

## WICCI Science Council Meeting

Monday, December 7, 2009  
DNR Science Operations Center  
12:00 PM

### ATTENDANCE

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#### Members

- Dick Lathrop (Co-Chair)
- John Magnuson (Co-Chair)
- Sharon Dunwoody
- Lewis Gilbert
- Bud Harris [via Live Meeting]
- George Kraft
- John Kutzbach
- Jim LaGro
- David Liebl [via Live Meeting]
- Pete Nowak
- Jonathan Patz
- Ken Potter
- Jack Sullivan
- Dan Vimont
- Bill Walker
- Darrell Zastrow

#### Staff and Guests

- Craig Anderson
- Tim Asplund [via Live Meeting]
- Alison Coulson
- Erin Crain
- Kevin Gibbons
- David Hart
- Olivia LeDee
- Karl Martin
- Michael Meyer
- David Webb

### ABSENT MEMBERS

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- Chris Kucharik
- Pat Leavenworth
- Kristen Malecki
- Sandra McLellan
- Philip Moy

### SUMMARY OF ACTION ITEMS

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- Pete Nowak, Lewis Gilbert, and Ken Potter will be part of a subgroup to review and give feedback to the Central Sands Hydrology Working Group regarding their charter.
- Kevin Gibbons and Alison Coulson will create a place on the website to post white papers and make clear that they are useful papers that are not peer reviewed.
- Alison Coulson will send the updated outline of the assessment report to Science Council members and Working Group chairs.
- Dan Vimont will send out a copy of Columbia University's publication that reviews how to communicate climate change effectively.

### SUMMARY OF MOTIONS PASSED

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- Sharon Dunwoody moved that the Adaptation Strategies Working Group Charter be accepted by the Science Council, Dan Vimont seconded, and the motion was approved unanimously.

- Pete Nowak moved that the Central Sands Hydrology Working Group's white paper be accepted as a WICCI white paper, David Liebl seconded, and the motion was approved unanimously.
- Erin Crain was accepted as a member of the Science Council.

## **MINUTES**

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[12:00] Meeting called to order by Dick Lathrop.

Members and guests introduced themselves.

### ***Announcements and Approval of Meeting Minutes***

The November 2 minutes were approved unanimously.

Dick Lathrop reviewed the announcements.

John Kutzbach made a presentation related to the climate science behind the recent controversy surrounding the East Anglia e-mails. His main observation was that some of the graphs that were drafted using proxy data from tree rings and the observed instrumental temperature record were presented in a way that blurs the boundary between the inferred proxy data and the observed measurements.

Members discussed how the controversy affects the work and outreach of WICCI.

### ***Review of Action Items***

Everyone had followed through with the action items.

### ***Update on Minnesota Meetings***

Dick Lathrop reviewed the workshop that he attended with the Minnesota DNR. They reviewed how they were going to undertake an impacts assessment in Minnesota. The Minnesota DNR officials said that they would write a letter of support to send the USGS hub to Wisconsin.

Lewis Gilbert met with people who were forming a climate change adaptation working group in Minnesota. He echoed what Dick Lathrop said that the people there are interested in using the WICCI model to undertake a similar initiative.

### ***Climate Modeling Update***

Dan Vimont said that he and other climate scientists at the Climate Working Group have been reviewing the temperature and precipitation data and results. He reported that results from snow fall, snow depth, snow melt, and other variables had just been analyzed. He and other scientists are still working on how they can analyze and rank the results from different variables since there are different levels of certainty for different variables.

He used the example of potential evapotranspiration, which gives highly variable results depending on the models that they use. He said that he was also unsure whether or not

they would be able to effectively analyze cloud cover, but he and others are reviewing the data to see what is possible.

He added that the results from the evaporation analyses would probably not be ready in time to include in the Adaptive Assessment report.

### ***Adaptation Strategies Working Group***

Bill Walker presented the charter and the group's proposed framework. He said that the group's thrust would serve to support other WICCI Working Groups. He noted two different preliminary stages:

- 1) Review the adaptation literature and make it accessible to WICCI Working Groups.
- 2) Look at WICCI internally to gather data about the other Working Groups' support needs.

He described the way that the Working Group would present its findings. They plan to present the information on webpages that would be accessible to other WICCI members.

