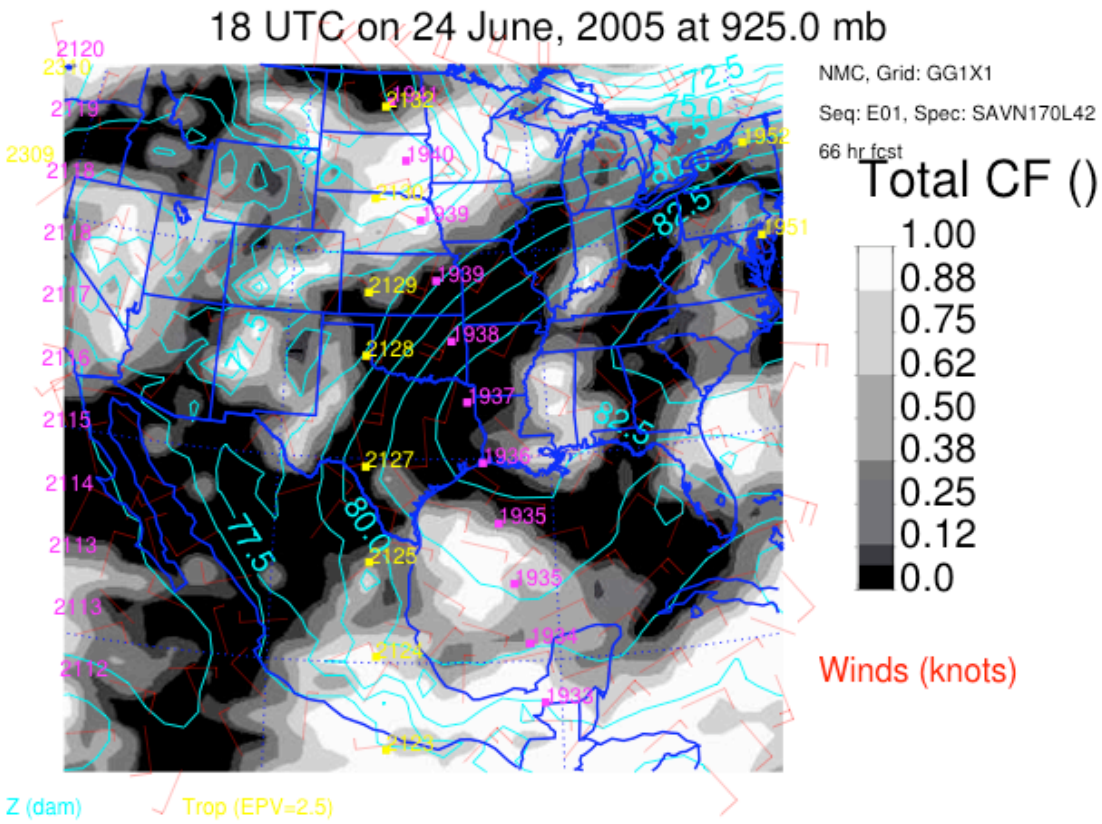
Weather Briefing, 20050622, updated at 8:30 AM CDT

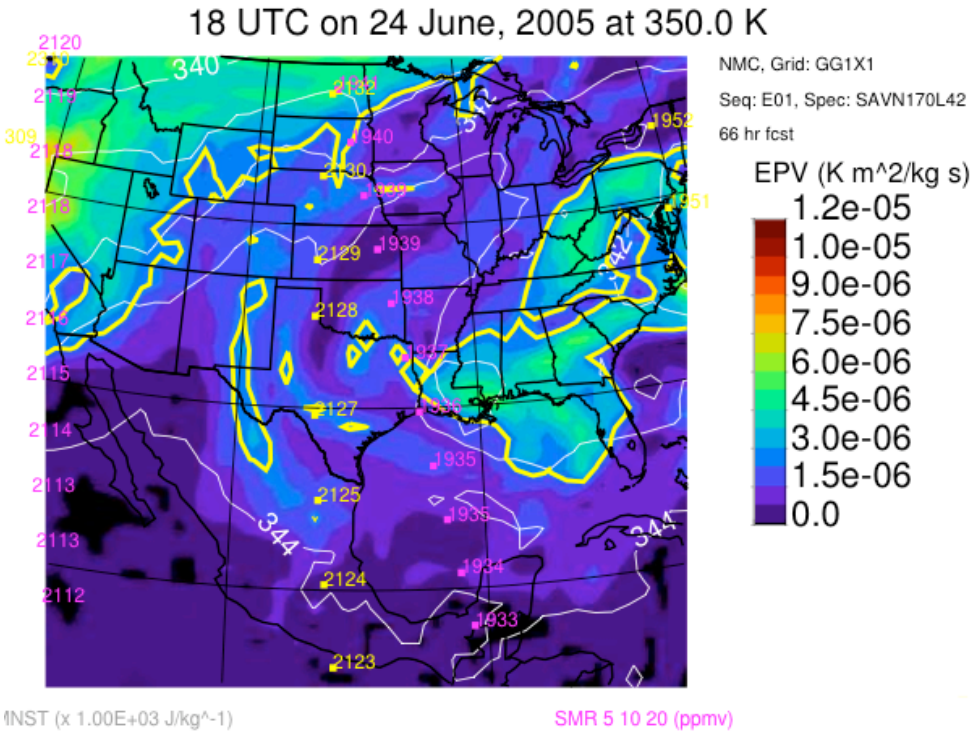
(1) Flyable conditions (no precipitation, winds within limits) expected through the end of the deployment
(2) Clouds and weather along today's MLS track heading NNW to south central South Dakota: No significant weather expected, as conditions will be more suppressed in this region than yesterday. Unlike yesterday, there is no overnight mesoscale convective system development anywhere in the US plains – everything is in Canada. Some high cloud blowoff from convection that has occurred earlier in Wyoming-Colorado-Utah is possible at the northern end, but it will be thin cirrus. Also expect thin cirrus in our region.
(3) Conditions for Friday – see attached cloud forecast product from the GFS:
    a. The ridge over the central US (whose amplitude is especially strong today, shunting the jet stream to the Canadian border in the Great Plains), will flatten on Friday as a short wave passes across the top of the ridge.
    b. Models forecast a line of precipitation coinciding with a trailing cold front from western Kansas northeastward into the Great Lakes region. A disturbance on this front is expected to be in northeastern South Dakota (right on MLS track) midday Friday. I don't assign a lot of confidence to the exact positioning of this system yet. We can expect high clouds along this line and into the Rockies (the usual afternoon T-storms).
    c. Clouds in the Gulf in the models are overdone and depend on a disturbance northeast of the Yucatan that will probably not develop.
    d. There are also high and low clouds progged over Mississippi/LA. I believe this is also overdone, with only a 20% chance of T-storms expected in this region.
    e. I have more confidence in the clouds progged off the east coast of Florida, which will be high, low, and middle clouds.

