

DISCOVER-AQ Outlook for Friday, July 15, 2011

Good flying conditions are likely for Friday through Monday. The cold front and thunderstorms that passed through last night have brought in clean Canadian air with low dewpoints (50s, low 60s) and mostly sunny skies. These conditions should persist through the period though there is a possibility of low level cloud cover developing as a result of moist southeasterly flow as the high moves off the coast. Preliminary data from the flight on Thursday and ground stations indicate a very clean air mass (low AOD), but afternoon ozone levels similar to previous days. Early indications are that hot, muggy air with higher pollution will return for next week.

Recommendations for July 15-18th

July 15th, Friday: Can Fly

July 16th, Saturday: Can Fly

July 17th, Sunday: Can Fly

July 18th, Monday: Can Fly



This
Afternoon



Sunny

Hi 85 °F

Tonight



Clear

Lo 62 °F

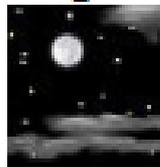
Friday



Sunny

Hi 85 °F

Friday
Night



Mostly
Clear

Lo 66 °F

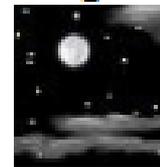
Saturday



Sunny

Hi 88 °F

Saturday
Night



Mostly
Clear

Lo 69 °F

Sunday



Mostly
Sunny

Hi 88 °F

Sunday
Night



Partly
Cloudy

Lo 70 °F

Monday



Mostly
Sunny

Hi 93 °F

Current Conditions at BWI at 11am

Baltimore-Washington International Airport

Lat: 39.19 Lon: -76.67 Elev: 148

Last Update on Jul 14, 10:54 am EDT

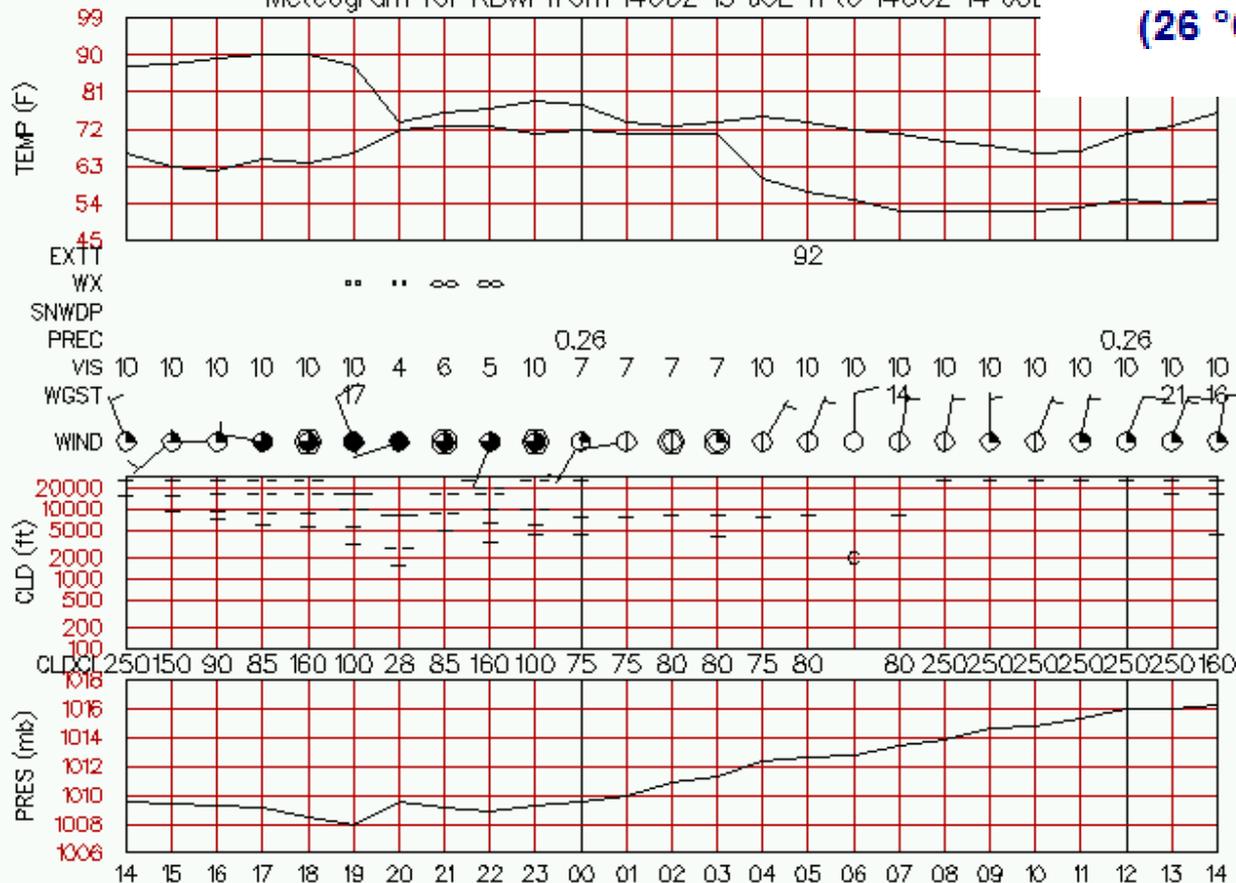
Partly Cloudy

Humidity:	42 %
Wind Speed:	E 14 G 22 MPH
Barometer:	30.03" (1016.7 mb)
Dewpoint:	53 °F (12 °C)
Heat Index:	79 °F (26 °C)
Visibility:	10.00 mi.

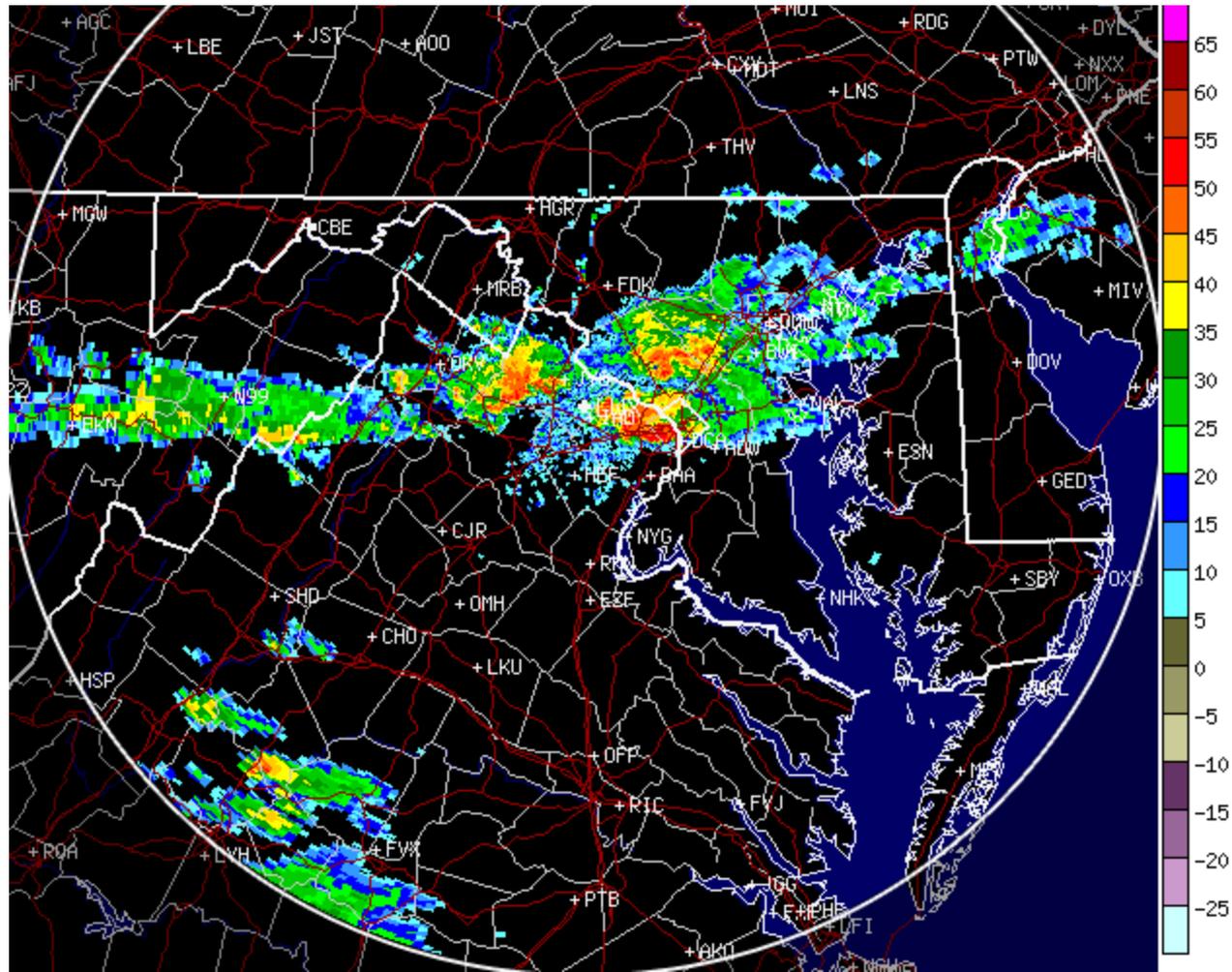
78 °F
(26 °C)

▼ Plymouth State Weather Center ▼

Meteogram for KBWI from 1400Z 13 JUL 11 to 1400Z 14 JUL



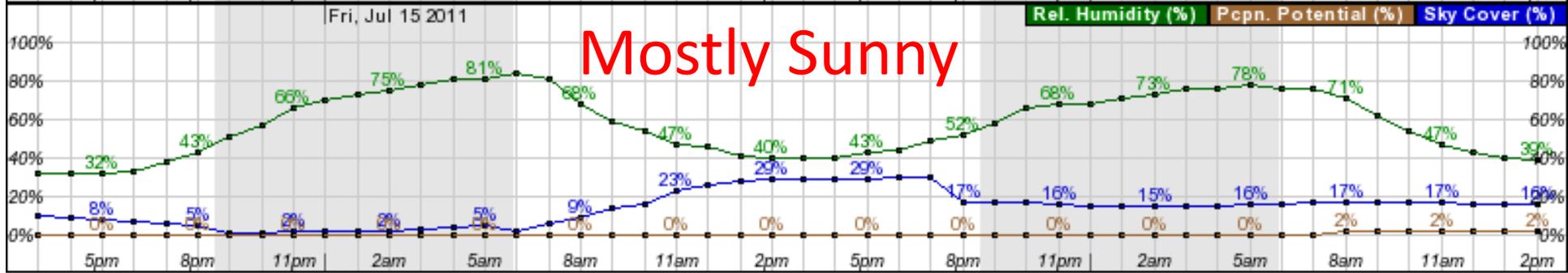
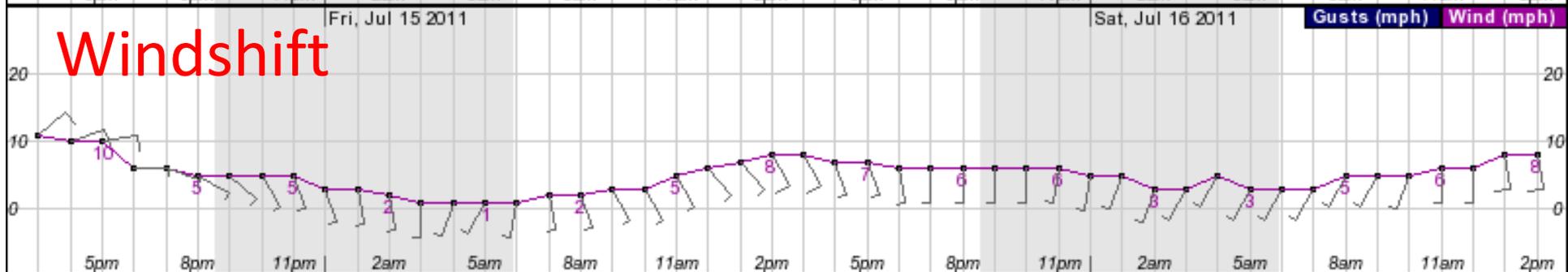
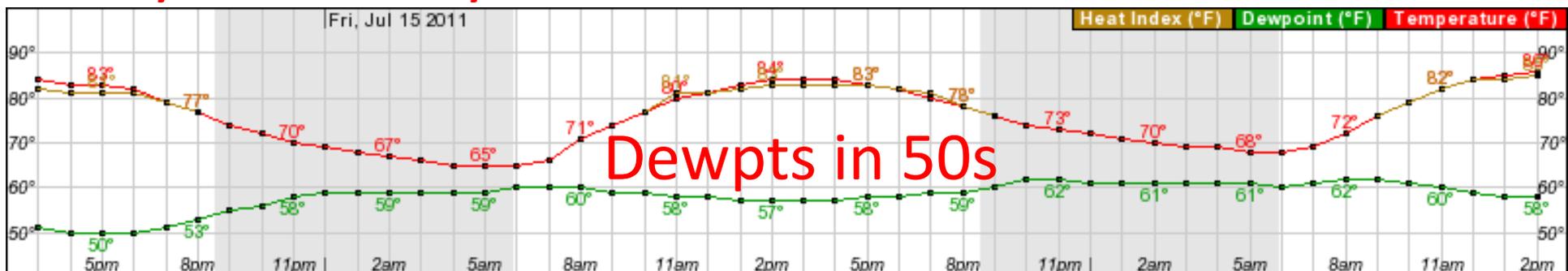
Cold front moved through yesterday – strong storms in area – boundary layer ventilation – Canadian clean air – bizarre DC summer continues.



