

Summary of Key Briefing Points: 1030-1130am MST January 20, 2016

Summary of notional flight plan for Th 21JAN2016 (Ryan S., Randy D.): Expected convection to hang together more than models showed. Goal: try to get south far enough to close box around a portion of convection. Fly S to 7.5N and work around clockwise to 4N,152W, S to 0,152W, W to 0, 160W, 4N 160W. No drops on return leg to Hawaii. 7.5 hour flight. Takeoff 10AM HST. Tweak by 7AM HST. Note earliest time to launch sondes from Kiritimati is on Friday (2 pm HST; Saturday KST)

Current Conditions: Tropics and Midlatitudes

° Convection: Convection developed overnight. near 5N 155W. 12Z Wed imagery indicates an active region of convection 0-5N, 180-150W.

The area of convection near 140-120W seen on Tuesday has greatly weakened.

Poleward divergent flow weakened but still shows northward flow from convection between 180-150W, in the region 0-5N.

° Large scale 250 mb winds over the NPAC is still showing 2 distinct jet streams

--- a subtropical branch w/entrance region near 15°N, 120°W

--- a wavy polar branch spanning the Pacific, and centered north of Hawaii

° CA experienced moderate to heavy rains overnight Tuesday till Wednesday morning.

--- heavier OBS totals past 24 hours --- 2-3 inches Monterey north.

--- 8 & 5-Station CADWR monitoring indicates *above normal accumulation* WY to date, near about 120% of normal.

---- near saturated soils caused slides and tree down, road closures bay area to Big Sur.

---- rain rates not the issue, rather the frequency of rain days.'

--- concern is that further rains thru Saturday may have disproportionate hydro impacts

Tropical Outlook

° Enhanced, large scale, convection between 165-150W, 0-5°N expected to continue thru Thu 21 Jan. However, it may move closer to, but still north of the Equator, which may require flying slightly south of the Equator.

--- Confidence is moderately high, given broad agreement among GFS, FIM, ECMWF, and C-LIM.

--- Large scale divergent outflow -- likely to prevail in region 180-150W, and north of EQ

° Models suggest the large scale convection north of EQ, from 180-150W to weaken post-Friday Jan 22

--- The period Thu/Fri Jan21/22 provides a G-IV opportunity, consistent with views from our 19 Jan briefing.

Midlatitude Outlook

° The west coast storm Tuesday has moved out of region. Soils are saturated in central/north CA. Dropped 7-8 " of snow --- relatively high snow line above Blue Canyon elevation (~5000ft)

. Storm progged to hit CA Friday morning---high confidence. With secondary post-frontal development moving onshore Saturday. --- intensity is moderate, but strong coastal winds likely.

