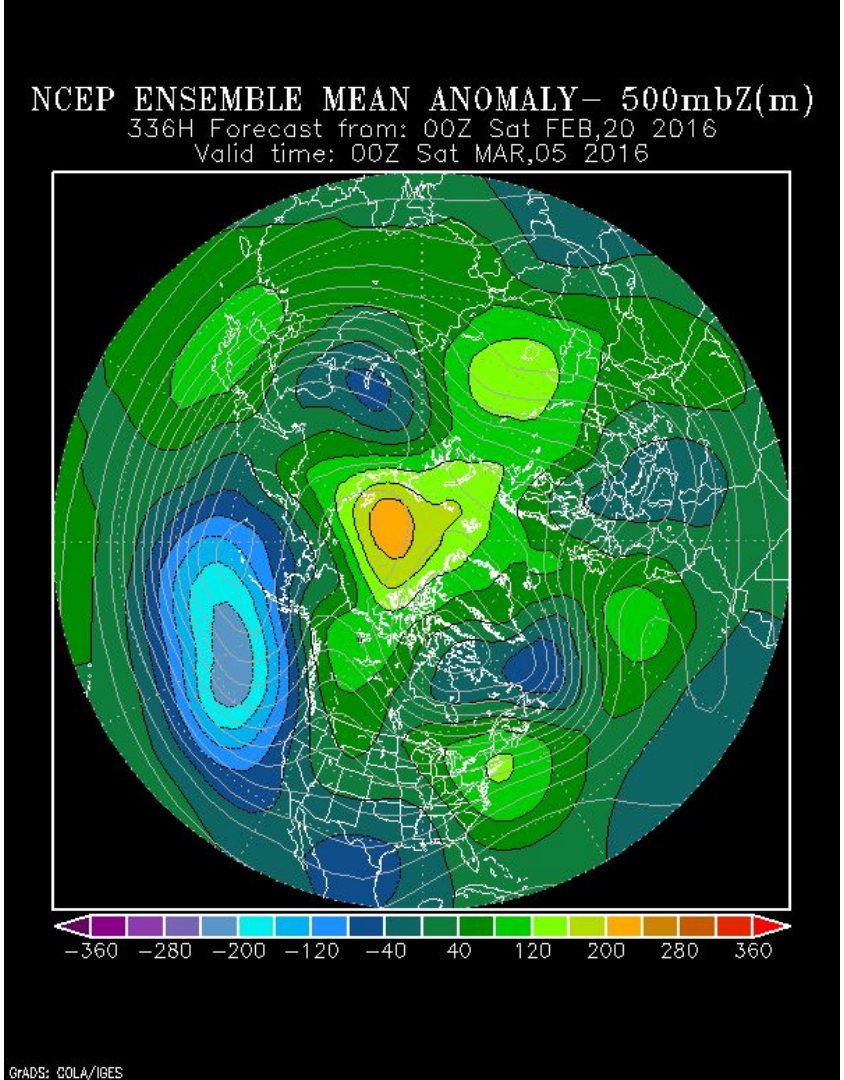
Day 7-10 Initialized 00Z SAT 20 Feb

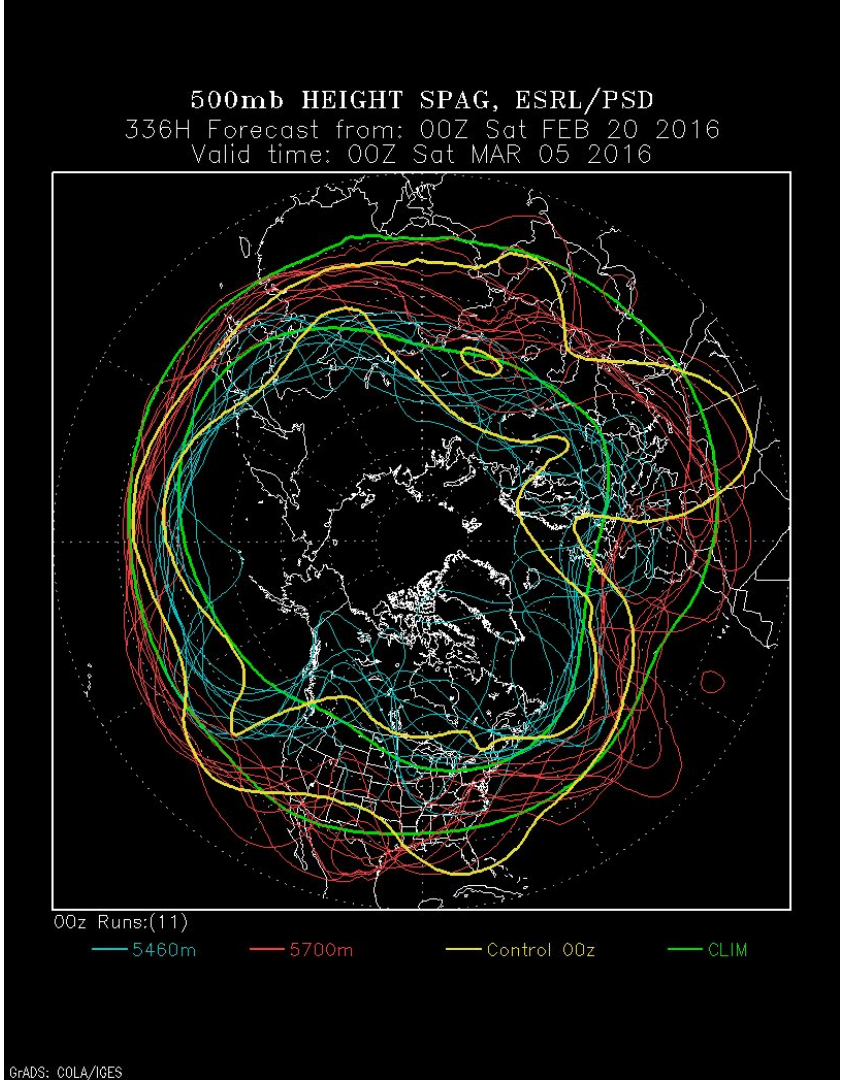


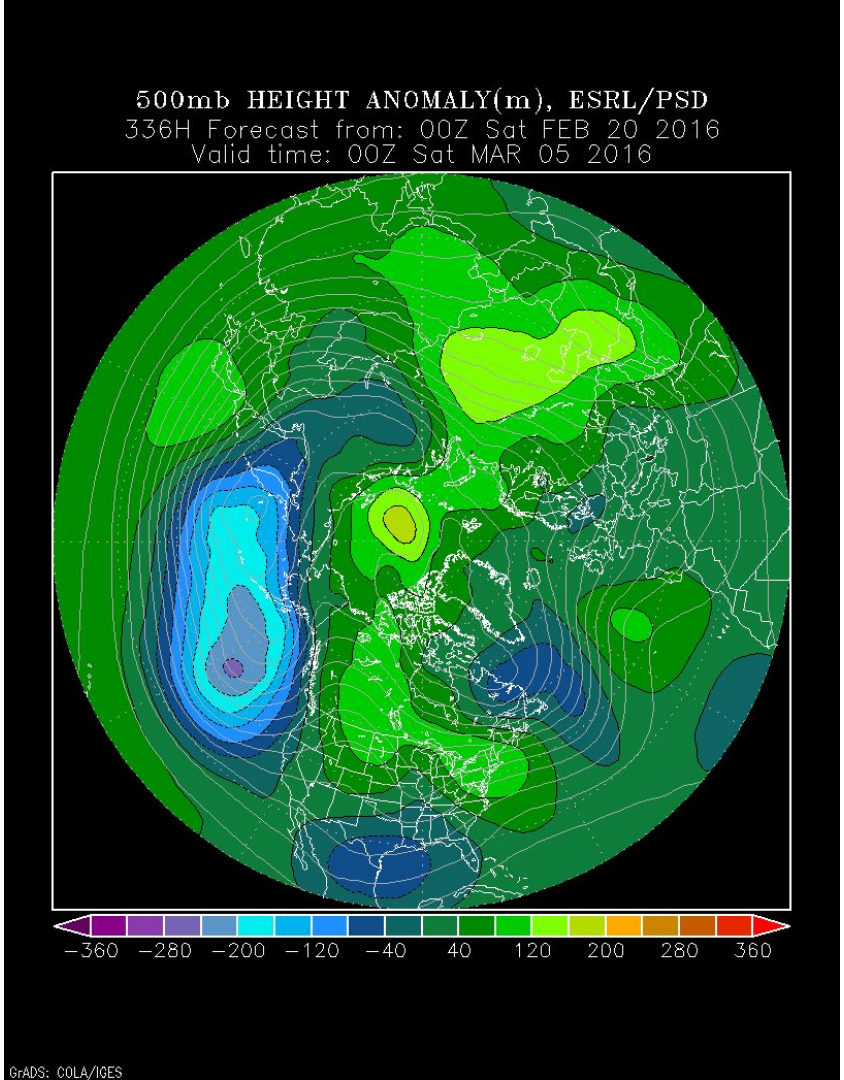


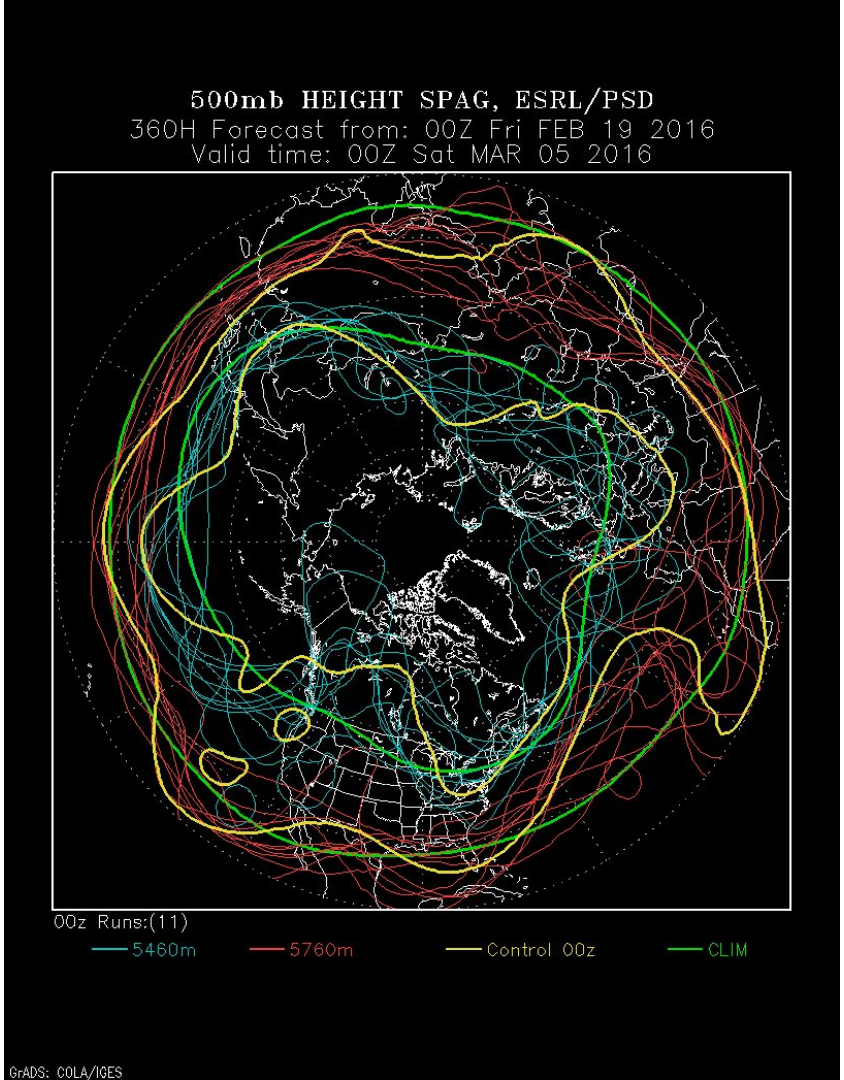


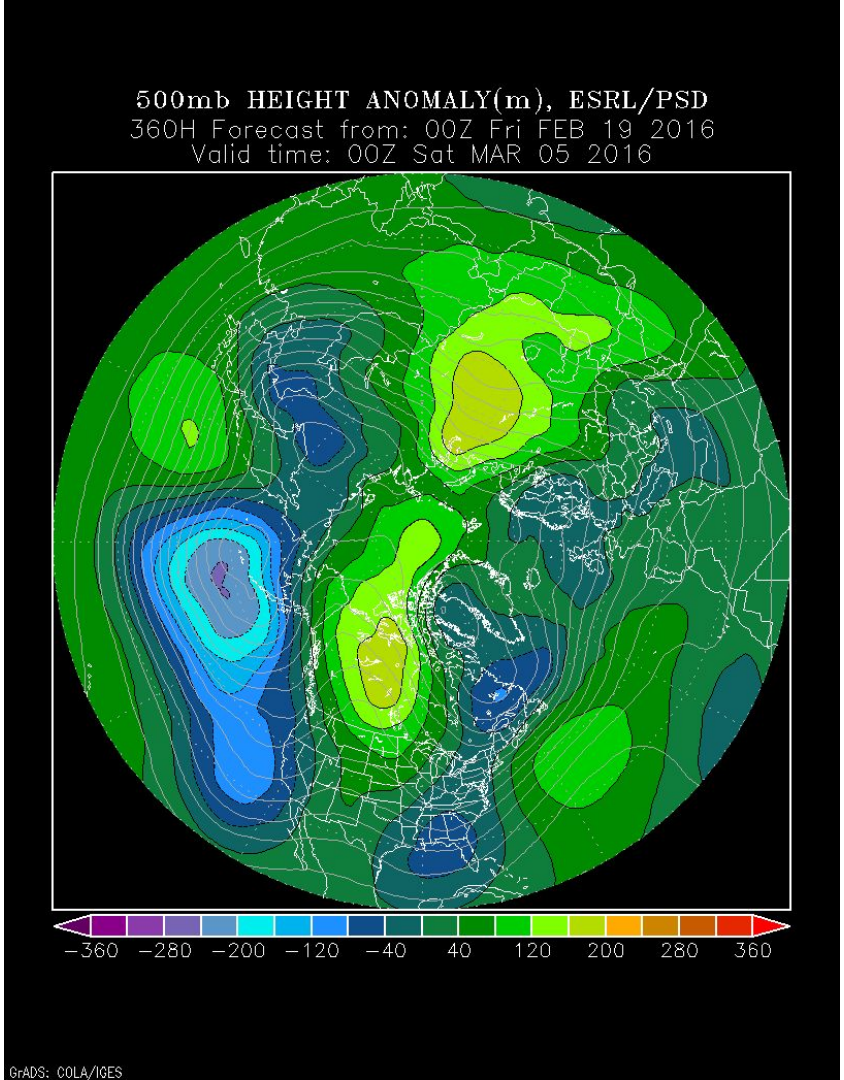

NCEP ENSEMBLE 500mb Z
336H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sat MAR,05 2016
00z Runs:(21)
12z Runs:(21)
5460m
5700m
Cntrl 00z
Cntrl 12z
CLIM
GrADS: COLA/IGES


NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)
336H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sat MAR,05 2016
-360 -280 -200 -120 -40 40 120 200 280 360
GrADS: COLA/IGES


500mb HEIGHT SPAG, ESRL/PSD
336H Forecast from: 00Z Sat FEB 20 2016
Valid time: 00Z Sat MAR 05 2016
00z Runs:(11)
5460m
5700m
Control 00z
CLIM
GrADS: COLA/IGES


500mb HEIGHT ANOMALY(m), ESRL/PSD
336H Forecast from: 00Z Sat FEB 20 2016
Valid time: 00Z Sat MAR 05 2016
−360 −280 −200 −120 −40 40 120 200 280 360
GrADS: COLA/IGES


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
GrADS: COLA/IGES


500mb HEIGHT ANOMALY(m), ESRL/PSD
360H Forecast from: 00Z Fri FEB 19 2016
Valid time: 00Z Sat MAR 05 2016
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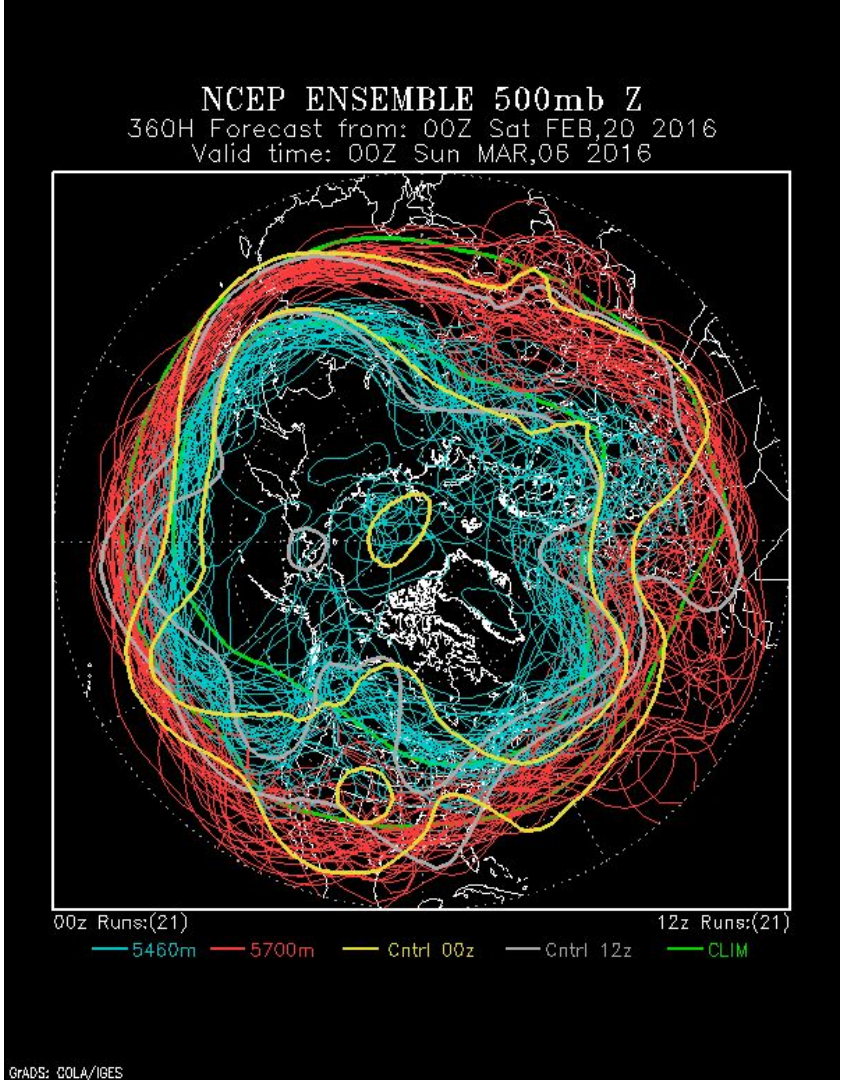
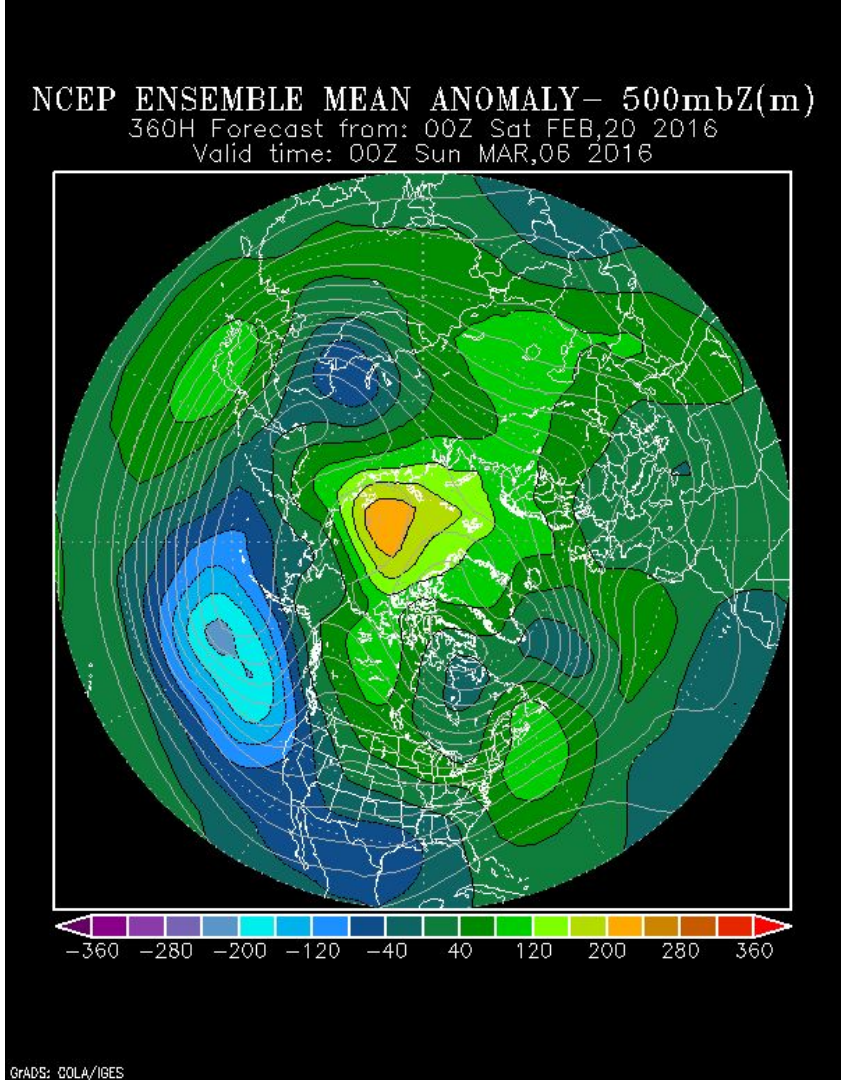
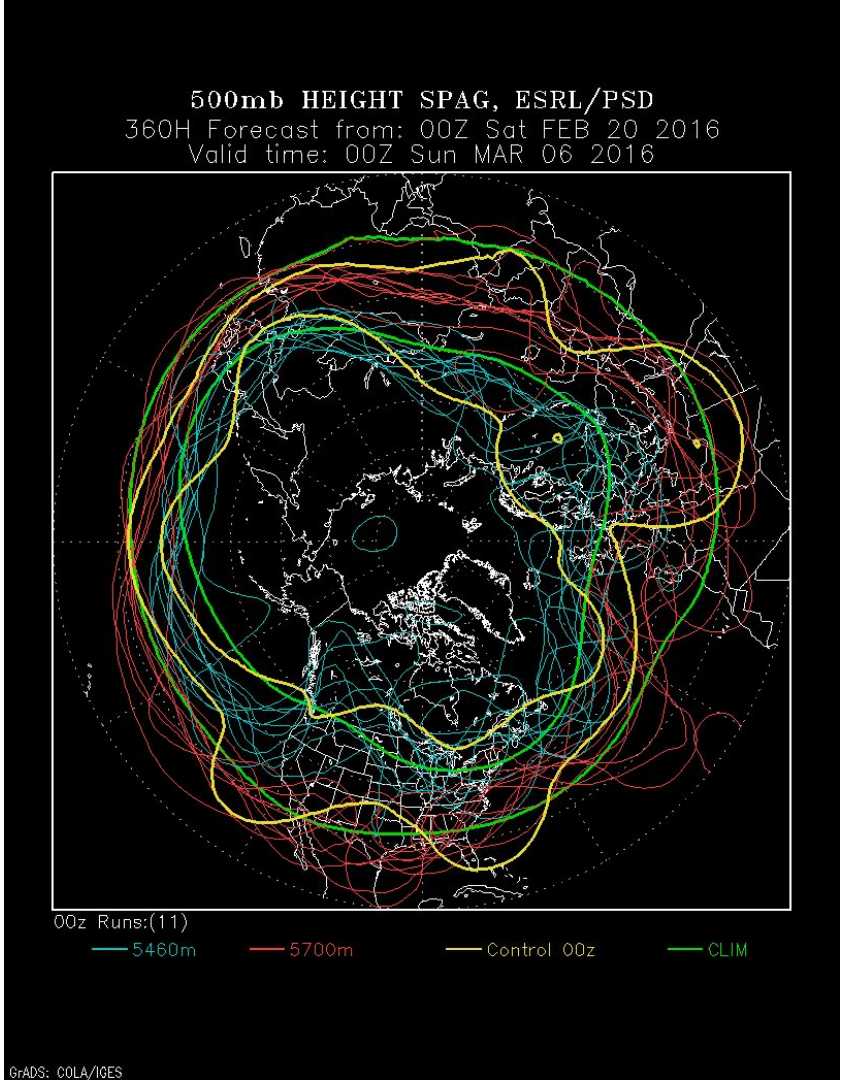
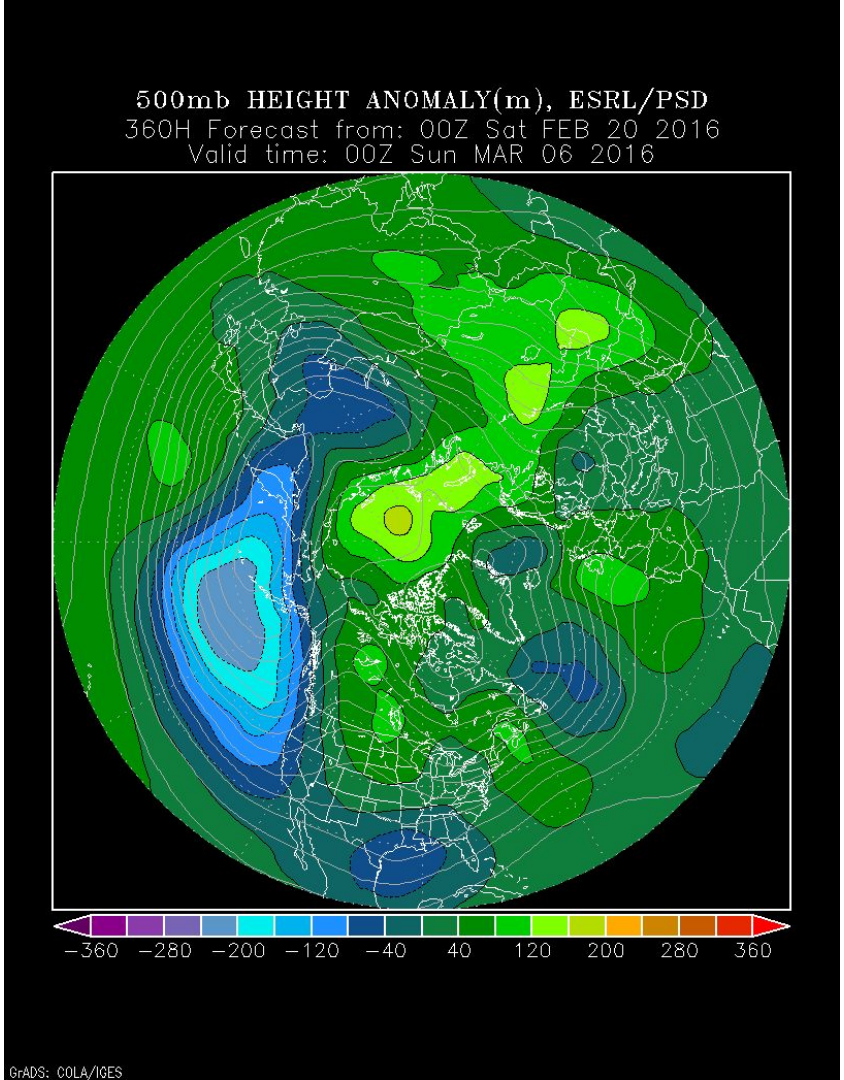
GrADS: COLA/IGES


