

## **What are the biggest challenges CR faces?**

We need good hourly temporal high resolution (spatial resolution of 3km or less) ensemble based output for first 36-60 hours for ESTF, aviation, fire weather, marine, and so forth. This is especially true for sky and PoP.

Rethinking our post-processing and/or data distribution methods to more intelligently utilize our available bandwidth. An agreed upon process needs to be developed to meet the needs of field offices, NCO, and EMC.

Timing of convective initiation

### **- Does the current production suite and products adequately help you address those challenges?**

It does not directly. Indirectly we cobble together blended "poor man ensemble means" like CONSShort but there is a lot of interpolation and things that could be done centrally to post-process. We we spend a lot of time in local WFOs doing that we really should not have to. Someone needs to go through the entire NCEP data set that is being sent to the field on the SBN to see what is there, what isn't there, what is duplicated and clogging up the SBN, what should be there and isn't, etc.

There is little to no visible effort being placed into national post-processing or establishment of a push-pull infrastructure. Even if the production suite currently met our needs, we would need to sacrifice service improvements by limiting the amount of data available to make our grid population tools work efficiently (i.e., SLR and precipitation type algorithms run on ensemble data).

### **- Is the current amount of available guidance too much, too little, or the right amount?**

There are too many deterministic models and too many ensembles. We should have one short term ensemble at CAM scale and one global ensemble. Period. We also need to rethink what output we are getting. We need to move away from some of the older stuff and add other parameters like mixing heights and transport winds, for example, more radar reflectivity and wind gusts, hydrometeor types/concentrations and definitely synthetic satellite imagery (multiple bands).

Eliminate redundancy in non-CAM mesoscale models. Do we really need both a gridded mesoscale model at 12-km resolution and a global spectral model at an equivalent resolution? Put computational resources toward increasing diversity in CAM ensemble members at resolution < 3km while also improving data assimilation process for deterministic/ensemble global model. Everything else needs to be dumped.

### **- What do you need in terms of models or products to meet your challenges in the next 1-2 years?**

We need a 5-10 member CAM ensemble now. Eventually 20-30 member CAM at 3km or less. Details in power point.

I like this idea, but to also have a way to see this displayed effectively such that some set of parameters could be seen from each member (postage stamp presentation/plumes?) in order to more effectively identify the validity of a mean.

More ensemble information, including CAM and Non-CAM ensembles. Ensemble mean data is good, but to really harness the power of ensemble systems we need to get at least the 10th, 25th, 50th, 75th, and 90th percentile data. Currently, the only ensemble data like this we receive in AWIPS is spread from the SREF (i.e. Windspeed spread, etc). We don't necessarily need all output from every ensemble member from each ensemble system.

**- What do you envision your model/product needs to be in the longer term?**

Simplify and prune. Follow the UMAC recommendations.