Meeting Notes

Texas 'new 100th Meridian' Water Research Network

December 3 & 4, 2015

Two-day Meeting Goals/Outcomes:

1. *Interact and discuss current/future research*
2. *Understand intersection of the NSF grant and the network*
3. *Refine grand challenges*
4. *Agree on mission statement*
5. *Agree on long-term goals and short-term strategies*
6. *Plan the network structure and next steps*

Thursday, December 3: 10 a.m. to 5:30 p.m.

Following a welcome and overview of the meeting goals and agenda by Jay Banner, ESI, participants engaged in the following agenda topics.

How do the WRN[1] and the NSF research project intersect?

Jay Banner discussed a newly awarded five-year (2015-2020), $500,000 grant award to UT-Austin Environmental Science Institute (UT-ESI) from the National Science Foundation's Coupled Natural and Human Systems (CNH) program. The research project, entitled *The New 100th Meridian: Urban Water Resiliency in a Climatic and Demographic Hot Spot*, includes Principal Investigators:

- UT-Austin (Jay Banner in Geological Sciences and Suzanne Pierce at the Texas Advanced Computing Center),
- Texas A&M (Kevin Wagner of the Texas Water Resources Institute and Dept. of Soil and Crop Sciences),
- Texas Tech (Venkatesh Uddameri of the Water Resources Center and Dept. of Civil, Environmental, and Construction Engineering), and
- UT-San Antonio (Lloyd Potter, of the College of Public Policy and the Texas State Demographer).

The original proposal to NSF included a research coordination network. Although the RCN portion of the grant was not awarded, more than 41 faculty from 15 universities in Texas and beyond continued to express an interest in forming an informal water research network (WRN) to collaborate about research with each other and with stakeholders from diverse backgrounds and interests – including agriculture, water policy, science and engineering, climatology, demography, urban planning, energy, decision support, socioeconomics, land use-land cover, and hydrology. UT-ESI and the CNH principal investigators expressed a willingness to provide initial support for this effort, with CNH PIs agreeing to serve as leaders of water research nodes an informal WRN Additionally, the following UT faculty and staff have agreed to serve as the WRN project facilitation team for meeting planning, network building, session facilitation, and network fund-raising facilitation:

- Jay Banner (UT-ESI and Jackson School of Geosciences),
- Eric Hersh (UT-ESI and Jackson School of Geosciences),

[1] *Meeting notes will be referring to a Water Coordination Network (WCN) rather than an RCN (Research Coordination Network). This shift from the use of RCN from the first meeting and agenda for the December 3-4 meeting indicates a desire to make a clear delineation from a NSF research coordination network at the working format that the current group of researchers is intending. The exact title of the group may continue to evolve over time.*

- Eric James (UT-ESI),
- Suzanne Pierce (UT-ESI and Texas Advanced Computing Center),
- Suzanne Schwartz (Center for Public Policy Dispute Resolution at UT Law),
- Melinda Heidenreich (UT-ESI).

Refining the grand challenges

Jay Banner explained that the CNH grant will focus on four "grand challenges:

1. How can we address the *complexities of the natural system wherein a changing climate is forced by external anthropogenic processes* (GHG emissions) in a climatically-sensitive region ("hot spot")?
2. Based on advancing our understanding of the complexities outlined by GC-1, *how accurately can we project water availability on this regional scale*?
3. *What forcing factors and couplings between forcing factors drive the human system* that comprises a rapidly-growing and demographically-shifting sentinel community in a water-stressed region?
4. How can we project the impacts of the natural and human systems on each other to produce a *regional-scale assessment of urban water resiliency* that can be used to inform effective solutions through education, policy and technology?

The CNH team selected four "nodes" designed to capture the range of topics and expertise required to address Grand Challenges. If desired, the WRN may use nodes and grand challenges as a way to informally organize researchers.

