

Multi-year climate predictions to support fisheries management in a changing ocean

Authors: Desiree Tommasi

Variability in ocean conditions is known to shift the distribution and productivity of marine fish and invertebrate species. These changes have implications for fishing communities, the fishing industry, and fisheries management, with a range of management decisions, from time-area closures to annual catch limits, being affected. For instance, our inability to reliably predict future changes in recruitment leads to very uncertain and, at times, bias estimates of future stock status and harvest levels. Recent improvements in forecasting capability of global dynamical climate prediction systems at the multi-annual scale, however, raise prospects for improved utility of these tools to support fisheries management in a changing ocean. Here, we present an overview of advances in multi-annual prediction of fisheries relevant environmental variables and highlight their potential value to fisheries management decisions. Challenges and priority developments are also discussed.