Pleasant and unusually cool!

Today → Friday →

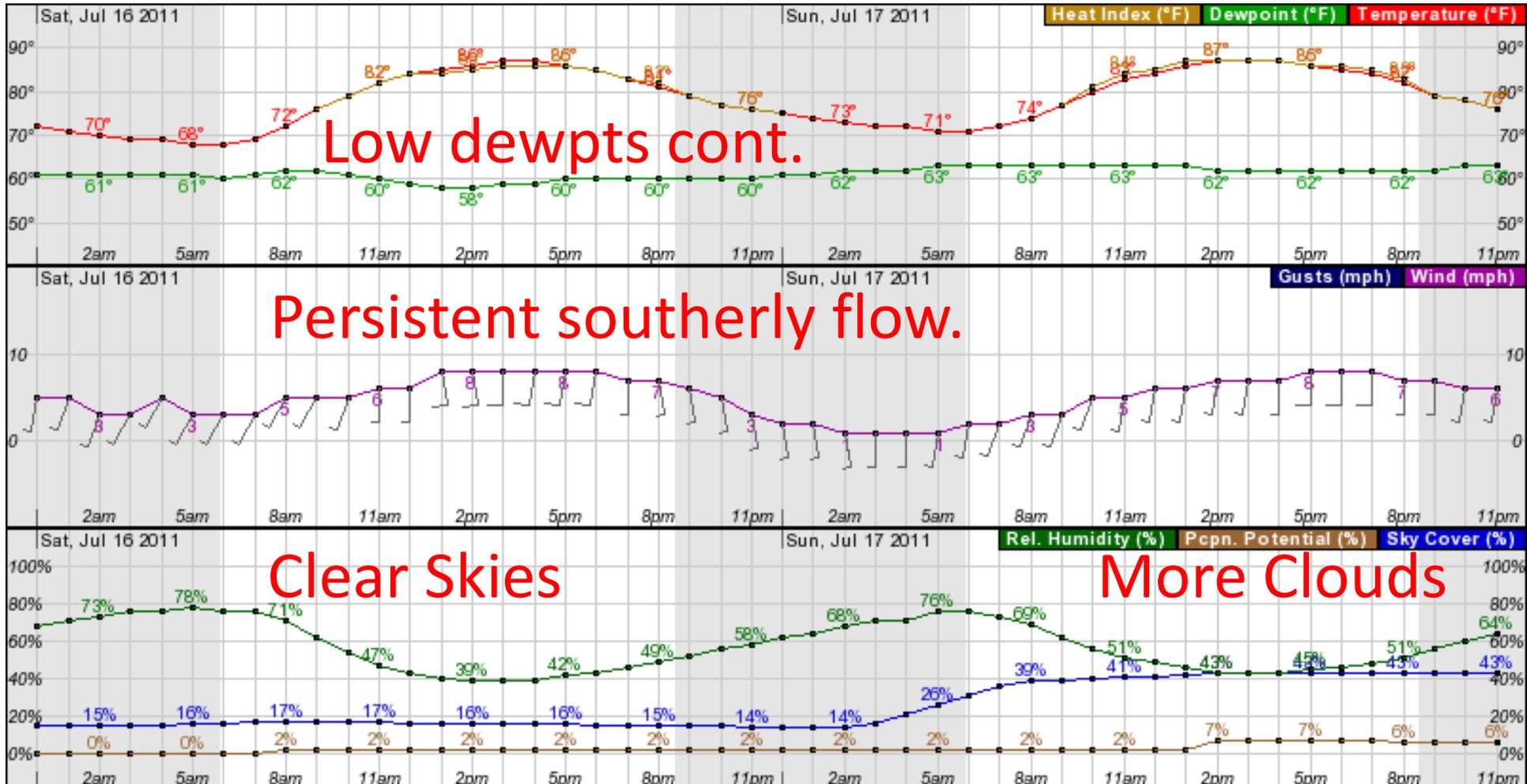
Saturday →



Pleasant still, but a little warmer.

