

Summary of Key Briefing Points
11:00-12:00 MST SUN, Mar 6, 2016

Current Conditions as of Thu 12Z-15Z Mar 4

Tropics and Mid-latitudes

Over the Tropical Pacific:

- Active in west part of FD today
- PW maximum moving NWard out of domain

Tropical Outlook

- Main convection south and west of FD

Midlatitude Conditions/Outlook

Short Term:

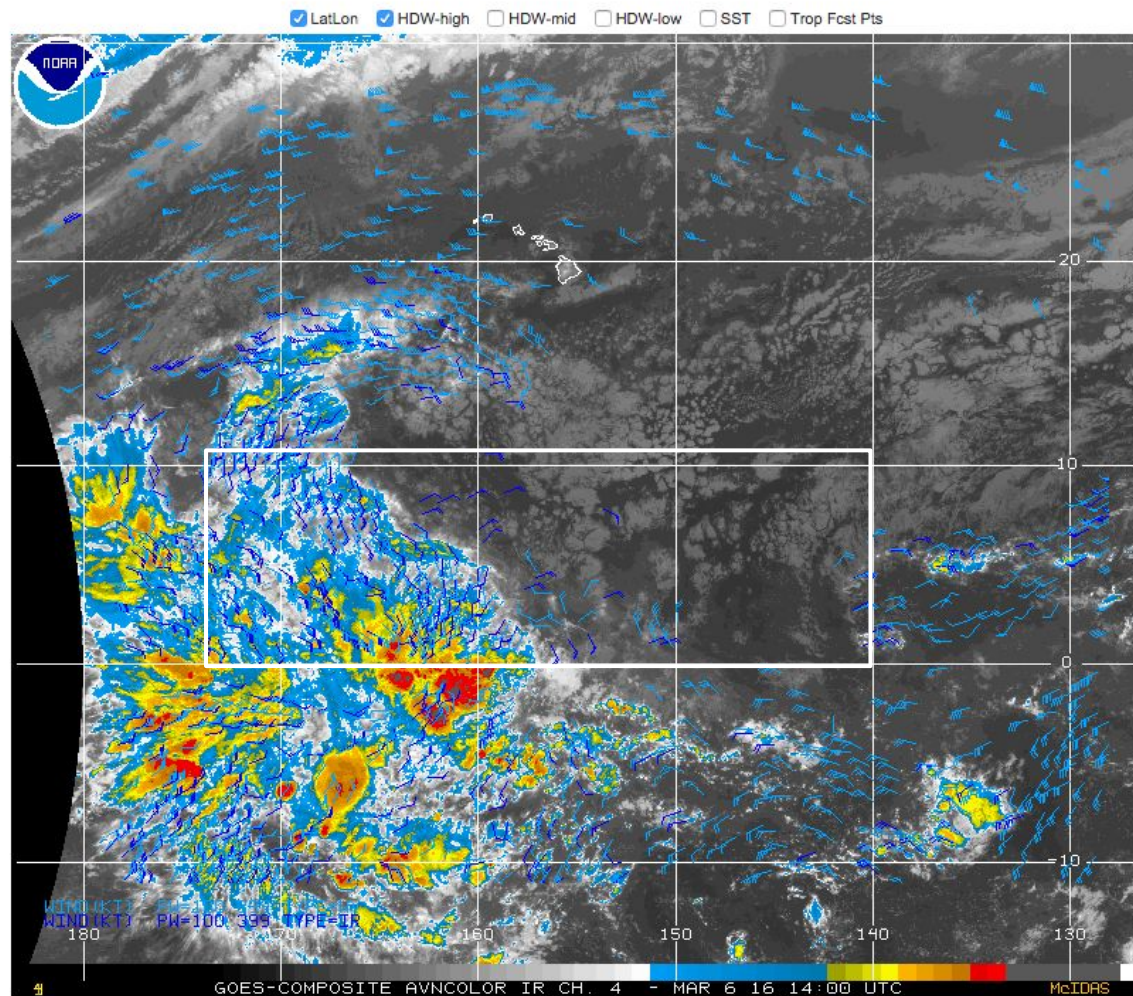
- Significant rain below about 8000' (Santa Cruz mts, Santa Barbara, Central Sierra)
- Rain/snow overnight into Monday - lower snow levels

Medium - Long Term:

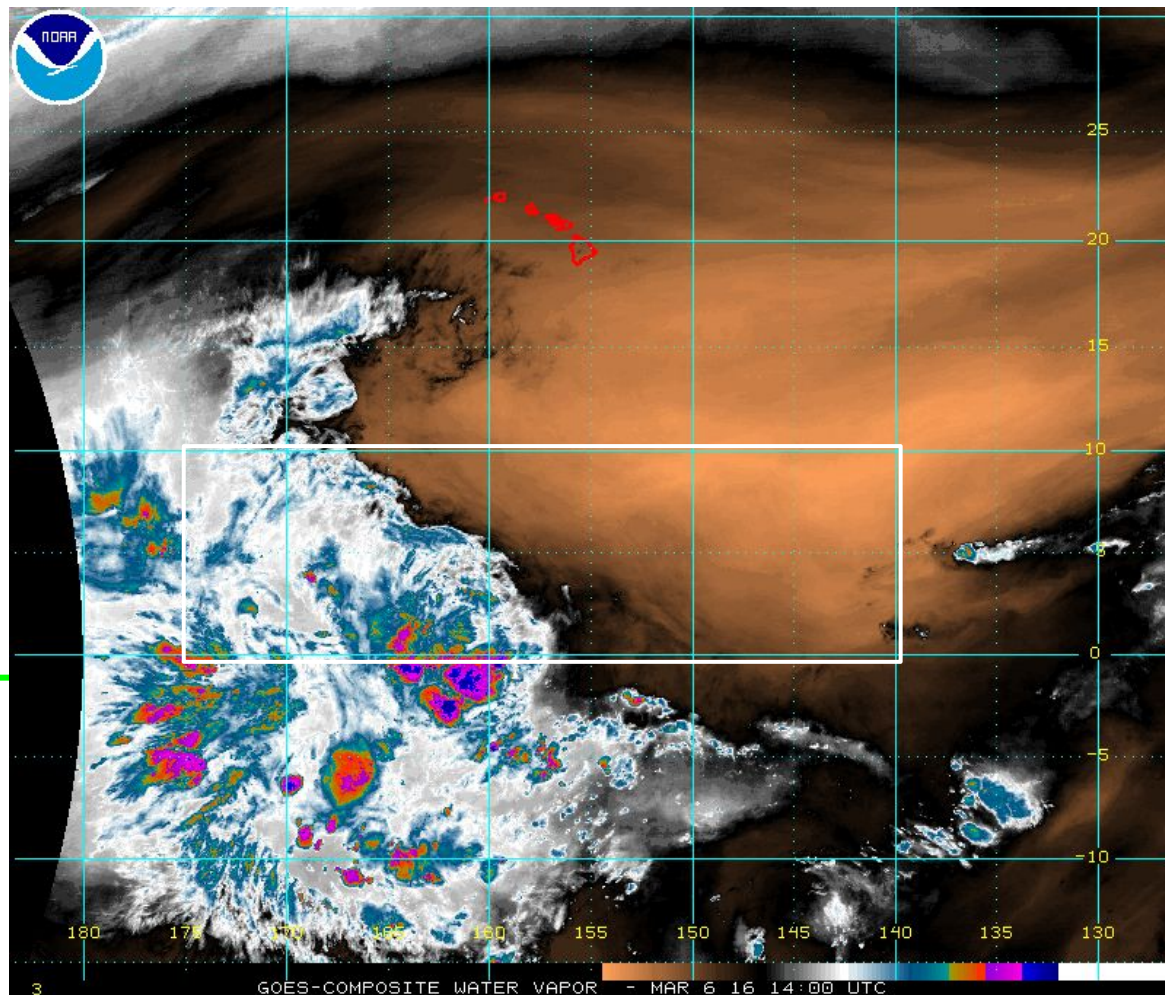
- Large uncertainty as to timing and magnitude for storm impacting Th-Friday
- Major rain event for lower MS Valley Tu-Th, >10" rains anticipated

GOES Composite - El Niño Support – AVN Color Infrared Loop

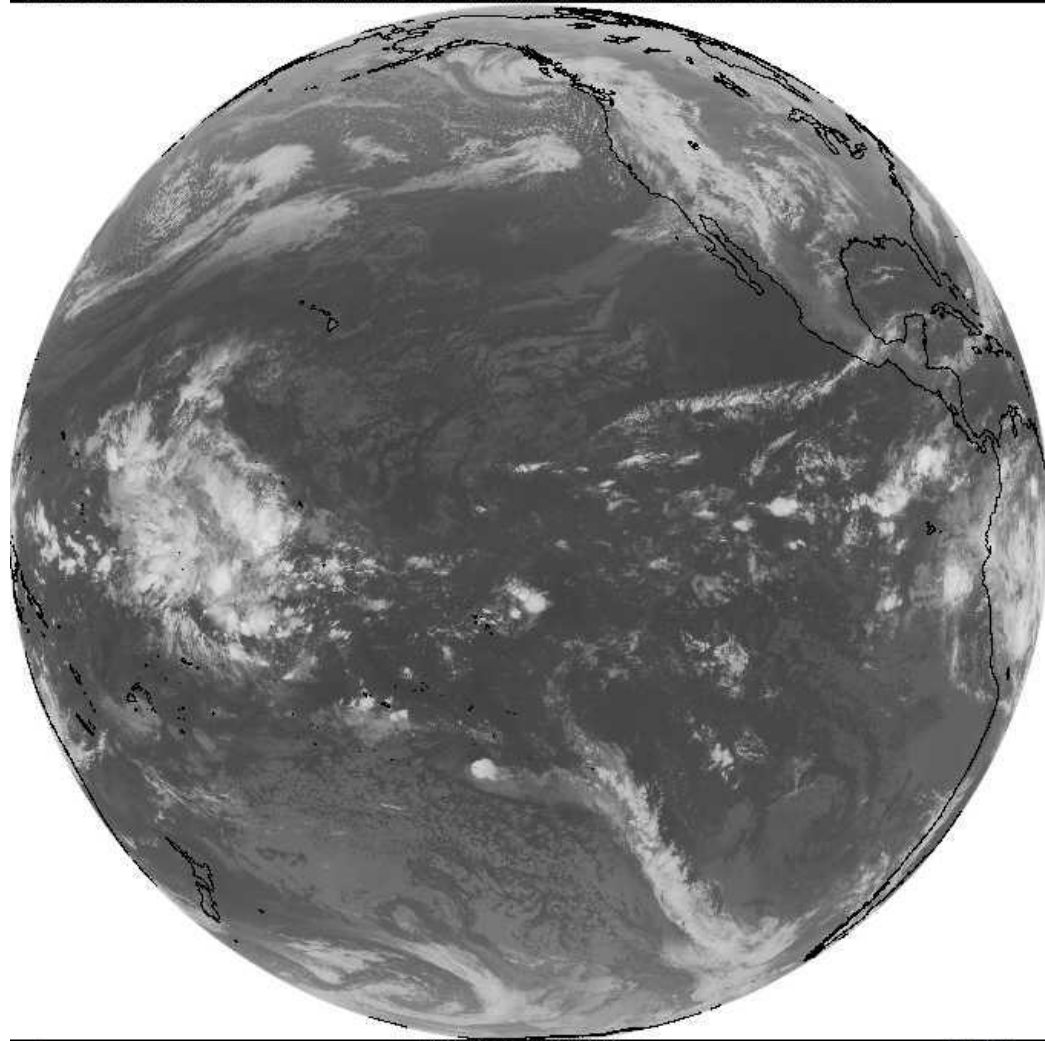
Sun 14Z



Sun 14Z

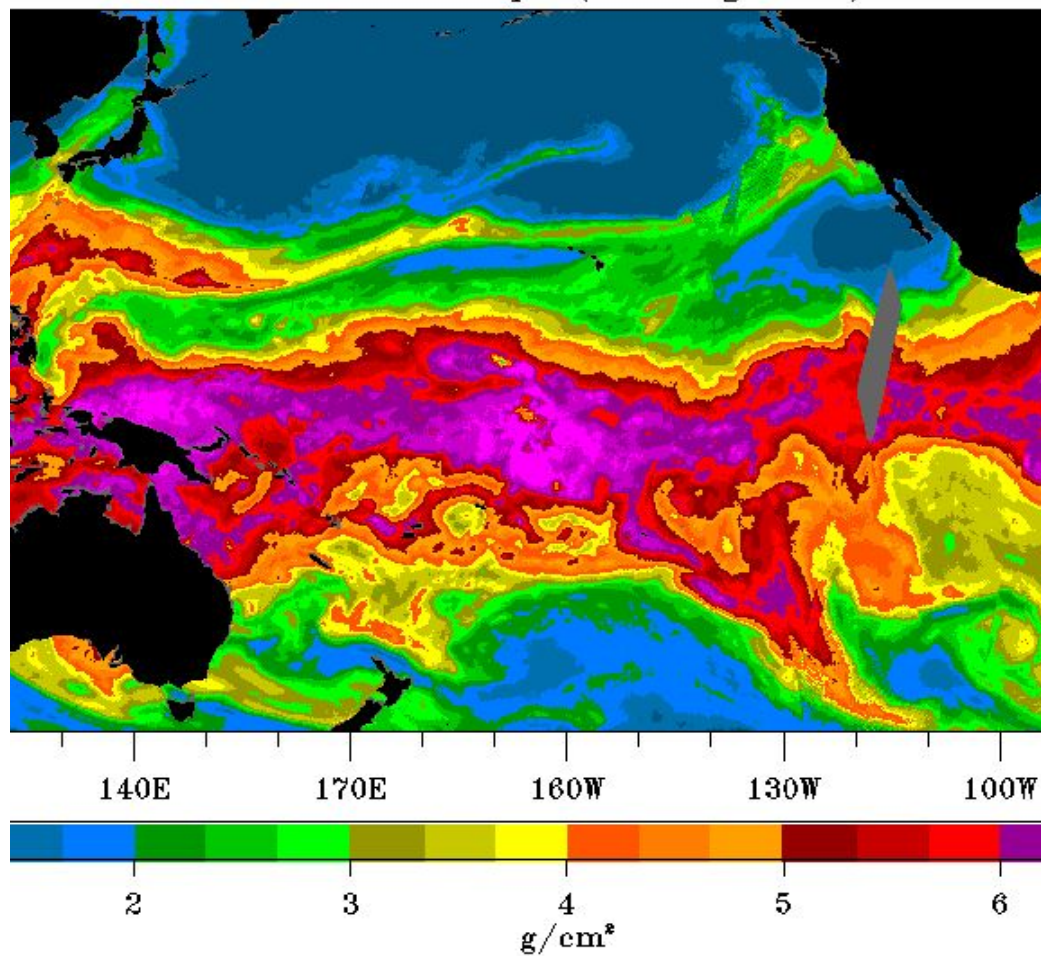


Sun 12Z



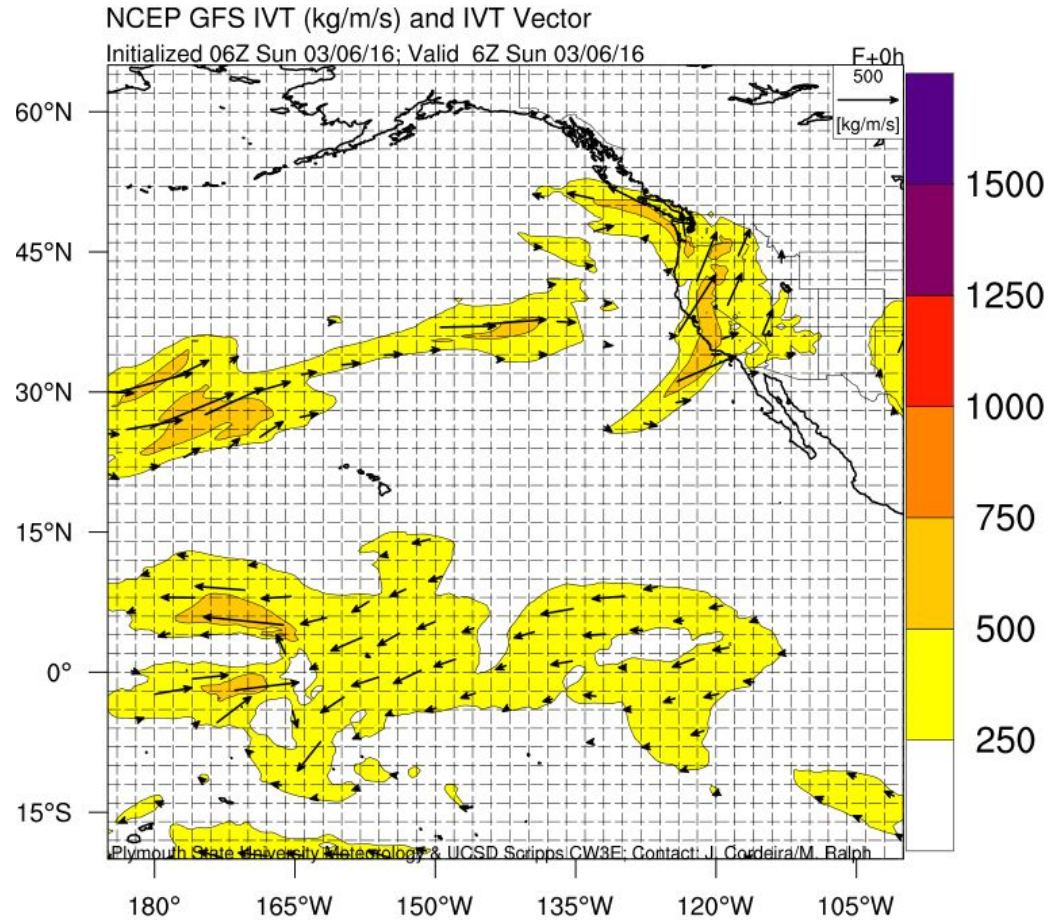
5 March SSMI
Composite

March 05, 2016 12-24Z
SSMIS Water Vapor (Wentz algorithm)



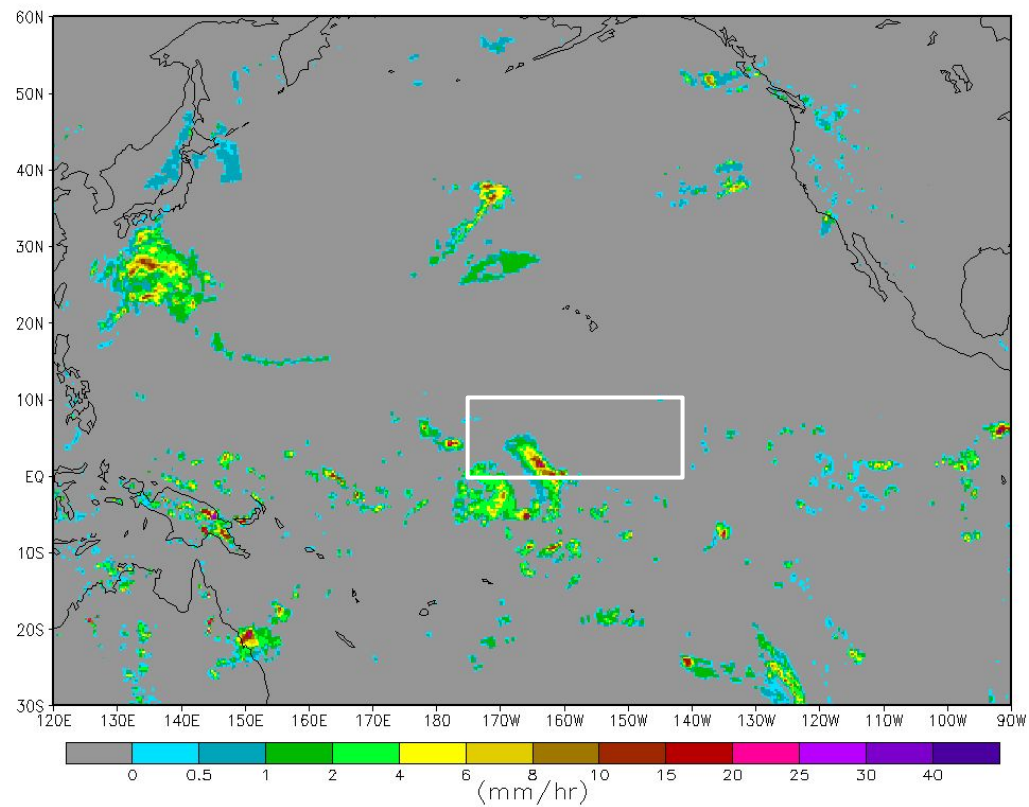
GFS Analysis

06Z: IVT



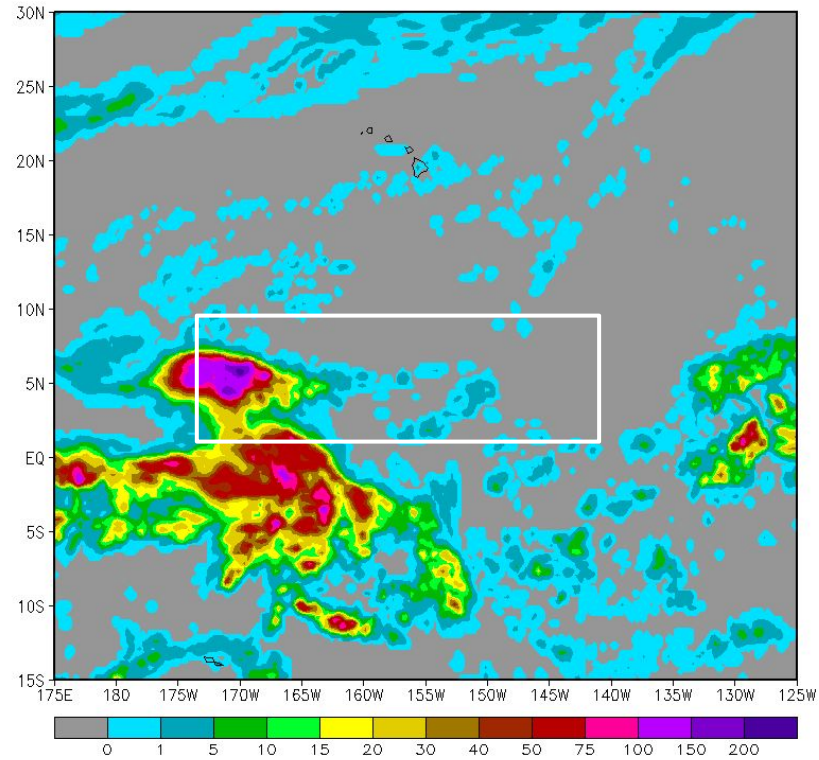
Sun 12Z CMORPH Rainfall

CMORPH_RAW_RT @ 2016-Mar-06 12:00Z



CMORPH 24-hour Rainfall Accumulation (mm)
(04Mar2016 12Z - 05Mar2016 12Z)

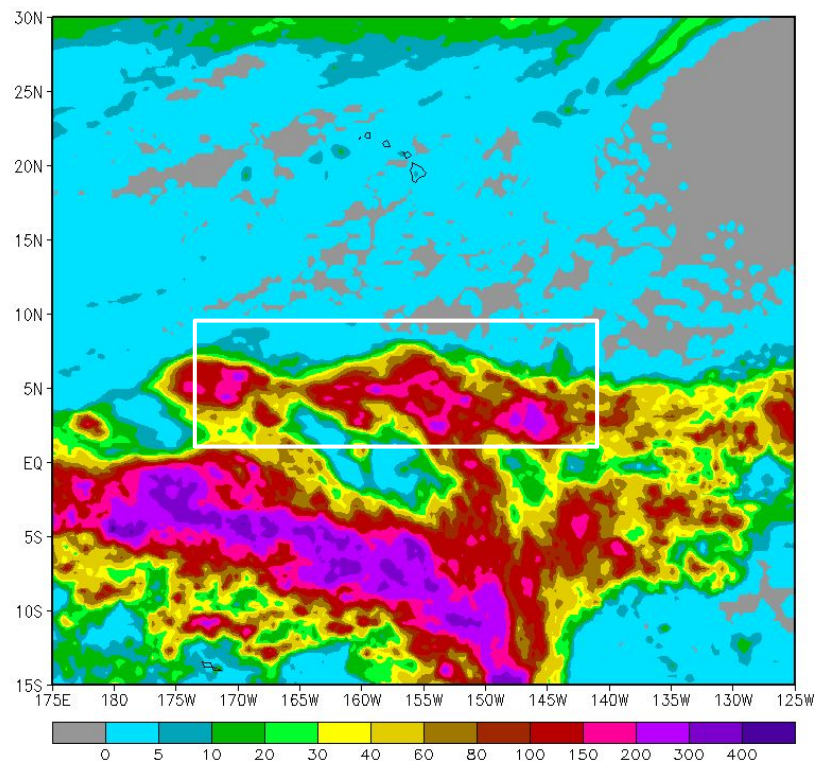
CMORPH 1 Day
Precip Ending 5 Mar
12Z



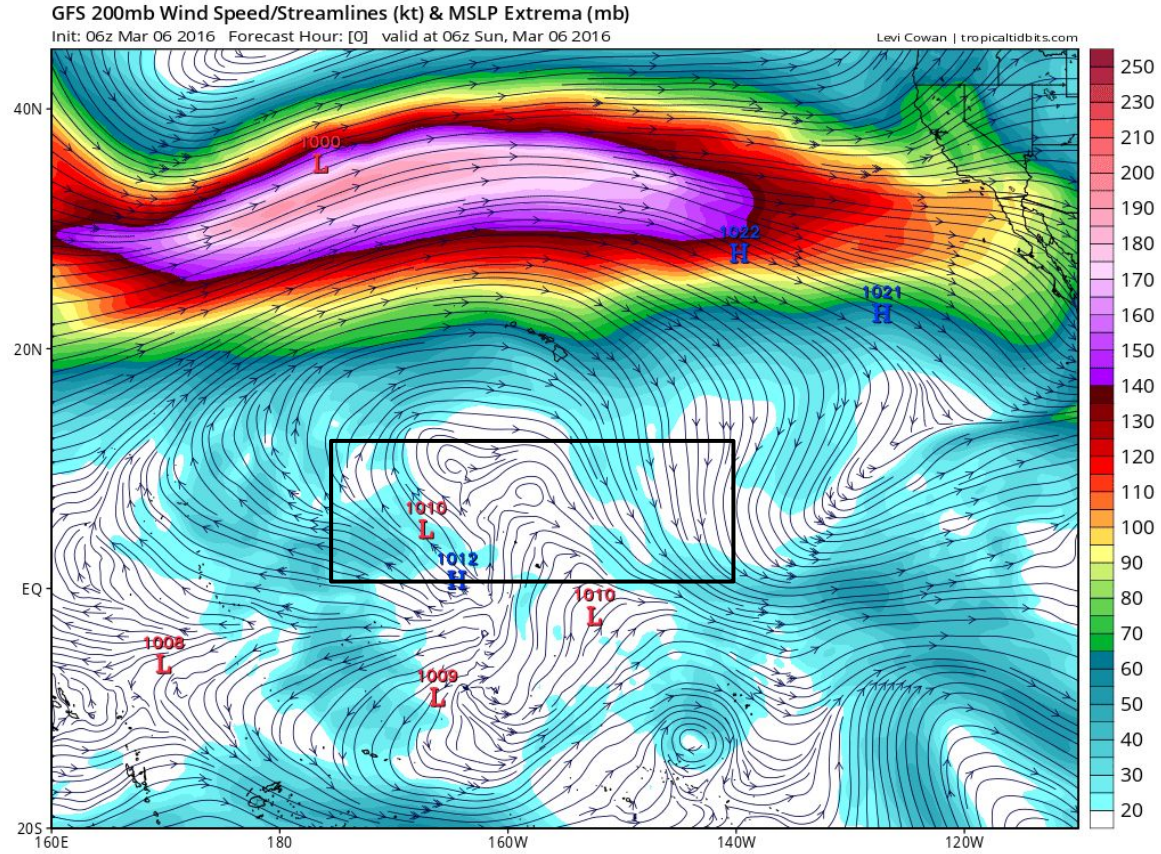
CMORPH 7-day Rainfall Accumulation (mm)

(27Feb2016 12Z – 05Mar2016 12Z)

CMORPH 7 Day
Precip Ending 5 Mar
12Z



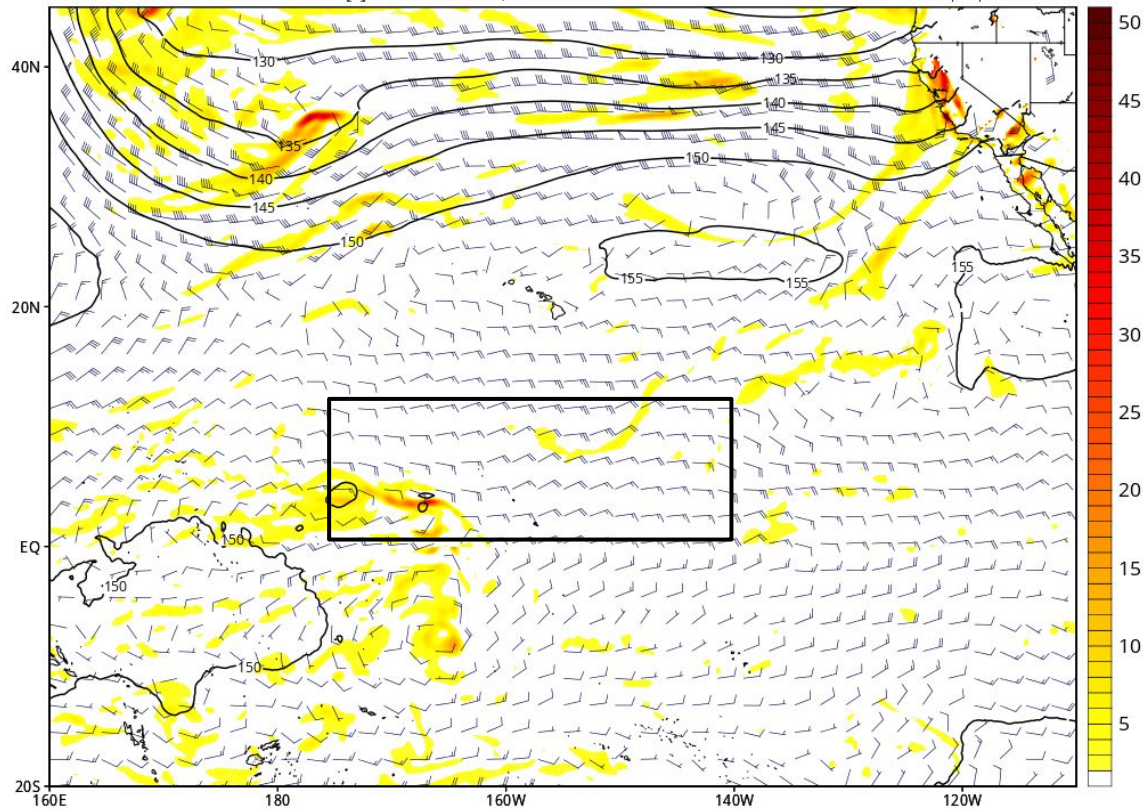
GFS 06Z Analysis: 200 mb Winds



GFS 850mb Geopotential Height (dam), Cyclonic Vorticity (10^{-5} s^{-1} , shaded), and Wind (kt)

Init: 06z Mar 06 2016 Forecast Hour: [0] valid at 06z Sun, Mar 06 2016

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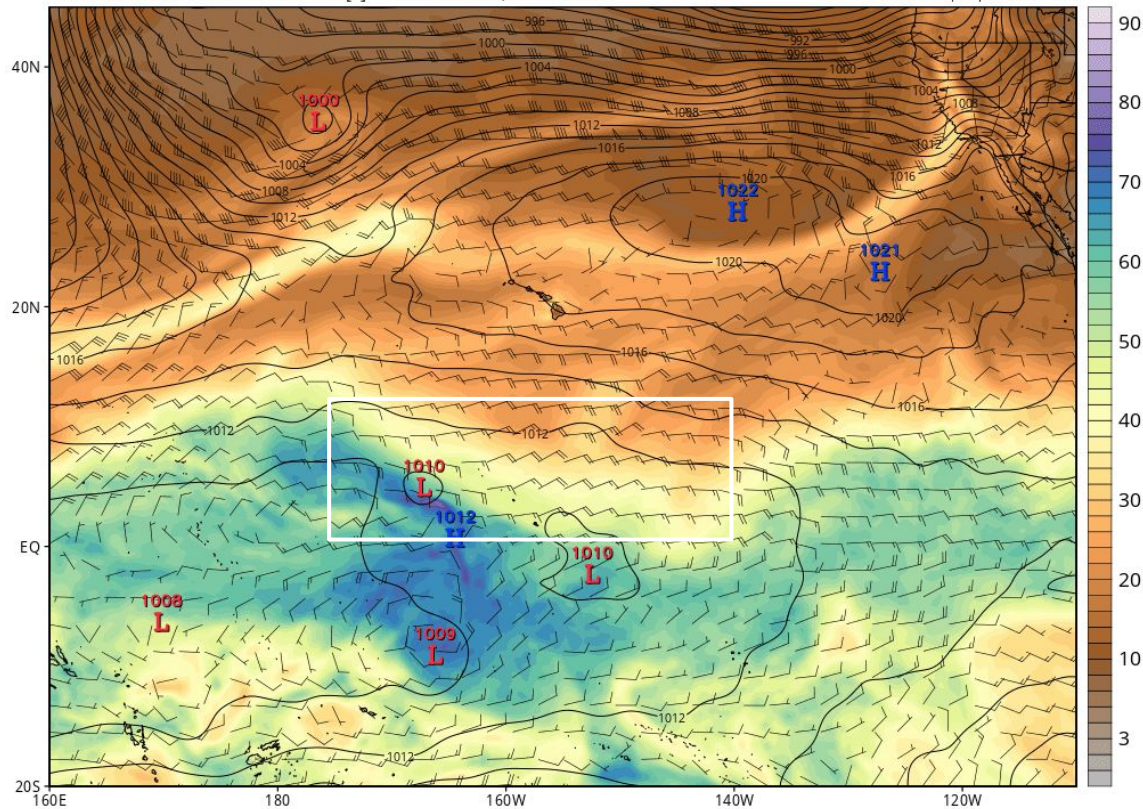


