# IISD – GWSP Conference on the Water-Energy-Food Security Nexus
**May 1 – 4, 2012**
**Inn at the Forks, Winnipeg, Manitoba**

## Tuesday, May 1, 2012 – **D A Y  1  h o s t e d  b y  I I S D**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>8:00 – 9:00</td>
<td>Breakfast</td>
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<tr>
<td>8:30 – 9:00</td>
<td>Registration</td>
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| 9:00 – 9:20| Opening Introductions (Chair: Hank Venema)  
Welcoming remarks on behalf of:  
- The Province of Manitoba - Minister Gord Mackintosh, Winnipeg  
- International Institute for Sustainable Development (IISD) - Bill Glanville, Winnipeg  
- Global Water System Project (GWSP) - Janos Bogardi, Germany |
| 9:20 – 9:40| The Vision and Role of IISD in Addressing the Water-Energy-Food Security Nexus for Manitoba and North America (Hank Venema, Winnipeg) |
| 9:40 – 10:00| Bonn +10 and its Recommendations on Water for RIO +20 (Janos Bogardi, Germany) |
| 10:00 – 10:20| How the Governance of Water in Western Canada has Affected the Development of the Agriculture and Energy Sectors (Ted Horbulyk, Calgary) |
| 10:20 – 10:40| Break                                                               |
| 10:40 – 11:00| Priority Issues for Water and Food Security (Marc Andreini, Nebraska) |
| 11:00 – 11:20| The Applications of Virtual Water to Managing Water for Food and Energy Security (Singjiro Kanae, Japan) |
| 11:40 – 12:00| Transboundary Basins and Natural Resources Management: The Red River Basin Experience (Lance Yohe, Minnesota) |
| 12:00 – 1:10| Lunch Break (lunch not provided)                                    |
**Session: Governance Issues and Opportunities continued** (Chair: Janos Bogardi, Germany)

1:10 - 1:30  Where Water Security meets Agricultural Sustainability: Challenges and Opportunities for the 21st Century (Howard Wheater, Saskatoon)

1:30 - 1:50  Climate Change and its Effects on the Water-Energy-Food Nexus (Jim Bruce, Ottawa)

1:50 - 2:10  Food Security and Ecological Sustainability: The promise of soft paths (David Brooks, Ottawa)

2:10 - 2:30  A Systems Approach to Managing the Water-Energy-Food Nexus in a River Basin (Slobodan Simonovic, London)

**Session: Earth Observations (Chair: Bradley Doorn)**

2:30 - 2:50  Monitoring Needs for Managing Food, Energy and Water Resources (Balazs Fekete, New York)

2:50 - 3:10  The Application of Earth Observations in Grain Marketing Decisions (Bruce Burnett, Winnipeg)

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<tr>
<th>3:10 - 3:30</th>
<th>Break</th>
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3:30 – 3:50  NASA Data Products that Promote Water, Energy and Food Security (Bradley Doorn, Washington, DC)

3:50 – 4:10  G20 Global Agricultural Monitoring Initiative (GEOGLAM) (Ian Jarvis, Ottawa)

4:10 – 4:30  Evapotranspiration: Monitoring a critical agrometeorological variable (Paul Bullock, Winnipeg)

4:30 – 4:50  Soil Moisture Developments in Canada (Catherine Champagne, Ottawa)

4:50 – 5:10  National and Global Progress in Drought Monitoring (Al Howard, Regina)

5:10 – 5:30  Drought Monitoring in Africa (Gabriel Senay, USGS, South Dakota)

