

### Position Description

Will perform statistical programming and analysis tasks on hierarchical linear models and stochastic processes for NOAA Fisheries; work with the Project Leader and the project team in the analysis of spatial oceanic plankton data for a project related to the modeling and forecasting of community dynamics; and perform a wide range of statistical analysis and computer programming activities using R and an R package for hierarchical linear modeling developed by the project team. The modeling framework is based on multivariate state-space time series analysis. A major task will be the development of time series models to investigate the effect of environmental drivers (temperature, nutrients, higher-order predators, etc.) on plankton community dynamics. Will help develop novel statistical models that extend the project team's previous work and will use Monte Carlo simulation studies to test approaches for estimation of these models. Will use Bayesian or maximum-likelihood approaches. After development of methodologies, will work on analysis of spatial plankton data. Will prepare publications for submission to ecological journals and present findings at national and local conferences.

### Required Skills

2 + years experience with the following:

- Population modeling experience
- Statistical modeling experience, particularly with hierarchical models
- Publication record in ecological journals
- Strong programming skills

In addition to those required criteria, the following criteria are desired but not required:

- Familiarity or experience with time-series analysis
- Strong R (or S+) programming skills
- Experience with BUGS (or a variant for Bayesian analysis)
- Experience with hidden Markov models and/or Kalman filtering

This project will require active participation within a team working on similar problems, but also the ability to work independently and take leadership on individual projects.

### Education

BA/BS or MS in Mathematics, Statistics, Marine Biology, Fisheries Science, Physical Science, related field, or equivalent experience.

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<http://tbe.taleo.net/NA8/ats/careers/searchResults.jsp?org=ERT&cws=1>

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