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
GrADS: COLA/IGES

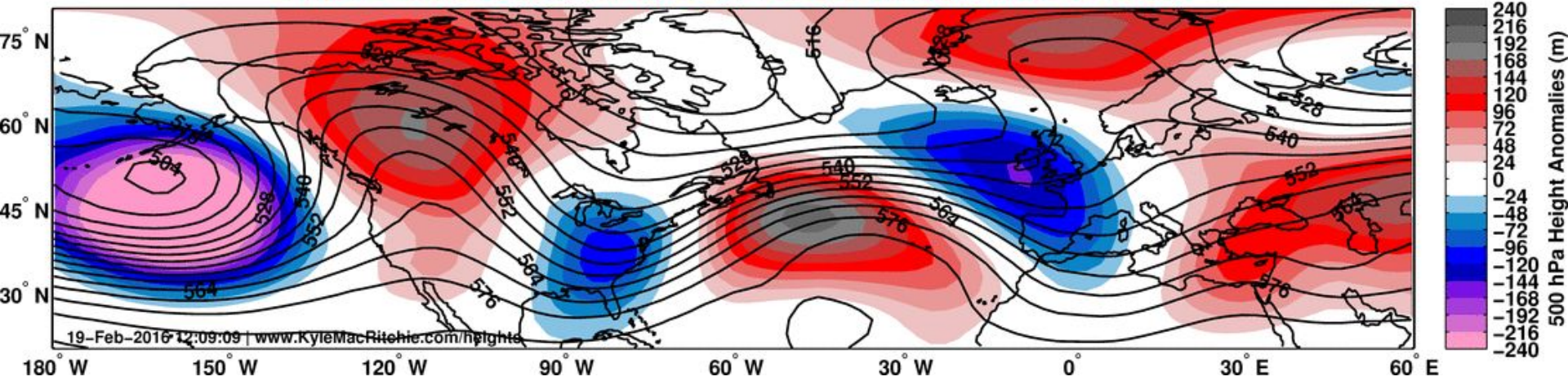

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016
-360 -280 -200 -120 -40 40 120 200 280 360
GrADS: COLA/IGES


500mb HEIGHT SPAG, ESRL/PSD
360H Forecast from: 00Z Sat FEB 20 2016
Valid time: 00Z Sun MAR 06 2016
00z Runs:(11)
5460m
5700m
Control 00z
CLIM
GrADS: COLA/IGES


500mb HEIGHT ANOMALY(m), ESRL/PSD
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
GrADS: COLA/IGES

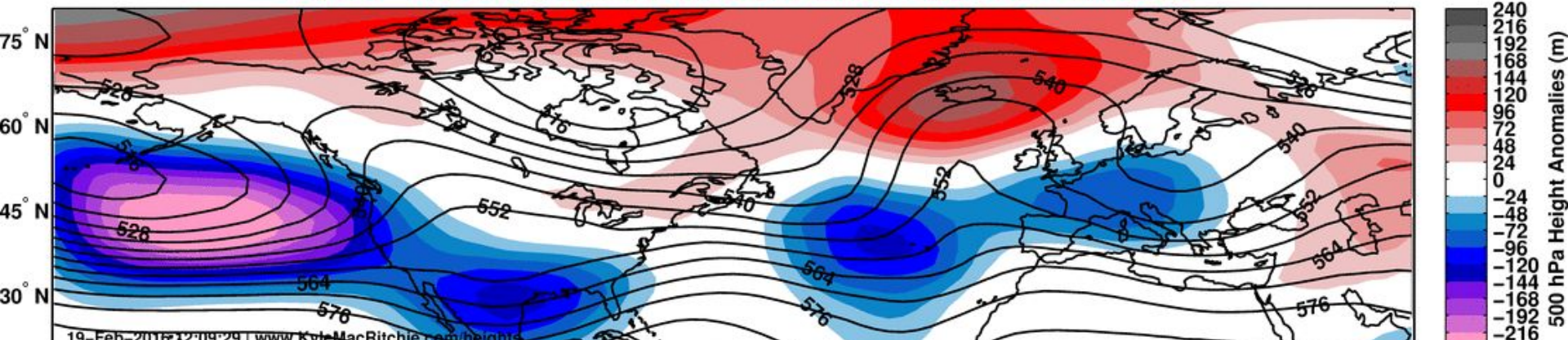
CFS (Ens. Mean) 500 hPa Hgts Anoms & Total | North America/Europe | Run at Fri 19-Feb-2016 00z

Days 6 – 10 | 5 Day Avg. Valid: Wed 24-Feb-2016 through Sun 28-Feb-2016



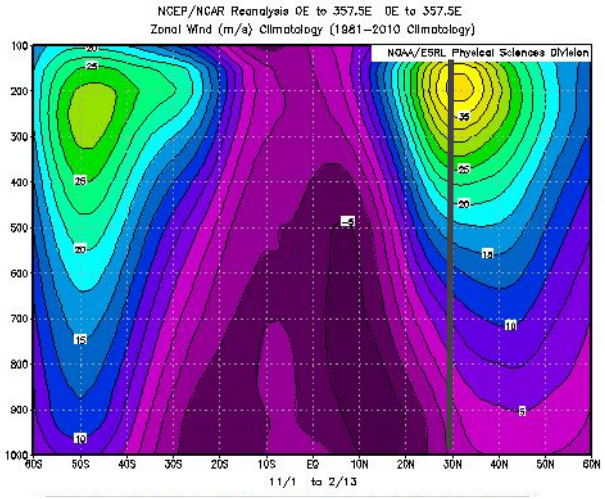
CFS (Ens. Mean) 500 hPa Hgts Anoms & Total | North America/Europe | Run at Fri 19-Feb-2016 00z

Days 16 – 20 | 5 Day Avg. Valid: Sat 05-Mar-2016 through Wed 09-Mar-2016

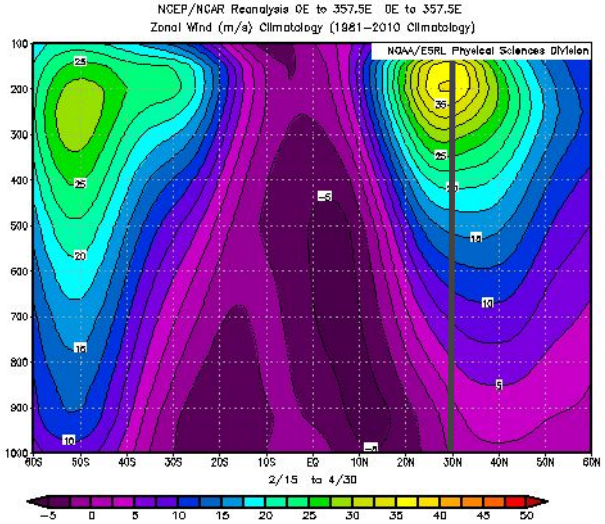


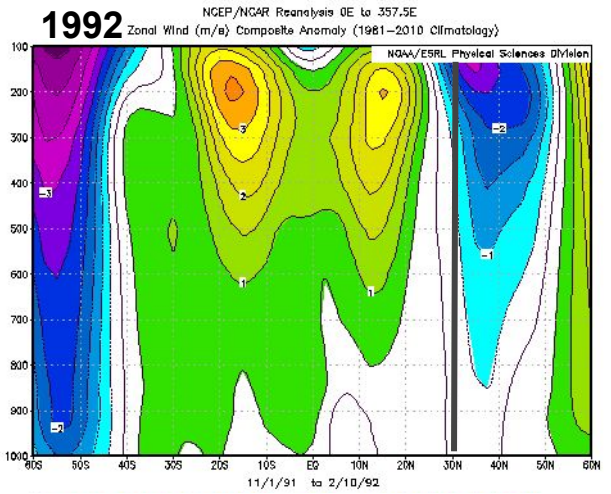
The Curious Incident of the Zonal Mean Zonal Wind in 2016

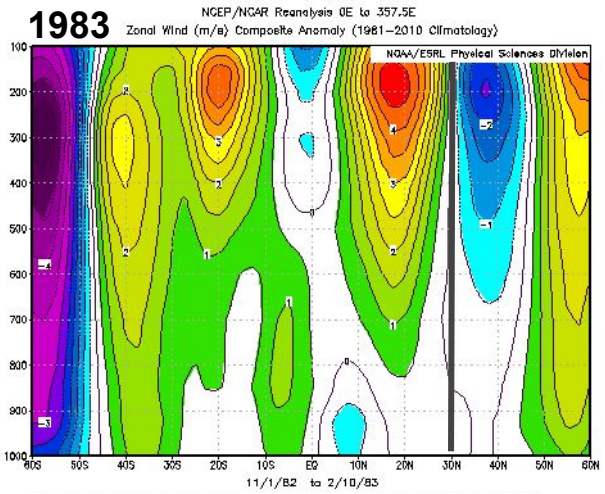
Zonal Mean U
Nov 1- Feb 13 Climo

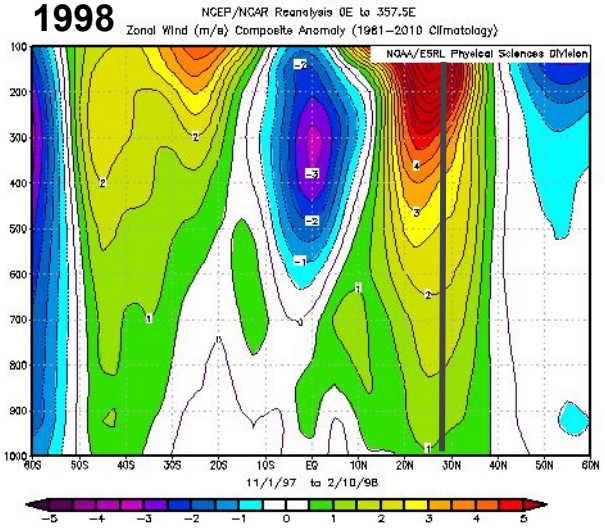


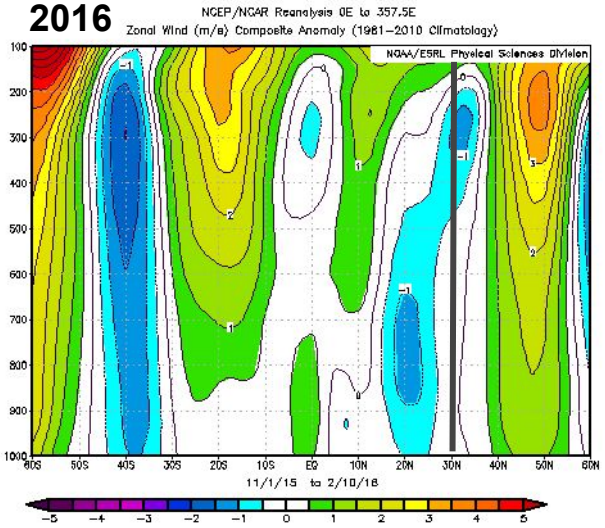
Zonal Mean U
Feb 15 - Apr 30 Climo



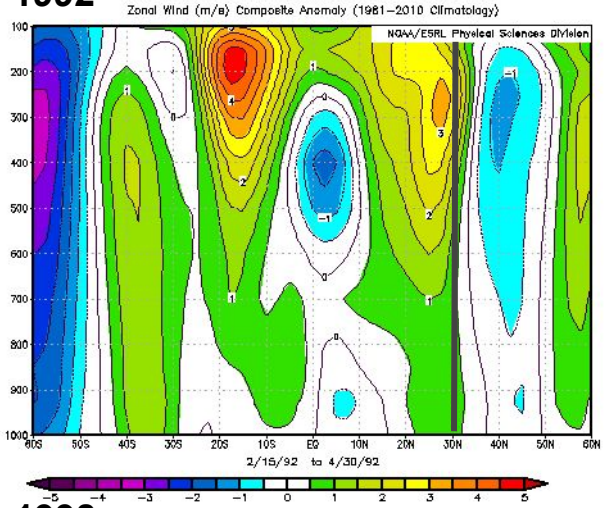

1992
NCEP/NCAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981-2010 Climatology)
NOAA/ESRL Physical Sciences Division
11/1/91 to 2/10/92


1983
NCEP/NCAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981-2010 Climatology)
NOAA/ESRL Physical Sciences Division
11/1/82 to 2/10/83

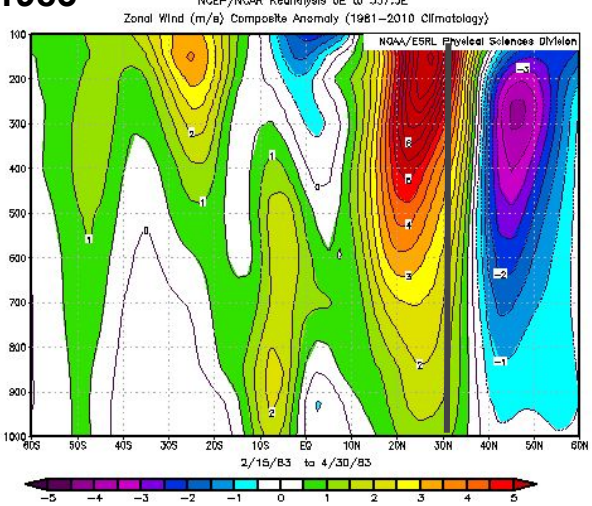

1998
NCEP/NCAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981-2010 Climatology)
NOAA/ESRL Physical Sciences Division
11/1/97 to 2/10/98


2016
NCEP/NCAR Reanalysis 0E to 357.5E
Zonal Wind (m/s) Composite Anomaly (1981-2010 Climatology)
NOAA/ESRL Physical Sciences Division
11/1/15 to 2/10/16

