

## DISCOVER-AQ OUTLOOK January 23, 2013

Extensive cloudiness today over the entire study region, as well as Palmdale. The clouds are the result of the complex trough system to our west which is comprised of a shortwave travelling to our north and a more southerly portion of the trough to the SW of the California coast. The southerly system will cut off from the main westerlies and continue to affect the weather in southern and central CA over Thursday and Friday. Extensive cloudiness expected both days. A break in the clouds may occur on Saturday before another trough moves toward us from the Gulf of Alaska. That trough will bring a cold front through the SJV region on Sunday, finally flushing out the valley. A cold northwesterly flow will occur on Monday, and a new Pacific Coast ridge will build over the region on Tuesday and will be the dominant feature next week.

Code Orange air quality continued in the SJV today despite the change in weather conditions. However, insufficient winds have occurred to clean out the region. Code Yellow for PM2.5 is forecast for tomorrow except in Kern Co., which is forecast to still be Code Orange.

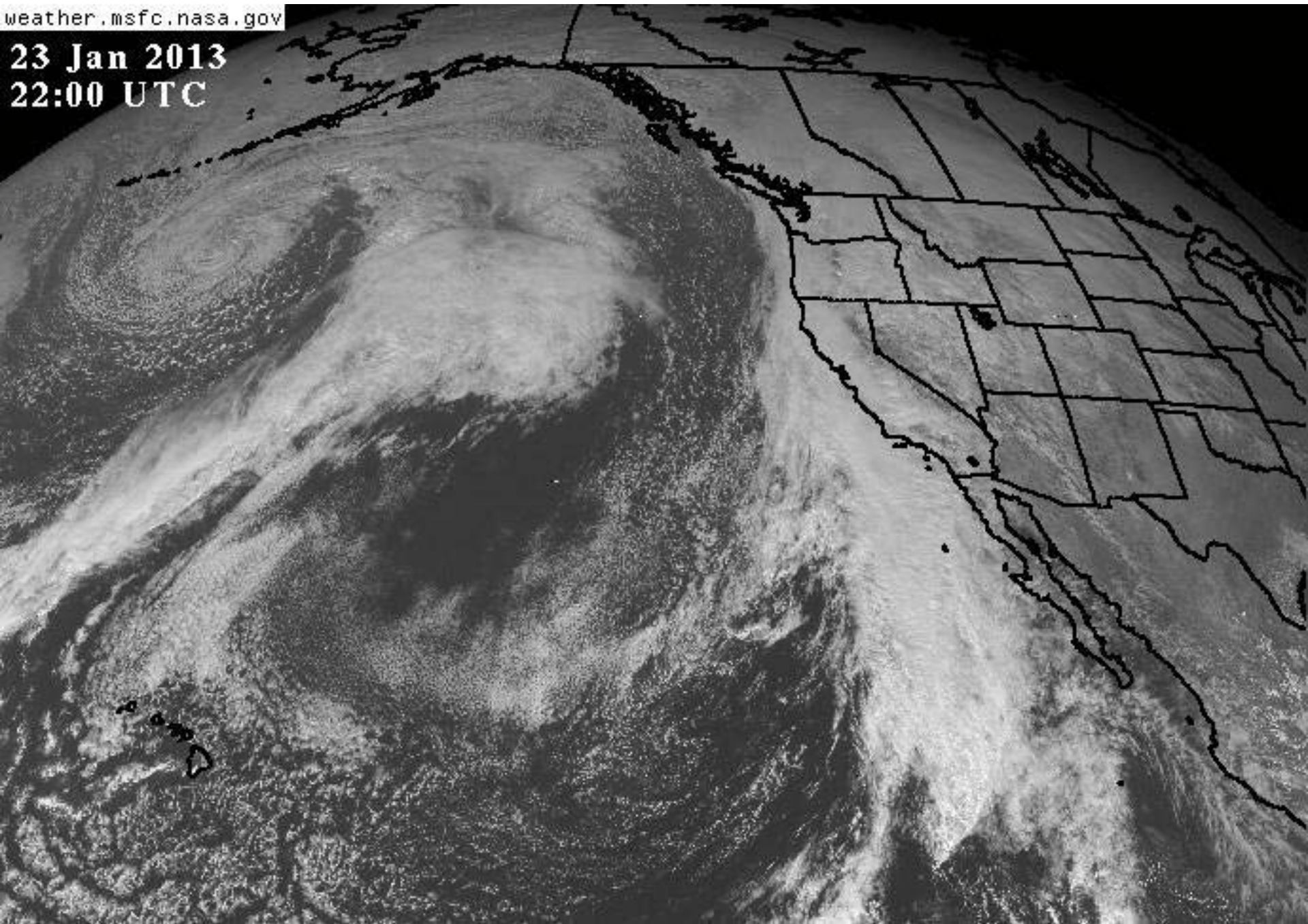
No flights will be possible tomorrow due to the cloud situation. We will check tomorrow morning to see what the cloud situation will be like for a PODEX stratocumulus flight on Friday. However, present thinking is that conditions on Saturday will be more conducive.

# **DISCOVER-AQ/PODEX Forecast Afternoon Update**

**Ken Pickering, NASA/GSFC**

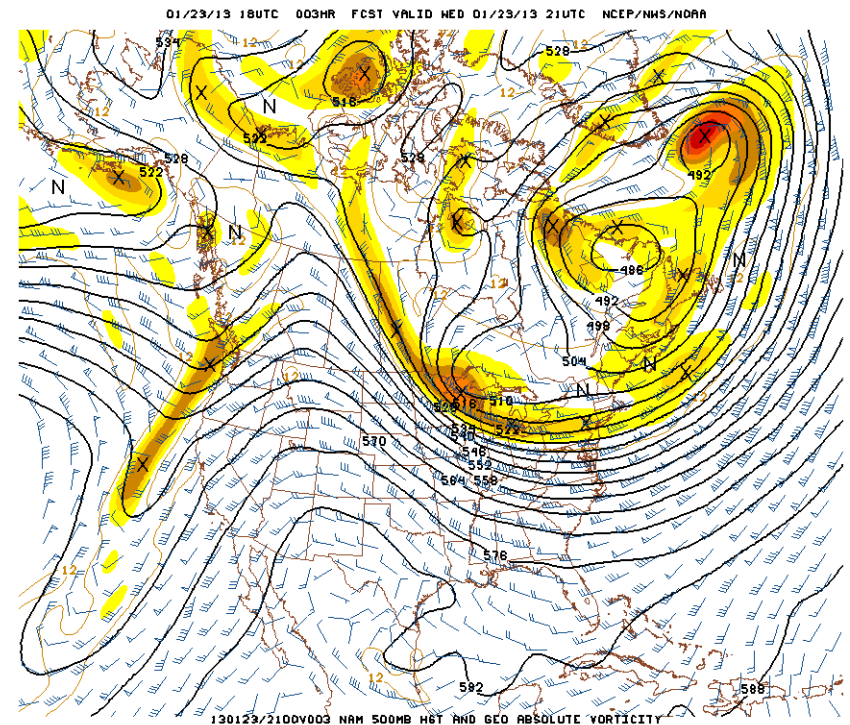
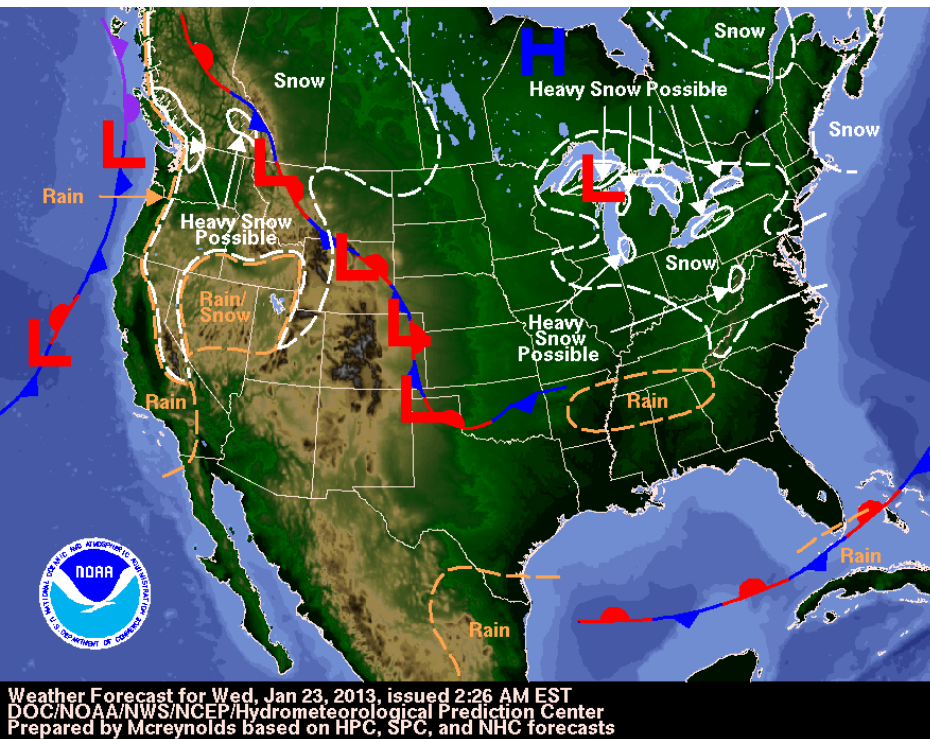
**Chris Loughner, ESSIC/GSFC**

**23 Jan 2013**  
**22:00 UTC**



Today : Cloudy as an upper level trough passes to our north.

