Doctoral Research Fellowship
Hydrologic Modeling of Coupled Human Natural Systems
Utah State University

Utah State University invites applications for a PhD-level graduate research fellowship to develop technical approaches for coupling hydrologic models in support of developing holistic models of natural and human mediated hydrology of western water systems. This fellowship opportunity **will start in Fall 2013** and is part of a multi-year, NSF funded study aimed at understanding water resources sustainability in Utah's urbanizing Wasatch Range Metropolitan Area (WRMA; see www.iutahepscor.org for more information). The successful applicant will be expected to:

1. Conceptually model the natural and human mediated hydrologic systems of western water systems to identify important flow paths, stores, and hydrologic processes.
2. Develop component-based, coupled models for quantifying current water supplies and demands and assessing potential future impacts to the supply and availability of water from land use change, population growth, changing urban form, and hydroclimatic changes.
3. Work collaboratively with researchers and students assessing potential impacts to ecosystem services to ensure that required linkages are aligned in time and space.
4. Work collaboratively with iUTAH social science teams to ensure that appropriate organizations, decision making processes, and interactions among urban form, environmental change, water infrastructure, and water use decision making are accounted for in the models.

Candidates should have (or expect to complete by August 2013) a masters degree in civil and/or environmental engineering or in a relevant related discipline. The home department for this student will be in Civil and Environmental Engineering, though students will be expected to work in an interdisciplinary, cross-institution research team that includes researchers from USU, University of Utah, Brigham Young University, and several other Utah universities. Full doctoral research fellowship support for a qualified student on this project is initially guaranteed for 2 years plus a full tuition award, with expectations and opportunities to pursue supplemental funding from internal and external sources in future years. Prospective students should contact Dr. Jeff Horsburgh (jeff.horsburgh@usu.edu) for more information. **Please include a current curriculum vitae and statement of research interests with your inquiry. Application deadline is May 15, 2013.**

Why Utah? The Wasatch Front of Northern Utah offers a stunning landscape for work (and play). The Wasatch/Cache National Forest provides outdoor recreation year-round. Housing costs are lower than the national average, and there are diverse cultural opportunities. Northern Utah is a short trip from the most scenic National Parks in the USA, including Zion, Bryce Canyon, Canyonlands, Arches, Capitol Reef, Grand Teton, Great Basin, and Yellowstone.