

DISCOVER-AQ Outlook for Friday, July 1, 2011 Flights

Friday will still be dominated by relatively clean northwesterly flow at low levels. However, winds will be light as the center of the large high pressure area moves over us during the day. This will allow possible bay breeze conditions to develop due to strong surface heating over land during the afternoon. The bay breeze will be conducive for pollutant buildup along the western shore of the Chesapeake Bay. Expect surface ozone in the upper good (Code Green, 8-hr max ozone <60 ppbv) to lower moderate range (Code Yellow, 8-hr max ozone 60-75 ppbv). Some locations along the Bay could exceed 75 ppbv. With low relative humidity on Friday, aerosol optical depth will still likely be low. Clear skies with a few scattered clouds are expected throughout the day. Recommendation is to fly.

Recommendations for June 30th-July 5th:

Fri., July 1: **Fly** -- NW winds, still relatively clean

Sat., July 2: **Fly, hot** -- possible high clouds in
afternoon

Sun., July 3: **No Fly, hot** -- likely > 50% cloud cover

Mon., July 4: **Perhaps Fly, hot**

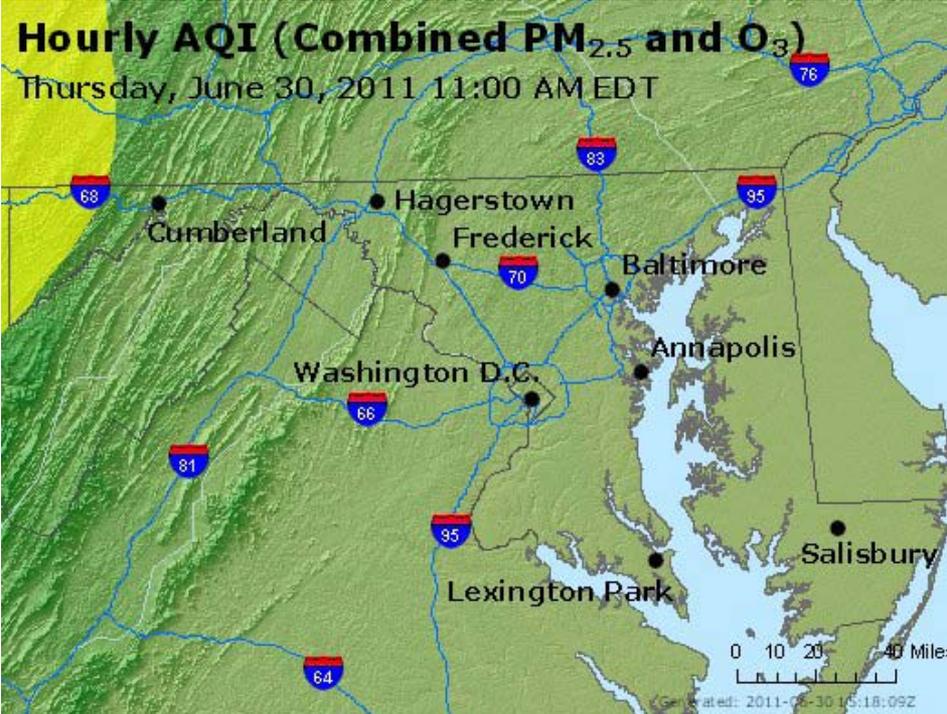
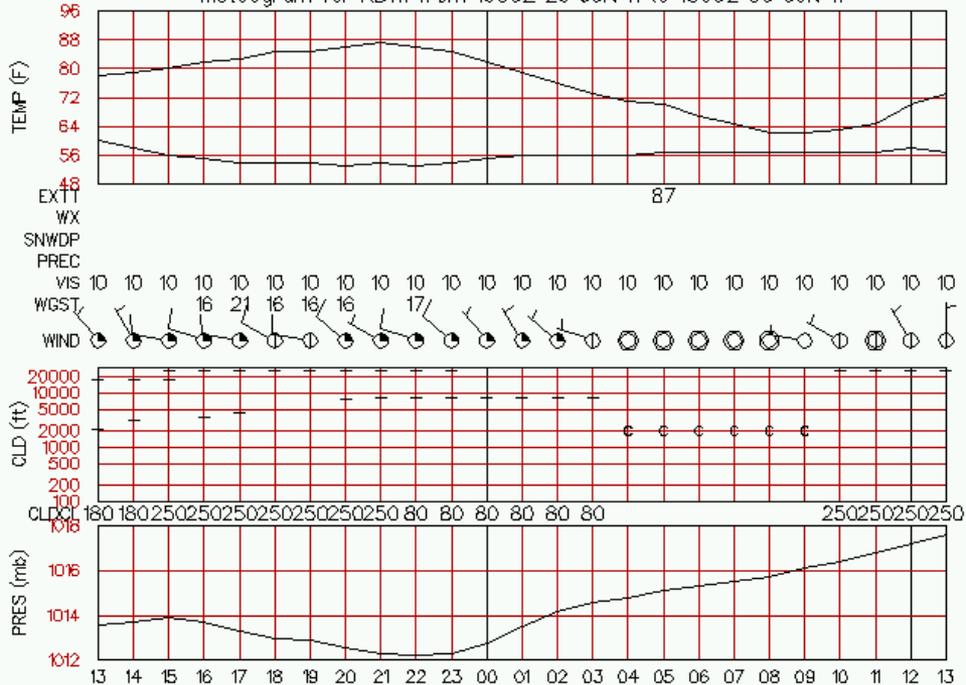
Tues., July 5: **Perhaps No Fly - clouds** Clare Flynn

June 30, 2011

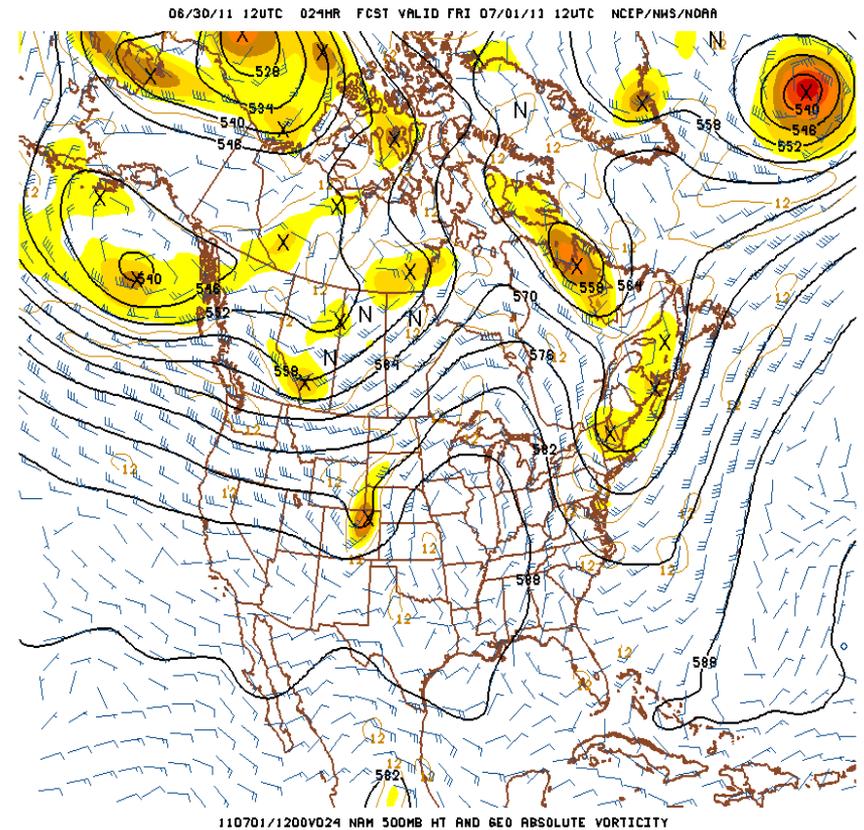
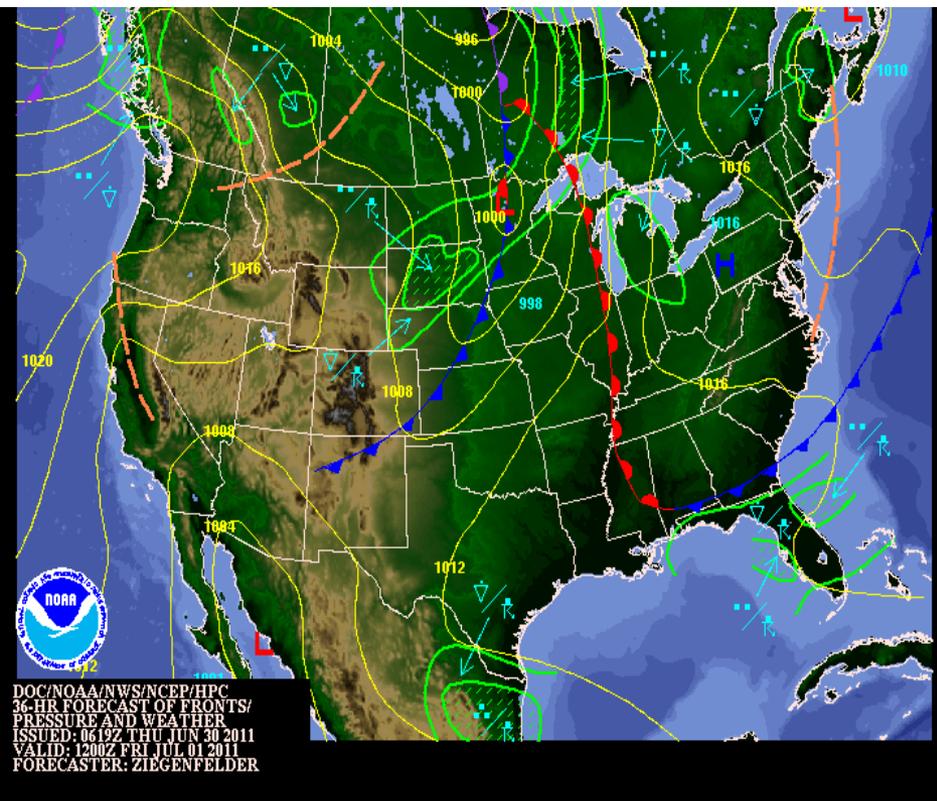
- Current conditions at BWI at 11:00am
 - Good air quality
 - Clear skies, low humidity, 78°, calm winds, 1017mb

