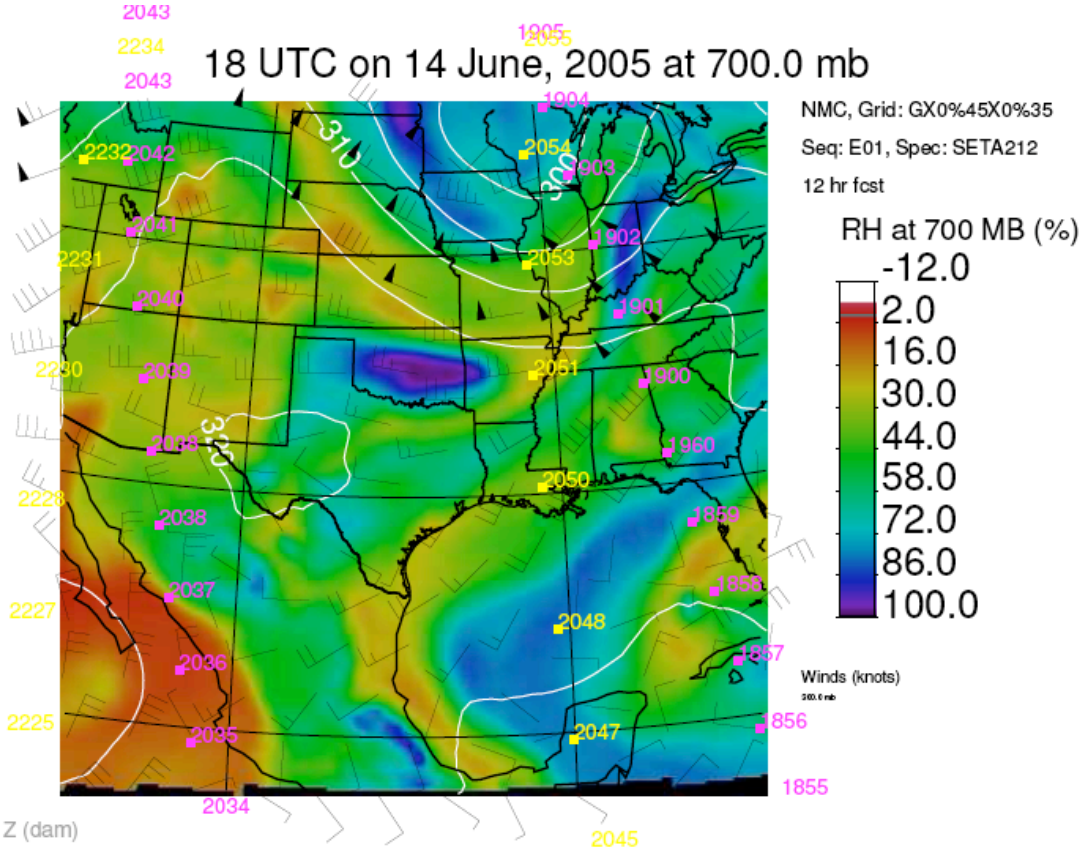
Weather Briefing 20050614

The overall flow field at 500 mb has changed from a western trough-eastern ridge pattern that we had up to two days ago to the more zonal pattern anticipated by the models. As forecast, a strong shortwave is now over Minnesota. A trailing front has produced sufficient lifting over Oklahoma to generate an impressive mesoscale convective system near the TX/OK border at around 9 PM last night. The outflow from this system is producing showers at the far northern edge of the Houston radar's range (~100-150 miles north of Houston). This is not expected to reach into our area today.

A 500mb ridge builds just to our west (Texas panhandle). The implications for us is subsidence at midlevels (700mb) through the forecast period, and capping of the still moist and potentially unstable atmosphere over us. The caveat here is that convective systems will form to the north of us and move southeastward toward Louisiana. A significant backward shift in this ridge pattern could raise our chances of showers and thunderstorms. The models have predicted a system to form in OK and slide southeastward into southwestern Louisiana by Friday. It is too early to say that this will actually happen, but it bears watching. Still, the bottom line is that we have favorable conditions for flying through the forecast period (Saturday). The longer range (imagination) forecast suggests that the 500 mb ridge will back westward at our latitude and develop a southwest northeast tilt. We will then come under the influence of a low over Mississippi by early next week, with more upper level disturbances coming through. This promises to be less favorable for us.

