THE NATURAL CAPITAL PROJECT

Position Announcement

HYDROLOGICAL ECOSYSTEM SERVICES POST-DOC

The Natural Capital Project seeks a creative and talented hydrologist or ecologist with strong analytical and modeling skills to advance the development, testing and application of freshwater ecosystem service models. We are a partnership among **Stanford University's Woods Institute for the Environment, University of Minnesota's Institute on the Environment, The Nature Conservancy**, and **World Wildlife Fund** developing and testing tools to model and map the distribution of biodiversity and the flow of multiple ecosystem services across land- and seascapes.

We are a collaborative group of researchers and practitioners seeking someone to contribute to the improvement of existing models (such as water yield for hydropower production, nutrient and sediment retention for drinking water quality and/or reservoir maintenance, flood mitigation) and to lead the development of new models (such as water yield for irrigation and drinking water, groundwater recharge). These models identify where ecosystem service provision and delivery are most likely to change in response to land-use change across landscapes, and are simple enough to be applied in data-poor regions to aid in decision-making. Applicants must demonstrate diverse experience in the development and practical application of such models to inform natural resource decisions, and a desire to think creatively about a broad set of biophysical and social processes. The successful applicant will have a proven record of seeing projects through to completion, extensive experience distilling complex processes down to flexible, simple models through regression analyses and/or sensitivity analysis, a strong interdisciplinary background to connect biophysical processes to ecosystem service valuation, and the ability to work effectively in a team to translate science into user-friendly software tools. Model development will progress in response to needs in applications with decision makers including targeting watershed management investments for improved water-related benefits, accounting for water-related benefit losses in environmental impact assessments to inform new legislation and lending requirements, improving management of military bases, and retargeting of agricultural subsidies to reduce tradeoffs between crop production and water quality.

Our core team is based in Seattle, Washington, DC and at Stanford, and we have active partners around the globe. This position is housed at Stanford University and will be advised by Becky Chaplin-Kramer and Gretchen Daily.

Principal Responsibilities:

- Work with our collaborative group to develop simple models for representing the relationships between land-use/land-cover and the provision of hydrologic ecosystem services.

- Review literature and identify existing approaches for modeling individual ecosystem services.
- Adapt available simple models for ecosystem service applications or use observed data or calibrated dynamic models to derive simple models for ecosystem services that do not have applicable, published approaches.
- Work through iterative internal peer-review process to ensure multi-disciplinary perspective and acceptance of approach
- Validate simple models against observed data in several project areas and as applicable, compare simple models to more complex approaches

- Work with software development team to transition models into decision support tool(s).
- Incorporate feedback from stakeholders into model structure.
- Present work at academic and practitioner conferences and workshops.

Required Qualifications:

- Ph.D. in hydrology, ecology, or related fields.
- Expertise in statistical analysis or model development and application, preferably for both primary research (including graduate work) and practical settings.
- Established publication record in diverse, peer-reviewed journals.
- Strong interest in, and commitment to, using science to inform policy.
- Expertise in model sensitivity analysis, calibration and validation, with synthesis and summary for decision maker audiences
- Experience working with collaborators from diverse backgrounds and the capacity and interest to work with interdisciplinary teams.
- Excellent verbal and written communication skills with both technical and non-technical audiences.
- Ability to produce rigorous analyses under tight deadlines
- Preferred familiarity with geographic information systems (ArcGIS, GRASS, etc)

Term: January 2013 – January 2014, and beyond contingent on funding

Location: The position is a postdoctoral research position located in Palo Alto, California at Stanford University, will involve extensive interaction with interdisciplinary teams and will require approximately 10% travel.

How to Apply: Send a cover letter describing your experience and interest, as well as a CV and contact information for three references **in one PDF document** to bchaplin@stanford.edu with HYDROLOGICAL ECOSYSTEMS SERVICES POSTDOC in the subject. We will begin reviewing application **January 7, 2013** and the position will remain open until filled.

Stanford University is committed to equal opportunity through affirmative action in employment and we are especially eager to identify minority persons and women with appropriate qualifications. More information on the project can be found at www.naturalcapitalproject.org and http://invest.ecoinformatics.org.