Goal: Enhance STEM Learning and Water Science Engagement

Team 4 – Laura Hunter
October 2013
Teaching Toolboxes

- 9 planned, 5 completed (6 UT, 3 WY)
- Requests on the rise
- Featured at events in UT & WY:
  - Teacher PD, Science Zone, Youth Teaching Youth, NASA Space Grant Consortium Women in Science, Summer Teaching Institute, Douglas Middle School, Teton Science School

Youth Teaching Youth: On 5/9, ten high schoolers piloted a water management role play.
Hydropoly Game:

- In the Teaching Toolboxes
- Raises awareness of water management issues
- Big hit with teens and teachers
Professional Development Summer Institute

- June 24–28 at UU
- 11 educators (6 UT and 5 WY)
  - Talks by 5 CI-WATER researchers
  - Toured UU Data Center
  - Explored the Teaching Toolboxes
  - Drafted grade 7-12 curricula:
    - Complexity of Water Models/ Inputs to Models
    - Capacity of Water Models to Predict
    - Use of Models in Decision-Making
Symposium

- May 2-day all-hands meeting plus public events
- Keynote: Dr. Miriah Meyer on “Visualizing Data”
  - 64 attendees (children, teens and adults)
Summer Research Apprentice Program (SRAP)

- June 10–July 19
- 5 high school students
- Paired with mentors in hydrology and engineering
Code Camps at BYU and USU

- June 11 and July 11
- 38 youth met faculty and grad students, toured labs, and participated in coding challenges
- 94% said the camp inspired them to learn more about STEM
Student Poster Session

- 9 students from high school through university
- Participants discussed science with PIs, research assistants and public
- One 15-yr-old was hired for STEM-work as a result
Research Experience for Undergraduates (REU)

- June 17–July 19
- Focus on high-performance computing and hydrological modeling
- 6 high school & university students from UT and WY

“We’re going to keep working on [our project] so that it can work with the high performance computer and be efficient.”

—Troy, participant

REU 2103
Historically Black Colleges and Universities Workshop at UWY

- July 22–July 26
- 9 participants (5 HBCU, 3 UWY, 1 USU)
- Learned to run the GSSHA model and perform hydrology field tests

“The Army Corps in Vicksburg, Mississippi are eager to interact with these students […] because we’re training them on GSSHA and that’s a skill they are always looking for people to have.”

—Fred Ogden
Hydroinformatics Course at USU, BYU and UU

- Fall 2013: 33 students (6 female)
- Topics: Information management, data modeling, collaboration
- Accepted for American Society for Engineering Education Conference
- Firsts: cross-listed, team-taught (4 profs) via IVC and Canvas LMS

“Each professor has a great skill in some specific part of the course, so students can see more diversity and depth.”

—Erfan Goharian
Media – Social and Regular

- Newsfeed
  - 24 items June–Sept (goal 1/week)
  - More project images
- Facebook “likes” up to 36 (from 26)
- Twitter Followers 115 (from 103)
- RSS visits
  - 1,940 June–Sept (from 363)
Water-themed Television

- UEN-TV
  - May 5–11 Water Week
  - 45 water-themed programs for young kids, teens and adults
- Wyoming PBS
  - Broadcasts water-themed documentary each month
44% are new visitors
Outreach Video Project

- 2 explainer videos:
  - “What is CI-WATER?”
  - “What is a Model?”
- Process = capacity-building
- 8 solo spots: “Why a career in STEM?”
- Web, TV, YouTube, Social Media
Additional Communications

- Bi-monthly Education & Outreach update to project participants
- Quarterly site visits to facilitate development of news items and documentation for events
Next Steps & Questions

- Curriculum Development – The UU Genetic Science Learning Center is developing educational materials based on the Institute.
  - Add curriculum from BYU.
  - Videos – UEN-TV will start airing next month; rollout of solo spots will continue through May.
  - Communicating research as papers are submitted & published.
- Is outreach-engagement balanced across institutions?
- How to better serve minority students, women, rural?
- How can we better support and tie in with iUTAH?
- Are there other opportunities we haven’t fully developed?
- Keeping website fresh