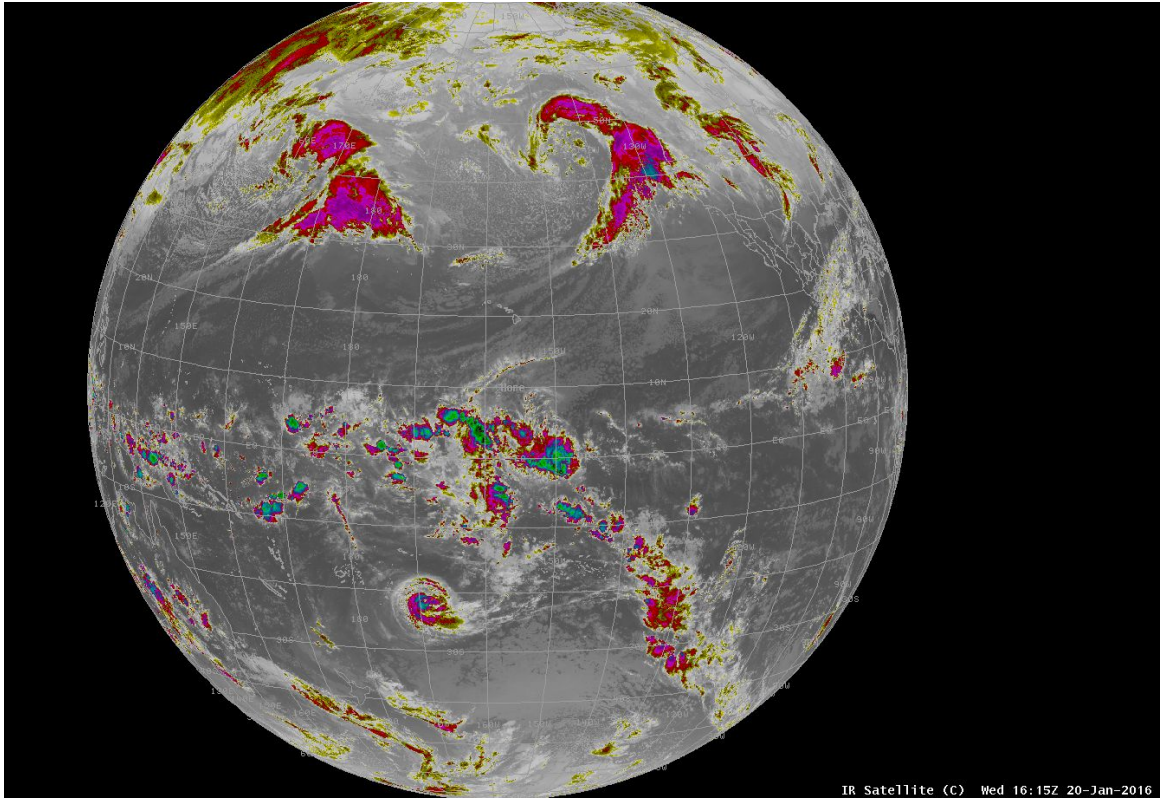
• strong NCAL impacts possible from this combined event Fri/Sat: RFC progs 2-3" Coast Range. and also into Sierra. Lower snowline than with yesterday's storms. RFC not forecasting major rivers to go into flood mode, at this time.

° Medium term Days 5 to 10 (Sunday Jan 25- Fri Jan 30) mostly dry across CA, except far north
---- Ridge predicted on the Pacific coast, high inter-model agreement,

--- a strong Baroclinic System expected at days 9-10 on NCAL (Friday 29 JAN)

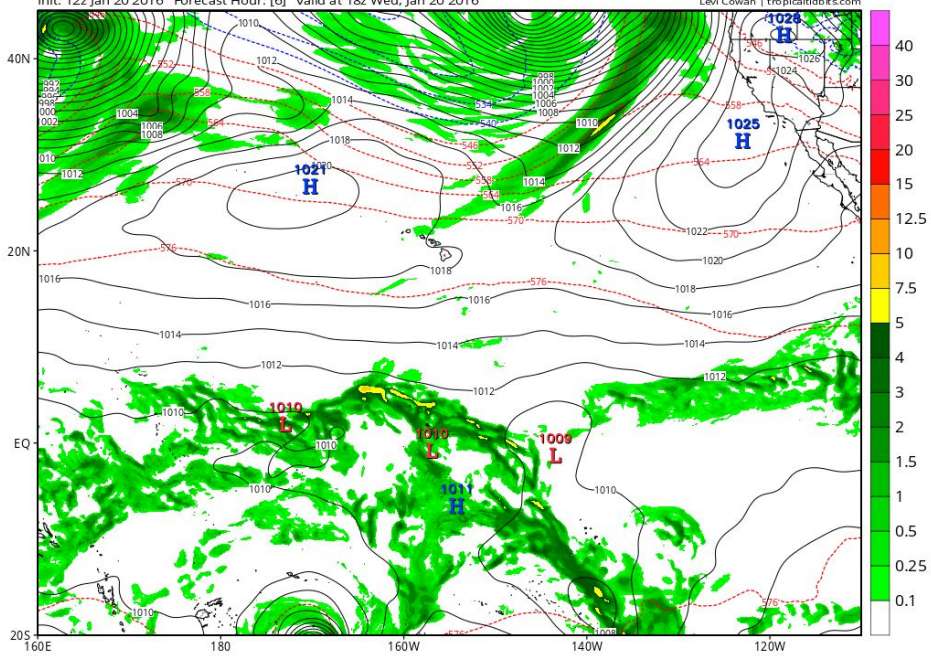
---- The extent of problems with the current 20 Jan analysis and/or Tropical convective forecast over the next week are expected to impact this storm.