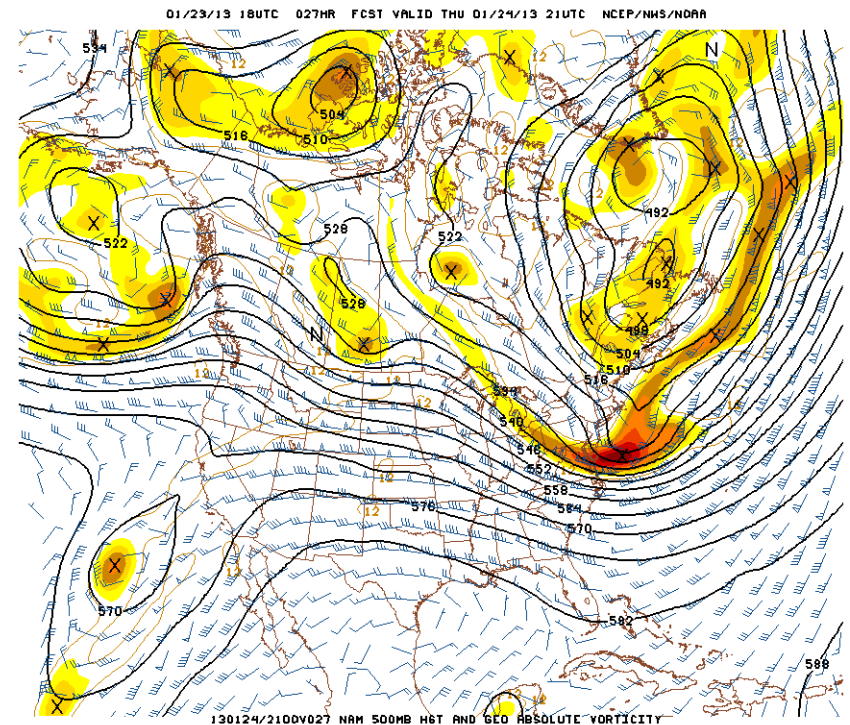
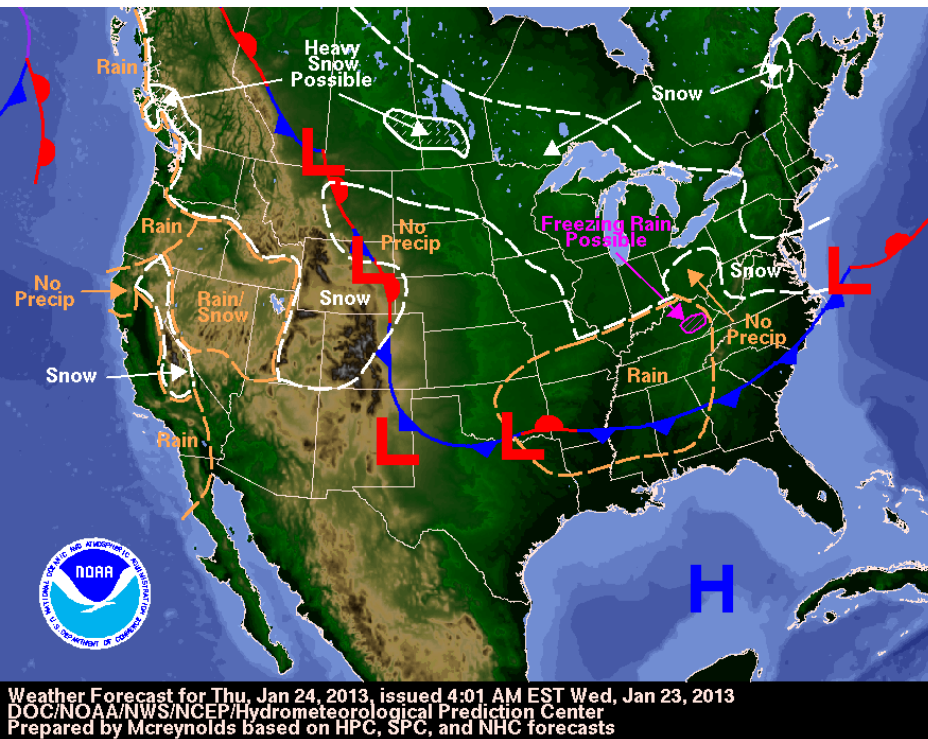
500 mb NAM at 1 PM.





Tomorrow: Cloudy as an upper level low approaches from the southwest.

500 mb NAM at 1 PM.

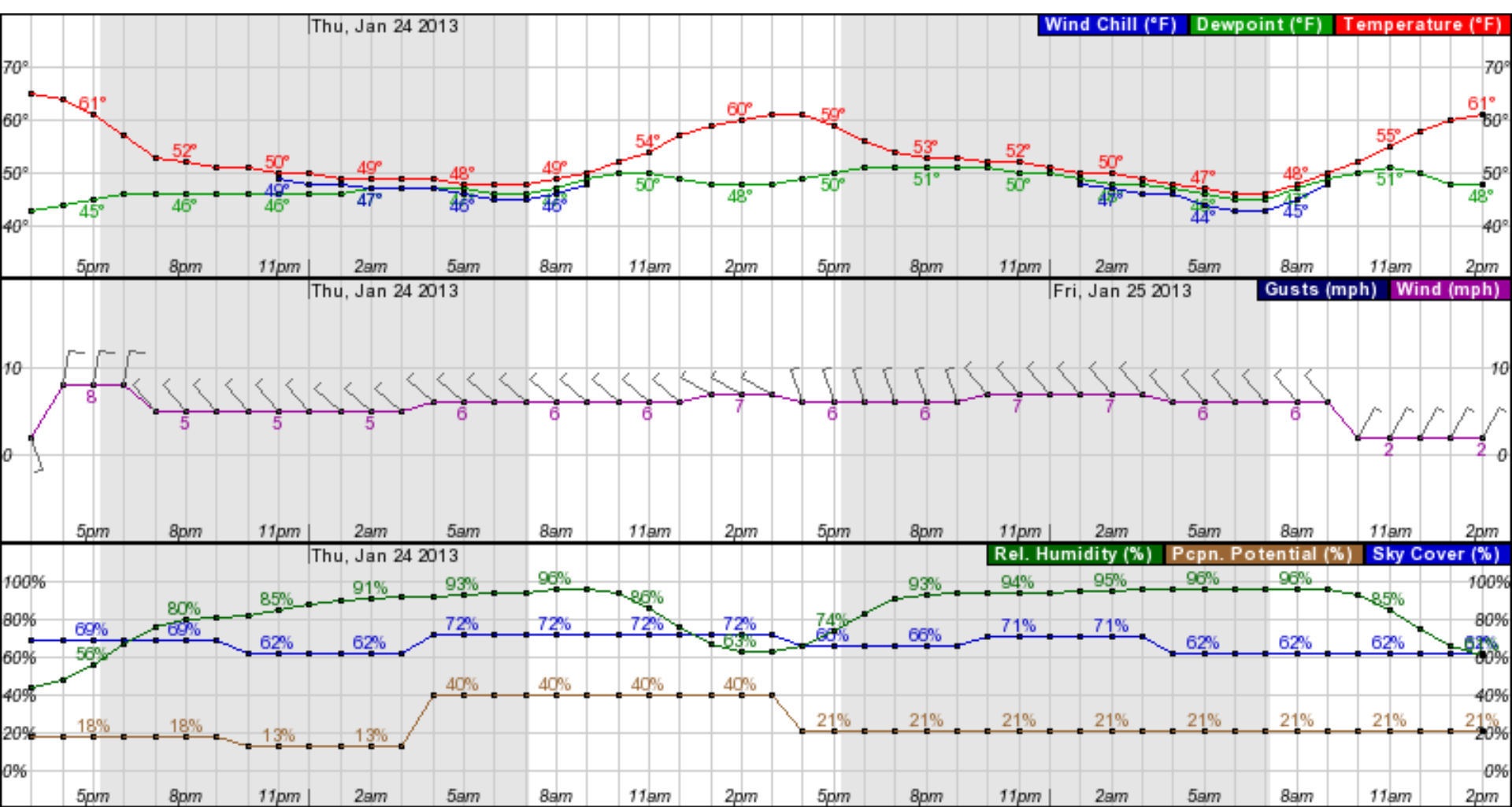


# Hanford

Today: Mostly cloudy.