Participants then discussed *whether their WRN effort should add any Grand Challenges not identified for the CNH*. Discussion points included:

- We no longer have a natural system (e.g. megacities are a driver). We need a new way of research to fit the man-made into the natural. *(Could fit in GC 1 or 3)*
- Must consider infrastructure needs and applications to move and treat water
- Consider structural resiliency *(could fit in GC2)*
- Geographic scope:
  - Keep big umbrella of new 100th meridian for policy development
  - Connect rural sources and influence with the new 100th meridian
- Resiliency *(GC4)*
  - Understand and be specific about what resiliency means and relate to all
    - research fields, including science, politics, the natural as well as human
  - Develop a regional map of resiliency hot-spots
  - Environmental justice as a part of GC4 – resiliency
- Relevant science: Making useful science and making science useful and valuable in decision-making *(Could be a new GC or fit in GC 4)*
  - Challenges:
    - Scientists are more eager to communicate than profit-driven stakeholders
    - Disconnect of science-in-practice and policy decisions
    - Desire of employers for universities to prepare trained, job-ready graduates v. universities focus on training people with an ability to solve problems
    - Translating technology so it can be understood
  - Involving stakeholders:
    - Ask stakeholders what questions are important
    - Which stakeholders to involve in the WRN
      - Former policy-makers who can talk and think more candidly

        - Involve the growth-related private sector
        - Include nonprofits
    - WRN can be a way to deliver research efforts of WRN members (including the CNH research) to a discussion with policy-makers

Participants considered the questions: Are there any additional Grand Challenges the WRN members want to consider?

> *Decision: Participants generally agreed that the existing grand challenges are sufficient, but wanted to emphasize the WRN is an important opportunity to focus on collaboration and communication between science, stakeholders and policy-makers that can spur action and results.*

Perspectives: Bech Bruun, Chair, Texas Water Development Board

Bech Bruun provided an overview of the Texas Water Development Board's work and issues of importance, and entertained questions from participants.

Research-focused small group discussion

Participants met in four self-selected groups (research nodes) for more detailed discussions about their research interests, focusing on what research is needed in each node to address the grand challenges discussed in the preceding agenda item, and how they will interact with others on this research. The research-focused groups and persons leading each are:

- Climate projections *(Leaders: John Nielsen-Gammon, Liang Yang*)
- Water science *(Leaders: Venki Uddameri, Michael Young)*
- Scenarios *(Leaders: Lloyd Potter, Allan Shearer)*
- Stakeholders & Resiliency *(Leaders: Suzanne Pierce, Kevin Wagner)*

Reports for each of the groups are found in Appendix 1. The group discussions varied, but generally focused on the following specific questions:

- *How can we further refine this grand challenge/research area in terms of understanding processes that govern couplings in the natural and human systems?*
- *How do we develop future scenarios to inform modeling efforts?*
- *What are key barriers to research?*
- *What research is needed in this node to address the grand challenge?*
- *How do WRN members interact with others on this research?*

Starting the discussion for the WRN mission

As a large group, participants brainstormed what elements to include in a mission for this WRN. Participants then individually developed their own drafts of a mission statement, and engaged in a process where they joined with other participants to merge their mission drafts. The process resulted in the following three draft mission statements:

- *The mission of the Texas WRN is to facilitate collaboration and outreach and provide scientific leadership that connects people to water in order to create solutions and allow transformative decision making to build a roadmap for a sustainable Texas.*
- *Optimize the value of Texas research expertise to enable actions that support long-term water resilience.*
- *Texas is changing rapidly; therefore, we seek to create and transform knowledge into action through collaboration (and communication) among (and between) all stakeholders (and decision makers) to ensure a resilient Texas water future.*

The facilitation team agreed to take these three drafts and provide a strawman for review on Friday.

5:30 pm – Close Day 1/ 6:00 pm – Dinner social invitation

Friday December 4, 2015: 8 a.m. -1 p.m.

Defining the WRN – Mission statement

Participants considered the following draft mission statement built by the WRN facilitation team from the mission statement work of Thursday:

> *The Texas Water Research Coordination Network facilitates collaboration among stakeholders and provides transformative scientific leadership to ensure long-term Texas water resilience.*

The following are individual comments on how to improve this draft mission statement.

- Focus on the new 100th Meridian
- Don't exclude related research and areas that contribute
- Make the focus on scientific leadership rather than on stakeholders
- Resilience v. sustainable
- Relevance to other and different scenarios
- The three Thursday drafts all say that science will support decision-making. The proposed final version says scientists will change the world. I think we should only claim the supporting role.

Action: These comments will be incorporated by the WRN facilitation team into a revised draft mission statement to be circulated to WRN participants. Further revisions to the mission statement will be coordinated electronically with WRN participants before the next WRN meeting.

Perspectives: Kip Averitt, Averitt & Associates

Kip Averitt, former chair of the Texas Senate Natural Resources Committee, provided insights on water issues facing the legislature and how science can make its voice heard.

Defining the WRN -- Long-term goals and short-term strategies to achieve WRN's mission

Participants broke into three groups to brainstorm ideas about the WRN's long-term goals and short-term strategies. These ideas will be used as the foundation for development of goals and strategies. (See Appendix 2)

Building the network/ next steps

Future meetings.