GFS 06Z Analysis:
850 mb
Winds/Vorticity

GFS MSLP (mb), Total Precipitable Water (mm), and 850mb Wind (kt)

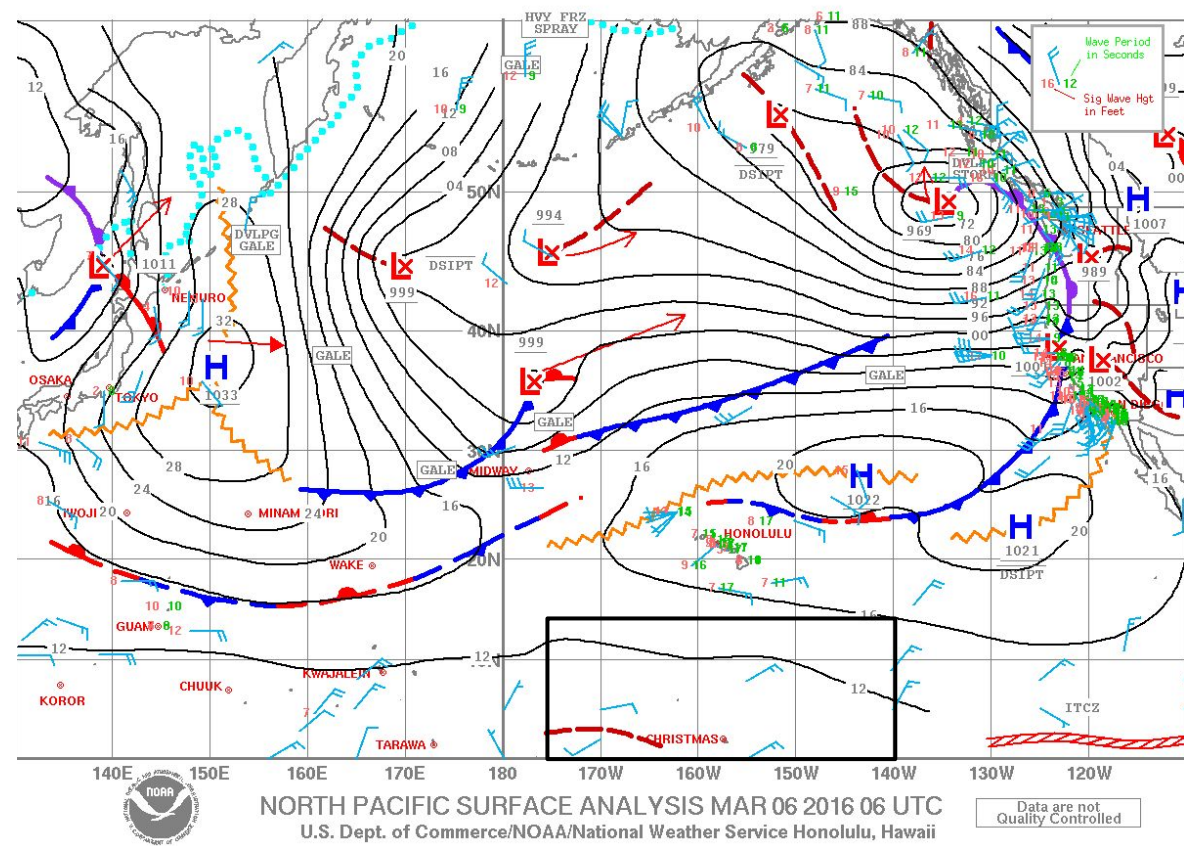
Init: 06z Mar 06 2016 Forecast Hour: [0] valid at 06z Sun, Mar 06 2016

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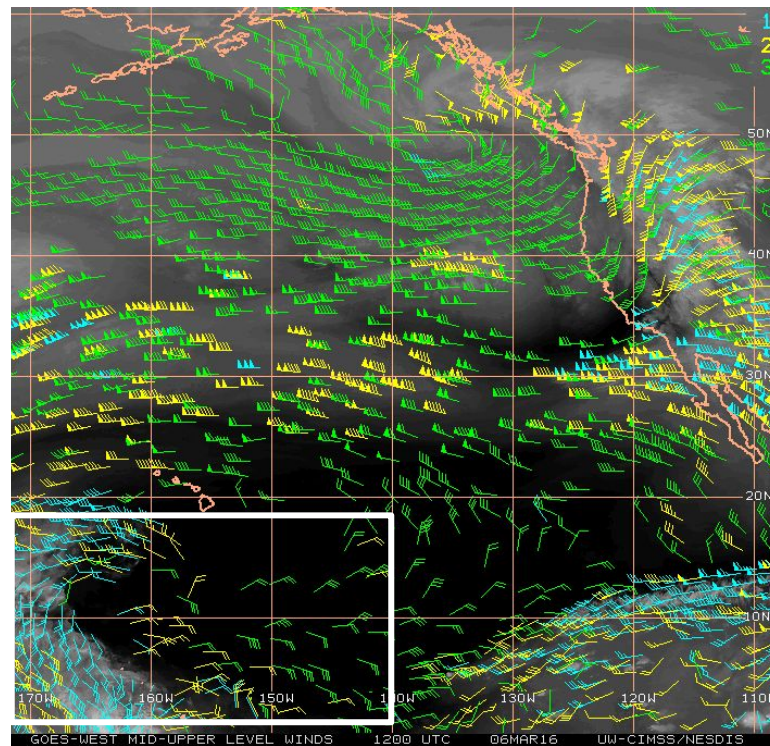


GFS Analysis: 06Z
PW and 850 mb
winds

GFS Analysis: 06Z
PW and 850 mb
winds



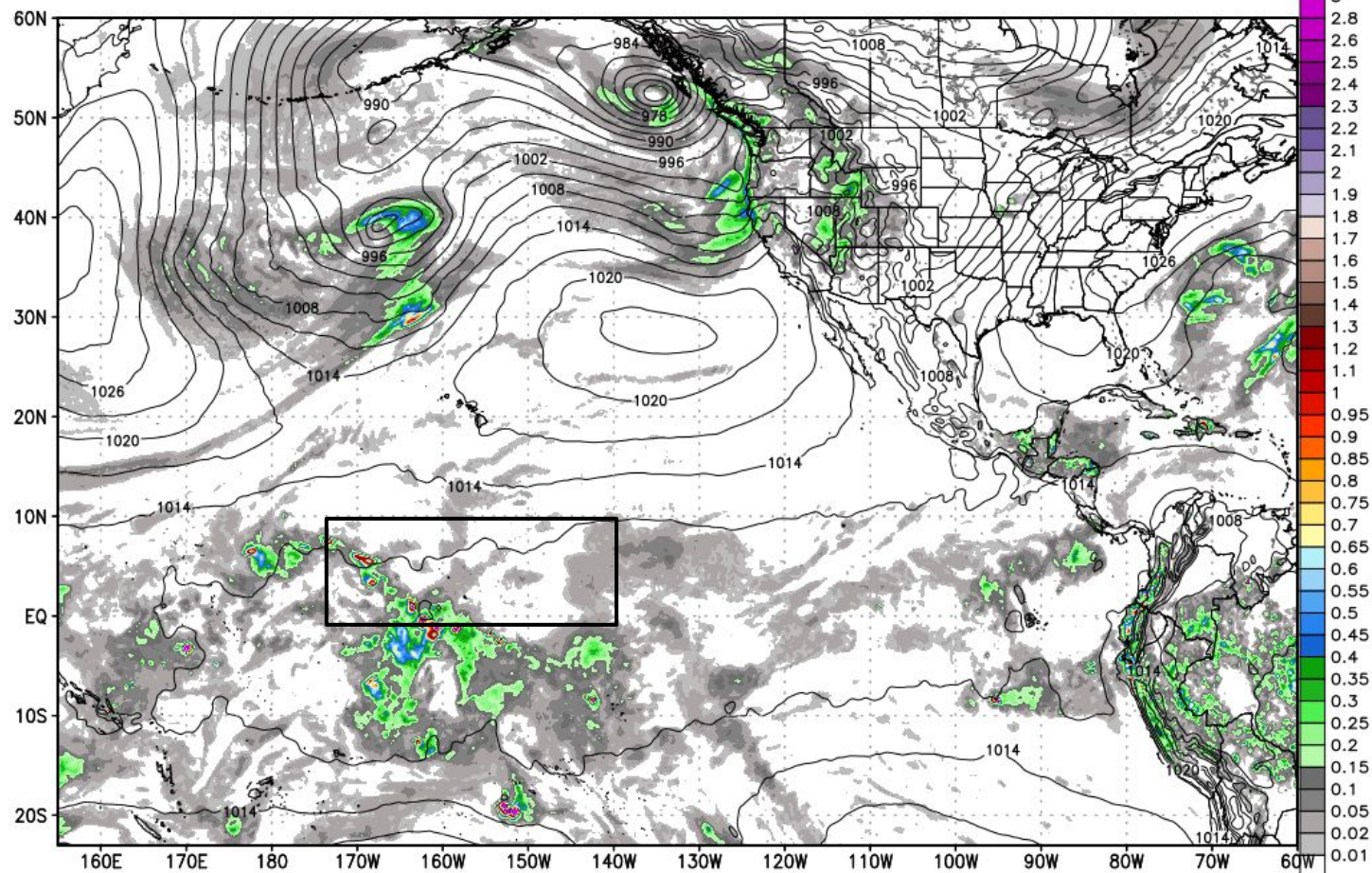
6 Mar 12Z Satellite Winds



EC vs GFS Precip Forecasts:
Mar 7 00z - Mar 11 00z

ECMWF 6-hourly Precipitation [inches] between 18Z06MAR2016 -- 00Z07MAR2016 & MSLP [hPa]
INIT: 00Z06MAR2016 fx: [024] hr --> Mon 00Z07MAR2016

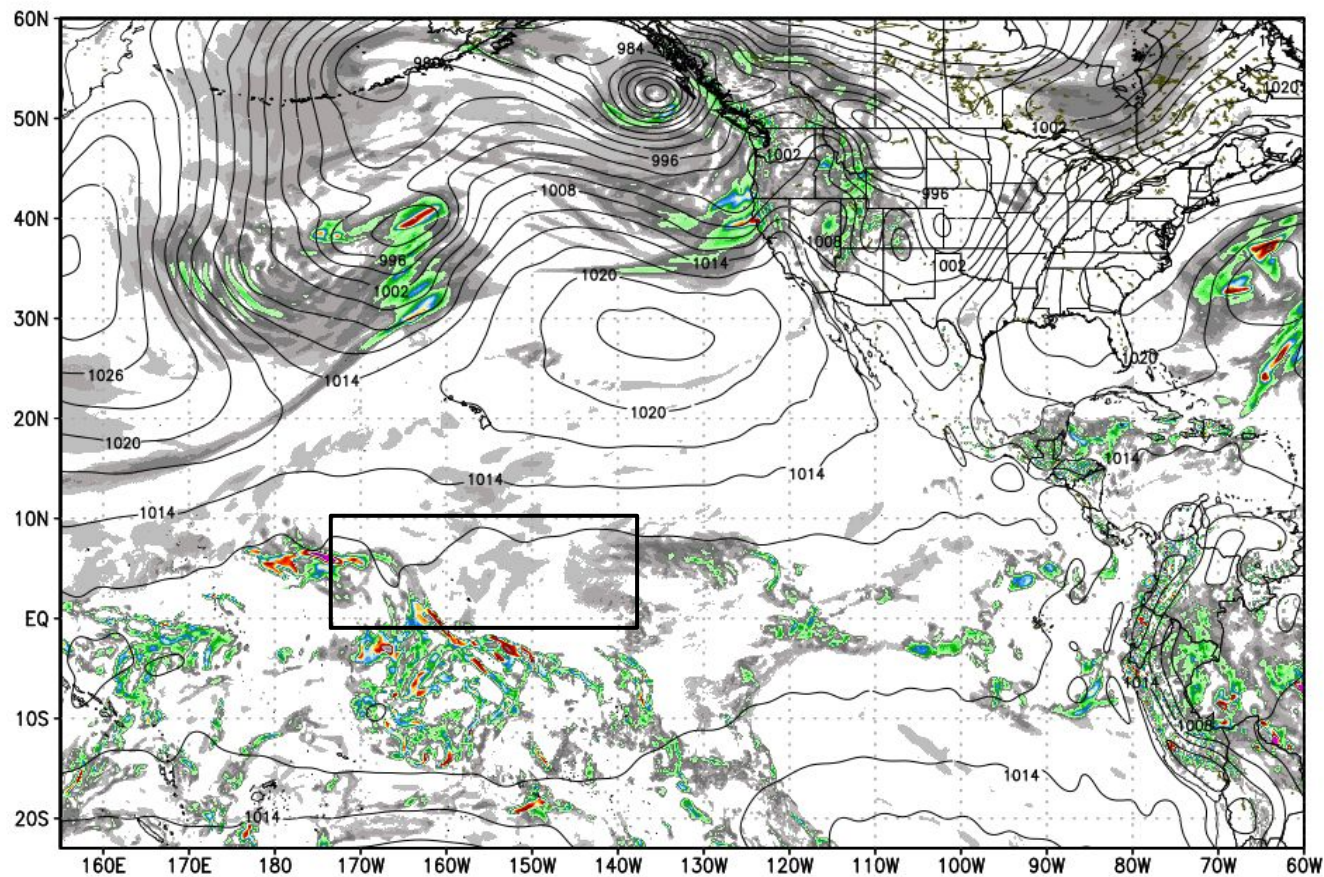
Latest: 24HR Lead EC Valid 00Z MON



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z06MAR2016 fx: [018] hr --> Mon 00Z07MAR2016

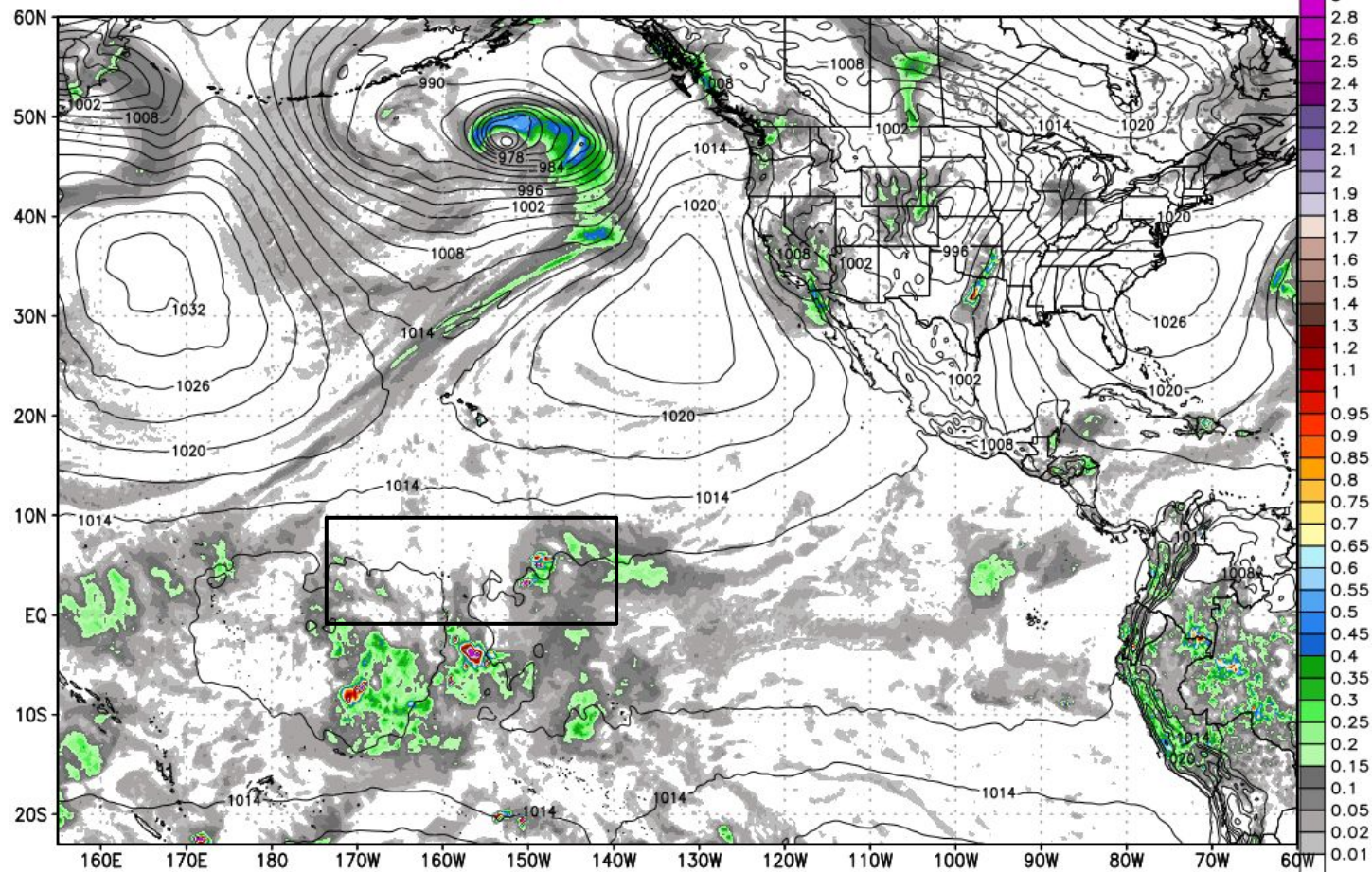
Max: 5.9 in.

Latest: 18HR Lead GFS Valid 00Z MON




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ECMWF 6-hourly Precipitation [inches] between 18Z07MAR2016 -- 00Z08MAR2016 & MSLP [hPa]
INIT: 00Z06MAR2016 fx: [048] hr --> Tue 00Z08MAR2016
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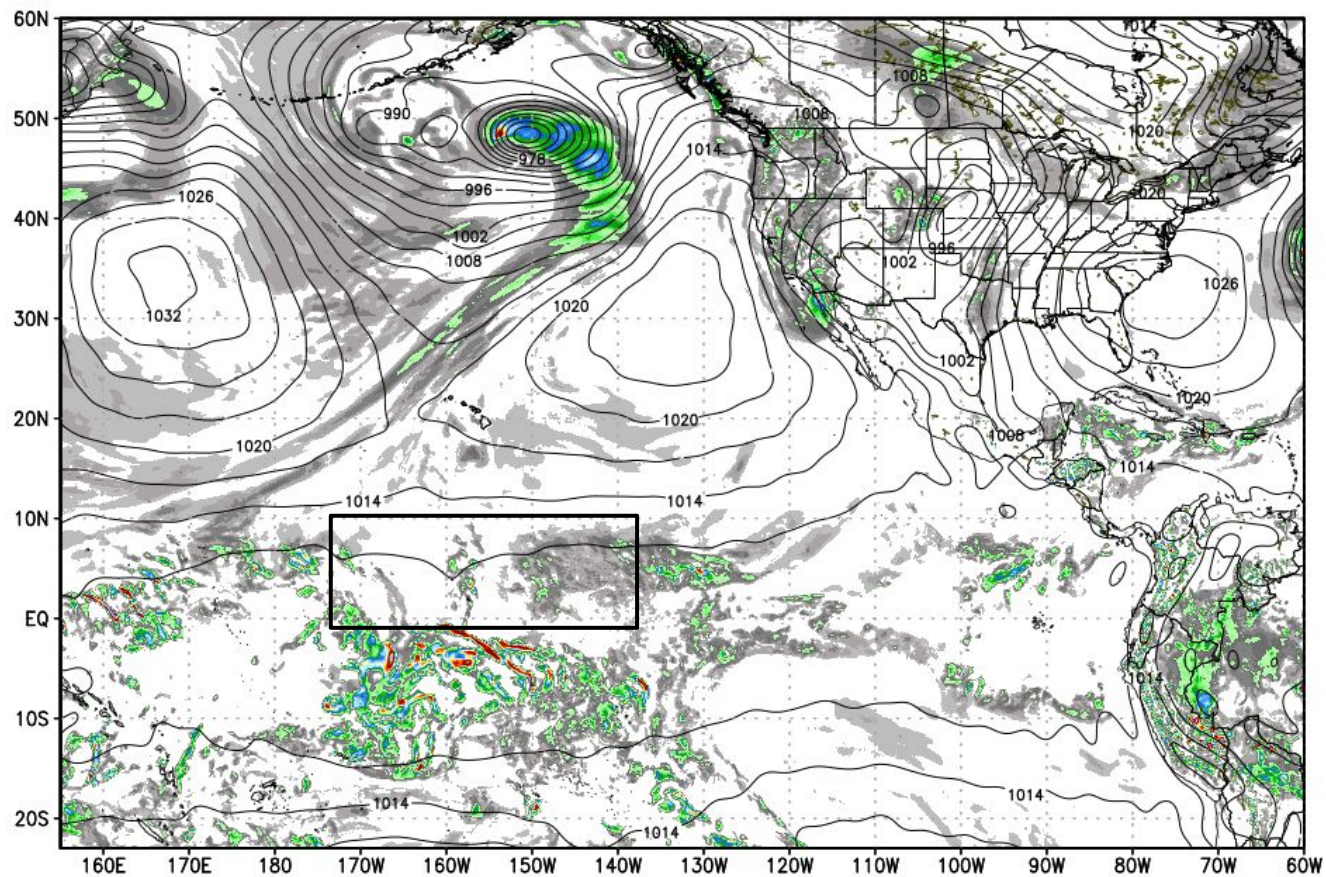
Latest: 48HR Lead EC Valid 00Z TUE



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z06MAR2016 fx: [042] hr --> Tue 00Z08MAR2016

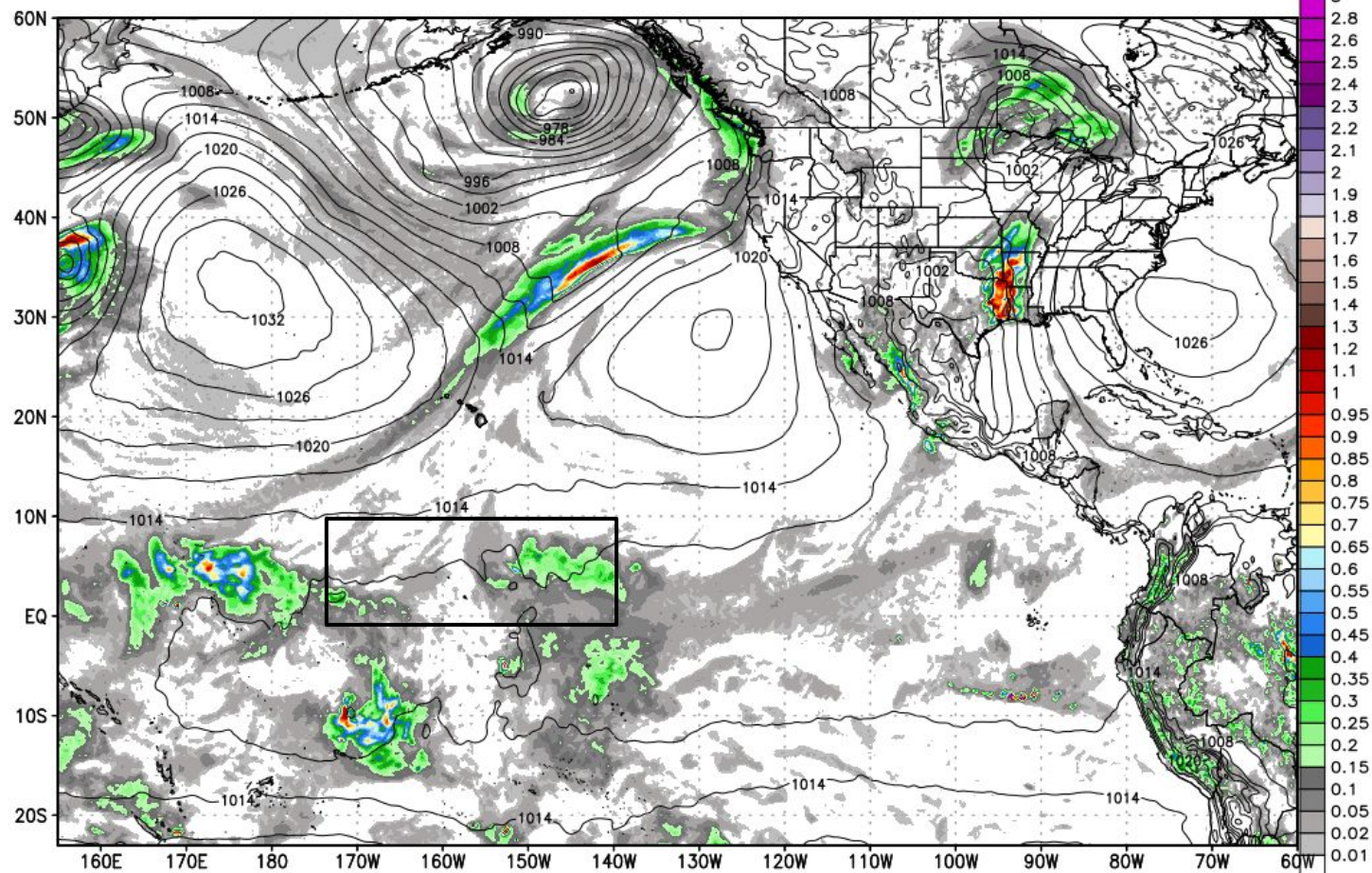
Max: 4.3 in.

Latest: 42HR Lead GFS Valid 00Z TUE



ECMWF 6-hourly Precipitation [inches] between 18Z08MAR2016 -- 00Z09MAR2016 & MSLP [hPa]
INIT: 00Z06MAR2016 fx: [072] hr --> Wed 00Z09MAR2016

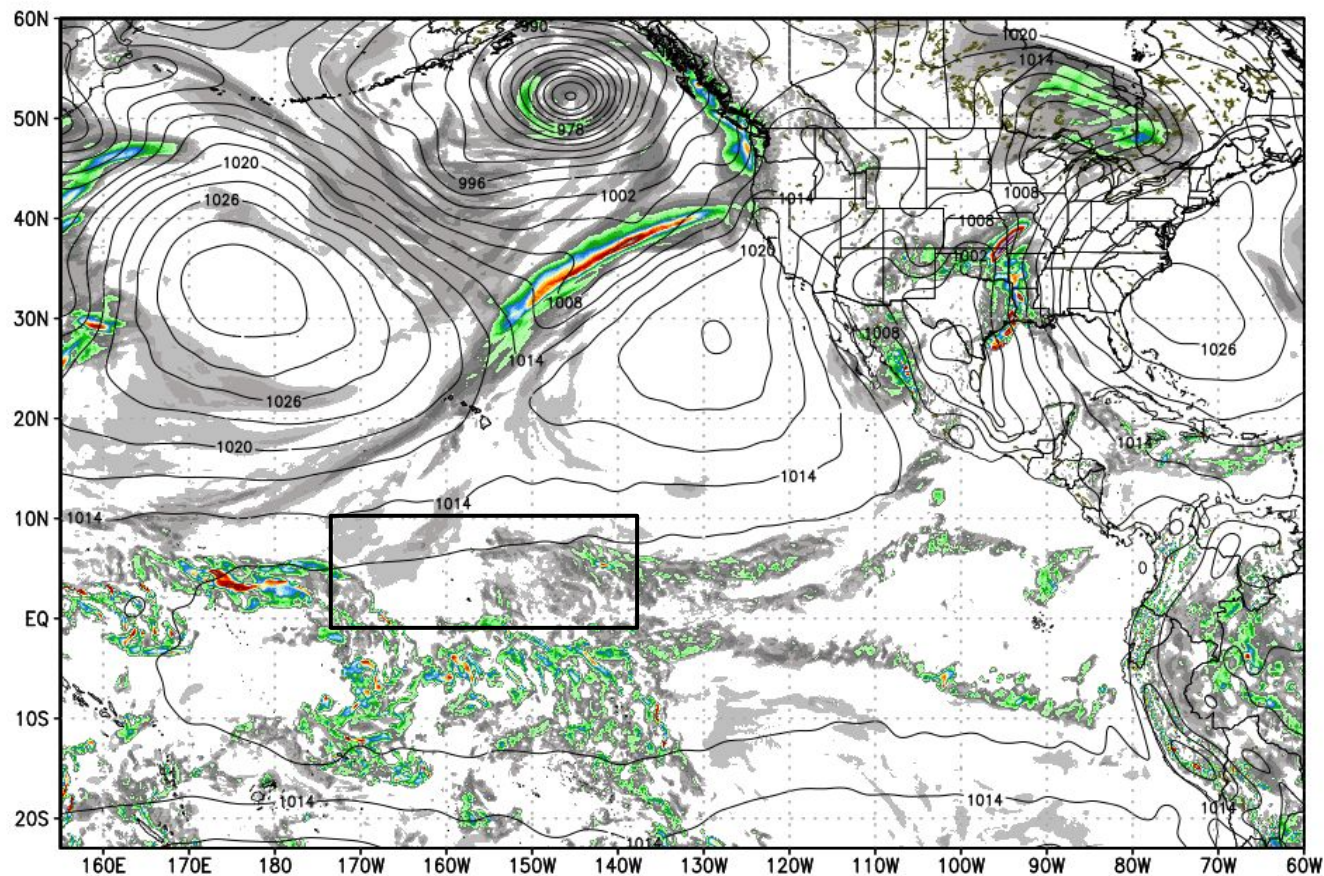
Latest: 72HR Lead EC Valid 00Z WED



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
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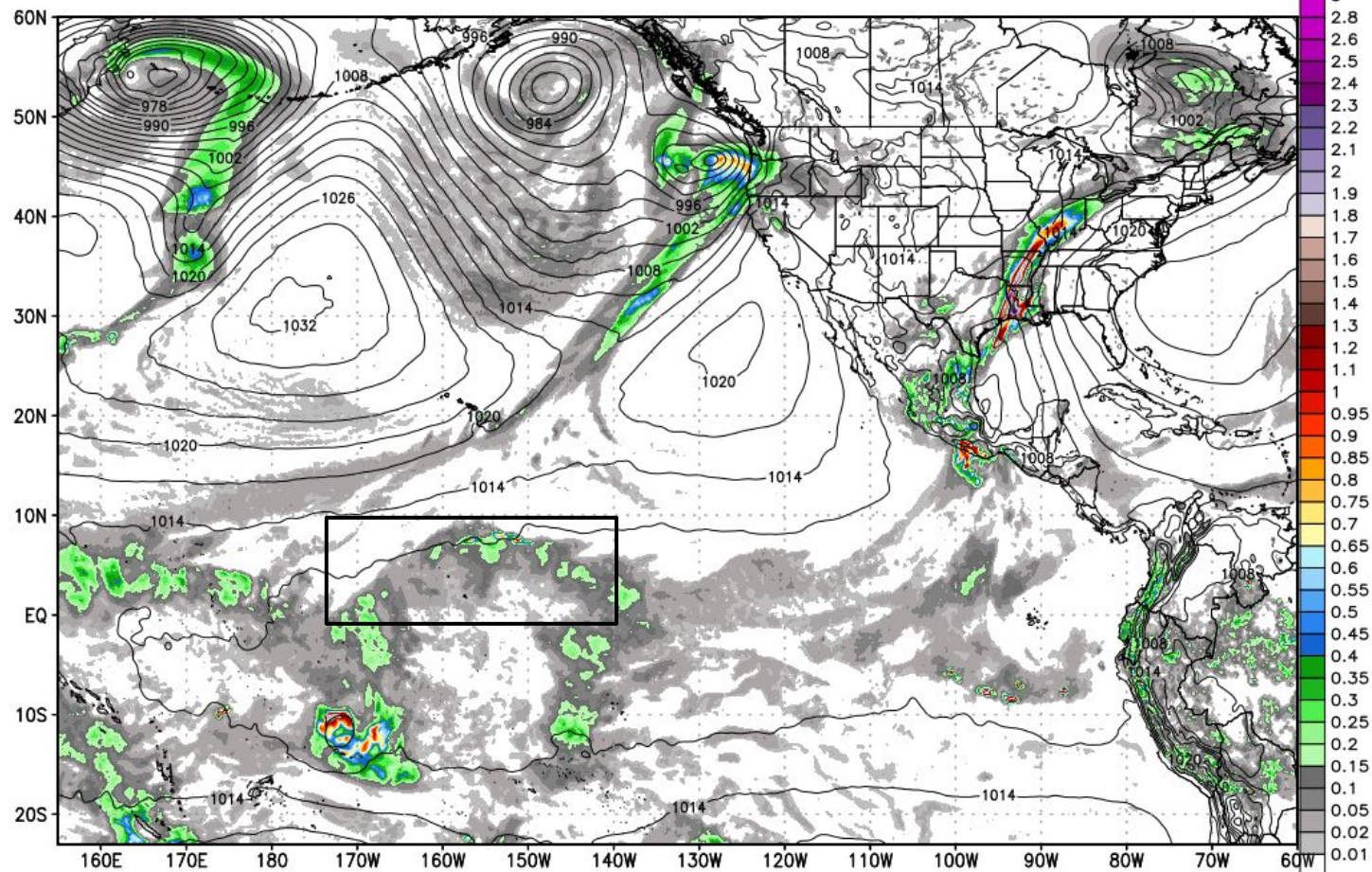
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Latest: 66HR Lead GFS Valid 00Z WED