Plymouth State Weather Center

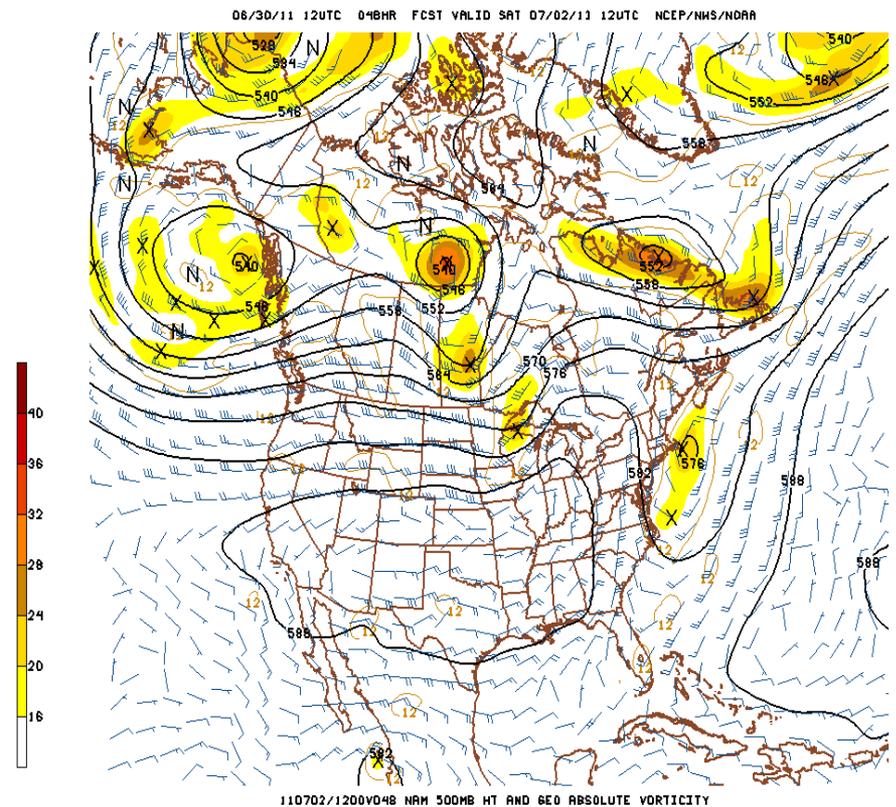
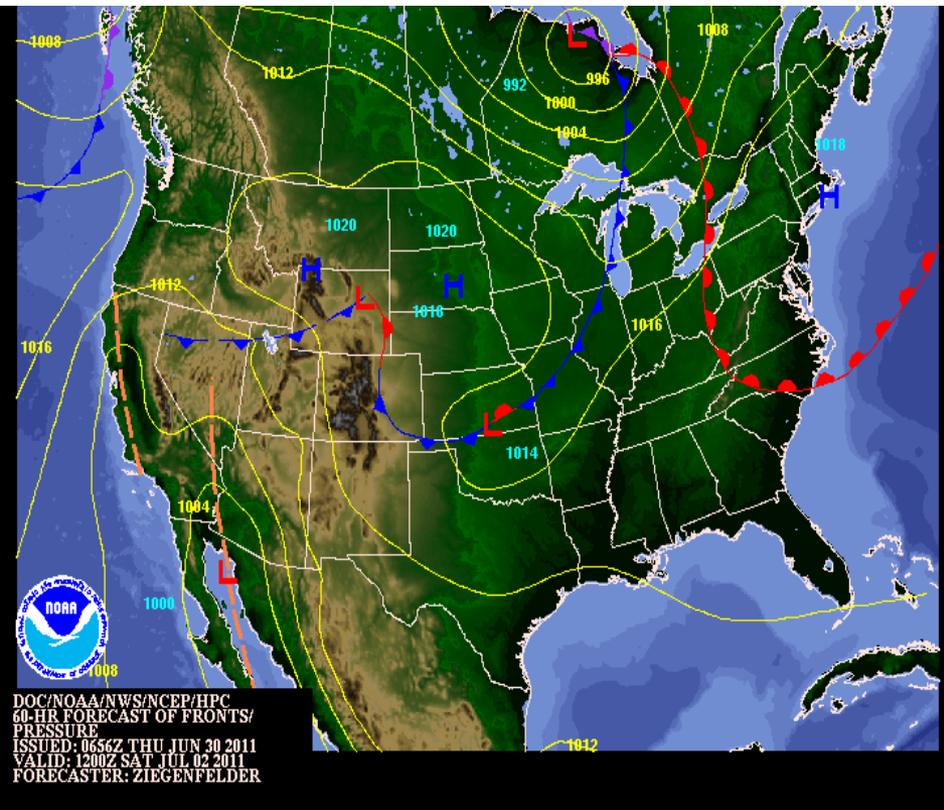
Meteorgram for KBWI from 1300Z 29 JUN 11 to 1300Z 30 JUN 11