- Participants want to meet in person twice a year, with the next meeting the week of May 16, 2016 if possible.
- Interim meetings will be held electronically/telephonically, with a goal of holding a call in late February 2016.
- Water research nodes will meet as desired

Communication

- Research node leaders will coordinate communication with interested persons.

  WRN facilitation team will coordinate a process for WNH participants to sign up for one or more interested research node

Broadening the network

Stakeholder/Entities

The following represents a brainstormed list of stakeholder sectors that might be included in the WRN. The WRN facilitation team will ill coordinate an effort to refine this list and solicit possible representatives for the sectors.

- Environmental
- Cities (individual/ Texas Municipal League)
- Utilities
- Agriculture & livestock (eg: Texas Farm Bureau);
    - dryland, ranching, irrigated, etc
- State agencies
- River authorities
- Power generators
- Regional water planning groups
- Legislators
- Recreational users
- Industrial & commercial
    - Chemical
    - Refining
    - Paper, timber
- Soil & water conservation districts
- Interagency Drought Task Force
- Engineering consulting
- Conservation groups (eg: TWF)
- County-level (e.g. COGs, County Assoc/Judges, Council on Urban Counties (CUC), , Texas
- Rural (e.g. Texas Rural Water Foundation)
- Media (e.g. Texas Water Journal, Assoc for Env Journalists)
- Water law (researchers and practitioners)
- Social justice/ community groups
- Outreach (K-12+, school districts)
- Federal (USFWS, EPA, etc)

Additional Researchers

The following represents a brainstormed list of researchers who might have good experience with research coordination efforts or with stakeholder connections. The WRN facilitation team will coordinate an effort to add to and refine this list.

- Chuck West, TTU
- Tom Arsuffi, TTU-Junction
- James Ward, Angelo State
- Dave White, ASU DCDC
- Patricia Gober, ASU
- Ned Span, UC-Davis
- Lots at TAMU! (Binayak to serve as liaison)
- Ron Green, SWRI
- Southwest Research Institute, USGS RE: Edwards Aquifer

The following Stakeholder/ Individuals were noted for consideration in expanding the network>

- Sharlene Leurig/ Ceres
- Sarah Schlessinger/ Texas Alliance of Groundwater Districts
- Stacy Steinbach/ Texas Water Conservation Association

12:00 pm – Lunch (wrap-up discussion and social lunch)

1:00 pm – Adjourn

Appendices

1. Research Node Reports from Breakout Sessions (Dec. 3, 2015)
2. Brainstormed ideas for Goals and Strategies (Dec. 4, 2015)
3. List of attendees and participants

Water Science *(Leaders: Venki Uddameri, Michael Young)*

Driving Questions:

1. What is the state of the science?
2. Is it adequate ~~for good policy~~ to support sustainable water use?
3. Where is it inadequate?
    a. Scale-site specifics
    b. Reconcile scientific progress and technological progress

Scientific Questions:

1. Brackish water resources
2. Short-term climate variability
3. Scientific uncertainty
4. Land cover – land use change impacts
5. Geographic focus areas
6. Human impacts on hydrology/hydrogeology
    a. (water reuse, conservation, water fluxes, etc)
7. Technology/ infrastructure effects

Communication:

1. Position paper, timed/ready to respond to water events
    a. Droughts
    b. Floods
    c. Human impacts
    d. (next) Texas water plan release
    e. 'new' water
2. Mapping resiliency (including vulnerability and preparedness)

Climate projections *(Leaders: John Nielsen-Gammon, Liang Yang)*

Resource List

Huilin Gao, Rong Fu, Katherine Hayhoe, Zong-Liang Yang, John Nielsen-Gammon, Jay Banne,r Gerald North, Andrew Dessler, R. Saravanan, Ping Chang/TCCS, Robert Mace, Todd Votteler, Bob Rose, John Anderson, Daniel Cohan, Renyi Zhang, Yujian Wang, Robert Griffin, and Bob Talbot

