

**AVE Met Briefing**  
**Monday, November 8, 2004**  
**Rennie Selkirk**

*Ames AVE forecasting page is*  
<http://bocachica.arc.nasa.gov/AVE/Forecasting.html>

**SUMMARY**

*Today*

This morning's "Central" IR loop (<http://bocachica.arc.nasa.gov/AVE/central/png/index.html>) shows a very well-defined band of frontal clouds progressing across central Texas. Once this passes the skies will clear and the temps should warm up nicely.

*Tuesday through Wednesday night*

The dominant synoptic scale feature in the forecast continues to be the deep 500 mb cutoff which finally breaks loose during the period to move eastward, a scenario on which the models apparently agree (see fcst discussion below). Upper level cloudiness from this complex will move eastward across the region during this time.

GFS cloud fraction plots (*cf.* [http://bocachica.arc.nasa.gov/AVE/rh\\_omega\\_plots.html](http://bocachica.arc.nasa.gov/AVE/rh_omega_plots.html)) show high cloudiness overspreading most of Texas tomorrow. The forecast calls for stratus developing in the onshore flow in the wake of the surface high. (This is only weakly hinted in the plot sequence since we don't have the evening (00Z) plot for tomorrow evening.) Anyway, expect stratus for Wednesday's takeoff. Tuesday's takeoff and recovery should be fine.

The sub-satellite track on Tuesday looks basically clear except where it enters the dirty part of the downstream ridge north of the Ohio/Mississippi confluence. Southbound from EFD however, expect high cloudiness due to lifting of subtropical moisture in the upper trough.

On Wednesday, the storm system will be moving through the central plains, although the forecaster is rather sanguine about the effects locally given the relatively stable conditions and low PW levels. Most troublesome aspect may be the cloudiness on takeoff. Don't know about stratus coverage Wednesday afternoon offshore.

*Thursday and Friday*

The forecast discussion talks about a strong frontal passage on Thursday night going into Friday. So look for a potentially gusty takeoff on Friday. Though of course the timing is key here.

*Here is the 12-hour Hobby TAF as of 1401Z:*

```
KHOU 081401Z 081412 VRB02KT P6SM FEW010 SCT120 BKN250
TEMPO 1415 5SM MIFG SCT005
FM1500 05005KT P6SM BKN250
FM2100 05008KT P6SM BKN250
FM0100 06003KT P6SM SCT250
```

*Below are the current NWS forecasts:*

***Southeast Texas Zone Forecast***

***National Weather Service Houston/Galveston TX***

***430 AM CST Mon Nov 8 2004***

<http://www.srh.noaa.gov/hgx/productview.php?pil=HGXFPHGX&version=0>

<b>Today</b>	Patchy fog early...otherwise partly cloudy. Highs around 80. NE winds 5 to 10 mph
<b>Tonight</b>	Partly cloudy. Lows around 50. E winds 5 to 10 mph..
<b>Tuesday</b>	Partly cloudy. Highs in the mid 70s. East winds 5 to 10 mph.
<b>Tuesday night</b>	Partly cloudy. Lows in the mid 50s. E winds 5 to 10 mph.
<b>Wednesday</b>	Mostly cloudy with a 20 % chance of showers.
<b>Wednesday night</b>	Mostly cloudy. A 30% chance of showers and thunderstorms. Lows in the lower 60s.
<b>Veterans day</b>	Mostly cloudy and turning cooler. A 30% chance of showers and thunderstorms. Highs in the upper 60s.
<b>Thursday night</b>	Partly cloudy and cooler. A 20% chance of rain in the evening. Lows in the mid 40s
<b>Friday</b>	Partly cloudy. Highs in the upper 50s.
<b>Friday night</b>	Partly cloudy. Lows in the lower 40s
<b>Saturday</b>	Mostly cloudy. Highs in the upper 50s.
<b>Saturday night</b>	Mostly cloudy with a 20% chance of rain. Lows in the mid 40s.
<b>Sunday</b>	Mostly cloudy with a 30 percent chance of showers and thunderstorms. Highs in the upper 50s.

***Area Forecast Discussion***

***National Weather Service Houston/Galveston TX***

***0530 AM CST Sun Nov 8 2004***

<http://www.srh.noaa.gov/hgx/productview.php?pil=HGXAFDHGX&version=0>

Will keep the dense fog advisory going until 14Z. Do not anticipate expanding the advisory as the fog should remain rather patchy and shallow outside our SW zones. However...will keep a close eye on things and expand the NPW if necessary.

The weak front currently extends across ne Texas and nrn Louisiana. Expect this to push across SE TX today. Temps this morning are running considerably warmer than last night. With only scattered high clouds expected today...think we will easily warm into the upper 70s/lower 80s once again. Will not mention fog again tonight with drier low levels expected.

Surface high pushes east late Tuesday allowing return flow to set up Tuesday night. Low level jet develops...and expect low stratus Tuesday night/wednesday. GFS shows PWs increasing to around 1.3 inches over our eastern/coastal zones but ETA is drier (*as yesterday-RS*). Model forecast soundings are quite stable Wednesday (K-indices in the teens at best) so only expecting some sprinkles or light showers and rain [-SHRA]. Upper low moves across southern plains Wednesday night allowing strong cold front to push across SE Texas Thursday.

Models have been consistent on timing of frontal passage for many runs now and see no reason to disagree. Instability and moisture not that impressive with frontal passage (PWs around 1.3 inches and K-indices in the 20s) so will keep PoPs at 30%. Strong cold advection follows frontal passage Thursday night/Friday with cooler temps and gusty north winds.

Models are in a little better agreement now concerning the west coast upper trof. GFS/ECMWF bring a lead shortwave eastward across Texas Sunday while keeping the mean trof out over the western states. With southwest flow aloft...GFS keeps low stratus deck in place over SE Texas the whole weekend from Friday onward. Will compromise on this for now...showing some clearing Friday then mostly cloudy skies returning Saturday/Sunday. Kept overnight lows as is for the weekend but lowered daytime highs several degrees given the expected cloud cover. Looks like coastal trough will set up Saturday night/Sunday with isentropic lift setting up over surface cool layer. Raised PoPs to chance category Sunday with models in better agreement. All in all...looks like a cloudy/cool weekend with highs probably staying in the 50s...then rain on Sunday. Should see a decent warmup early next week.

***Aviation...***

Already have dense fog south of I-10 & west of I-45. Temp/dewpoint spreads are only 0-2 degrees across Houston metro. DWH just went to 1/2 sm so believe it's just a matter of time until we see additional coverage at or near the terminals. Will monitor the obs for the next hour or so then make any necessary adjustments to the ongoing TAFs. Current thinking is IFR TEMPO LIFR conditions will gradually burn off a couple hours after sunrise. Mid morning on should be MVFR with change to OCNL BKN cirrus streaming overhead.

***Marine...***

Light winds this morning should gradually become NE to ENE at 10 kts as weak frontal boundary moves offshore. Gradient tightens a bit overnight so 15 kt winds are possible over the Gulf. Next strong cold front still penciled in for Thursday. Anticipate scattered conditions in its wake.