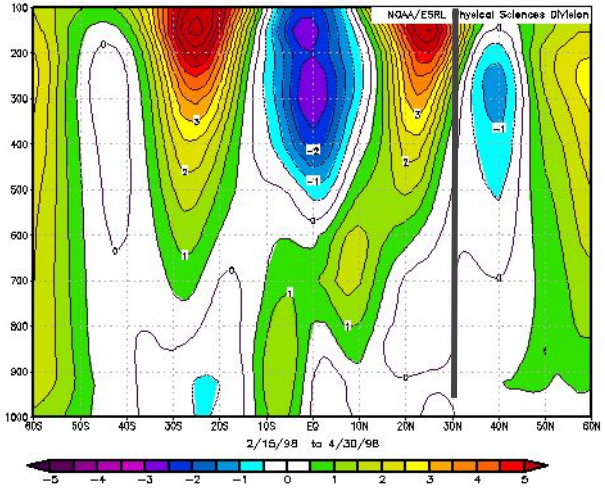
1992



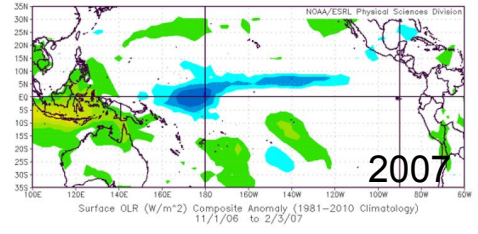
1983

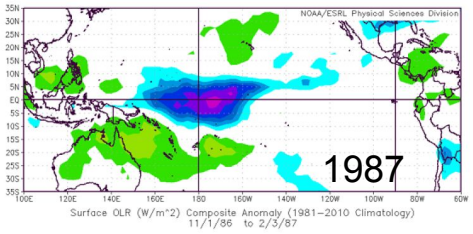


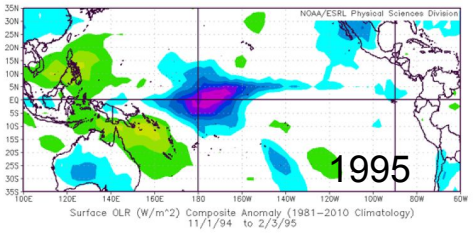
1998

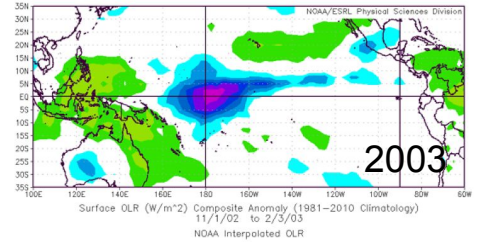


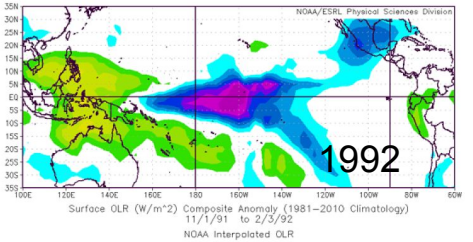
Observed OLR Anomalies : 1 Nov - 3 Feb

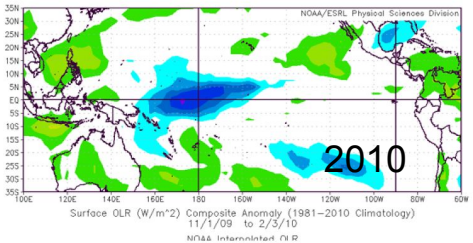


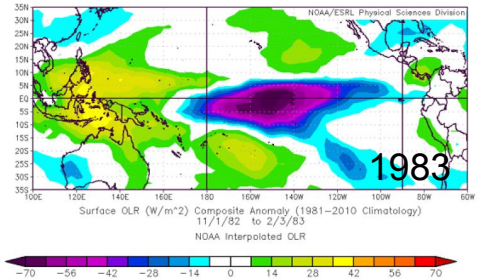


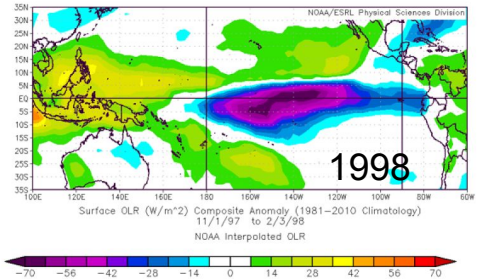


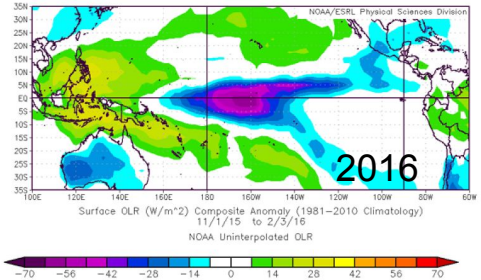




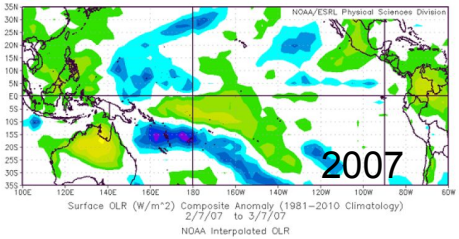


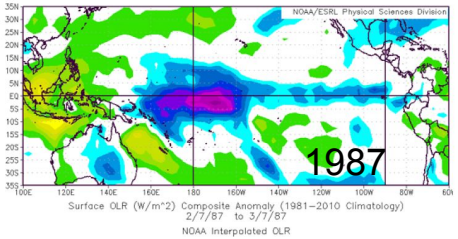


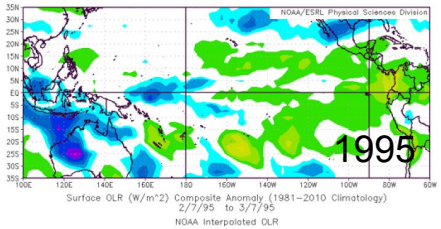


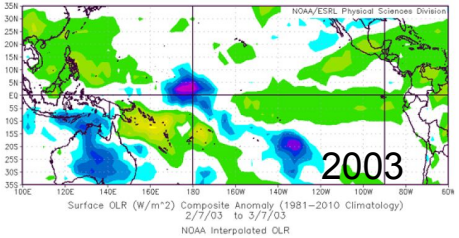


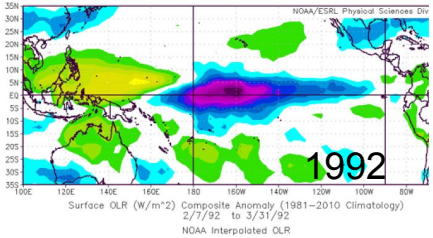
Observed OLR Anomalies : 7 Feb - 7 Mar

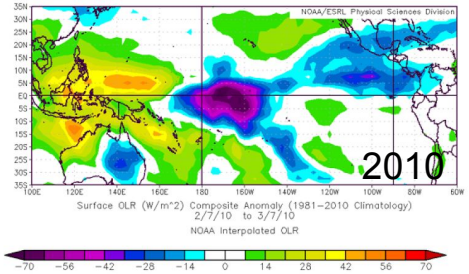