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ECMWF 6-hourly Precipitation [inches] between 18Z09MAR2016 -- 00Z10MAR2016 & MSLP [hPa]
INIT: 00Z06MAR2016 fx: [096] hr --> Thu 00Z10MAR2016
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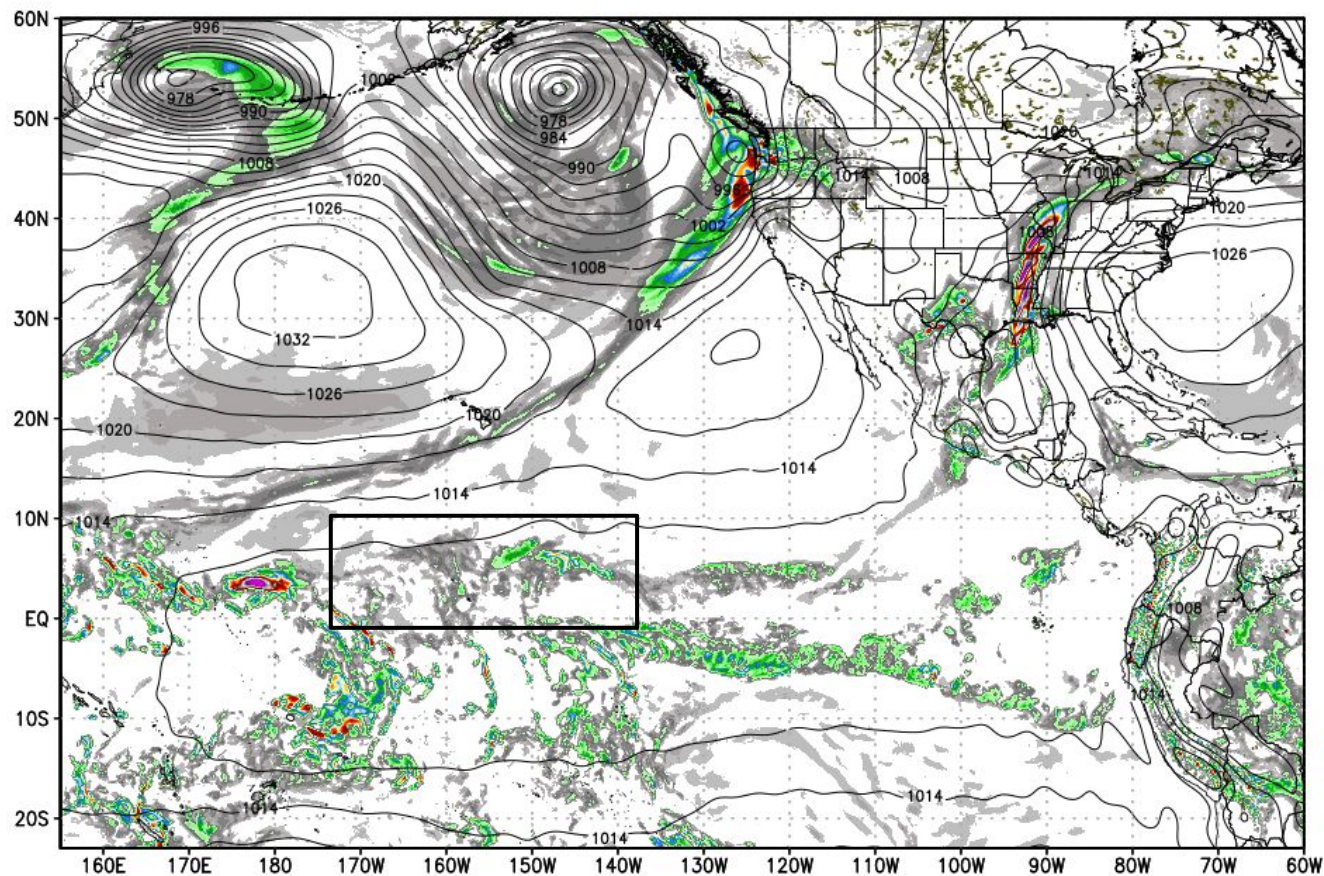
Latest: 96HR Lead EC Valid 00Z THU



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z06MAR2016 fx: [090] hr --> Thu 00Z10MAR2016

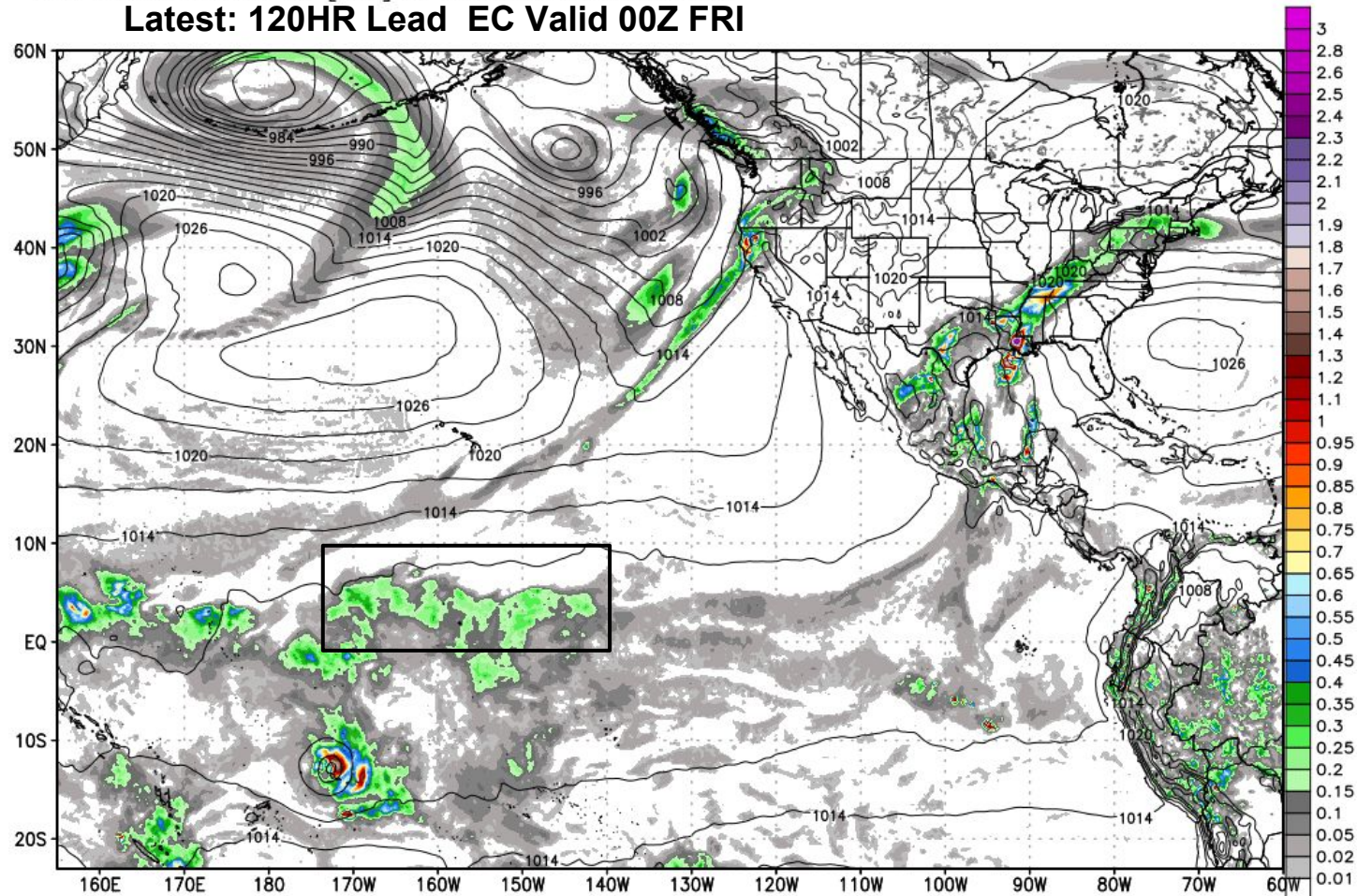
Max: 4.0 in.

Latest: 90HR Lead GFS Valid 00Z THU



ECMWF 6-hourly Precipitation [inches] between 18Z10MAR2016 -- 00Z11MAR2016 & MSLP [hPa]
INIT: 00Z06MAR2016 fx: [120] hr --> Fri 00Z11MAR2016

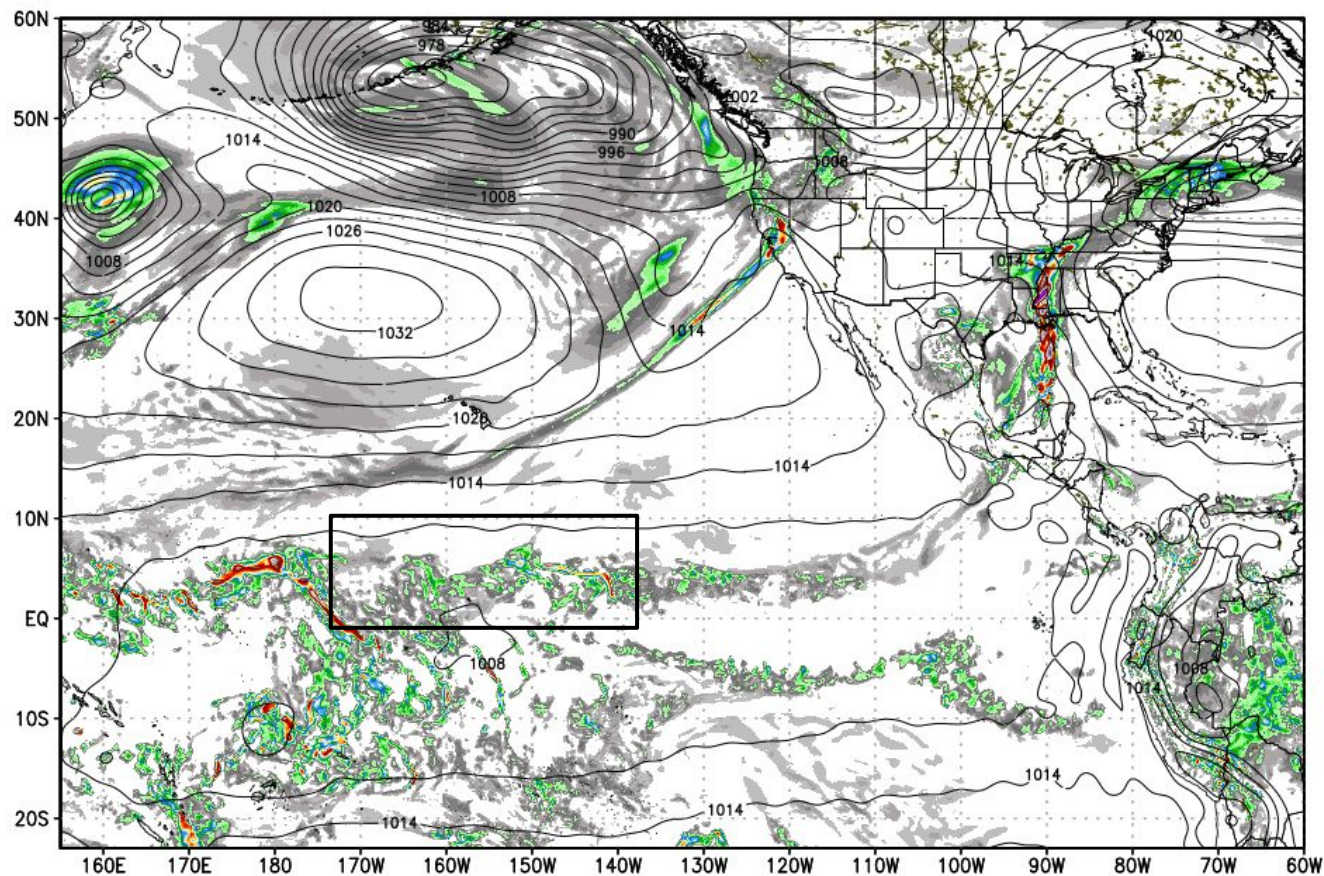
Latest: 120HR Lead EC Valid 00Z FRI



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z06MAR2016 fx: [114] hr --> Fri 00Z11MAR2016

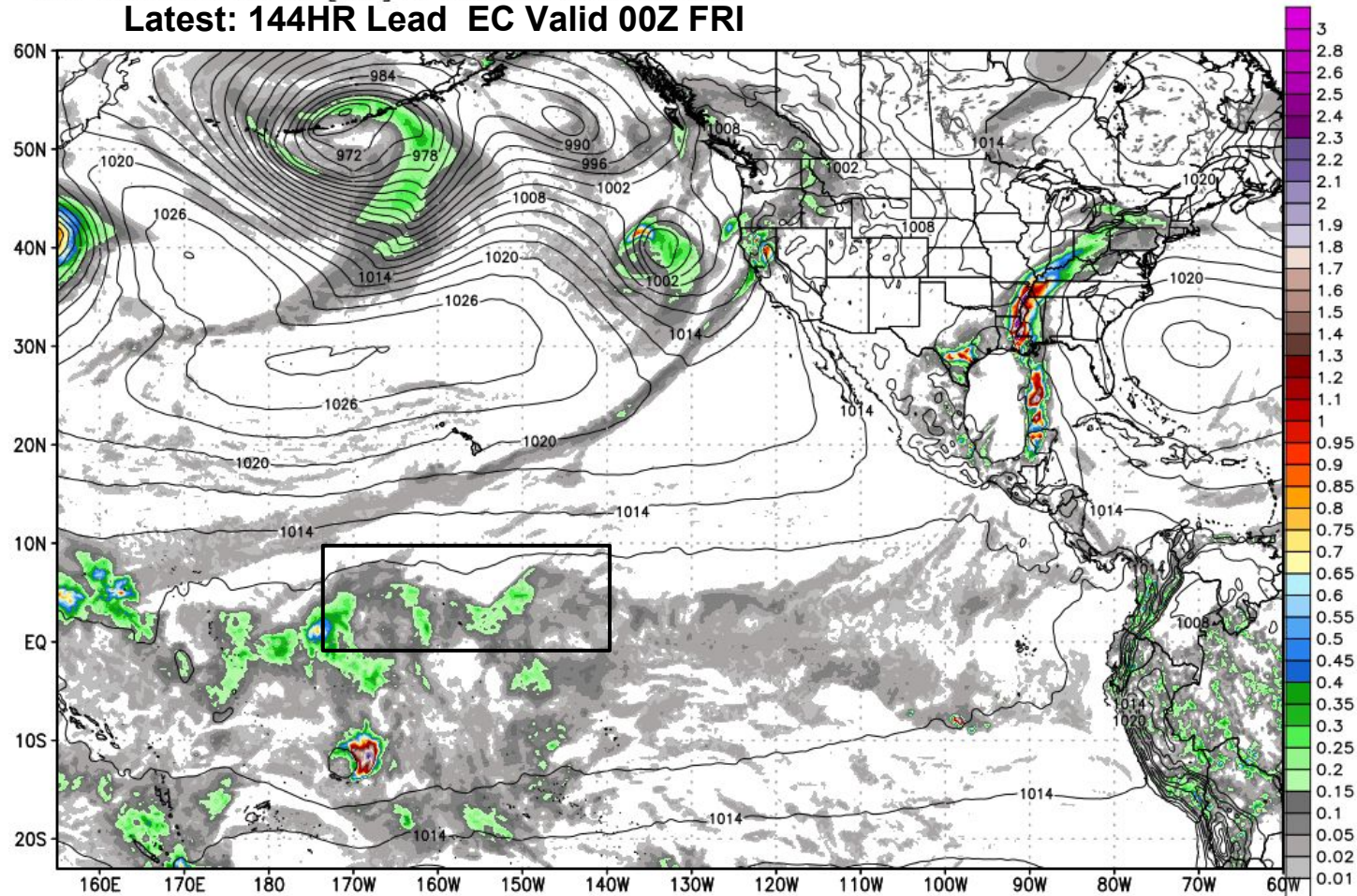
Max: 2.8 in.

Latest: 114HR Lead GFS Valid 00Z FRI



ECMWF 6-hourly Precipitation [inches] between 18Z10MAR2016 -- 00Z11MAR2016 & MSLP [hPa]
INIT: 00Z05MAR2016 fx: [144] hr --> Fri 00Z11MAR2016

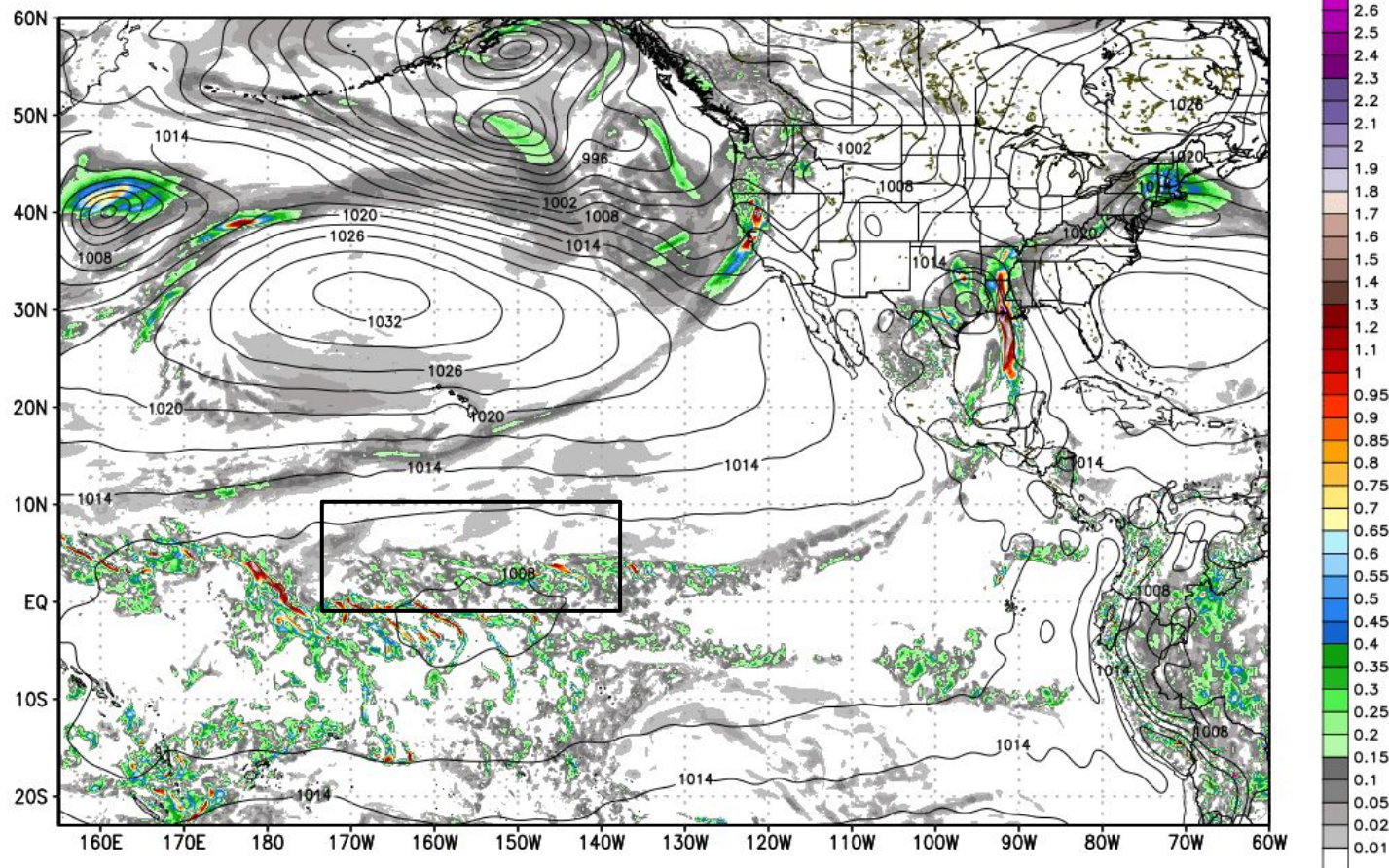
Latest: 144HR Lead EC Valid 00Z FRI



NCEP GFS 6-hourly Precipitation [inch] & MSLP [hPa]
INIT: 06Z05MAR2016 fx: [138] hr --> Fri 00Z11MAR2016

Max: 3.3 in.

Latest: 138HR Lead GFS Valid 00Z FRI

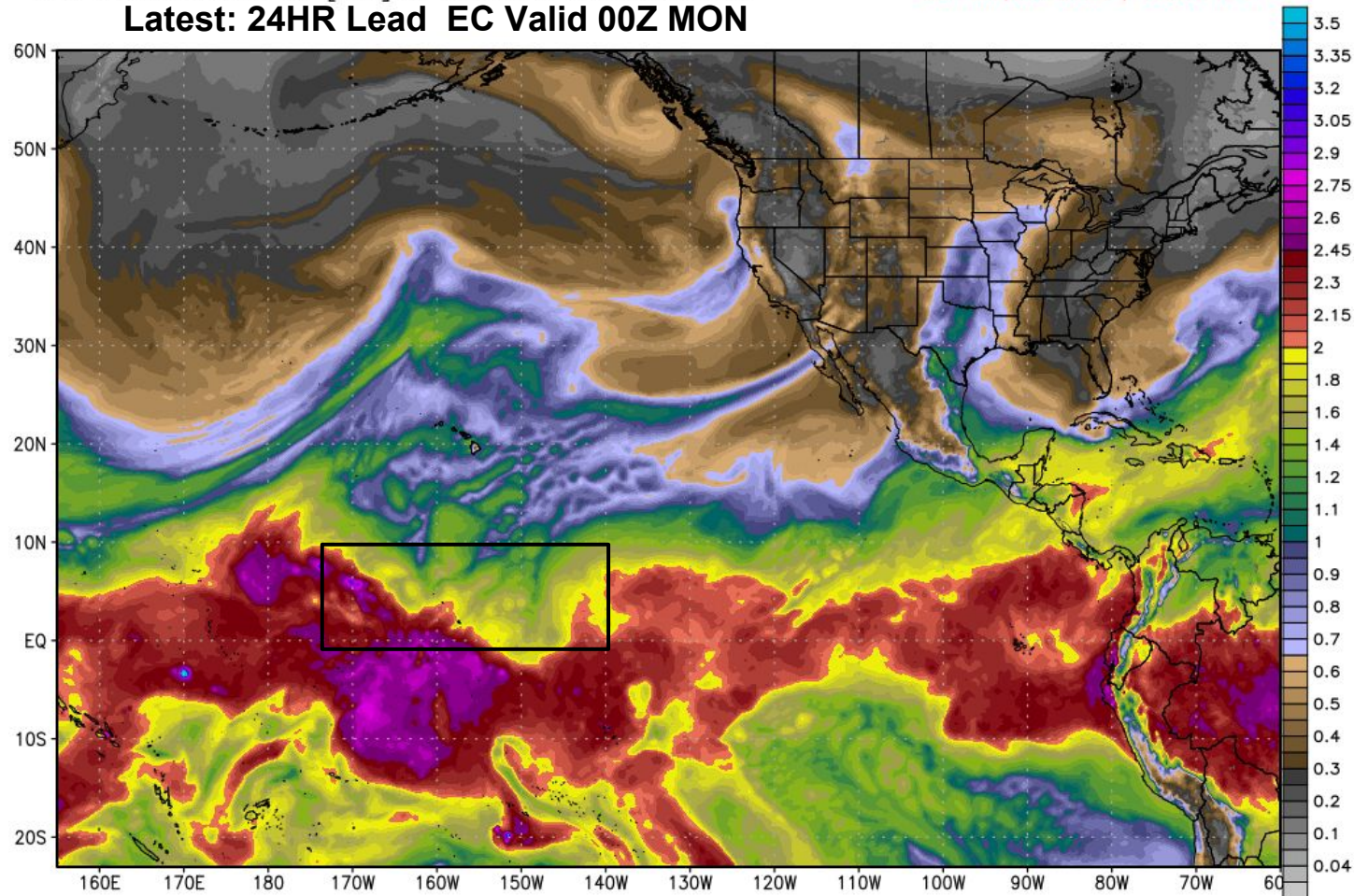


EC vs GFS PWAT Forecasts:
Mar 7 00z - Mar 11 00z

ECMWF Column Water [inch]
INIT: 00Z06MAR2016 fx: [024] hr --> Mon 00Z07MAR2016

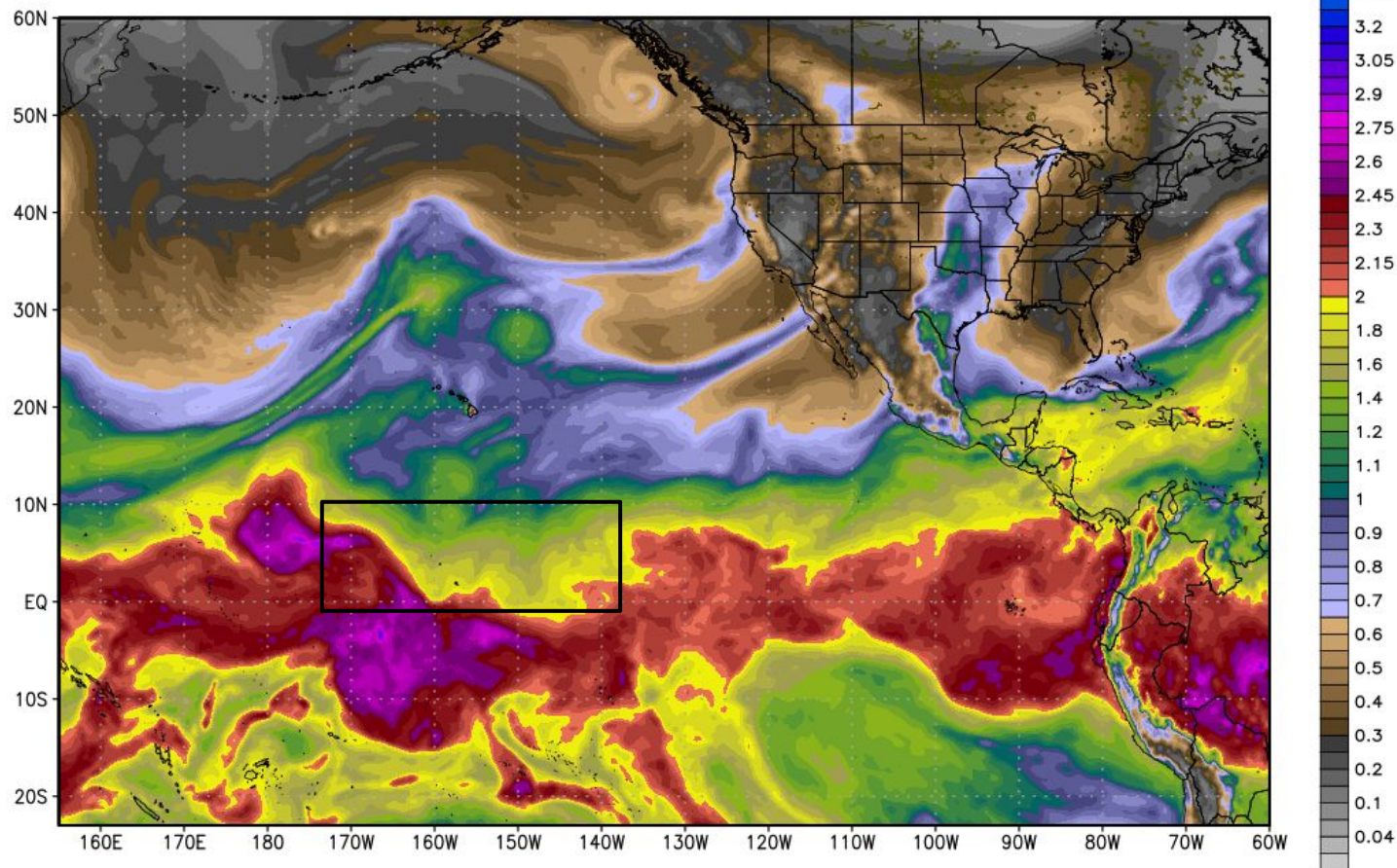
MaxPWAT: 4.38 inch
SLP Min|Max 966.9 | 1033.3 hPa

Latest: 24HR Lead EC Valid 00Z MON



NCEP GFS Precipitable Water [inch]
INIT: 06Z06MAR2016 fx: [018] hr --> Mon 00Z07MAR2016

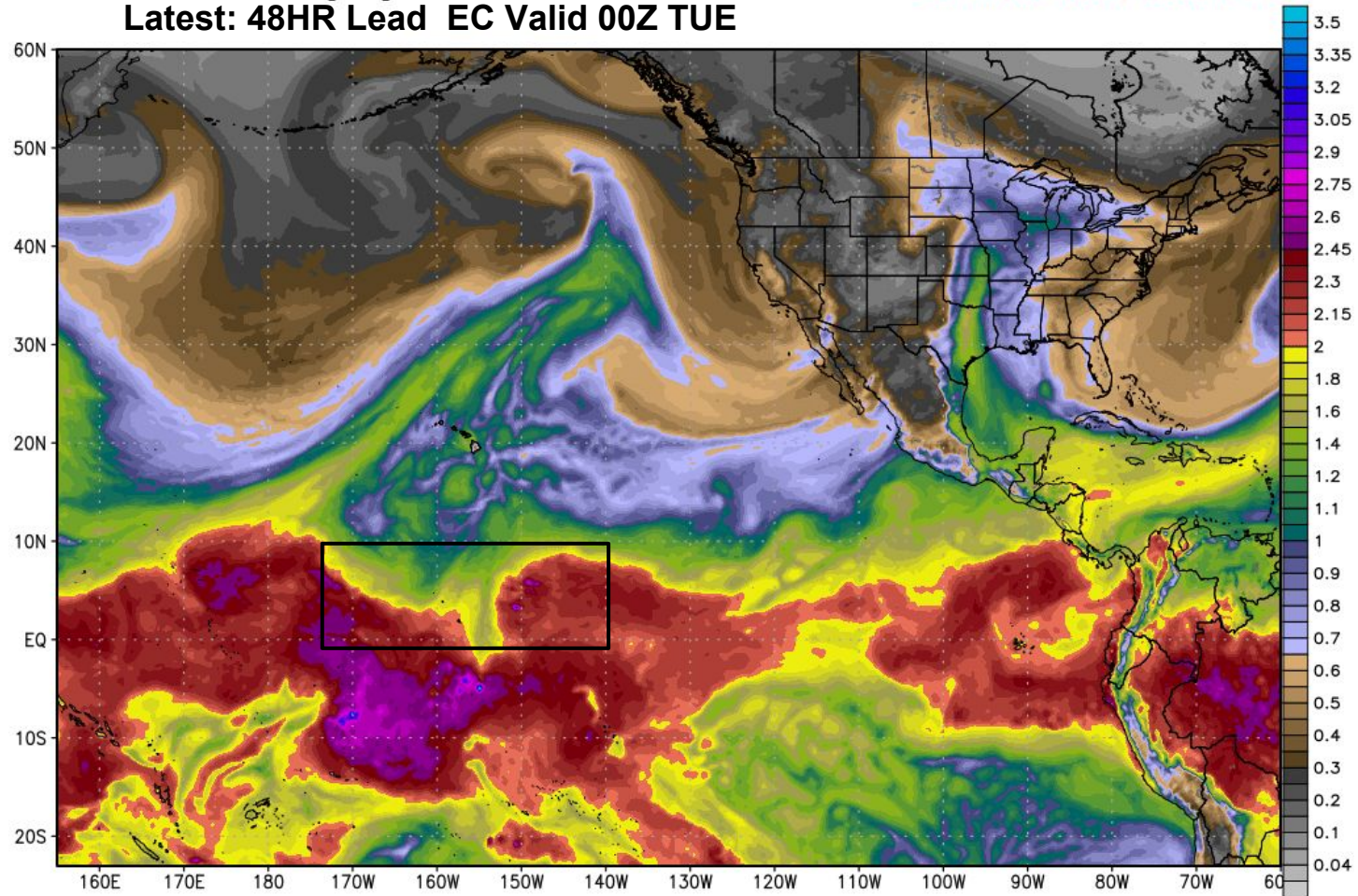
Latest: 18HR Lead GFS Valid 00Z MON



ECMWF Column Water [inch]
INIT: 00Z06MAR2016 fx: [048] hr --> Tue 00Z08MAR2016

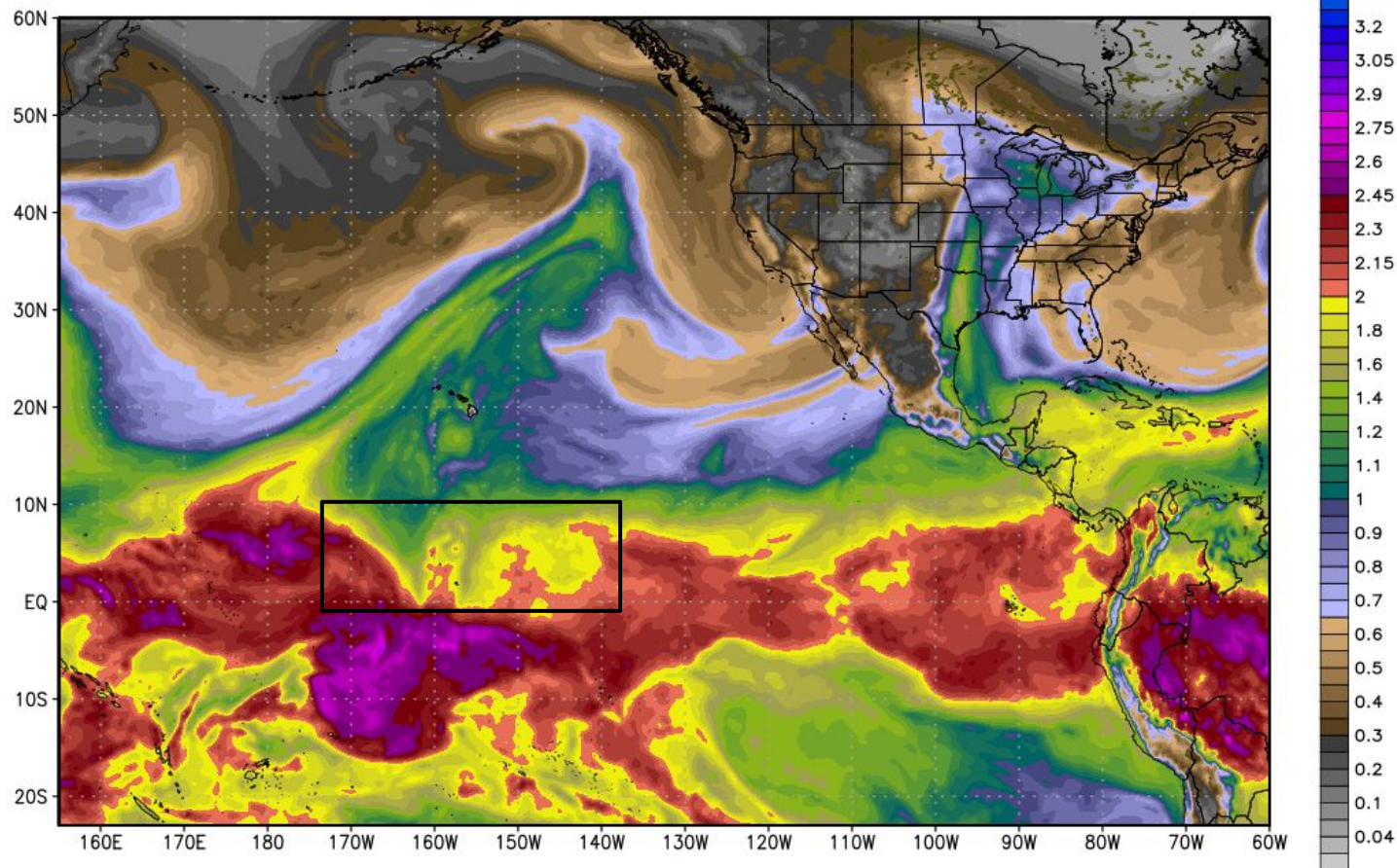
MaxPWAT: 3.79 inch
SLP Min|Max 963.9 | 1033.5 hPa

