A Strategically New Forecast Process Based on a Local Ensemble Kalman Filter

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Revised Statement of Work for Year 2

Despite the reduction in our funding level, we hope to carry out research in year 2 according to our original plan. That is, our efforts will be focused on improving the representation of model errors in the Local Ensemble Transform Kalman Filter data assimilation scheme. In particular, we will implement a model error correction technique,we developed in Year 1 on the NCEP GFS model. Our approach for the representation of model errors is described in details in the paper Baek, S.-J., B. R. Hunt, I. Szunyogh, and E. Ott: Local ensemble Kalman filtering in the presence of model error, *Tellus,* submitted April 5 2005, available at http://keck2.umd.edu/weather/weather_publications.htm. We expect to make further enhancements to our technique based on the results of the initial numerical experiments.

We are planning to actively participate in the inter-comparison of ensemble-based data assimilation schemes with other grantees and NCEP scientists. We hope that NCEP can play a more active role in these activities than in the first year. In particular, the lack of a reference forecast data set, based on assimilating observations considered for the inter-comparison with the operational NCEP SSI data assimilation system, makes a meaningful evaluation of the data assimilation results difficult. We hope that NCEP will soon be able to provide such a data set.

Revised budget

3 months support of PI	$21,000
3.5 month support of postdoc	$12,000
travel	$7,477
Fringe benefits	$5,210
Indirect charges	$22,158
Total	$67,845

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