



A Utah-Wyoming Cyberinfrastructure
Water Modeling Collaboration



Goal: Enhance STEM Learning and Water Science Engagement

Team 4 – Laura Hunter
October 2013



CI-WATER



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Teachers K12

Curriculum by
UEN and BYU

UT Teacher
Workshop by
GSLC

Toolkits by WY
EPSCoR &
NHMU

Symposia—
Evening Event

Students K12

Summer
Research for
High School

Toolkits by WY
EPSCoR &
NHMU

Code Camps by
USU and BYU

Water/Cyber
Posters by
Students

Symposia—
Evening Event

Higher Ed

CI-WATER
Posters

Hydroinform-
atics Course

Presentations
and
Publications

Symposia

General Public

Symposia—
Evening Event

Social Media

Water
Professionals

Broadcast
Water Week

STEM and CI-
WATER Videos

ALL

CI-WATER.org

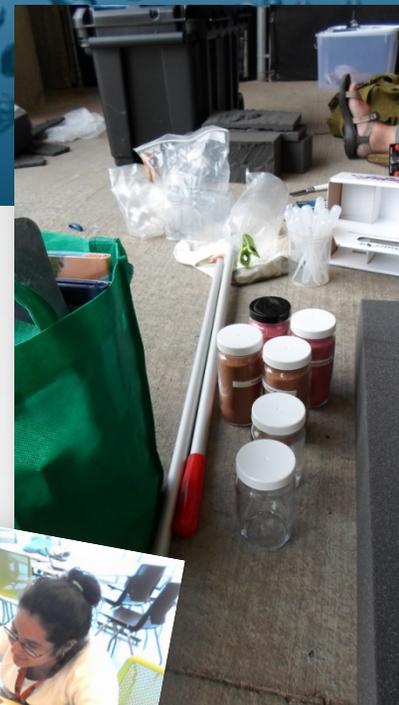


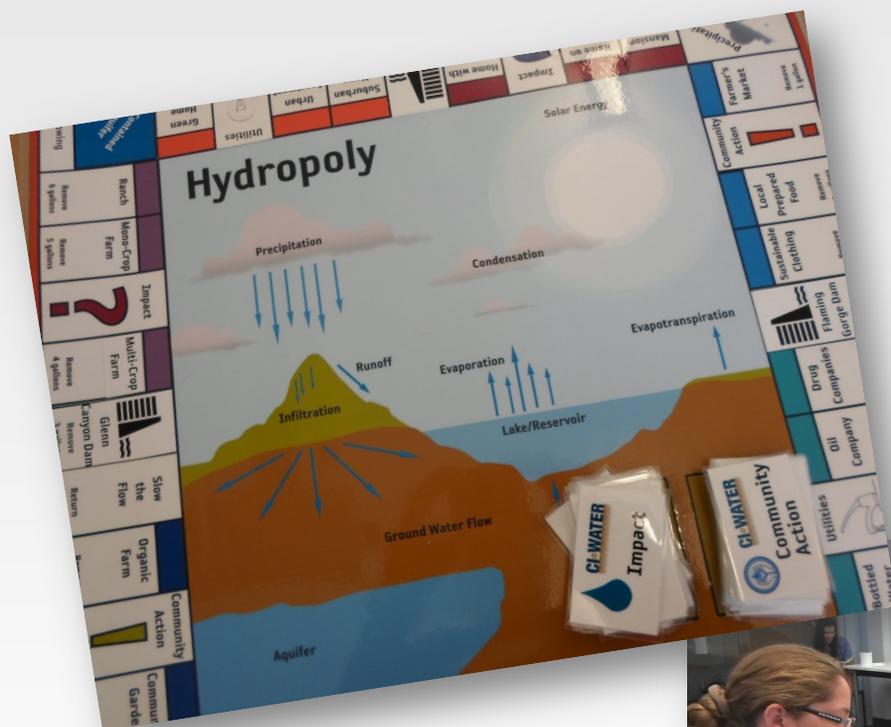
Teaching Toolboxes

- 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



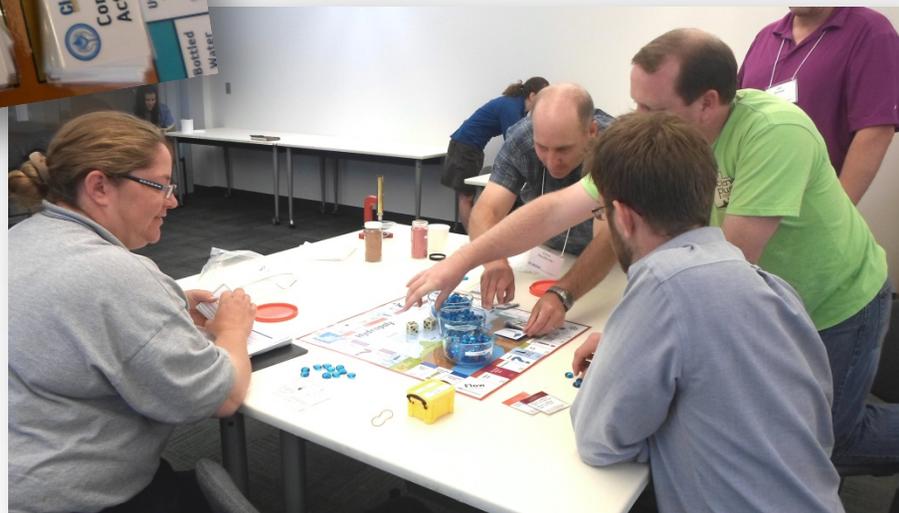
Youth Teaching Youth: On 5/9, ten high schoolers piloted a water management role play.





Hydropoly Game:

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