Latest: 48HR Lead EC Valid 00Z TUE



NCEP GFS Precipitable Water [inch]
INIT: 06Z06MAR2016 fx: [042] hr --> Tue 00Z08MAR2016

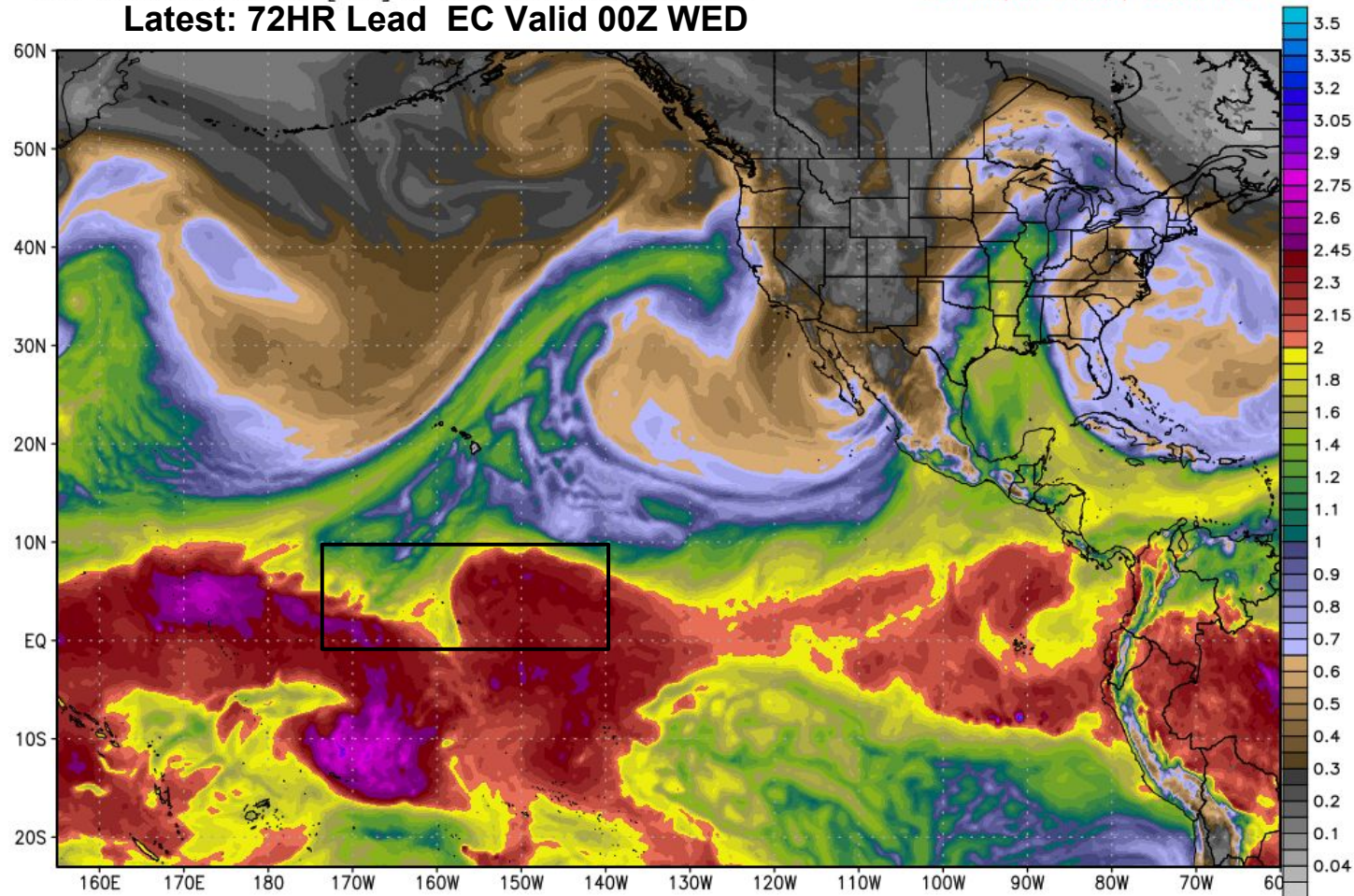
Latest: 42HR Lead GFS Valid 00Z TUE



ECMWF Column Water [inch]
INIT: 00Z06MAR2016 fx: [072] hr --> Wed 00Z09MAR2016

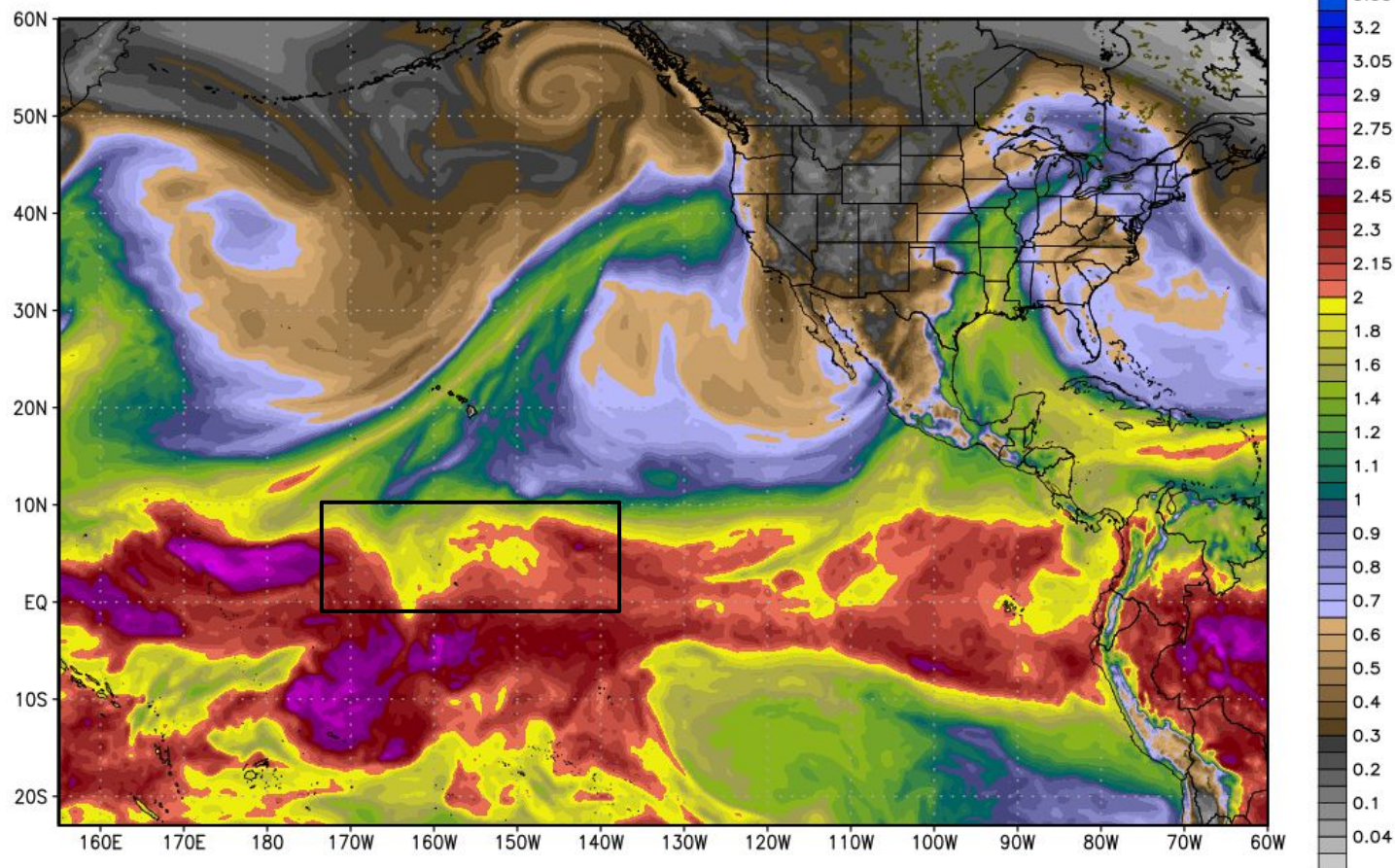
MaxPWAT: 3.49 inch
SLP Min|Max 968.6 | 1033.2 hPa

Latest: 72HR Lead EC Valid 00Z WED



NCEP GFS Precipitable Water [inch]
INIT: 06Z06MAR2016 fx: [066] hr --> Wed 00Z09MAR2016

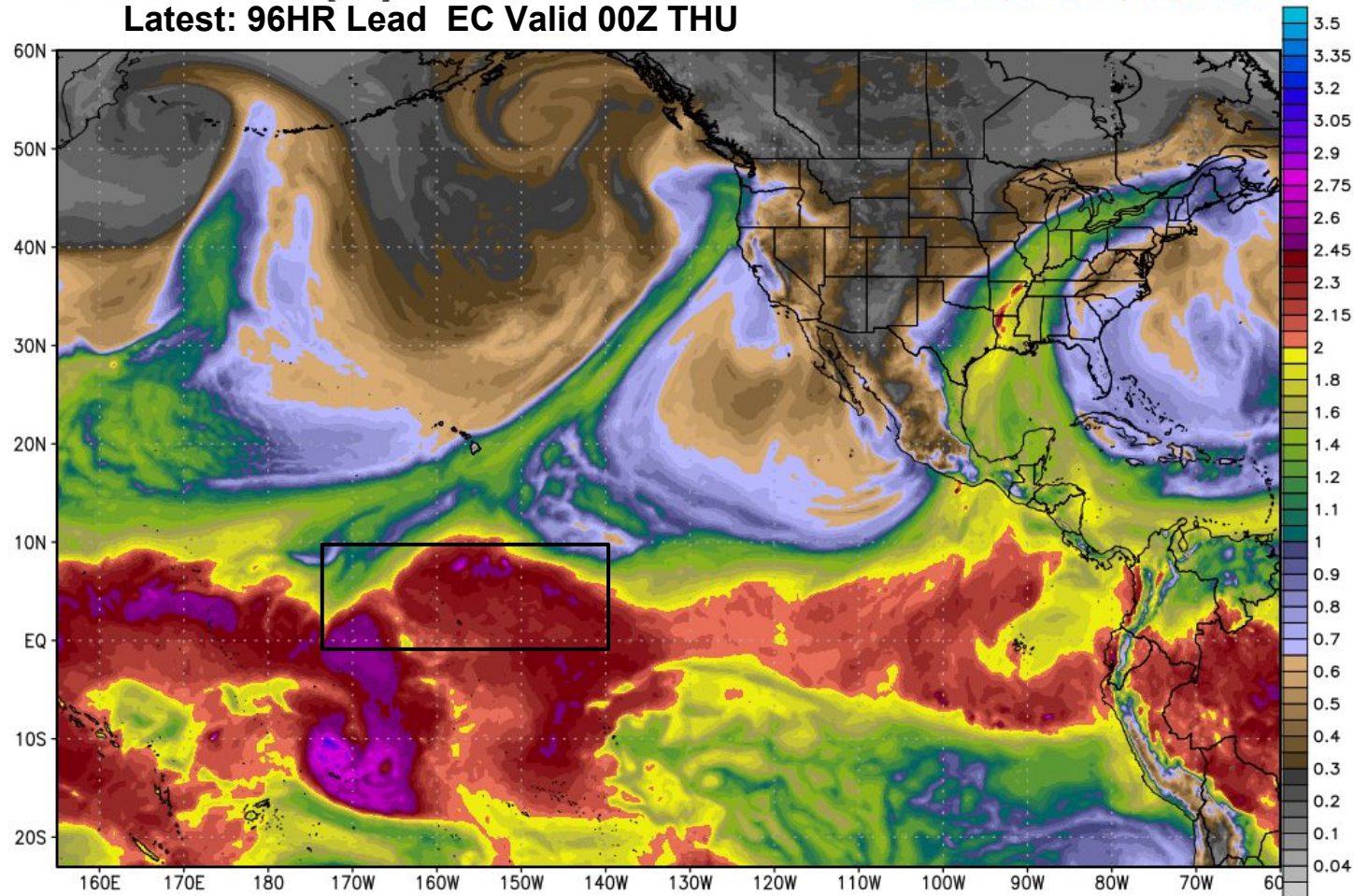
Latest: 66HR Lead GFS Valid 00Z WED



ECMWF Column Water [inch]
INIT: 00Z06MAR2016 fx: [096] hr --> Thu 00Z10MAR2016

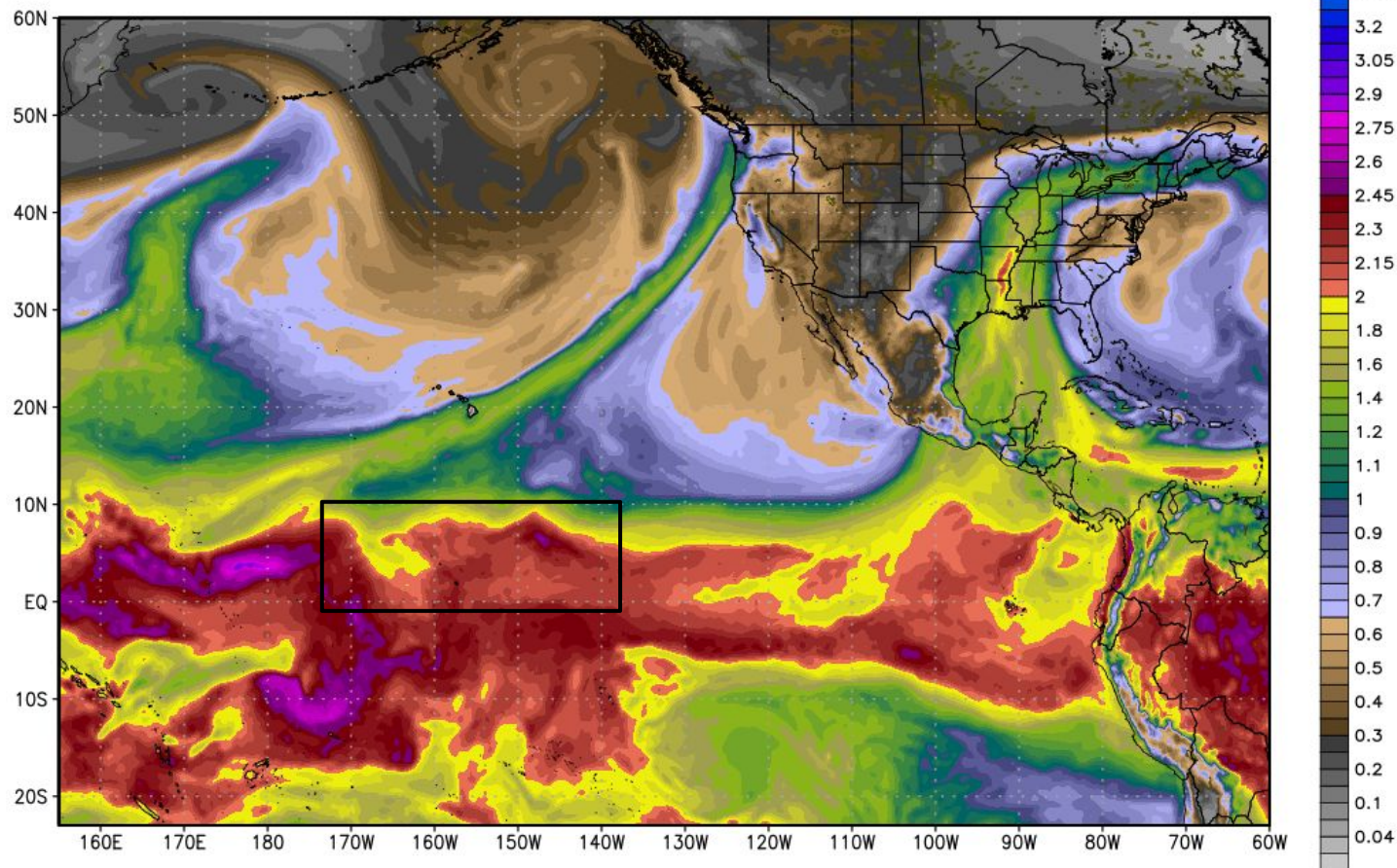
MaxPWAT: 3.16 inch
SLP Min|Max 968.0 | 1032.9 hPa

Latest: 96HR Lead EC Valid 00Z THU



NCEP GFS Precipitable Water [inch]
INIT: 06Z06MAR2016 fx: [090] hr --> Thu 00Z10MAR2016

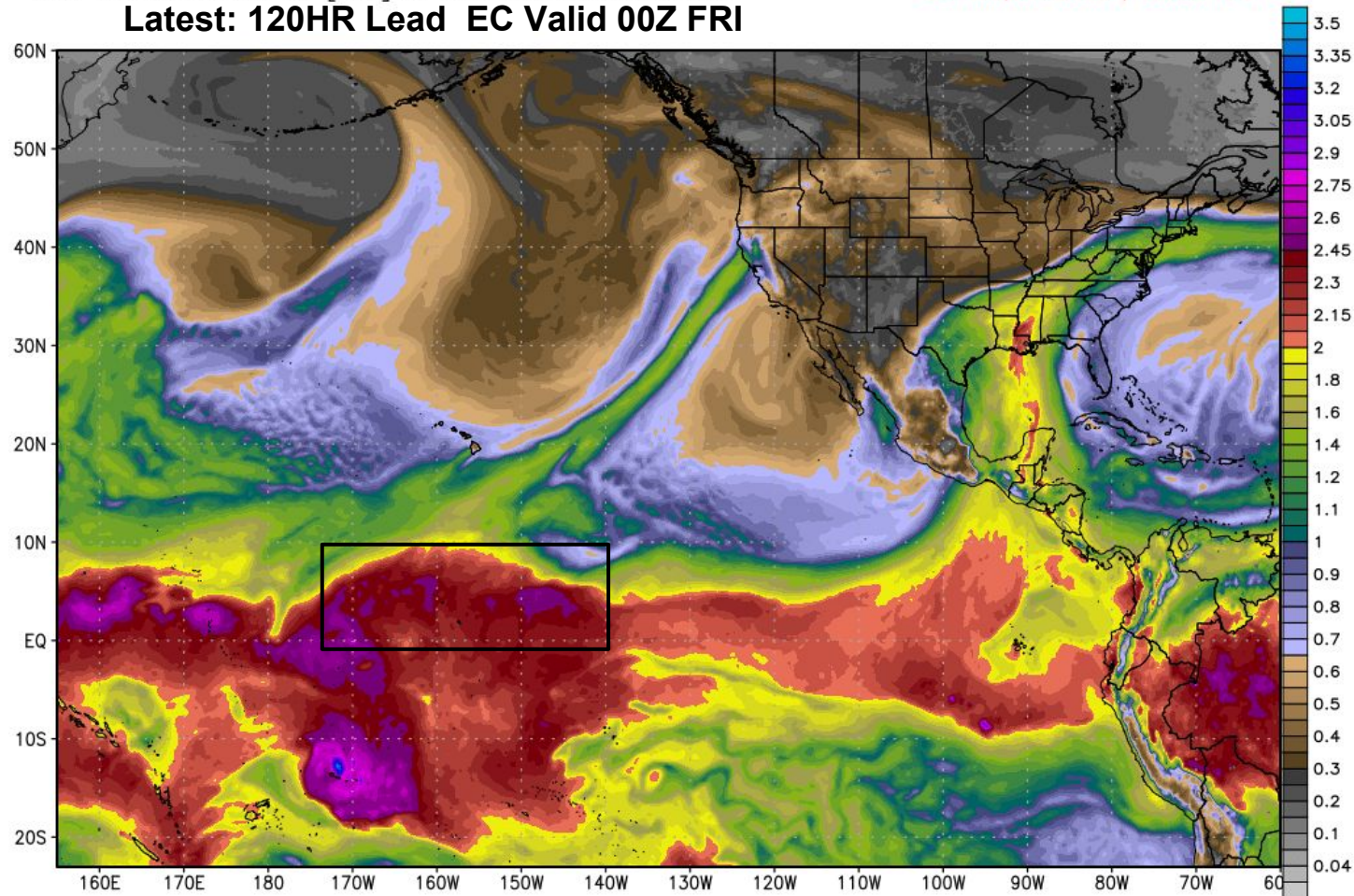
Latest: 90HR Lead GFS Valid 00Z THU



ECMWF Column Water [inch]
INIT: 00Z06MAR2016 fx: [120] hr --> Fri 00Z11MAR2016

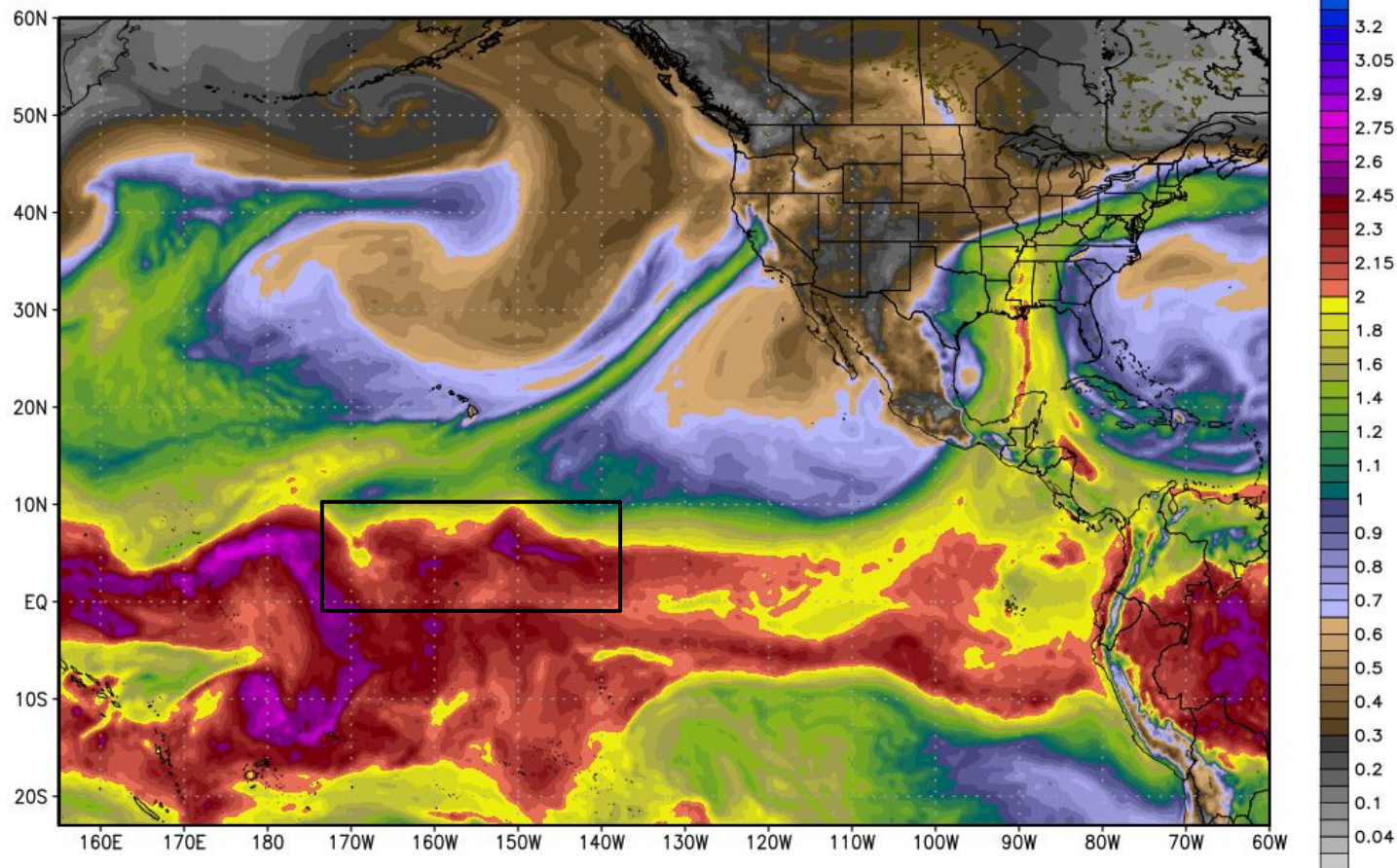
MaxPWAT: 3.49 inch
SLP Min|Max 966.9 | 1031.8 hPa

Latest: 120HR Lead EC Valid 00Z FRI



NCEP GFS Precipitable Water [inch]
INIT: 06Z06MAR2016 fx: [114] hr --> Fri 00Z11MAR2016

Latest: 114HR Lead GFS Valid 00Z FRI

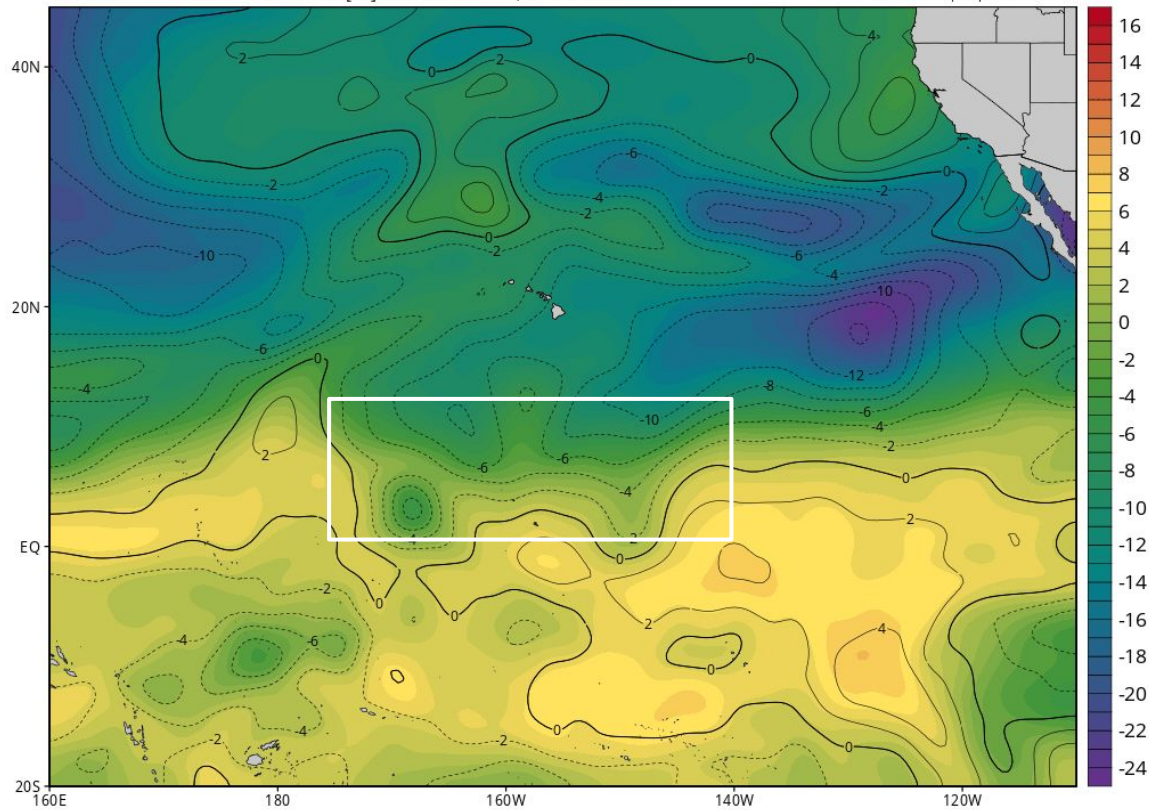


GFS Instability Forecasts: Mar 7 00z - Mar 11 00z

GFS Marine Instability (Theta-e: Lifted Parcel - Environment) (°C, shaded) & Anomaly (contour)

Init: 06z Mar 06 2016 Forecast Hour: [18] valid at 00z Mon, Mar 07 2016

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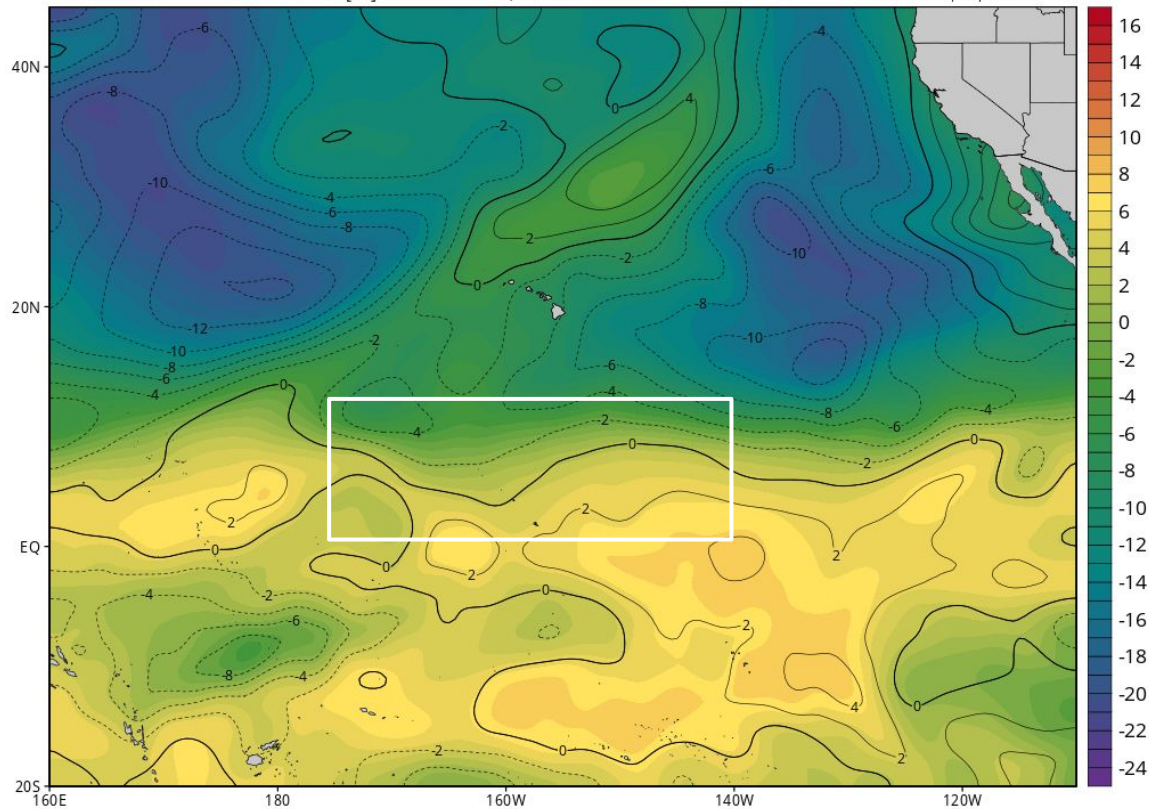


GFS Forecast 00Z
MON

GFS Marine Instability (Theta-e: Lifted Parcel - Environment) (°C, shaded) & Anomaly (contour)