---- some model disagreement in days 8-10, with EC model showing more zonal flow.



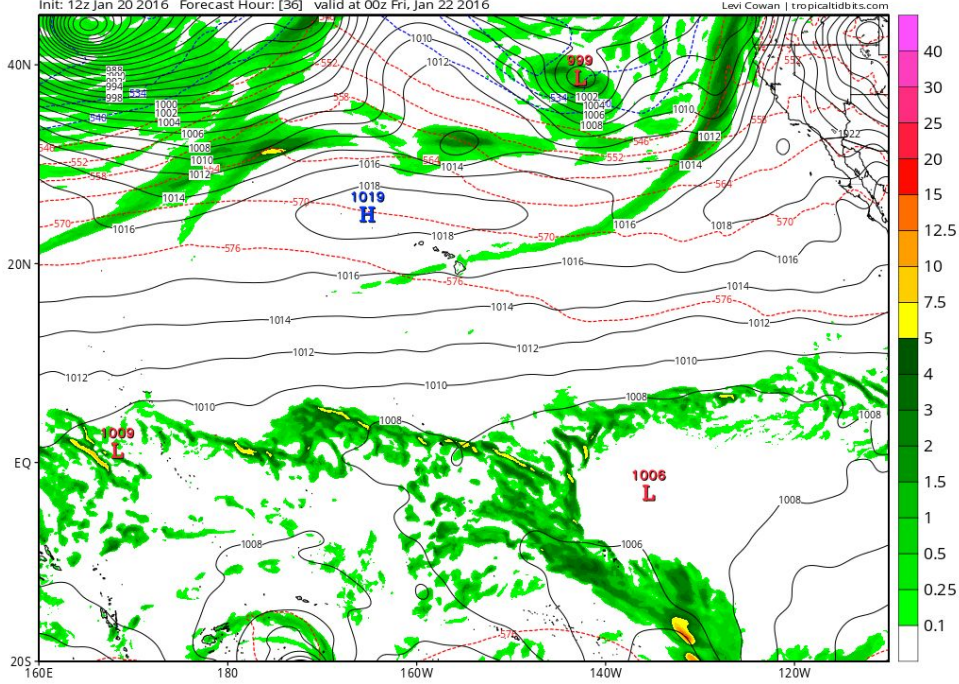
GFS 6h forecast from 12Z 20JAN2016

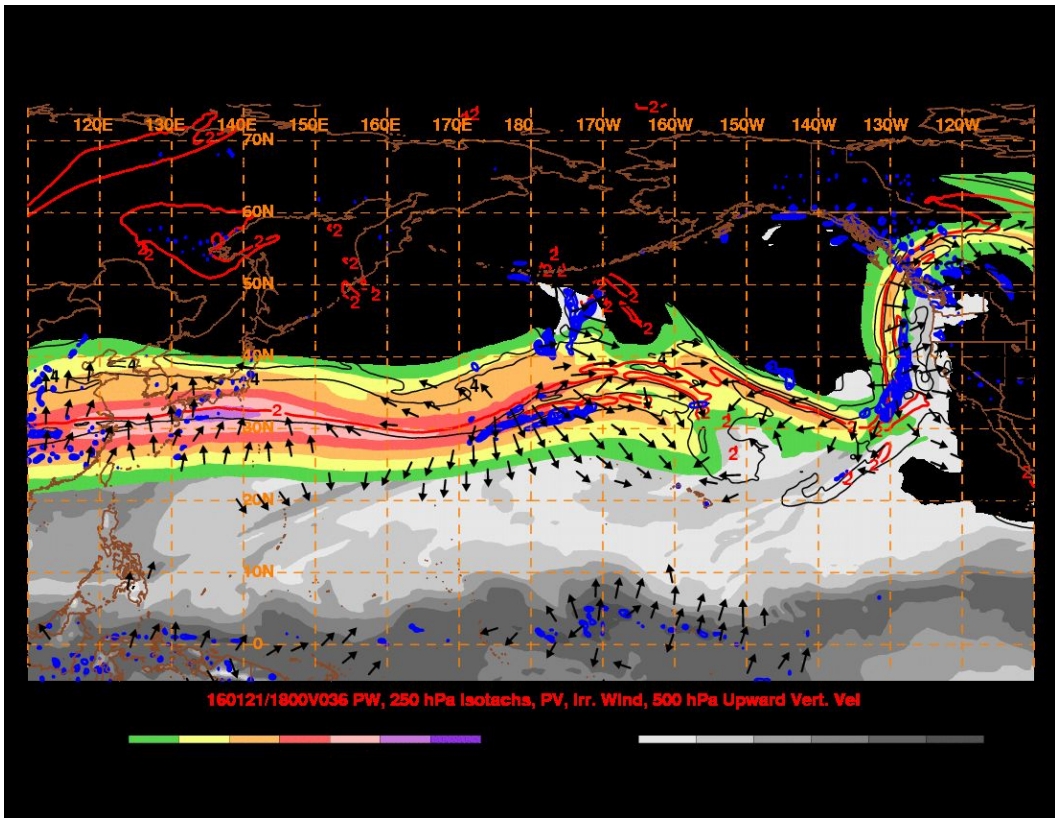
