

EOD highlights and new initiatives



Status of Signature Programs



iFellows



- 18 students from 7 universities & colleges (50% increase over 2013)
- Mentors at all three R1 institutions
- Broad range of projects in natural & social sciences and engineering
 - 5 in RFA1
 - 8 in RFA2
 - 5 in RFA3
- Check out posters at lunchtime

Research Catalyst Grants

- Grants to faculty at PUIs engage undergraduates in research and encourage R1 collaboration
- 5 awards in 2014-15
 - Geochemistry of backyard wells & gardens (UVU)
 - Nutrient & trace metal loading in Utah Lake (UVU, BYU)
 - Watershed-damming landslides (UVU, U of U)
 - Green roof infrastructure (SUU, U of U)
 - iPad water survey (WSU, SUU, USU, U of U)

External Engagement

- Taking Learning Outdoors – Helps K-6 teachers use nature as classroom across curriculum
 - 15 teachers, 1,285 students
- EOD Innovation Awards in 2014-15:
 - 2 elementary school programs in SLC area
 - 3 museum programs (direct links to iUTAH research)
 - Utah WaterGirls – middle school STEM experience launched by SLCC faculty Maura Hahnenberger
 - The Source – series of hour-long Utah Public Radio programs broadly focused on water issues

New Initiatives



iUTAH Traineeships

- Low industry & agency demand for iUTAH internships
- Trainees placed with GAMUT and research labs
- Longer-term experience
- Helps undergraduate students gain marketable skills for non-academic jobs (e.g., installation and maintenance of sensor and sampling technologies)

USU-Eastern

Native American mentorships

- Introduced iUTAH and water issues to 21 students from USU's Blanding campus (60% Native American)
- 2 students rotated through iUTAH labs (biology, sociology, engineering)
- Worked alongside graduate students, iFellows & trainees

