Detailed Description:
The Earth System Observations Group (EES-14) in the Earth and Environmental Sciences (EES) Division at Los Alamos National Laboratory (LANL)is seeking applications from diverse candidates with expertise in modeling vegetation dynamics (preferably related to coastal systems), coastal sediment transport and landscape dynamics, and feedbacks between vegetation and coastal landscape evolution. The successful candidate will work with a multi-disciplinary team of geomorphologists, vegetation, hydrological, infrastructure and ocean modelers, focused on developing multi-physics models for high-resolution simulations using high-performance computational architectures. The successful candidate will have opportunity to work with the current state-of-the-art DOE-sponsored modeling codes such as Advance Terrestrial Simulator (ATS) model, FATES (Functionally Assembled Terrestrial Simulator) dynamic vegetation model, and evaluate model predictions with observations from field or remote sensing. A successful candidate could also focus their research on quantitatively representing feedbacks between vegetation and sediment deposition and erosion in coastal settings in the ATS model directly coupled to the DOE global ocean model MPAS-O.

Job Requirements
Minimum Job Requirements

- **Research background in one or more of the following: vegetation dynamics, coastal geomorphology, interactions between vegetation and sediment transport, and salinity/flooding impacts on vegetation.**
- **Quantitative analysis skills with experience in one or more of the following programing and analysis languages: Fortran, Python, C, Matlab and R.**
- **A Ph.D. in ecology, environmental science, geomorphology, fluid dynamics, civil engineering, climate modeling or a closely related field. The candidate must have completed all Ph.D. requirements by commencement of the appointment and be within 5 years of completion of the Ph.D.**

Desired Skills:

- Experience in developing and/or using models to predict and understand vegetation dynamics and/or geomorphic feedbacks that govern the evolution of coastal landscapes, with a preference for tidal marsh systems.
- Diverse research experience with a preference for individuals with experience and knowledge of computational physics and/or climate modeling; experience in construction and application of physical models; programing expertise; and the analysis and incorporation of data and observations for model development and testing; experience on high performance computing.

- Demonstrated scientific excellence as evidenced by submission and publication of authored publications in refereed journals.
- The ability to work in a highly collaborative team setting is also a requirement.

Note to Applicant:

In addition to applying on-line, please send a *curriculum vitae*, digitized copies of transcripts, names of three references, and a one-page cover letter detailing qualifications, research interests, and a proposed research topic to Joel Rowland at jrowland@lanl.gov and Chonggang Xu at cxu@lanl.gov. Please include "Ecogeomorphology Postdoc Search" in the email subject line. Applications will be reviewed as received.

Candidates may be considered for a Director's Fellowship and outstanding candidates may be considered for the prestigious Marie Curie, Richard P. Feynman, or J. Robert Oppenheimer. For general information related to the Postdoc Program, salary and benefits go to: http://www.lanl.gov/careers/career-options/postdoctoral-research/index.php.

Formal applications should be made through the LANL website. To apply, go to http://www.lanl.gov/careers/career-options/jobs/all-jobs.php and search for job no. IRC61828.

Overview: This 2-3 year postdoc position is in the Earth and Environmental Sciences Division working to improve predictions of the impacts of environmental change on the vulnerability and resilience of natural and human built systems. Earth System Observations (EES-14) works broadly across the traditional fields of geology, ecology, and atmospheric sciences, with an emphasis on experimental and observational sciences, often coupled to the development and improvement of predictive modeling. This postdoctoral position will focus on the predictive understanding in any or all the following areas: 1) the vegetation dynamics in the coastal regions, 2) sediment transport and coastal land scape evolution, and 3) the interactions of vegetation dynamics and sediment transport, using a combination of models and observations. This postdoctoral position will require the candidate to integrate and communicate with coastal ocean and infrastructure modelers, and aid in uncertainty quantification and sensitivity analysis of models and model outputs.