Init: 06z Mar 06 2016 Forecast Hour: [42] valid at 00z Tue, Mar 08 2016

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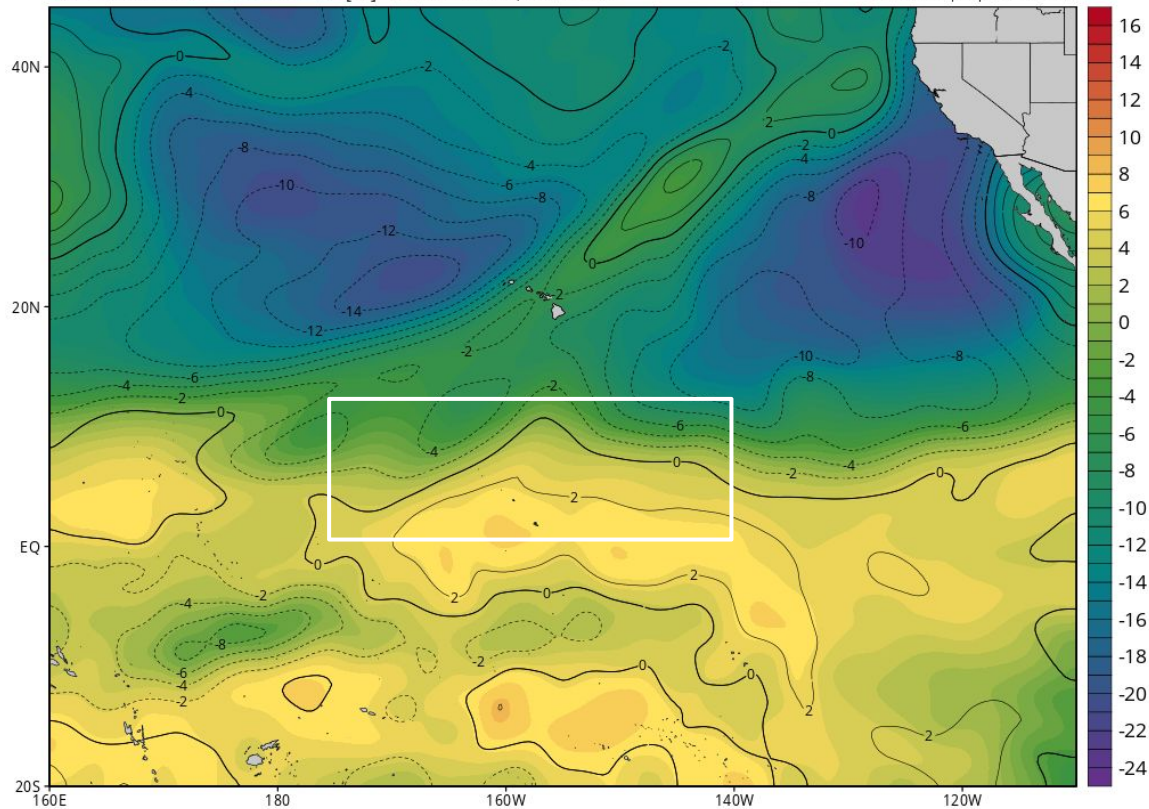


GFS Forecast 00Z
TUE

GFS Marine Instability (Theta-e: Lifted Parcel - Environment) (°C, shaded) & Anomaly (contour)

Init: 06z Mar 06 2016 Forecast Hour: [66] valid at 00z Wed, Mar 09 2016

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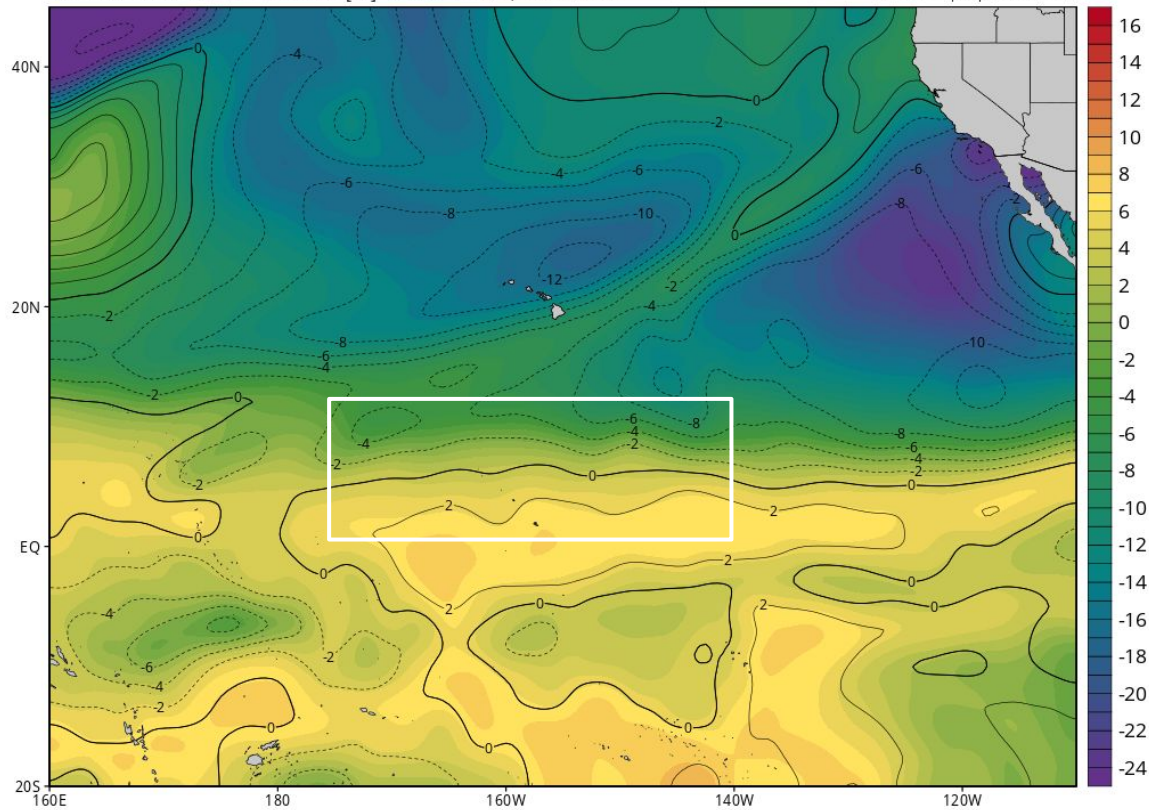


GFS Forecast 00Z
WED

GFS Marine Instability (Theta-e: Lifted Parcel - Environment) (°C, shaded) & Anomaly (contour)

Init: 06z Mar 06 2016 Forecast Hour: [90] valid at 00z Thu, Mar 10 2016

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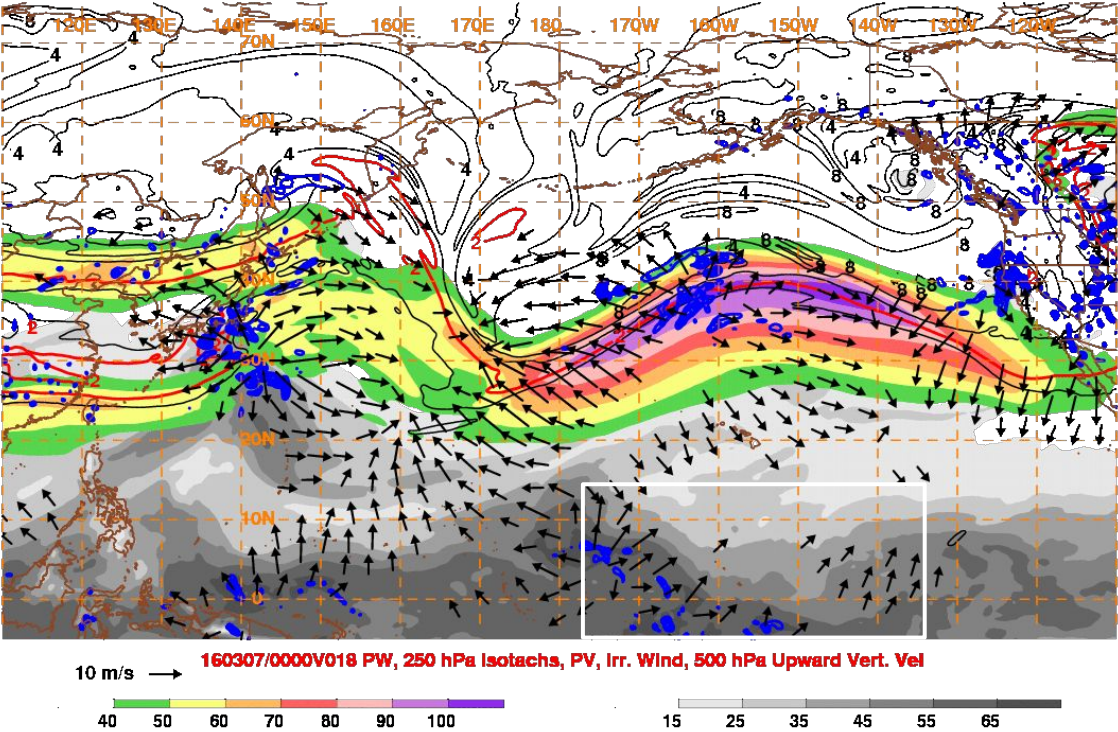