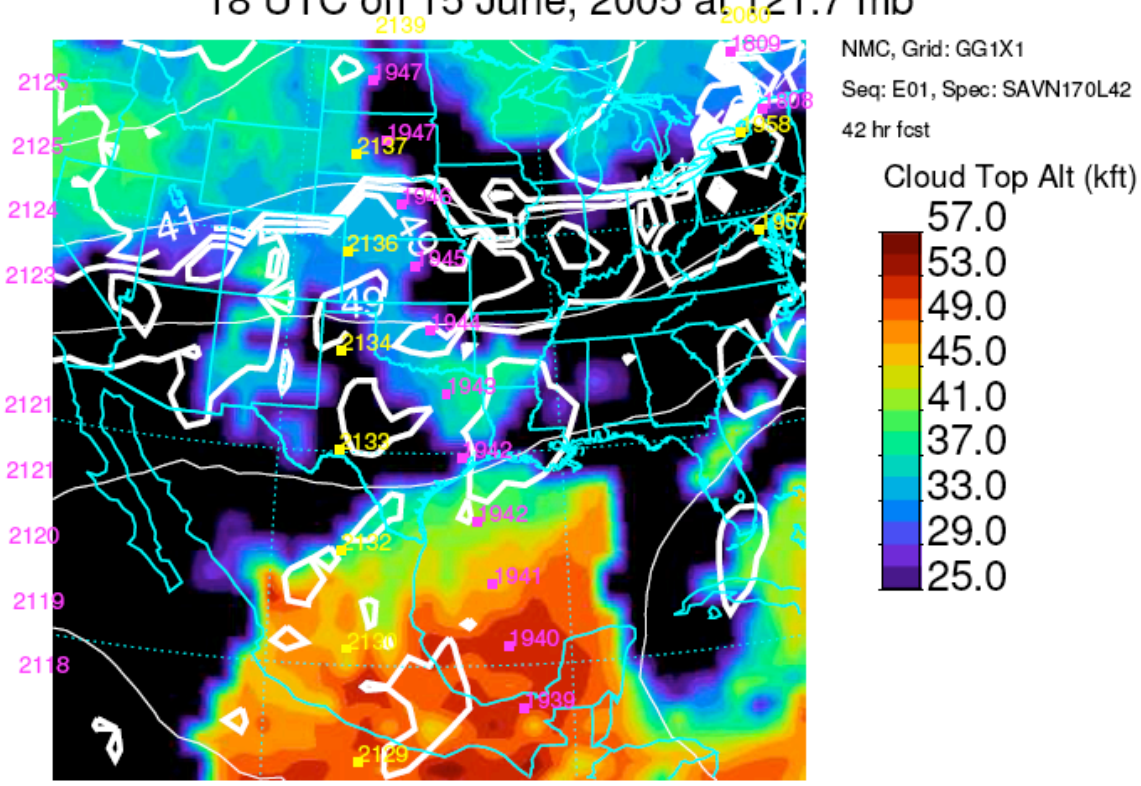
Houston office notes haze over us today that they believe has come from central American fires. Not sure of the circulation pattern, but have a Look at the 700mb chart from the eta model.