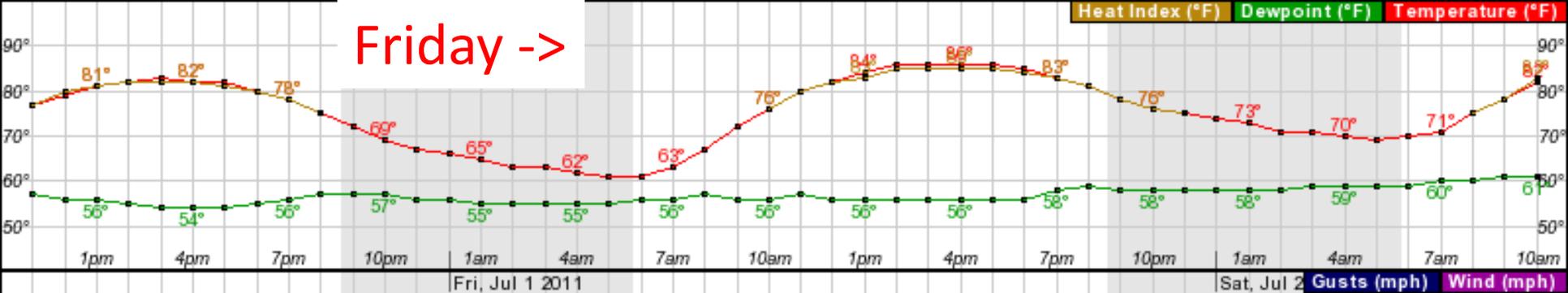
Friday: Clear and calm under high pressure



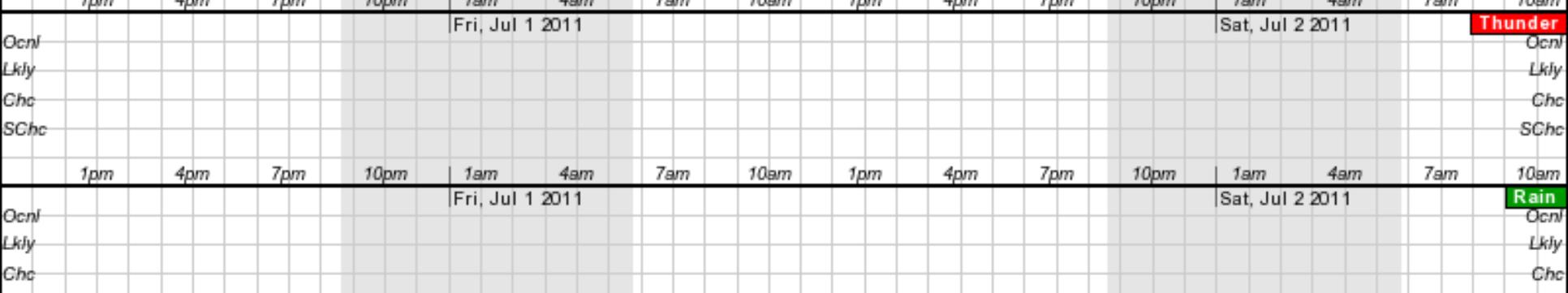
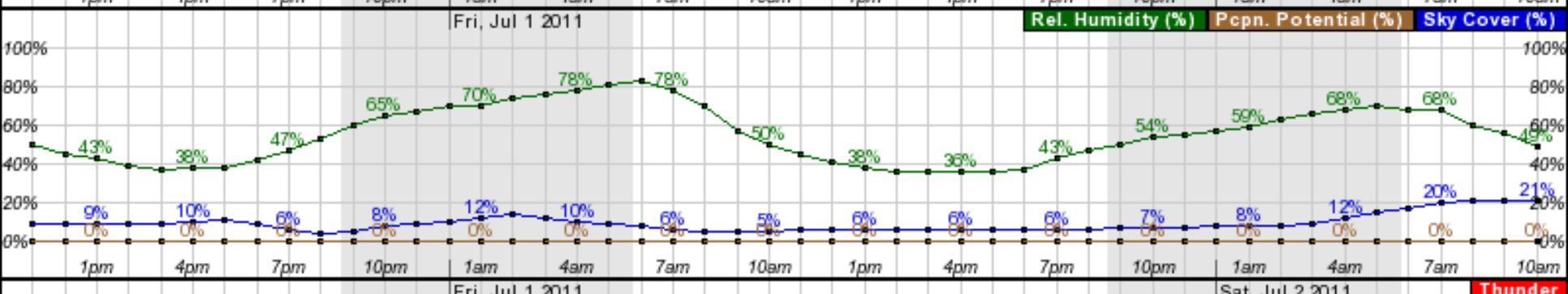
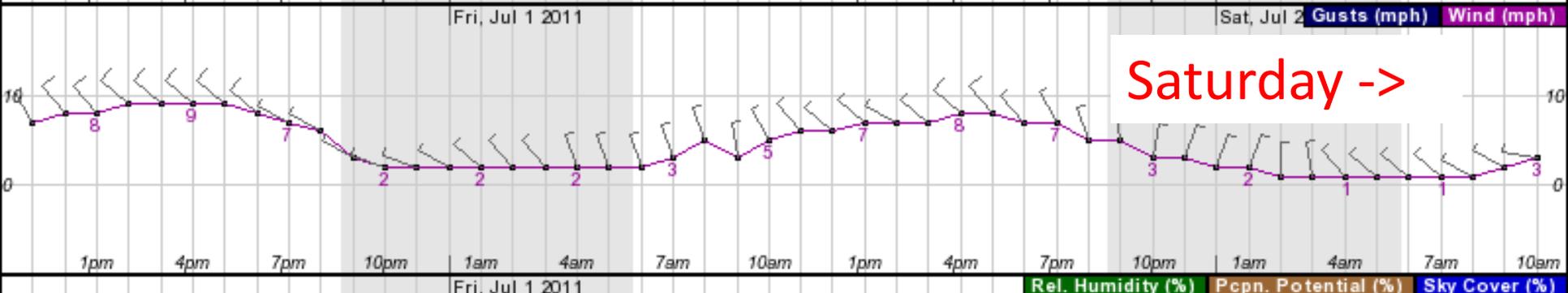
Saturday: Clear under influence of high pressure offshore



Friday ->

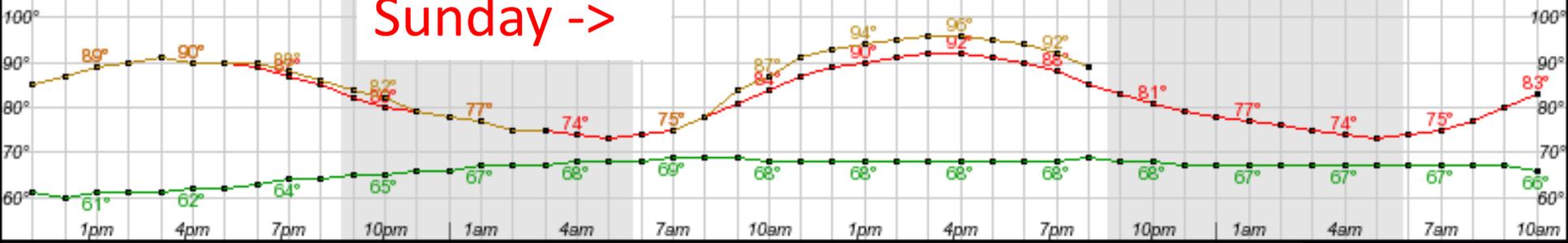


Saturday ->



Sunday ->

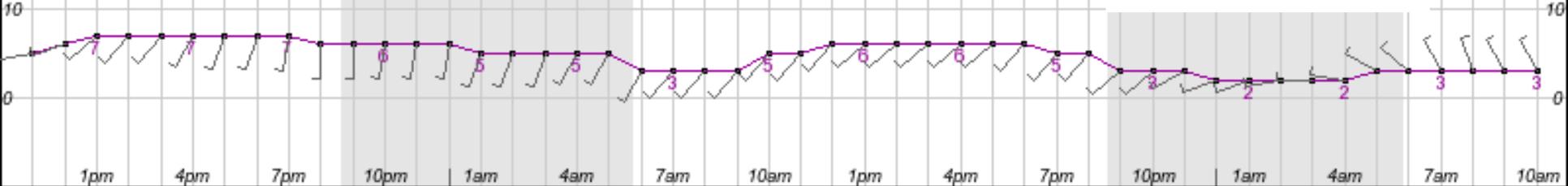
Heat Index (°F) Dewpoint (°F) Temperature (°F)