Worksheet for prioritization of research activities

Sources of projection uncertainty	Impact of uncertainty 1=unimportant 5=important	State of ignorance 1=low 5=high	Progress potential 1=low 5=high	Sum
Climate sensitivity (TCR)	4	1	2	7
How much will global surface temperature change, given a change in global energy balance?				
Future land cover				
* urbanization	3 (local)	4	5	12 (local)
How and where will cities expand?				
* irrigation	2 (local)	3	4	9 (local)
Where will irrigation patterns change?				
* cropping	1	3	3	7
What will be grown and raised in the future?				
* vegetation/ecosystems	2	3	4	9
Where will the 100th meridian be?				
Local climate response (downscaling)	5	3	4	12
What does a change in global temperature do to Texas climate?				
Extremes (downscaling)	5	4	4	13
What does a change in mean Texas climate imply for climate extremes?				
Model-relevant parameters	5	4	5	14
How should global model output be converted into high-resolution hydro model input?				
Model sensitivity	5	3	5	13
Given hydro model input, what is the correct model output?				
Emissions scenarios				
* global	3	1	1	5
How will the global atmospheric composition change?				
* local	2	4	5	11
Which changes in Texas urbanization, population, etc. are consistent with which global scenarios?				
Natural variability (at both ends)	5	3	4	12
Was the historical increase in Texas rainfall natural or human-caused?				
River infrastructure	4 (local)	3	3	10 (local)
Where will future reservoirs be located?				

Scenarios *(Leaders: Lloyd Potter, Allan Shearer)*

How do we develop future scenarios to inform modeling efforts? A number of issues were discussed under this question.

a. Need to examine what literature (peer-reviewed and reports) that may provide some insight into strategies for scenario development. Mention was made of some work done in Chicago.

b. Assess previous TxWDB plans regarding projections of water consumption relative to actual water consumption.

   What is the utility of producing characteristic specific (age, race/ethnicity, HH size, housing unit size, parcel size, etc.) water consumption estimates when perhaps an average gallons per person approach would suffice?

   Discussion explored the ability to produce characteristic specific population projections that could be used with characteristic specific estimates of water consumption and .

   Identify method to identify percent or volume of water that is external to housing unit (lawns, swimming pools, etc.). Consider comparing January to July and difference is likely external.

c. What different sorts of scenarios might we develop?

   Baseline assuming patterns of water consumption are the same as current and population grows as projected.

   Consider effects of different conservation efforts (gray water use, rain water harvesting, lawn conversion, etc).

   Changes in normative behavior

d. Would characteristic specific variation in consumption as a function of climate and water restriction be useful in scenario development?

e. Are there other metro areas or cities that might be good to incorporate? El Paso was suggested as one to consider.

f. What level of geographic detail is needed for projecting population?

How do we quantify the effect of conservation?

What are the key barriers to research?

- More clearly defining the problem statement or research questions
- Financial support.
- Access to data on water consumption
- Variation in boundaries of different geographic areas for planning (TWDB regions, Economic development regions, COGs, counties and cities)

What research is needed in this node to address the grand challenges?

In addition to development of projections of residential water consumption under variable scenarios consideration of projections of commercial and agricultural water consumption is needed.

How do WRN members interact with others?

The scenario group will need to interact with the science, climate and stakeholder nodes.

Resiliency and Stakeholders *(Leaders: Suzanne Pierce, Kevin Wagner)*

The wide ranging discussion explored goals, decision variables, measuring success, who needs to take action and how to assure resiliency in addressing big problems and in moving from good science to action. The following captures discussion highlights, with a focus on actions moving forward.

What are members of the node group offering?

- Pinpoint places for improvement/action = save $ and make more efficient
- Good tools for economic sustainability
- Consensus building
- Identify strategies to communicate about issues

The group discussed possible stakeholder surveys (via phone/meetings) to find out what stakeholders/decision-makers need. Possible question: What are the problems people have that could benefit from science?

POSSIBLE ACTION PLAN

Identify the big picture/problems

- Those identified from the May 2015 WRN meeting
- Those that other nodes highlight

Pick 1 big topic/node as a challenge for Texas water to explore from a resiliency/science/stakeholder perspective

1. Identify stakeholders and how we make this useful to stakeholders (including involvement in co-design of study/test case
2. Diagnose the parts of the problem
3. Identify what universities and researchers can offer and how they can be part of solving the problem

Conduct a DESKTOP STUDY of a large stakeholder process that involved science to identify gaps/challenges that will inform future research

Some brainstormed ideas from the group:

- EARIP
- Watershed planning
- SAWS pipeline / SARA LID
- Environmental flows - SB3 stakeholders/groups
- LCRA – ag-municipal supply
- Chesapeake Bay
- Everglades
- Nueces River Basin

Develop review paper

Notes: Future work should:

- Not focus only on urban, but recognize the interconnectedness of rural and urban
- Included under-represented stakeholders, such as:
    - Bay & estuaries
    - Base flow,
    - Groundwater/surface water/springflow connection
- Include an economic focus, which is a big driver of decision makers. Include economic researchers.

