Geophysical Research Abstracts, Vol. 6, 06549, 2004
SRef-ID: 1607-7962/gra/EGU04-A-06549

DETERMINISTIC SYSTEMS AND STOCHASTIC MODELS

K. Judd (1), L.A. Smith (2), A. Weishiemer (2)
(1) Dept of Mathematics, UWA Perth, Australia, (2) CATS, London School of Economics, UK

Forecasting with imperfect models presents a number of diffculties: there are problems with generating an initial ensemble of states that reflect uncertainty due to, on one hand, limited and inaccurate observations, and on the other hand, the model error; there is also the problem of taking into account model error in the forecasts from each ensemble member. The theory of indistinguishable states, as generalized to imperfect models, provides means to address both these problems. The theory recommends that the initial ensembles is formed from \emph{proximate pseudo-orbits}, and forecasts are made by solving stochastic forecast equations, even when the forecast model is deterministic.