Sun, Jul 3 2011

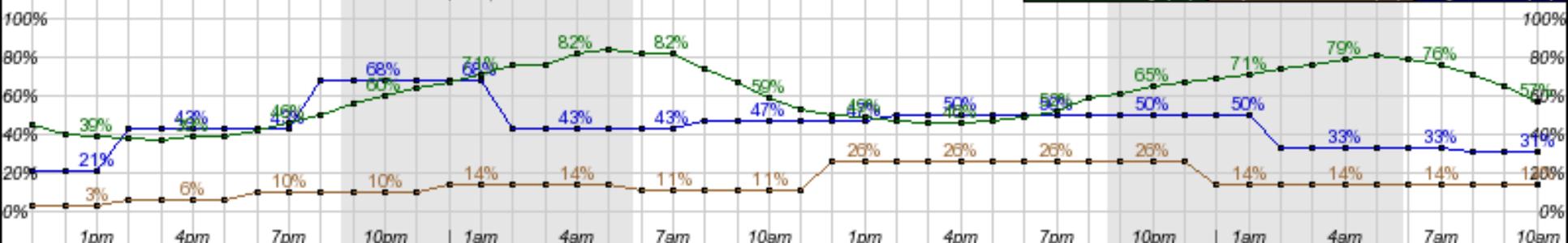
Wind (mph)

Monday ->



Sun, Jul 3 2011

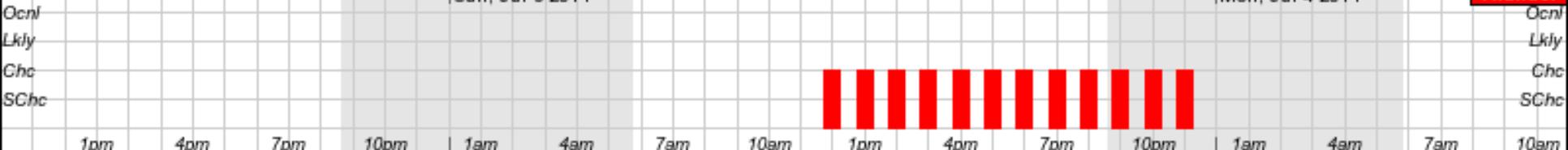
Rel. Humidity (%) Pcpn. Potential (%) Sky Cover (%)



Sun, Jul 3 2011

Mon, Jul 4 2011

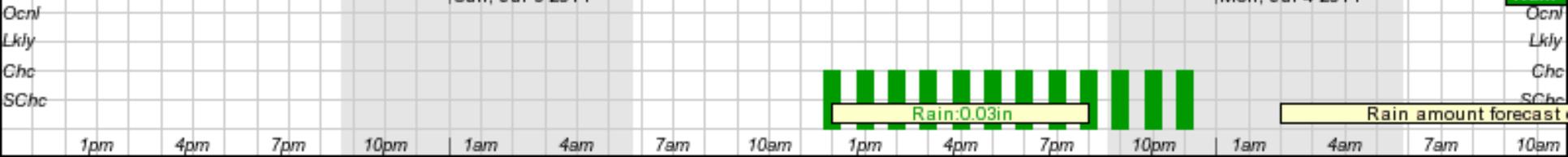
Thunder



Sun, Jul 3 2011

Mon, Jul 4 2011

Rain



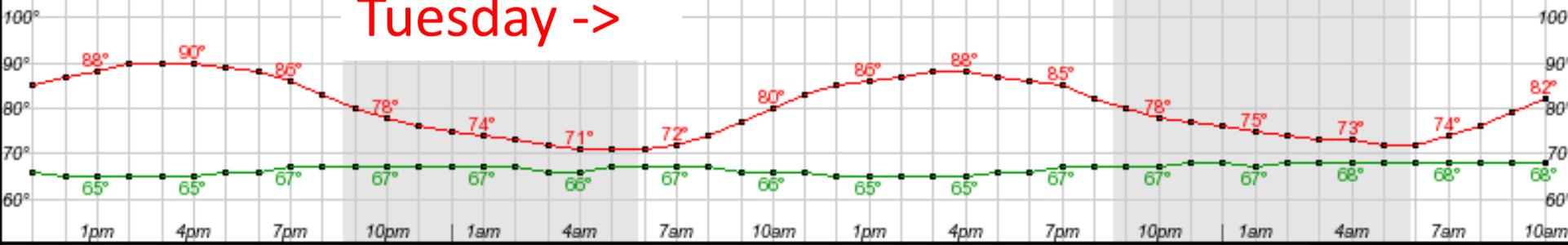
Sun, Jul 3 2011

Mon, Jul 4 2011

Rain amount forecast

Tuesday ->

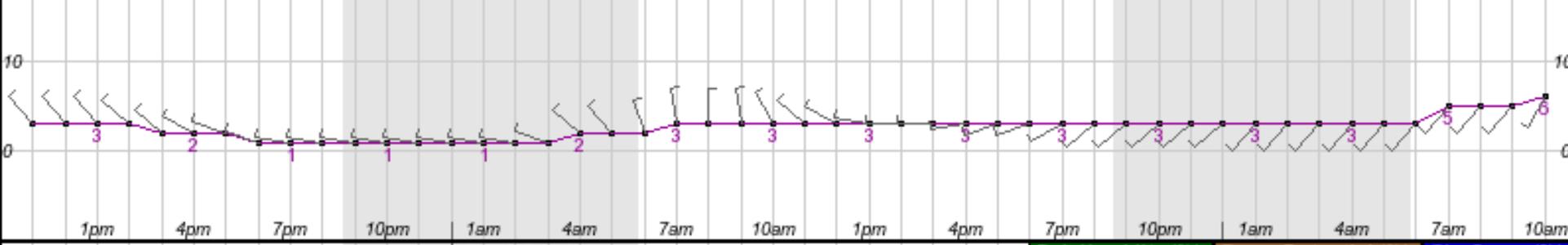
Heat Index (°F) Dewpoint (°F) Temperature (°F)



Tue, Jul 5 2011

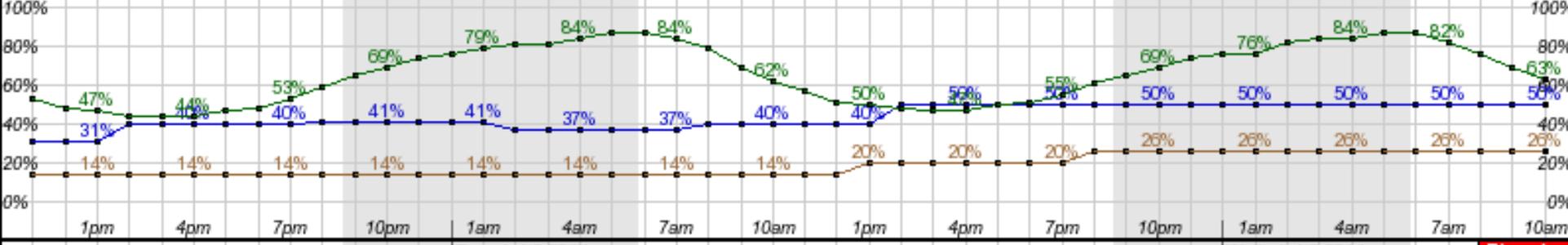
Wed, Jul

Gusts (mph) Wind (mph)



Tue, Jul 5 2011

Rel. Humidity (%) Pcpn. Potential (%) Sky Cover (%)



