

1 Model Error

Model error vs. observation error?

Satellite example

model the radiance? direct observation:
then observation simple

model the temperature? indirect observation:
what's the error of the inverse problem

The different models make different dynamics.

Linear model nonlinear H, reverse, both nonlinear?

2 Hurricane Prediction

Parameter depends on the location / time.

Augmenting system?

Dynamics, attracting fixed pts, bistable dynamics

Sensitivity to the time when the observations are made?
Rapid Change Occurs?

3 DA in adaptive mesh

$\hat{u}_i = F(\{u_i\}), \hat{x}_i = G(\{x_i\}, \{u_i\}) =$
Sea ice model.

AM to solve pde's

change rapidly some points, finer?

Augment the mesh variables, double the size; physical model

Fix a reference mesh, project the ensembles to this mesh.

Point: very little work in adaptive mesh; the model of DA is really the computational model

Comparison made on different grids?? Mean and covariance? Apples and oranges?