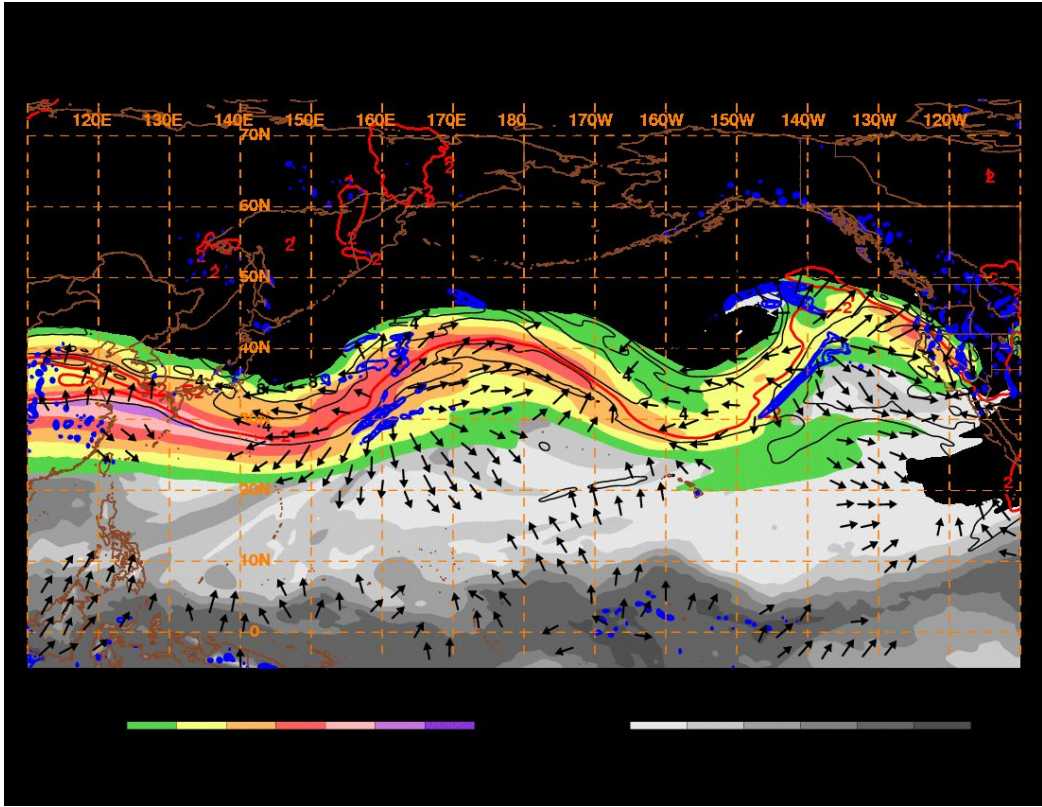
GFS 6-hour Averaged Precip Rate (mm/hr), MSLP (hPa) & 1000-500mb Thickness (dam)
Init: 12z Jan 20 2016 Forecast Hour: [6] valid at 18z Wed, Jan 20 2016



