

December 9, 2005 Conference Call Notes

Provided by: Steve Keighton, SOO - Blacksburg, VA (RNK)

Hi Everyone, and thanks for another good call last week. Below is a brief summary, with a focus on some of the "actions".

The most valuable input the WFOs can provide to Blair Holloway and Gary Lackmann at this point concerns what diagnostics from the operational models to we find most useful, and what biases in these diagnostics are we most concerned about when forecasting NW flow snowfall? Insight on what specific situations they do well with (for example, getting the right locations) vs. what they don't do so well on (for example, amounts), would be very helpful to them, and other examples might be how they handle wind direction/speed, depth of moisture, instability, etc. Try to compose a list of anything you think you have a good feel for, and I think surveying your staff would be a good approach too, and send this to Blair and Gary (and for that matter, might as well send it to the entire list).

Brian Etherton (UNC-Charlotte) explained that his interests with modeling lie especially with data assimilation and initial conditions, and it seems that might be a great niche for this group. Perhaps experimenting on the importance of key upstream observations, or if we are eventually able to install one of Sandra Yuter's vertically pointing radars in NW NC...maybe that will be an interesting observation to test the sensitivity of. Just another related thought here: I know we at WFO RNK get certain benefits from having an U/A site right here, but I also wonder at times what we lose by not having one just upstream (lie where it used to be at Huntington), especially in these kinds of situations. It sure would be interesting I think if we could have temporary U/A observations from somewhere in central or NW WV, as well as perhaps ern KY, to see what impact those obs would have on this particular fcst problem. Looking at all available GPS and profiler data might be a start, since we're likely not going to find enough money to set up research radiosonde sites?

Any additional feedback to Blair on the use of the high impact Dec 2003 case as a starting point in his modeling efforts would be good. Participants on the call supported this case as a good one to start with since it is pretty obvious, but we'll certainly learn a lot from the more subtle cases, so it would be helpful if we can also comment on any of the cases on his list so far, which ones might have been tougher for the operational models to forecast.

David Hotz from MRX mentioned a 15 yr database of observations from Great Smoky Mtn National Park they've come across recently, if anyone is interested in using any of this. They are working on accessing a NASA version of the WRF running at Huntsville and getting it into AWIPS.

Someone (Larry?) brought up the "WINDEX" technique (Wintertime Instability Index) that was developed for New England and utilizes grid model output (originally from the NGM) for Lake-enhanced instability snow squalls. The technique has had some utility in Blacksburg since one of the authors became a forecaster here a year or so after he wrote it while in New England, but has not been used extensively since we've moved based the era of relying on tabular model output. There are two companion ER Tech Attachments (93-11A and -11B) published on 1993 that describe the technique and show a case study, and one thought was that some folks might want to reconsider how this technique can be used with today's model gridded fields available (perhaps develop a modernized version of it). I said I'd send the papers to Gary and Blair at NCSU and anyone else who is interested. I've not been able to find them in electronic format, but I'd be happy to snail mail hard copies to anyone who wants to see them. Just send me a mailing address (WFOs don't need to since I have a mailing directory, just tell me if you want them).

Doug Miller (UNC-A) talked about his interest in orographic interactions and understanding differences between model physics and initial conditions. At UNC-A they are running a nested WRF, with the inner domain running in a research mode at 1.7km with explicit convection. He also mentioned that he is interested in obtaining any unique observations folks might have for the Nov 29 event (is this correct Doug, the heavy rainfall event with some severe convection?). I should have asked more specifics on the call about what kinds of data you were most interested in for this, so please elaborate on this if you need to. Thanks.

The idea of somehow trying to ensemble all the various WRF models that are being run over this domain came up, and to what extent we can coordinate how these are being run and with at least some consideration to the NWFS problem, we should try to do that, but since they all cover different domains there is a limit to how much of an ensemble type approach we can actually take. One thing that we can certainly try and do is coordinate on some specific locations to create model soundings so that each version has at least a handful that overlap in our area of interest, and we can directly compare them. So, be thinking about some key locations, and perhaps we can discuss some ideas for these on the next call, and eventually come up with some lat/lon points.

Finally, let's try January 13 as our first option for the next call (10am as before). If that's bad for a lot of folks, would Jan 6 be any better?