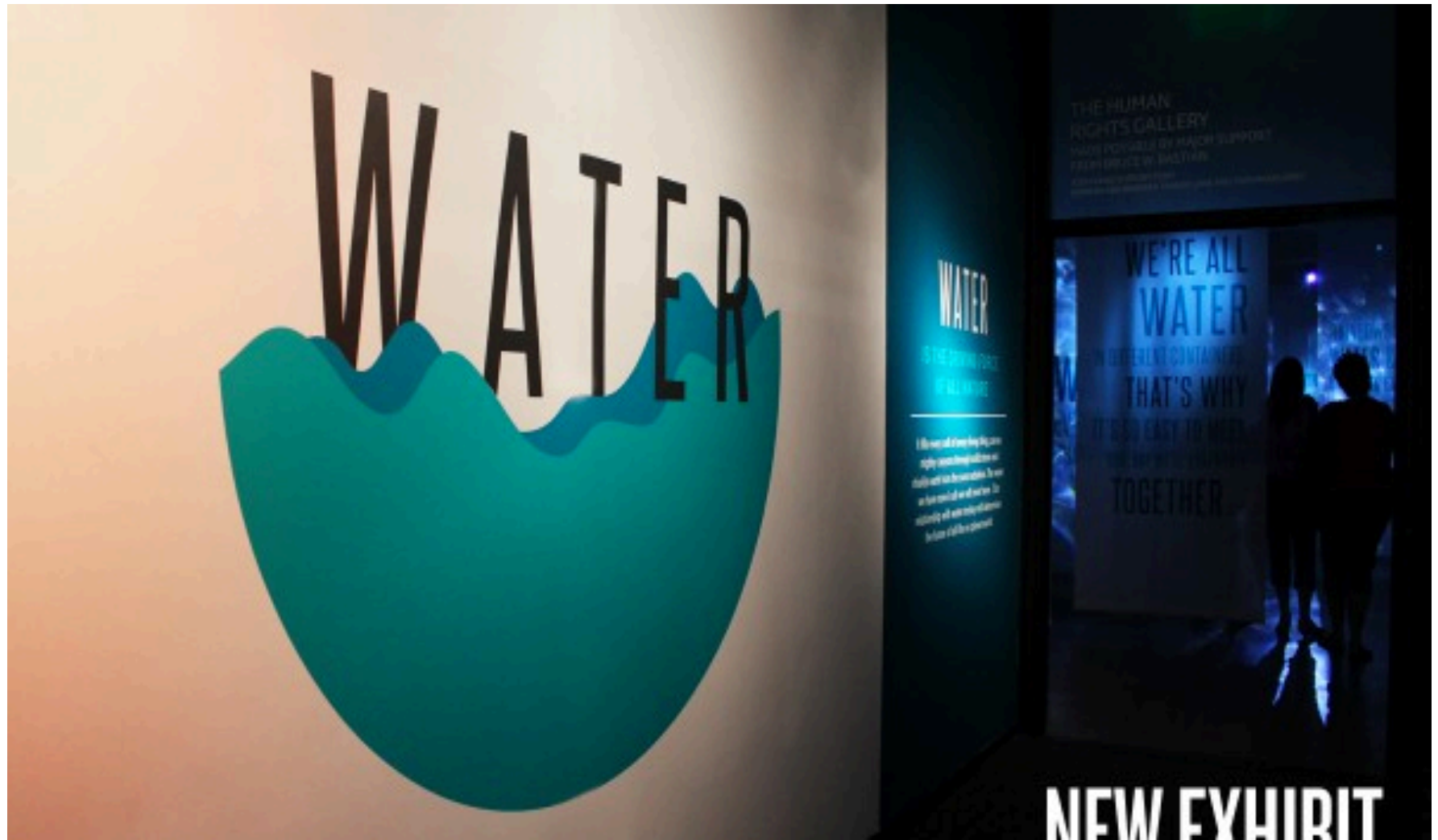


New diversity partnerships

- Engagement with Hispanic/Native American science organizations (SACNAS, AISES)
- *A River Runs Through This Book* - weaves poetry, science & photos with a Navajo perspective
- Weber State Access & Outreach Office partnership
 - Multicultural Youth Conference
 - Summit Leadership Institute



Broadening Our Impacts



iUTAH's broader impacts

- **Advance discovery and understanding while promoting teaching, training & learning**
 - Continued growth in iFellows program
 - New traineeship initiative
 - Cross-institutional classes
 - Hydro-informatics (45 students, 6 universities in F14)
 - Green Infrastructure (new for fall 2015)

iUTAH's broader impacts

- **Advance discovery and understanding while promoting teaching, training & learning**
 - Improving science capacity in K-12 classrooms (Summer Institute & Taking Learning Outdoors)
 - Near-peer and faculty-student mentoring
 - Mentoring plans for traineeships
 - Mentor training at iFellows cohort meetings

iUTAH's broader impacts

- **Broaden participation of under-represented groups**
 - Weber State collaboration, emerging opportunities to work with UVU
 - Evolving partnership with Utah's only Native American-serving institution

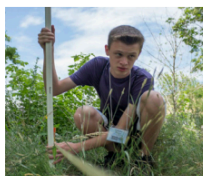
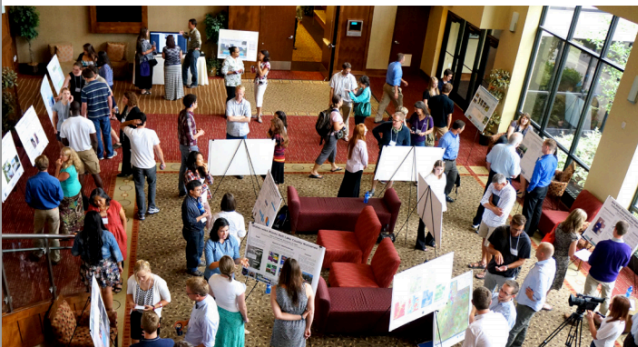
iUTAH's broader impacts

- **Enhance infrastructure for research and education**
 - Collaborations spreading across Utah
 - Increased participation by PUIs in undergrad research
 - Taking Learning Outdoors heading south for 2015-16
 - Building capacity to train faculty on NSF broader impacts

iUTAH's broader impacts

- **Broaden dissemination to enhance scientific and technical understanding**
 - iUTAH Visualization Lab (iVL) collaborations
 - Increased outreach beyond Wasatch Front
 - “Leo on Wheels” water exhibit
 - Statewide reach via Utah Public Radio
 - Science Unwrapped/USU Year of Water
 - New website content for external audiences

¿Que es iUTAH?



iUTAH es un programa de investigación y formación interdisciplinaria destinado a fortalecer la ciencia para el futuro del agua en Utah. iUTAH reúne una red de investigadores, universidades, agencias gubernamentales, socios de la industria y organizaciones sin ánimo de lucro del ámbito estatal. Este proyecto de cinco años es financiado por la Fundación Nacional de Ciencias y se espera que finalice en julio del 2017.

La misión científica de iUTAH es explorar cómo los factores como el crecimiento demográfico, la variabilidad del clima, el uso de la tierra y las dimensiones humanas que afectan la sostenibilidad de nuestros recursos hídricos.

Nuestra meta es fortalecer el conocimiento científico de la disponibilidad y la demanda de agua, para ahora y en el futuro, para que las futuras generaciones de habitantes de Utah puedan seguir disfrutando de los recursos de nuestro estado sin agotar las reservas de agua.

