

ICES CM 2016/D:534

**Impacts of climate and ecosystem change on fish and fisheries in the North Atlantic**

Katherine E. Mills, Mark R. Payne, Timothy F. Sheehan, and Andrew J. Pershing

Abstract

The North Atlantic ecosystem is shaped by ocean currents, climate drivers, and environmental variability that operate at a variety of spatial and temporal scales. Climate-related factors affect physical conditions at seasonal, interannual, and multidecadal time scales. In turn, these physical changes can alter phytoplankton, zooplankton, and fish populations through a variety of mechanisms. Subsequently, fisheries, management, and conservation initiatives may be impacted as target resources change in abundance, productivity, and distribution. This presentation will identify examples of linked climate-ecosystem-fishery changes that have been experienced in the North Atlantic and highlight sub-regions in which major and rapid changes are occurring. Moreover, this presentation will establish a multi-level and multi-scale framework for organizing information about ecosystem components, relationships, and changes that can be used as a basis for synthesizing information from multiple contributions to this session.

Keywords: climate, ecosystem conditions, fish, fisheries, North Atlantic

Contact author: Katherine E. Mills; Gulf of Maine Research Institute, 350 Commercial St., Portland, ME 04101 USA; kmills@gmri.org; 207-228-1657