He reviewed some initial findings on the range of definitions of "adaptation." He made a point to mention that there are tradeoffs that people make when choosing a definition to use. He then reviewed different dichotomies and foundations that definitions of adaptation are based upon.

He then reviewed what an adaptation checklist may look like and gave examples of analyses that would be on the list for Working Groups and others to review:

- System characteristics
- Time scale
- Existing strategies
- Power / points of control
- Audience
- Resource management practices
- Law and policy
- Communication strategies
- Monitoring and planning
- Research
- Removal of barriers
- Market mechanisms (taxing, trading)

Ken Potter separated how Bill Walker used "definition" with how he views "strategies." They both agreed that choosing a strategy or definition involves tradeoffs and specific tailoring for different circumstances.

Sharon Dunwoody said that she thinks that Working Groups will require more specificity and direction in the presentation of and engagement with the topic of adaptation for their group. Dan Vimont agreed and said that the Climate Working Group has been most successful in communicating with the Working Groups when they present them with examples of how they can use the data that they are presenting.

Darrell Zastrow offered that the Adaptation Strategies Working Group should reach out and interact with the Advisory Committee. David Liebl agreed with that point. Sharon Dunwoody noted that Working Groups may need help answering the “So what?” question as they draft their reports for the Adaptive Assessment.

Olivia LeDee said that she liked the IPCC definition of adaptation: “Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects. Various types of adaptation exist, e.g. anticipatory and reactive, private and public, and autonomous and planned. Examples are raising river or coastal dikes, the substitution of more temperature-shock resistant plants for sensitive ones, etc.”

***Motion: Sharon Dunwoody moved that the Adaptation Strategies Working Group Charter be accepted by the Science Council, Dan Vimont seconded, and the motion was approved unanimously.***

### ***Central Sands Hydrology WG Presentation***

George Kraft reviewed the issues that pertain to the hydrology of the Central Sands region.

He presented the draft white paper to the Science Council and said that the Working Group plans to articulate the conceptual models before developing the atmosphere-hydrology models and projecting forward using the most recent climate data. He and Chris Kucharik plan to use the white paper to apply for a grant to fund the continuing research.

George Kraft reviewed the important characteristics of the models that they are using. The process model is focused on measuring and modeling stream baseflow and the levels of wetlands & lakes. He said that the data and results from these models could be analyzed by biologists to understand what impacts hydrology changes would have on ecosystems. He then answered questions by other participants.

Participants discussed how the Central Sands Hydrology Working Group could move forward and started a discussion about how to review and vet Working Group products.

***Motion: Pete Nowak moved that the Central Sands Hydrology Working Group's white paper be accepted as a WICCI white paper, David Liebl seconded, and the motion was approved unanimously.***

***Action Item: Pete Nowak, Lewis Gilbert, and Ken Potter will be part of a subgroup to review and give feedback to the Central Sands Hydrology Working Group regarding their charter.***

Meeting participants continued to discuss the nature of what white papers are and how they should be presented.

***Action Item: Kevin Gibbons and Alison Coulson will create a place on the website to post white papers and make clear that they are useful papers that are not peer reviewed.***

***Action Item: Alison Coulson will send the updated outline of the assessment report to Science Council members and Working Group chairs.***

[1:40] Break

### ***Plant & Natural Communities WG Presentation***

Craig Anderson presented the outputs from the recent meeting of the Working Group. He and the other members drafted a mission and plan to use that to develop a charter. He reviewed a table of questions and approaches related to plants and natural communities (e.g. change in phenology, change in frost date, forest fires, etc.) that the WG would search to answer and explore the magnitude of, focusing on impact vulnerability.

Craig Anderson fielded questions from meeting participants. Highlights:

- People discussed how the foci of the Forestry WG and the Plant & Natural Communities differ.
- Craig Anderson noted that the WG would work on “natural areas” (defined broadly, not just “state natural areas”) around Wisconsin.
- Members discussed the concept of “analogs” and the differential rates of population structure changes due to climate change.
- Craig Anderson and others noted that the WG has an impressive range of expertise in the group, but they need meeting and logistical support to help push them forward. Members discussed how the WG could acquire the resources necessary to fund their initial meeting activities.
- Members discussed the difficulties in forming a coherent framework for compiling the data and results of the Working Group reports.
- Jim LaGro noted that the urban and suburban environments are currently not being addressed by any of the existent Working Groups.
- John Magnuson brought up that the Climate WG has projected how the tension zone may shift in the next 35 years and noted that people from the Climate and Plant & Natural Communities WGs should discuss this issue.
- John Magnuson suggested that the Adaptation Strategies WG should consider the broader issues at landscape scales regarding the network of the various protected natural areas of the state and local governments and the land trusts and TNC. The connectivity and distribution of these pieces of land can be important in the natural northward dispersal.
- John Magnuson also suggested that they should consider vagility of different organism groups from insects to long lived trees in judging the importance of the protected areas and future strategies.