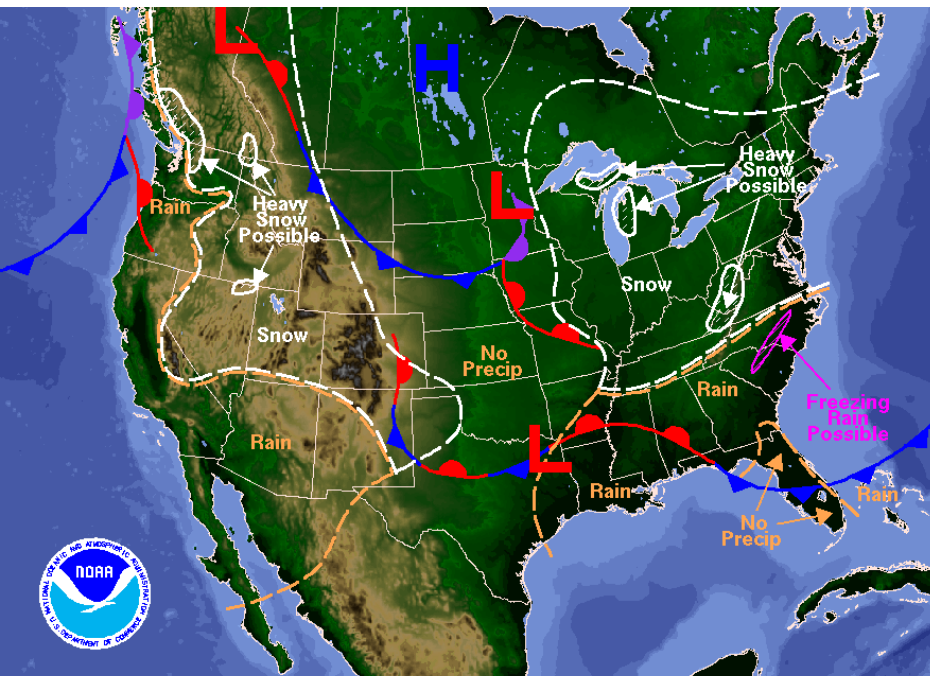
Tomorrow: Mostly cloudy.

Today → Tomorrow →

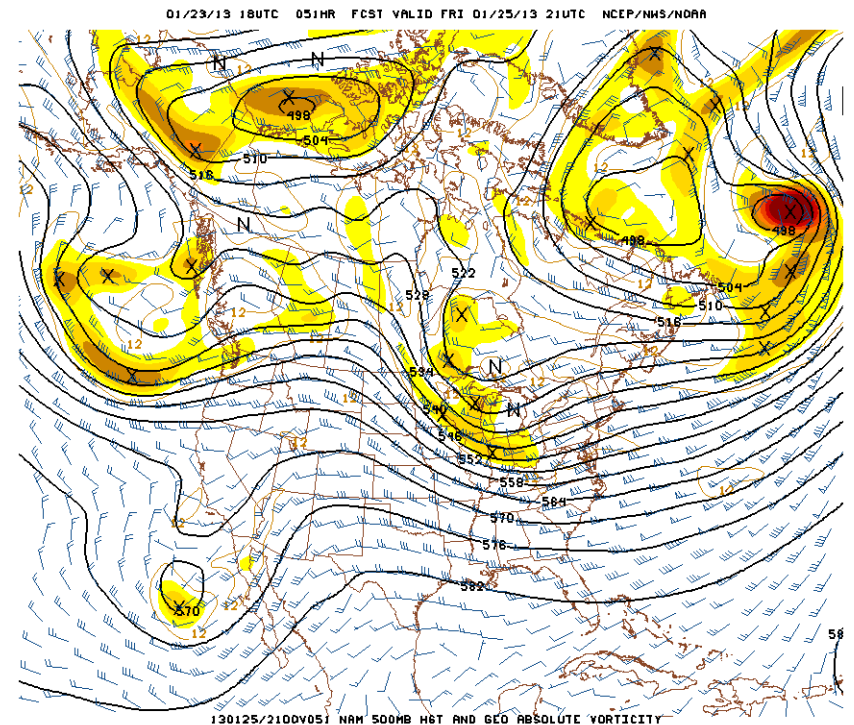


Friday: Cloudy as an upper level trough moves over southern CA.

500 mb NAM at 1 PM.

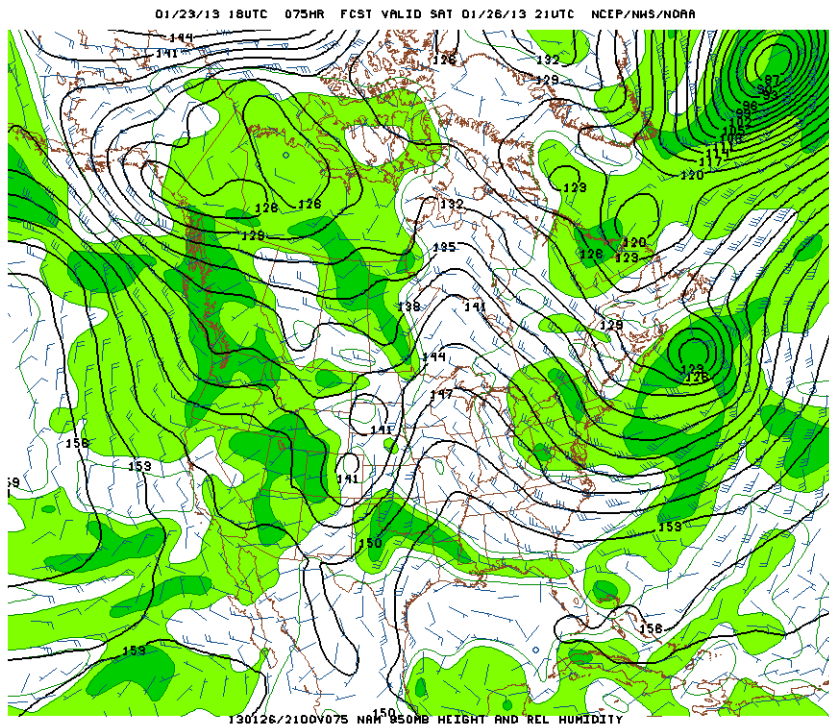


Weather Forecast for Fri, Jan 25, 2013, issued 5:00 AM EST Wed, Jan 23, 2013  
DOC/NOAA/NWS/NCEP/Hydrometeorological Prediction Center  
Prepared by McReynolds based on HPC, SPC, and NHC forecasts

