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Understanding the Impacts of Climate Change on the Distribution, Population Connectivity, and Fisheries for Summer Flounder *(Paralichthys dentatus)* in the Mid-Atlantic R/6410-0011

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Summer flounder is a critically important species to commercial and recreational fishermen throughout the Middle Atlantic region, but the species has been found further and further north at the same time that temperatures have warmed in recent decades. These shifts in summer flounder have greatly complicated fisheries management, and climate change will likely further impact the distribution and productivity of summer flounder. This project aims to uncover why summer flounder have shifted north and what the implications for management will be. The ultimate goal is to provide information that supports management of the summer flounder fishery for both high yields and long-term sustainability.

The project brings together a diverse, multi-state and multi-university team with expertise in fisheries ecology, climate science, and economics. Dr. Malin Pinsky, assistant professor of Ecology, Evolution, and Natural Resources at Rutgers University, leads the team. Co-investigators on the project include Olaf Jensen and Ken Able (Rutgers), Janet Nye and Hyemi Kim (Stony Brook U.), Joel Fodrie (U. North Carolina), and Chris Kennedy (George Mason U.).

The project will integrate a range of scientific approaches, from genetics to microchemistry, analysis of historical data, and bioeconomic modeling of fishery outcomes. Key questions to be answered include the degree to which summer flounder move up and down the coast, and to what extent they move in response to changing temperatures. In addition, the combined impacts of climate and regulations on the fishery will be examined. In total, the project aims to provide much of the scientific understanding needed to begin including climate change and range shifts in assessment and management of summer flounder.

Photos - Rutgers University Marine Field Station