### ***Wildlife WG Presentation***

Karl Martin started by laying out concerns for 1) the range and incompatibility of adaptation strategies used by different Working Groups and 2) the maturity of the reports of the WGs moving towards the Adaptive Assessment Report.

Members discussed these points in detail and offered different solutions of how to deal with incongruity and conflict of WG opinions, approaches, and products.

Karl Martin and Olivia LeDee presented the WG's approach, which involves 1) a species sensitivity database and 2) system models using Bayesian networks. She went into detail about how the WG will develop their risk assessment.

Dan Vimont compared the WG's framework to the one presented by the people advocating for the polar bear. He said that those scientists also had a tool for decision making that was separate from the Bayesian network models and would give policy makers more discrete choices and help them choose among them.

Members commended the Wildlife WG and the model that they offer of how to deal with uncertainty and the need for people to make difficult decisions.

John Magnuson recommended that a game species or two be on the short list of priority species.

### ***Additional Announcements***

***Action Item: Dan Vimont will send out a copy of Columbia University's publication that reviews how to communicate climate change effectively.***

Dan Vimont announced that the Climate Change Leadership Challenge funding opportunity is available for graduate students.

Jonathan Patz announced that a letter has been sent to Wisconsin Senators to advocate for national climate change mitigation legislation.

### ***Agenda Items for January 11 Meeting***

- Discussion of Hydrology, Precipitation, and Extreme Events Climate Projections
- Outreach Advisory Committee Presentation

[3:08] Meeting entered closed session.

***Motion: Erin Crain was accepted as a member of the Science Council.***

[3:11] Meeting Adjourned

## APPENDIX

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### *Meeting Agenda – December 7, 2009*

12:00	1 –	Welcome and Introductions
12:05	2 –	Announcements and Approval of Minutes from the November 2 Science Council meeting
12:10	3 –	Progress on Action Items from the November 2 meeting <ul style="list-style-type: none"><li>• <b>Steve Pomplun</b> will contact Bob Krumenaker’s office to invite them to send staff members to participate in each the Outreach Committee and the Coastal Communities Working Group.</li><li>• <b>Dick Lathrop</b> and <b>John Magnuson</b> will e-mail the working group chairs to inform them of when they are scheduled to present.</li><li>• <b>Dan Vimont</b> will work with <b>Steve Pomplun</b> to schedule a time at which Don Wuebbles could participate in an AOS colloquium and a Science Council meeting.</li><li>• <b>Kevin Gibbons</b> will send out a calendar poll to schedule a January Science Council meeting.</li></ul>
12:15	4 –	Update on Meetings with Minnesota DNR, Minnesota Pollution Control Agency (PCA), and Univ. of Minnesota (Lathrop and Gilbert)
12:30	5 –	Climate Modeling Update (Vimont)
12:40	6 –	Adaptation Strategies Working Group Update (Walker and Liebl)
1:10	7 –	Central Sands Hydrology WG Presentation
1:40	8 –	Break
1:50	9 –	Plants & Natural Communities WG Presentation
2:20	10 –	Wildlife WG Presentation
2:50	11 –	Science Council Membership (Lathrop)
2:55	12 –	Request for Agenda Items for January 11 Meeting
3:00	13 –	Adjourn

### *Announcements*

- Don Wuebbles will visit the Science Council on April 5.
- The Science Council will meet January 11.
- Steve Pomplun is in conversation with Bob Krumenaker from the Apostle Islands National Lakeshore.
- Here is the current schedule for Working Group presentations:
  - **Dec. 7:** Wildlife, Central Sands Hydrology, and Plants & Natural Communities
  - **Jan. 11:** Forestry, Water Resources, Stormwater, and Coldwater Fish & Fisheries
  - **Feb. 1:** Human Health, Milwaukee, Green Bay, Coastal Communities
  - **March 1:** Soil Conservation, Agriculture, and Adaptation