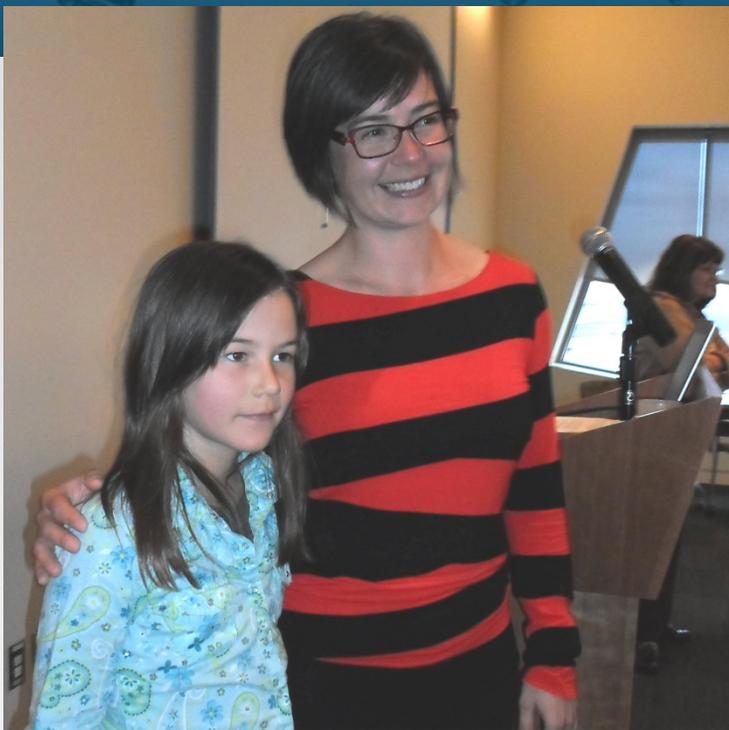
Professional Development Summer Institute

- 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)



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



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General
Public



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)





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Water-themed Television

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CI-WATER A Utah-Wyoming Cyberinfrastructure Water Modeling Collaboration

CI-WATER An EPSCoR Project

Cyberinfrastructure | Data & Modeling Services | Watershed Modeling | Education & Outreach | STEM Careers | Reports & Results

UEN-TV Water Week Programs for May 2013

Tune into UEN-TV May 5 – May 11 for Water Wise Week, a block of water-themed programs aired in conjunction with the CI-WATER water science project.
[Find your local UEN-TV carrier](#)

[Sunday, May 5th](#) | [Monday, May 6th](#) | [Tuesday, May 7th](#) | [Wednesday, May 8th](#) | [Thursday, May 9th](#) | [Friday, May 10th](#) | [Saturday, May 11th](#)