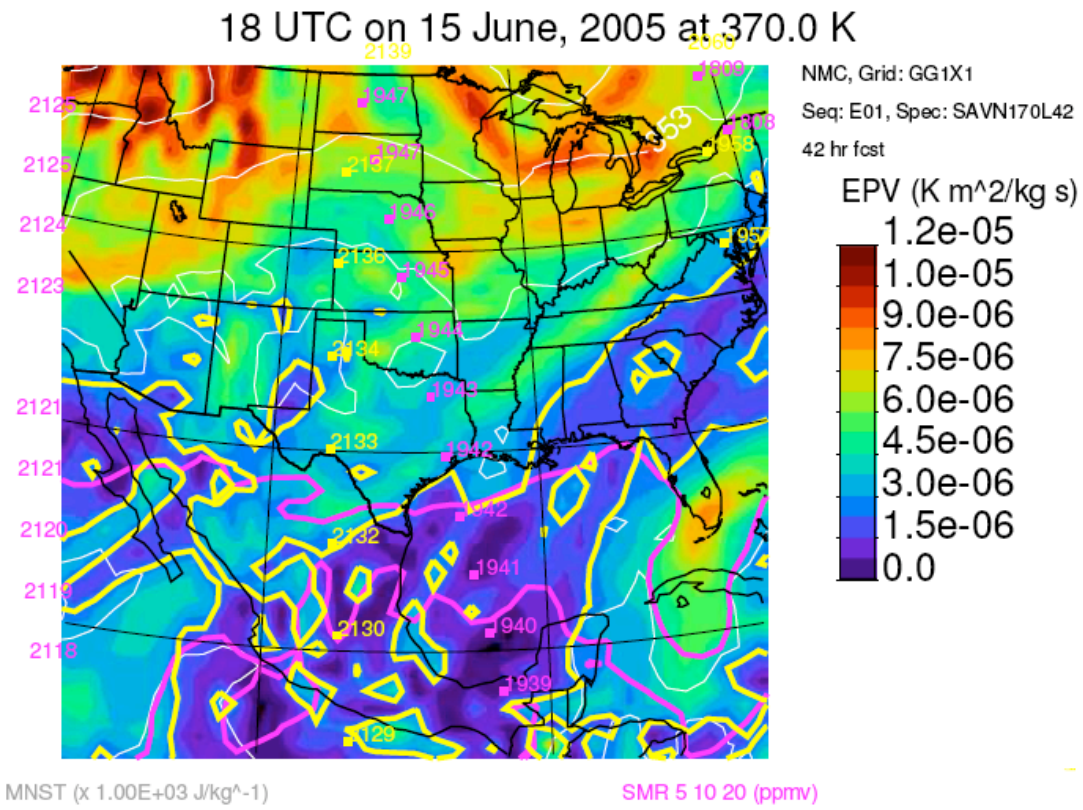


Science:

Tomorrow: An MLS validation flight is planned, with the track right over us. The current aim is to survey air with different origins (air in the south from central American convection recirculating around a high and air further north that has come from the central Pacific). The Gulf promises to be cloudy, though high clouds are not expected north of 25 degrees. They have crept upward in the last forecast cycle. Some clouds are expected near the north end associated with the disturbances mentioned in the weather discussion. Though only forecast to be in the 30's, these might be convective systems that will reach higher. We have a good shot at minimal cloudiness over the Houston area, but boundary layer winds will be light and northerly.