GFS Forecast 00Z
THU

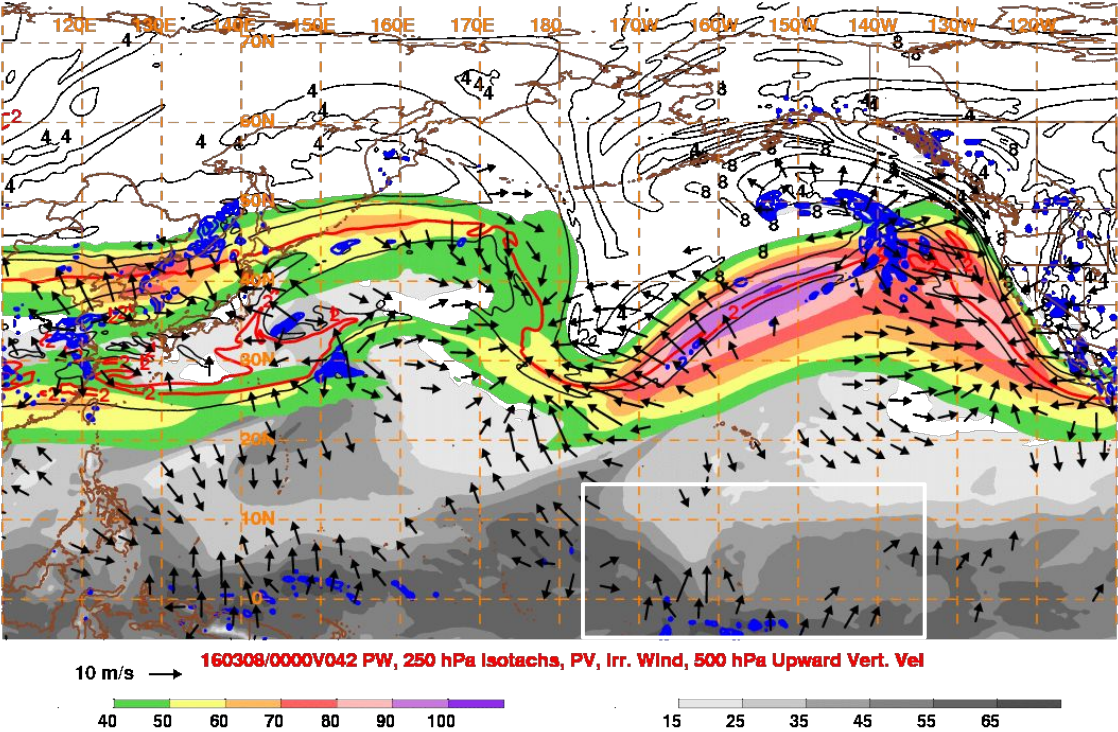
GFS Irrotational Wind Forecasts

Mar 7 00z - Mar 11 00z

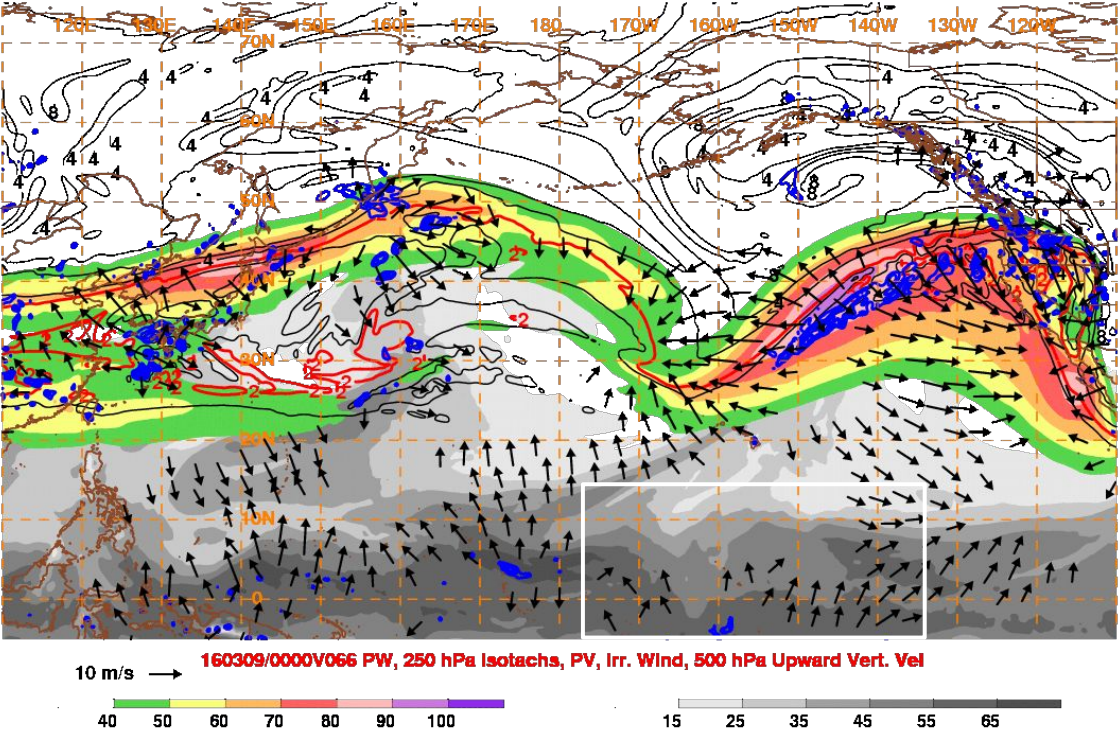
GFS Forecast 00Z
MON



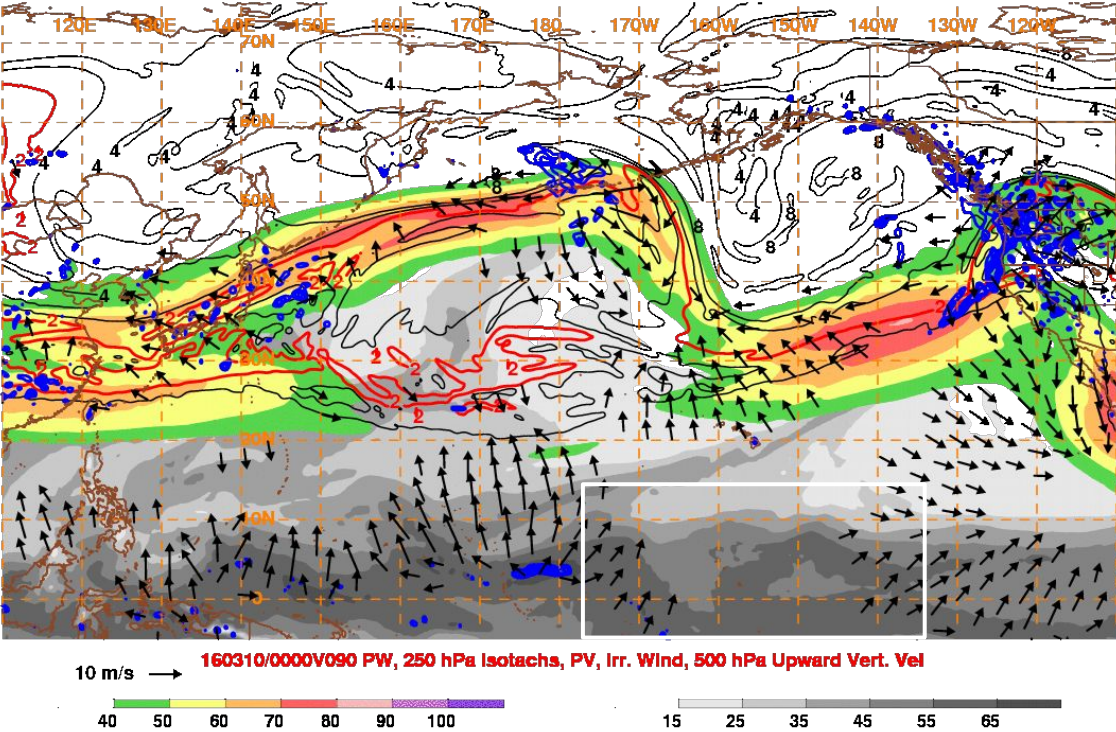
GFS Forecast 00Z
TUE



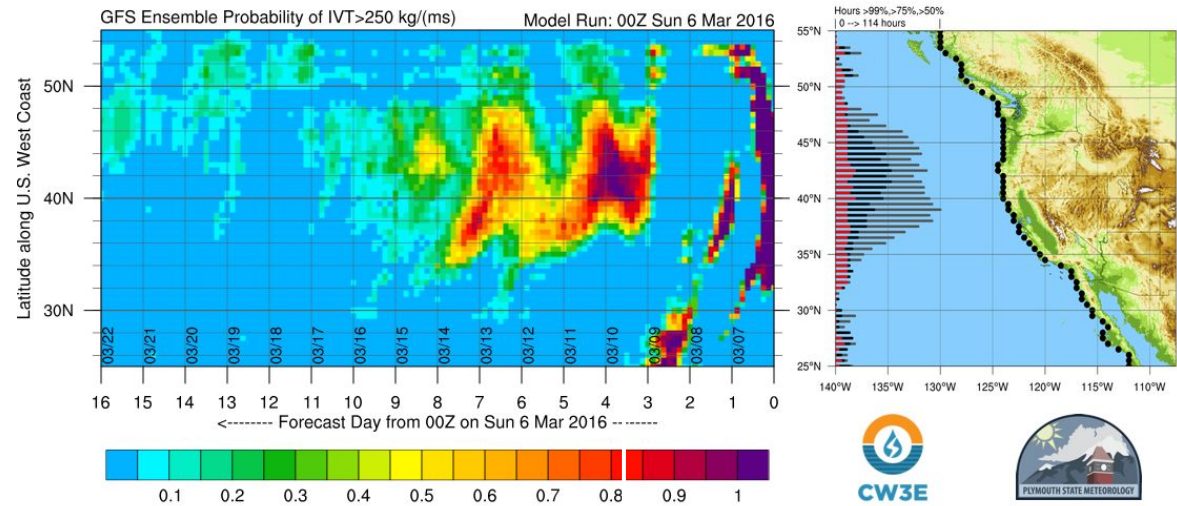
GFS Forecast 00Z
WED



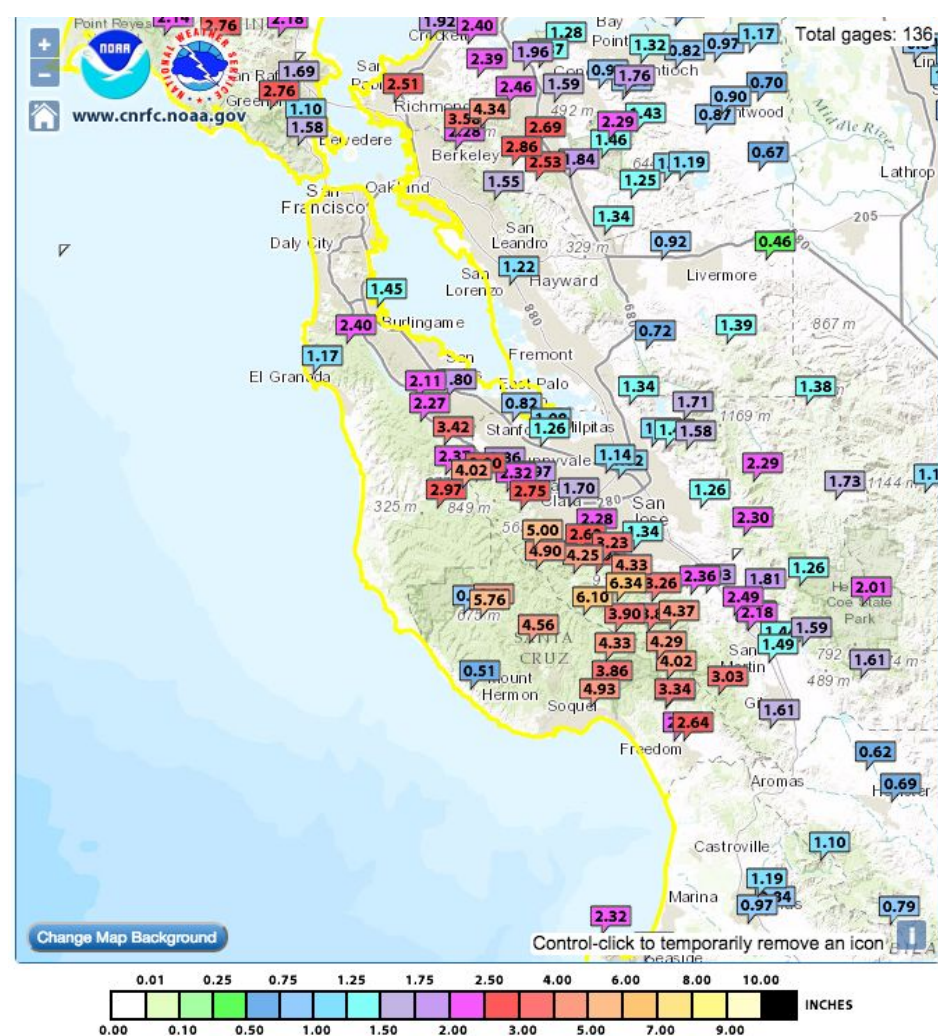
GFS Forecast 00Z
THU



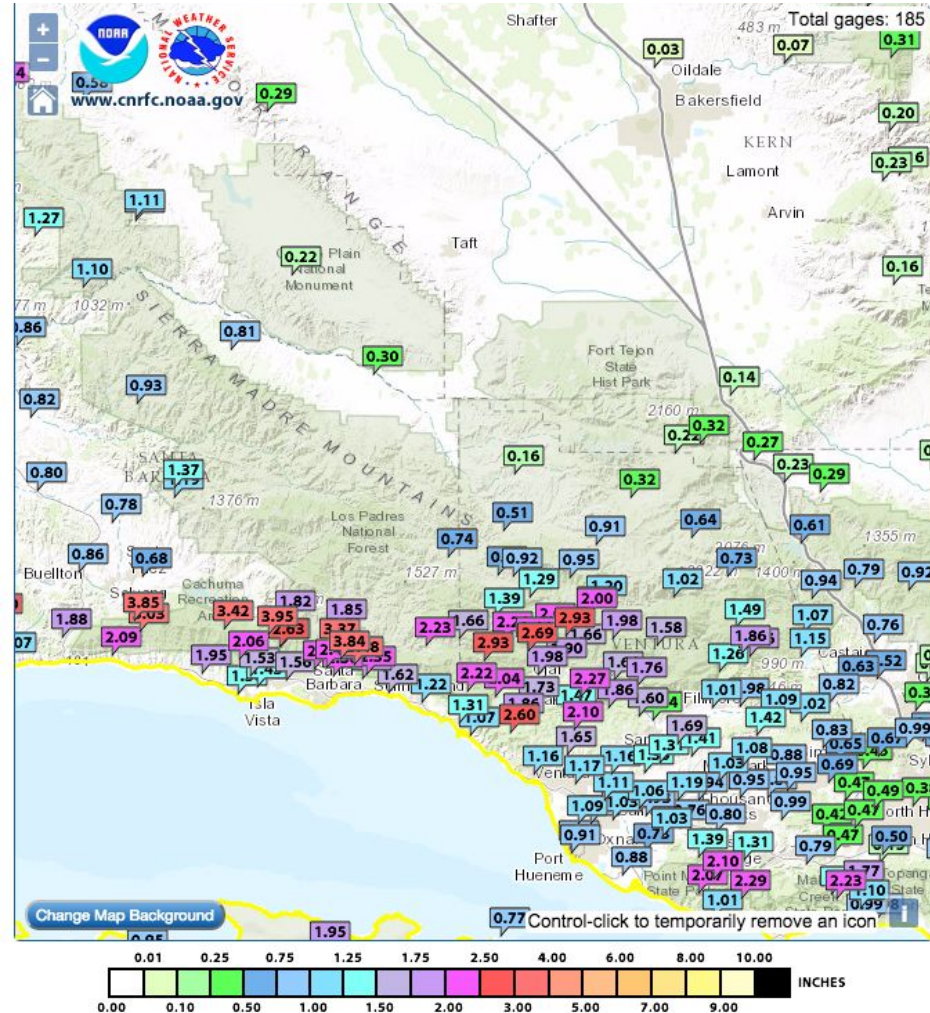
GFS Ensemble
Forecast: IVT



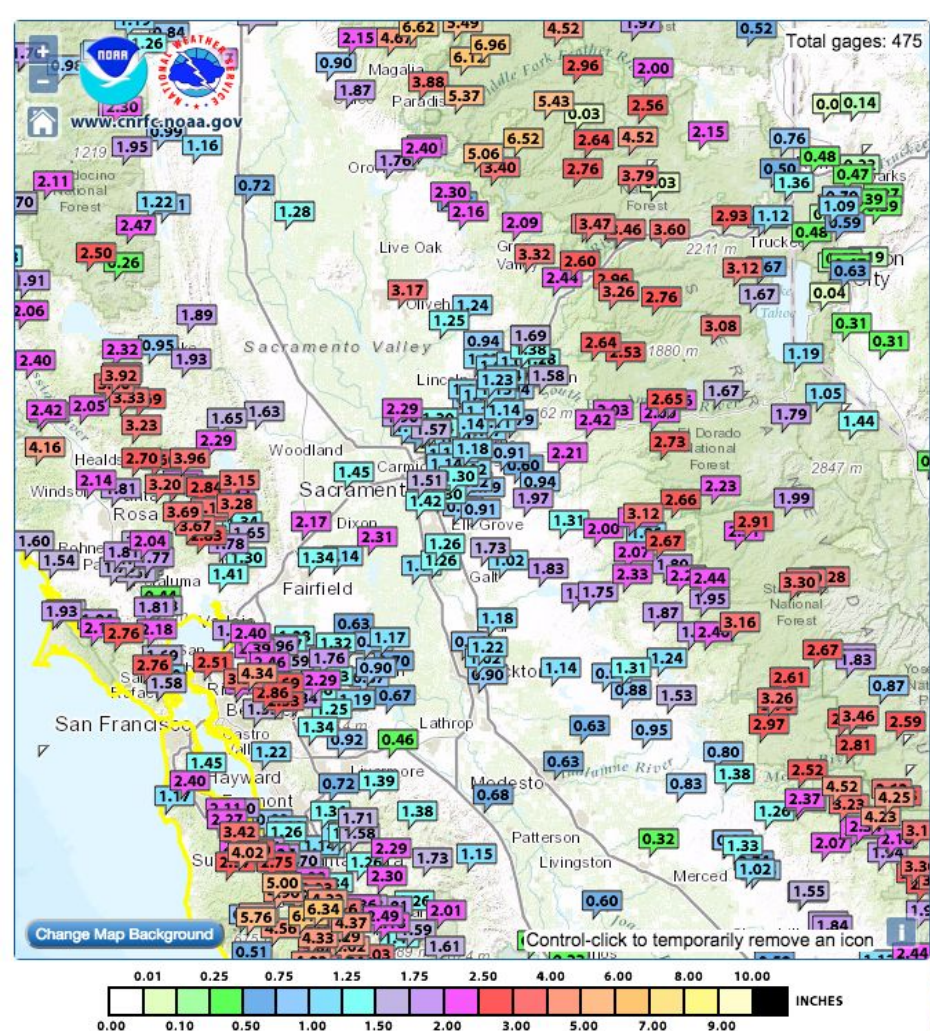
CNRFC OBS: 24 HR QPE



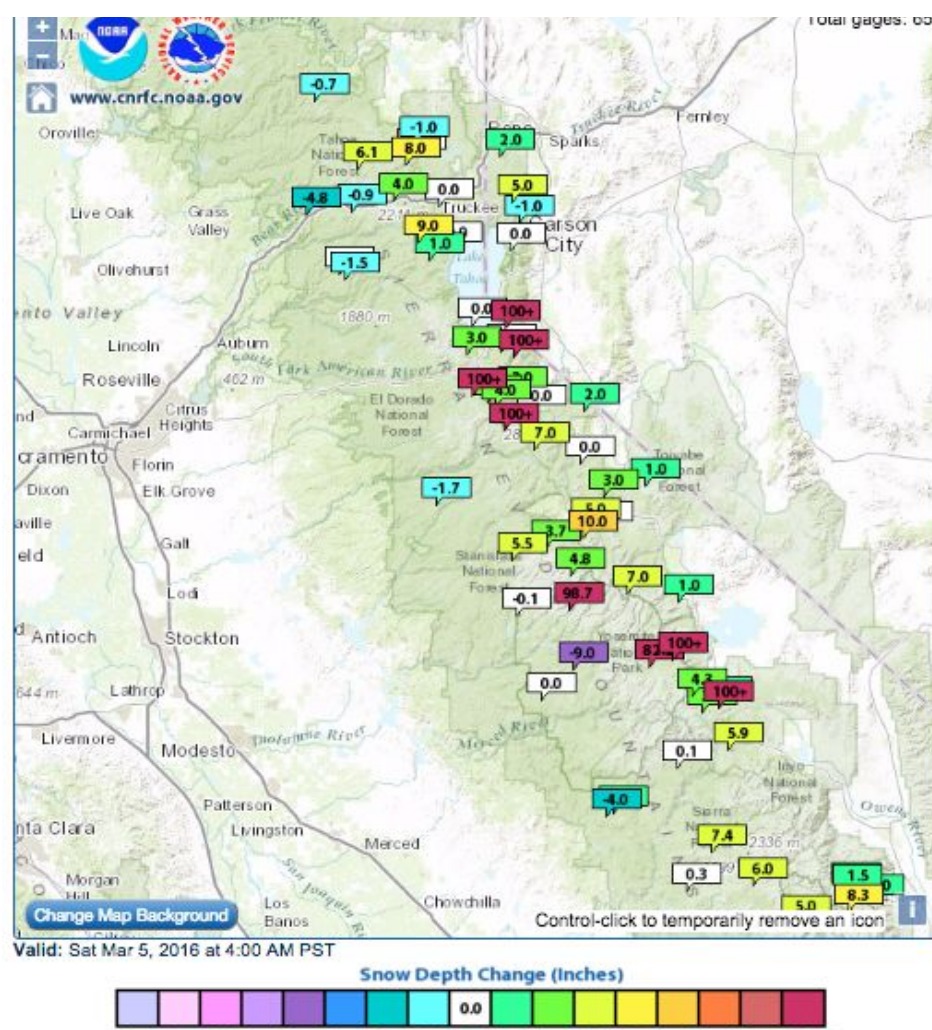
CNRFC OBS: 24 HR QPE



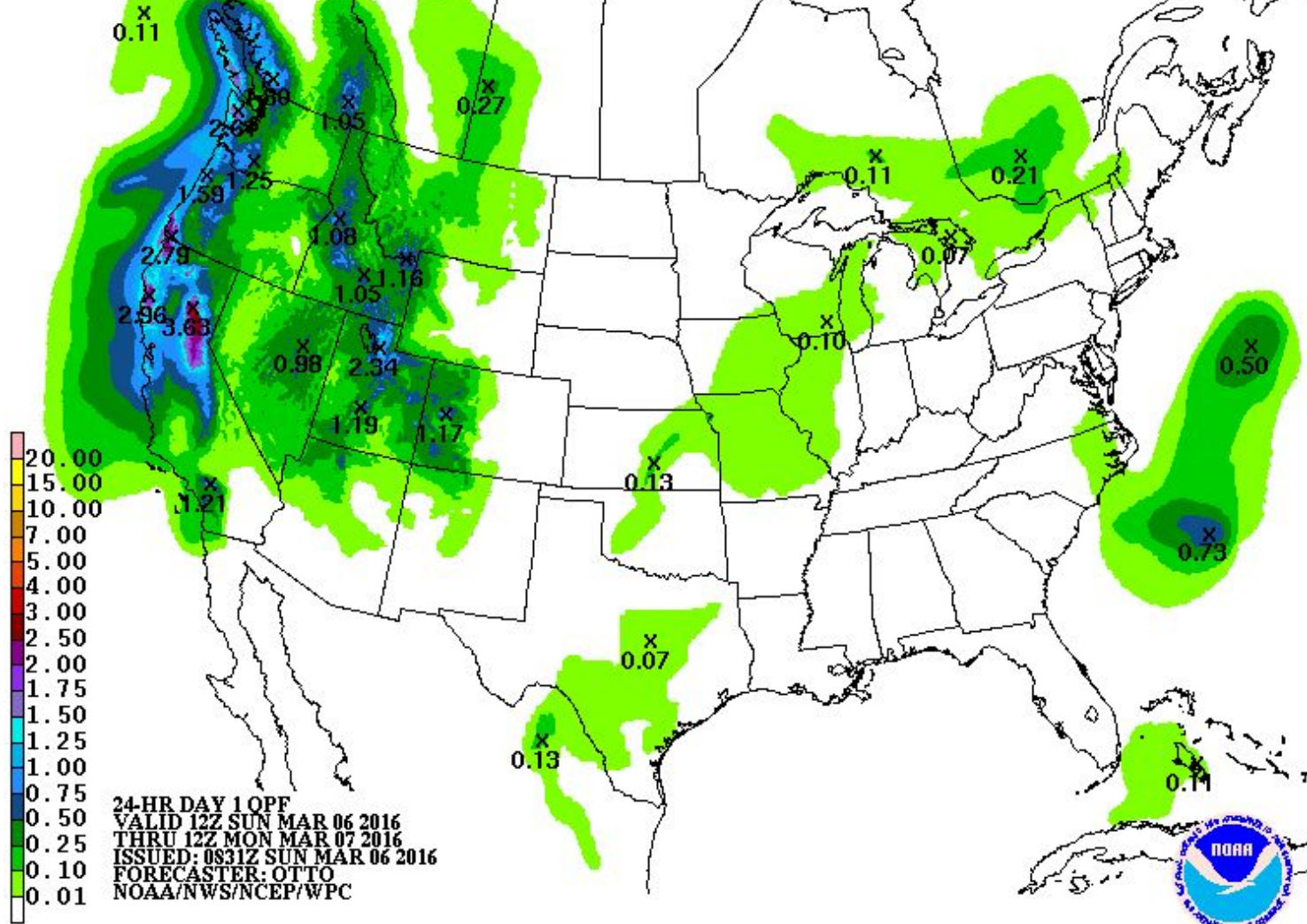
CNRFC OBS: 24 HR QPE



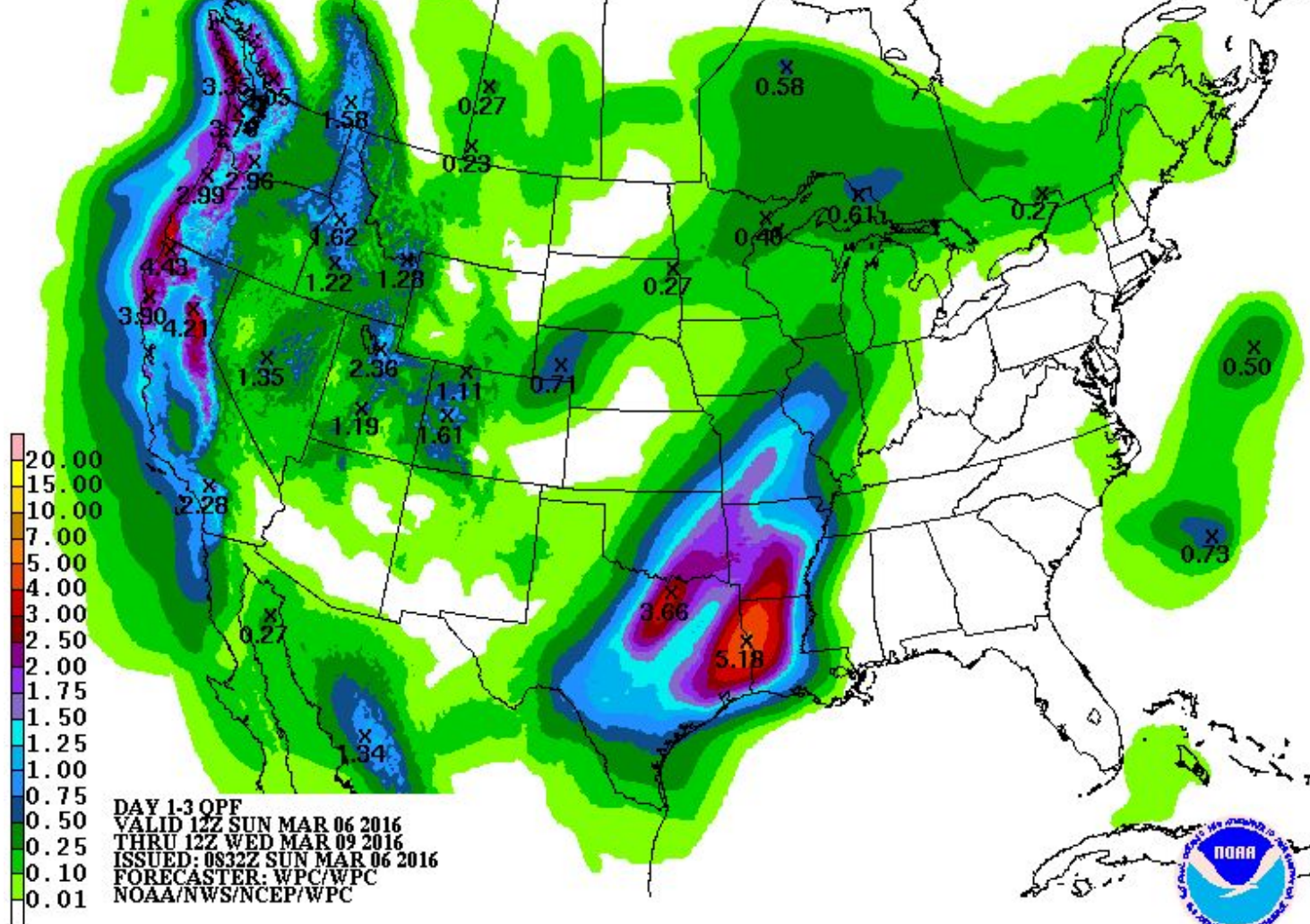
CNRFC: 24 Hr Snow Depth Change



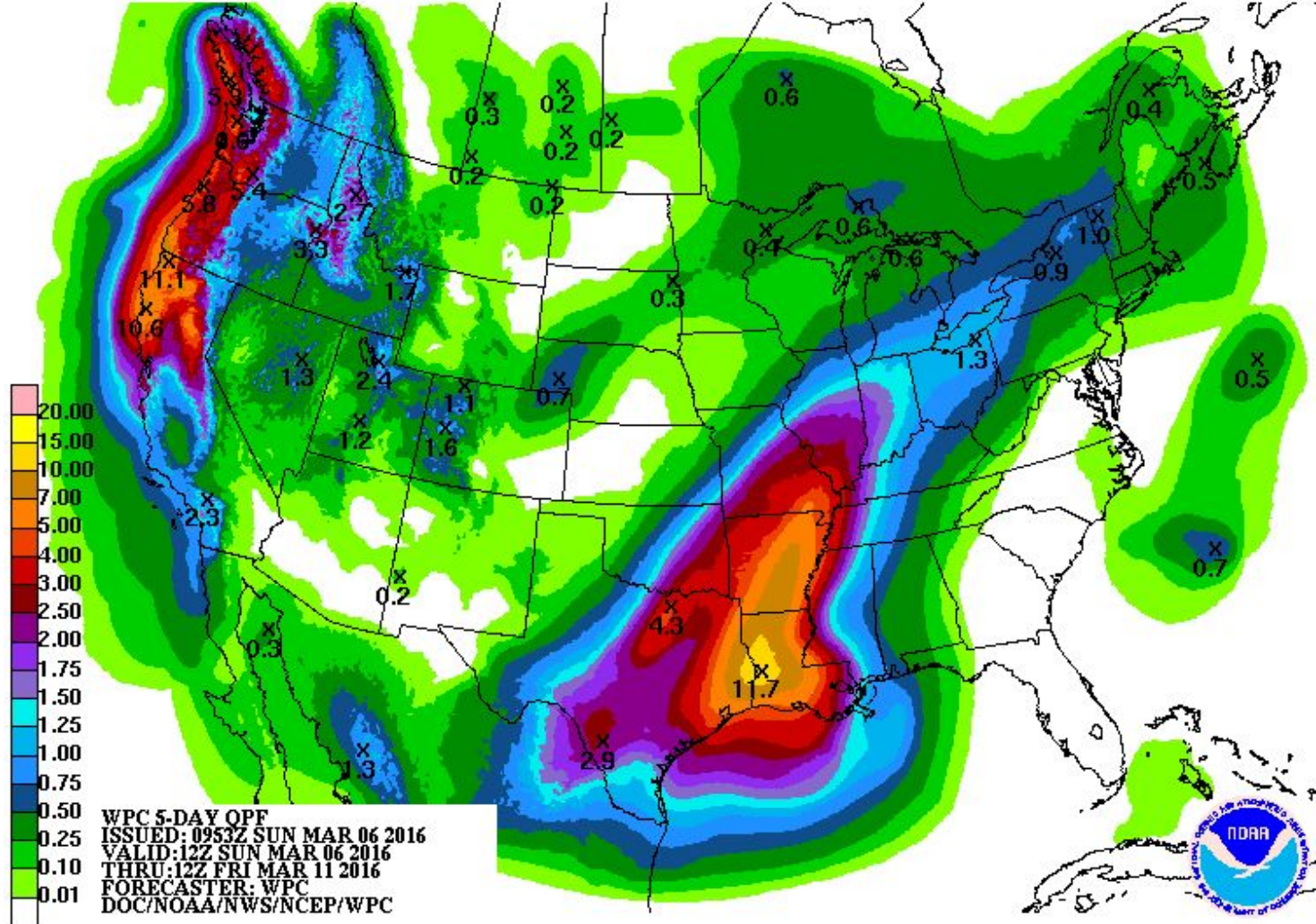
WPC: 1 Day Total
QPF



WPC: 3 Day Total
QPF

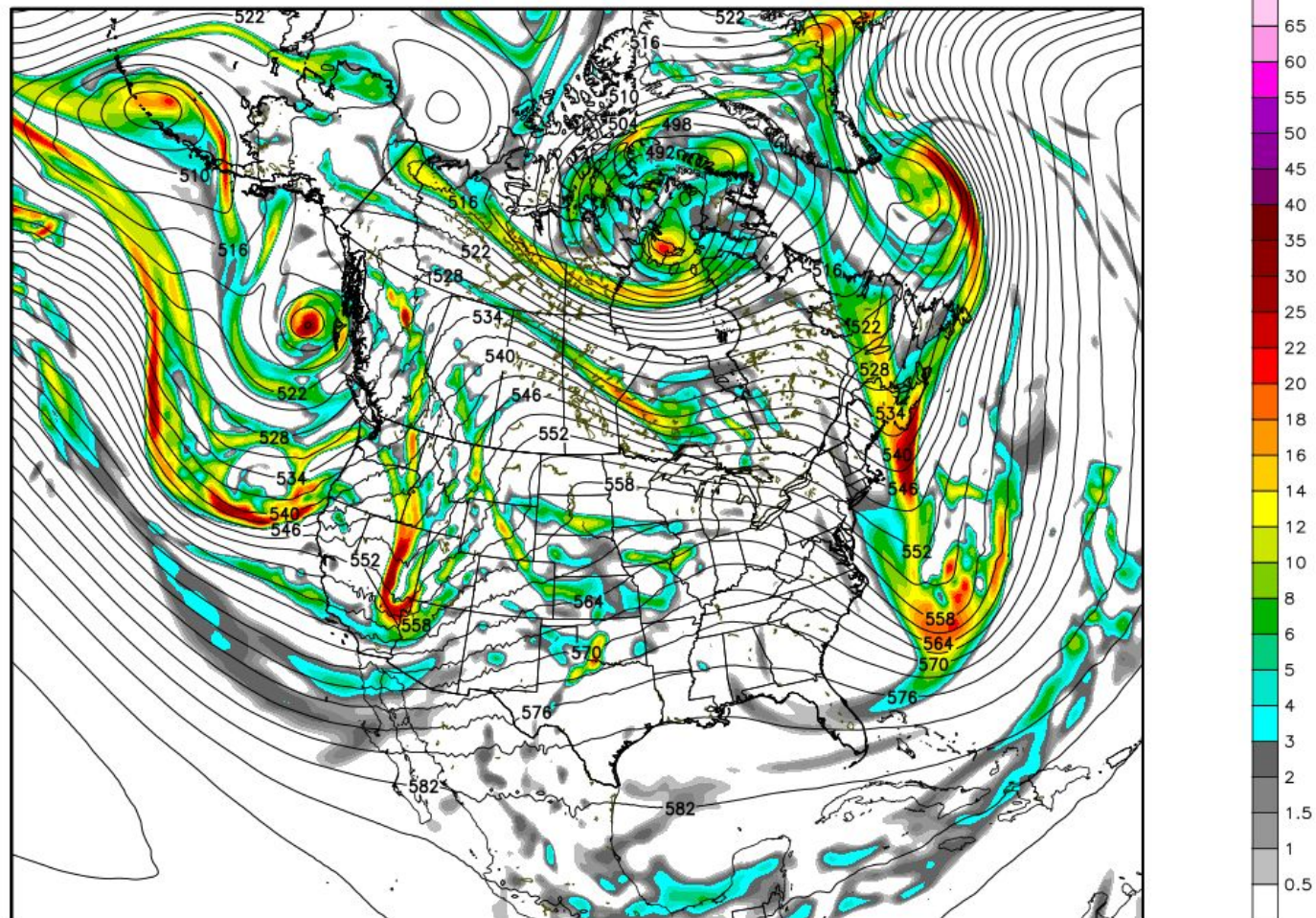


WPC: 5 Day Total
QPF



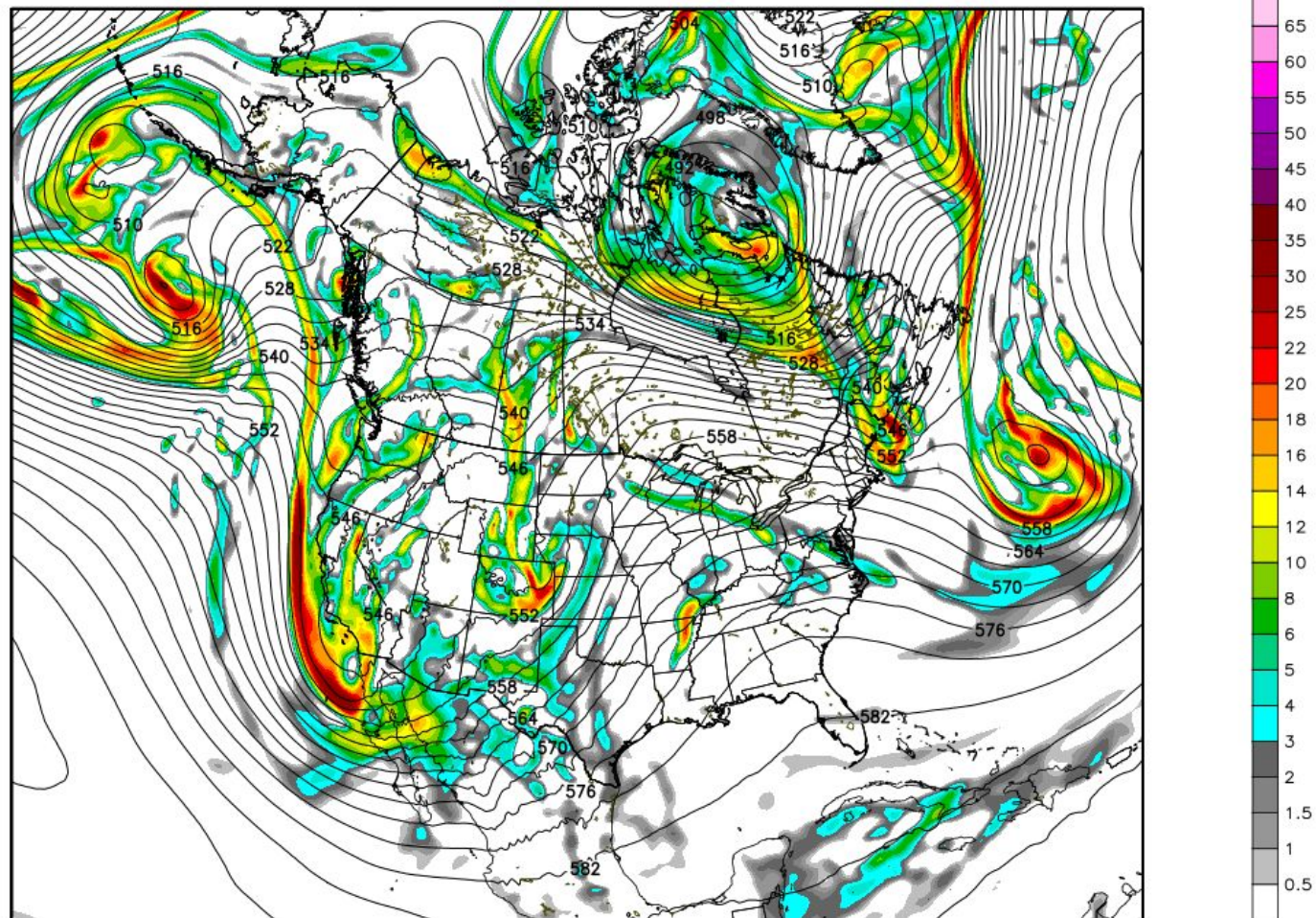
NCEP GFS [T1534] 500 hPa Cyclonic Relative Vorticity [$\times 10^{-5} \text{ s}^{-1}$] & Height [dm]
INIT: 06Z06MAR2016 fx: [018] hr --> Mon 00Z07MAR2016

GFS 500 mb
Forecast: 00Z MON



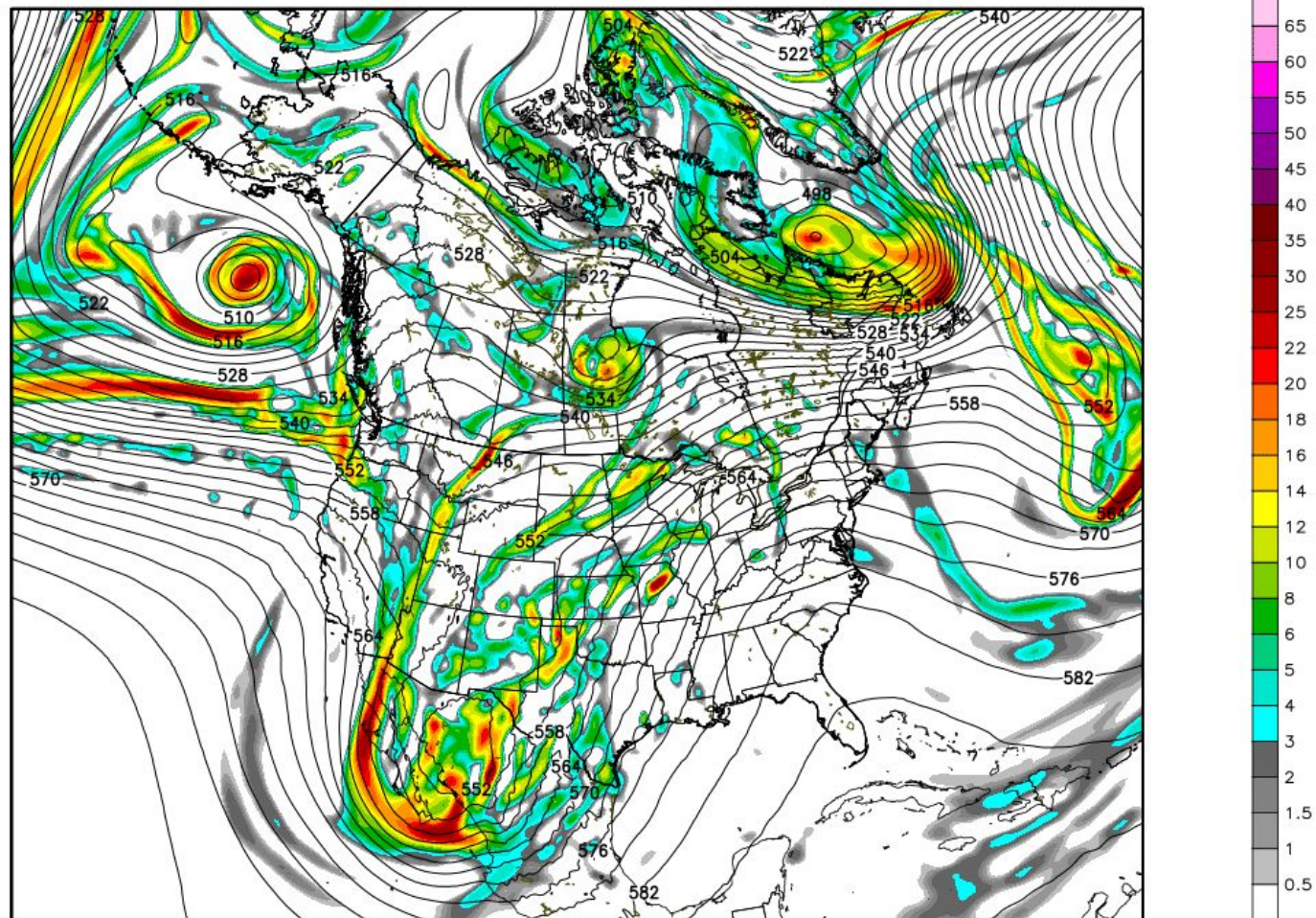
NCEP GFS [T1534] 500 hPa Cyclonic Relative Vorticity [$\times 10^{-5} \text{ s}^{-1}$] & Height [dm]
INIT: 06Z06MAR2016 fx: [042] hr --> Tue 00Z08MAR2016

GFS 500 mb
Forecast: 00Z TUE



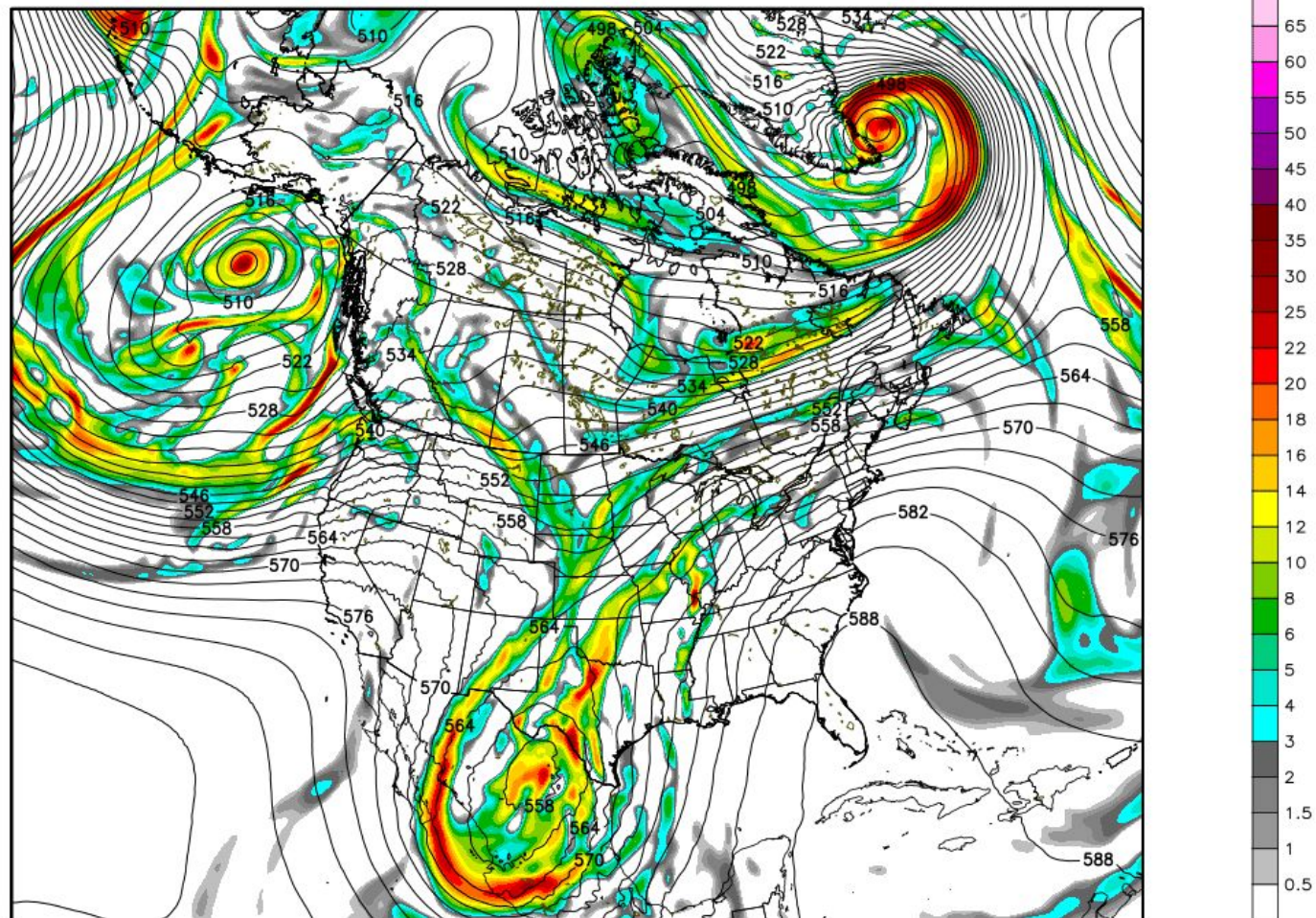
NCEP GFS [T1534] 500 hPa Cyclonic Relative Vorticity [$\times 10^{-5} \text{ s}^{-1}$] & Height [dm]
INIT: 06Z06MAR2016 fx: [066] hr --> Wed 00Z09MAR2016

GFS 500 mb
Forecast: 00Z WED



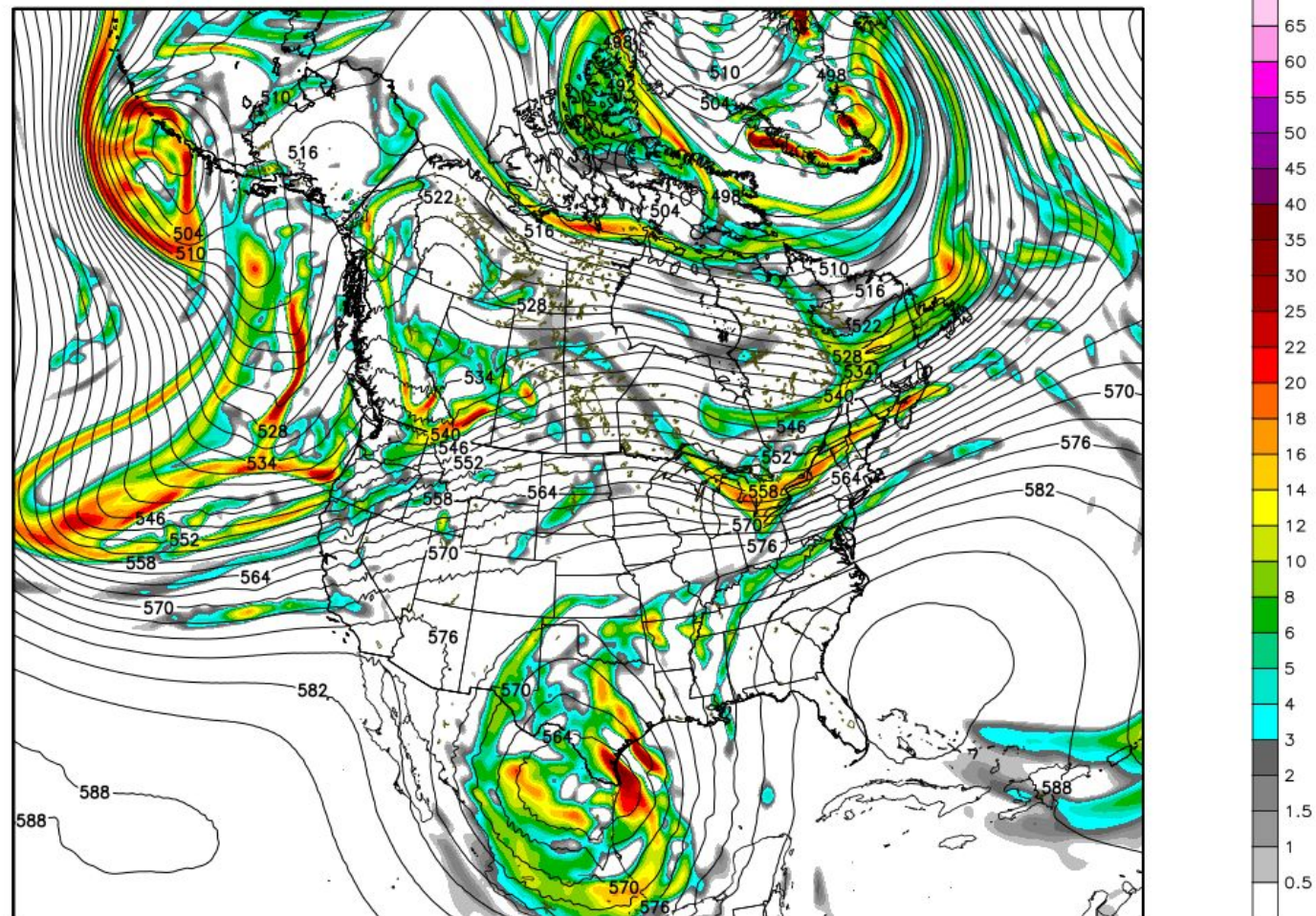
NCEP GFS [T1534] 500 hPa Cyclonic Relative Vorticity [$\times 10^{-5} \text{ s}^{-1}$] & Height [dm]
INIT: 06Z06MAR2016 fx: [090] hr --> Thu 00Z10MAR2016

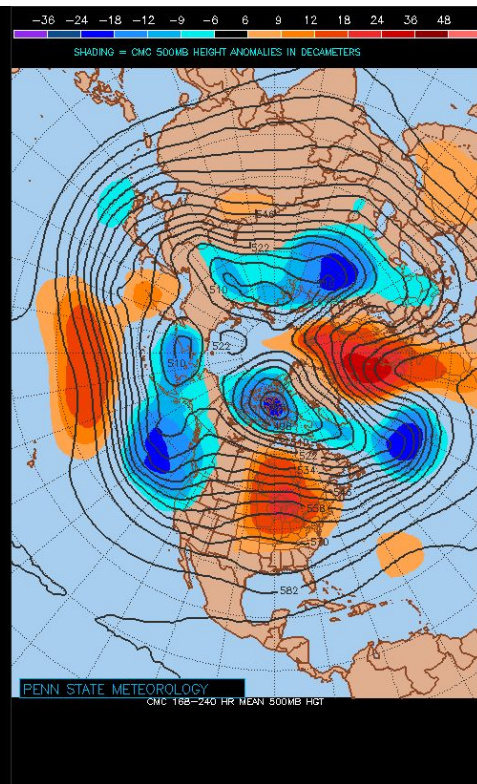
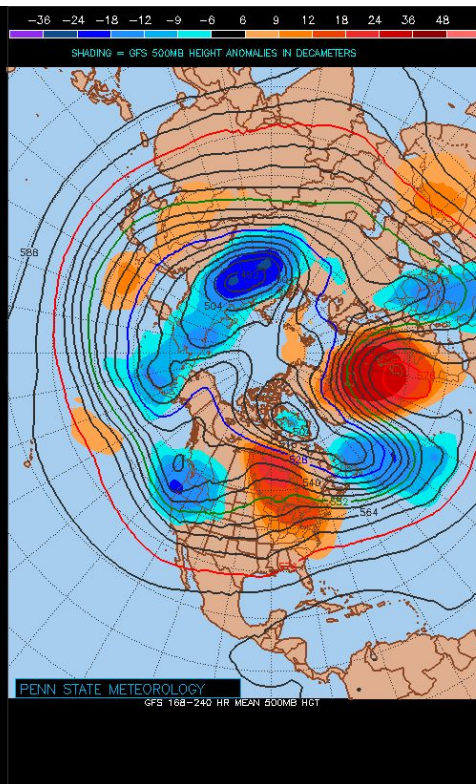
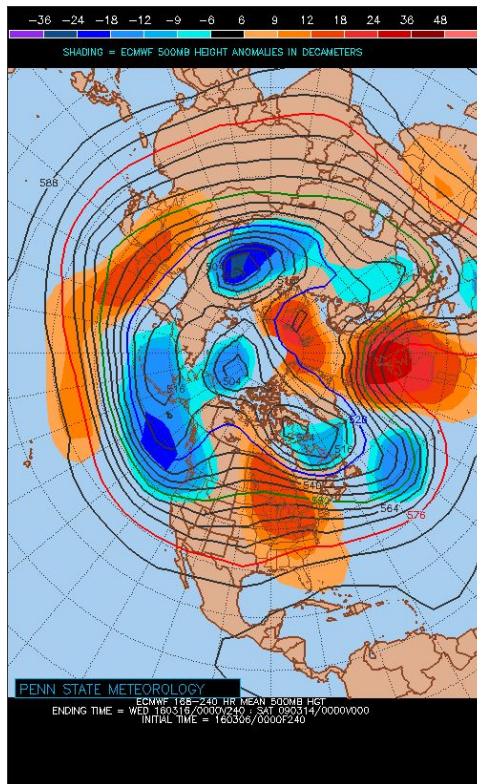
GFS 500 mb
Forecast: 00Z THU



NCEP GFS [T1534] 500 hPa Cyclonic Relative Vorticity [$\times 10^{-5} \text{ s}^{-1}$] & Height [dm]
INIT: 06Z06MAR2016 fx: [114] hr --> Fri 00Z11MAR2016

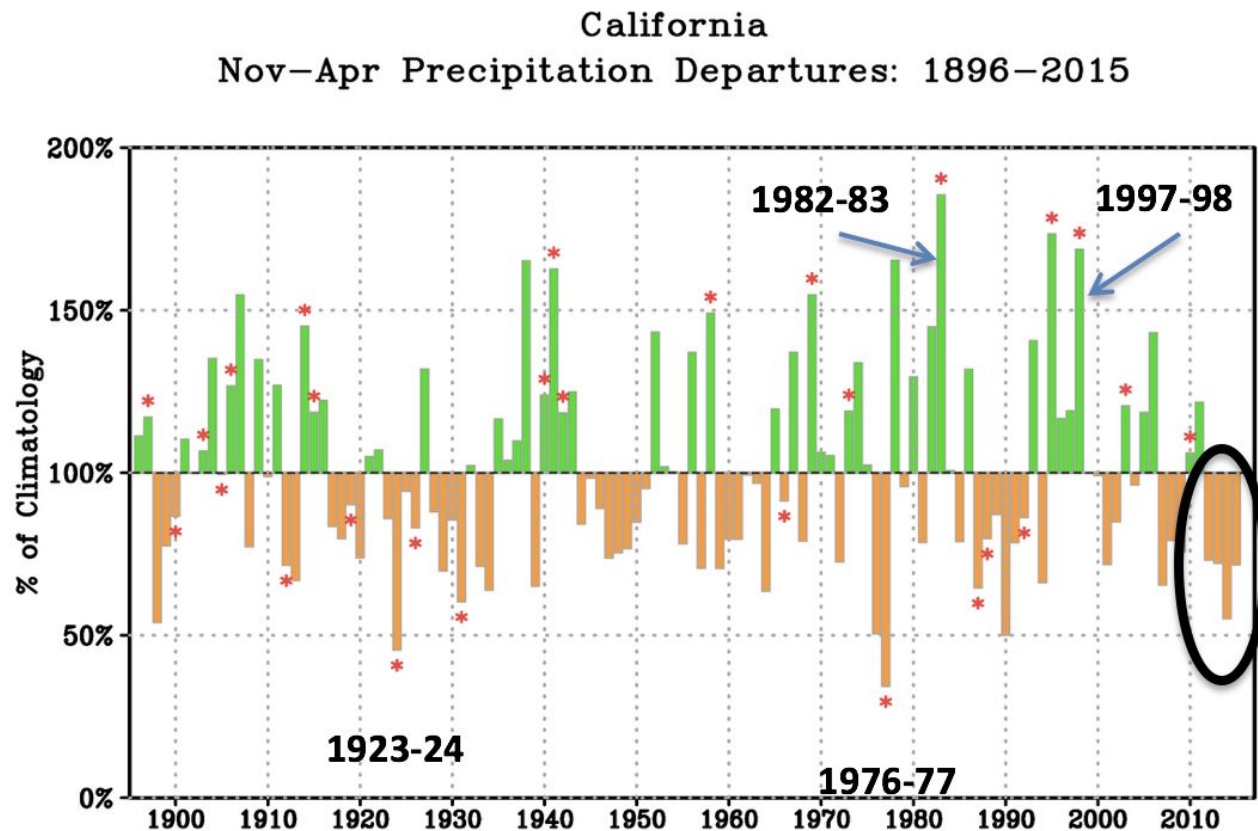
GFS 500 mb
Forecast: 00Z FRI





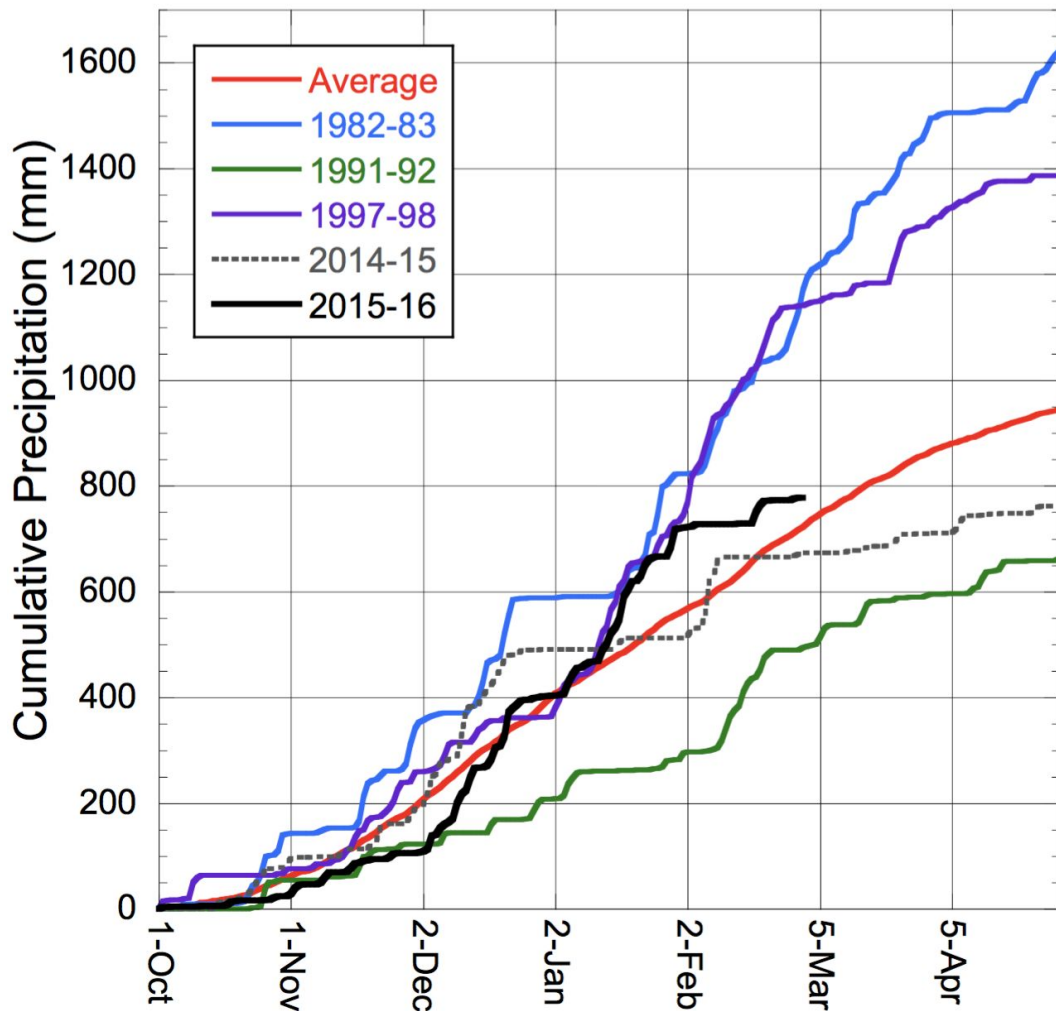
California Dream'n

Is El Niño A California Drought Buster?