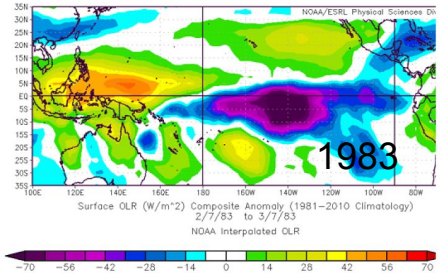


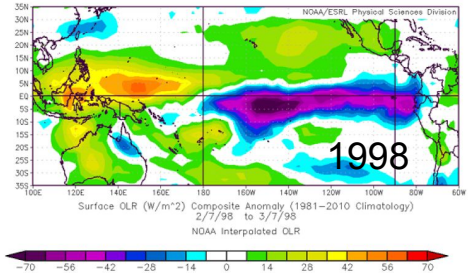




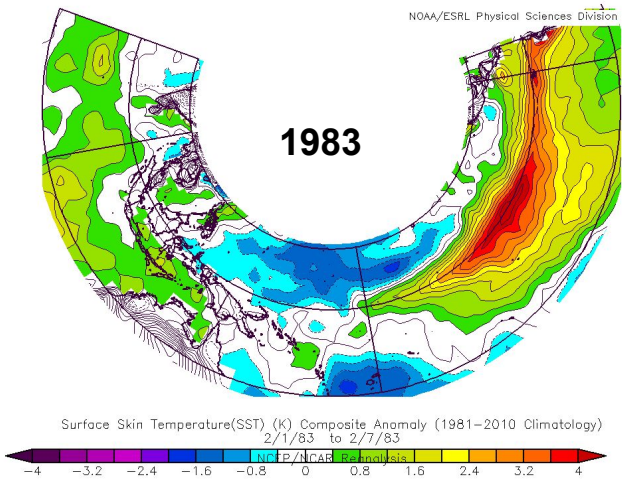


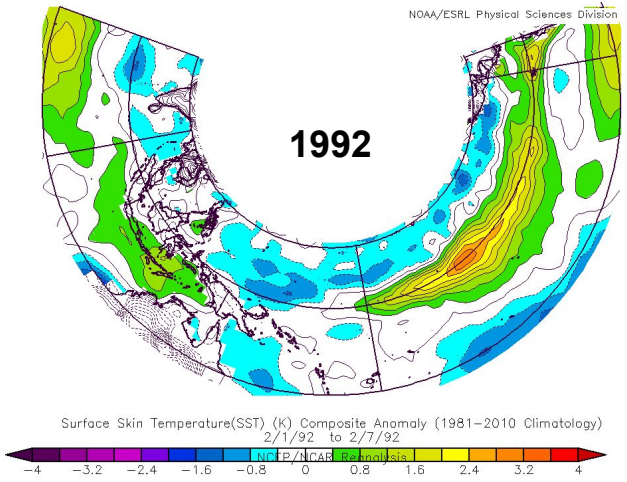


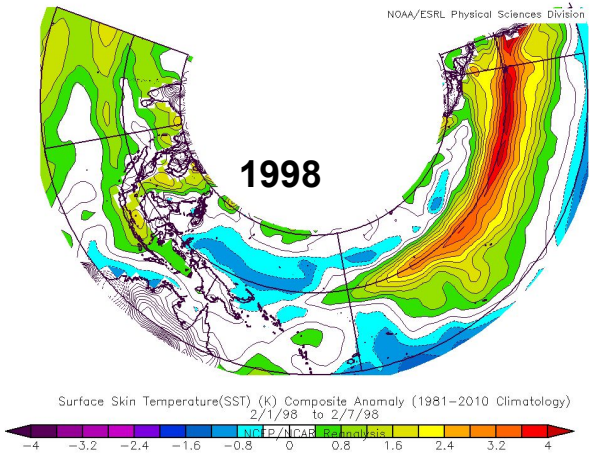


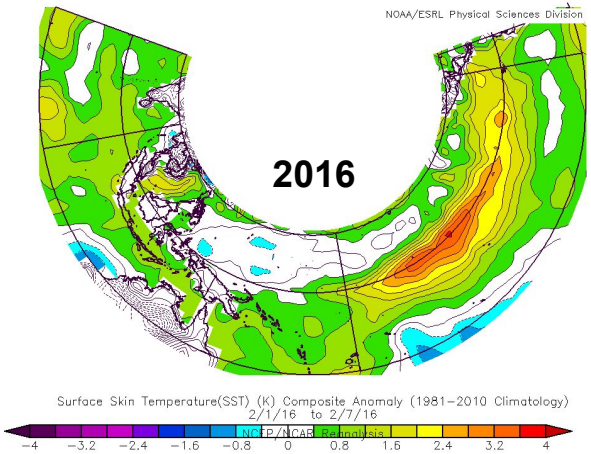


SST ANOM Feb 1-Feb 7

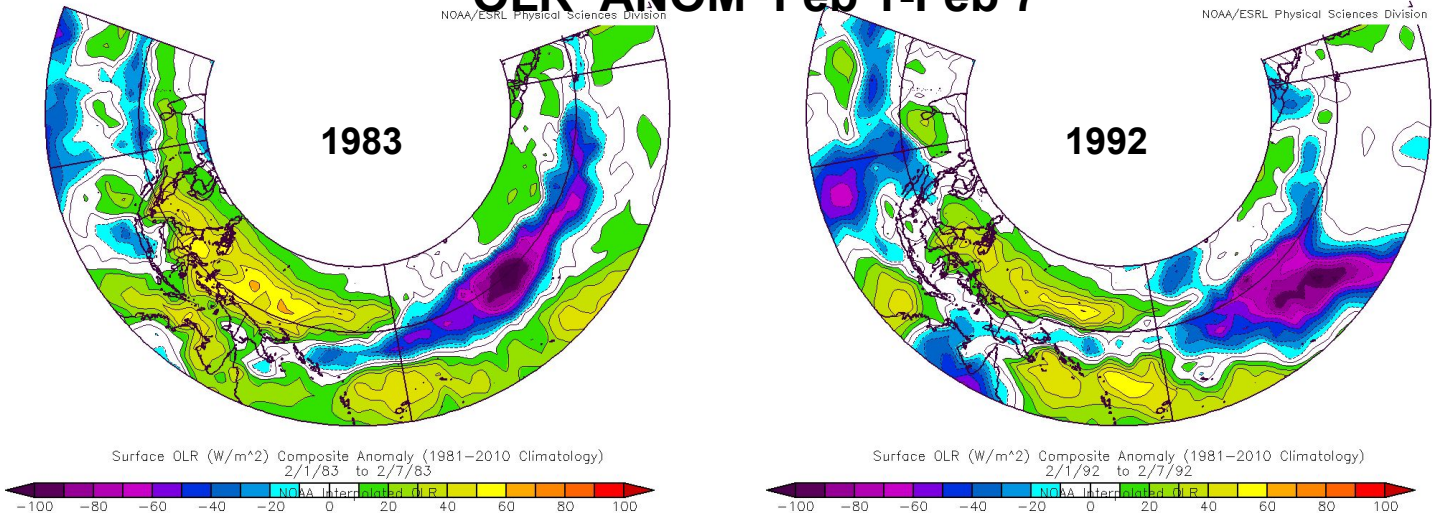


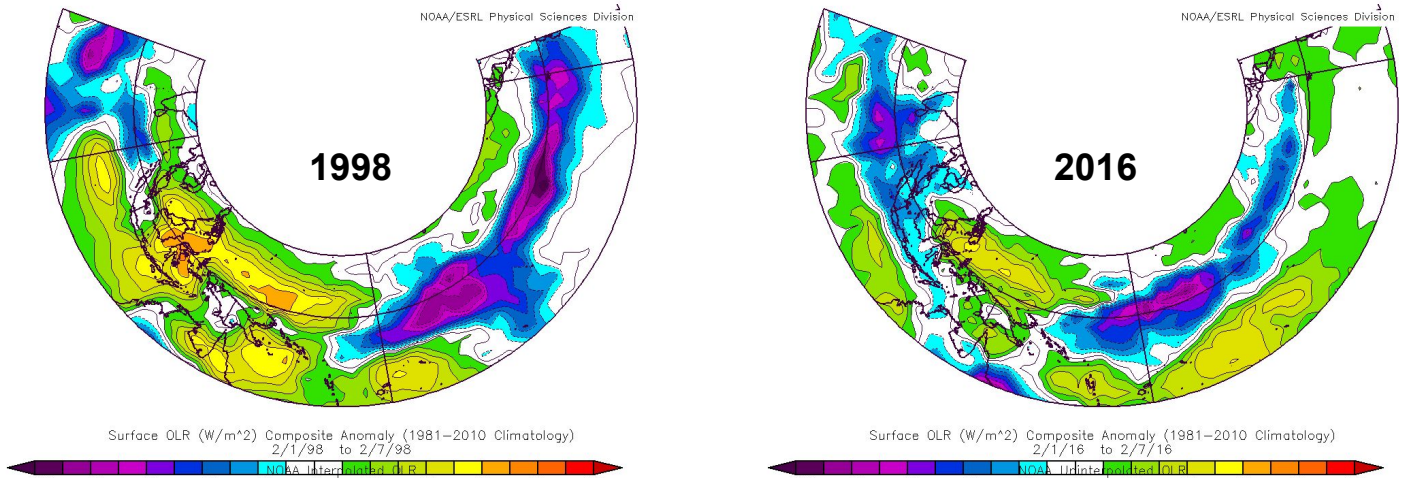






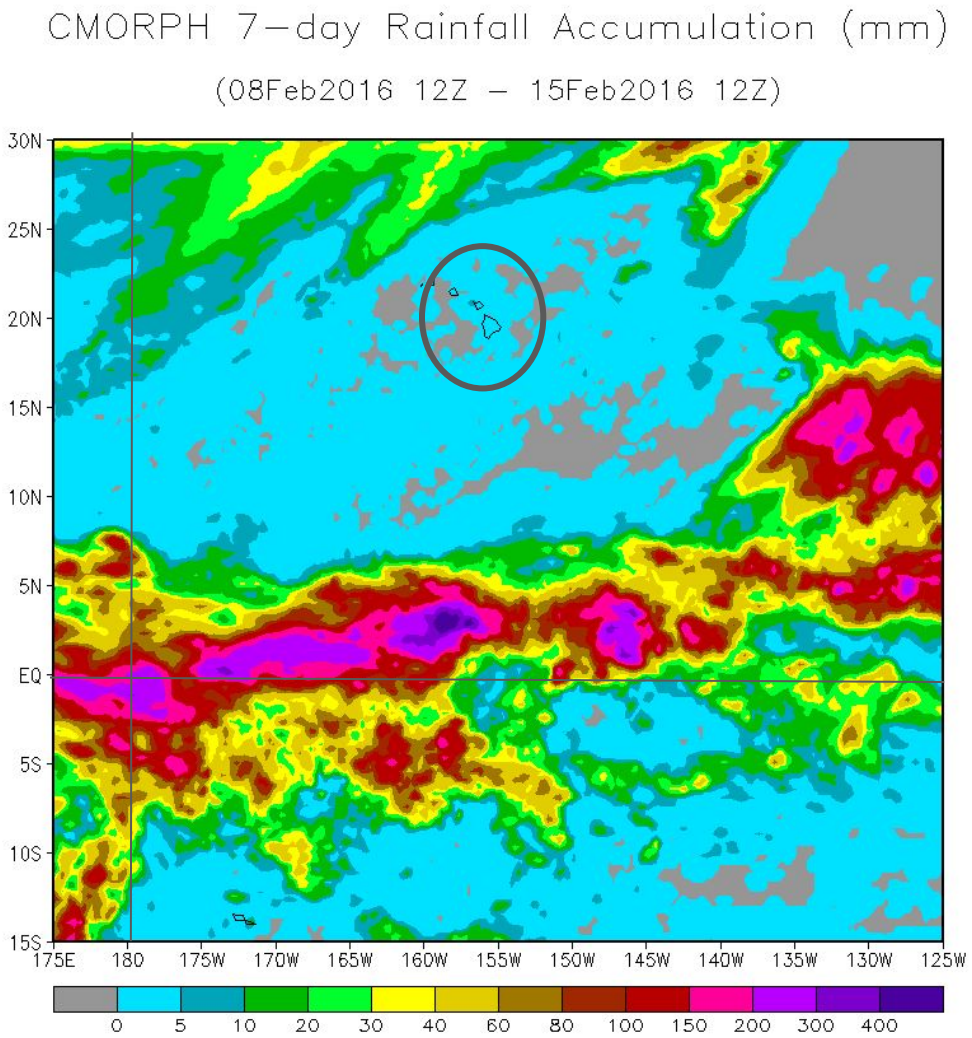
OLR ANOM Feb 1-Feb 7

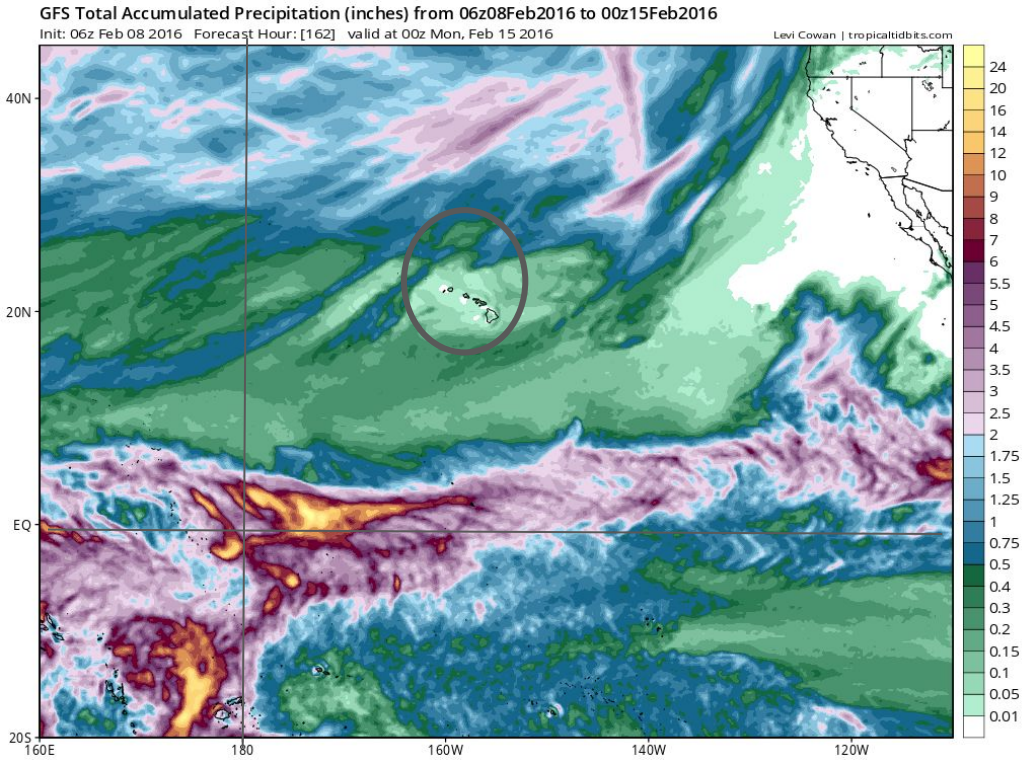




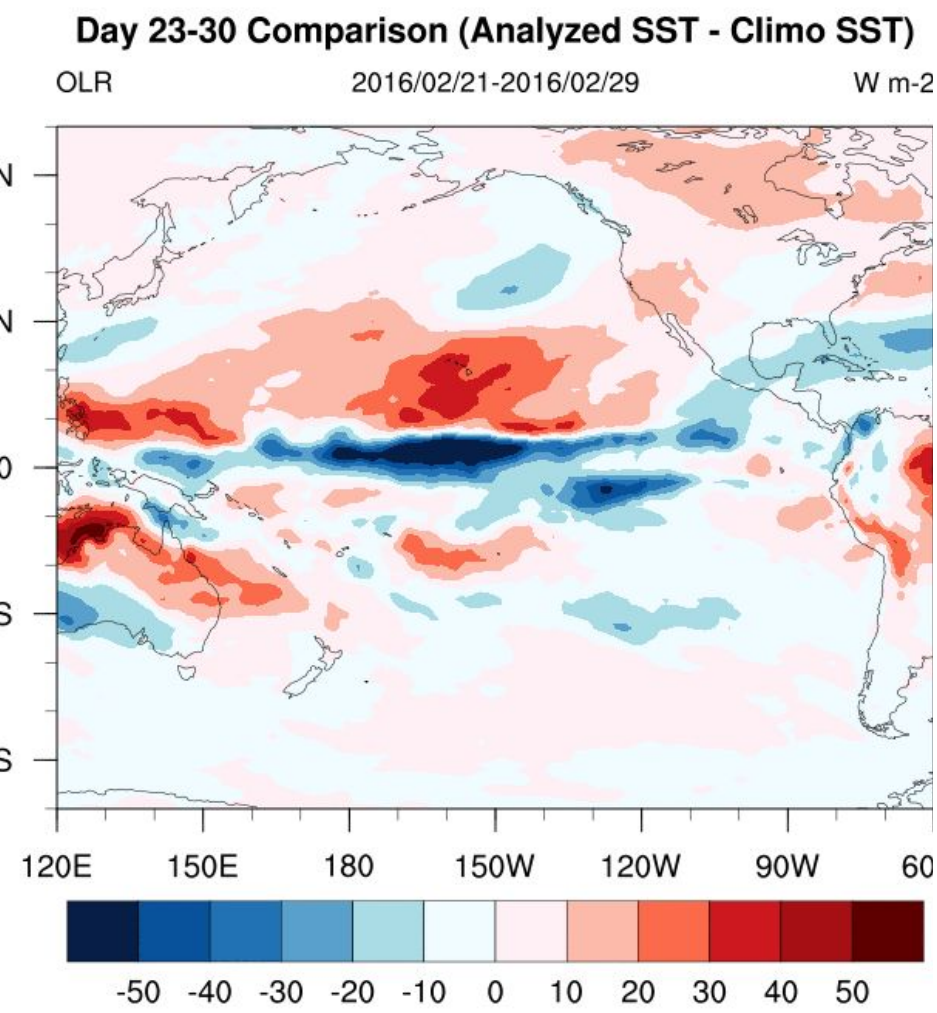
CMORPH: 7-Day

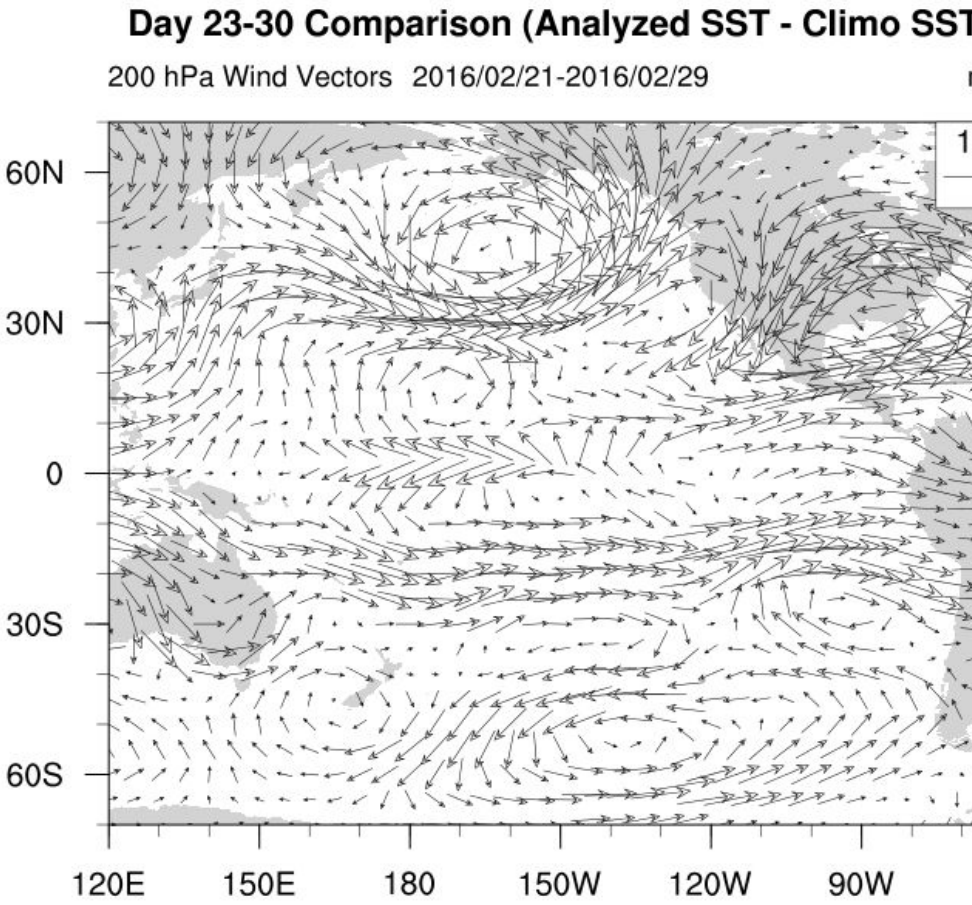
8 - 15 Feb

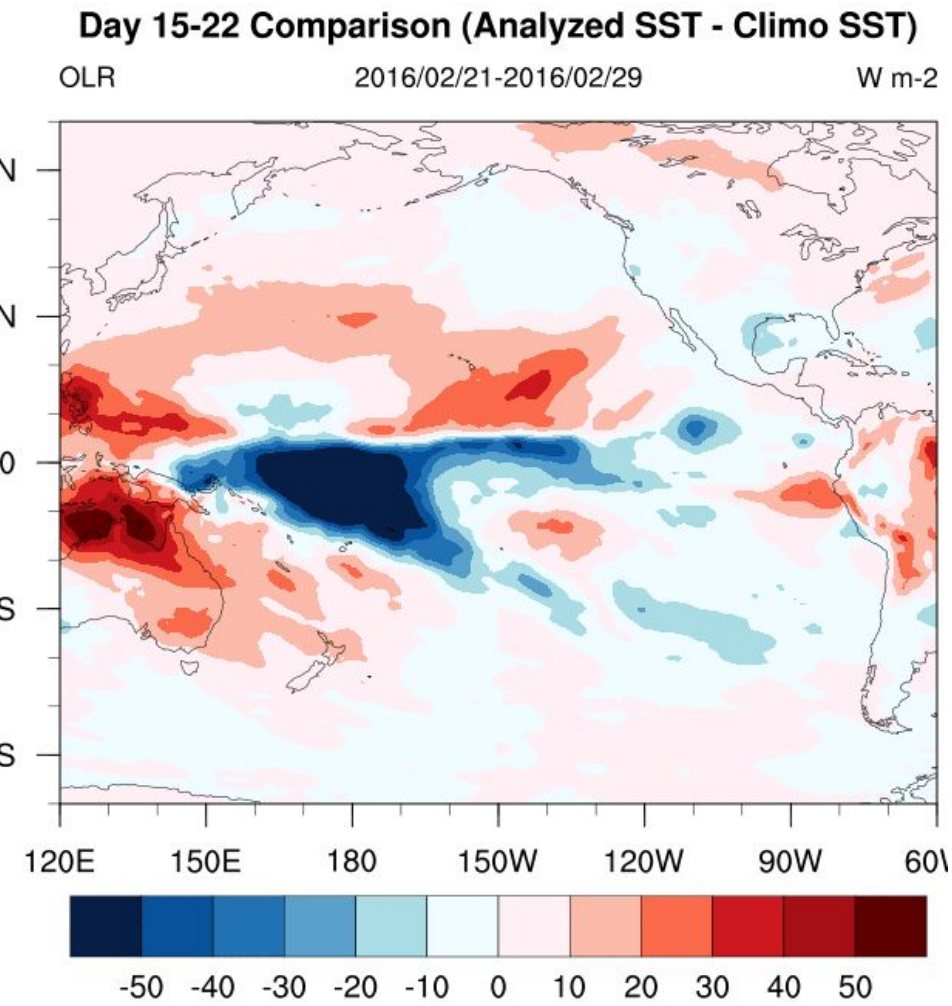


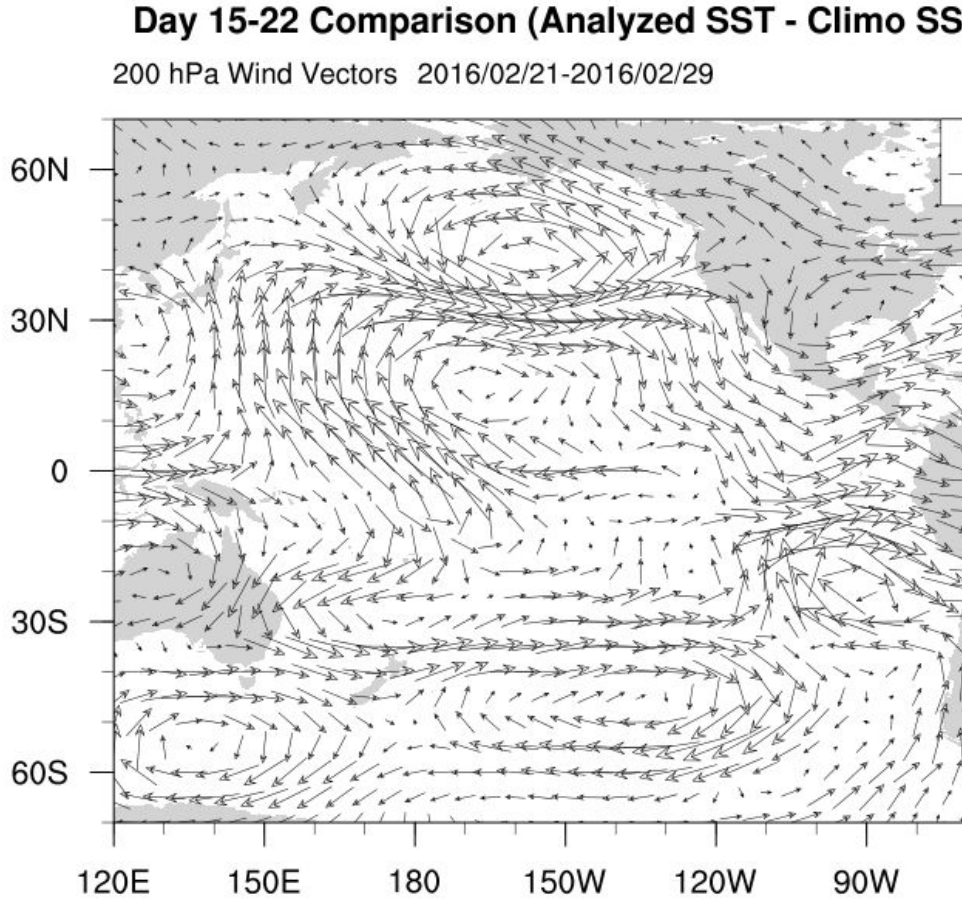

GFS Total Accumulated Precipitation (inches) from 06z08Feb2016 to 00z15Feb2016
