Post-processing Breakout Group #1 Instructions

It is now March 2017. President Donald Trump's daughter, Tiffany Trump, has just broken her leg in an avalanche accident at the Trump Ski Resort, in Trump Colorado. President Trump has angrily called the new head of NOAA. "*Why didn't NOAA provide me with a forecast of avalanche potential? It's a travesty!*"

The Trump administration orders the development an emergency avalanche forecasting capability, to be delivered by the next ski season. "*I don't care whether it's NOAA or the private sector that develops this, I want it to be THE BEST!*"

NOAA decides to facilitate a public-private consortium to generate avalanche forecasts. You constitute the post-processing team, and this is your first meeting. The timing is fortuitous: NOAA is weeks away from beginning the production of its next-generation global forecasts, and there is time yet to indicate which variables should be saved to disk that are relevant to making automated, post-processed avalanche forecasts. NOAA is willing to allocate five internal people to the task of improving these forecasts for lead times of one day to two weeks, above and beyond those already working on generating the reforecasts. The Trump administration agrees to provide $2,000,000 in competitive grants to academic or private-sector institutions to work with NOAA on post-processing. If you are in private industry or academia, let us assume that you are one of those grant recipients.

You are asked to put together a rough plan for post-processing to produce avalanche forecasts from leads of 1 day to 2 weeks. Your plan should include: (a) what observation and avalanche data should NOAA gather from existing sources? (b) What avalanche-related predictor information should be saved from the global ensemble reforecasts that are soon to be generated? Currently the plan is to generate a 5-member ensemble reforecast every 5th day over the past 20 years, though if there is a good reason, the configuration of the reforecast could be changed. (c) How will you save the data and make it conveniently available to all partners (d) What post-processing methodologies will you attempt, and why? What provides the reference for indicating whether your method is an improvement? (e) How will NOAA work with the private and academic sector partners? What will be the respective roles and responsibilities? (f) How will the avalanche forecast products be evaluated? (g) What is your plan for setting up a durable infrastructure so that avalanche forecasts can be further improved in the coming years, ideally an infrastructure that can be leveraged for other post-processing applications.

We suggest that you nominate a team lead to organize the discussion and a rapporteur to take notes and synthesize slides.

Please prepare a brief (<10 slide) powerpoint that summarize your plans, and be prepared to be ignominiously yanked from the microphone if your presentation goes over ten minutes in length.