

Harnessing the Global Observing and Data System to Support Ecosystem-based Fisheries Management in the Arctic: Current Status and Future Directions

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The global community is increasingly recognizing the value of ecosystem-based fishery management (EBFM) to ensure sustainable fisheries. Even as global interests examine the potential for development of future commercial fisheries in the Arctic, international diplomatic efforts are underway to understand and establish the limits of such commercial activities. What is the present ability of the global observing and data system to support international diplomatic negotiations in the development of EBFM? Working within the context of the broader framework of the ecosystem approach to management, EA, we show that the basic requirements for implementing EBFM are provided by sustained access to a wide variety of different observations and products (e.g. models) through a network of observing and data nodes. Such a system requires that data be discoverable, of known quality, accessible, in a form that can be readily used for analysis and sharing (i.e. interoperable), and preserved over time. We explore the current status by providing a review of the existing Arctic data “ecosystem” as it exists as part of the broader global system, and analyzing in the context of EBFM the existing capacity and known gaps. To point toward future directions we conclude with the presentation of a model of an ideal observing and data network designed to serve the short and medium term requirements of EBFM.