

Postdoctoral Fellowship: Coral Reef Macroecology in the Anthropocene

National Socio-Environmental Synthesis Center (SESYNC) and University of Victoria (UVic)

The National Socio-Environmental Synthesis Center (SESYNC) invites applications for two-year postdoctoral fellowships that begin August 2014.

Fellows will undertake collaboratively-developed socio-environmental or cyberinfrastructure synthesis projects that are consistent with the mission of SESYNC. One new fellow will develop a project on coral reef macroecology in collaboration with Dr. Julia Baum (UVic) and Dr. Jana McPherson (Calgary Zoo), who will serve as postdoctoral mentors during the fellowship. Drs. Baum and McPherson are developing a gridded, high resolution set of human disturbance and eco-tuned biophysical data layers for use in large-scale statistical analyses of the interplay between human and biophysical factors with coral reef ecosystem services, function and resilience.

Requirements: The postdoctoral researcher will first help to develop the new spatial data product, including compiling geospatial data, quality control, processing data (converting from various projections and scales to common grid, running summary computations on time series of remote-sensing data) and preparing meta-data and visualizations. To address questions regarding the influence of human and biophysical factors on coral reef ecosystems, he/she will then construct and validate spatial models (e.g. species distribution models and community-level distribution models) for Pacific coral reef fishes, using in-hand, regional-scale, standardized underwater visual census data.

This position will be based at SESYNC in Annapolis, Maryland, with visits to work with the postdoctoral mentors in person at the University of Victoria, British Columbia, Canada. There will also be opportunity to visit with collaborator Dr. Ivor Williams at NOAA's Coral Reef Ecosystem Division in Honolulu.

Qualifications:

- A PhD in ecology, spatial modelling/GIS, oceanography, mathematical biology, or computer science.
- Experience managing, manipulating, and modelling large spatial data sets, including remotely sensed data. Demonstrated proficiency with R, and at least one of Python, Java, Ruby on Rails, GRASS or similar applications. Excellent technical, analytical, computer, organizational, and problem-solving skills. Strong attention to detail, and meticulous work style, as evidenced by previous research.

- Excellent time management skills, including the ability to meet project goals in a timely manner, and follow through on projects.
- Strong interpersonal and communication skills, the ability to work both independently and collaboratively, and to communicate research findings both at professional meetings and in high quality peer-reviewed journals.

Desired (not Required) Qualifications:

- An interest in marine ecology, conservation and socio-ecological dynamics are an obvious asset.
- The ideal candidate will also be interested in and capable of learning and utilizing emerging tools for spatial analysis, and have proficiency in ArcGIS and in SQL database construction, management and manipulation, as evidenced by previous projects and publications.

To apply: Applicants must be successfully pre-screened by SESYNC. To submit a pre-screening application, please go to www.sesync.org/forms/prescreen-postdoc-2014. Applicants must include a CV. Following successful pre-screening, applicants are invited to contact Julia Baum at baum@uvic.ca to co-develop a full proposal for the postdoctoral fellowship. Final proposals are due April 15, 2014 at 5pm Eastern Standard Time. Additional details about the SESYNC post-doc and application can be found here. <http://www.sesync.org/opportunities/postdoc-2014#codev> For additional details about the coral project please email Dr. Baum.