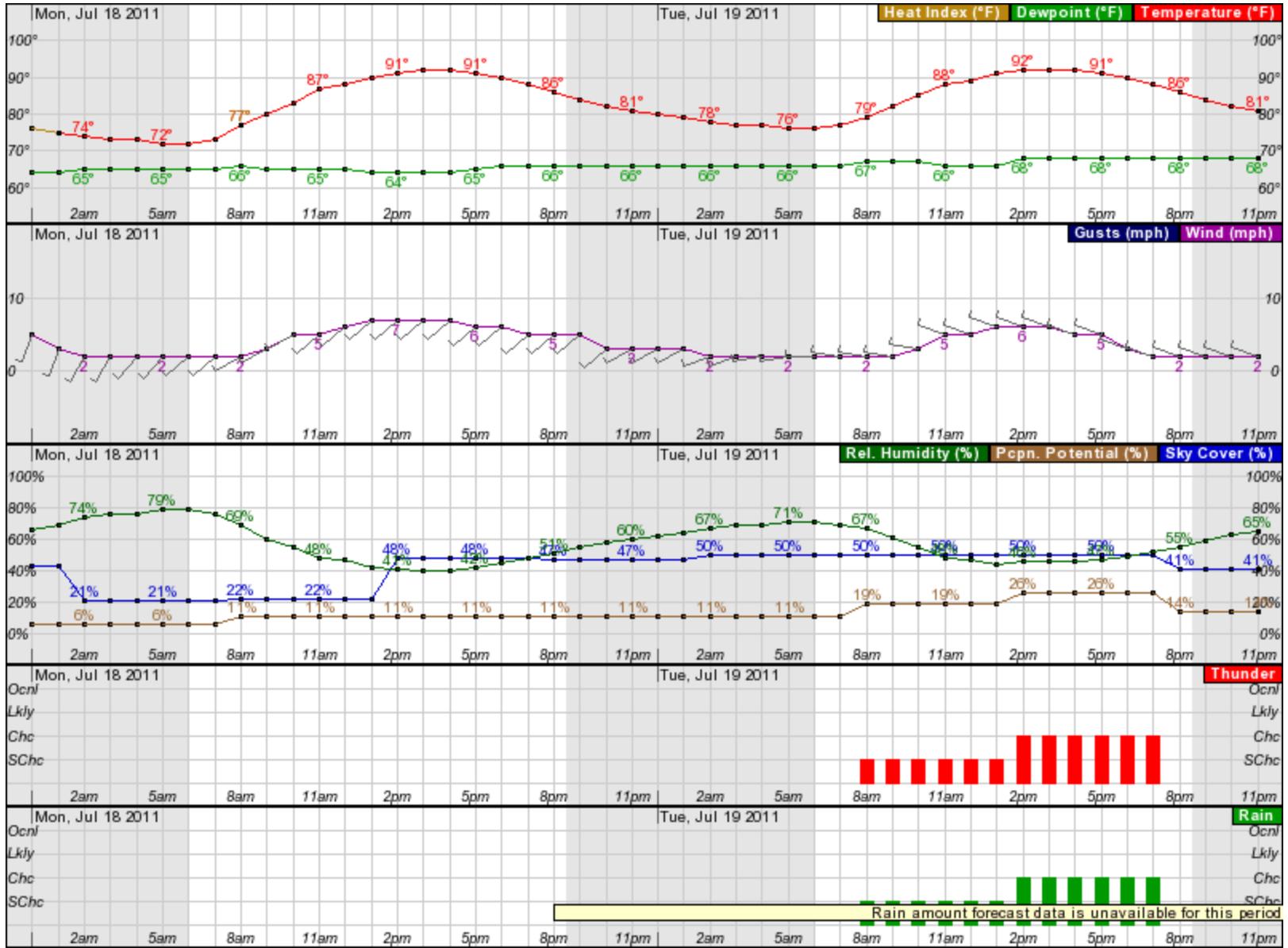
Saturday →

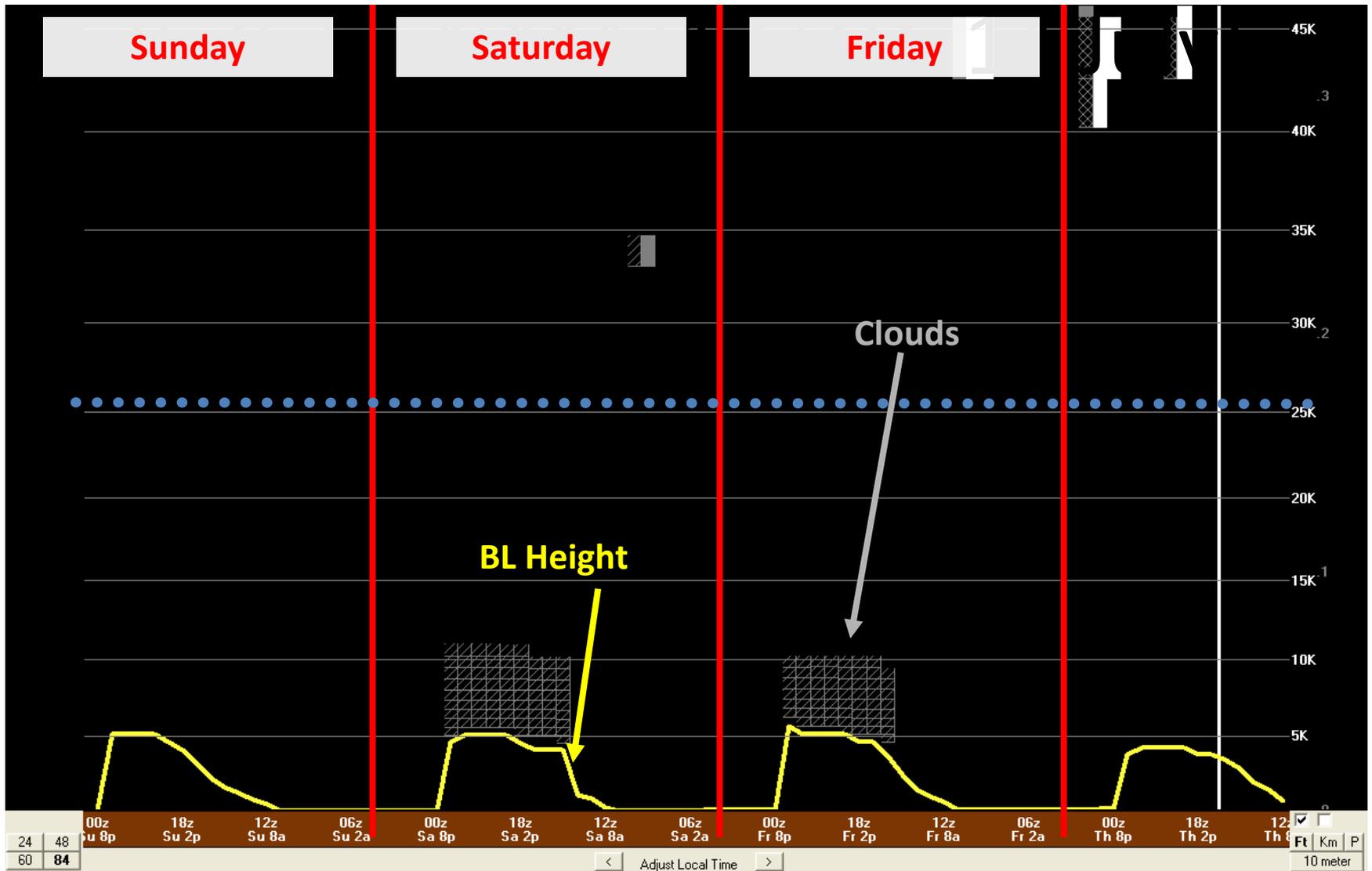
Sunday →



Warming up with dewpoints on the rise.

Monday → Tuesday →



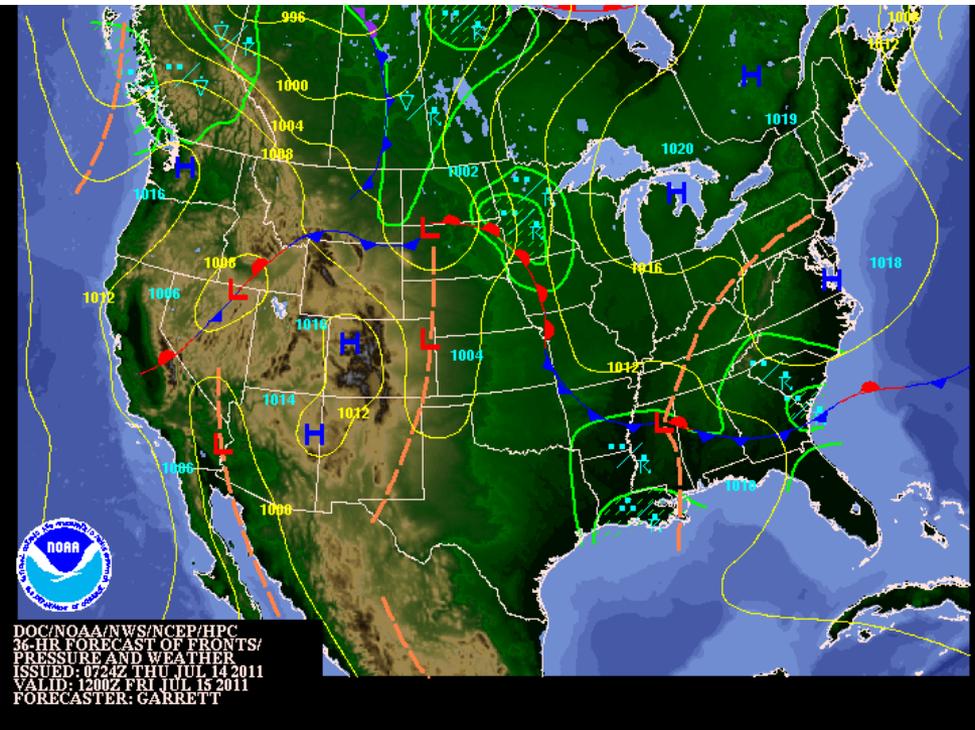


- Scattered Boundary-Layer clouds both Friday and Saturday afternoon

- No precip and generally clear skies

Friday 8 am

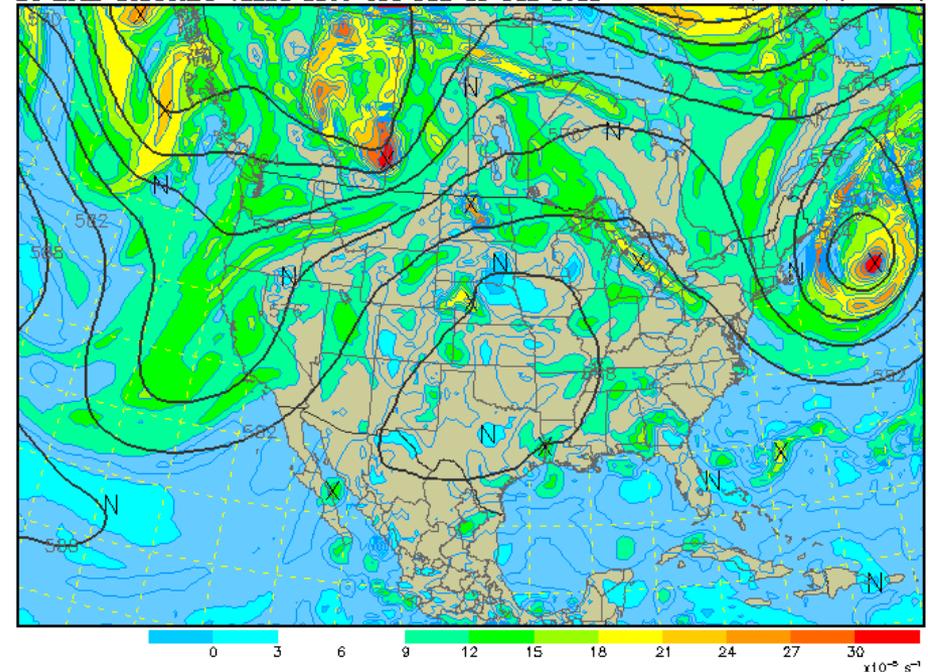
High pressure overhead, with shortwave trough (200 mb) north & west.



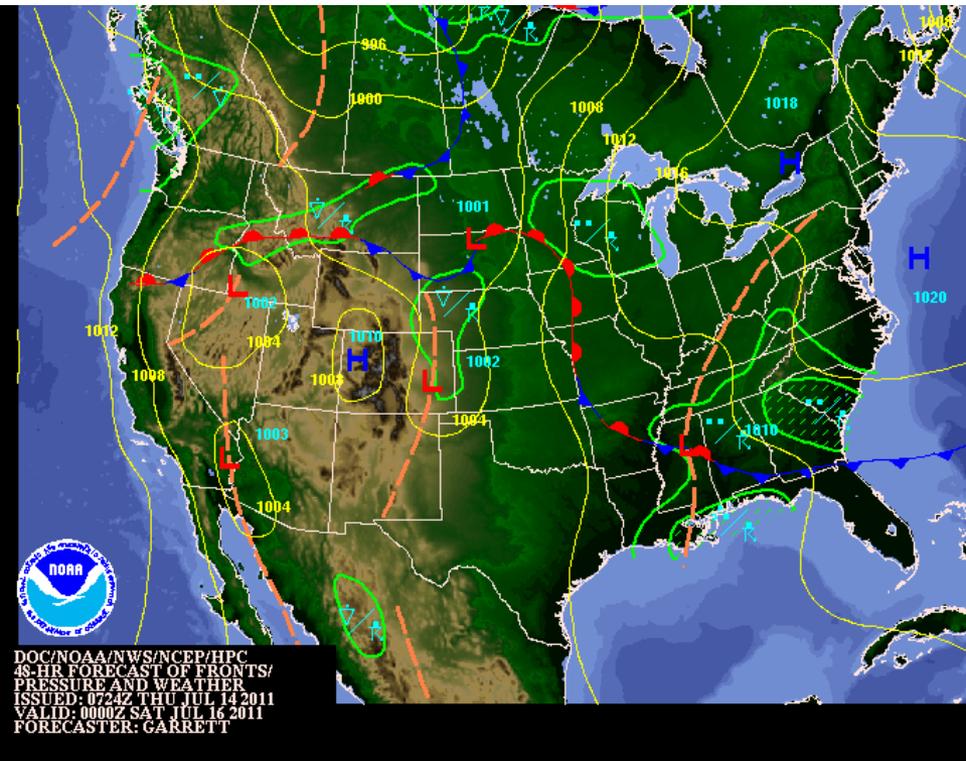
500 mb Heights (dm) / Abs. Vorticity ($\times 10^5 \text{ s}^{-1}$)

24-hour forecast valid 1200 UTC Fri 15 Jul 2011

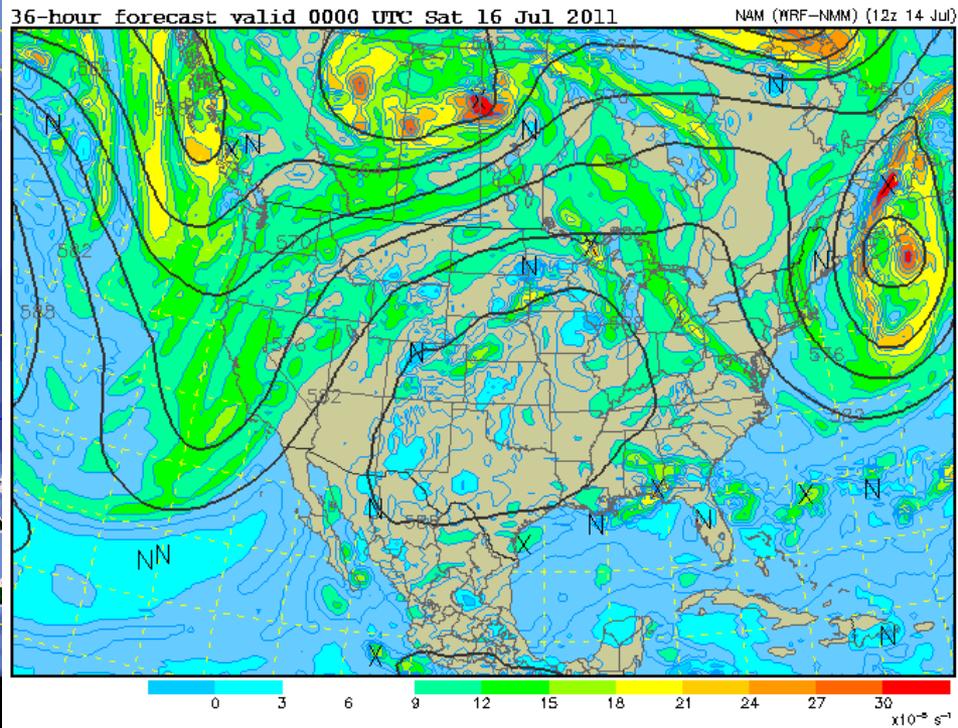
NAM (WRF-NMM) (12z 14 Jul)