Init: 06z Feb 08 2016 Forecast Hour: [162] valid at 00z Mon, Feb 15 2016
Levi Cowan | tropicaltidbits.com
40N
20N
EQ
20S
160E
180
160W
140W
120W
24
20
16
14
12
10
9
8
7
6
5.5
5
4.5
4
3.5
3
2.5
2
1.75
1.5
1.25
1
0.75
0.5
0.4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

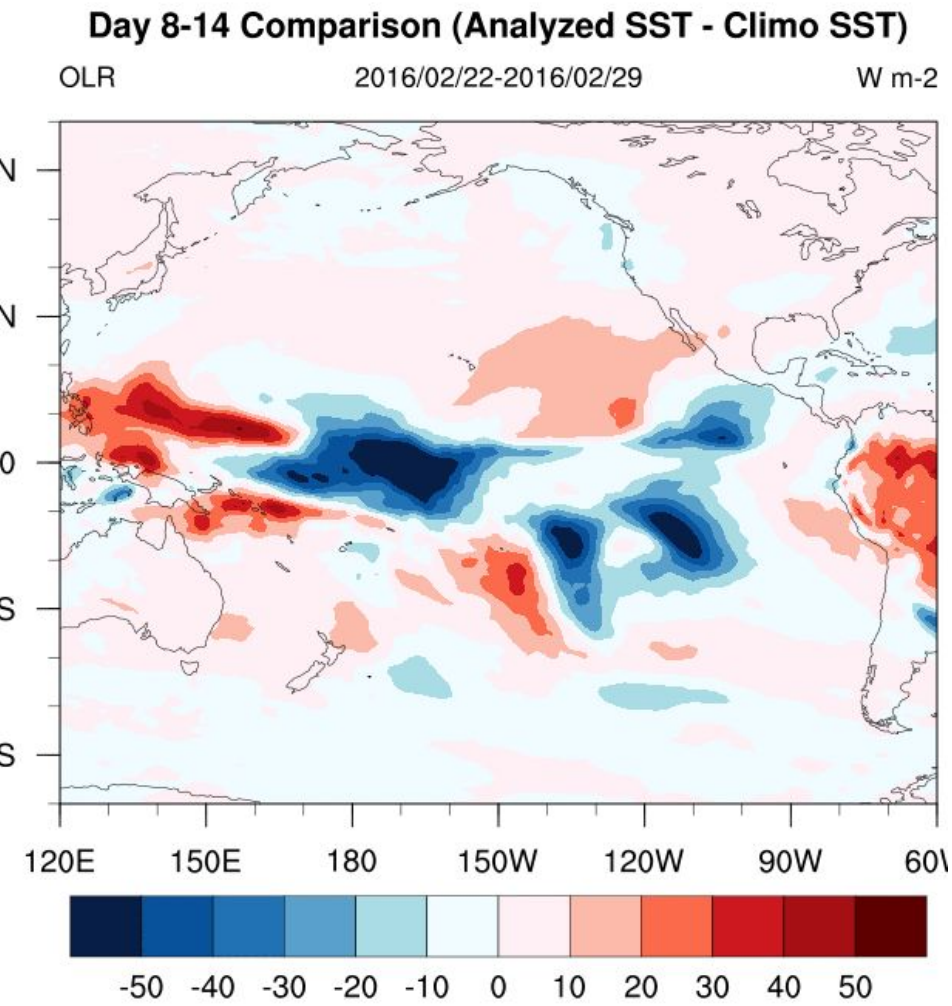
Initial Condition Dependency of the El Niño Signal

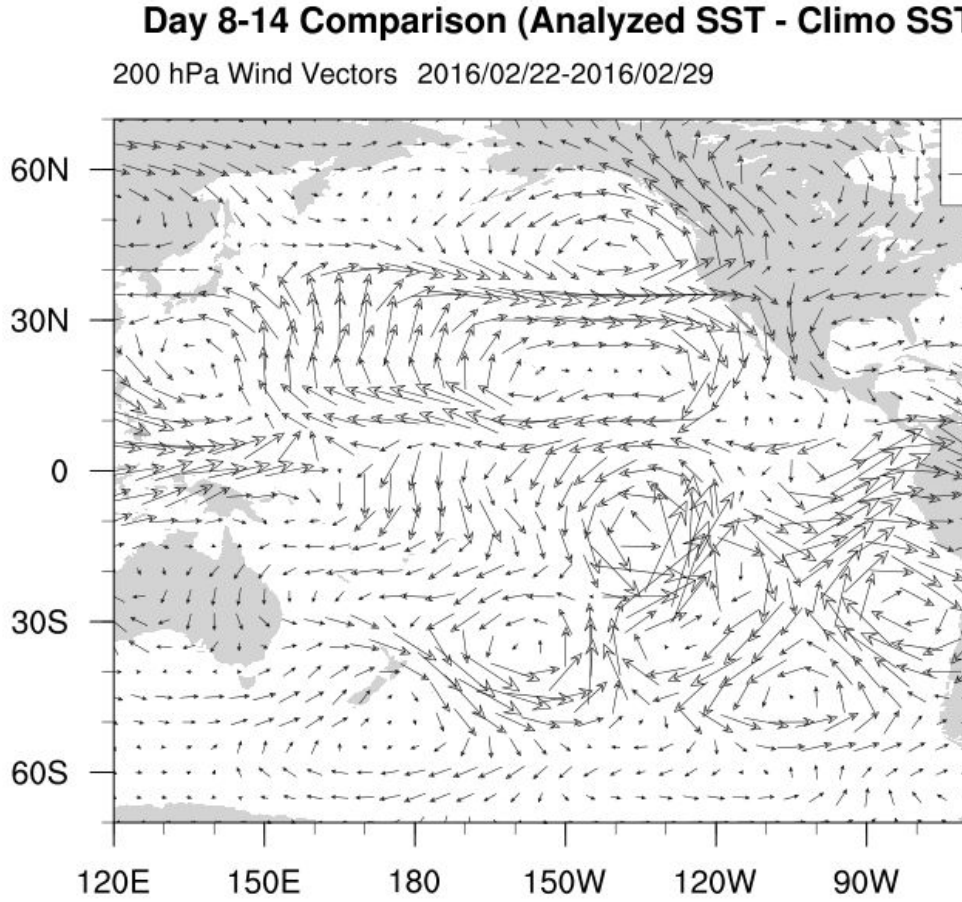

Day 23-30 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/21-2016/02/29
W m-2
120E
150E
180
150W
120W
90W
-50 -40 -30 -20 -10 0 10 20 30 40 50

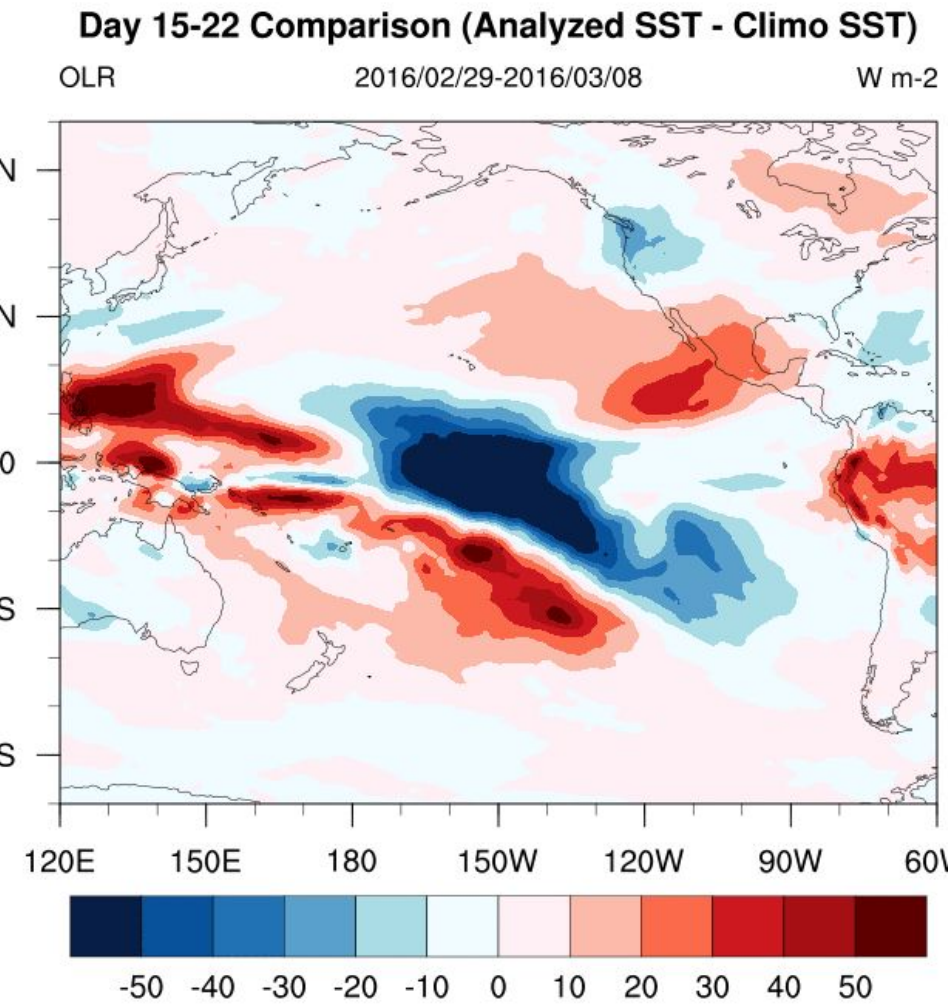

Day 23-30 Comparison (Analyzed SST - Climo SST
200 hPa Wind Vectors 2016/02/21-2016/02/29
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W

