November 4, 2005 Conference Call Notes

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I'm not going to attempt to give a blow-by-blow account of everything that was said, or even summarize each person's overview of their areas of interest, but I do want to cover some of the important areas that we hopefully will be focusing on, and some of the requests and actions that came out of the call (based on my notes). Please add anything I may have overlooked or you think needs to be stressed. I've bolded some specific actions, in case you have a hard time reading through the details!

Gary Lackmann and Blair Holloway (NCSU) will be focusing on modeling work in a case study approach using a version of the WRF, doing some sensitivity tests to determine relative influences of upslope, Great Lakes influences, and optimal configurations for mesoscale models to capture these kinds of events. They very much want some input on what would be good cases to model, and Blair recently made a preliminary list available (13.4 MB file). One question I have for them is related to the various categories of cases you might be interested in. For example, you currently have labeled some as either "post-frontal" (which are the more classic cases), and others as closed or cut-off low cases (do we need to make a distinction between these two subtle but maybe important differences?), but we also have a third category that Larry and the folks at GSP proposed, the "Comma head" (where more synoptic and conveyor belt lifting may still be involved. In many cases, the comma head will evolve into the post-frontal (with large scale subsidence), but do we need to find some cases that at least clearly start out in the "comma head" category? Finally, the instability banding and extension to the east of the upslope locations probably falls as a sub-category under the "post-frontal" cases, but perhaps also the closed-low cases as well (at least the extension east might), so do we want to make sure we find a few that include those aspects (and I think I've already suggested a couple)? The other important request from Gary and Blair was for field offices to share with them common practices/methodologies for forecasting accumulating NW flow snow, and typical parameters used, so if you have some thoughts on that, please share with them.

Baker Perry (App State Univ) and Chip Konrad (UNC-CH), have done a lot of climatology work using a 50-year climatology of COOP and 1st order stations, and while Baker's PhD work is in the writing stages, this is still a long term project that they both will continue to be interested in pursuing. A trajectory analysis approach to determine favored air mass sources and the impact of moisture from the Great Lakes is something they've recently done some good work with, and sounding analyses from Huntington (when the U/A station was there) may be able to shed some light on other aspects of the air masses involved, such as height of capping inversion.GIS modeling of topographic influences is another area where some work has been done and remains ripe for further study, so put your thinking caps on with respect to how we can use those tools to look at smaller scale influences on NWFS and share your ideas with Baker and Chip (and the rest of us).

In addition to Blacksburg's interest in the instability band scenarios, and eastern extension of snowfall in NW flow regimes, I mentioned the lack of realtime knowledge due to poor radar coverage and mesonets or the spotter network, and what might be happening at small scales and the overall short term forecast problem. It was mentioned that this may be an opportunity to pull Sandra Yuter (NCSU) into the picture, and explore the possibility of installing a vertically pointing radar in a strategic location (Watauga Co NC was mentioned as an area already being looked into). Either Gary was going to contact Sandra, or give me her email so I can do that, and invite her into our future discussions. Tracking down locations of any additional automated observing sites or networks, as well as web cams in these areas, is also worthwhile, and maybe a one-stop shopping web page with links to various data sets that can help improve the total observation network in these areas can eventually be developed. Steve Zubrick (Sterling) mentioned a long list of possible additional data

sets what could help, such as GPS IPW, ACARS, FAA radars, and in the not-so-distant future, various vehicles such as snow plows trucks. Finding better ways to utilize satellite data to detect local bands of accumulating snow is another potential area for study (actually, doing a little investigation with techniques used by Lake Effect sites is a good starting point). Finally, VA Tech will hopefully get a version of the WRF going within the year, so we'll see if we can possibly have that configured in an optimal way to help with the NWFS issue.

Larry and GSP have done some excellent work in defining the overall forecast issue, and developing some basic categories. What can we do as a group to perhaps add to this, expand or refine the categories? Larry was also going to make available some presentation material on their categorization work. It was also decided that the group felt it would be worthwhile bringing both Doug Miller (UNC-A) and Brian Etherton (UNC-C) into the group because of there interests and modeling efforts. Was this for Gary or for Larry (or both)?

Jeff Hovis (Charleston WV) brought up the issue of ultimately finding better ways to depict this kind of event in the grids, which is a very good point. We'll ultimately want to think about what tools will be needed to allow us to more effectively do this, especially in the very short term, which is an area of emphasis for their office in particular. He also mentioned they are running two versions of the WRF, every 6 hours, and have recently begun posting some output to a web page. Kevin McGrath (ITO) has already shared the URL with us.

Michael Mclane (Jackson, KY) and David Hotz (Morristown TN) also have an interest in this issue, and while their offices haven't initiated any studies other than some climatology-based ones, they are certainly wanting to get involved with our efforts, and their observations and input as we move forward will certainly be of beneift to the rest of the group. Jackson has been running a workstation version of the Eta which they'll be switching over to the WRF. Steve Z reported that Sterling is also running a WS Eta. So, we have many versions of local models available to look at out there, and I hope some insight into their behavior during upcoming events can be shared on the listserv, and maybe we can save some output from a variety of these models for a couple of cases this winter so we can compare them. What if we could ensemble all of them!!!

Lastly, and perhaps most importantly, the group decided on having one call per month, at least through this winter season, and then perhaps scaling back as needed after that. Fridays seemed generally OK with everyone, so, that would mean a good time for the next call might be Dec 2 or Dec 9. Any preferences? The Dec 2 is a little better for me, but either are doable.

This ended up being a little longer than I first planned (maybe I should have asked some of my questions in a separate email), so my apologies. Please let me know if there is anything else that needs to be stated or summarized, before we start to think about the next call in early December.