

Syllabus SIO 276L Spring 2019  
Sugihara and Tsonis

This course involves an illustrative application of empirical dynamic modelling (EDM). Our scientific objective is to better understand and predict major climate modes often used to define climate variability.

Background:

Past research has shown that major climate modes are important in defining climate variability. It has been shown that the network of ENSO, PDO, NAO, and NPI (north Pacific index) can become synchronized, however their interactions are not well-documented or understood.

Plan:

We will begin by attempting to reconstruct attractors from the time series data and if successful, we will apply CCM to verify the network. We will then use this information to construct predictive embedding models using verified causal drivers. There will be some discussion about the possibility of a hybrid model containing first-principal model inputs.