

Meeting Notes
Texas Water (aka The New 100th Meridian) Research Coordination Network
May 20, 2015
Austin, Texas

Network Purpose

Participants discussed the question of whether Texas needs a research collaboration network. The following provides a broad overview of the elements of the discussion.

Certainly water is a broad and interdisciplinary element and topic. The social drivers and scientific uncertainty surrounding and embedded in water related problems are frequently fuzzy. Sometimes answers or solutions may be needed through new knowledge or innovative approaches, more often the synthesis of existing knowledge can provide level-up opportunities. Moreover, knowledge in academic contexts that may provide insight for solutions is not being applied to solve problems for Texas today. Bridging understanding and bringing existing knowledge into use and application is a significant challenge that the 100th Meridian coordination network can tackle.

Texas has a range of existing centers for activity related to research about water science, management, and policy. There is a need to provide incentives and encouragement for collaboration through funding mechanisms and by providing times and places for the water research and policy communities to connect, create relationships, and explore ideas for advancing new approaches to water problems facing the state and the globe.

The 100th Meridian Niche

Participants discussed what the 100th Meridian network's niche might be, what it might address:

- Identify and prioritize research
- Revise what we do as researchers to be truly interdisciplinary
- Linking social-natural-geophysical-law-humanities-engineering, designs folks, etc
- Acute versus chronic (equity)
- Opportunistic and strategic
- Role as center of centers or meta center - tie the centers together, fill gaps
- Metacenter and data/people pipelines
- Do we need new answers or can we use existing knowledge?
- Deeper interdisciplinary collaboration across social-sciences, etc
- Creating formal connectedness and communication across sectors (streamline conduit)
- Communicating with and focusing of research of use and interest to cities
- Channel to communicate research to decision makers at local, state and federal levels
- Create awareness with public policy makers
- Links with private sector, between industrial, municipal and environmental communities
- Getting more NSF/federal research money
- Prediction, modeling

Challenges to Interdisciplinary Collaboration

Participants identified the following challenges to success of a Research Collaboration Network.

- Funding challenges:
 - Not enough money to address challenging problems....National funders need case to be made that Texas research can inform Texas decisions....don't think elected officials will

listen....influence by other actors.....[e.g. Walton Fdn...must convince] How do you make Texas relevant...

- Competition for funding in a shrinking pool
- Competition for (shrinking) NSF \$
- Overcoming notion that TX doesn't need money
- Finding money for collaborative efforts
- Challenges relating to policy makers
 - Legislative receptiveness to science – state & national
 - Use of the rainy day fund for the water future of Texas should be considered
 - Science needs to collaborate with the legislature and the public
- Collaboration and Synthesis
 - Collaboration and synthesis work is hard and requires resources from time, to funding, and infrastructures like computing platforms and systems.
 - Affordable communication (use technology)
 - Turf protection or Regional protectionism
 - Complexity of problem exceeds ability to solve w/o collaboration & computing power
 - Incentives low for collaboration across institutions – not asking 'big enough' questions to require collaboration
 - No formal management structure/incentives are necessary
 - The value of information or knowledge about water is not recognized
 - To truly understand complex problems requires time and commitment from everyone involved. Water issues are particularly complex because they touch on every sector of economies, cross political borders, change over time, and require understanding across disciplines.
 - Build a bridge between the scientific and political communities by responding to social and political need
 - Translate applied challenges to broader knowledge
 - Couch info as value to people receiving and using it – communication with stakeholders
 - Existing infrastructure anchors us to some solutions

Application of knowledge for real results

Translating ideas and knowledge into real world applications that benefit society takes persistence, communication, innovation, time, and significant effort. Yet application of new or existing ideas, synthesizing concepts for application, and enabling pilot testing or real world use of innovative technologies and understanding can inspire solutions and lead to new levels of understanding. In effect, turning the traditional scientific approach of hypothesis testing on its head by applying ideas to see what kinds of new understanding they generate can achieve broader knowledge and accelerate the pace of innovation.

In addition to applying knowledge now the 100th Meridian network envisions an increase in collaboration and communication among scientists, policy makers, and the public to increase mutual understanding and social learning about the state of our water resources and the state of our knowledge to increase the opportunities for improving outcomes.

Grand challenges for water resiliency in Texas

What are the grand challenges that necessitate new interdisciplinary approaches? There are a myriad of challenges facing Texas that can benefit from interdisciplinary approaches.

Innovations and research to meet grand challenges

- Which grand challenges are best approached through collaborative or network research activities?
- How can we begin to move forward on these collaborative approaches?

Priority Topics of Interest

Top topics of interest to the group:

1. Economic and noneconomic value of water
2. Natural resource protection (watershed protection and relationship of Land Use-Land Cover to recharge)
3. Efficiency (particularly for irrigation and urban water (unaccounted-for water?))
4. Groundwater-surface water disconnects

Raw Scores:

- (6 votes) #1 Groundwater-surface water disconnects
 (0) #2 Environmental Flows and Freshwater Inflows
 (2) #3 Land Use-Land Cover - watershed protection and recharge
 (7) #4 water's economic value and non-economic values
 (2) #5 lack of portfolio diversity (wrt individual utilities)
 (0) #6 population / econ growth
 (7 and combine with #3) #7 natural resource protection
 (4) #8 water law and rights
 (7) #9 efficiency (irrigation and unaccounted-for water)
 (4) #10 unprecedented shrinking of supply (irrigation and unaccounted-for water / ag-muni-coupling infrastructure)
 (1) #11 transboundary issues
 (0) #12 groundwater cannot be managed b/c of rule of capture
 (3) #13 non-stationarity (forward looking analysis versus past)
 (0) #14 flooding and sea level rise

Next steps

The group agreed unanimously that future meetings, workshops, and sessions to enable collaborative ideas to emerge would be useful. Fall 2015 was identified as a target timeframe.