A global ensemble reforecast data set for the 2012 NCEP Global Ensemble Forecast System

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A multi-decadal ensemble reforecast database is now available that is approximately consistent with the operational 00 UTC cycle of the 2012 NOAA Global Ensemble Forecast System (GEFS). The reforecast data set consists of an 11-member ensemble run once each day from 0000 UTC initial conditions.   Reforecasts are run to +16 days. As with the operational 2012 GEFS, the reforecast is run at T254L42 resolution (approximately ½-degree grid spacing, 42 levels) for week +1 forecasts and T190L42 (approximately ¾-degree grid spacing) for the week +2 forecasts. Reforecasts were initialized with Climate Forecast System Reanalysis initial conditions, and perturbations were generated using the ensemble transform with rescaling technique. Reforecast data are available from 1985 to current.

Reforecast data sets were previously demonstrated to be very valuable for detecting and correcting systematic errors in forecasts, especially forecasts of relatively rare events and longer-lead forecasts. What is novel about this reforecast data set relative to the first-generation NOAA reforecast is that: (a) a modern, currently operational version of the forecast model is used (the previous reforecast used a model version from 1998); (b) a much larger set of output data have been saved, including variables relevant for precipitation, hydrologic, wind-energy, solar-energy, severe weather, and tropical cyclone forecasting; and (c) the archived data are at much higher resolution.

For a lengthier description of the reforecast configuration and some examples of how these second-generation reforecast data may be used for research and a variety of weather forecast applications, please see the upcoming BAMS article, at
http://www.esrl.noaa.gov/psd/people/tom.hamill/reforecastv2_bams_rev3.pdf