18 UTC on 15 June, 2005 at 121.7 mb

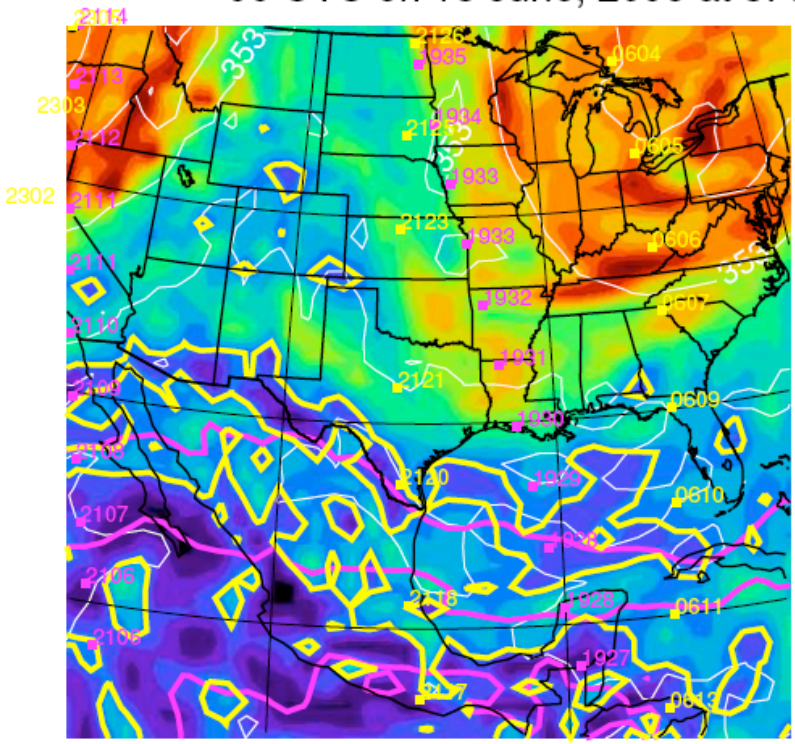




Thursday: Tracks are so bad I won't waste your time or mine.

Friday: A HIRDLS validation flight is planned. The UTLS structure does not display the kind of clear sharp gradients we have been looking for. The cloud forecasts suggest significant high cloud (low 40's cloud tops, not shown) in our area, though since this is tied to the development of the wave spoken of in the weather discussion (which is uncertain), we should not assign too much significance to it at this stage. We should be able to get south of the STJ at both 41 and 49kft (last two diagrams).

