

# MC3E Morning Briefing: 4/24/2011

Submitted by kbowley on Sun, 04/24/2011 - 12:57

- [Central Facility](#)

A region of overnight precipitation sampled by the SGP ground instruments is slowly pulling out of Central Oklahoma this morning with eyes turning toward another potential event tonight. Model disagreement is still prevalent, but both 00Z models show relatively good agreement on re-establishing an 850hPa low-level jet, providing a pipe of Gulf moisture to push up and over the surface front stretching across south-central OK. The surface front is expected to be a focal point for afternoon and early evening convection this morning, with storms expected to spread down the line around 18-20 UTC. The current expectation is for these storms to not form a coherent enough linear feature to block off the low-level moisture return this evening, though if they do the set-up of the low level jet may be compromised for northern OK. However, if the jet does form, elevated convection is expected over northern and central OK, with storm formation in the 7-8 UTC range Monday (Sunday overnight). These storms are expected to be very similar to the Saturday overnight event in nature, both in terms of structure and storm motion. Following NAM guidance, expecting the storms to form a convective line through eastern OK by 15-17UTC Monday after clearing the region, and being pushed eastward by the first of two upper-level waves riding along the 250hPa longwave. After a 24-36 hour period of low precipitation probability, Tuesday overnight into Wednesday presents another opportunity for operations as the second wave pushes through providing another round of good synoptic forcing through Colorado into south Kansas/north Oklahoma. Questions still remain as of 00Z model runs regarding the available moisture for this system. Following this second wave, it is anticipated that several down will likely occur with a quiet weather pattern.

## Forecasts

Time of Day:

Morning

Day 0:

04/23/2011

Forecast for Day 0:

As the region of elevated convection from overnight pushes eastward, a more surface-based convective line is expected to form along the frontal boundary across SE OK and north Texas. The strength and coherence of this front will have large implications on the potential for the formation of overnight elevated convection around the SGP instrument array. However, based on model analysis, the anticipation is that the convective line will not be organized enough to block off 850hPa return flow tonight, providing both a moisture source and a lifting source as the moist gulf air lifts over the surface front. Some enhancement appears evident at the synoptic scale with the nose of the 250hPa jet working its way into the OK region along with PVA at 500 hPa. Expected elevated convection will form to the south of the instrument domain between 7-8 UTC +/- 1 hour, and is anticipated to be impacting SGP by 8-9 UTC +/- 1 hour. Both the 12Z NAM and WRF have a relatively strong band of precipitation continuing through 15-17UTC over SGP before upper-level forcing pushes the system to the east.

Day 1:

04/24/2011

Forecast for Day 1:

Operations should be concluding in the morning hours (15-17 UTC) from Day 0 system, with the remainder of day 1 looking to be relatively void of precipitation. 00Z GFS drags the precipitation out over northern OK through the day, but it seems the NAM has a better grasp on the system as the first upper-level pulse moves through the region tomorrow mid-day to

afternoon, forming a convective line to the east of our observation array.

Day 2:

04/25/2011

Forecast for Day 2:

A second strong synoptic pulse in the form of a vorticity maxima at 500hPa will propagate through the region Tuesday night. The potential is there synoptically to form convective storms across the Kansas/Oklahoma border pushing into northern OK overnight into Wednesday; however, there is some question regarding the amount of moisture return prior to this forcing. Further details should become more clear with the morning update tomorrow morning, though the possibility for operations is certainly not negligible.

Extended Outlook:

Following the passage of the upper-level pulse Tuesday into Wednesday, it is anticipated that there will be an extended stretch of quiet weather providing for several down days leading into the weekend.

Attached files:

1. [MC3E Weather Briefing 20110424.pdf](#)