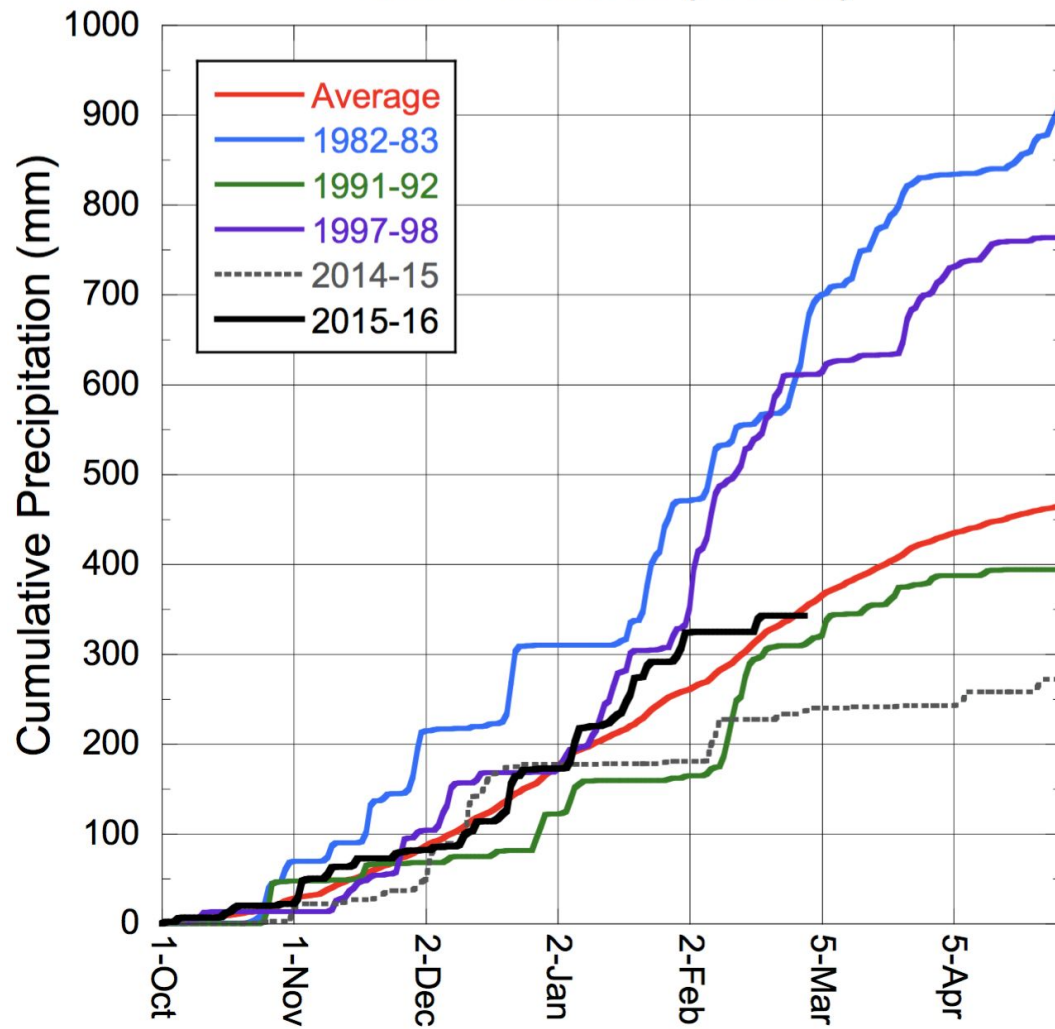
Northern California (PRISM)

Courtesy Brant Liebmann



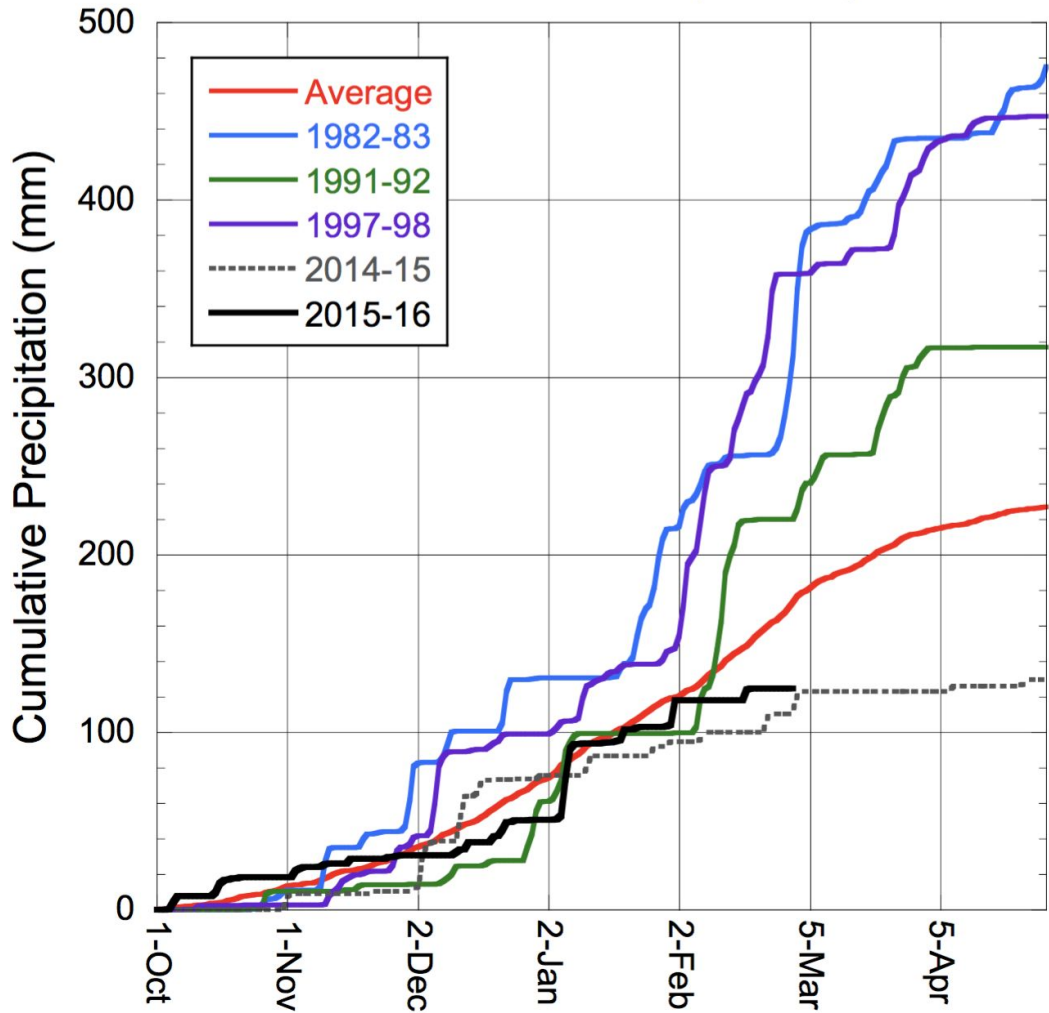
Central California (PRISM)

Courtesy Brant Liebmann



Southern California (PRISM)

Courtesy Brant Liebmann



For CA, a few examples of stations from across the state, departures since Oct. 1:

SOCAL

San Diego (Brown Field) -2.22

Los Angeles (LAX) -5.03

Paso Robles -3.43

Santa Barbara -5.99

CENTRAL/NORCAL

San Francisco (downtown) -3.67

San Jose -2.21

Sacramento -4.05

Stockton -0.31

Modesto +0.67

Redding -1.25 (+1.74 since January)

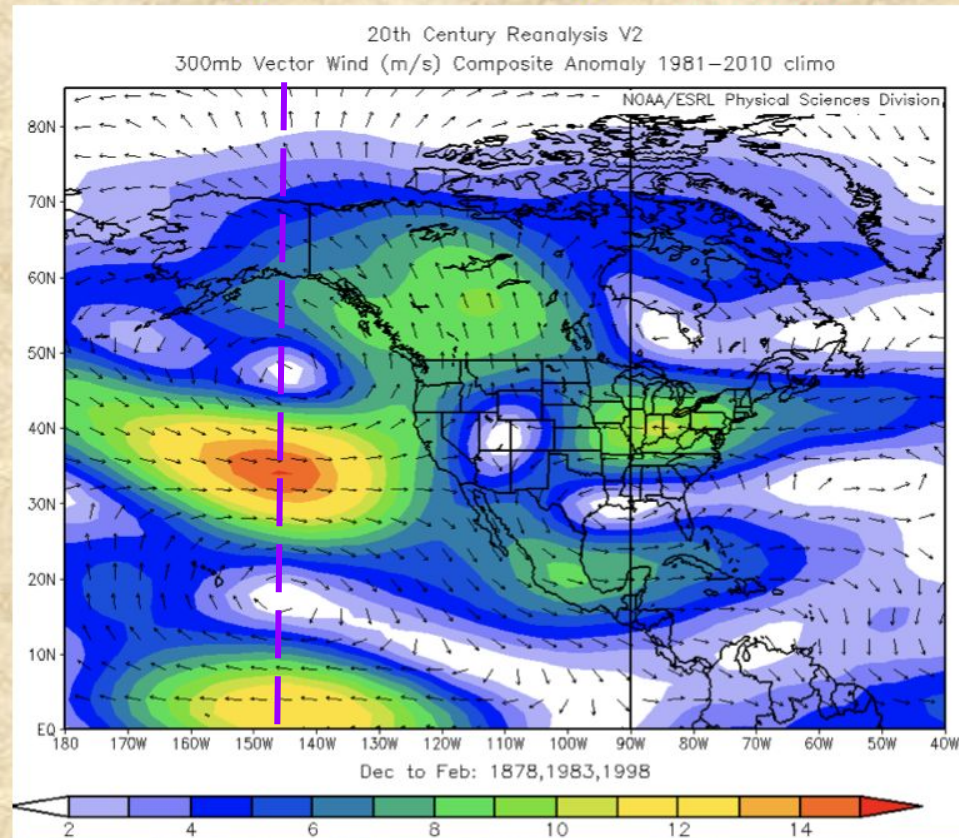
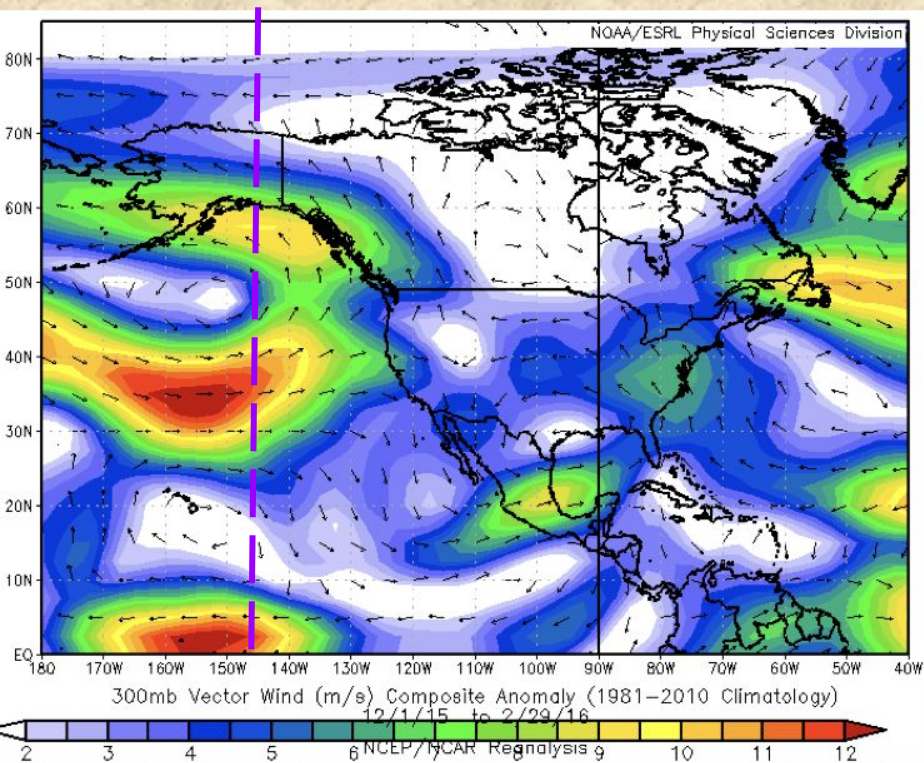
Eureka +7.59

Crescent City +8.73

thanks to Randy for this update....

Is El Nino 2016 El Nino-No Show?

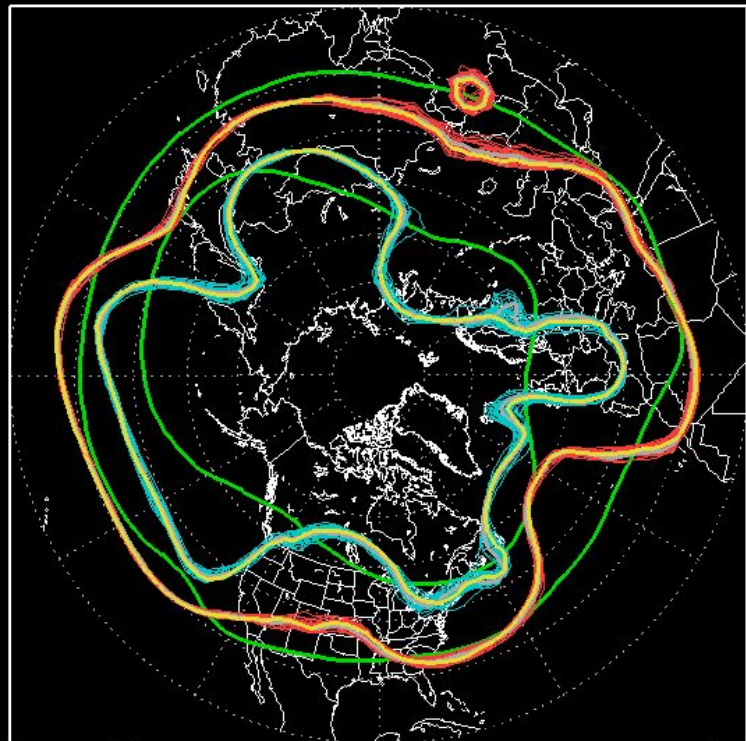
Circulation in DJF 2015-16 versus three previous 'Super Niños'



Courtesy of Klaus Wolter, based on oral presentation to Nevada Water Resources Association

NCEP ENSEMBLE 500mb Z

048H Forecast from: 00Z Fri MAR,04 2016
Valid time: 00Z Sun MAR,06 2016



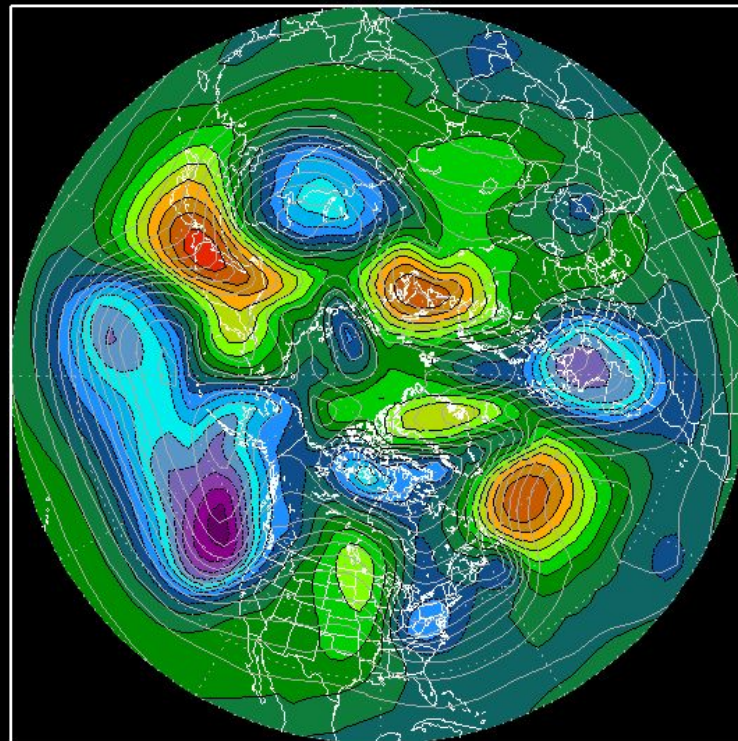
00z Runs:(21)

12z Runs:(21)

— 5400m — 5700m — Cntrl 00z — Cntrl 12z — CLIM

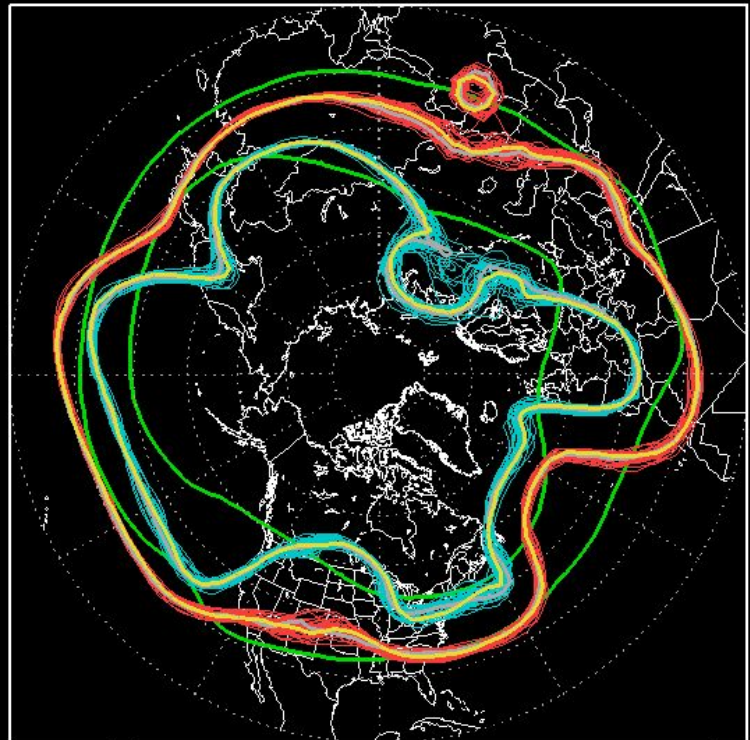
NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

048H Forecast from: 00Z Fri MAR,04 2016
Valid time: 00Z Sun MAR,06 2016



NCEP ENSEMBLE 500mb Z

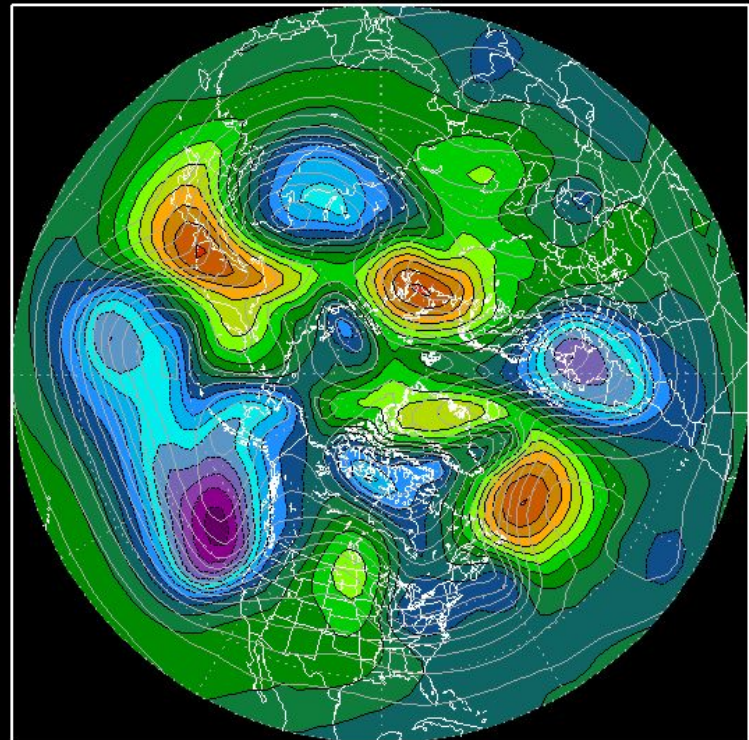
072H Forecast from: 00Z Thu MAR,03 2016
Valid time: 00Z Sun MAR,06 2016



00z Runs:(21) 12z Runs:(21)
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NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

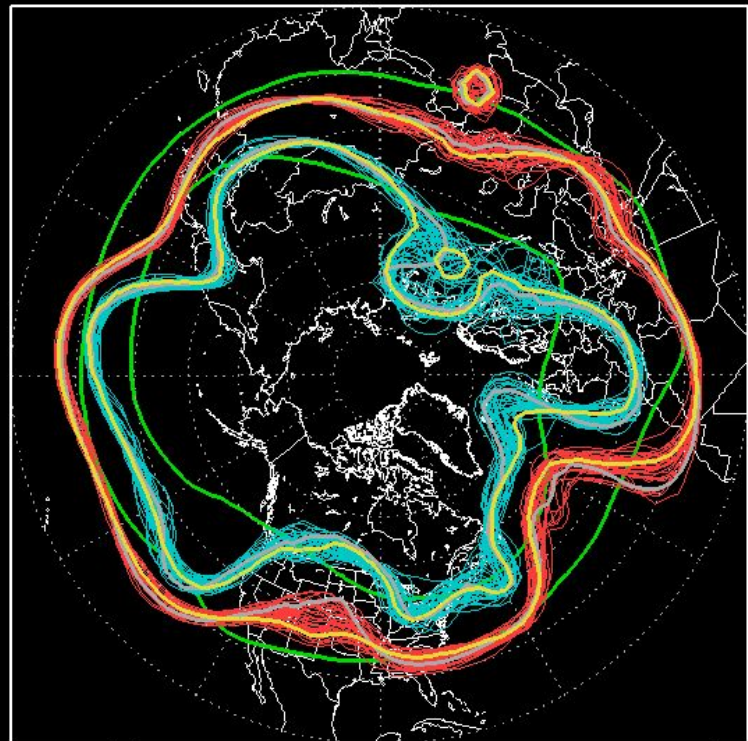
072H Forecast from: 00Z Thu MAR,03 2016
Valid time: 00Z Sun MAR,06 2016



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

NCEP ENSEMBLE 500mb Z

096H Forecast from: 00Z Wed MAR,02 2016
Valid time: 00Z Sun MAR,06 2016

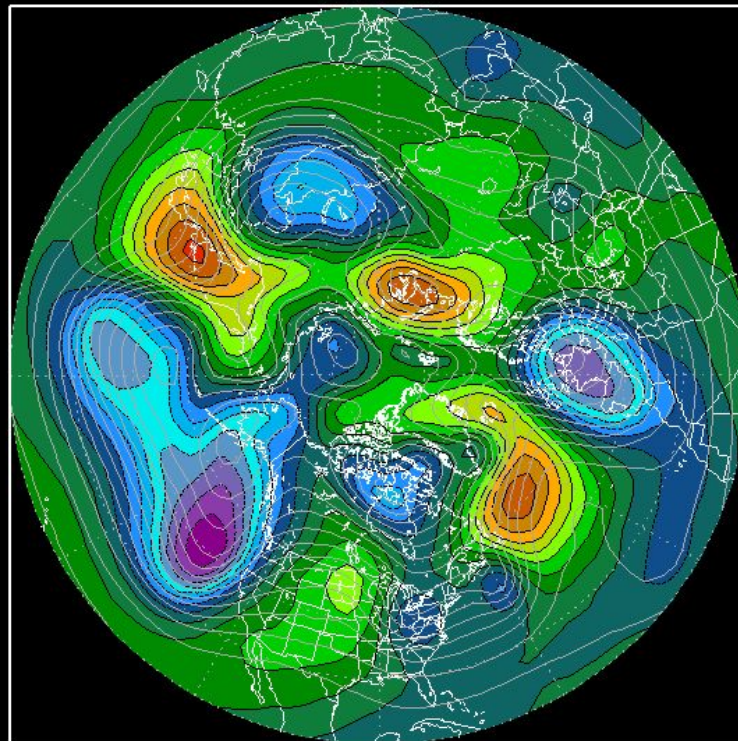


00z Runs:(21) 12z Runs:(21)

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

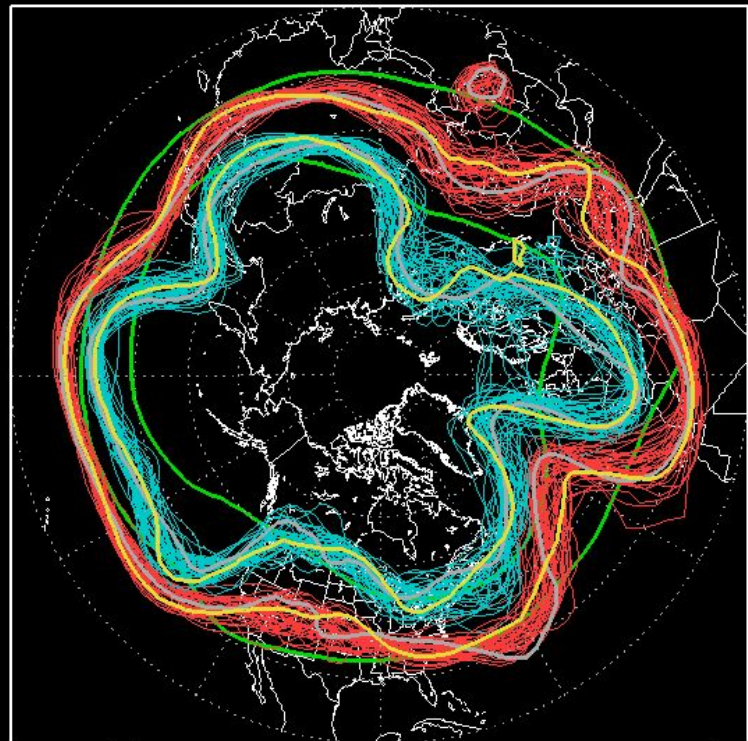
NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

096H Forecast from: 00Z Wed MAR,02 2016
Valid time: 00Z Sun MAR,06 2016



NCEP ENSEMBLE 500mb Z

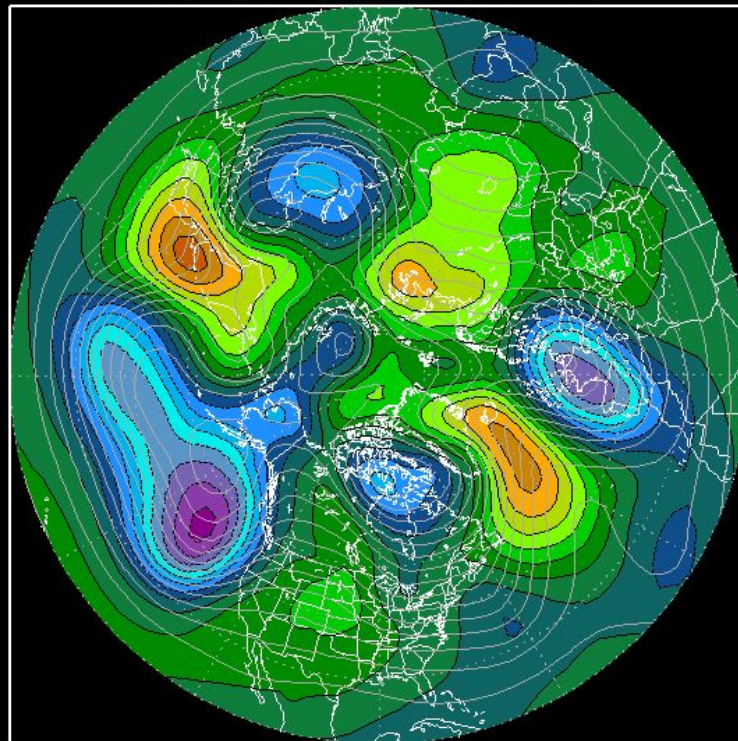
144H Forecast from: 00Z Mon FEB,29 2016
Valid time: 00Z Sun MAR,06 2016



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

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

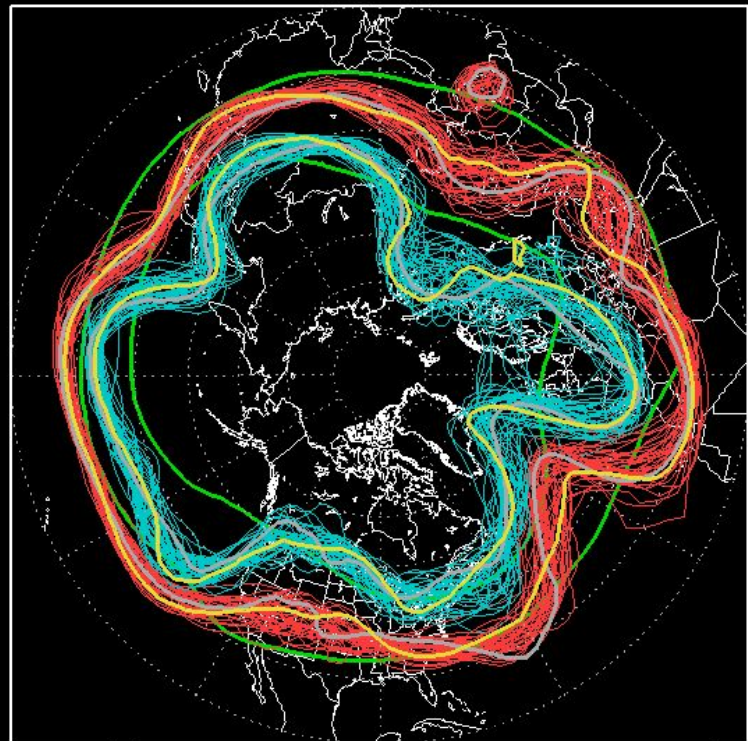
144H Forecast from: 00Z Mon FEB,29 2016
Valid time: 00Z Sun MAR,06 2016