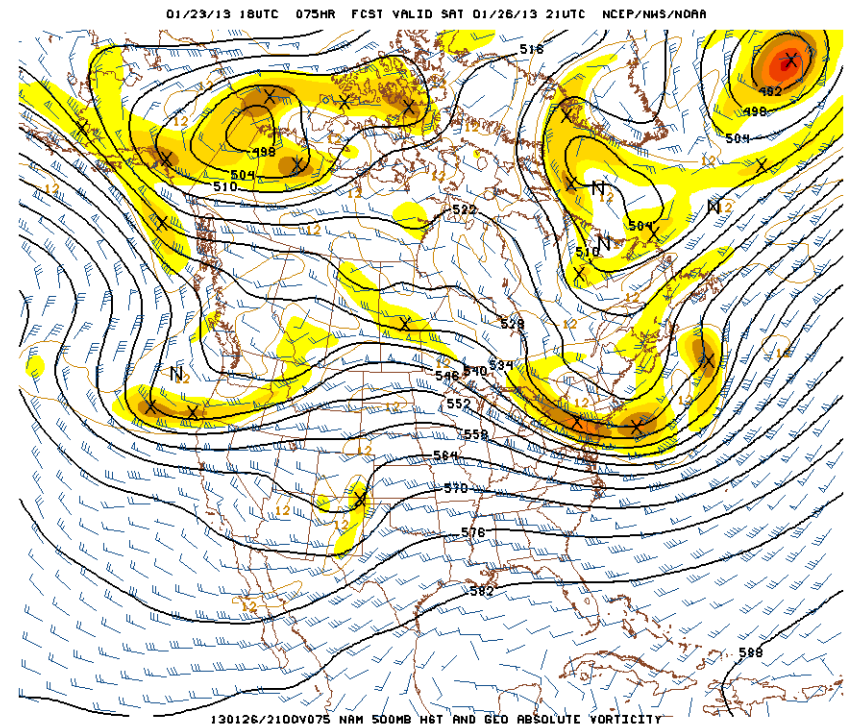




# 850 mb NAM Saturday 1 PM

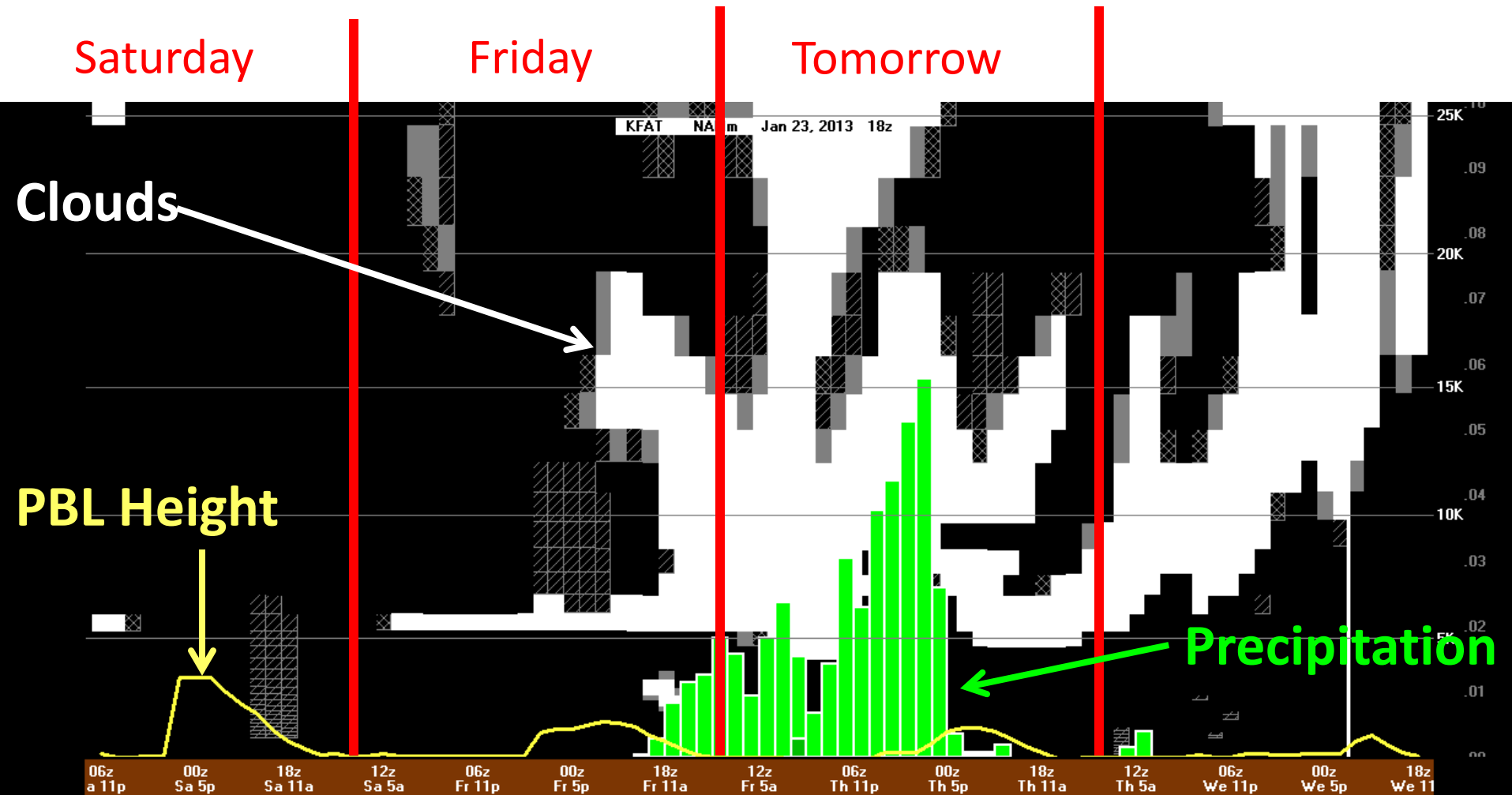


# 500 mb NAM Saturday 1 PM



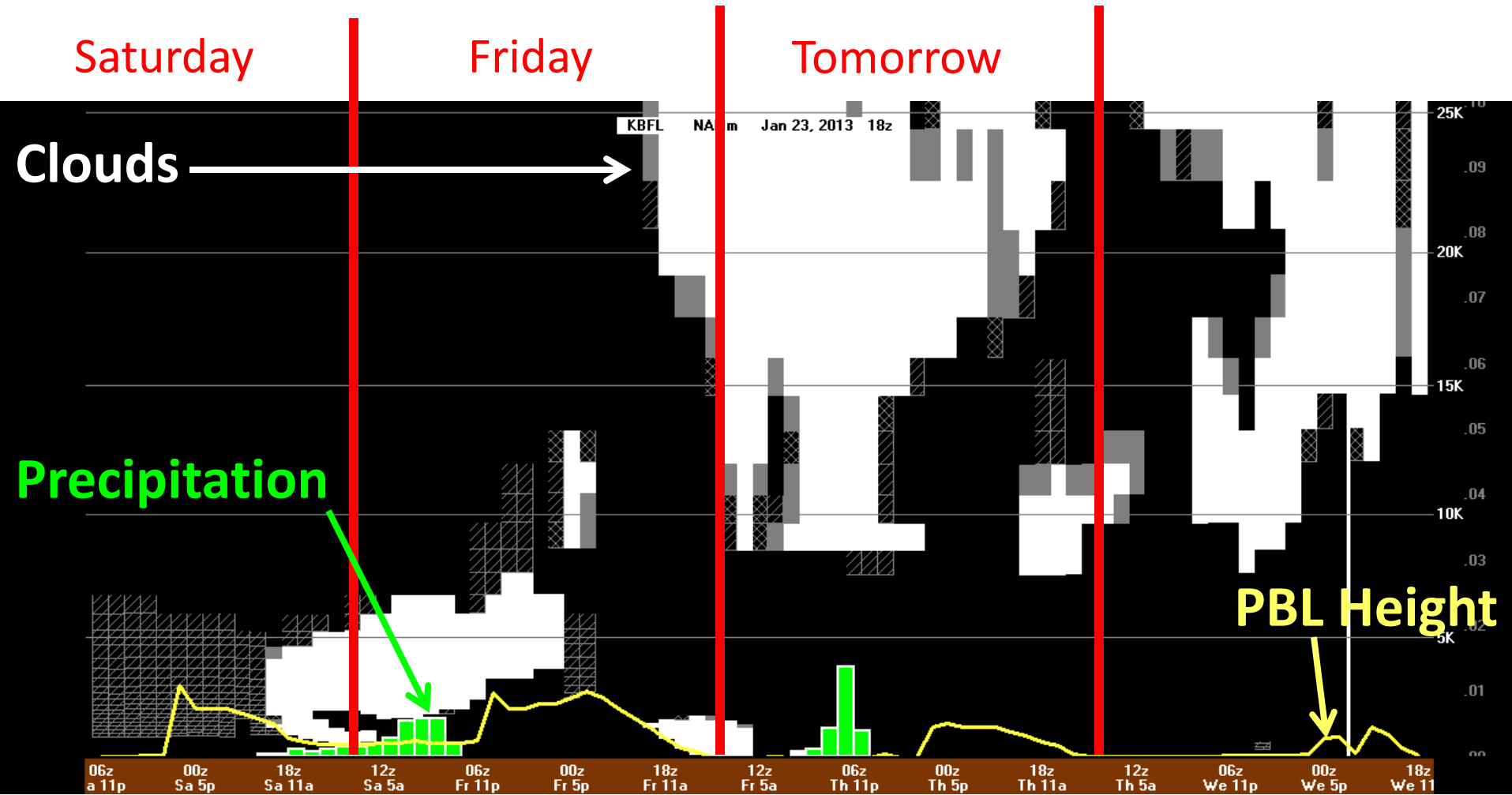


# Fresno; BUFKIT – NAM (18 UTC 23 January)



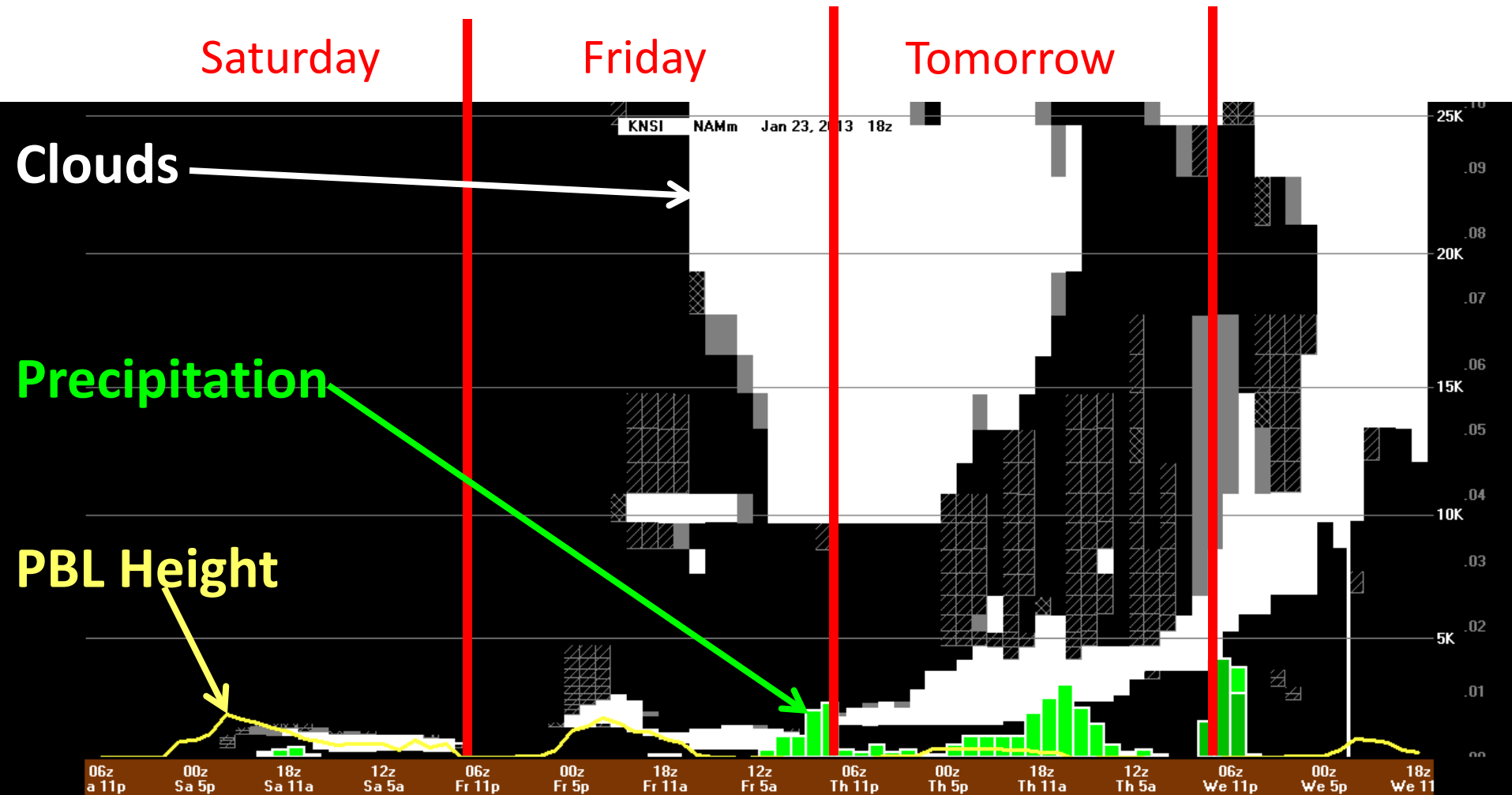
- Today through Friday: Mostly cloudy.
- Saturday: Partly cloudy.

