

From: Dan Lindsey - NOAA Federal <dan.lindsey@NOAA.GOV>
Subject: Re: Lessons of this storm
Date: 27 January, 2015 at 18:08:08 GMT
To: <MAP@LISTSERV.ALBANY.EDU>
Reply-To: Dan Lindsey - NOAA Federal <dan.lindsey@NOAA.GOV>

Hi Cliff, all,

To supplement the SREF plumes you posted, here are the plumes from 6 locations from the 15Z run on 1/26 (total snow, in inches).

http://ga2.cira.colostate.edu/Lindsey/26jan15_15Z_sref_plumes.png

Note the large spread on the morning of the event, particularly for the westernmost locations (which makes sense b/c these locations are nearer the western edge of the precip shield). The spread is smaller for the Mass. stations because these areas would get lots of snow regardless of which of the tracks the surface low ended up taking. Note also that most of the members forecasting the lower amounts in the NYC area were from the ARW.

Is the NWS "allowed" to make forecasts like "6 to 36 inches?" I realize that's an essentially worthless forecast, but in some cases it seems justified if probabilistic forecasts aren't allowed.

I feel obligated to request that no media use these graphics.

Take care,

Dan (in Ft. Collins, where we've just tied our record high for this date (65 F) after setting the all-time January high yesterday (75 F)

On Tue, Jan 27, 2015 at 10:53 AM, Cliff Mass <cmass@uw.edu> wrote:

So what are the essential lessons about this storm? And is it a wake-up call for us as a community?

We started with an event of substantial uncertainty, with varying modeling systems and ensembles producing very different snow amounts (see SREF snow total plume attached). Many of the forecasts had a large gradient of snowfall over the NY metro areas. We did not communicate this uncertainty well. Instead forecasters honed in on the more extreme solution since the "charmed" ECMWF model (the global model of choice in general and of Sandy fame) and their work-horse regional model (NAM) were both going the same way. Not only were the high-end totals highlighted, but words like "historic" were used. As Lance noted, the media and the politicians ran away with this...and once the horse was out of the barn, it was hard to get it back in there.

As we got closer, our rapid-refresh systems (NARR, RAP) were consistent in showing that NYC would be spared, but we did not back off fast enough.

Clearly, we need a far more probabilistic approach to our communication and we need far better probabilistic tools (SREF is sadly not state-of-the-art, and we need a probabilistic rapid refresh system). As we get closer into events and uncertainty lessens, we need better ways to communicate our growing certainty in the solution...and politicians/decision makers need to be ready to react quickly.

This brings up an interesting question for all of you. How do the quality of models vary at varying projections and locations? Is ECMWF really the model of choice 24h out compared to GFS or other models along the East Coast? Along the West Coast, NAM is acutely inferior to GFS at short to medium projections. Is this true along the East Coast?

When is the U.S. going to invest in a high-quality AND CALIBRATED high resolution ensemble system? We will have the computer power to do it by September. How should decision makers react when there is a 25% chance of a bad event?

...from Seattle where we are experiencing record warmth...cliff