

An aerial photograph of a large body of water, likely the ocean, showing a prominent green algal bloom. The bloom is concentrated in a large, roughly circular area in the lower right quadrant, with a dense, bright green center that fades to a lighter green at the edges. The surrounding water is a deep blue, and there are some smaller, less dense patches of green elsewhere. The overall scene illustrates the physical-biological interactions at the (sub)mesoscale.

Physical-biological interactions at the (sub)mesoscale

Report from the Breakout Group

Key Points

Objectives:

- Understand the role of meso-scale variations in shaping the *mean state* of the system.
- Develop parameterizations for the use in predictive models

Target Processes:

A large suite were proposed, e.g.

- frontogenesis - enhanced production/subduction
- lateral transports by eddies (e.g. coastal-open ocean, Southern Ocean,

Key Points (cont)

Approaches:

Likely requires combined approach, i.e.

- Eulerian/Lagrangian sampling
- suite of platforms (e.g. towed systems)
- large suite of sensors (e.g. particle size distribution, phytoplankton assemblage)

Regions:

Predictability:

- regions of strong lateral gradients
- topographic control
- synergies with physical programs