

**Implications of a Changing Arctic on Water Resources and Agriculture in the Central U.S.**  
**Nebraska Research Innovation Campus**  
**November 10-12, 2015**

*Updated 10-08-2015*

**Tuesday, November 10**

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| 0800-830  | Registration   |
| 0830-900  | Welcome and Opening Remarks<br><b>Don Wilhite</b> , Applied Climate Science, School of Natural Resources, UNL<br><b>Martha Shulski</b> , Director, High Plains Regional Climate Center, UNL  |
| 0900-1000 | Plenary Session: Implications of a Changing Arctic<br><b>Don Wilhite</b> (Moderator)<br><br><i>An Arctic Connection to Extreme Weather in Mid-Latitudes: New Evidence, Mechanisms, Metrics, and Emerging Questions.</i><br><b>Jennifer Francis</b> , Research Professor, Department of Marine and Coastal Sciences, Rutgers University   |
| 1000-1030 | Refreshment Break  |
| 1030-1200 | Plenary Session: Implications of a Changing Arctic on Mid-Latitude Weather Patterns and Climate Extremes<br><b>Michael Hayes</b> , Director, National Drought Mitigation Center, UNL (Moderator)<br><br><i>Arctic Change and Possible Influence on Mid-latitude Weather Extremes.</i><br><b>Judah Cohen</b> , Principal Scientist, Climate Analysis Group, Atmospheric and Environmental Research<br><i>Is 'Warm Arctic, Cold Continent' a Fingerprint Pattern of Climate Change?</i><br><b>Marty Hoerling</b> , Physical Sciences Division, NOAA/ESRL |
| 1200-1330 | Lunch  |
| 1330-1500 | Plenary Session: Building Resilience to a Changing Water Regime: Implications for water resources in the Great Plains and Midwest regions<br><b>Roberto Lenton</b> , Executive Director, Daugherty Water for Food Institute, University of Nebraska (Moderator)<br><br><i>TBA. <b>Richard Palmer</b>, Director of the DOI Northeast Climate Science Center, University of Massachusetts</i><br><i>A Fresh Look at Central U.S. Extreme Precipitation Trends. <b>Ken Kunkel</b>, NOAA's National Centers for Environmental Information,</i>             |
| 1500-1530 | Refreshment Break  |

1530-1700 Plenary Session: Building Resilience to a Changing Climate Regime: Implications for agriculture in the Great Plains and Midwest regions

**Mark Brusberg**, Deputy Chief Meteorologist, USDA (Moderator)  
(invited)

*Healthy Soils as the Cornerstone of Climate Resilience for Agriculture.*

**Jerry Hatfield**, Research Plant Physiologist, National Laboratory for Agriculture and the Environment, USDA/ARS, Ames, Iowa

*Using the Arctic Oscillation to Improve Agricultural Decisions.* **Guillermo Baigorria**, Crop Simulation Modeler, UNL

**Discussant:**

**Gene Takle**, Director, Climate Science Program, Iowa State University, Ames, Iowa

1700-1830 Dinner (Banquet hall, Nebraska Innovation Campus)

1900 -2100 Public Lecture

Introductions, **Don Wilhite**, Applied Climate Science, School of Natural Resources, University of Nebraska-Lincoln

- *The U.S. Chairmanship of the Arctic Council: Why should we care about the Arctic?* **Karen Florini**, Deputy Special Envoy for Climate Change, U.S. Department of State.
- *Crazy Weather and the Arctic Meltdown: Are they connected?* **Jennifer Francis**, Research Professor, Department of Marine and Coastal Sciences, Rutgers University.

### **Wednesday, November 11**

0800-845 Plenary Session: Climate change, drought and agriculture

**Clinton Rowe**, Department of Earth and Atmospheric Sciences, UNL (Moderator)

*Trends in Climate Teleconnections and Effects on the Midwest.*

**Donald Wuebbles**, Professor of Atmospheric Science, University of Illinois and Assistant Director, Office of Science and Technology Policy, and Zach Zobel, University of Illinois.

0845-930 *Drought Fusion: A Union of Past and Present Drought Characteristics and their Impacts.*

**Michael Hayes**, Director, National Drought Mitigation Center, **and Mark Svoboda**, Climatologist and Monitoring Program Leader, National Drought Mitigation Center, UNL.

0930-1000 Refreshment Break

1000-1030 Plenary Session: Climate change, drought and agriculture (continued)

*The Physics of Great Plains Drought, Its Predictability and Its Changed Risk in a Warming World.*

**Marty Hoerling**, NOAA/ESRL, Physical Sciences Division.

- 1030-1045 Breakout group instructions
- 1045-1215 Breakout groups: Water resources and agriculture
- What are the key concerns for the water resources and agricultural sectors in association with increasing climate variability and the occurrence of extreme events?
  - What adaptation and mitigation actions could be used to deal with a changing climate in the future?
  - What data and information needs/gaps exist to effectively respond?
  - What key communication strategies are required to promote changes in water and agricultural management practices?
  - What research gaps/priorities exist?
  - What policy options should be considered in order to adapt to and mitigate the effects of a changing climate on agriculture and water resources?
- 1215-1330 Lunch
- Capturing Climate Variability and Change in the Platte River Basin.*  
**Mike Forsberg**, Nature Photographer.
- 1330-1500 Management Strategies Associated with a Changing Climate: A Local, Regional and Global Perspective (Stakeholder Panel)
- Donald Wilhite**, Applied Climate Science, School of Natural Resources (Moderator)
- Douglas Bereuter**, Co-chairman, Chicago Council on Global Affairs' Global Agricultural Development Initiative; Member, State Department's International Security Board (Arctic Policy Study Committee)
- John Berge**, Manager, North Platte Natural Resources District
- Martha Kauffman**, Managing Director, Northern Great Plains Program, World Wildlife Fund
- John Hansen**, President, Nebraska Farmers Union
- 1500-1530 Refreshment Break
- 1530-1700 Breakout Group Session: Report back  
Water resources and agriculture breakout group discussions

**Thursday, November 12**

- 0800-1000      Adapting to a Changing Regional Climate: Understanding and Communicating the Science to Practitioners/Identifying Adaptation and Mitigation Actions/Policy Implications  
**Martha Shulski**, Director, High Plains Regional Climate Center, University of Nebraska-Lincoln (Moderator)
- Panelists:**  
**Linda Prokopy**, Natural Resource Social Science, Purdue University  
**Taryn Finessey**, Colorado Water Conservation Board  
**Dennis Todey**, South Dakota State Climatologist, South Dakota State University  
**Tom Buman**, AGREN
- 1000-1030      Refreshment Break
- 1030-1130      Recommendations and Next Steps
- 1130-1200      Wrap-up and Adjourn