Coastal Ocean and Estuary Modeling, Data Assimilation and Forecasting Applications in support of SWOT and AirSWOT

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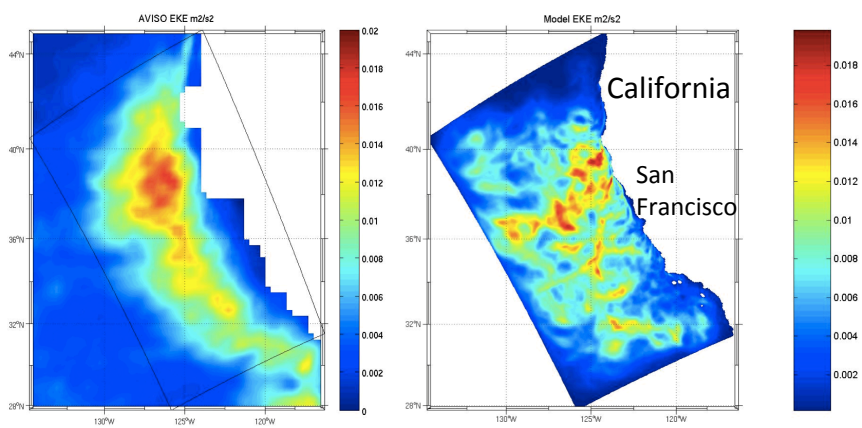
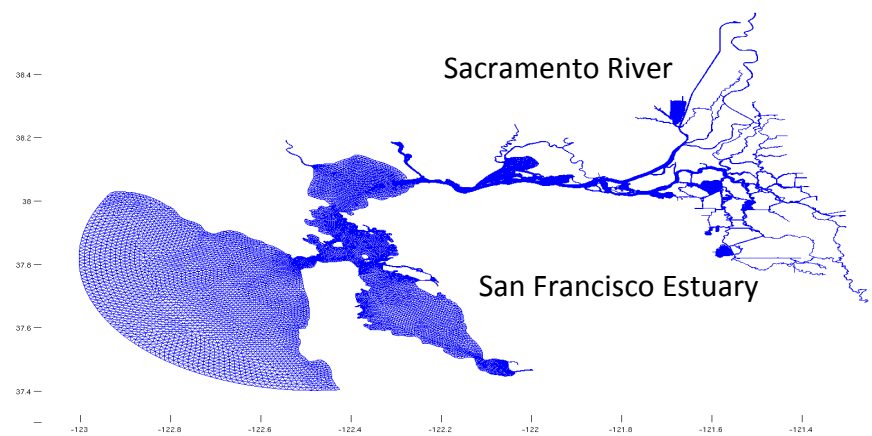
Objective: To support SWOT and AirSWOT in the areas of coastal oceanography and its interactions with estuary with a particular focus on high resolution modeling, data assimilation and real-time forecasting applications, specifically

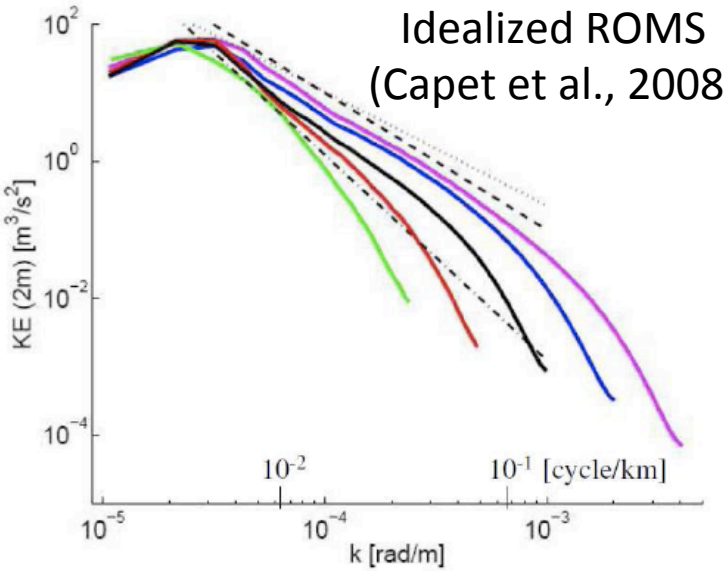
- To characterize the spatial and temporal variability of the coastal ocean and estuary
- To develop coastal and estuary data products using 3D dynamical models and data assimilation
- To study the interactions between the coastal ocean and estuary and prepare SWOT for coastal/estuary forecasting applications



