From: Wes Behrend [mailto:BEHRENWR@dhec.sc.gov]
Sent: Friday, September 10, 2010 8:24 PM
To: Kenneth Carey
Subject: Summary e-mail of NOAA product performance

Ken,

Currently, South Carolina does not forecast for PM2.5, smoke, or dust. I believe that at some point in the near-term future, South Carolina will have to forecast for PM2.5.

As far as ozone is concerned, the operational CMAQ still seems to have a slight bias towards the high side and there is still some question within my agency in SC as to whether the emissions inventory has been updated by NOAA. However, there have been times when the model has performed very well, especially on the 7-8 May ozone event in the SE CONUS, where a weak cold front dropped in from the northwest, despite lack of troughiness, some flat ridging to the south of SC and some slight ridging over the MS Valley...a rather zonal flow for the most part. HPC also correctly forecasted this event as well. For the episode of 8-9 July, a stronger-than-usual cold front moved into the eastern USA and brought in much drier air from Canada and some record low temperatures. The dry air became a magnet for ozone ramp-up and the air mass was loaded with precursors in the Northeast to Mid-Atlantic states that eventually moved S-SSW'rd into the SE CONUS. CMAQ and HPC did very well with this regional ozone event and the land-sea interface was depicted quite well in the model off of the SC coast.

We have noticed this ozone season that there has been many spikes due to local urban pluming around SC. Some monitors report nearly the same concentration values (in ppb) while one lone monitor seems to "take off" in its concentrations. Our North Spartanburg Fire Station monitor and the Augusta, GA monitor come to mind, as these monitors have so far this season "stuck out " the most from the rest of the monitors. I don't believe the models are able to pick up on such local events, but it could be worth discussing if it is warranted.

Let me know if you have any questions.

-Wes