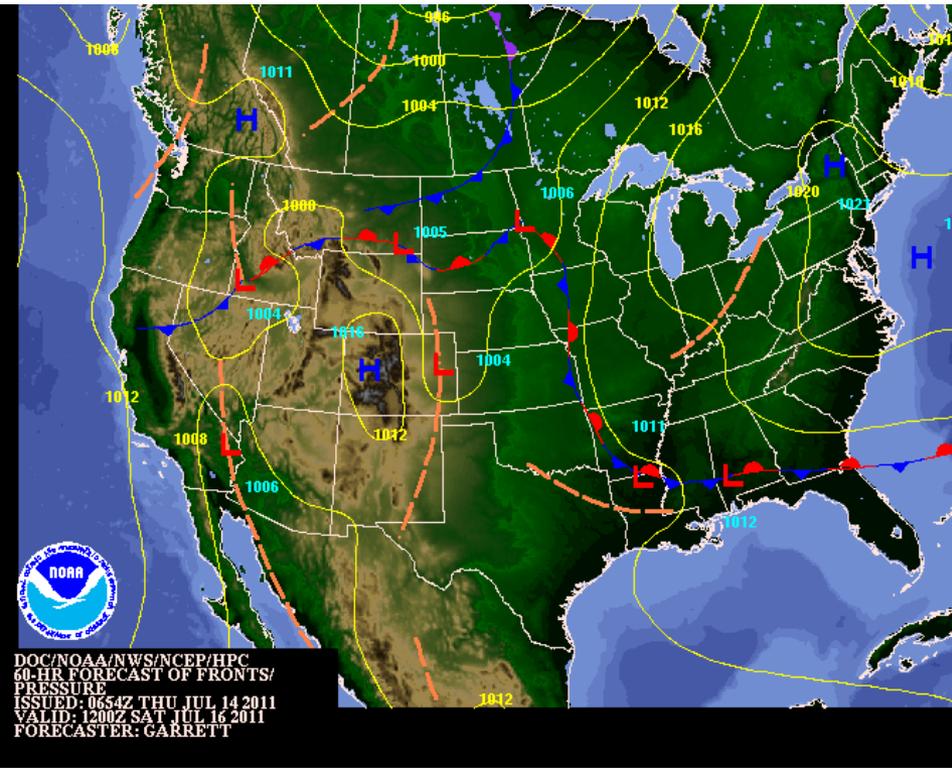
Friday 8 pm – High pressure moves off East coast



500 mb Heights (dm) / Abs. Vorticity ($\times 10^{-5} \text{ s}^{-1}$)



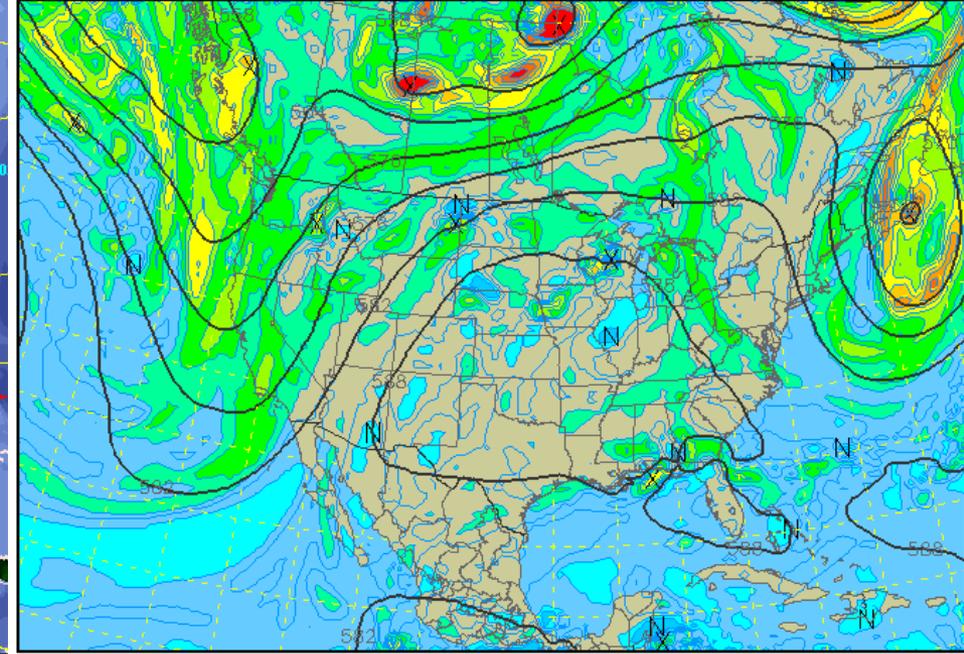
Saturday 8 am



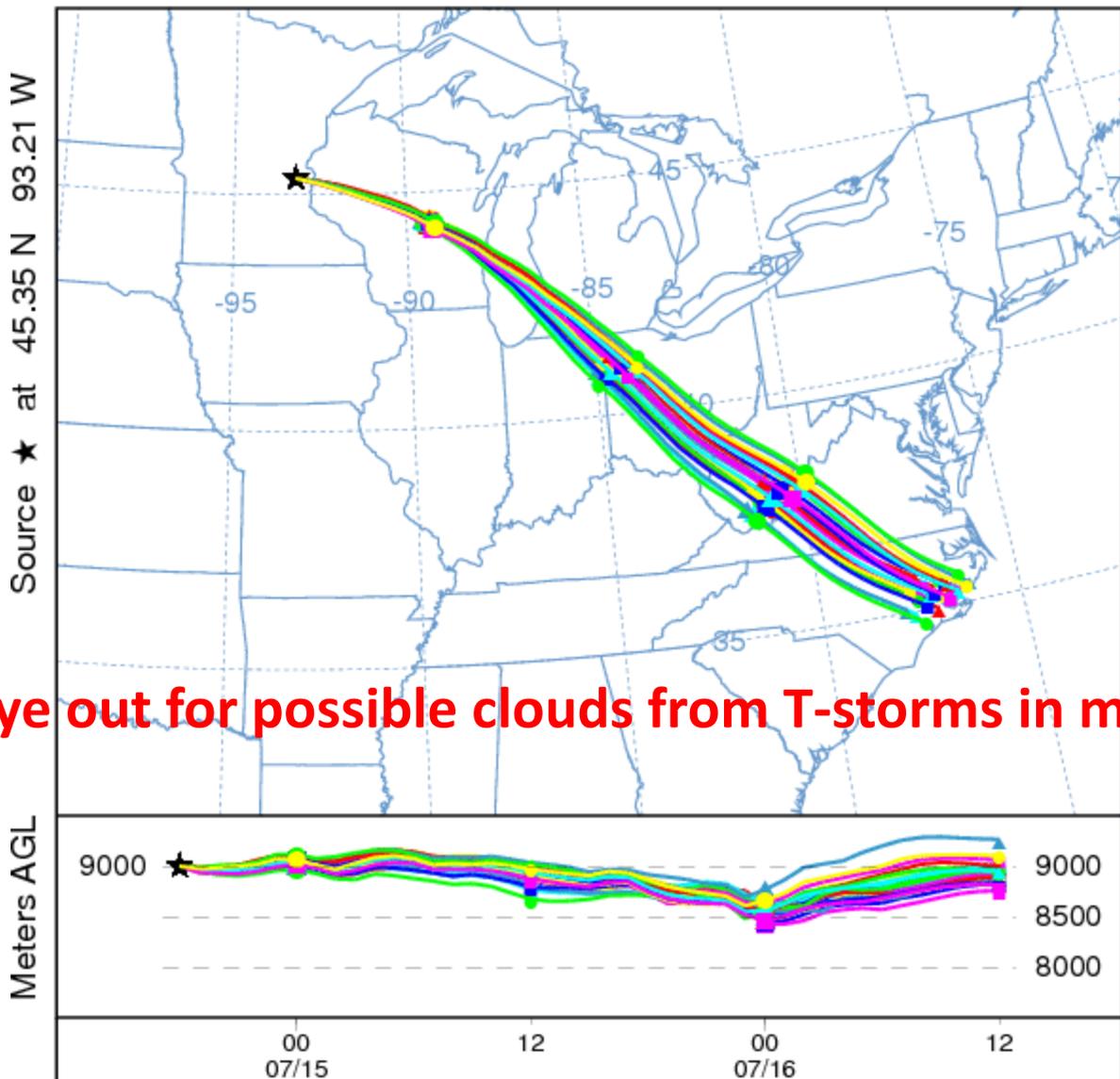
500 mb Heights (dm) / Abs. Vorticity ($\times 10^{-5} \text{ s}^{-1}$)

48-hour forecast valid 1200 UTC Sat 16 Jul 2011

NAM (MRF-NMM) (12z 14 Jul)



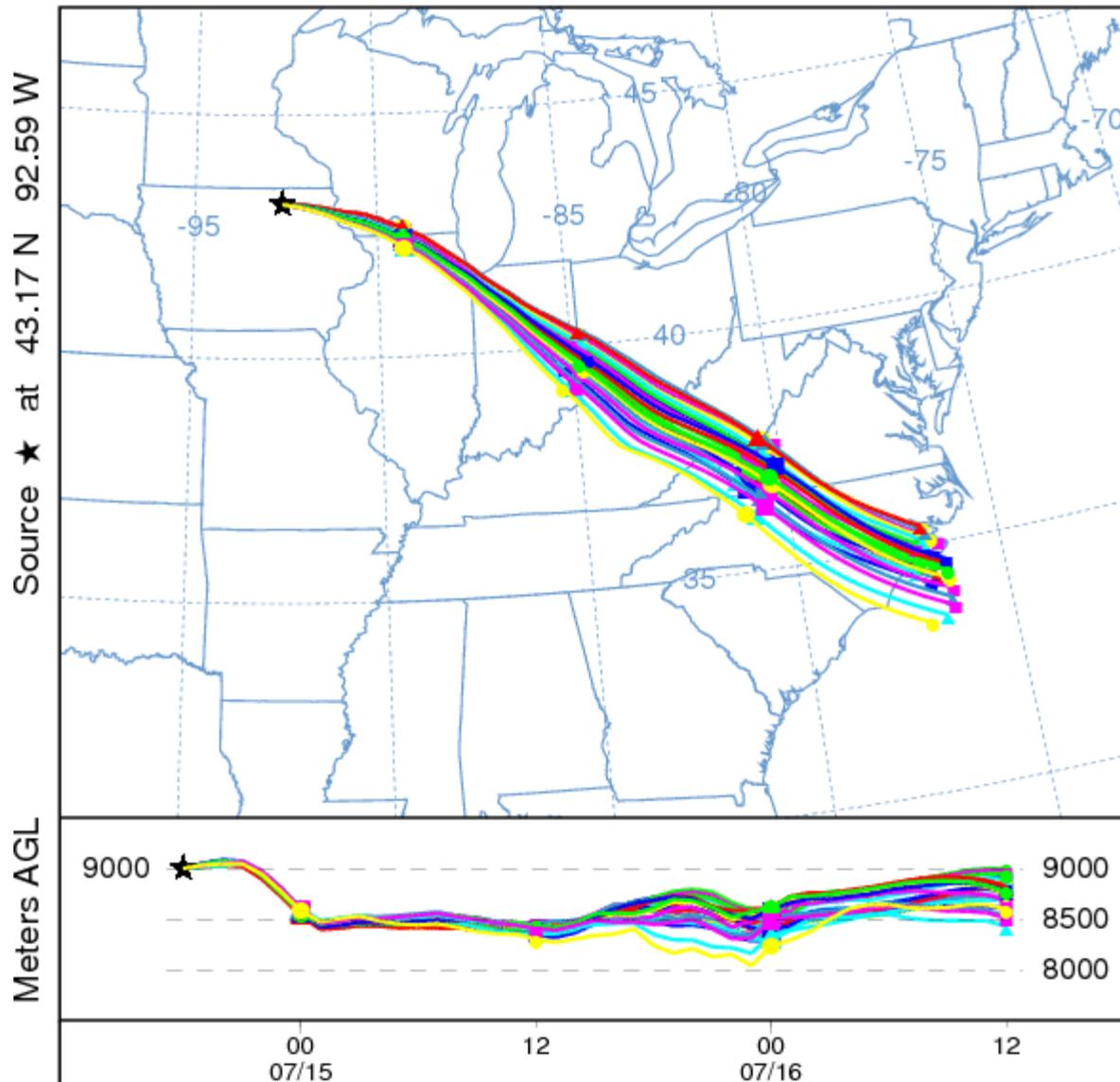
NOAA HYSPLIT MODEL
Forward trajectories starting at 1800 UTC 14 Jul 11
12 UTC 14 Jul NAM Forecast Initialization



