

Title: Synthesis of coupled physical-ecosystem dynamics and linkages to environmental forcing on event to climate scales

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Session Description

Understanding biological-physical interactions controlling marine ecosystem dynamics has been the focus of multidisciplinary research programs undertaken during the past two decades in a variety of regions, such as the North Atlantic, North Pacific and Southern Ocean. Observational and modeling results from these regions, and others, have provided new understanding of the processes that control marine population variability within and between the study regions. The purpose of this session is to provide a forum for the presentation of synthetic results arising from studies of coupled physical-biological systems with the goal of highlighting differences and similarities in different

oceanic systems. Papers that address the following are especially relevant to the session: 1) Linkages between climate-scale phenomena and regional physical and biological variability; 2) Modeling and observational studies of processes that affect coupled physical-biological systems (*e.g.*, topographic controls, mesoscale variability, turbulent mixing); 3) Event-scale, seasonal, interannual and longer-term changes in population structure in relation to variability in the physical environment; 4) Comparison of the structure and dynamics of lower food-web and zooplankton and fish populations within and between the regions and ocean basins; 5) Connections between trophic levels. Observational and modeling studies that integrate biological and physical processes and make connections to the climate system are particularly encouraged.