Junto con el componente de investigación de este proyecto, la

El Problema



Como Utah es el segundo más seco estado de la nación, el agua es un recurso valioso para los ciudadanos, y para los usuarios del agua; principalmente con los usos recreativos, la industria, los agricultores y los paisajes de Utah. Actualmente, Utah utiliza

el agua de las montañas, pero modelos climáticos recientes predicen cambios importantes en el suministro de agua en la transición de la capa de nieve a la lluvia.

El agua contribuye a que Utah sea un paraíso para los amantes de las actividades al aire libre con la "mejor nieve en la Tierra", los parques nacionales, la pesca, los exuberantes campos de golf y el tranquilo Lago Powell.

Utah es también uno de los estados de más rápido crecimiento. Con casi 3 millones de habitantes ya, se espera que la población se duplique para el año 2050.



iUTAH y Tú

Todo el mundo tiene una relación personal con el agua. Es esencial para la vida, y es un recurso fundamental para la agricultura de Utah, la industria, la recreación al aire libre y el turismo. ¿Qué hace iUTAH para usted?

Administradores del Agua

Los datos de nuestra red de monitoreo GAMUT están accesibles a todos y se pueden exportarse desde el sitio web iUTAH para ser utilizados por los gestores del agua.

Estudiantes

iUTAH ofrece diferentes oportunidades para los estudiantes universitarios de pregrado en pasantías de investigación y viajes de estudio relacionados con el estudio del agua.

Educadores

iUTAH ofrece a los educadores la oportunidad de llevar a cabo la investigación práctica, así como la creación de un plan de estudios con el tema agua para sus estudiantes.

Investigadores

iUTAH ofrece becas de pregrado, postgrado y oportunidades de investigación posdoctorales en instituciones participantes de todo el estado.

Público

iUTAH se dedica a una variedad de eventos de la comunidad de Utah y ofrece oportunidades prácticas de investigación del agua a través de un programa activo de ciencia ciudadana.

Conéctese con nosotros

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iUTAH's broader impacts

- **Benefits to society (e.g., create startup firms, improve technology, inform public policy)**
 - Every one of us contributes
 - iUTAH's Communications Team needs your help
 - Share how your work is already benefitting industry, agencies, and municipalities
 - Help us spread the word to legislators and other policy makers

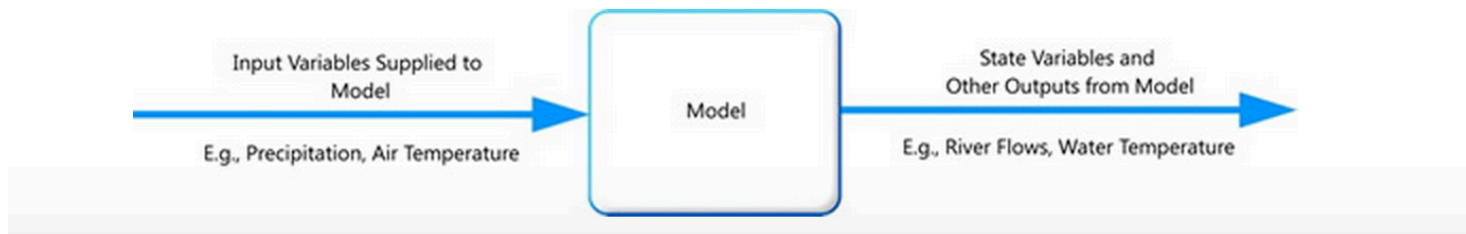
New Computer Software Helps Scientists See How Everything in Nature is Connected

Water touches everything. Farms, households, businesses, and nature all depend on water – and each of these also affects how water reaches the other entities that depend on it. As society makes greater demands on Utah's water resources, scientists increasingly are asked to predict how the natural water cycle and our engineered water systems will respond to pressures such as population growth and climate change. What must Utah do to adapt to changes in snowfall or stream flows? How can we meet the needs of a population that could double in 40 years?



Caleb Buahin, Utah State University, Research Assistant

To make these predictions and begin to work toward solutions, scientists use mathematical “models” that account for the various factors that influence water flows and uses. These models – actually sophisticated computer programs – must be complex enough to describe how scientists believe that natural and built water systems behave, yet simplified enough that they can be useful to decision makers who must make choices with data that may be limited or incomplete. These data, called input variables, are processed in mathematical equations to predict the consequences for desired outputs, i.e., the products and services that society and nature need from water. For instance, a hydrologic model might take in data on rain and snowfall, air temperature, solar radiation, etc., as input variables to produce outputs such as river flows, evaporation, and plant uptake.



Year 4 and Beyond

- Diversity theme for November “all hands” meeting
- Increased outreach to industry and agencies
- Increased outreach to minority communities
- Greater participation in USU Eastern mentorships
- Statewide “broader impacts” efforts – look for NABI “lessons learned” session in September
- Sustainability of EOD (focus of afternoon breakout)