Sunday, May 5th

Time	Program	Keywords
5:30 pm	P. Allen Smith's Garden Home: The Water Show	Waterwise home
6:00 pm	Wetlands: The Drain Game	Wetlands
6:30 pm	Water: The Lifeblood of Energy	Western region, energy
7:00 pm	Potomac: The River Runs Through Us	River systems
7:30 pm	Hudson River Journeys	River systems

Monday, May 6th

Time	Program	Keywords
3:00 pm	Bill Nye the Science Guy: Rivers & Streams	River systems
4:00 pm	Glaciers and Icebergs: The Melting	Polar ice melt

- 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



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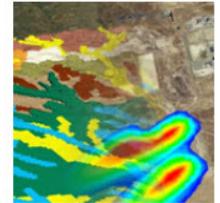
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Cyberinfrastructure



Data & Modeling Services



Watershed Modeling

Highlights



CI-WATER All-Hands Meeting
 Please [RSVP](#) for the CI-WATER All-Hands Meeting that will be held on October 10, 2013, 9:00 am - 4:00 pm at the Natural History Museum of Utah. For those involved with the Steering Committee and External Advisory Board there will be an External Advisory/Steering Committee meeting on October 11, 2013, 9:00 am - 4:00 pm at the Spencer Fox Eccles Business Building at the University of Utah.