Tue, Jul 5 2011

Wed, Jul 6 2011

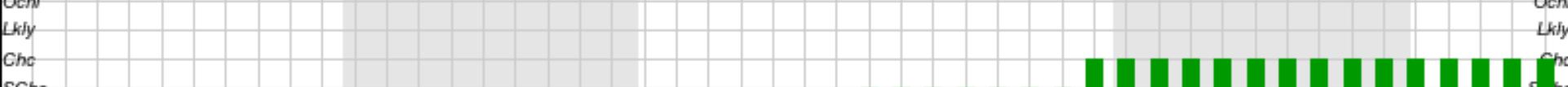
Thunder



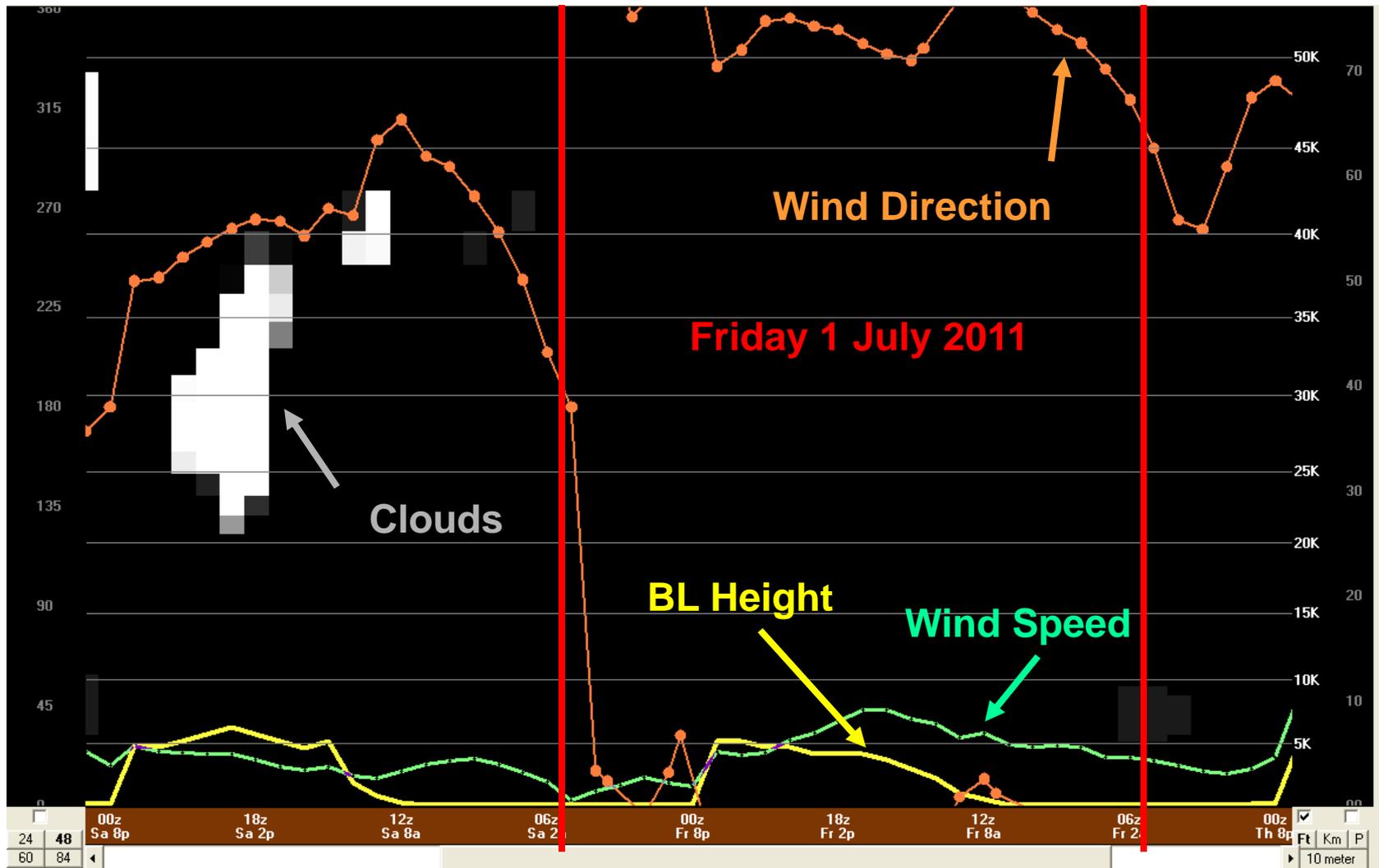
Tue, Jul 5 2011

Wed, Jul 6 2011

Rain



Rain amount forecast data is unavailable for this period



Bufkit NAM (20110630 1200 UTC):

- BL Height ~ 5000 ft @ 1600 EDT
- CloudFree

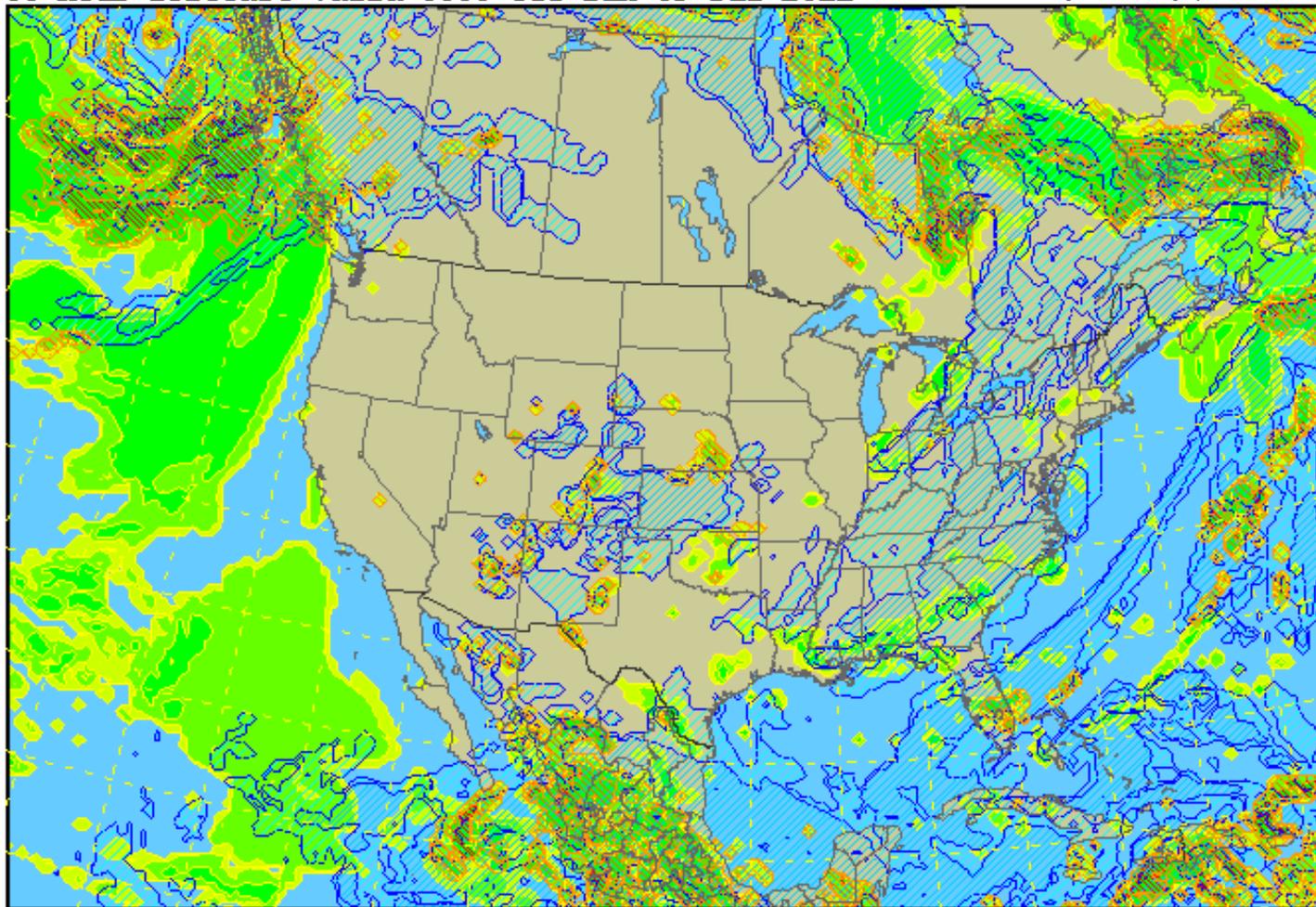
- NW winds shifting N by early evening
- Wind speed ~ 8-10 knts

Saturday 8pm: High clouds present around region of interest, increased cloudiness from morning

Integrated liquid and frozen hydrometeors (all levels)

60-hour forecast valid 0000 UTC Sun 03 Jul 2011

NAM (WRF-NMM) (12z 30 Jun)



