

Week 3

Louis Nass

Monday 6/12

Continued to program a solution on MatLab for the Lorenz '96 system. Finally made progress and was able to create graphical representations that matched the Leib-Lappen paper. I experimented with the slow x_i variables and the fast y_j variables to produce differing results. Again my graphics closely matched Leib-Lappen's and therefore were successful.

Tuesday 6/13

I took the results from the Lorenz '96 model and applied them into my previously developed Ensemble Kalman Filter. I continued to experiment with the number of variables assimilated in the filter, and adjusted the slow and fast variable quantities as well.

Wednesday 6/14

I began to look at the error analysis of the Lorenz '96 model in the Ensemble Kalman filter. I received similar results to those of the Lorenz '63 in terms of error functions. I am worried that there may be problems with the construction of the Kalman filter.

Thursday 6/15

Met with Dr. Spiller and discussed the next steps. My goal is to adjust the filter so that we can create results with a fewer number of 'observed data points' from a greater quantity of 'modeled data points'. I began to reread the presentation done by Dr. Spiller:

- *DataAssimilation : PartIOverviewandParticleFilters* Dr. Elaine Spiller

Had a working lunch with the other students.

Friday 6/16

Began working on fixing and adjusting my previously created Kalman filter. Will first debug using the Lorenz '63 model to ensure success then I will choose a specific Lorenz '96 system with an I and J (slow and fast variable quantity) to continue to study.