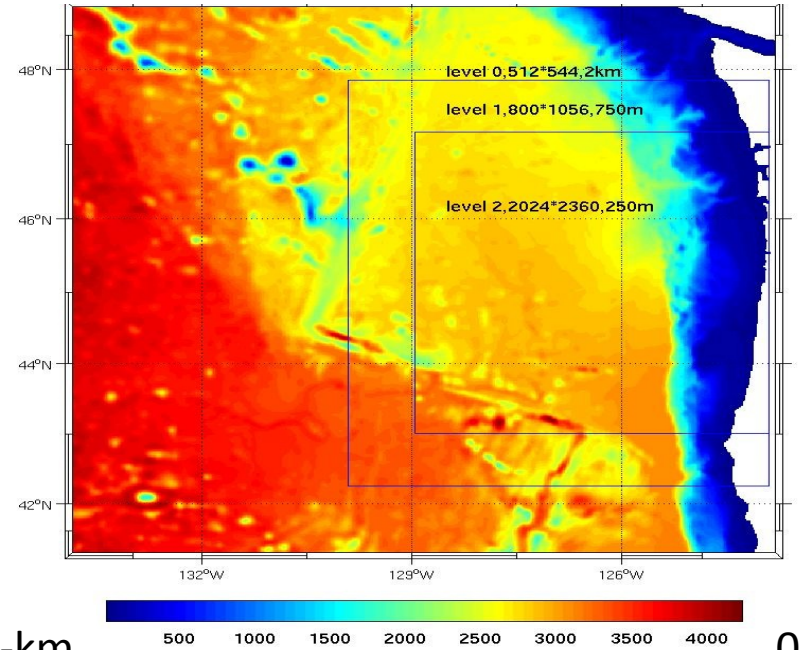


Coastal Ocean: Regional Ocean Modeling System (ROMS)

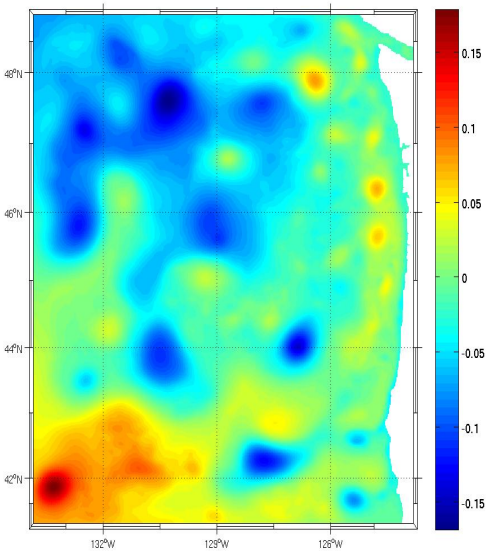
Idealized ROMS
(Capet et al., 2008)



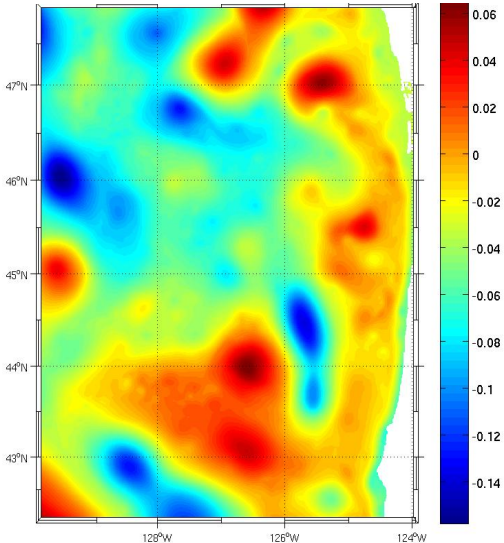
Realistic ROMS off Oregon/Washington Coast