Coordination Group Involvement: How do we want to work together?

- Proposals, produce papers, workshops, networking/dialogue
- **Routine updates**/communication from co-PIs with node members and vice-versa
    - Via email bi-monthly and more
    - Routine teleconferences as needed to develop papers/proposals
- Invited blog posts

The following represent brainstormed ideas from three groups of participants relating to the WRN's long-term goals and short-term strategies.

Group 1:

Long-term goal: Effectively connect research to policy
- o Define Texas water research priorities – comprehensive Texas Water Research strategy
- o Add further clarity on focus: state v. federal; fundamental v. applied

Strategies:
- *Develop relationships with TWDB, TCEQ & other agencies to address unfunded mandates*
- *Provide focused education on one legislative/policy issue*
- *Outreach (facilitate a meeting, etc.)*
- *Convene people on comprehensive research strategy as a roadmap*

Long term goal: Collaborating on research
- o Foster partnerships of two or more members for writing research proposals
- o Seek funding
- o Collaborative network of researches with statewide impact but with equitably distributed local responsibilities. (By planning group, watershed, geographic region)
- o Define expertise of the WRN to address pertinent problems and attract funding

Strategies:
- *Seek WRN partners for RFPs*
- *Blog/ Facebook for connecting*
- *Bios /WRN member information*
- *Active nodes/workgroups*
- *Form/dissolve workgroups with clear leadership as appropriate*

Long-term goal: Expansive network that includes diverse academic disciplines, industry, stakeholders

Strategies
- *Expand disciplines*
- *Each WRN member identify and bring in new members*
- *Strengthen geographic scope*
- *Refine mission and scope*

Long-term goal: Identify funding mechanisms to support administrative and logistic functions of the network

Strategies
- *State funding to sustain WRN/think-tank*
- *Foundations*

Long-term goal: Lead early success
- o Identify a small number of challenges to address that have attainable solutions
- o Lead in applicable science for water solutions
- o Peer-review articles with two or more authors
- o Demonstrate interdisciplinary & multi-institutional collaboration Peer review papers

Strategies:
- *PR that acknowledges WRN in research*
- *Be more formal about WRN as an entity*

Long-term goal: Recognized as a resource/provide outreach

Strategies:
- Serve as a source of facilitation and decision-making support
- Support conference and workshops
- Forum for advancing Texas water research

Long-Term Goals – Group 2

- Leverage our internal stakeholders
- Elucidate, understand, and quantify GW-SW connections
- Expanded/strategic monitoring networks and data acquisition (create pilot & legacy information)
- Serve as academic/research connective tissue
- Serve as a water information resource ("voice")

Short-Term Strategies – Group 2

- Connect with Regional Planning Groups
- Texas Farm Bureau, Dow Chemical, etc mtgs
- Quantify supply and *demand*
- Learning from analogs
- Hyper-resolution Texas water and climate model (eg: Eric Wood @ Princeton)
- Groundwork for collaborative proposal writing

Long-Term Goals – Group 3

- Maintain momentum and *sustain* the group
- Justify and define our niche
    - eg: "Achieve collaborative and interdisciplinary research"
- Identify solutions for a variety of water resiliency problems

Short-Term Strategies – Group 3

- Meet and communicate regularly
    - Share where you are working, and on what
- Share funding opportunities
    - Find and ID specific RFPs for the group to pursue
- Create a listserv for nodes and group
- Create member directory; make it accessible and searchable, online
- Co-author op-eds, blogs, white papers
- Pursue and gain funding
- Provide assistance for proposal prep
- Serve as informal peer reviewers for proposals
- Assess "what are you working on now and who in the group might be able to help with that"
- Develop and inventory research, measurements, and models
- Establish a philosophy of reproducibility and set up mechanisms to implement (training for the group)

Appendix 3. List of Participants and Attendees (Dec. 3-4, 2015)

