Fisheries Integrated Modeling System

An evolution of stock assessment models to provide better information for fishery managers to support sustainable fishery management.

The Fisheries Integrated Modeling System is a next-generation framework of stock assessment models, assisting fishery managers with the goal of achieving sustainable fisheries. This system, when completed in a few years, offers the NOAA Fisheries and global fisheries science communities an advanced set of stock assessment models. These tools can be used separately or in combination to incorporate ecosystem and socioeconomic data and models, as well as climate effects and other drivers within the marine environment, into stock assessment models.

For many years, NOAA Fisheries has relied on regionally developed stock assessment models to conduct stock assessments for fisheries management. Many of these models are hosted in the Fisheries Integrated Toolbox. This new effort represents a system of tools that capitalizes on the expertise of NOAA Fisheries scientists and software development best practices in consultation with the broader fisheries science community. The system is designed to be modular, maintainable, and extensible. The system also enables stock assessment tools to leverage technological developments, such as:

- High performance computing
- Cloud resources
- Parallel processing

It streamlines collaboration by using versioning protocols and open-source development practices.

The project is managed under the Assessment and Monitoring Division within NOAA Fisheries Office of Science and Technology. It includes a core development team in the office and participants from all six NOAA Fisheries Science Centers. The project team works in coordination with a wide array of partners across NOAA and with fishery science and management agencies and institutions around the globe. These partnerships ensure that the system best addresses the needs of the broader community.