GFS 36h forecast from 12Z 20JAN2016 VALID 00Z 22JAN2016 (Thursday flight day)

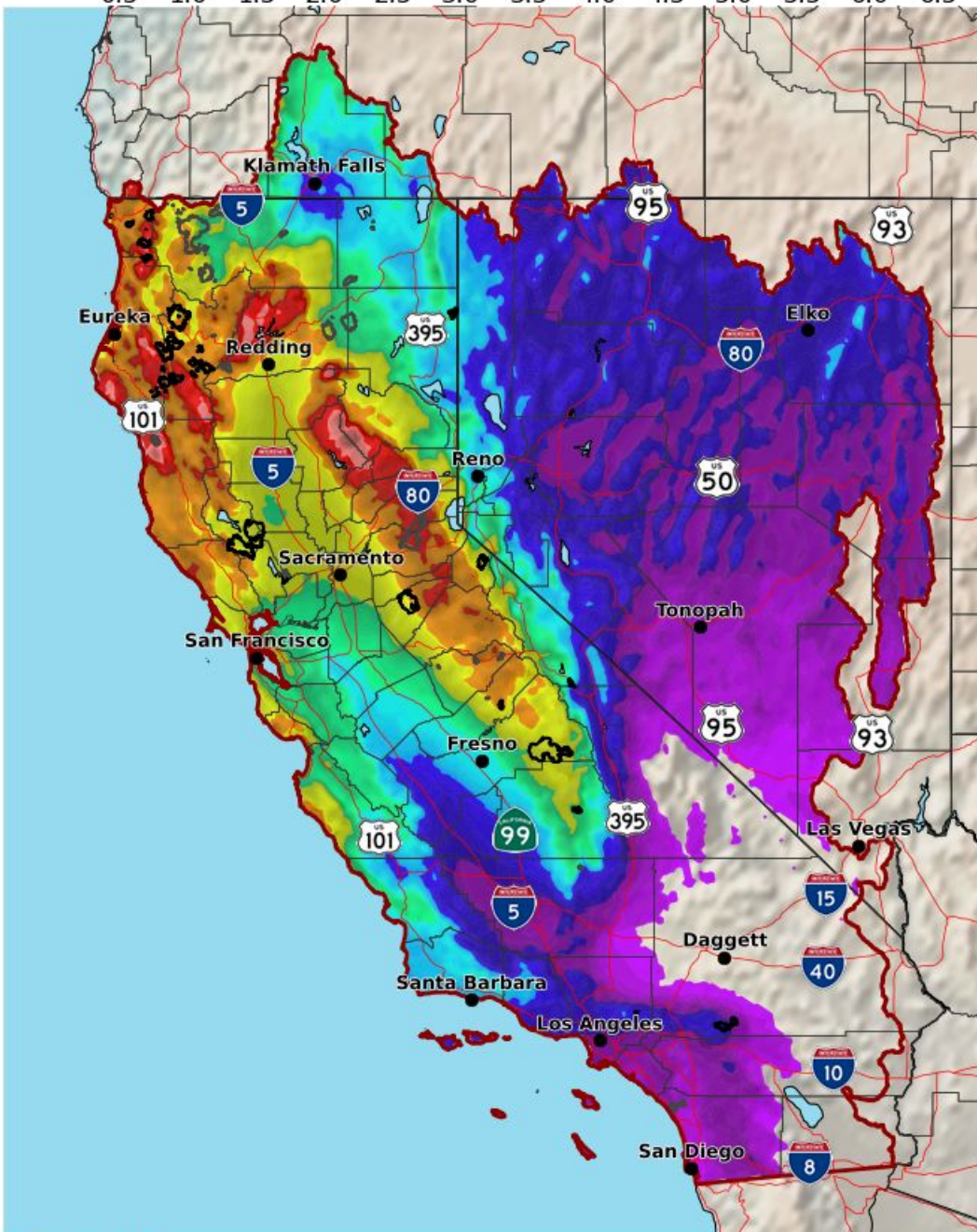
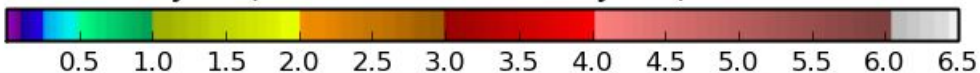
GFS 6-hour Averaged Precip Rate (mm/hr), MSLP (hPa) & 1000-500mb Thickness (dam)
Init: 12z Jan 20 2016 Forecast Hour: [36] valid at 00z Fri, Jan 22 2016