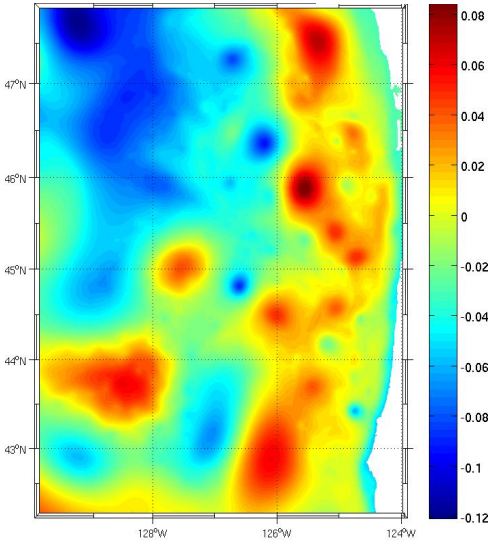
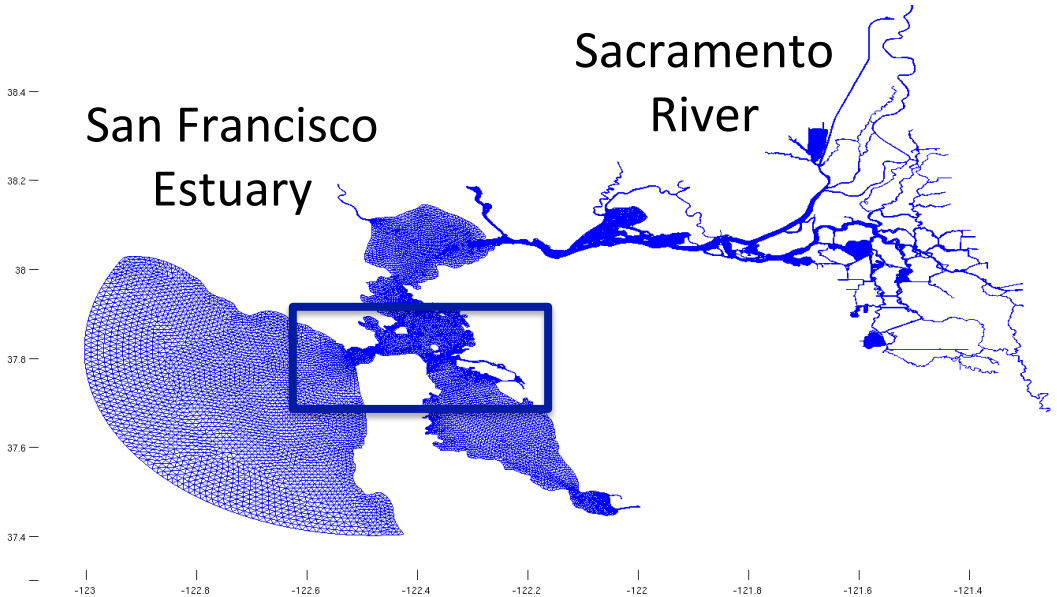
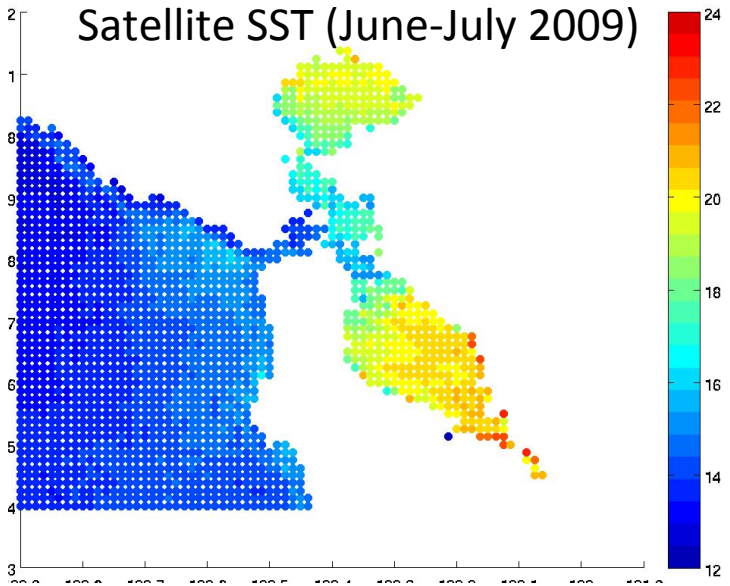
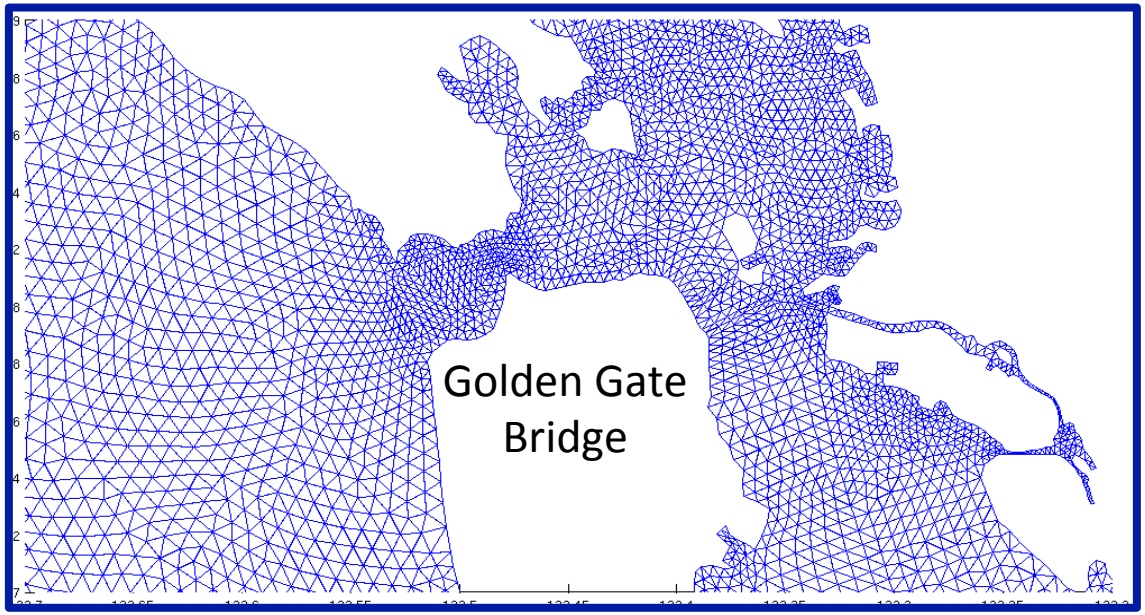