# Bakersfield; BUFKIT – NAM (18 UTC 23 January)



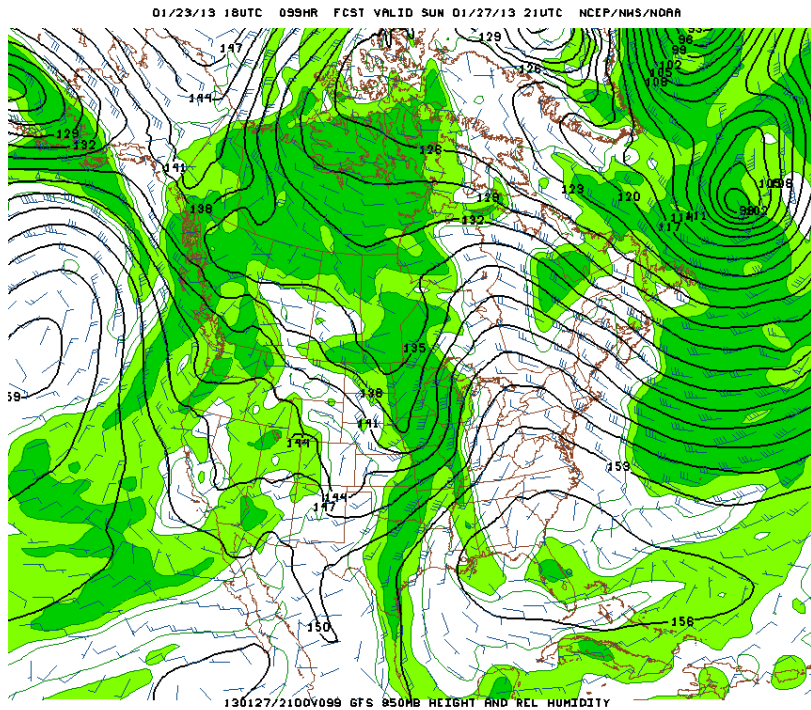
-Today through Saturday: Cloudy.

# San Nicholas Island; BUFKIT – NAM (18 UTC 23 January)

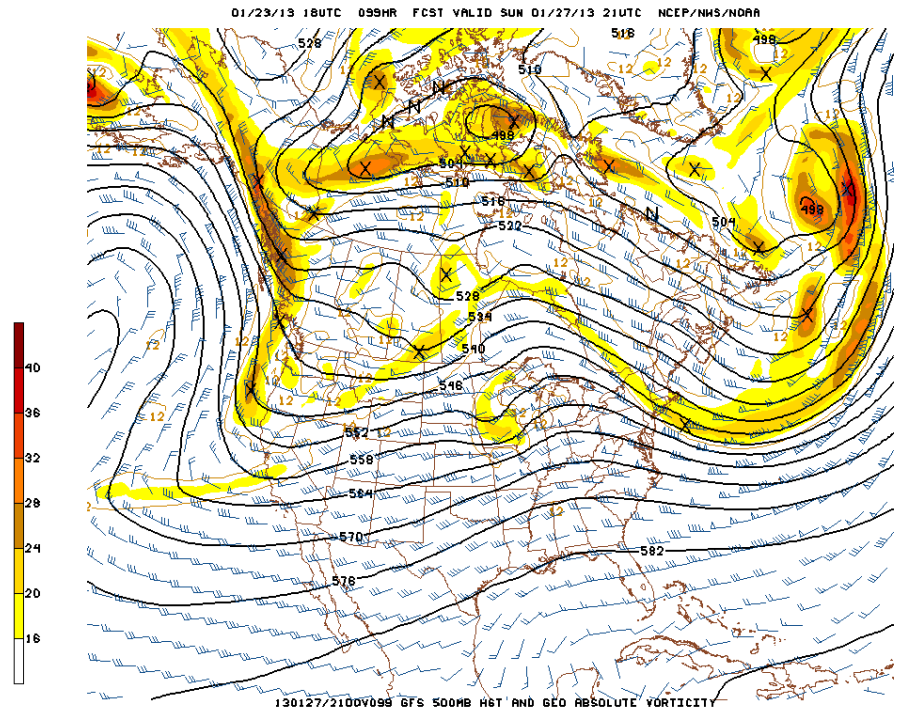


- Today through Friday: Clouds at multiple levels.
- Saturday: Only low level clouds present.

# 850 mb GFS Sunday 1 PM

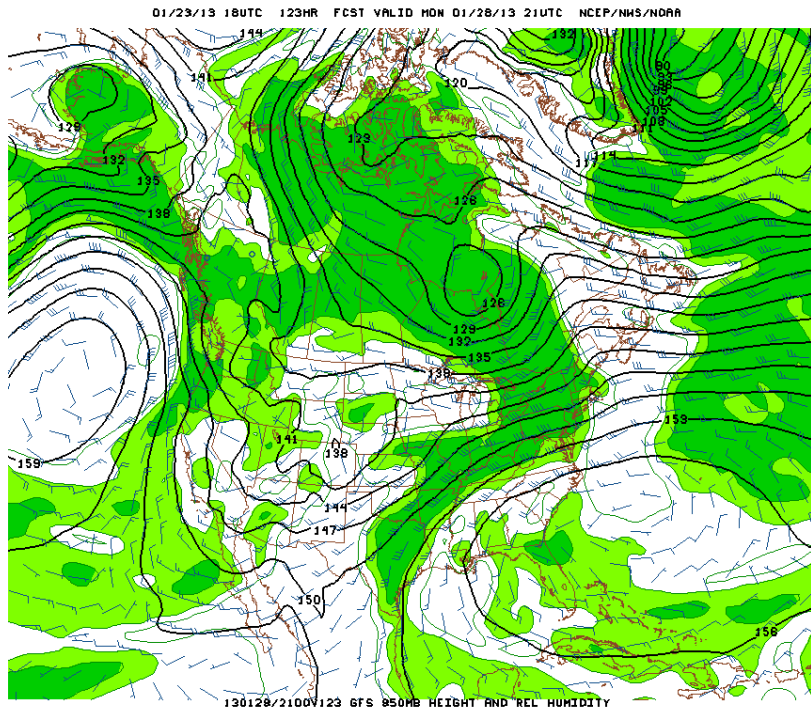


# 500 mb GFS Sunday 1 PM

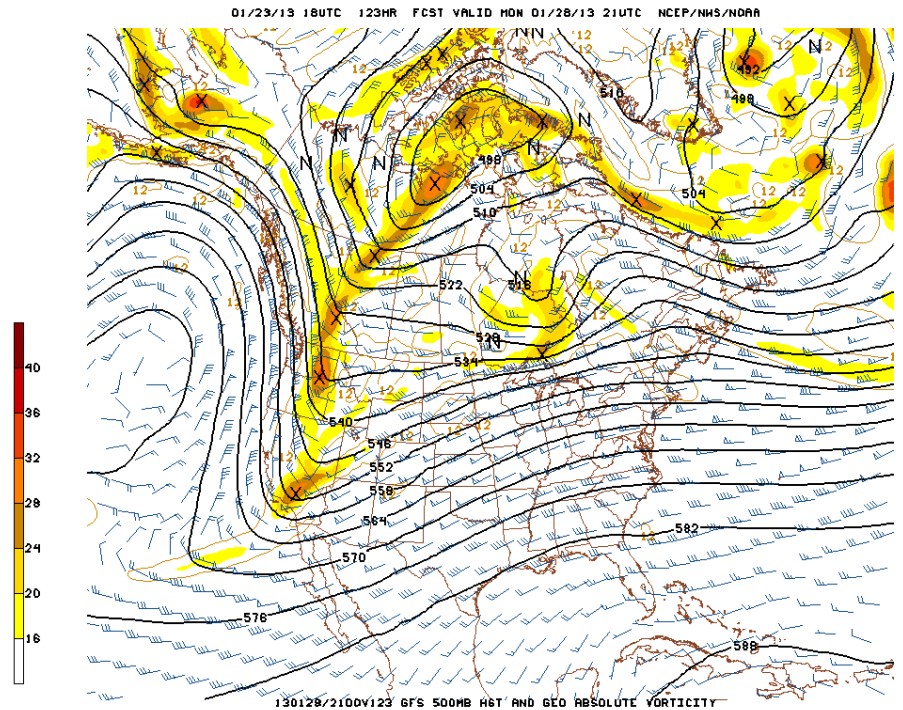




# 850 mb GFS Monday 1 PM



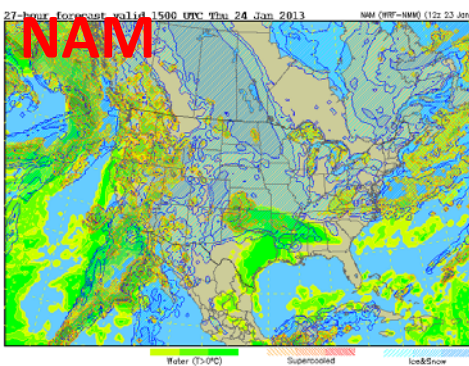
# 500 mb GFS Monday 1 PM



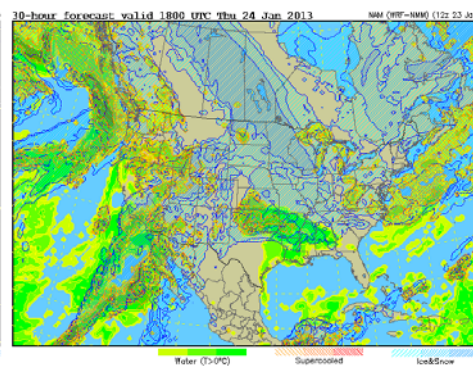
# Tomorrow: NAM – mid and high level clouds; GEOS-5 – low, mid, and high level clouds.