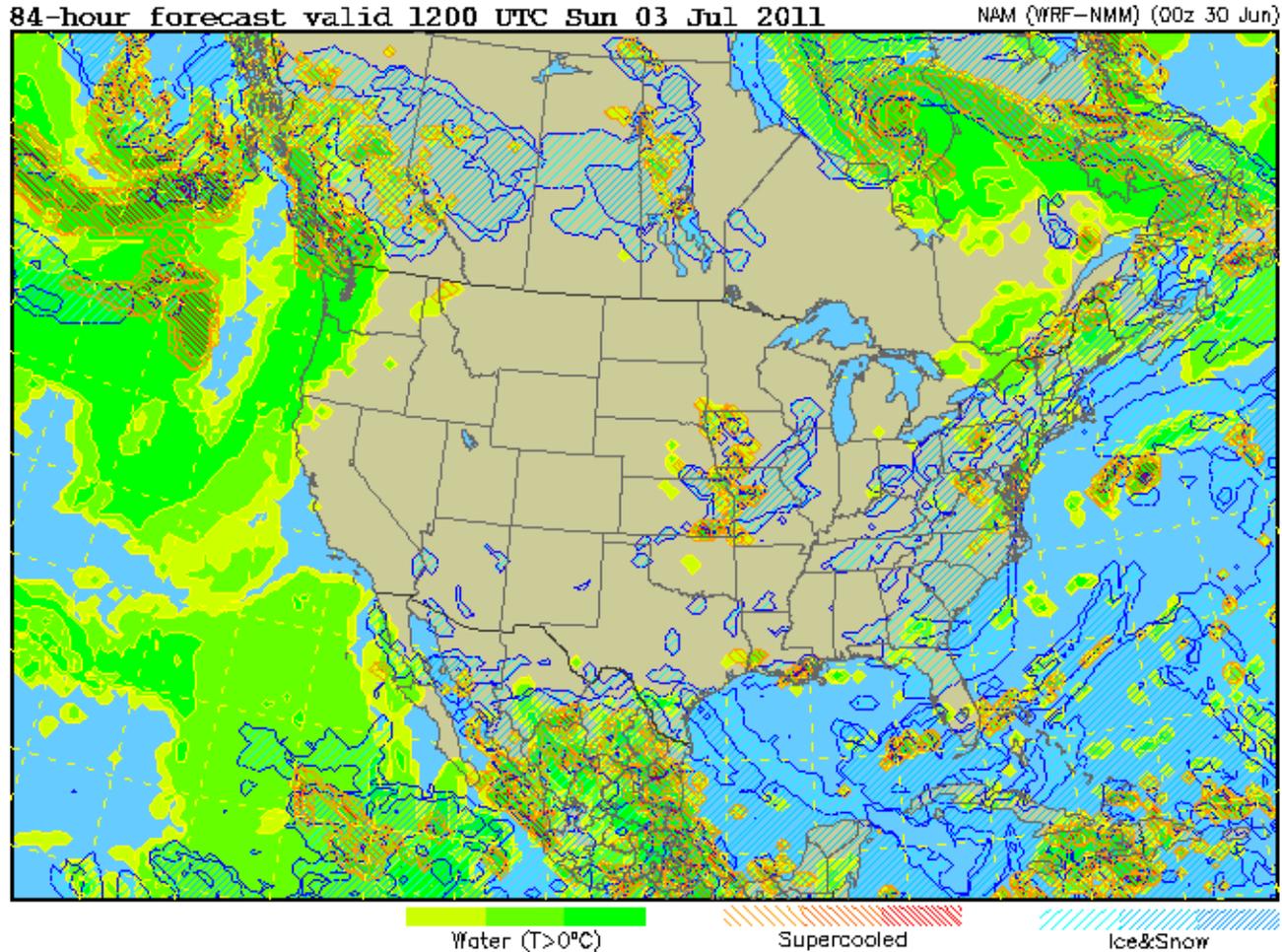
Water ($T > 0^{\circ}\text{C}$)

Supercooled

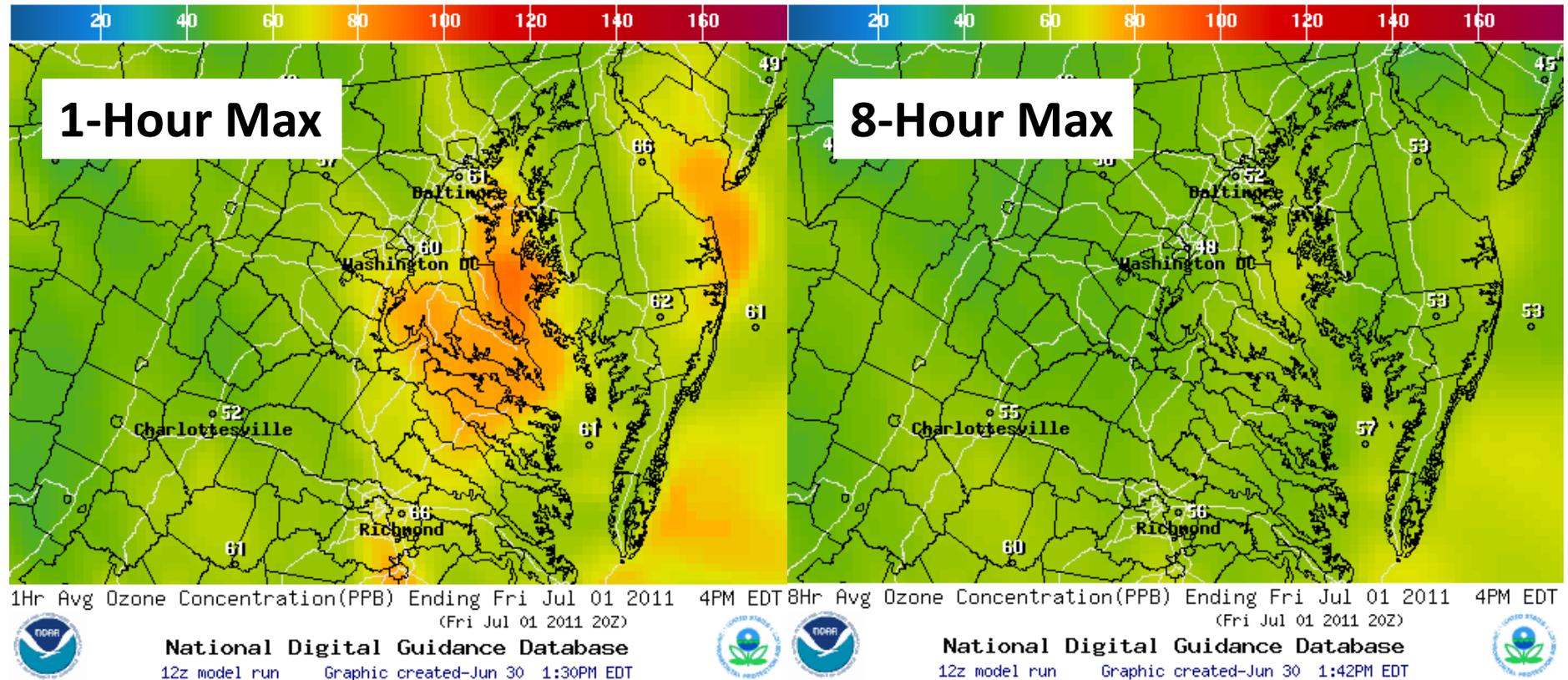
Ice&Snow

Sunday: High clouds (above 18,000ft) and possibly some middle clouds (6-12,000ft) present in NAM by 12Z

Integrated liquid and frozen hydrometeors (all levels)



