

## Coastal & Ocean Fluid Dynamics Laboratory: Current COFDL Projects

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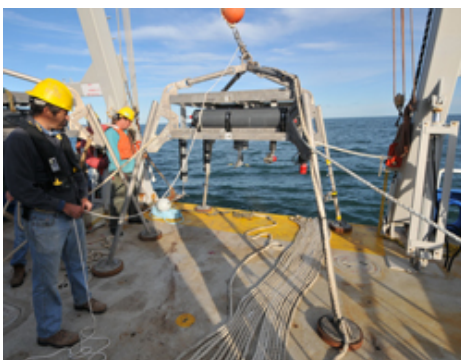
[River Mouths & Inlets](#) - Field experiments are currently underway to improve understanding of, and to develop and test models for the processes near a river mouth or inlet, including evolution of morphology, bathymetry, and bed roughness, wave-current interactions in constricted flows, wave evolution and breaking near strong currents, circulation patterns, and tracer dispersion.



[Diapycnal and Isopycnal Mixing Experiment in the Southern Ocean \(DIMES\)](#) - DIMES is a US/UK field program aimed at measuring diapycnal and isopycnal mixing in the Southern Ocean along the tilting isopycnals of the Antarctic Circumpolar Current. Ocean circulation is a critical regulator of the Earth's climate processes.



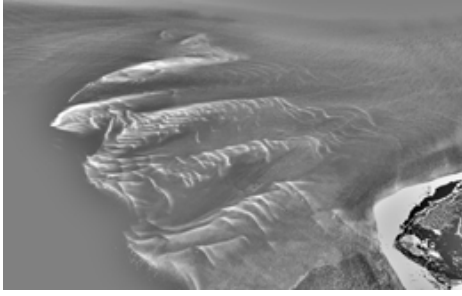
[Skagit Tidal Flats Experiment](#) - Our objective is to develop field-verified models for circulation, sediment transport, and morphological change on macrotidal flats. To attain this goal, we are collecting observations of flows, tides, waves, water density, and bathymetry across the Skagit Bay tidal flats.



[Optics, Acoustics and Stress in Situ \(OASIS\)](#) - Our long-term goals are to quantify and understand the effects of aggregation dynamics on the distribution of particles in the bottom boundary layer, and to understand how the properties of particles (composition, shape, and internal structure) affect their optical and acoustical properties.



[NSSEFF Beach Manipulation](#) - Fieldwork is geared toward understand the coupling and feedback between waves, currents, sediment transport, and evolving morphology so that maps of the seafloor can be made from remotely sensed information, and so that the maps can be updated with numerical models.



[Dynamics of Sandwaves with Combined Wave-Current Forcing and Mine Burial Processes](#) - Our long-term goals are to understand sediment transport processes, the relevant physical forcing processes and the resulting morphologic evolution of river mouths, tidal inlets, and shoals.

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