Keep an eye out for possible clouds from T-storms in mid-west

This is not a NOAA product. It was produced by a web user.
Job ID: 14597 Job Start: Thu Jul 14 18:55:01 UTC 2011
Source 1 lat.: 45.351116 lon.: -93.208008 height: 9000 m AGL
Trajectory Direction: Forward Duration: 48 hrs
Vertical Motion Calculation Method: Model Vertical Velocity
Meteorology: 1200714 Jul 2011 NAM 12 km

NOAA HYSPLIT MODEL
Forward trajectories starting at 1800 UTC 14 Jul 11
12 UTC 14 Jul NAM Forecast Initialization

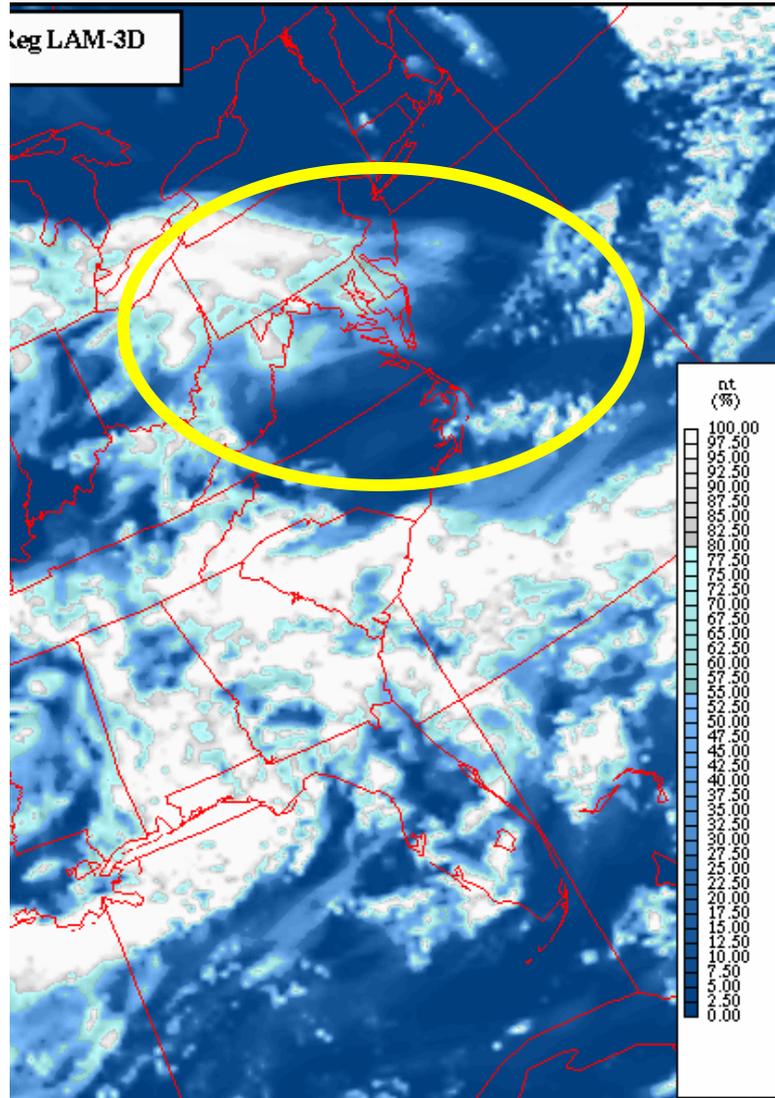


This is not a NOAA product. It was produced by a web user.
Job ID: 11594 Job Start: Thu Jul 14 18:51:54 UTC 2011
Source 1 lat.: 43.172601 lon.: -92.592773 height: 9000 m AGL
Trajectory Direction: Forward Duration: 48 hrs
Vertical Motion Calculation Method: Model Vertical Velocity
Meteorology: 1200Z 14 Jul 2011 NAM 12 km