7 am                      10 am                      1 pm                      4 pm

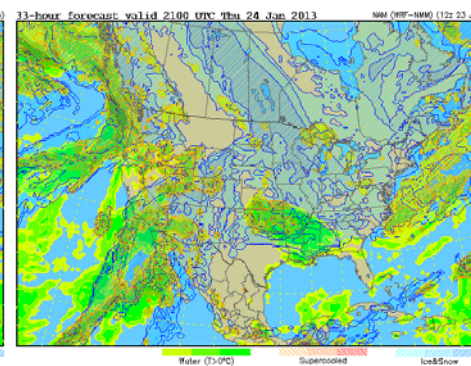
Integrated liquid and frozen hydrometeors (all levels)



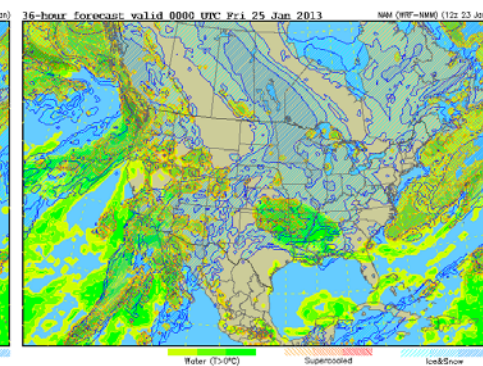
Integrated liquid and frozen hydrometeors (all levels)



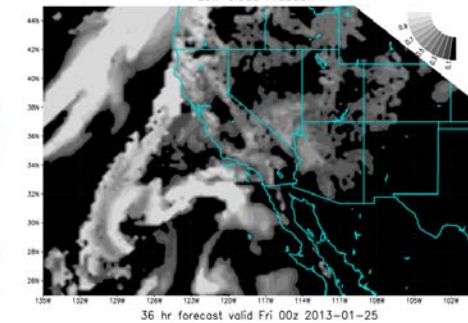
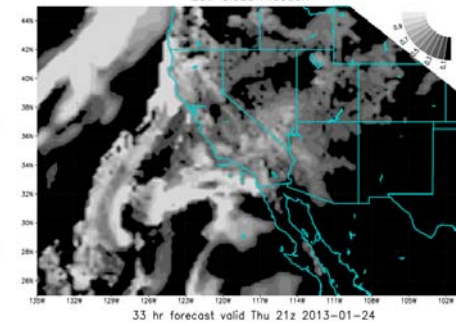
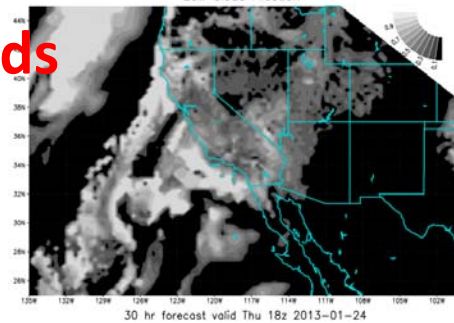
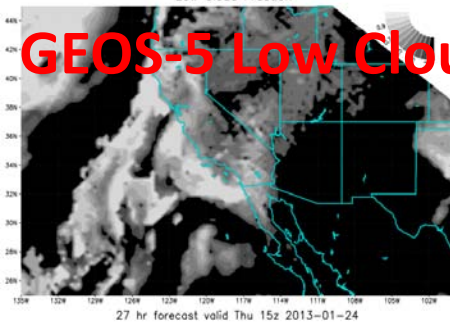
Integrated liquid and frozen hydrometeors (all levels)



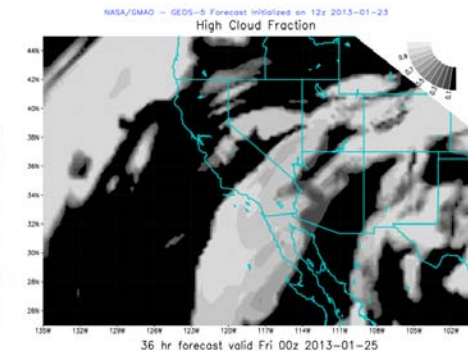
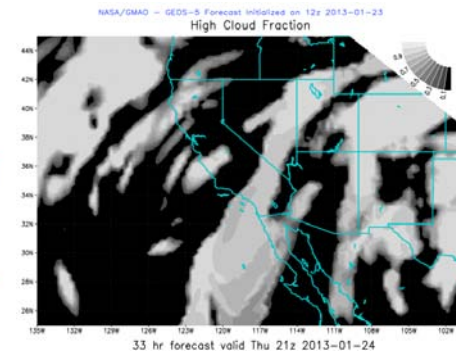
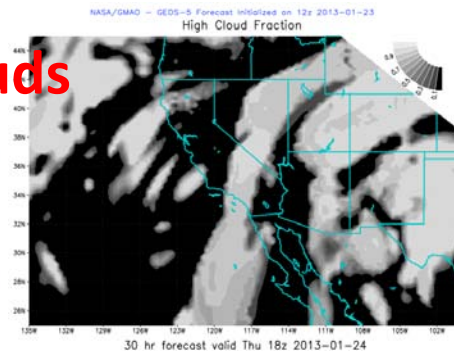
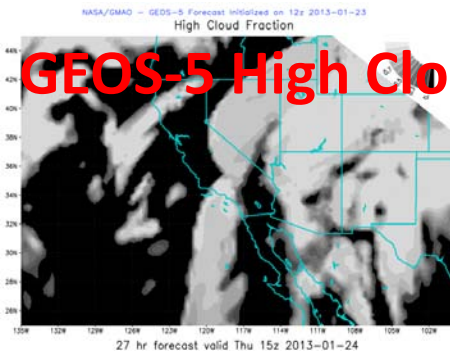
Integrated liquid and frozen hydrometeors (all levels)



**GEOS-5 Low Clouds**



**GEOS-5 High Clouds**

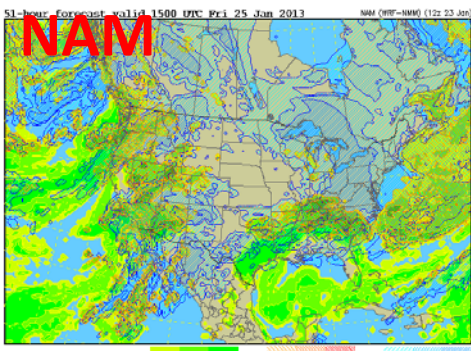




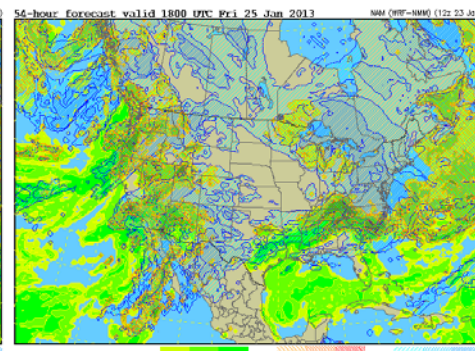
# Friday: NAM – low, mid, and high level clouds; GEOS-5 – low, mid, and high level clouds.

7 am                      10 am                      1 pm                      4 pm

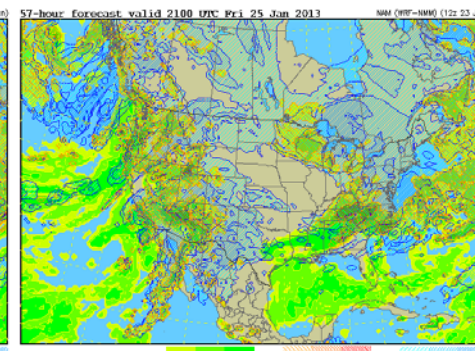
Integrated liquid and frozen hydrometeors (all levels)



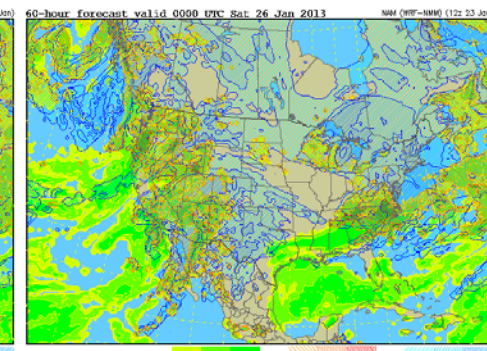
Integrated liquid and frozen hydrometeors (all levels)



