

From Dynamics to Hindcasting to Prediction: A Coastal Bio-Physical Model Does it All

Dr. Susan Allen, UBC
CNC-SCOR 2013 Lecture Tour Speaker

DATE: Friday, November 22, 2013

TIME: 3:00 PM

PLACE: C2045

ABSTRACT: What causes the interannual variability in phytoplankton growth and timing, in nutrient levels and in pH in a coastal ocean? How has that changed in the past? Can we predict what will happen this year? These types of questions can be answered by coupled biological-chemical-physical models provided they contain the physical oceanography that causes interannual variations and the biology and chemistry that determine the impacts on phytoplankton and on carbon.

Designed for deep estuaries, SOG is such a model. As models go, it is simple: a one-dimensional, vertical model with all two-dimensional processes parametrized. In order to constrain and evaluate coupled bio-chem-physics models, detailed knowledge of the system is needed. The Strait of Georgia is an excellent test-bed: a deep estuary in British Columbia that has been observed, studied and modelled over many years with a large surrounding populations interested in its health. This talk will present the basis of the SOG model and then highlight two applications: 1) the prediction (and hindcast) of the spring phytoplankton bloom and 2) the processes driving the seasonal and interannual variation of pH in the Strait.

ALL ARE WELCOME!!!