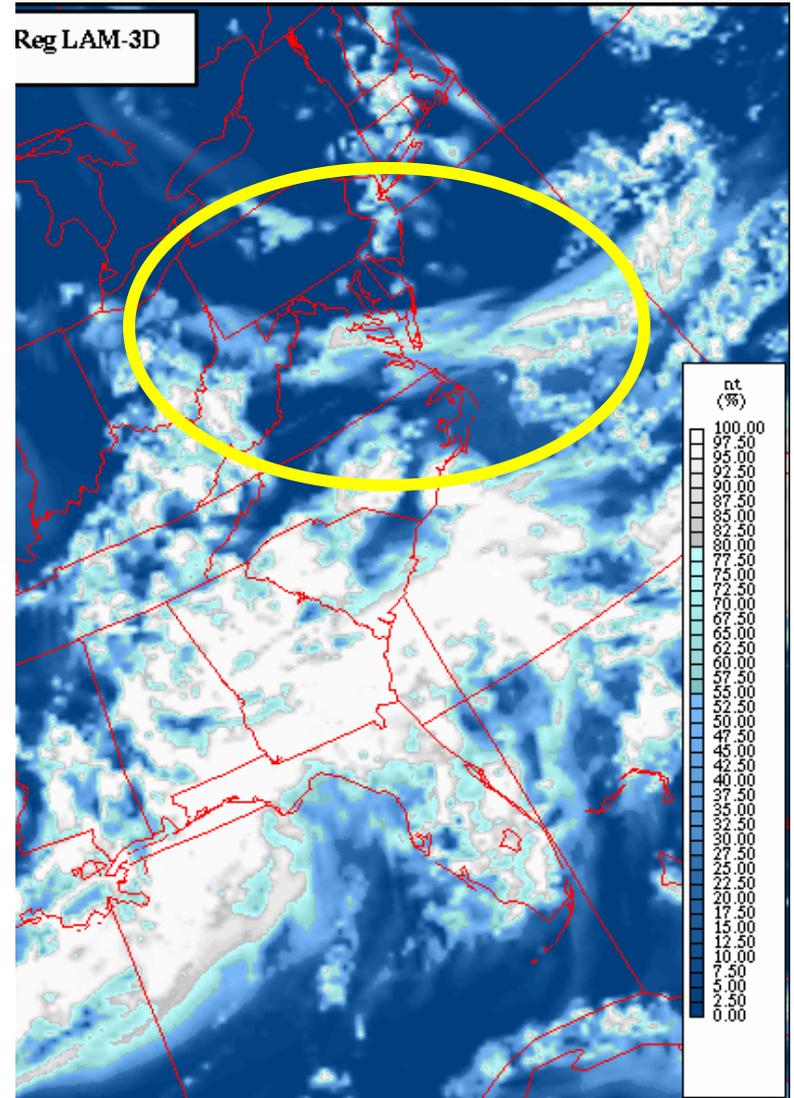
GEM Cloud Cover

Cloudy Friday morning and clearing out by evening

8 am Friday



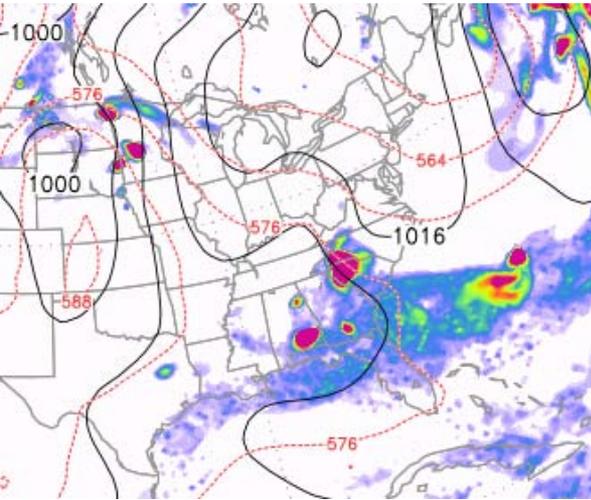
8 pm Friday



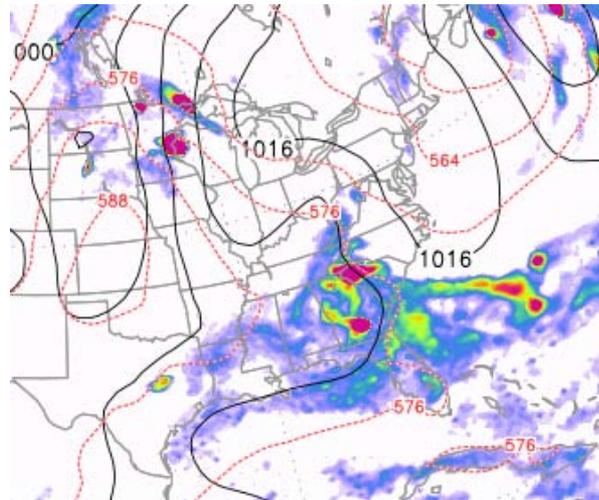
GEOS-5 Forecast

No Precip forecast for Fri & Sat

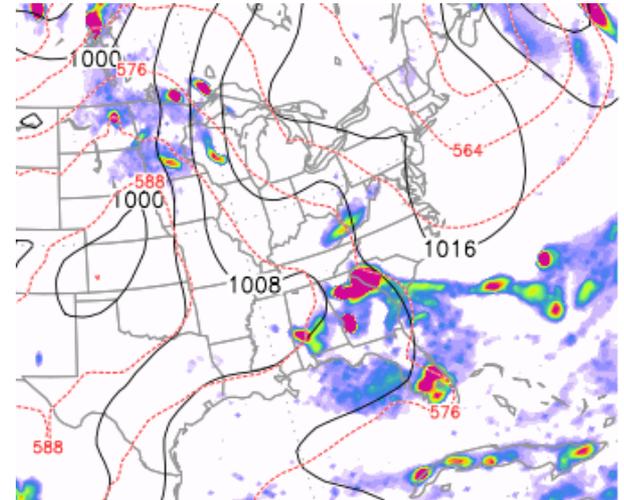
8 am Friday



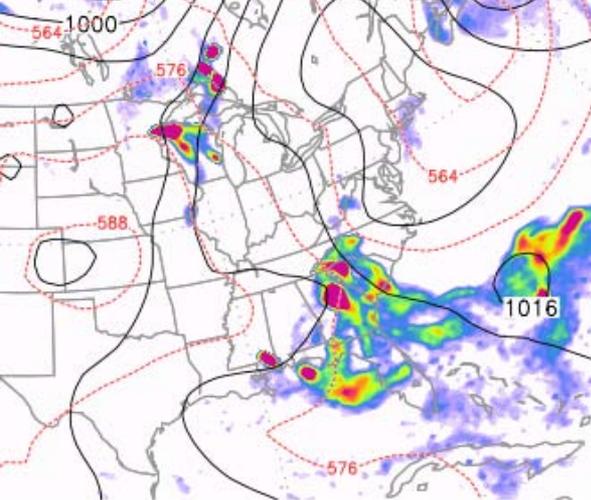
2 pm Friday



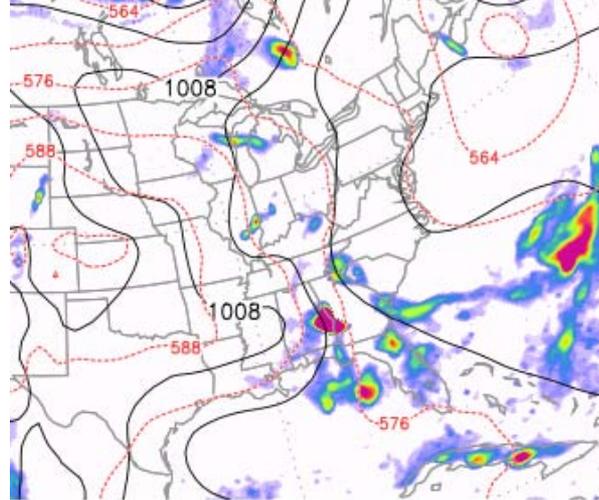
8 pm Friday



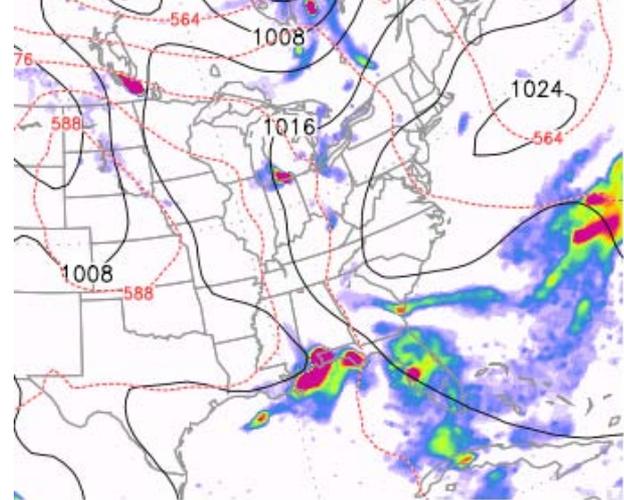
8 am Saturday



8 pm Saturday



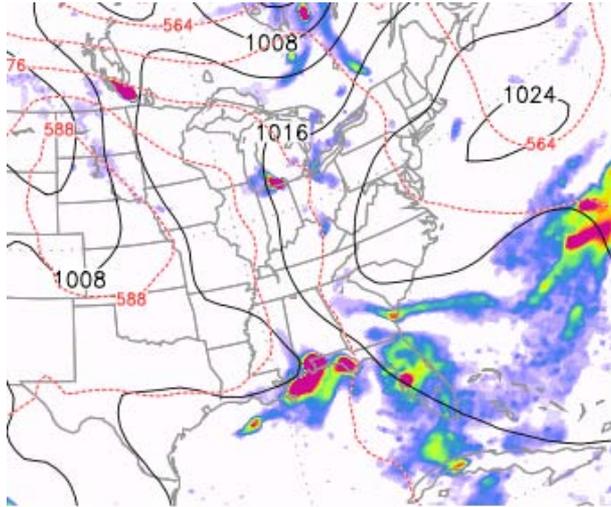
8 am Sunday



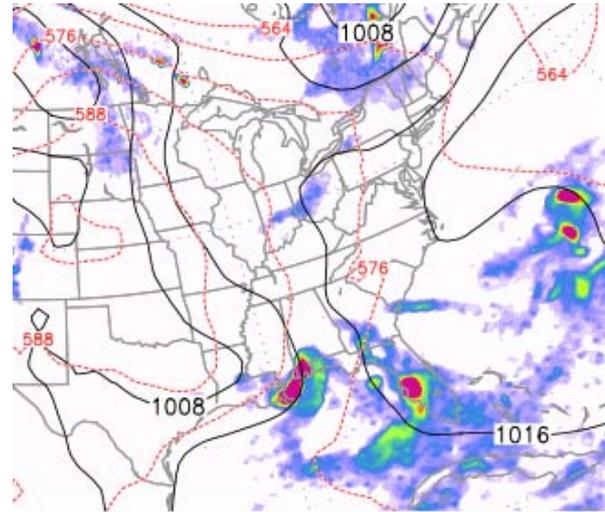
GEOS-5 extended forecast

No precip in forecast for Sun & Mon

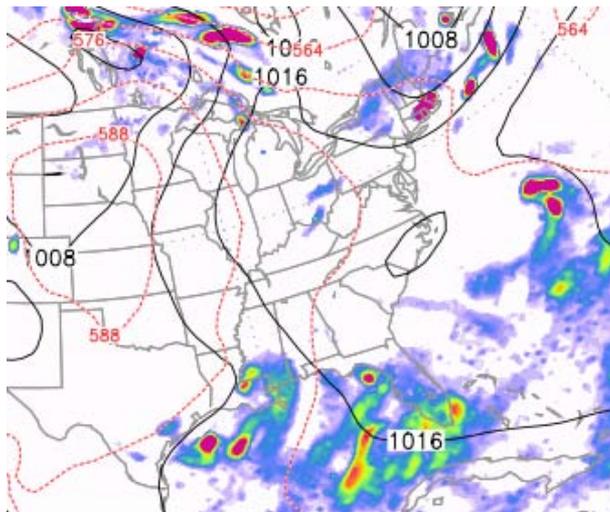
8 am Sunday



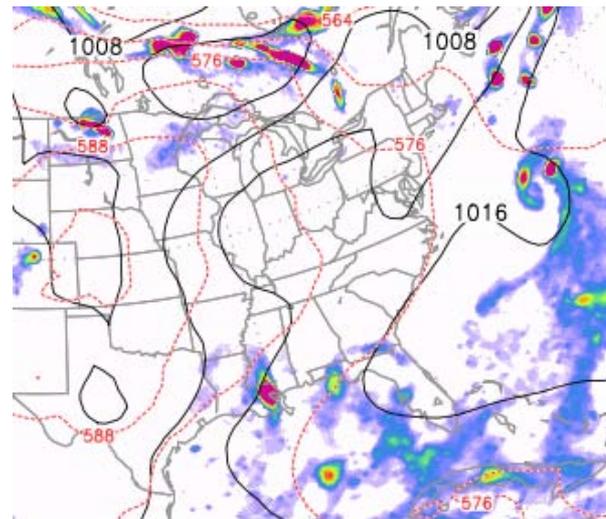