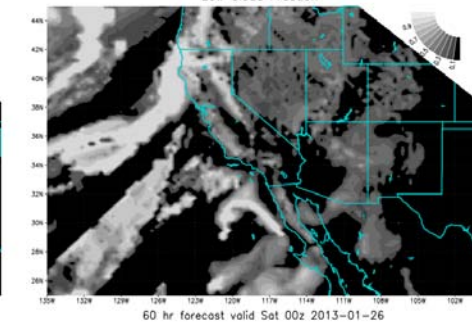
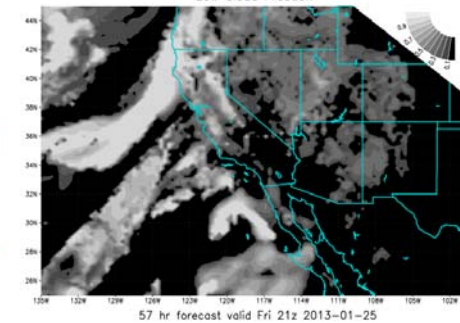
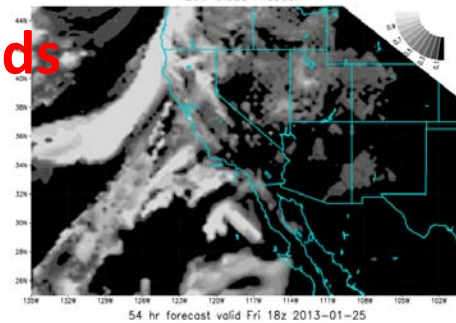
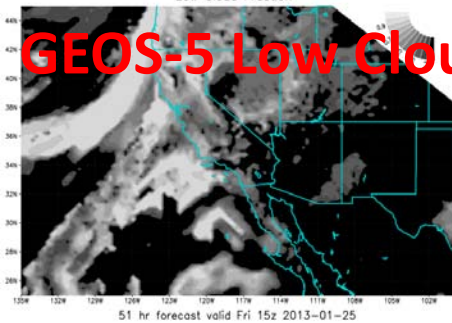
Integrated liquid and frozen hydrometeors (all levels)



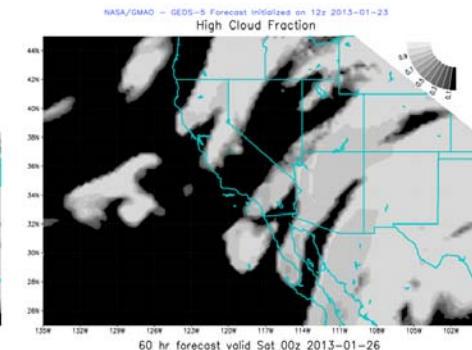
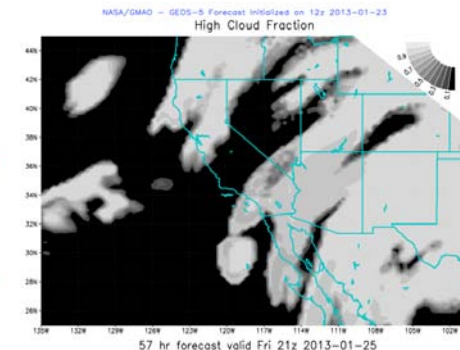
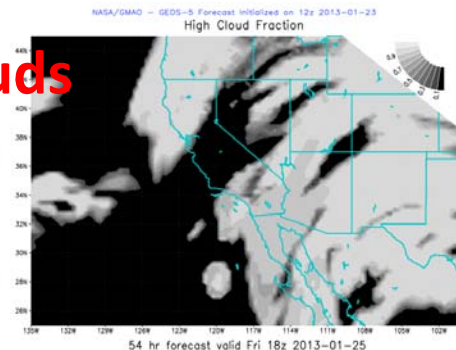
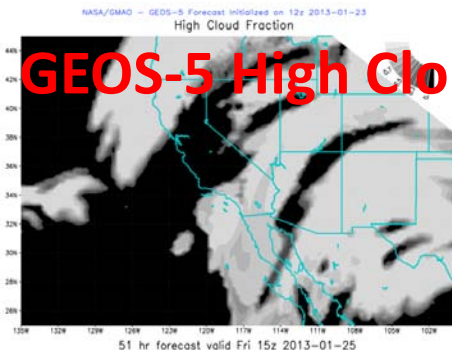
Integrated liquid and frozen hydrometeors (all levels)



**GEOS-5 Low Clouds**



**GEOS-5 High Clouds**





Saturday: NAM – low level clouds throughout the day and some cirrus in the afternoon; GEOS-5 – low level clouds.

7 am

10 am

1 pm

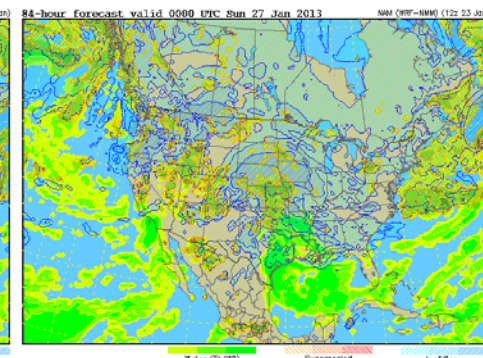
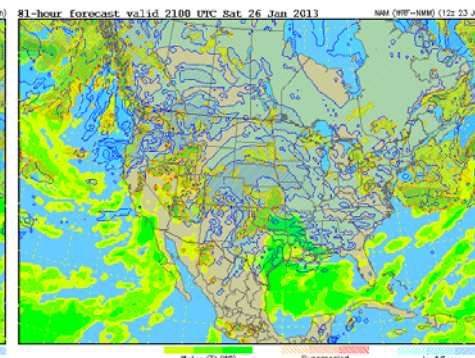
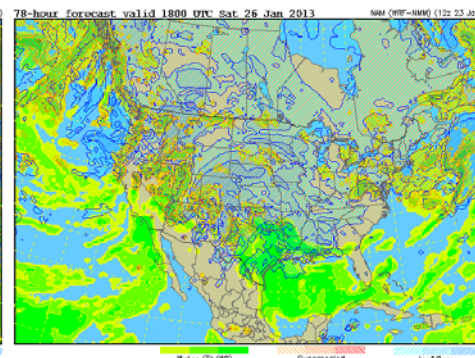
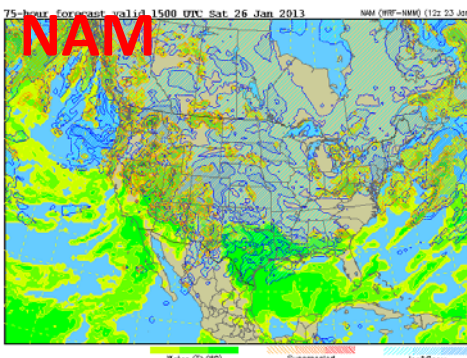
4 pm

Integrated liquid and frozen hydrometeors (all levels)

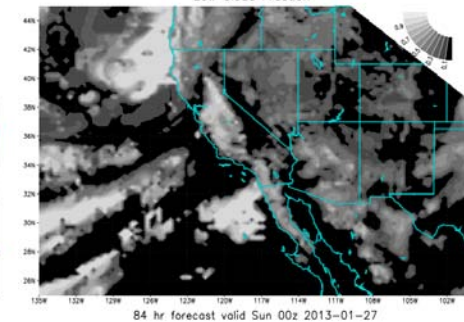
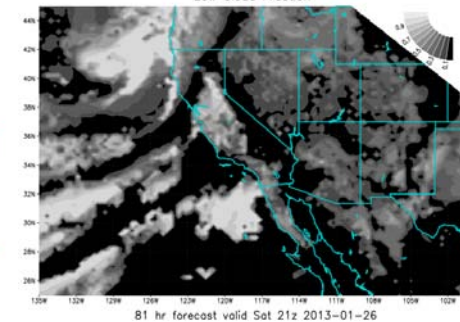
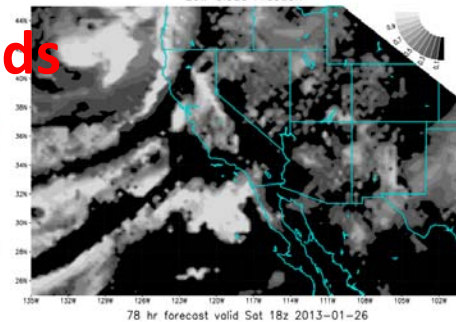
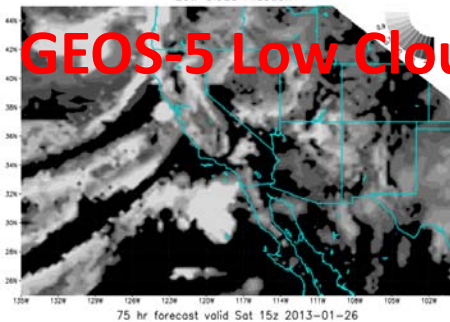
Integrated liquid and frozen hydrometeors (all levels)

