High resolution coastal and shallow water measurements

Low resolution ocean observations, repeat hydrographic surveys, time-series measurements

Temporal Scale

Spatial Scale

Molecular Processes
Vertical turbulent mixing
Ebullition and diffusion
Surface Waves
Inertial/Internal and Solitary Waves
Fronts, Eddies, and Filaments
Mesoscale Phenomena
Phytoplankton Blooms
Coastal upwelling
Coastal scale variability
Surface Tides
Internal Tides
River Outflows
Synoptic storms
Groundwater discharge
Seasonal mixing and biomass cycles
Climate change
100 yr
10 yr
1 yr
1 mon
1 week
1 day
1 hour
1 min
1 s
1 mm 1 cm 1 dm 1 m 10 m 100 m 1 km 10 km 10² km 10³ km 10⁴ km