6-Day Forecast Precipitation (Inches)

Valid: Wed Jan 20, 2016 at 04 AM PST to Tue Jan 26, 2016 at 04 AM PST



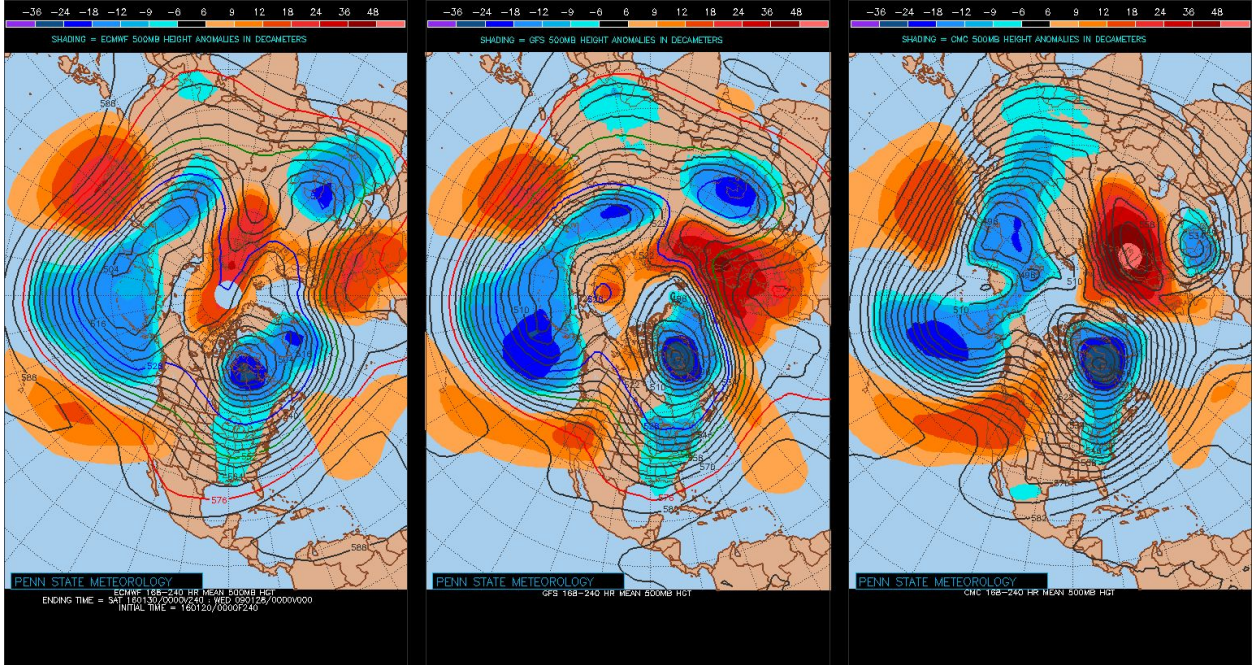
National Weather Service
CNRFC - Sacramento, CA