00 UTC on 18 June, 2005 at 370.0 K



NMC, Grid: GG1X1

Seq: E01, Spec: SAVN170L42

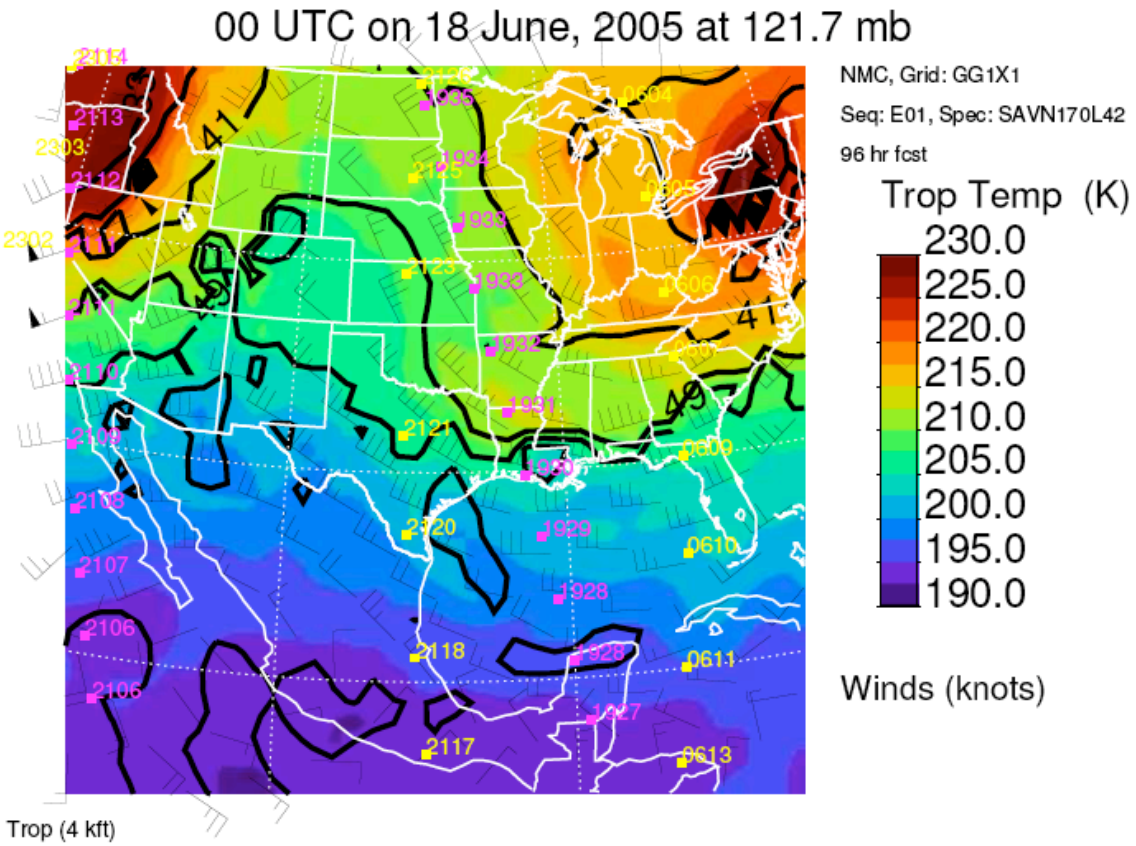
96 hr fcst

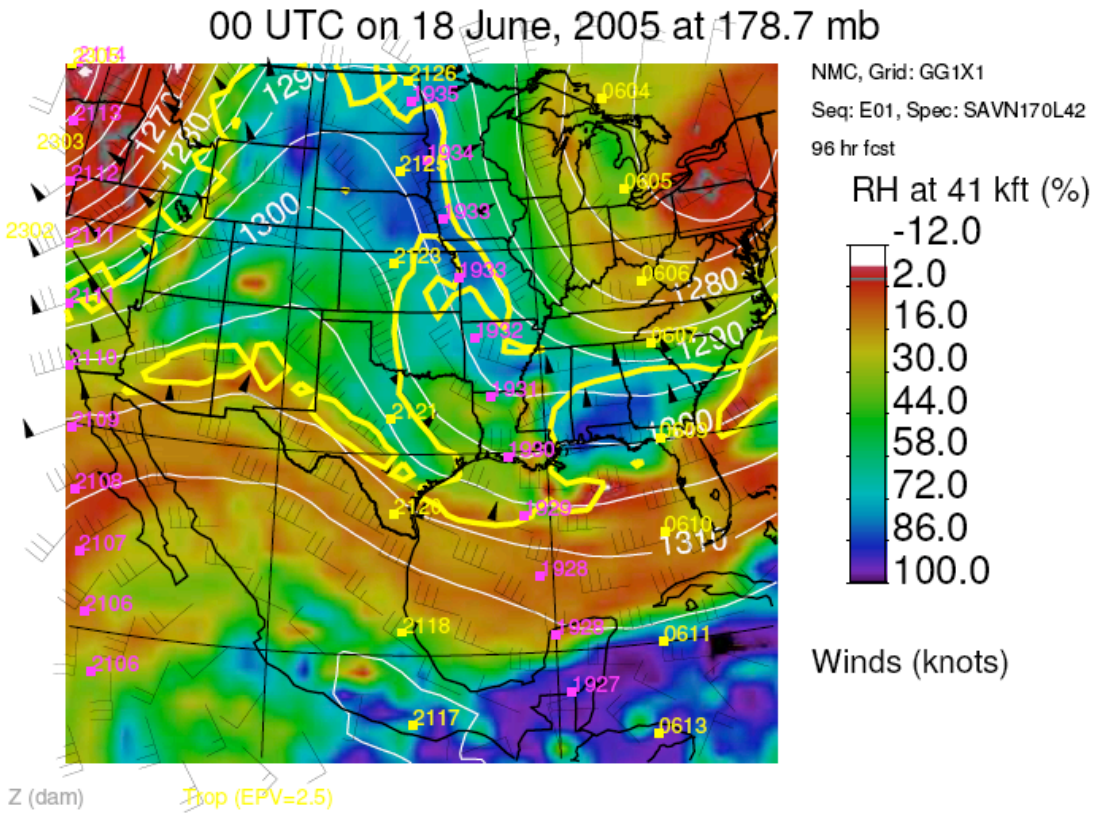
EPV (K m^2/kg s)

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)


00 UTC on 18 June, 2005 at 121.7 mb
NMC, Grid: GG1X1
Seq: E01, Spec: SAVN170L42
96 hr fcst
Trop Temp (K)
230.0
225.0
220.0
215.0
210.0
205.0
200.0
195.0
190.0
Winds (knots)
Trop (4 kft)



Saturday: Tracks look bad for this day.