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NCEP ENSEMBLE 500mb Z

144H Forecast from: 00Z Mon FEB,29 2016
Valid time: 00Z Sun MAR,06 2016

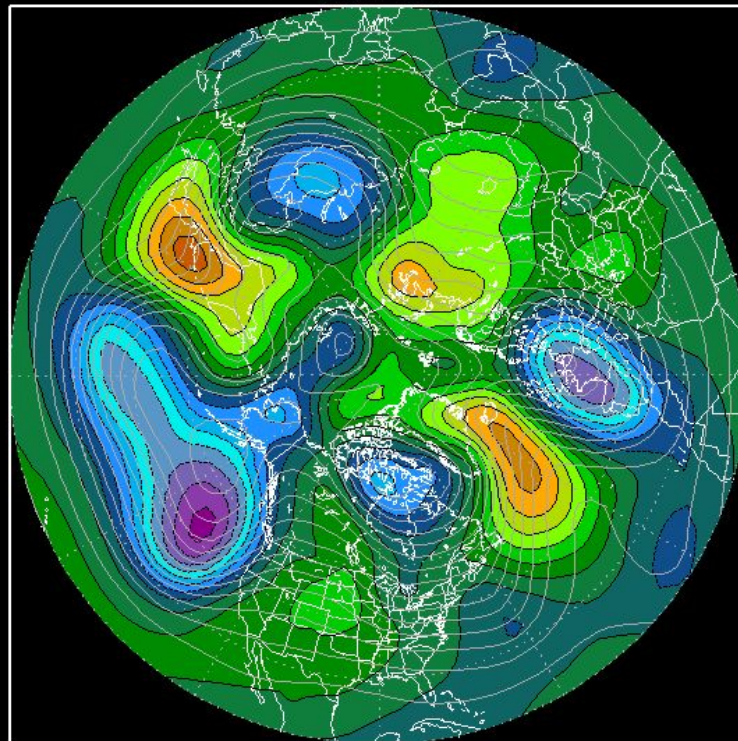


00z Runs:(21) 12z Runs:(21)

5460m 5700m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

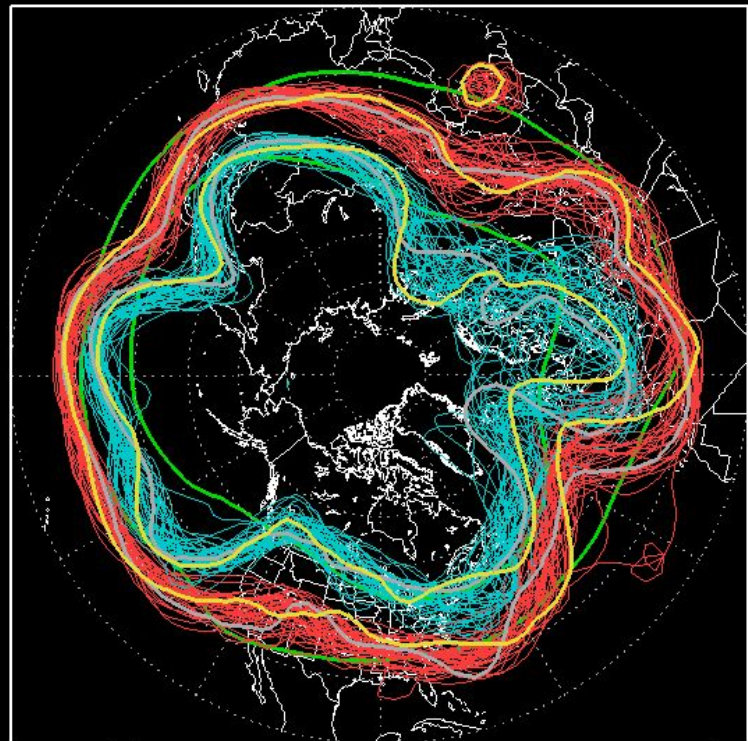
144H Forecast from: 00Z Mon FEB,29 2016
Valid time: 00Z Sun MAR,06 2016



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NCEP ENSEMBLE 500mb Z

168H Forecast from: 00Z Sun FEB,28 2016
Valid time: 00Z Sun MAR,06 2016

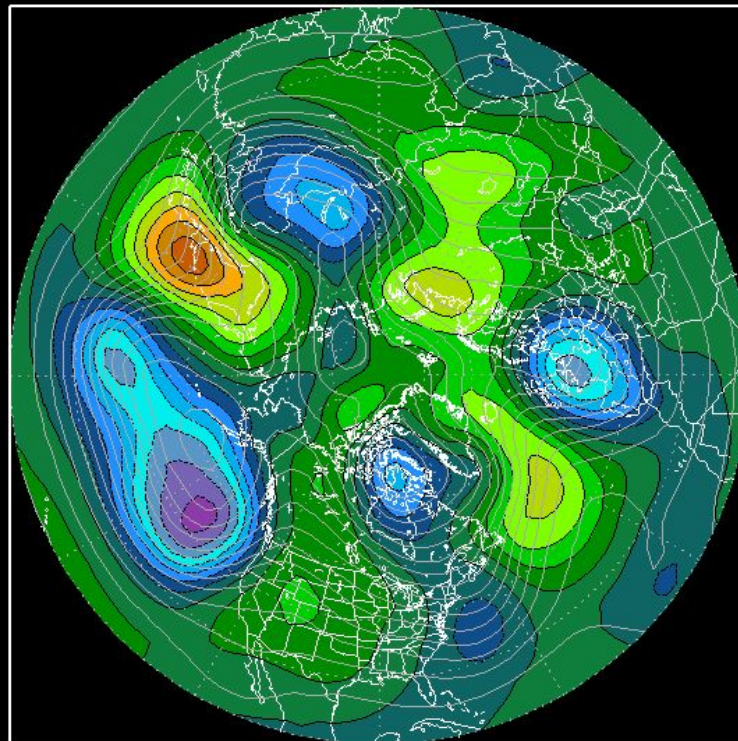


00z Runs:(21) 12z Runs:(21)

5460m 5700m Cntrl 00z Cntrl 12z CLIM

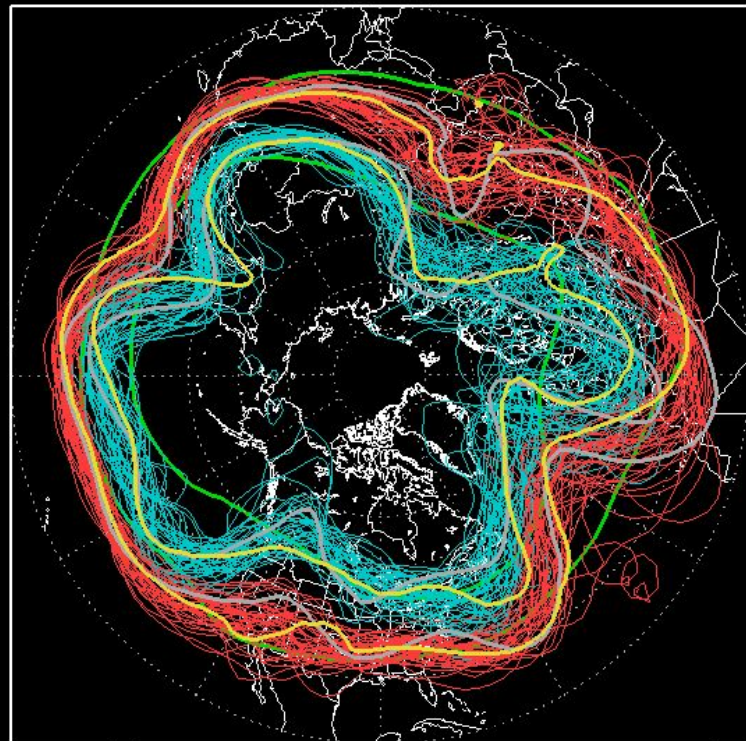
NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

168H Forecast from: 00Z Sun FEB,28 2016
Valid time: 00Z Sun MAR,06 2016



NCEP ENSEMBLE 500mb Z

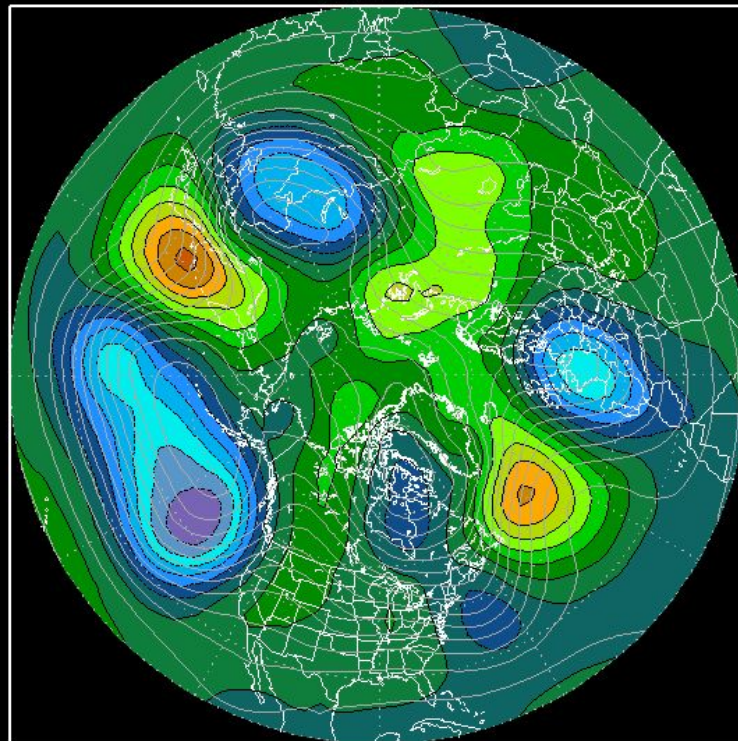
192H Forecast from: 00Z Sat FEB,27 2016
Valid time: 00Z Sun MAR,06 2016



00z Runs:(21) 12z Runs:(21)
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NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

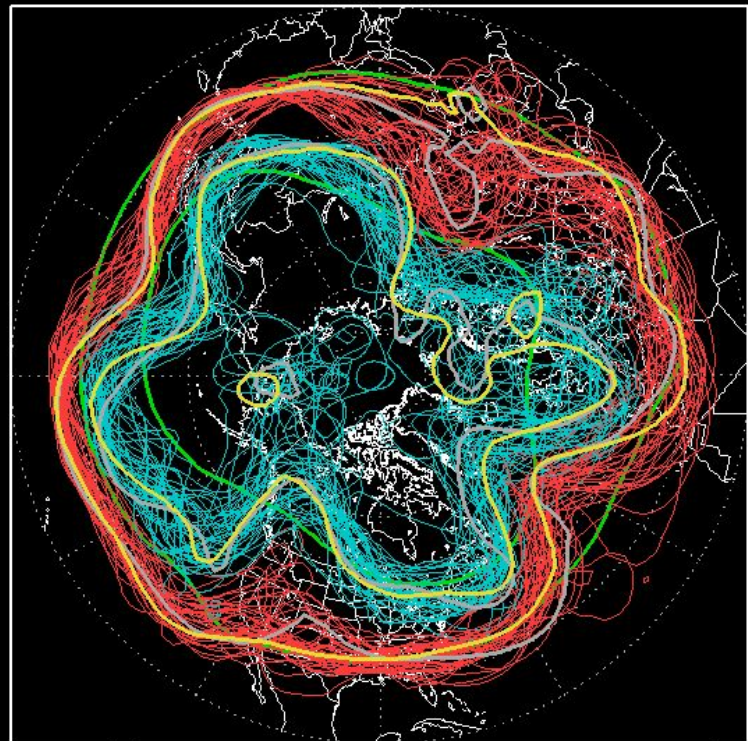
192H Forecast from: 00Z Sat FEB,27 2016
Valid time: 00Z Sun MAR,06 2016



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NCEP ENSEMBLE 500mb Z

216H Forecast from: 00Z Fri FEB,26 2016
Valid time: 00Z Sun MAR,06 2016

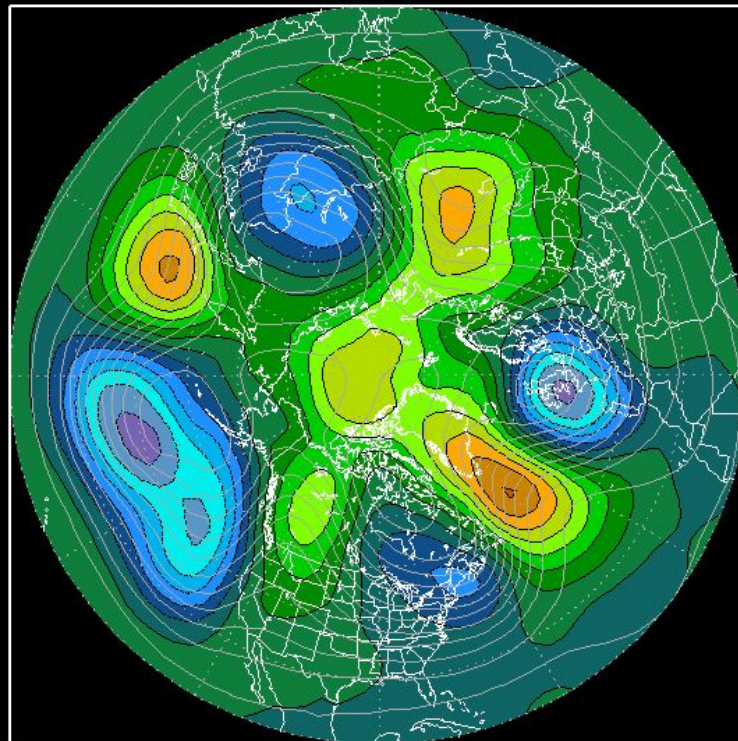


00z Runs:(21) 12z Runs:(21)

5400m 5700m Cntrl 00z Cntrl 12z CLIM

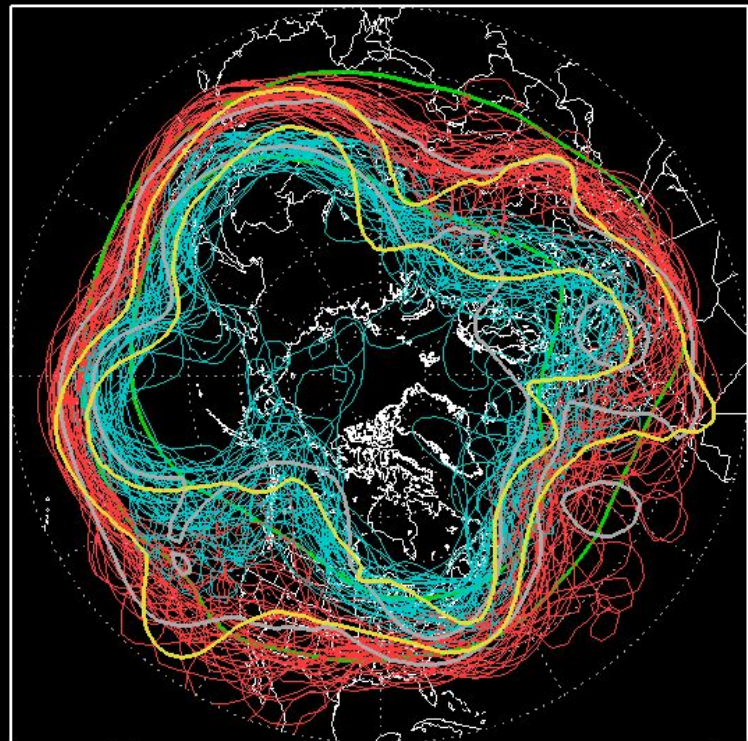
NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

216H Forecast from: 00Z Fri FEB,26 2016
Valid time: 00Z Sun MAR,06 2016



NCEP ENSEMBLE 500mb Z

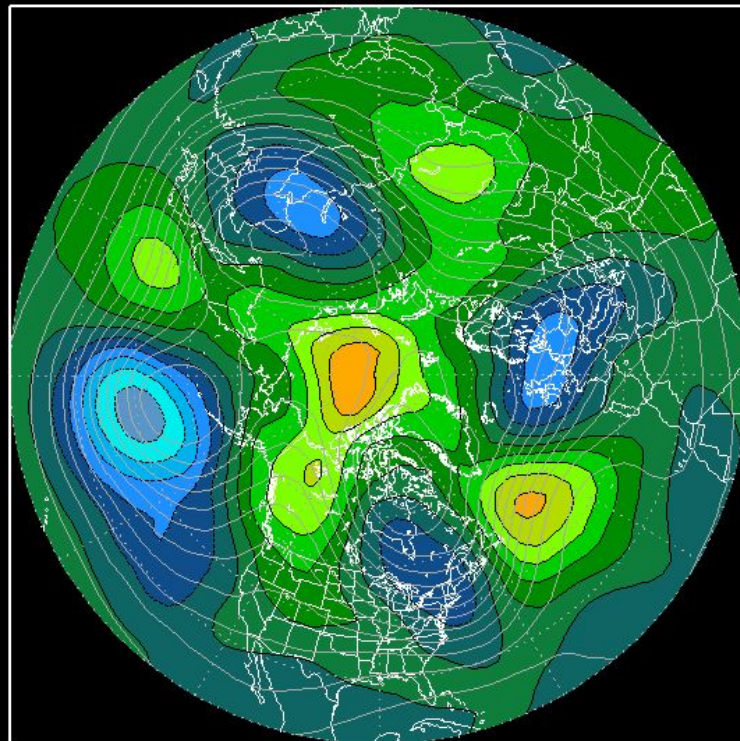
264H Forecast from: 00Z Wed FEB,24 2016
Valid time: 00Z Sun MAR,06 2016



00z Runs:(21) 12z Runs:(21)
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NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

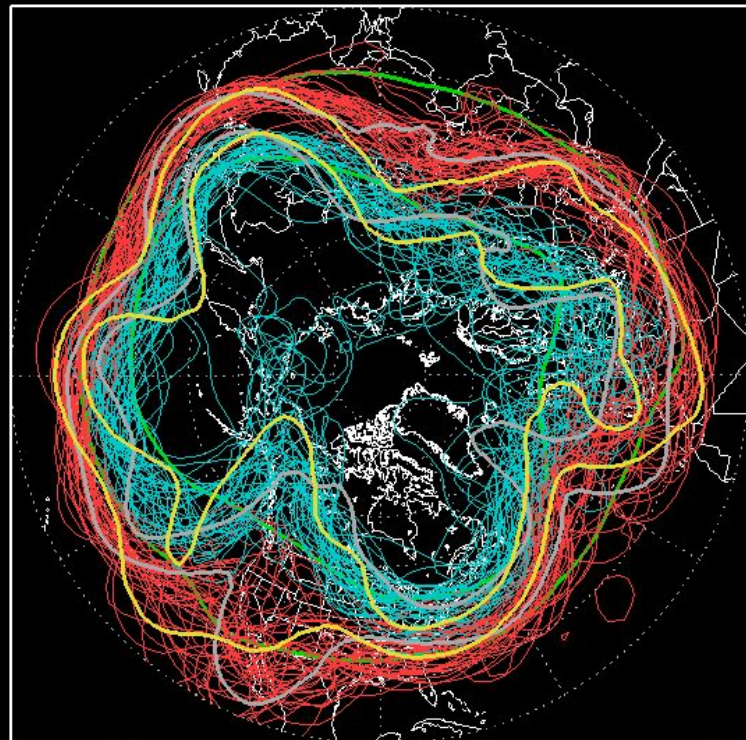
264H Forecast from: 00Z Wed FEB,24 2016
Valid time: 00Z Sun MAR,06 2016



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

NCEP ENSEMBLE 500mb Z

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

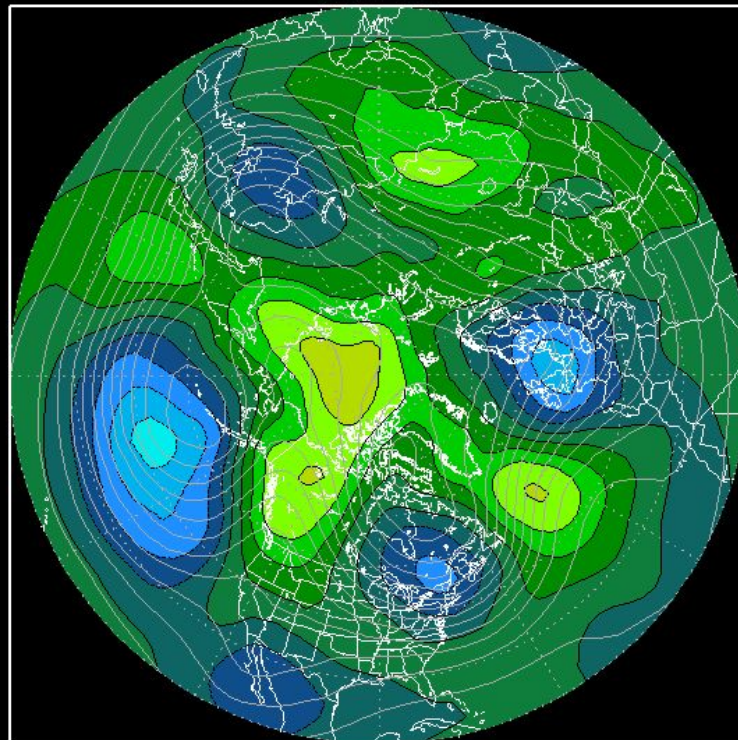


00z Runs:(21) 12z Runs:(21)

5460m 5700m Cntrl 00z Cntrl 12z CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

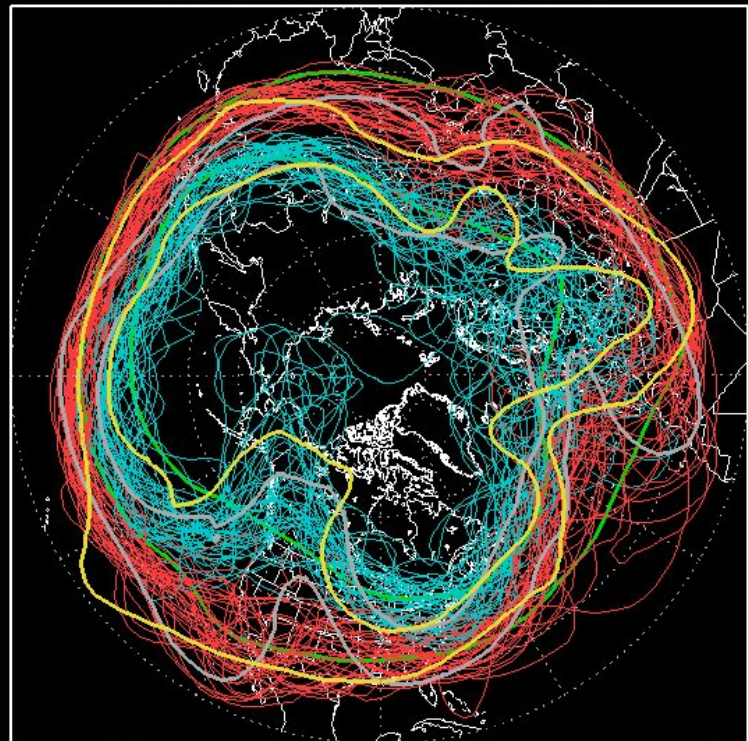
288H Forecast from: 00Z Tue FEB,23 2016
Valid time: 00Z Sun MAR,06 2016



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

NCEP ENSEMBLE 500mb Z

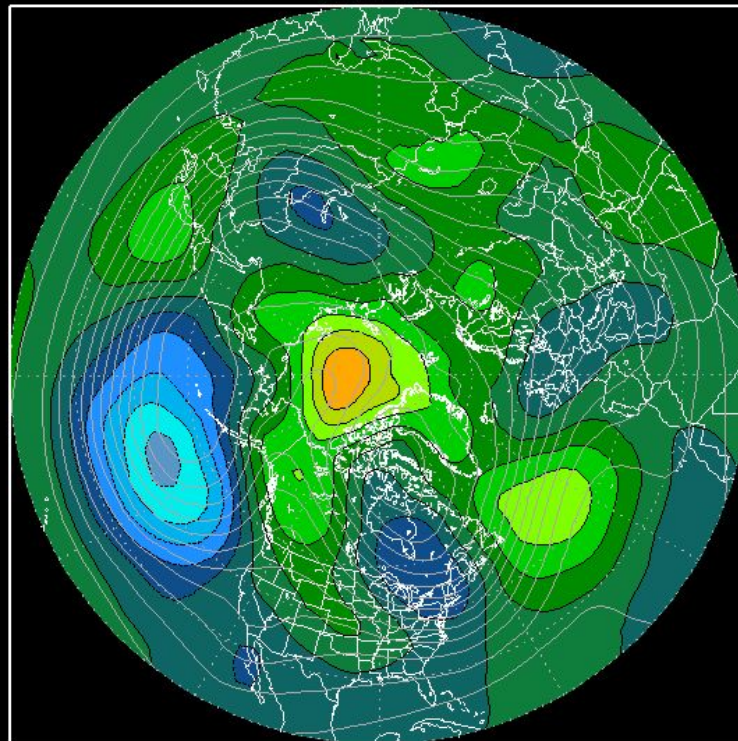
312H Forecast from: 00Z Mon FEB,22 2016
Valid time: 00Z Sun MAR,06 2016



00z Runs:(21) 12z Runs:(21)
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NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

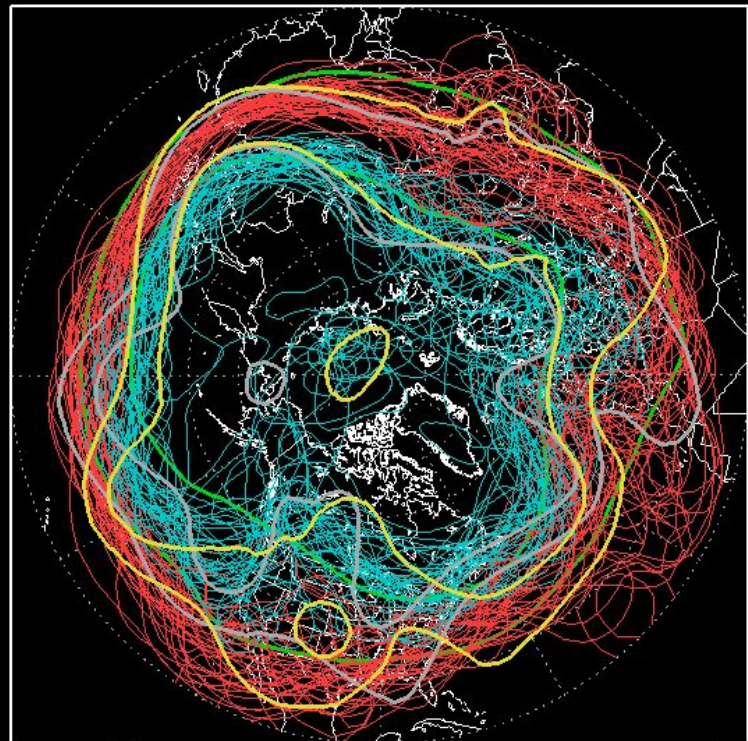
312H Forecast from: 00Z Mon FEB,22 2016
Valid time: 00Z Sun MAR,06 2016



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

NCEP ENSEMBLE 500mb Z

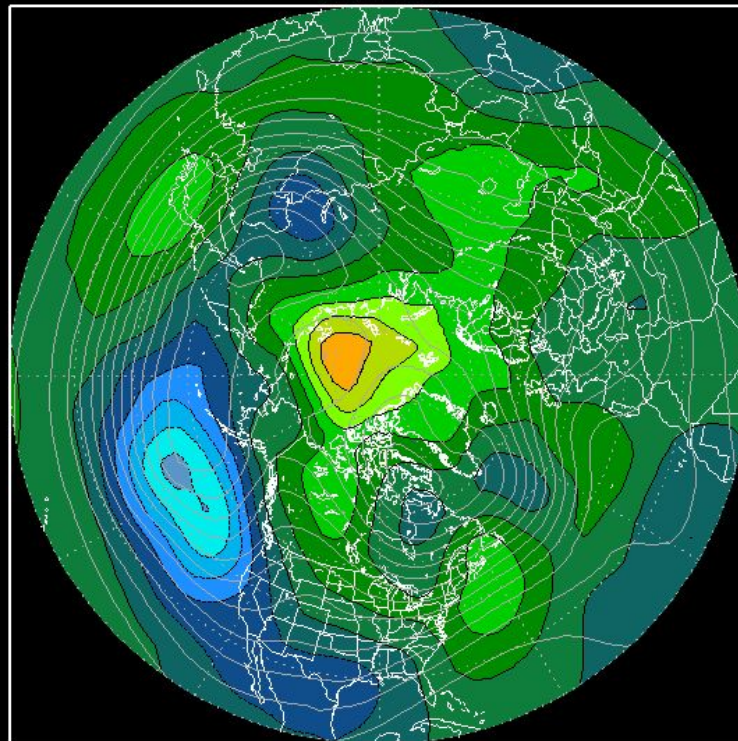
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016



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

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

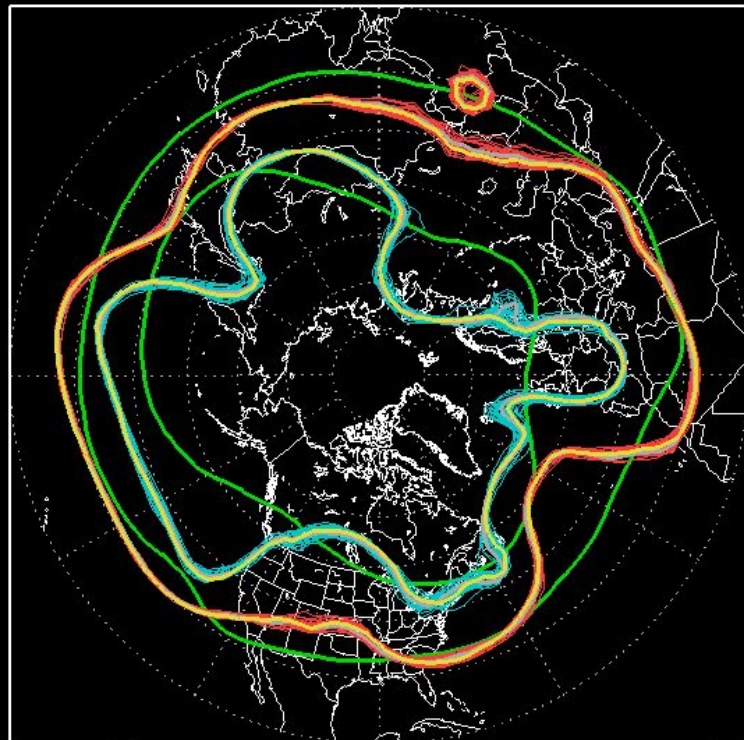
360H Forecast from: 00Z Sat FEB,20 2016
Valid time: 00Z Sun MAR,06 2016



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NCEP ENSEMBLE 500mb Z

048H Forecast from: 00Z Fri MAR,04 2016
Valid time: 00Z Sun MAR,06 2016



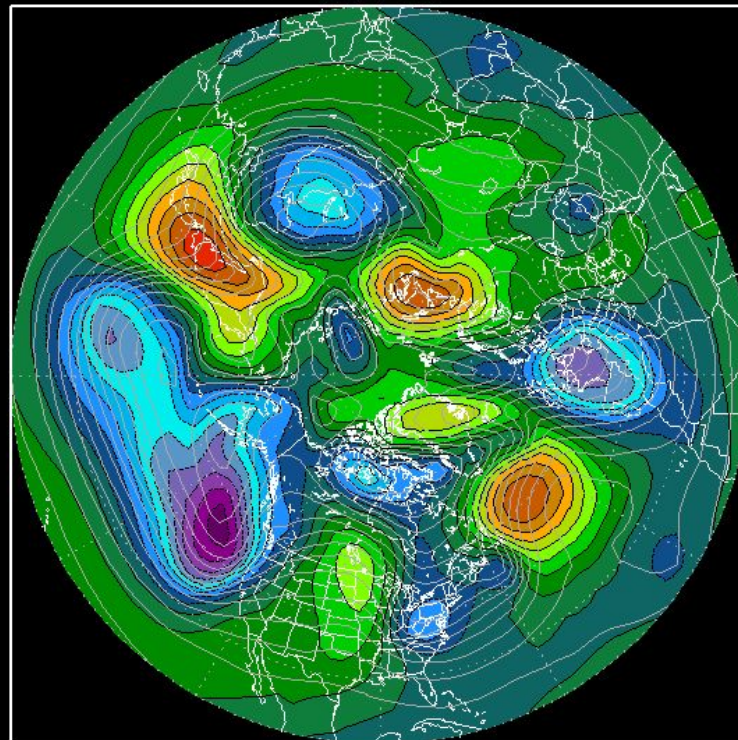
00z Runs:(21)

12z Runs:(21)

— 5400m — 5700m — Cntrl 00z — Cntrl 12z — CLIM

NCEP ENSEMBLE MEAN ANOMALY- 500mbZ(m)

048H Forecast from: 00Z Fri MAR,04 2016
Valid time: 00Z Sun MAR,06 2016



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