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Title: NAEFS Status and Future Plan  
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Abstract:

The North American Ensemble Forecast System (NAEFS) combines state of the art weather forecast tools, called ensemble forecasts, developed at the US National Weather Service (NWS) and the Meteorological Service of Canada (MSC). When combined, these tools (a) provide weather forecast guidance for the 1-14 day period that is of higher quality than the currently available operational guidance based on either of the two sets of tools separately; and (b) make a set of forecasts that are seamless across the national boundaries over North America, between Mexico and the US, and between the US and Canada. As a first step in the development of the NAEFS system, the two ensemble generating centers, the National Centers for Environmental Prediction (NCEP) of NWS and the Canadian Meteorological Center (CMC) of MSC started exchanging their ensemble forecast data on the operational basis in September 2000. First NAEFS probabilistic products have been implemented at NCEP in February 2006. The enhanced weather forecast products are generated based on the joint ensemble which has been undergone a statistical post-processing to reduce their systematic errors.

The NAEFS system will serve as a prototype for an ensemble forecast system as part of even broader international research collaboration, under the auspices of World Meteorological Organization (WMO) sponsored Global Atmospheric Research Program, called THORPEX, or S2S (legacy of THORPEX). In particular, it could provide example for THORPEX multi-model/multi-center ensemble forecast to improve forecast skill/predictability of 1-14 day period. NAEFS is part of Northern American Climate Service Partnership (NACSP) project. One of the strategic plan for next 5 years is to extend NAEFS forecast to one month which will require to develop a coupling atmosphere-ocean-sea/ice-land model with real time ensemble reforecasts for calibration.

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