Introduction to Atlantis

fish610.080 EAFM Tools: Atlantis

Haley Frater

February 12, 2025

About Atlantis

Atlantis is a modeling framework that can be used to construct ecosystem models for various marine and fresh water ecosystem. It has for example been used to model the ecosystem of: Icelandic waters, Lake Victoria, the California current and the waters of south east Australia. The Atlantis model simulates the entire ecosystem and can contain up to six modeling components: 1) oceanographic model component, 2) biological component, 3) fisheries model with multiple fleets, 4) sampling and assessment model, 5) management model, and 6) socio-ecological model. It is a deterministic model which means that if the parameters values and the initial conditions are the same the model will produce the same results. The model tracks energy flow (nitrogen) in the system. The initial source of nitrogen is set in the water and in the functional groups. Nitrogen can be added to the system with e.g. river inputs and atmospheric deposition. Nitrogen is lost e.g. to sediments and atmosphere, and by denitrification. A detailed description of framework can be found in the user guide (Az).

In this tutorial the first three model components of the Atlantis modeling