

SAFL SEMINAR SERIES

WEDNESDAY, NOV. 4, 2009, 3:30PM

ST. ANTHONY FALLS LABORATORY ~ AUDITORIUM



Numerical simulation of salinity and turbulence in a macrotidal estuary

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This talk will present results from high-resolution, parallel numerical simulation of the Snohomish River Estuary near Seattle in Washington State, USA. The estuary is a highly complex and energetic system characterized by strong tides, fast currents, irregular bathymetry and a large intertidal mudflat region (a mudflat that is periodically inundated by the tides). Details of the numerical method SUNTANS (Stanford Unstructured Nonhydrostatic Terrain-following Adaptive Navier-Stokes Simulator) and turbulence mode will be discussed, making comparisons to field data to validate the simulations and to help improve understanding of the physical processes involved. Results will be highlighted with reference to the interaction of intertidal mudflats with the features of the turbulence and salinity in the estuary. This work is supported under United States Office of Naval Research Grant N00014-05-1-0485 (Dr. C. Linwood Vincent, Program Officer).

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