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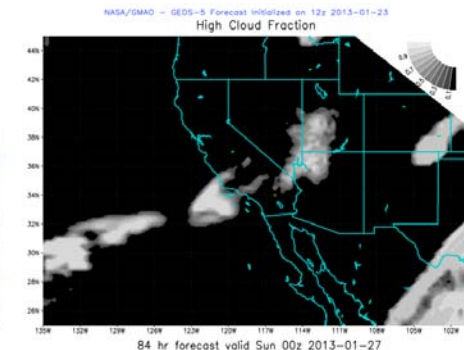
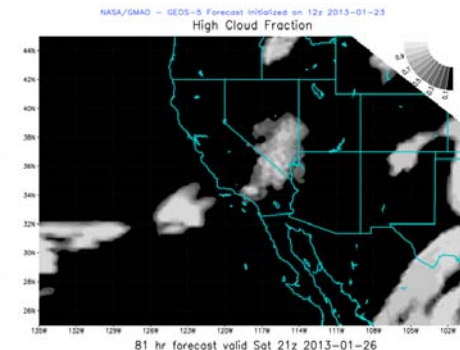
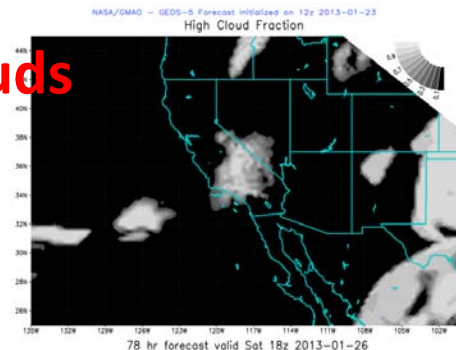
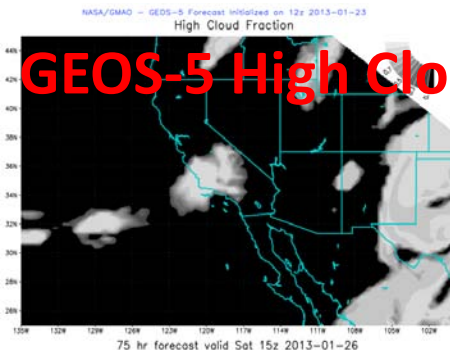
Integrated liquid and frozen hydrometeors (all levels)



**GEOS-5 Low Clouds**



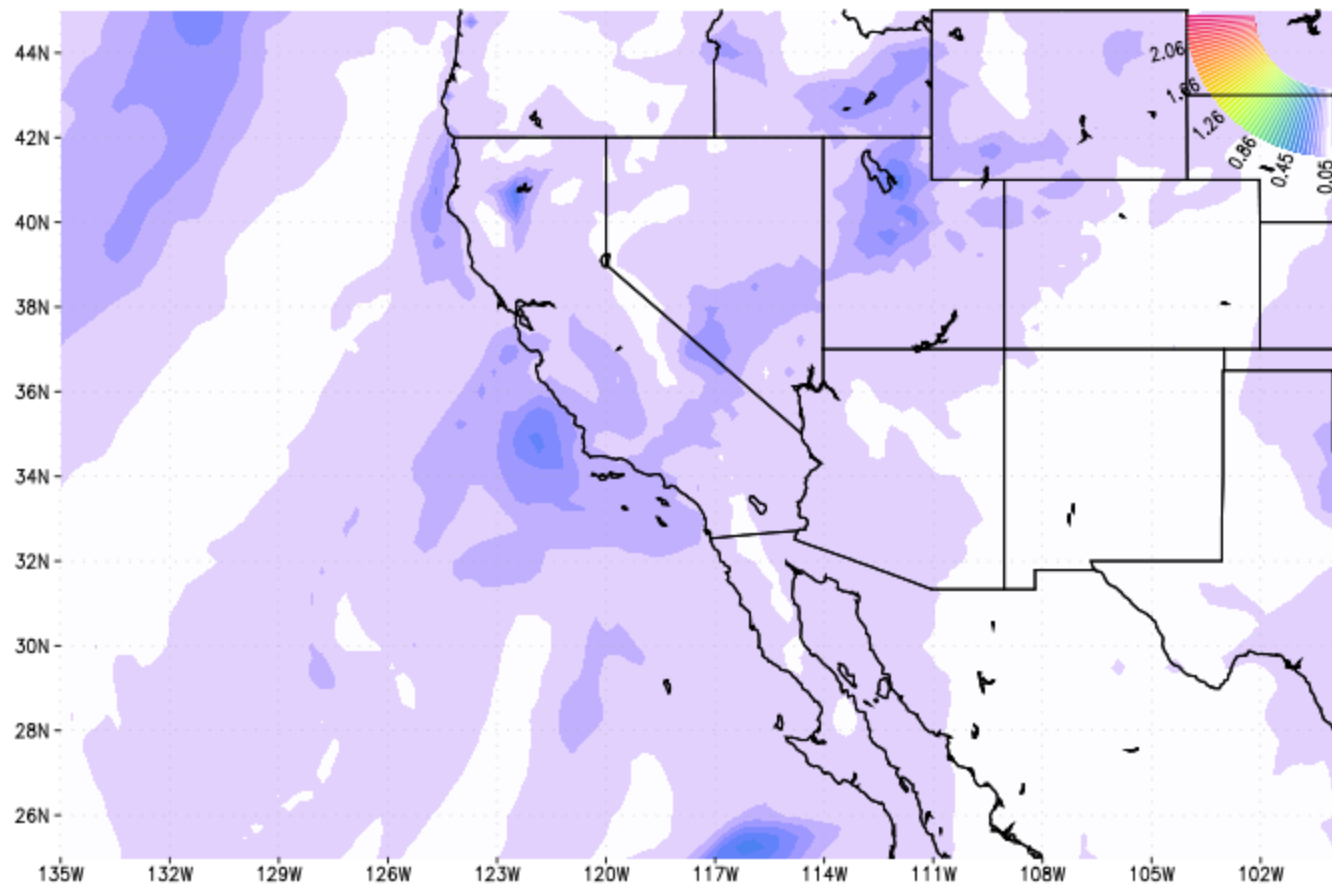
**GEOS-5 High Clouds**





NASA/GMAO - GEOS-5 Forecast Initialized on 12z 2013-01-23

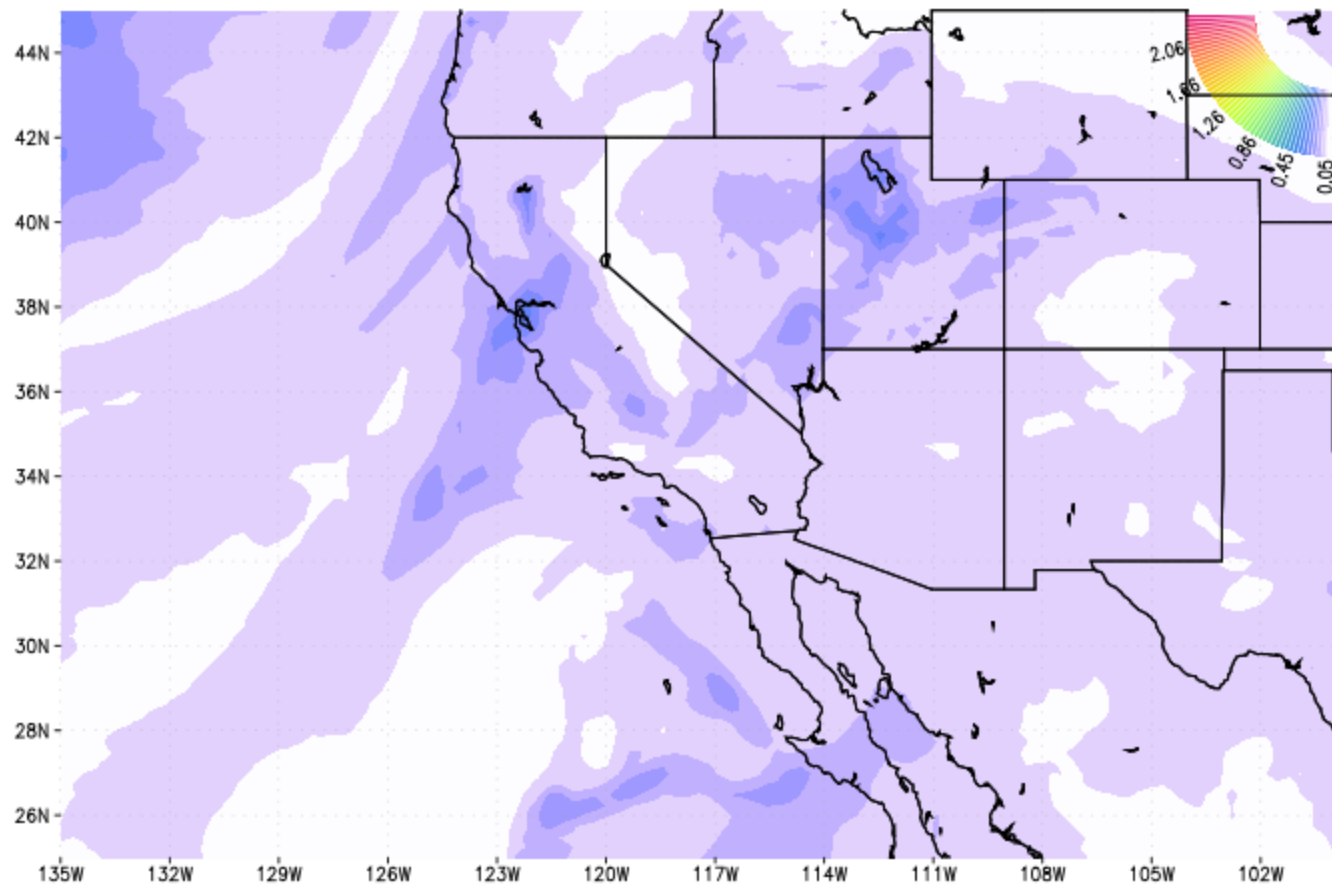
### Total Aerosol Optical Thickness



30 hr forecast valid Thu 18z 2013-01-24

NASA/GMAO - GEOS-5 Forecast Initialized on 12z 2013-01-23

### Total Aerosol Optical Thickness



54 hr forecast valid Fri 18z 2013-01-25

# GEOS-5 Aerosol Forecast 38N 125W

