**Position Title:** Undergraduate Research Assistant for parameterization of an Atlantis ecosystem model for the Gulf of Alaska

**Start date:** June to September 2021

**Expected time commitment:** approx. 25 hours/week

**Supervisor:** André Punt

**Primary collaborators:** Alberto Rovellini, Isaac Kaplan

**Salary:** $17.50 per hour

**Location:** Remote

**Topic:** The Gulf of Alaska (GOA) is a large and geographically complex region of the North Pacific Ocean, that has undergone regime shifts leading to persistent changes in environmental forcing and hence ecosystem reorganization. It is an area where relatively major impacts of climate change are expected. Some of the projected impacts include warming of the surface water, ocean acidification, changes in sea level, and an overall reduction in ecosystem productivity. Further development of ecosystem models for the Gulf of Alaska is a priority for both evaluating climate change impacts and addressing other issues associated with ecosystem-based fisheries management. A spatially-explicit approach is considered necessary because spatial complexity occurs at multiple scales in the region.

The selected Research Assistant will aid with the parameterization of the biological components of an Atlantis model for the marine ecosystem of the Gulf of Alaska. The Atlantis model is a spatially-explicit, coupled physical-biological oceanographic model developed by Dr. Elizabeth Fulton (CSIRO Australia, Ocean and Atmosphere Flagship). As an end-to-end ecosystem model, Atlantis is forced by high resolution physics and includes detailed representation of biogeochemistry, plankton and benthos dynamics, and growth, movement, and age-structured stock dynamics of fish and other higher-trophic-level species. The selected Research Assistant will work closely with researchers at University of Washington to synthesize available information on the life history of marine species in the Gulf of Alaska. The Research Assistant will conduct a review of fisheries stock assessments, life history databases, and peer-reviewed literature to identify and extract model parameters for Atlantis. Examples of such parameters include growth rates, consumption rates, natural mortality, age at maturity, diet information.

**Essential qualifications.** The ideal applicant will be detailed-oriented, and will have undergraduate coursework in ecology, population biology, and/or marine science (e.g. FISH 323, 454, 458). Ability to clearly document findings and methods is required.

**Desirable qualifications.** Exposure to ecological modeling and practical experience or coursework in data organization (Excel, google sheets), using databases, or programming in R or other languages.

**To Express an Interest:** Please contact André Punt (aepunt@uw.edu) by Friday June 11 with a cover letter, an academic transcript and CV.