

OCEAN OPTICS XXIV

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Tuesday, October 9

Poster Session 2

10:30–12:30

Poster 34

OBSERVATION-SYSTEM SIMULATION EXPERIMENTS (OSSES) AND SEASONAL FORECASTS TO SUPPORT EXPORTS

While the role of oceans in the global carbon cycle and its exchanges with the atmosphere are indisputable, it is less clear how the characteristics of the upper oceans determine the vertical transfer of organic matter and how they influence the efficiency of these vertical fluxes. Using the high degree of expertise in OSSEs and data assimilation at the NASA Global Modeling and Assimilation Office (GMAO) we assessed different observational strategies allowing for best use of resources to maximize our understanding of the export fluxes prior to and during the EXPORTS field campaigns. The GMAO atmospheric and ocean seasonal forecast was additionally used to provide hindcast, and 9-month forecast of biogeochemical variables including phytoplankton concentration and composition, productivity rates, and carbon export.

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