

Data Assimilation: Estimation and Prediction (group meeting)

Sujit Ghosh and Mariana Pensky

Time and place: April 6, 2005, 3:30-5:00, Rm.# 203 SAMSI

Summary report:

In this meeting, we discussed how to implement the models that we have developed so far. Here are some points that we agreed on:

1. Generate data form the Lorenz-96 40-dimensional model. Kristen mentioned that Kayo put MatLab code on the website for the class which contains data generation for this model as a part of it. We decided to take a look at the code and try to use it to generate data.
2. To test our model, we should generate data form our model. The process should accomplish two things: first, we shall check that the model is well defined, i.e. all steps of generation go through. Second, we shall verify whether the generated data is consistent with the data generated by the equation. Of course, for our model we shall also use Lorenz-96 equation to propagate the model in time. To generate data, we shall need to establish the size of the neighborhood $N(I)$ of the grid point I . Since neither of us has an experience with Lorenz-96 model we want to seek assistance of somebody (Kayo? Istwan?) who has this expertize. We also discussed the procedure for generating the data. Since the model is defined only locally, we shall use Gibbs sampler to generate the data using equations (1) and (2) of March 30.
3. If the previous steps go through successfully, we can test our data assimilation algorithm using Lorenz-96 model.

Participants: Sujit Ghosh, Marianna Pensky, Dave Holland, Minjung Kyung, Kristen Foley, Prashant Pai and two guests: Sujit Sahu and Katja Ickstad