8 pm Sunday



8 am Monday



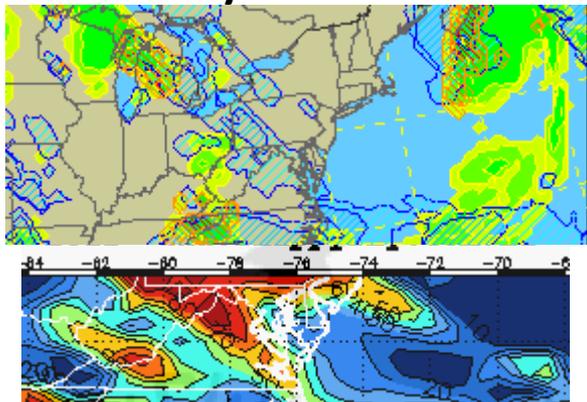
8 pm Monday



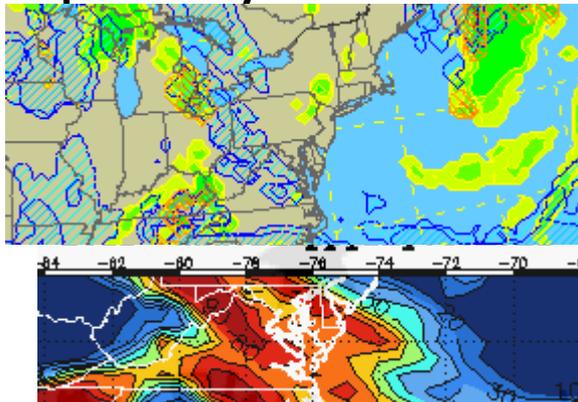
NAM/GFS Cloud Cover

High Cirrus Forecast for Friday morning --- Clear on Saturday

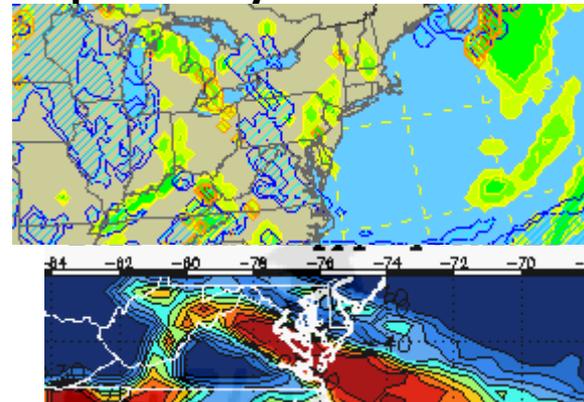
8 am Friday



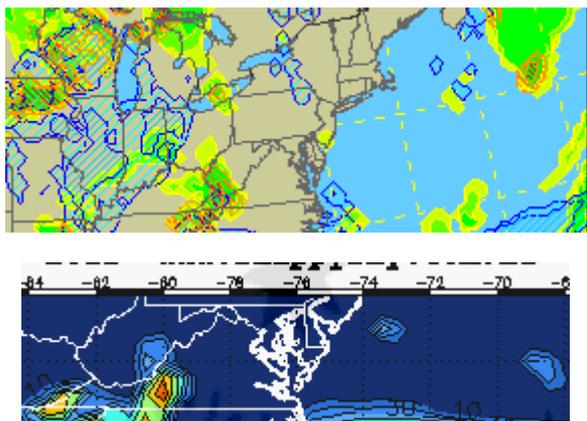
2 pm Friday



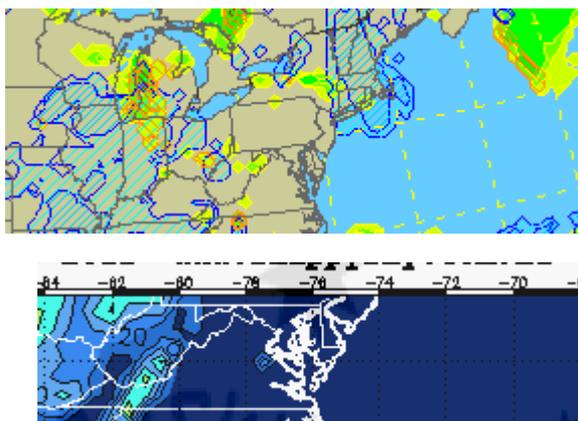
8 pm Friday



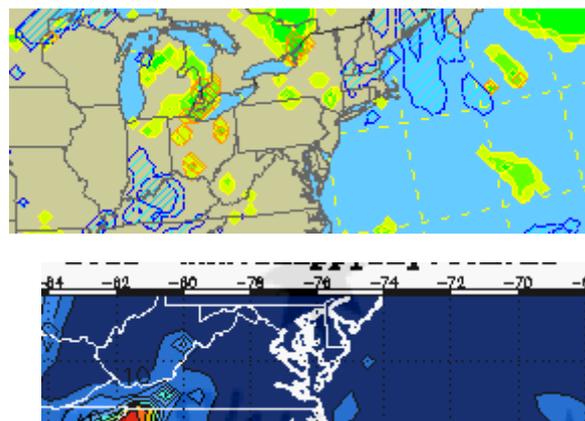
8 am Saturday



8 pm Saturday



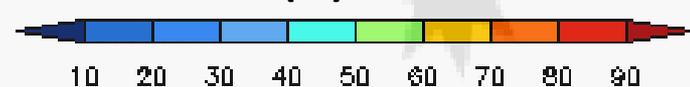
8 am Sunday



Integrated liquid and frozen hydrometeors

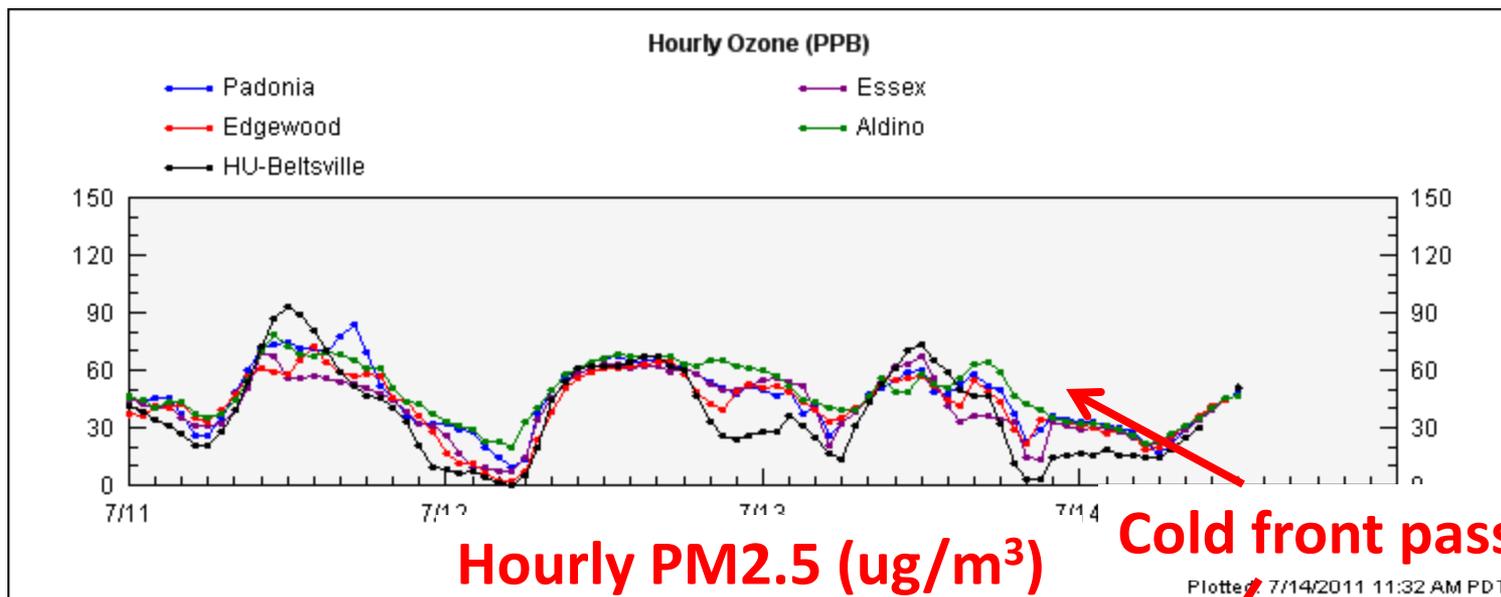


Cloud Cover (%)

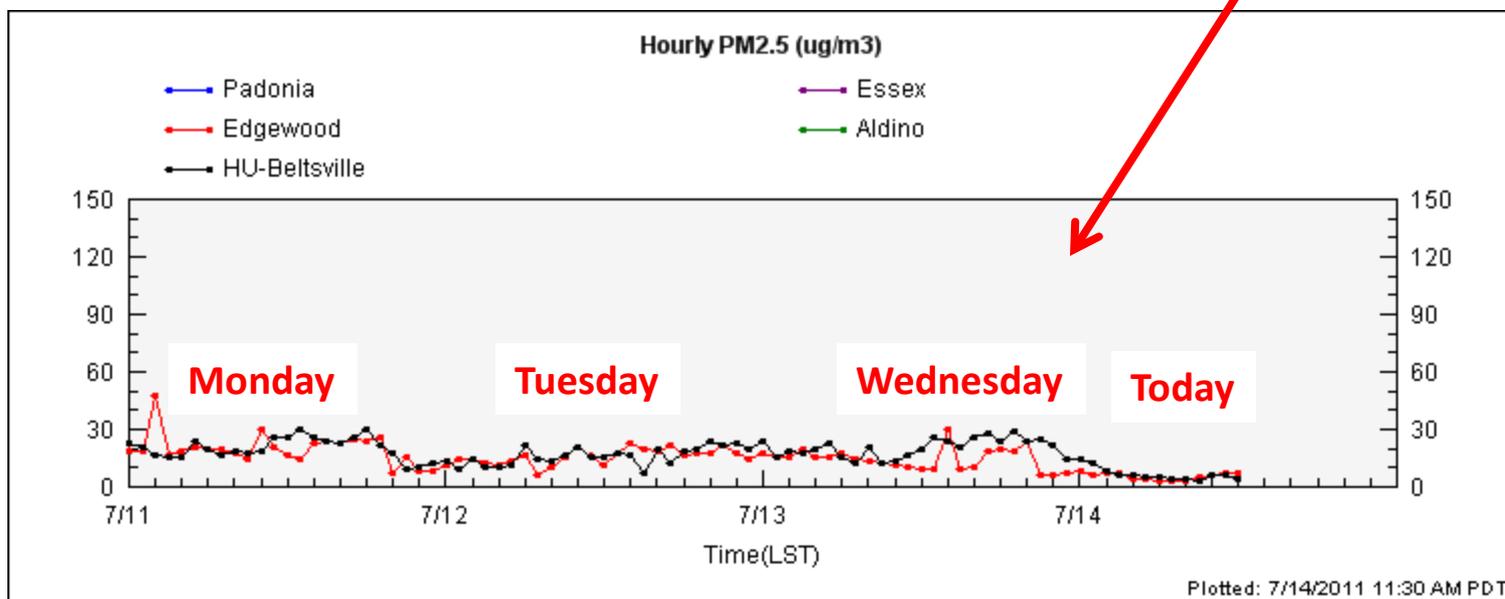


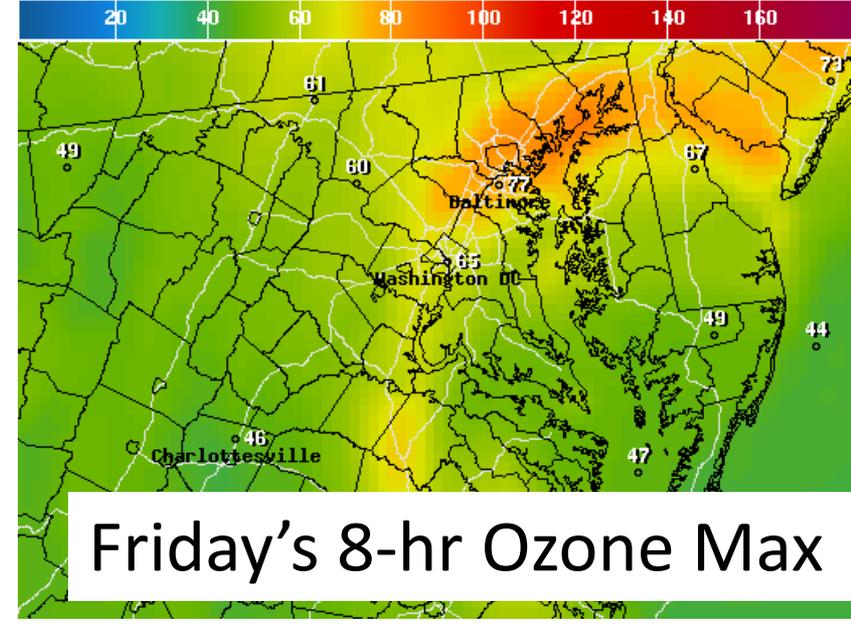
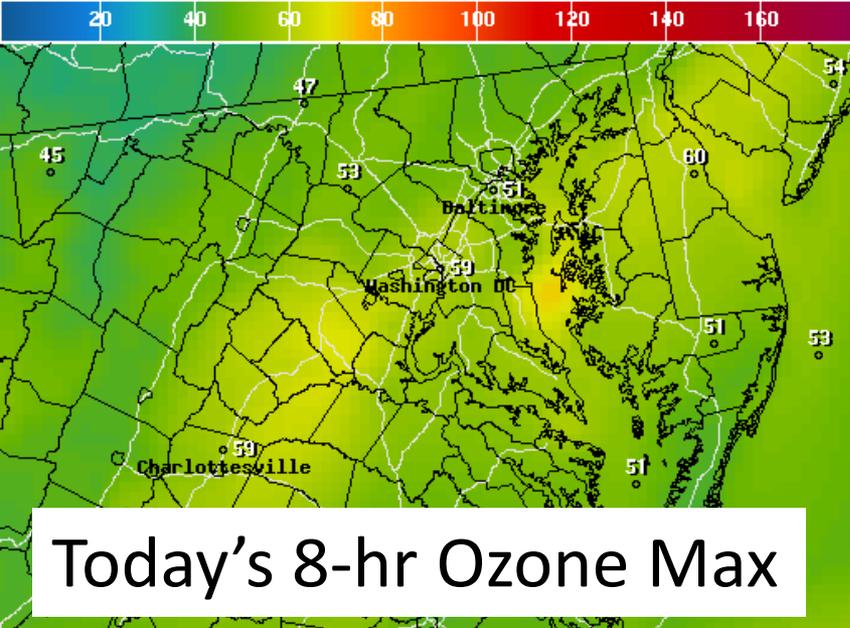
Low AOD today, but Ozone on the rise!

