NOAA THORPEX REVISED WORKPLAN FOR YEAR 2
May 25, 2005

Project title: *Impact of fundamental assumptions of probabilistic data assimilation/ensemble forecasting: Conditional mode vs. conditional mean*

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SUMMARY

The work plan for the second year of the project will remain approximately the same, with minor adjustments. We feel that before testing the full system with real data, we should first evaluate the system with model-produced data. Given a relatively slow start of the project (hiring a postdoctoral/research associate), and some technical issues regarding the access to NCEP computers, we suggest that the initial work with real data be postponed for few (2-3) months, and thus impact the second year. Also, given the reduced funds, and adjustment of priorities (completing the system with real data as soon as possible), the proposed work related to assessing the performance with multi-modal probability density function (PDF) will be postponed for the year 3.

The adjusted second year research work plan is:

- Complete implementation and evaluation of the maximum likelihood ensemble filter (MLEF) with NCEP GFS model in assimilation of model-produced observations
- Implement and test the NCEP observation operator with MLEF and GFS
- Examine the forecast PDF in cycled data assimilation/forecasting
- Assess the overall performance of the mean and mode strategies
- Present results at the annual THORPEX meeting, at the workshop on the subject, and on the project web-page
- Publish results in peer-reviewed journal

As a footnote, this project benefits from other projects which use the same ensemble algorithm (MLEF), however with different model and in different applications. For example, positive impact of the reduction of the degrees of freedom in model bias, noted in other projects, will serve as a starting point in employing the model bias correction in this project.