Created: 01/20/2016 07:18 AM PST

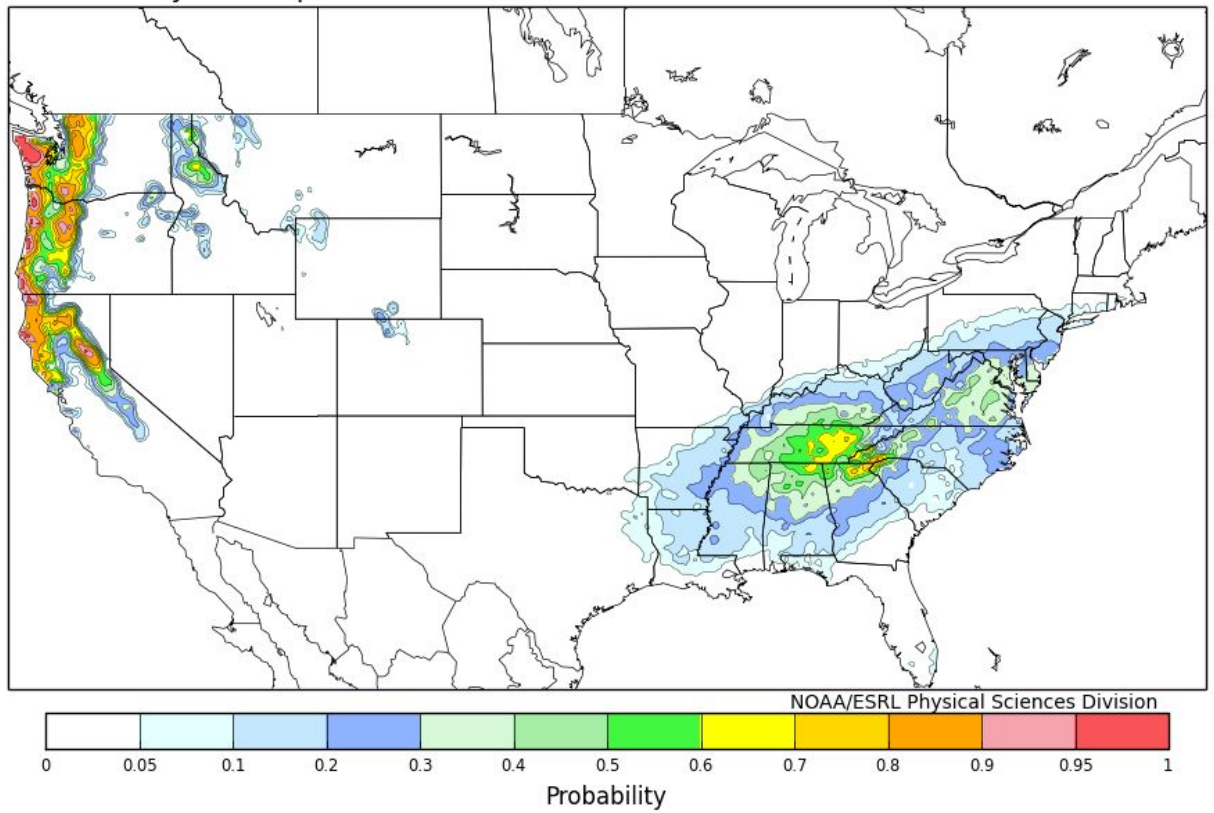
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000-168hr fcst from 00Z Wed Jan 20. Valid 00Z Wed Jan 20 - 00Z Wed Jan 27
 Probability of Precip > 50mm. CSGD. 2002-2013 CCPA and Reforecast2 Calibration.



Research Flight 1 Mesoscale Convective Circuit

THU/21 Jan 2016
Take Off 1000 HT
Duration 7.5 h

- Sample thermodynamics and broad region of poleward divergent outflow around MCS north of the ITCZ
- G-IV performs “box” module in 4 hr at cruise altitude (41-45 kft)
- Expected total flight duration for pattern shown is 7.5 hr (~3250 nmi)