Attending	Name	Affiliation	Email
	Alex Pearl	Texas Tech	alex.pearl@ttu.edu
*	Allan Shearer	UT-Austin	ashearer@austin.utexas.edu
	Andy Sansom	Texas State	andrewsansom@txstate.edu
	Barbara Mahler	USGS	bjmahler@usgs.gov
*	Bart Bohn	UT Austin Technology Incubator	bbohn@ati.utexas.edu
	Bayani Cardenas	UT-Austin	cardenas@jsg.utexas.edu
*	Binayak Mohanty	Texas A&M	bmohanty@tamu.edu
	Bing Pu	UT-Austin	bing.pu@jsg.utexas.edu
	Bruce McCarl	Texas A&M	bamccarl@agecon.tamu.edu
	Bryan Brooks	Baylor	Bryan_Brooks@baylor.edu
*	Carey King	UT-Austin	careyking@energy.utexas.edu
*	Charlie Werth	UT-Austin	werth@utexas.edu
	D.J. Seo	UT-Arlington	djseo@uta.edu
	Danny Reible	Texas Tech	danny.reible@ttu.edu
	David Eaton	UT-Austin	eaton@mail.utexas.edu
	David Lary	UT-Dallas	David.Lary@utdallas.edu
*	Earthea Nance	Texas Southern Univ.	NanceEA@tsu.edu
	Ed Archuleta	UT-El Paso	egarchuleta@utep.edu
*	Eric James	UT-Austin	ewjames@austin.utexas.edu
*	Eric Hersh	UT-Austin	ehersh@esi.utexas.edu
*	Fouad Jaber	TAMU-Dallas	f-jaber@tamu.edu
	George Cobb	Baylor	george_cobb@baylor.edu
	George Ward	UT-Austin	gward@mail.utexas.edu
	Hatim Sharif	UT-San Antonio	Hatim.Sharif@utsa.edu
*	Huilin Gao	Texas A&M	hgao@civil.tamu.edu
*	Jack Sharp	UT-Austin	jmsharp@jsg.utexas.edu
*	Jason Julian	Texas State	Jason.Julian@txstate.edu
*	Jay Banner	UT-Austin	banner@jsg.utexas.edu
	Jay Famiglietti	UC Irvine	jfamigli@uci.edu
*	John Nielsen-Gammon	Texas A&M	n-g@tamu.edu
*	Jude Benavides	UT-Brownsville	jude.benavides@utb.edu
	Jungseok Ho	UT-Pan American	hoj@utpa.edu
*	Karen Huber	UT-Austin	karen.huber@utexas.edu
*	Kasey Faust	UT-Austin	faustk@utexas.edu
	Katherine Hayhoe	Texas Tech	katharine.hayhoe@ttu.edu
*	Katherine Lieberknecht	UT-Austin	klieberknecht@utexas.edu
	Ken Baake	Texas A&M	ken.baake@ttu.edu
*	Ken Rainwater	Texas Tech	ken.rainwater@ttu.edu
*	Kevin Wagner	Texas A&M	klwagner@ag.tamu.edu
	Kirsten DeBeurs	Univ. Oklahoma	kdebeurs@ou.edu
*	Lloyd Potter	UT-San Antonio	lloyd.potter@utsa.edu

*	Lynn Katz	UT-Austin	lynnkatz@mail.utexas.edu
	Marcio Giacomoni	UT-San Antonio	Marcio.Giacomoni@utsa.edu
	Marilu Hastings	Mitchell Foundation	mhastings@cgmf.org
	Michael Webber	UT-Austin	webber@mail.utexas.edu
	Michael Young	UT-Austin	michael.young@beg.utexas.edu
	Mike Gould	Texas A&M	jmgould@tamu.edu
	Nick Fang	UT-Arlington	nickfang@uta.edu
	Phil Bedient	Rice	bedient@rice.edu
	Rabi Mohtar	Texas A&M	mohtar@tamu.edu
	Randy Charbeneau	UT System	charbeneau@mail.utexas.edu
*	Rong Fu	UT-Austin	rongfu@jsg.utexas.edu
*	Rudy Rosen	Texas State	rr61@txstate.edu
	Sarah Dooling	UT-Austin	sarah.dooling@utexas.edu
*	Sarah Richards	Mitchell Foundation	srichards@cgmf.org
	Shane Walker	UT-El Paso	wswalker2@utep.edu
	Sheila Olmstead	UT-Austin	sheila.olmstead@austin.utexas.edu
*	Suzanne Pierce	UT-Austin	suzpierce@jsg.utexas.edu
*	Suzanne Schwartz	UT-Austin	sschwartz@law.utexas.edu
*	Tim Loftus	Texas State	tloftus@txstate.edu
*	Todd Caldwell	UT-Austin	todd.caldwell@beg.utexas.edu
*	Venkatesh Uddameri	Texas Tech	venki.uddameri@ttu.edu
*	Zong-Liang Yang	UT-Austin	liang@jsg.utexas.edu