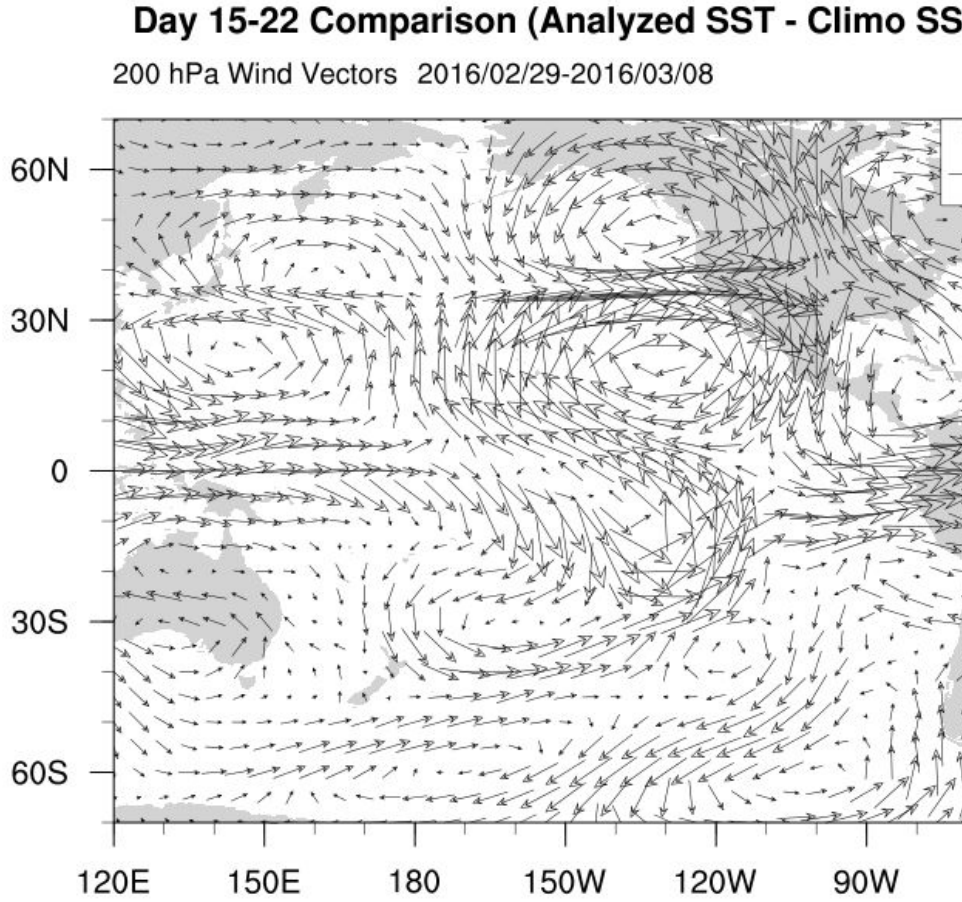

Day 15-22 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/21-2016/02/29
W m-2
N
N
0
S
S
120E
150E
180
150W
120W
90W
-50
-40
-30
-20
-10
0
10
20
30
40
50

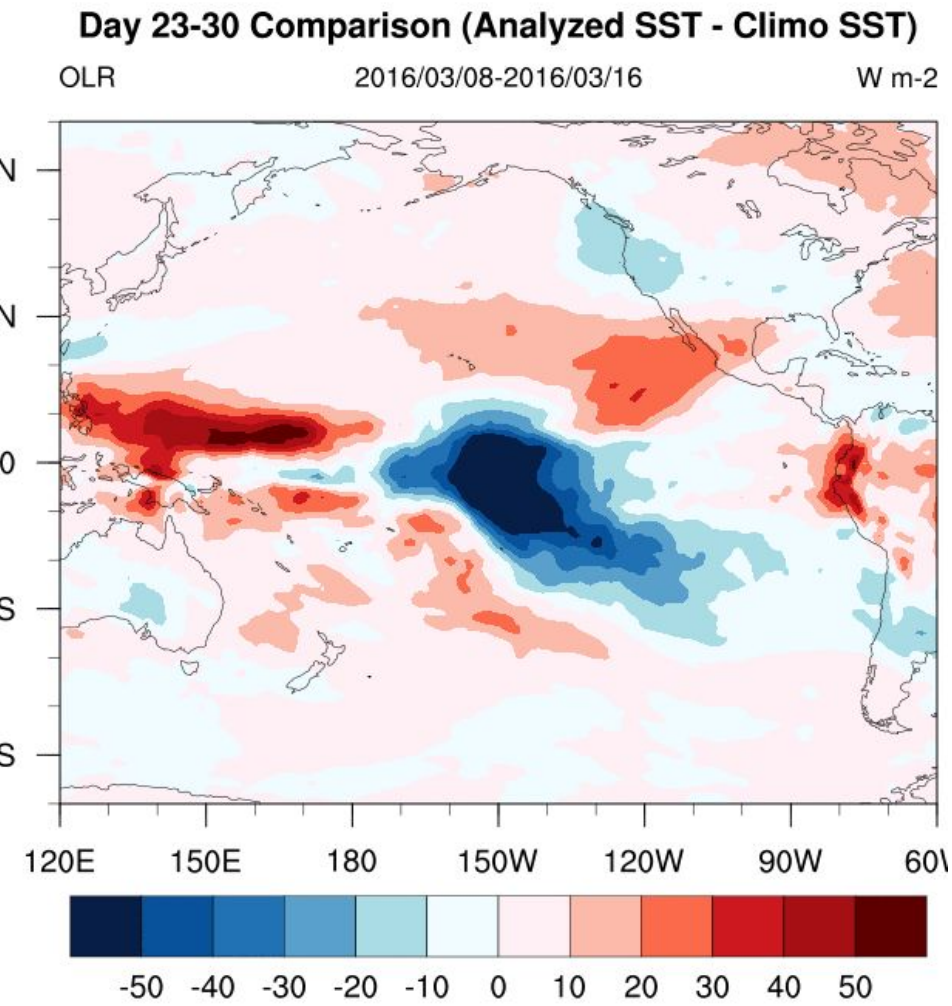

Day 15-22 Comparison (Analyzed SST - Climo SS
200 hPa Wind Vectors
2016/02/21-2016/02/29
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W

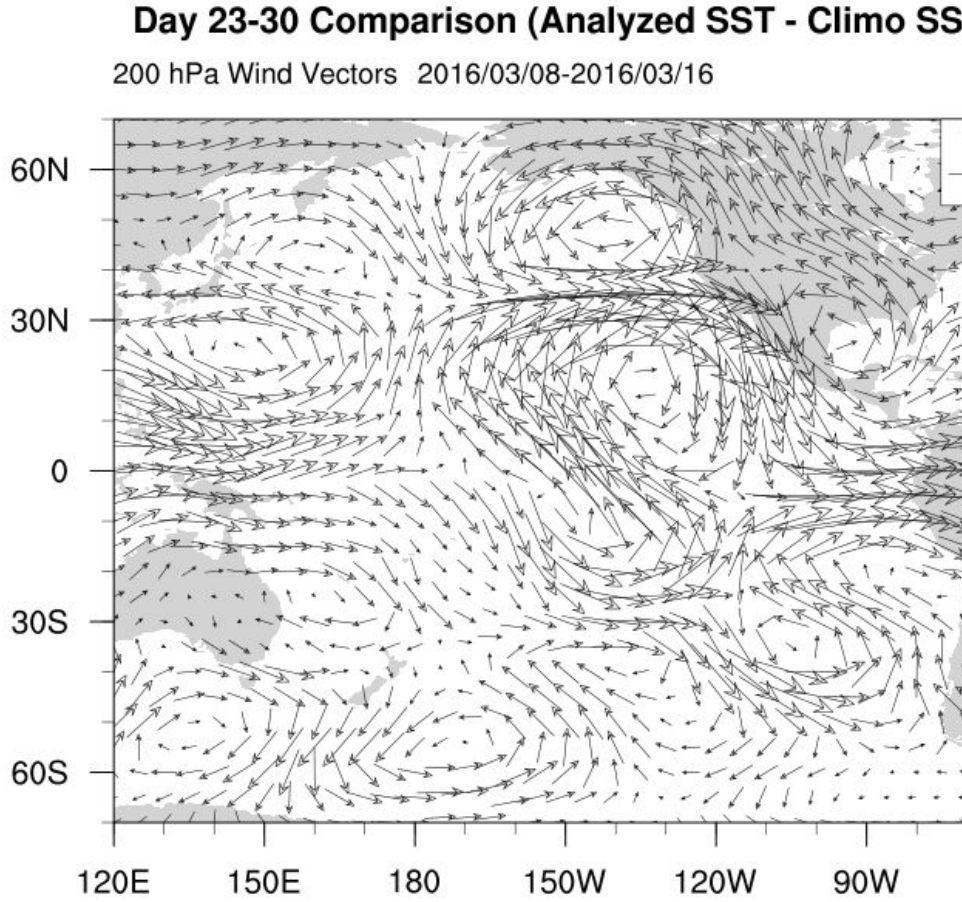

Day 8-14 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/22-2016/02/29
W m-2
120E
150E
180
150W
120W
90W
-50
-40
-30
-20
-10
0
10
20
30
40
50

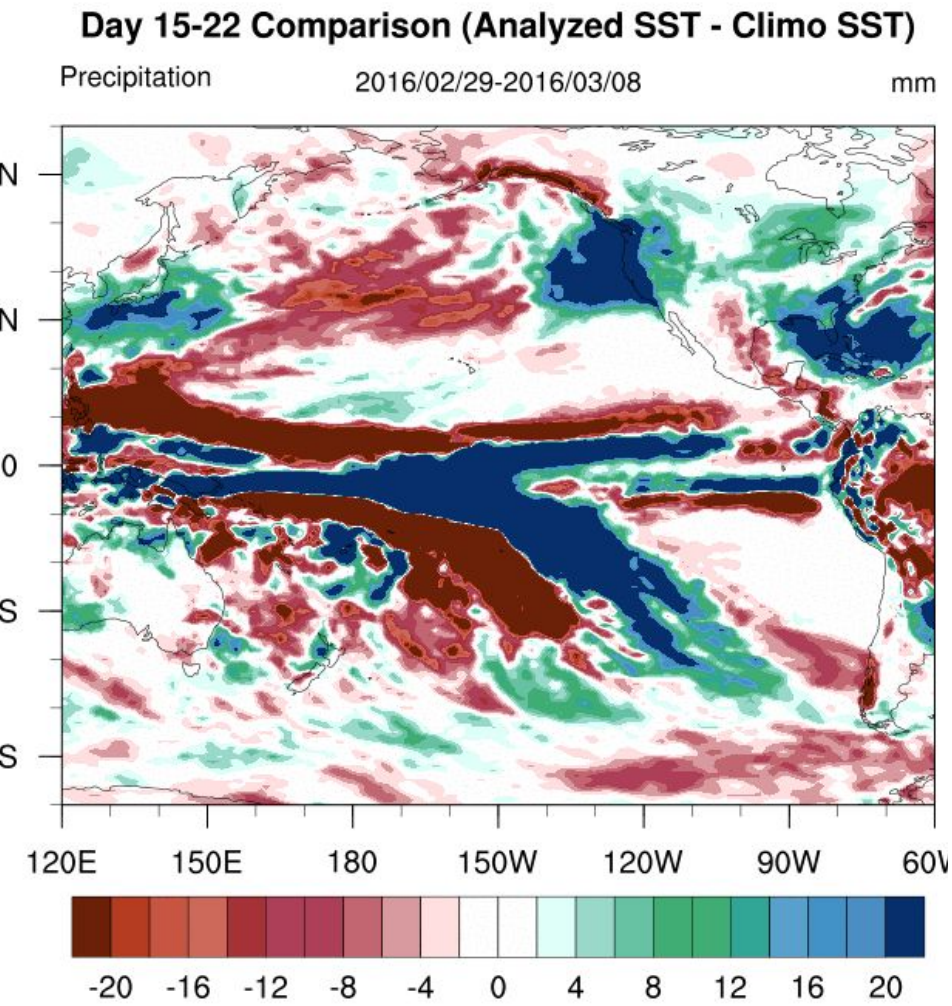

Day 8-14 Comparison (Analyzed SST - Climo SST
200 hPa Wind Vectors
2016/02/22-2016/02/29
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W