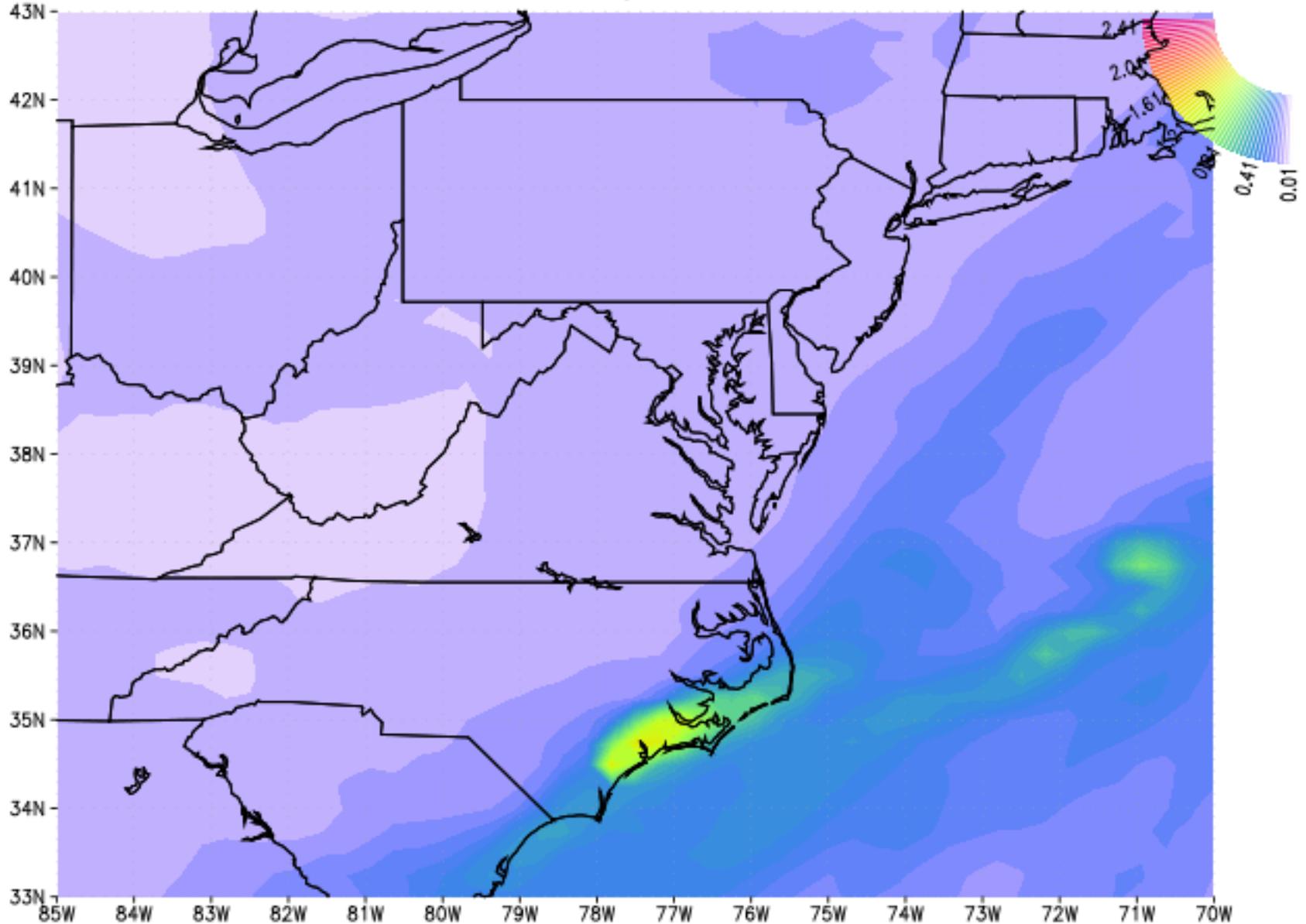
Friday Update (valid 4pm): ozone in the upper good-low moderate range Friday afternoon



Saturday – Good chance of greater afternoon ozone -- into the Unhealthy for Sensitive Groups (Code Orange) range (> 75 ppbv 1 hr avg.)