Education & Outreach



STEM Careers



Reports & Results

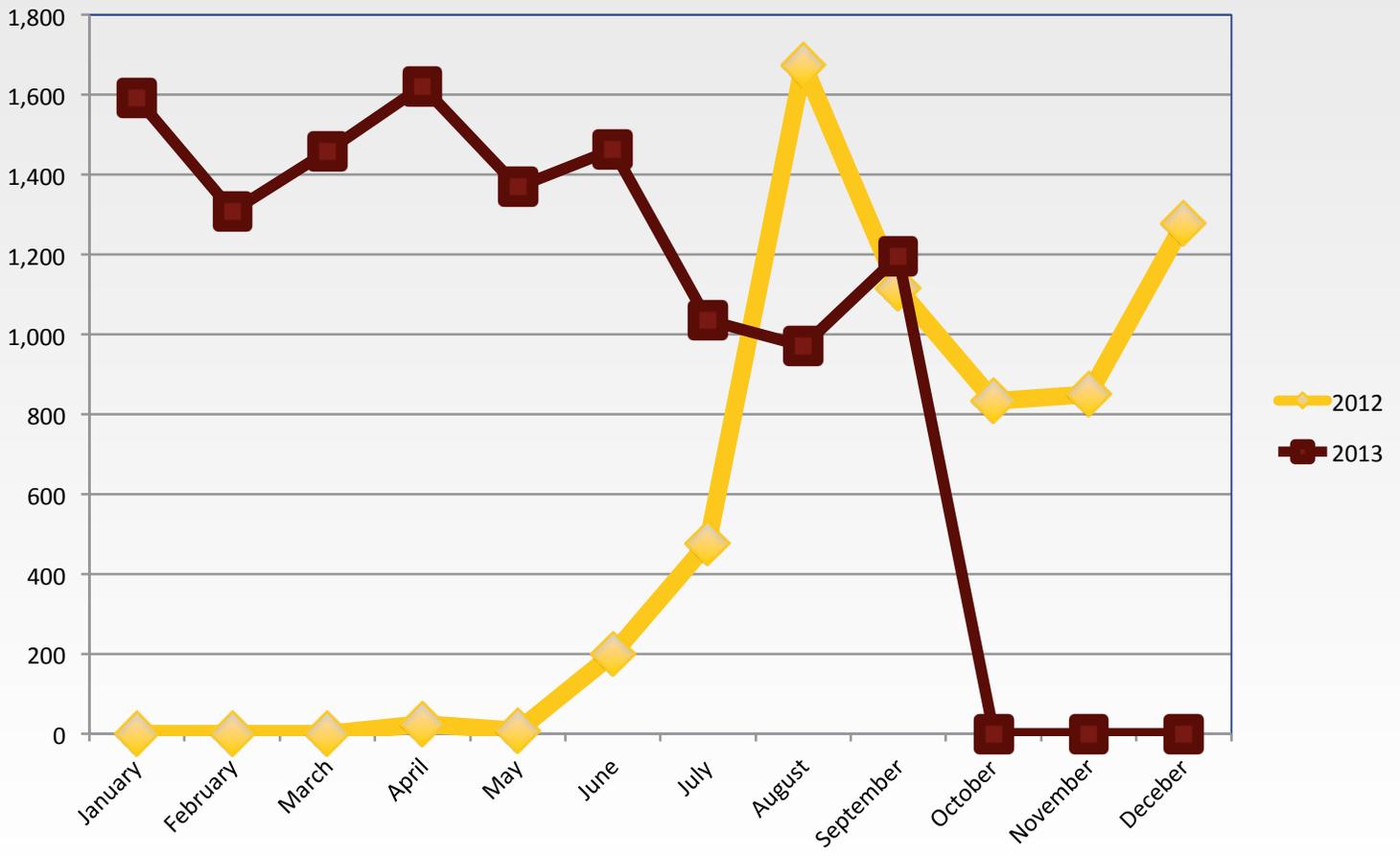
Project and Water News

"See" water levels with Water Level Mapper app 
 Want to "see" water levels? CI-WATER has added the Water Level Mapper to our website. The app displays statewide maps of the depth to groundwater for the state of Texas for the years of 1980 to 2012. The maps can be animated to...
[Read More...](#)

"Science: Becoming the Messenger" a Success in Wyoming
 On Wednesday, September 11th, and Thursday, September 13th, CI-WATER partner Wyoming EPSCoR, hosted the National Science Foundation's workshop "Science: Becoming the Messenger." The workshop was a great...
[Read More...](#)



CI-WATER Web Visits by Month

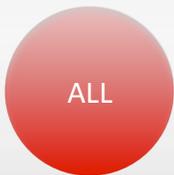


44% are new visitors



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0.7% 13%

3.2% [About the CI-WATER](#) 4.5% [Admin](#) 1.1% [Contact Us](#) [Team Workspace](#)

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4.9%	6.3%	5.8%	Highlights CI-WATER All-Hands Meeting Please RSVP for the CI-WATER All-Hands Meeting that will be held on October 10, 2013, 9:00 am - 4:00 pm at the Natural History Museum of Utah. For those involved with the Steering Committee and External Advisory Board there will be an External Advisory/Steering Committee meeting on October 11, 2013, 9:00 am - 4:00 pm at the Spencer Fox Eccles Business Building at the U of U.
4.9%	6.3%	5.8%	
6.1%	2.2%	2.2%	
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~3% Clicks below ↓

June–September 2013



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

CI-WATER Project News August - September 2013

Education & Outreach momentum to carry from summer into fall.

This summer, more than 180 kids, college students and educators participated in CI-WATER educational events and programs. We're following this success with ongoing work for our fall Education & Outreach projects:



- CI-WATER videos launch
- Second year of Hydroinformatics Course
- Teaching Toolboxes implemented
- Development of educational games continue
- Upcoming broadcasts of water-themed films to be announced in coming weeks

Details on these activities are being posted on the [CI-WATER newsfeed \(Project and Water News\)](#).

NSF Career-Life Balance supplemental funding aims to help PIs sustain research while postdocs are on family leave. The program supports efforts of PIs to attract, retain and advance postdocs in STEM careers with family-friendly practices. [Learn more](#)

Welcome to Robin Rasmussen! A Communication major with a minor in Marketing, Robin has taken over for Kali McCrackin, who graduated from UWY last May. As a member of the Education & Outreach team, Robin writes content for the CI-WATER newsfeed and manages the project Facebook page.



Have news for CI-WATER? [Email the CI-WATER publicity crew](#) (Jenn Gibbs, Robin Rasmussen and web designer Jessica Anderson), and we'll help get the word out. With advance notice, we may even be able to help document your CI-WATER events and activities.

This e-newsletter is an internal publication for CI-WATER project participants. It provides a digest of news featured on the website to help team members be aware of public messaging from CI-WATER.

[Click here](#) to unsubscribe.



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STEM and CI-
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ALL

CI-WATER.org



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