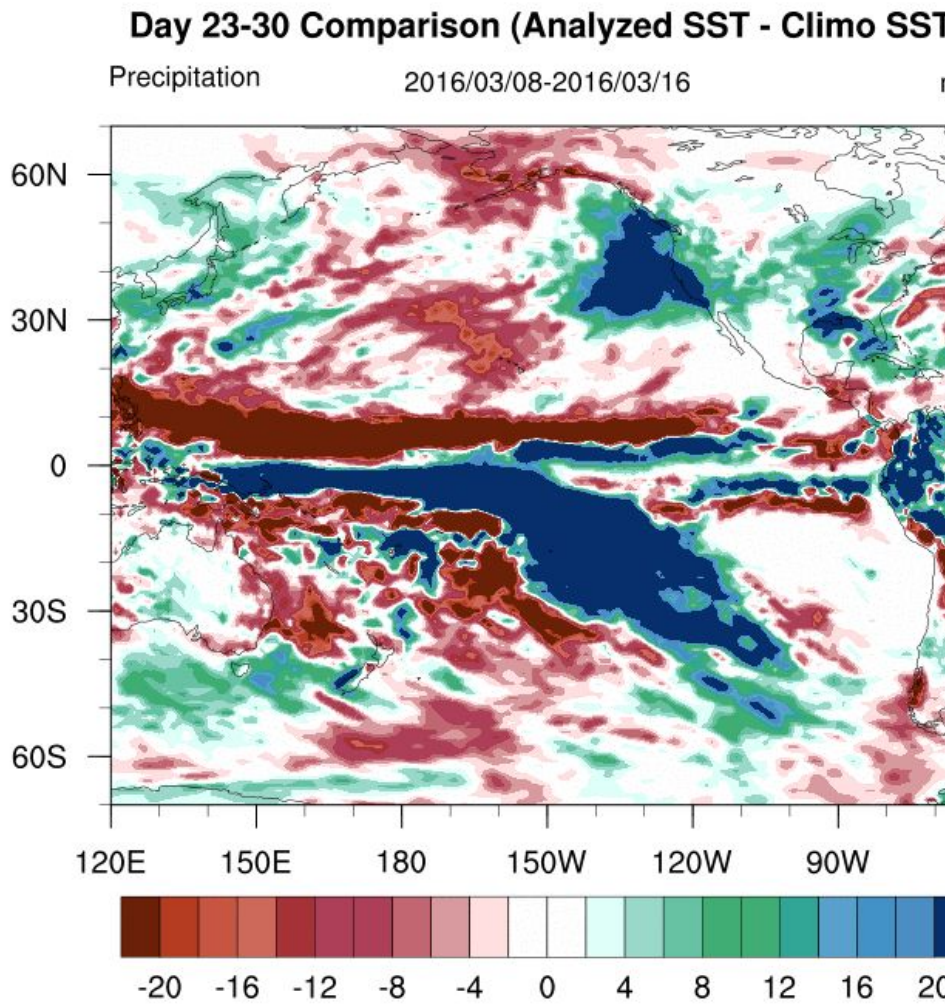

Day 15-22 Comparison (Analyzed SST - Climo SST)
OLR
2016/02/29-2016/03/08
W m-2
N
N
0
S
S
120E
150E
180
150W
120W
90W
60\
-50
-40
-30
-20
-10
0
10
20
30
40
50


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

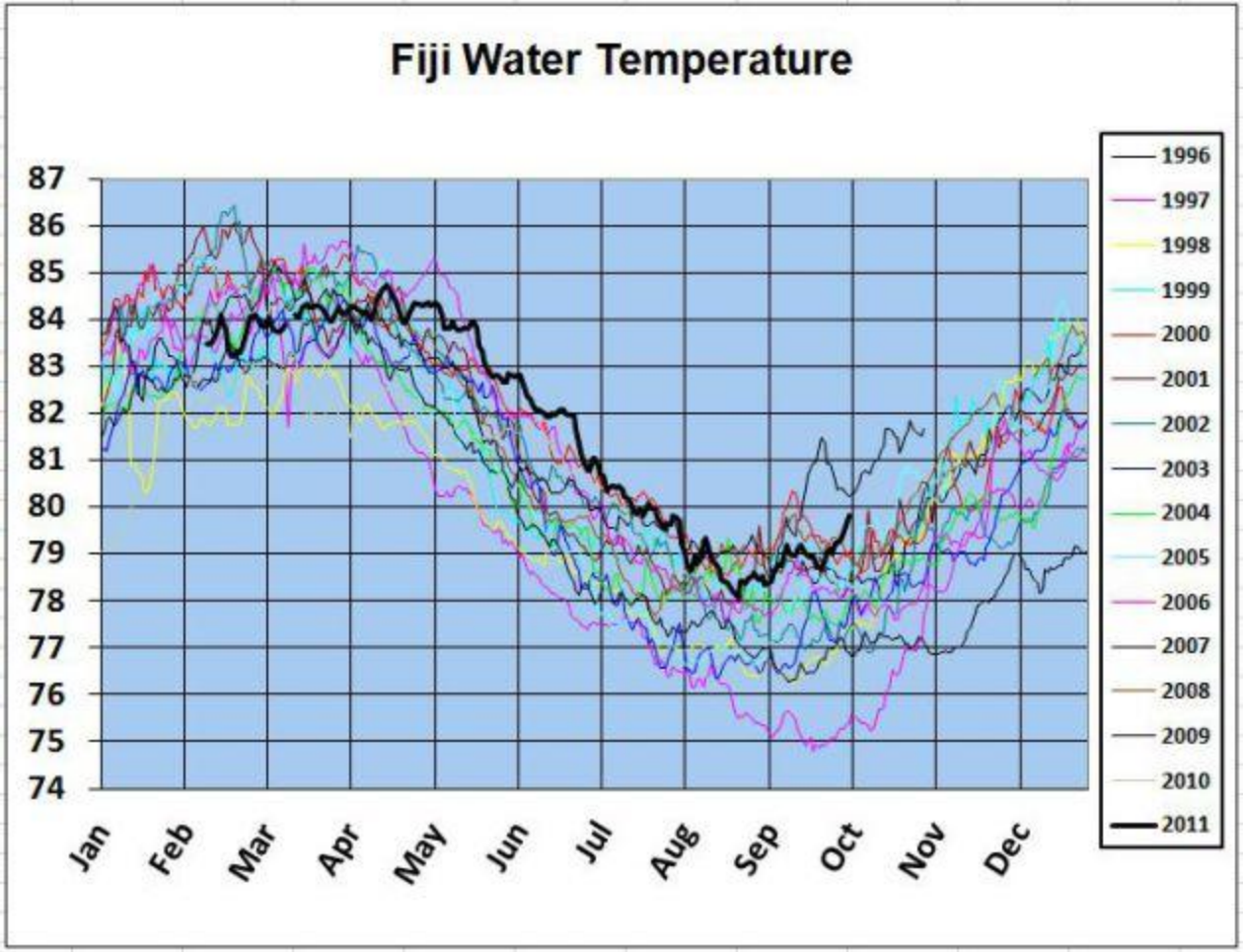

Day 15-22 Comparison (Analyzed SST - Climo SST)
Precipitation
2016/02/29-2016/03/08
mm
N
N
0
S
S
120E
150E
180
150W
120W
90W
60W
-20
-16
-12
-8
-4
0
4
8
12
16
20

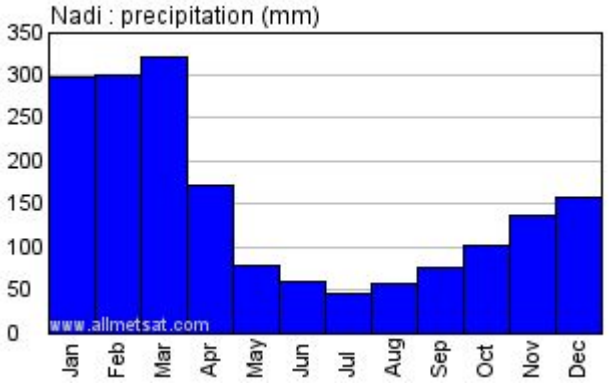

Day 23-30 Comparison (Analyzed SST - Climo SST
Precipitation
2016/03/08-2016/03/16
60N
30N
0
30S
60S
120E
150E
180
150W
120W
90W
-20
-16
-12
-8
-4
0
4
8
12
16
20

The "*Offices*" of Cook and Castle?

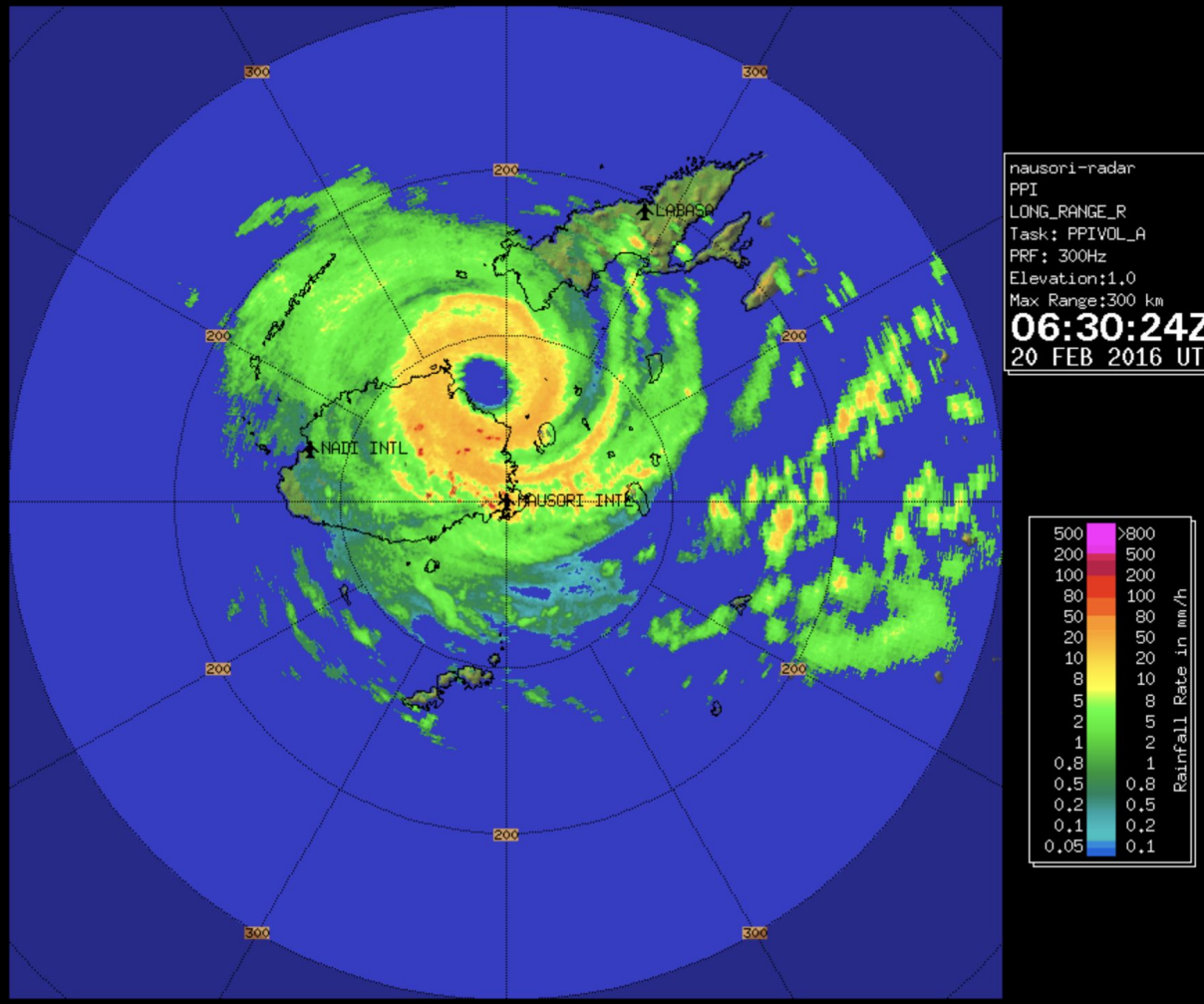
Map of Fiji

180° Meridian
Inset: Rotuma
177°E
16°30'S
Labasa
Rabi
Ringold Isles
VANUA LEVU
Savusavu
Qamea
Laucala
Yasawa Islands
Yadua
Nabowalu
Taveuni
BLIGH WATER
Vanuabalavu
Yacata
Lomaloma
Koro
Rakiraki
Tavua
Makogai
Vatu Vara
Mago
Mamanuca Islands
Ba
Lautoka
Wakaya
Ovalau
KORO SEA
Tuvuca
Cicia
Nadi
Korovou
Batiki
Nairai
VITI LEVU
Nausori
18° S
Nayau
Gau
Sigatoka
SUVA
Navua
Lakeba
Beqa
Oneata
Vatulele
Moala
Moce
Namuka-i-lau
Ono
Vunisea
Totoya
Kabara
Kadavu
Matuku
Fulaga
0
50 km


Fiji Water Temperature
87
86
85
84
83
82
81
80
79
78
77
76
75
74
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011



NADI	Av Max C	Av Min C	Rainfall mm	Rain Days >0.1mm
January	31.6	22.7	299	18
February	31.5	23.0	302	18
March	31.1	22.6	324	19
April	30.6	21.7	163	12
May	29.8	20.1	78	7
June	29.2	19.3	62	6
July	28.5	18.3	46	5
August	28.7	18.4	58	5
September	29.4	19.3	77	6
October	30.2	20.4	103	9
November	30.9	21.5	138	11
December	31.4	22.1	159	13


300
200
LABASA
NADI INTL
NAUSORI INTL
nausori-radar
PPI
LONG_RANGE_R
Task: PPIVOL_A
PRF: 300Hz
Elevation:1.0
Max Range:300 km
06:30:24Z
20 FEB 2016 UTC
500 >800
200 500
100 200
80 100
50 80
20 50
10 20
8 10
5 8
2 5
1 2
0.8 1
0.5 0.8
0.2 0.5
0.1 0.2
0.05 0.1
Rainfall Rate in mm/h