Hourly Ozone (ppbv)

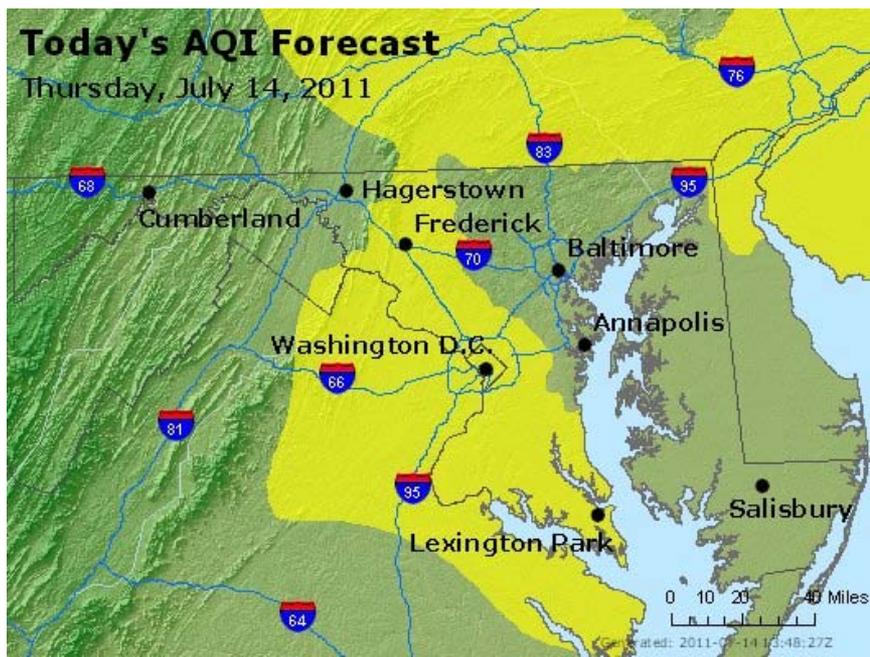
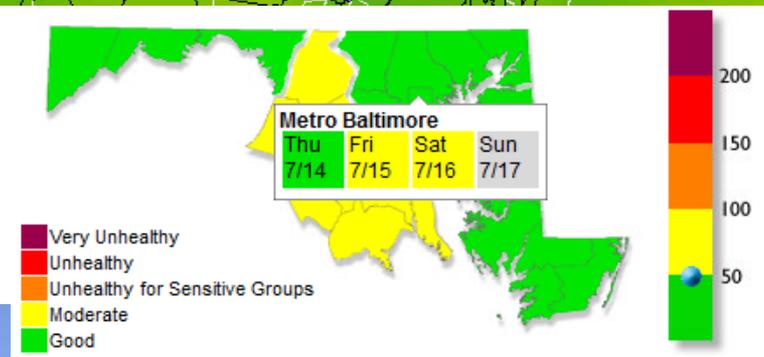


Hourly PM2.5 ($\mu\text{g}/\text{m}^3$)





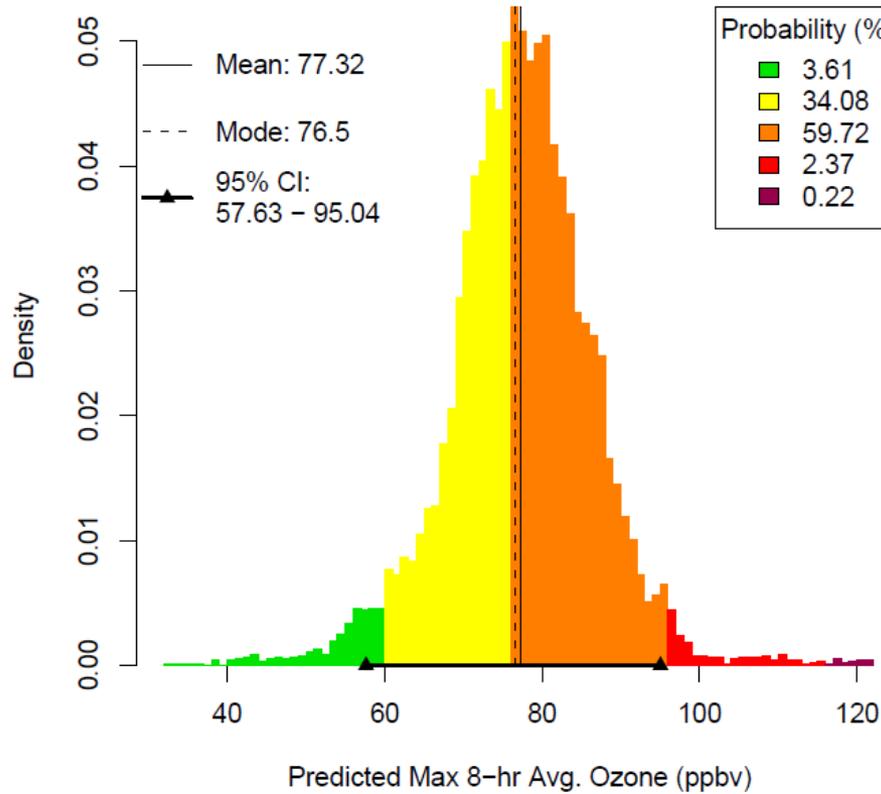
AQ is stupid clean!



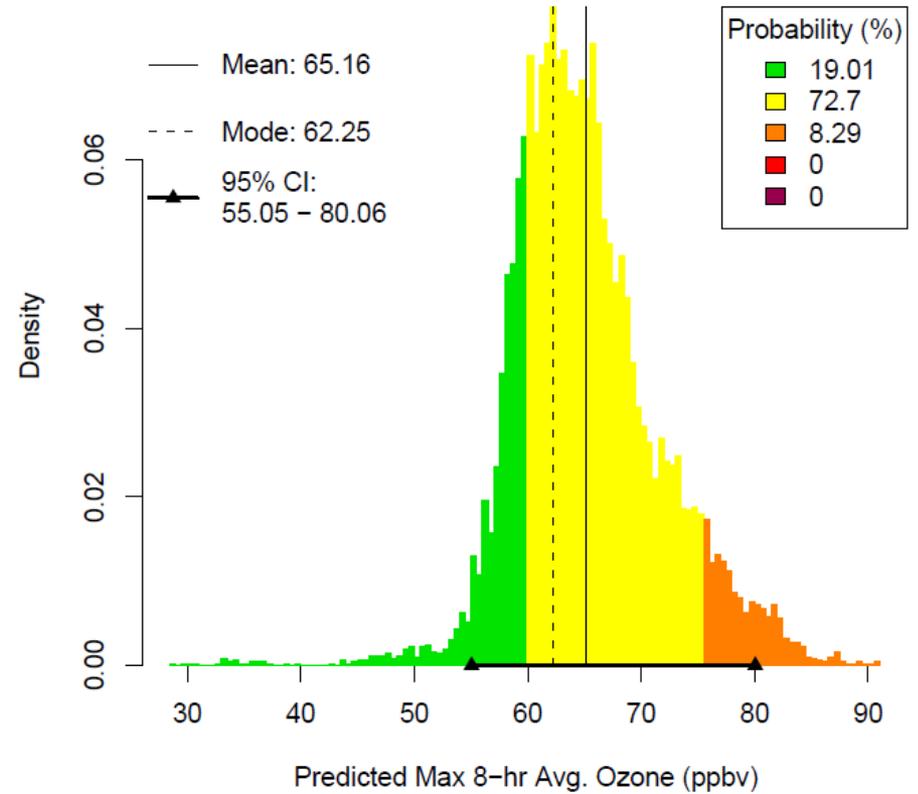
NAQFC-MOS valid for Friday

ID: 240251001 VALID: 2011-07-15

ID: 240330030 VALID: 2011-07-15

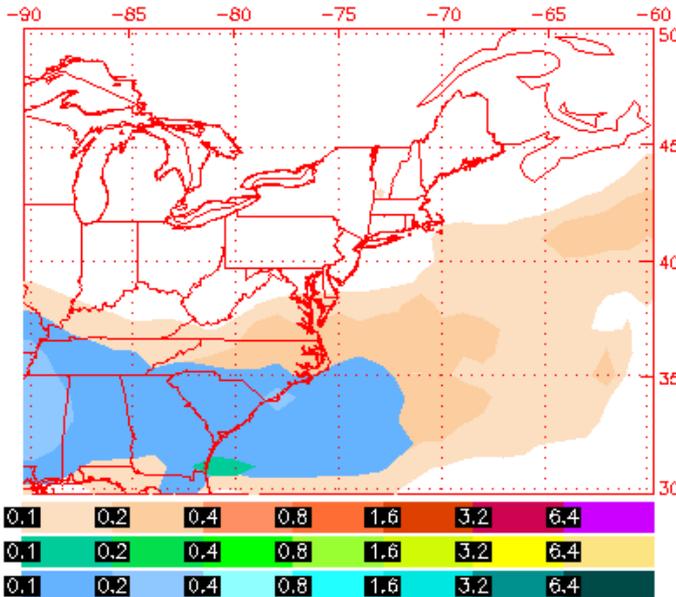


Edgewood

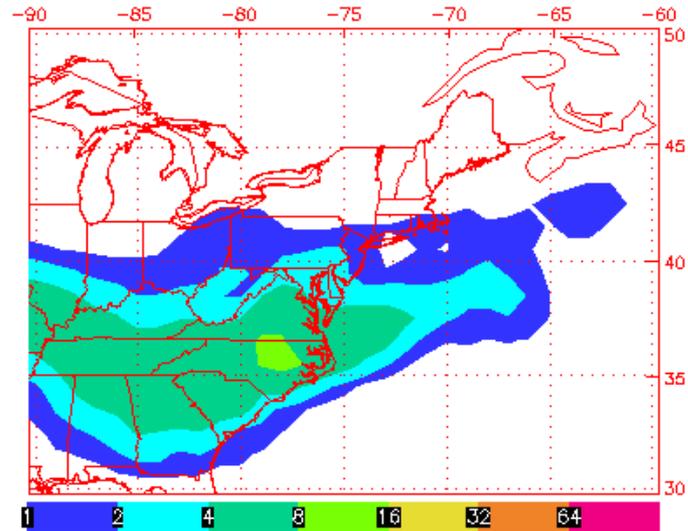


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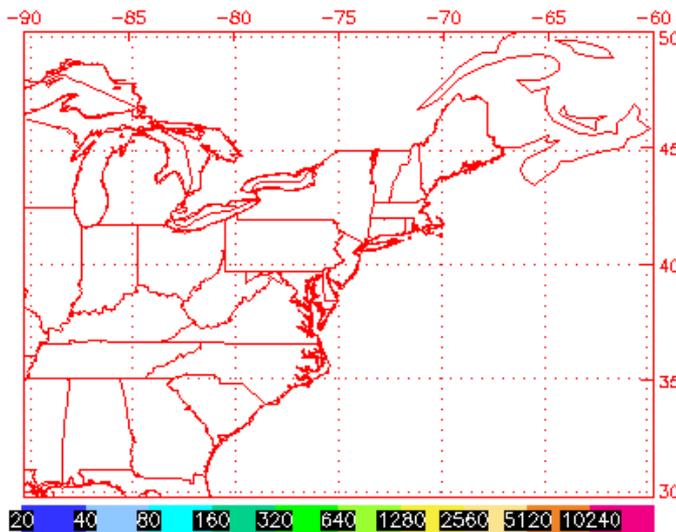
NAAPS Total Optical Depth for 00:00Z 14 Jul 2011
 Sulfate: Orange/Red, Dust: Green/Yellow, Smoke: Blue



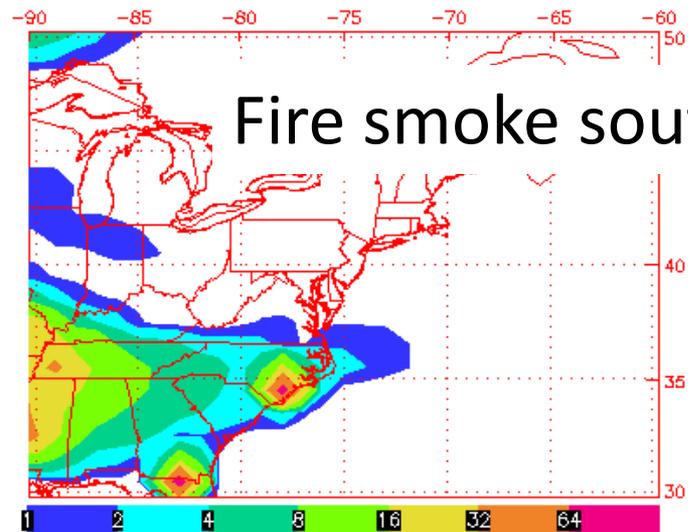
Sulfate Surface Concentration ($\mu\text{g}/\text{m}^3$)
 for 00:00Z 14 Jul 2011



Dust Surface Concentration ($\mu\text{g}/\text{m}^3$)
 for 00:00Z 14 Jul 2011



Smoke Surface Concentration ($\mu\text{g}/\text{m}^3$)
 for 00:00Z 14 Jul 2011



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