1



Science for Friday

Compared to previous forecasts, the upper level trough to the east of us has gained definition, and, coupled with clouds off of Florida's east coast, may make an attractive cloud run for OMI coupled with exploring both stratospheric and tropospheric air. It bears looking at tropospheric trajectory runs later today, along with CO forecasts to see what upper tropospheric chemistry issues can be explored. Notably, at higher theta levels, the highest nearest PV values are in a streamer to the west of us.


18 UTC on 24 June, 2005 at 350.0 K
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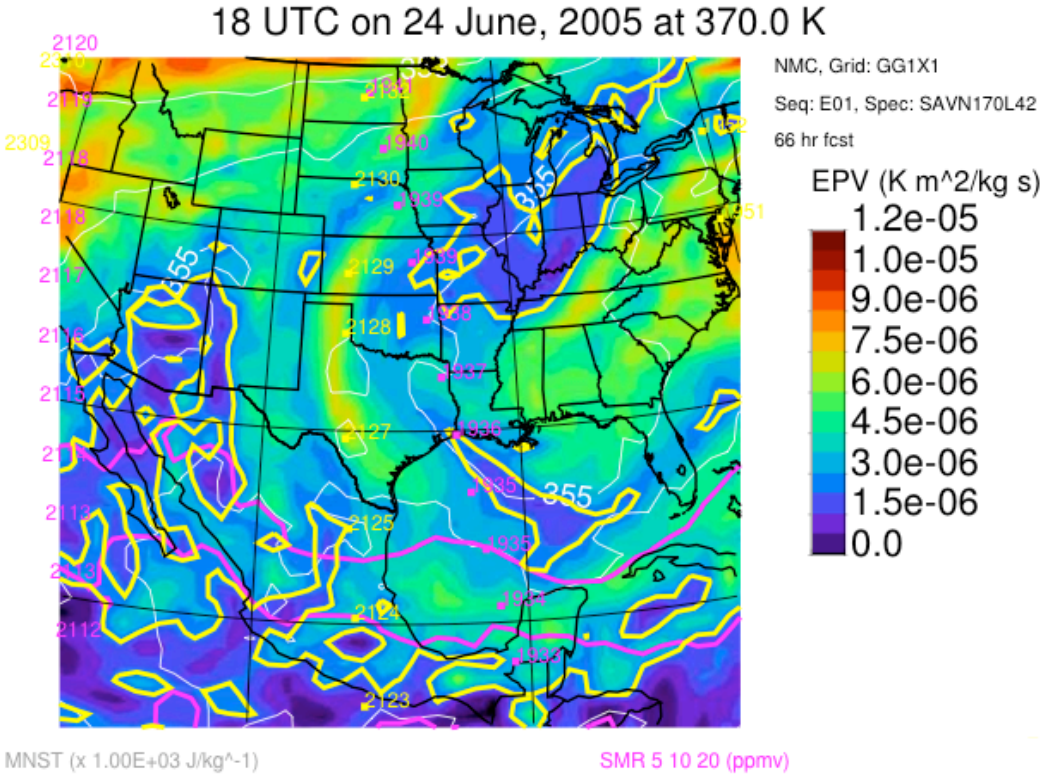
66 hr fcst
EPV (K m^2/kg s)
1.2e-05
1.0e-05
9.0e-06
7.5e-06
6.0e-06
4.5e-06
3.0e-06
1.5e-06
0.0
MNST (x 1.00E+03 J/kg^-1)
SMR 5 10 20 (ppmv)


18 UTC on 24 June, 2005 at 370.0 K
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66 hr fcst
EPV (K m^2/kg s)
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1.0e-05
9.0e-06
7.5e-06
6.0e-06
4.5e-06
3.0e-06
1.5e-06
0.0
MNST (x 1.00E+03 J/kg^-1)
SMR 5 10 20 (ppmv)