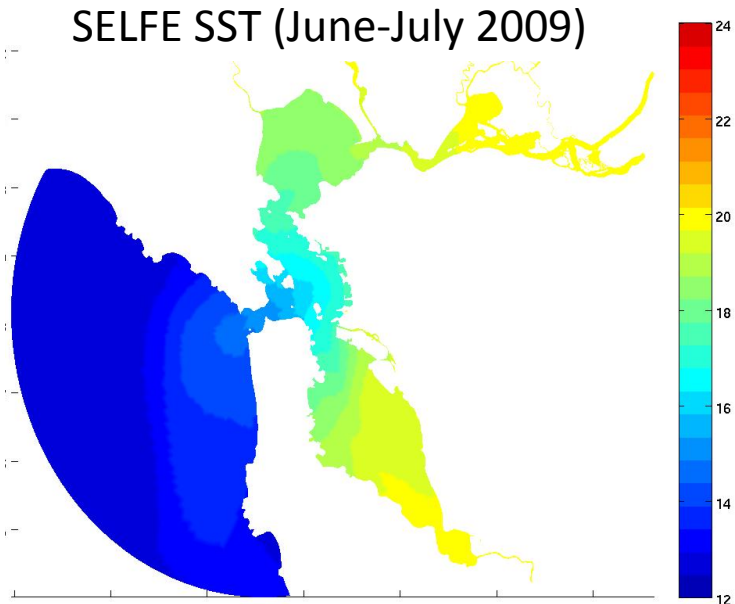
2-km



0.75-km



0.25-km



Estuary/Bay/River:
Semi-implicit Eulerian-Lagrangian Finite Element (SELFE)