

## **NW Flow Snow Conf Call Minutes for Sept 16, 2011**

Participants from ASU, UNC-A, WFOs RLX, RAH, GSP, JKL, and RNK

The primary goal of this call was to review the research topics on the Google Sites page, talk about where we stand with these, if it is worth keeping them on the list, and what the next steps are. We also touched on field projects/data collection, the need for a NWFS WES, and the real-time communication/sharing using the cstar\_nwfs listserv and potentially the CIMMSE Blog site. Also, on a soon-to-be-determined date in late Oct or early Nov, Doug Miller will present a summary of his mesoscale modeling study focused on the early Dec 2010 event.

### **Research topics review:**

NWFS Frequency to global circulation patterns: This was work Gary Votaw had initiated while at JKL, and presented some initial findings on. Since he is now at San Juan, Ed Ray (current SOO at JKL) will look into whether this is something he or anyone else at JKL would be interested in continuing on with. No one else on the call expressed a particular desire to do more with this topic, although it seems there is general interest.

Regional GIS-based snowfall analysis maps: While ERH is created regional snowfall analyses on interactive Google map-backgrounds from all observations coming from WFOs, there is really no QC that goes into the final analysis, and the resolution does not account for terrain influences. It may not include many observations from outside ER either. There was a feeling we still need to pursue an independent effort to construct high resolution, high quality analyses for NWFS events, and this effort would be benefitted by someone with strong GIS skills. WFO LWX may have such a person (as communicated prior to this call). Those interested should communicate about what it would take to produce these (including how QC would be done). Steve K can initiate this communication.

Improve methods for using model guidance in forecast process: Notes have been added to the Google Sites page about the NWS ER Team looking at this issue in general, and a few of us are on this team so can ensure that scenarios such as NWFS are evaluated. This group can apply knowledge gained from climatology and model studies (like Doug Miller's) to help with specific methods for starting with and adjusting mesoscale model guidance for NWFS events. Since the operational NAM is getting ready to undergo some major changes (including inner nests at 4km res), it may be worth doing an evaluation of NAM performance with NWFS before and after this change. Some brief case studies could be done for a few cases from last season. RNK has AWIPS archives of the long duration Feb 9-11, 2010 event and Dec 12-14, 2010 event.

With a high resolution nationally supported model coming soon (upgraded NAM), it may be worth re-visiting the main goals of running local models, including specifically to have them fine-tuned to help with a particular forecast challenge.

Regarding the upcoming NAM changes (may be mid October before this happens), more information and results can be found here (<http://www2.emc.ncep.noaa.gov/impDoc.html>) under "Implementation Briefing" in last column of the NAM 3.0 row; and under the EMC home page (<http://www.emc.ncep.noaa.gov/>) under "NAM Upgrade" on the right, click "Description of Changes".

Extend climatology and trajectory work: Baker might have a student who could work on adding recent years to this data set. He will also check with Chip Konrad to see what his interest is in adding to this, or if he has a student.

Evaluate mesoscale model performance: This is primarily what Doug Miller is working on, and has a recent study completed focused on the early Dec 2010 event, with a manuscript recently submitted to Wea & Fcstg. He plans to make a presentation to us and any local forecasters interested in this, in the late Oct or early Nov time frame (specifics to be announced soon).

Develop Analog tool: Determined not feasible to develop a specific tool just for the NWFS issue, but we can continue to gain experience with the existing CIPS (St Louis Univ) Analog tool, and share how we are trying to use this within operations, and any successes or challenges (and a few were discussed on the call), but we agreed to try to use it this winter and continue sharing (listserv or blog...see below).

Develop initial sub-categories from database of events: Won't go into a lot of detail here as notes are pretty thorough on Google Sites page, but the categorization has been done using synoptic scheme from Great Smoky Mtn paper, and on a 2006-2011 database at Poga Mtn NC, plus a smaller one from McRoss WV. Next steps are to write this up as a short technical paper summarizing some of the observations, map compositing (which RNK is hoping to do), add new cases this season and begin to integrate this scheme into operational forecasting as events are anticipated. A summary presentation to operational staff during familiarization seminars this fall might be a good first step.

Create composites and database of past events: RNK plans to pursue the compositing (once we get a student this fall). Not much discussion on the developing collecting of data for past events, but this would be bare bones and a standard set of images/maps. Format T.B.D.

Use of Froude#: GSP may continue with work that Blair started (Harry G?), and Doug may also have a student interested in looking at modeling aspects of the Froude# and relation to NWFS.

Instability banding and diurnal variations: To some degree, Doug Miller has begun to look at this from a modeling perspective. Would be good to identify some specific cases this upcoming winter, especially those that show somewhat unexpected evolutions (such as no banding in the early morning hours) and take a close look through numerical simulations. RNK will help identify some cases this winter.

### **Field projects:**

Doug Miller announced they WILL have funding for a limited field project, this year involving public school student involvement with Buncombe Co schools. So U/A launches will likely take place in Asheville from one of the schools or administrative buildings (and question if there will be launches in snow when school is canceled, but more likely the day before, or perhaps during a NWFS event if there is no impact on Asheville area).

Two MRRs (owned by the state of NC, and in use currently by Duke Univ), will likely be in place for at least some of the season in Guilford Co and Catawba Co (so not necessarily a direct help for NWFS), but certainly in other winter scenarios. Potential for us to be a squeaky wheel and have one temporarily placed at Poga Mtn if there is a big NWFS event expected??

Ed Ray reported that a couple Kentucky Mesonet sites may be of interest given their locations, including a new one on Black Mountain on the VA border (over 4,000 ft). It does not appear to be showing up on the web site yet, but hopefully will soon (Ed, can you give more info on this?):

[http://www.kymesonet.org/live\\_data.html](http://www.kymesonet.org/live_data.html)

### **WES case:**

Ed Ray is looking for a good WES case on NWFS if anyone has developing anything. Some of us have some archived cases, but have not developed into a formal WES (with other data sets, notes, documentation, etc). The Dec 4-7, 2010 may be a good candidate. David Hotz (MRX) may also have a case or two. There was certainly some interest in ensuring that we have a good case developed for new forecasters to the region, but no one specifically is taking the lead on this so far.

### **Real-time communication/sharing during the season:**

Make another push to get folks using the cstar\_nwfs listserv for brief discussions as events are setting up or ongoing. Steve K will send a separate note about that with the details on how to sign up. Jonathan suggested we can use the CIMMSE blog to post more substantive discussions, which may include brief case reviews

showing a couple of images immediately following an event. Not sure how many people are signed up for this, but here are the details:

The CIMMSE blog can be accessed at - <http://cimmse.wordpress.com/>. To post items you need to create a wordpress user account and then let Jonathan Blaes know so he can add you as an author. To subscribe to the email distribution, just go to the URL above and scroll down a bit, on the right side is a place to add your email address. You'll get a confirmation email and you are good to go.

**Future calls:**

**Oct 14** or **Oct 28** (probably 9am) are the only Fridays I can do our October call. We will try and choose one before the end of this week.

I will also let everyone know when I have arranged a date/time with Doug Miller to provide his presentation on his recent modeling work focused on the early Dec 2010 event. This will likely be late Oct or early Nov.