Today's AOT forecast, no major impact of wildfires

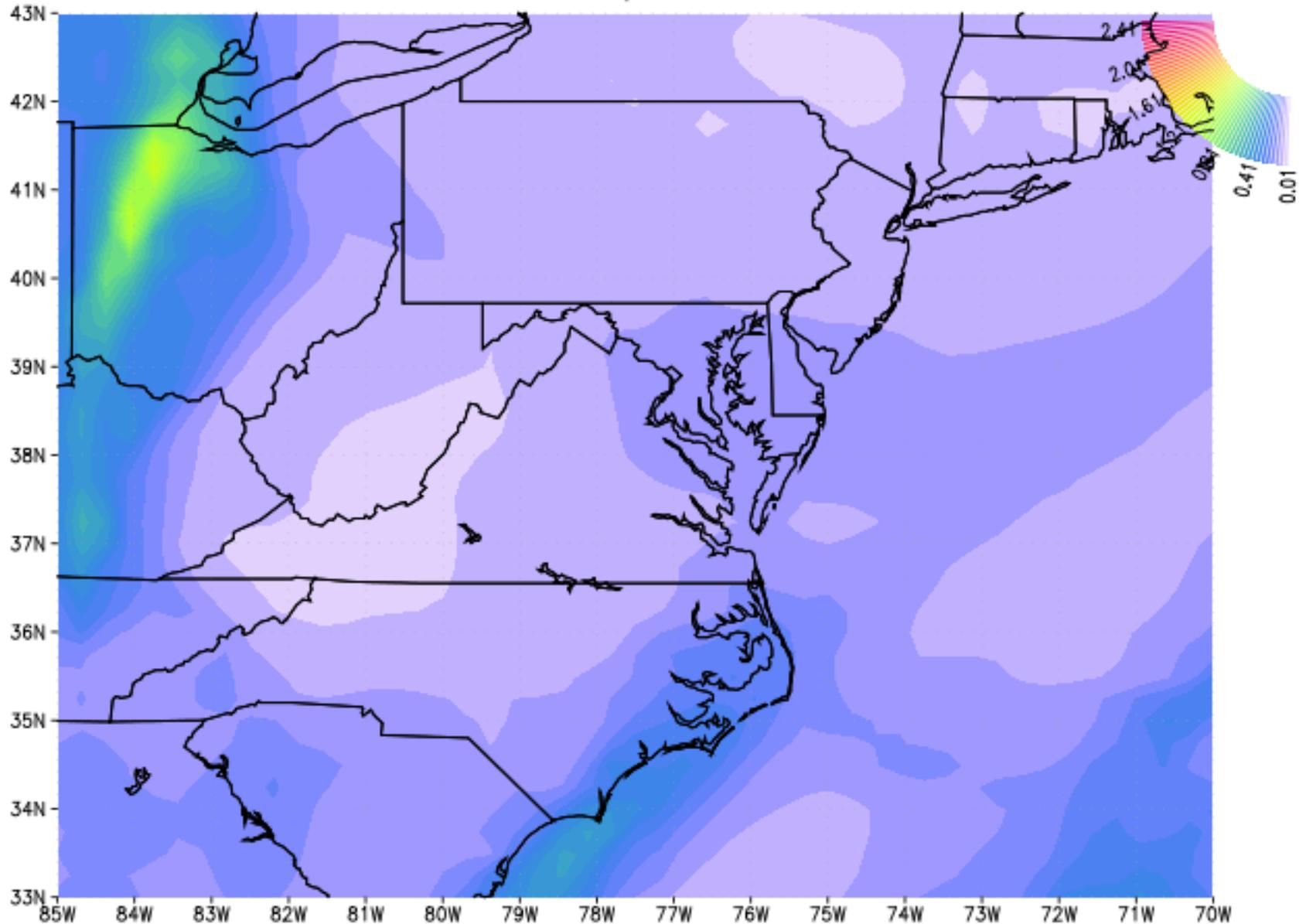
Total Aerosol Optical Thickness



0 hr forecast valid Thu 00z 2011-06-30

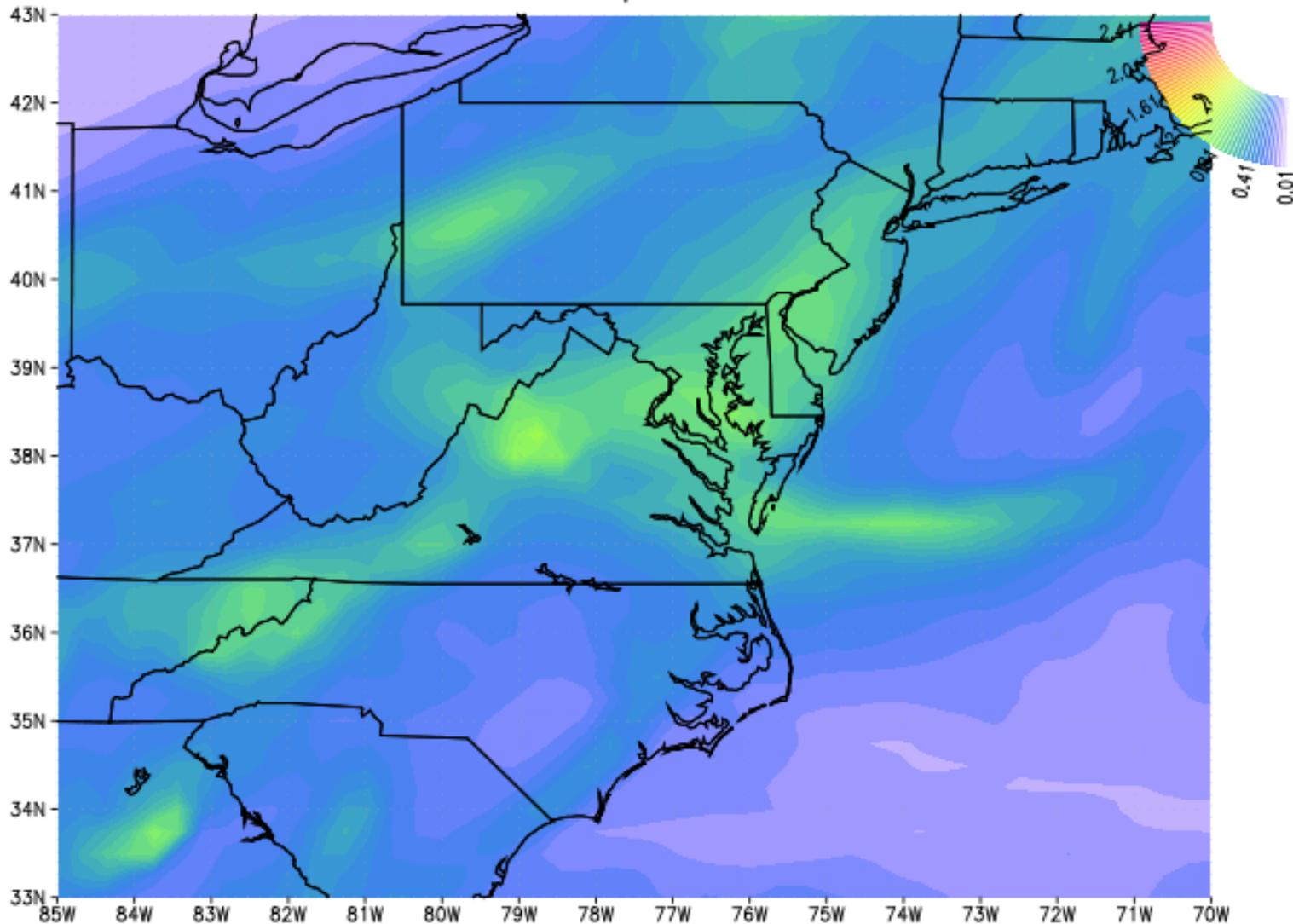
Minor impact of smoke on our region of interest on Friday

NASA/GMAO – GEOS-5 Forecast Initialized on 00z 2011-06-30
Total Aerosol Optical Thickness



By Saturday night/Sunday smoke from fires may reach Balt.-Wash.

NASA/GMAO - GEOS-5 Forecast Initialized on 00z 2011-06-30
Total Aerosol Optical Thickness

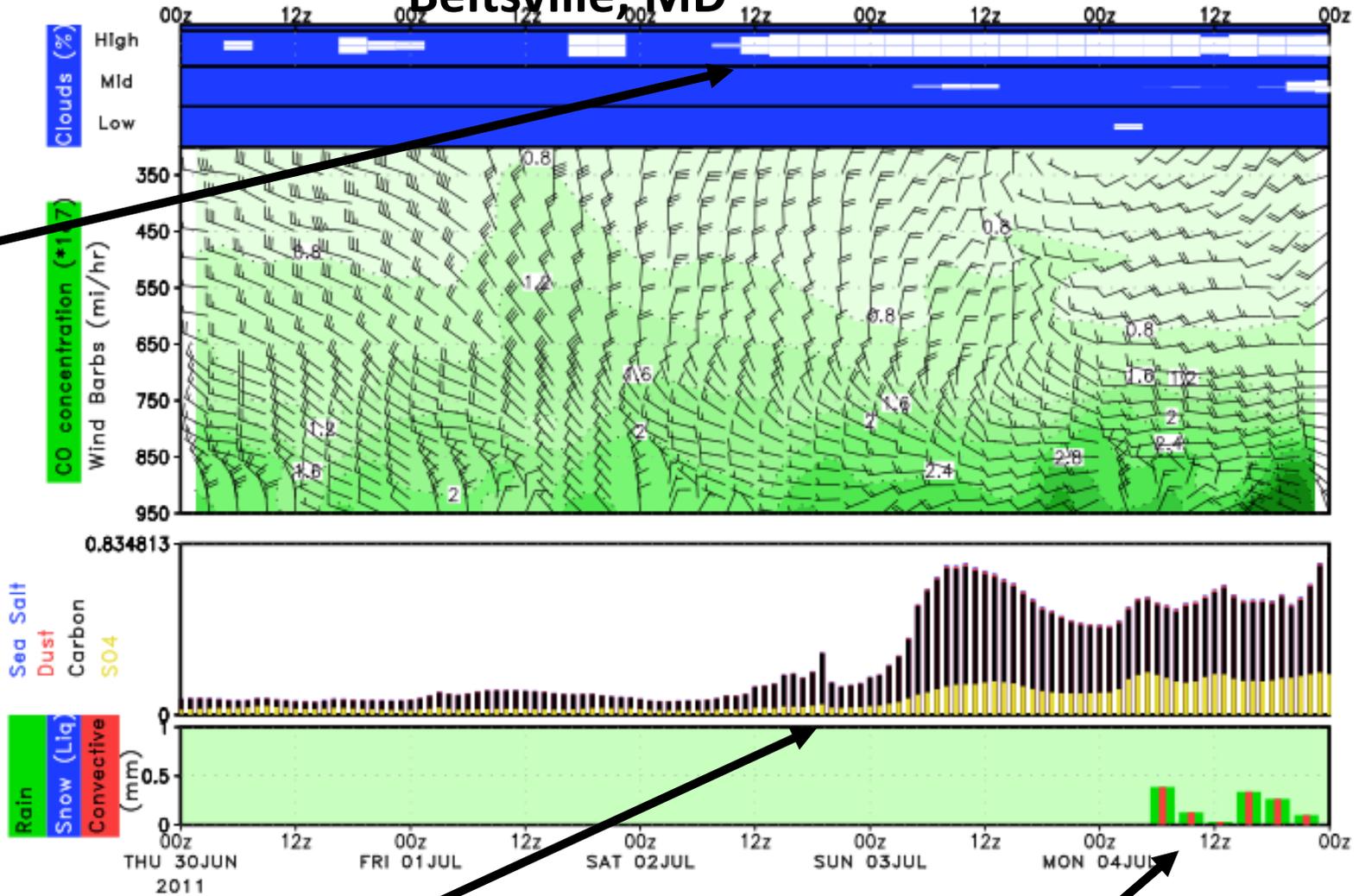


84 hr forecast valid Sun 12z 2011-07-03

GEOS-5 Outlook for 30 June – 4 July 2011

Beltsville, MD

High clouds
Saturday -
Monday



Smoke influence on late Saturday
early Sunday, then persistent
through Monday

Precip. on Monday