

## WICCI Science Council Meeting

Monday, April 7, 2008  
DNR Science Operations Center  
12:00 PM

### ATTENDANCE

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#### Science Council Members

- Dick Lathrop (Co-Chair)
- Scott Craven
- Bud Harris
- George Kraft
- Chris Kucharik
- Philip Moy
- Steve Pomplun
- Ken Potter
- Sarah Shapiro-Hurley
- Dan Vimont
- Bill Walker
- Darrell Zastrow
- Sandra McLellan (by phone at 1:00 PM)

#### Nonmembers

- Jack Sullivan
- David Webb
- David Hart
- Calvin Gander
- Kevin Gibbons

### ABSENT MEMBERS

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- Sharon Dunwoody
- John Kutzbach
- John Magnuson
- Jonathan Patz

### SUMMARY OF ACTION ITEMS

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- Steve Pomplun will send out consortium memo again with links to the organizations' websites.
- All Science Council members should e-mail Steve Pomplun to tell him which organizations on the Funding Consortium memo should be followed up with.
- Someone from the climate group will make a presentation at the next Milwaukee Working Group meeting.

- Scott Craven will distribute WMI report on climate affects to wildlife and lead a discussion at the next meeting.
- Dan Vimont will analyze the variables submitted to him by the other members and report back on how much certainty is possible for these variables.
- Dan Vimont will draft a letter of support to send to Sandra McLellan so that Mike Hahn and others can sign it.
- Chris Kucharik will send out link to IPCC website that provides data and models with information on variance.
- George Kraft will send out DNR monitoring scheme that was discussed during the meeting.

## MEETING PROPER

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### *Introductions and Presentation of Agenda*

12:00 – Meeting called to order.

David Hart (GIS specialist at Sea Grant) introduces himself.

Meeting minutes from March 3, 2008 presented and approved by members with a few minor corrections.

### *Presentation of Dashboard Visualization Software*

David Hart gave a 30-minute presentation on Dashboard, a Flash dynamic web weather mapping and visualization software, discussing his research and the potential for WICCI to use the interface. The software incorporates hydrologic and meteorological data from different data sources.

Members asked questions regarding how the software could be used, and they discussed applications and limitations of the software, as they relate to WICCI. Some points:

- Dashboard could be linked with other tools to map adaptation to various climate events (Dan Vimont).
- It is useful once WICCI has the hydrology modeling data, because it could project the data into a product that could be used on a daily basis (Ken Potter).
- Something that gives a visual representation of the data, like Dashboard but simpler, could be used to effectively communicate to the public (Bill Walker).
- This software would allow working groups to consolidate and present their data to the Science Council (Philip Moy).
- The larger hydrology/water group could use this software to map their modeling (Dick Lathrop).
- Dashboard is a great tool to map a watershed and show changes in precipitation and extreme precipitation, but the Science Council needs to decide whether or not it is worth the large time commitment needed to put the data into the software (Dan Vimont).

- The data related to climate trends that Chris Kucharik and his grad student have been collecting should be applied to a visual model, and Dashboard would be perfect for them to use.
- Concerning forests, this type of visualization would help to make land use and forest data more consistent and easier to share among different scientists and groups (Darrell Zastrow).

### *Earth Day Conference and the WICCI Collaboration Strategy*

Steve Pomplun talked about the progress of the Conference and the high expected attendance.

He passed out his memo "WICCI Funding Consortium Potential Partners." The people on the list would ultimately benefit from the data that WICCI might acquire. He asked Science Council members to help him prioritize the groups so that he and other outreach staff could look up meetings and have WICCI members attend their meetings and build relationships with them. The larger goal would be political relationship building.

***Action Item: Steve Pomplun will send out consortium memo again with links to the organizations' websites.***

Steve Pomplun noted that he wanted to organize representatives from these groups, set up meetings, and form the Advisory Committee.

***Action Item: All Science Council members should e-mail Steve Pomplun to tell him which organizations on the Funding Consortium memo should be followed up with.***

### *Milwaukee Hydrology Working Group*

Ken Potter and Sandra McLellan presented the progress of the previous week's meeting with the Milwaukee working group. Highlights:

- The group has a large technological capacity to manage water in Milwaukee – higher than anywhere else in the state. They are using state of the art technology.
- They are a big resource for this technical capacity, because other places in WI will need to use some of this to adapt to climate change.
- There is a lot of enthusiasm in the group, but people are waiting for products of WICCI research, and without that, he does not know how to move forward.
- Ken Potter noted that the Council still does not have a vision of the products that will come out in the next few months.
- Sandra McLellan said that the water management and air quality were the biggest urban issues.
- She also believes that we need an economic assessment for these data to figure out if the group has the capacity to accomplish the prescribed tasks.
- She would like someone from the climate group to present at that late-April or early-May meeting to talk about climate and help fill in Dan Vimont's template.

***Action Item: Someone from the climate group will make a presentation at the next Milwaukee Working Group meeting.***

- Dr. McLellan noted that the ranges of the predictions from the report on climate variables were currently "too wide" to be used effectively.
- Dr. Potter noted that working groups should consider more than just a couple variables. He thinks we should be talking more about other things, because sewer overflows is just one part of climate vulnerability. We should change the way that we make decisions. We have to have united visions about how we get the state to look at these kinds of things.

***DNR Brainstorming Meeting***

Sarah Shapiro-Hurley presented the ideas that came from the wildlife working group. They had difficulty coming to consensus on how the climate can affect these areas. She started with species distribution and phenology and talked about their thoughts on how different factors affect those parameters. She and the other participants discussed these topics and how WI climate change affects all of them.

Jack Sullivan posed some pertinent questions: "Will spruce grouse still be around in 10 years?" "Will grassland birds be coming up to WI because our climate will look like that of today's Missouri?" He would like to compile data for these species and their habitat specifications and then compare those data with the data from climate change. These data could also help understand how white-tailed deer and raccoon populations are adapting to climate change.

Scott Craven noted that some time in the coming week, the Wildlife Management Institute will be releasing data on how climate change will be affecting local biodiversity.

***Action Item: Scott Craven will distribute WMI report on climate affects to wildlife and lead a discussion at the next meeting.***

Ken Potter commented that scientists and resource managers should consider land use management more and talk to legislature about how to manage these landscapes. He said that there is a need for more monitoring programs in place so that we can have stronger assessments and data modeling.

***Climate Data and Hydrology***

Participants discussed the progress of forming a fish working group. Dick Lathrop said that progress on forming a climate linkage with temperature and precipitation has been held up by the lack of information regarding hydrologic response and climate. He suggested finding a way to fund USGS research and to take those results, combine them with climate data from the climate working group, and come up with prescriptions on how to manage streams.

Dan Vimont, Ken Potter, and others then discussed the possibility of using climate data to match hydrologic discharge. Some main points:

- Hydrologic data are concerned with hourly rates. It is hard to resolve issues with daily or monthly data sets (Dan Vimont).
- Cold and warm water species interactions depend on ecological model issues, so the data are much more complicated than just the streams issue (Dick Lathrop).
- Instead of focusing on large forecasts as we are now, we need to focus on what do we need to know to adapt to these changes better. We should step back and figure out what are our objectives for the next 3 years so that we can make the fundamental changes in this time (Ken Potter).

### *Green Bay Working Group*

Bud Harris presented his paper "Some Thoughts on Climate Change at the Regional Level," and he described how that framework could use fuzzy set theory, graph theory, and SWOT modeling to model and predict adaptation.

Dr. Harris recommended using this model in a series of stages, starting with scoping models and expert analysis, then look at land-water interface with SWOT and try to come up with something more quantitative.

Science Council members liked the idea of using this framework with the climate data to gain a better understanding of stress ecology. If WICCI can provide the climate data, this framework can then be used.

### *Climate Group and Data Requests*

Dan Vimont has received a template proposition from most of the groups. He discussed how his group plans to use the data to submit a proposal to Focus on Energy for \$200,000 per year (\$150,000 from Focus on Energy and \$50,000 from the Baldwin Grant). Most of that would go into downscaling and de-biasing these models.

As for the data requests submitted by the group, Dr. Vimont said that he would analyze these variables and report back to the Science Council how much certainty is possible for the data.

***Action Item: Dan Vimont will analyze the variables submitted to him by the other members and report back on how much certainty is possible for these variables.***

***Action Item: Dan Vimont will draft a letter of support to send to Sandra McLellan so that Mike Hahn and others can sign it.***

Dick Lathrop asked Dr. Vimont about air quality and diversity of factors and what information is known. Dr. Vimont said that he would talk to Tracey Holloway to see which ones are feasible.

***Action Item: Chris Kucharik will send out link to IPCC website that provides data and models with information on variance.***

### *Economic Data Needed for Adaptation to Climate Change*

Ken Potter opened the discussion by saying that it will be necessary to talk about the economic benefits of having WICCI so that we could argue for the usefulness of WICCI. "Why shouldn't we just stumble through climate change?" He believes that there should be economic, cost-benefit analysis to justify WICCI's actions and research and if policy makers and resource managers can anticipate and spend money ahead of time, then a lot of money can be saved. To provide these analyses researchers need to tabulate insurance payments, car replacement, etc. to justify the need for tangible economic values. Working groups should be thinking about how one might quantify the benefits of investing in these studies. He proposed that an economic working group be started.

Many members agreed with Dr. Potter's proposal. Dan Vimont noted that a recent bill under review in the Senate would appropriate 40% of revenue from carbon credits into climate change adaptation. These available funds could be a great asset to WICCI

When asked what he thought about the proposal, Bill Walker said that he would prefer to discuss the potential for these assessments and the meaning of the term "economic" with the Science Council during the next meeting.

### *Climate Change Adaptation Proposal to DNR*

David Webb presented the progress on his proposal to DNR to allocation \$1 million annually to climate change adaptation. He said that his figure has caught people's attention, but that they need more specificity and a lower budget. He and Jack Sullivan have been working to come up a smaller, better defined budget request with more in depth descriptions of the working groups, as well as what the groups plan to do and what results they plan to attain.

***Action Item: George Kraft will send out DNR monitoring scheme that was discussed during the meeting.***

### *Proposed Agenda Items for Next Meeting*

Dick Lathrop said that scheduling for summer meetings should be done during the upcoming (May 5) meeting. Here are some agenda items mentioned by the participants:

- Talk about the meaning of the term "economic" and how to incorporate it into WICCI (Bill Walker, 30 minutes)
- Arranging summer schedule - bring calendars
- Land use change and climate change (Ken Potter)
- Monitoring needs for future climate change assessments (30-45 minutes)
- Formation of a fish working group (Jack Sullivan)
- Water Working Group (Dick Lathrop)

[Adjourned 3:00]

## APPENDIX

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### *Meeting Agenda*

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| 12:00 | 1 – Welcome and Call to Order  |
| 12:05 | 2 – Introductions and Call for New Business  |
| 12:15 | 3 – Approval of Minutes from March 3, 2008 meeting   |
| 12:20 | 4 – Sea Grant Presentation by Dr. David Hart, Sea Grant GIS Specialist                     |
| 1:00  | 5 – Update on April 16 Earth Day conference & WICCI Collaboration Strategy (Steve Pomplun) |
| 1:15  | 6 – Update on Milwaukee/Hydrology Working Group (Ken Potter)                               |
| 1:25  | 7 – Update on DNR brainstorming meeting for creating Working Groups (Dick Lathrop)         |
| 1:35  | 7 – Green Bay Working Group Proposal (Bud Harris)  |
| 1:55  | 8 – Climate Group and Data Requests (Dan Vimont)   |
| 2:30  | 9 – Discussion of Economic Data Needed for Adaptation to Climate Change (Ken Potter)       |
| 2:45  | 10 – Review of Additional Action Items and Formation of New Ones                           |
| 3:00  | 11 – Adjourn   |