5:30 – 5:45  Discussion

| 5:45 - 7:30 | Icebreaker Reception |
May 2, 2102 – DAY 2 hosted by IISD

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<tr>
<th>Time</th>
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<tr>
<td>8:00 - 8:30</td>
<td>Coffee/Tea</td>
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<td>8:30 - 9:00</td>
<td>Integrating World Meteorological Organization (WMO), Group on Earth Observations (GEO) and Environment Canada’s Strategies to Maximize the Contributions of Earth Observations for Water-Energy-Food Security (David Grimes, Ottawa)</td>
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<td>9:00 - 9:30</td>
<td>Directions for Managing Food and Water in Canada (Ian Jarvis, Ottawa)</td>
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<td>9:30 - 10:45</td>
<td>Panel on the Contributions of Earth Observations and Governance to Decision-Making (Panel members: Manitoba Water Stewardship (Rhonda McDougal), Manitoba Hydro (Efrem Teklemariam), NASA (Bradley Doorn), Agriculture and Agri-Food Canada (Ian Jarvis), Chair: David Grimes)</td>
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<td>10:45 - 11:15</td>
<td>Break</td>
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<td>11:15 - 11:45</td>
<td>Discussion on Recommendations for Action (Discussion Chair: Janos Bogardi, Germany)</td>
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<td>11:45 - 12:00</td>
<td>Meeting Summary (Janos Bogardi, Germany; Hank Venema, Winnipeg)</td>
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<td>12:00 - 1:30</td>
<td>Lunch</td>
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<td>1:30 - 1:50</td>
<td>Introduction to the Bioeconomy Symposium (Hank Venema, Winnipeg)</td>
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<td>1:50 - 2:10</td>
<td>Historical Ecosystem Dynamics in the Red-Assiniboine Basin (Pascal Badiou, Winnipeg)</td>
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<td>2:10 - 2:30</td>
<td>Climate and Hydrological Forcing of Nutrient Loadings in the Red-Assiniboine Basin (Greg McCullough, Winnipeg)</td>
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<td>2:30 - 2:50</td>
<td>Integrating Agricultural with Unconventional Drainage (David Lobb, Winnipeg)</td>
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<td>2:50 - 3:10</td>
<td>Observations on Innovation Agricultural Water Management (Bruce Shewfelt, Winnipeg)</td>
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<td>3:10 - 3:30</td>
<td>Break</td>
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<td>3:30 – 3:50</td>
<td>Considerations for Sustainable Phosphorus Management (Vivek Voora, Winnipeg)</td>
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<td>3:50 – 4:10</td>
<td>Adaptive Governance and Policy-making Approaches for the Water-Energy-Food Nexus (Darren Swanson, Winnipeg)</td>
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4:10 - 4:30 Lessons for Lake Winnipeg from Watershed Management to Limit Lake Kinneret Cyanobacteria Blooms and Phosphorus Loading in Wetlands (Doron Markel, Israel)

4:30 - 4:50 Issues and Solutions for Irrigation in Developing Countries (Stuart Taylor, iDE, Winnipeg)

4:50 - 5:50 Discussion: Next Steps and Symposium Summary (Hank Venema, Winnipeg)

May 3, 2012 – DAY 3 hosted by GWSP

8:30 - 9:00 Coffee/Tea
8:30 - 9:00 Registration

Session: Background on GWSP and the Water-Energy-Food Initiative (Chair: Rick Lawford, Winnipeg)

9:00 - 9:20 Introduction to GWSP (Janos Bogardi, Germany)
9:20 - 9:40 Global Scale Initiative Studies in GWSP (Balazs Fekete, New York)
9:40 - 10:00 Governance and Water Needs Issues (Claudia Pahl-Wostl, Germany)
10:00 - 10:20 Findings of the Global Catchment Initiative Phase I Study (Janos Bogardi, Germany)

10:20 - 10:40 Break

Session: Background on GWSP and the Water-Energy-Food Initiative (Chair: Janos Bogardi, Germany)

10:40 - 11:00 Findings of the Twin 2 Go Project (Claudia Pahl-Wostl, Germany)
11:00 - 11:20 Introduction to GCI Phase II (Rick Lawford, Winnipeg)
11:40 - 12:00 Public Health and the Flood-Drought Pendulum (Karla Zubrycki, Winnipeg)

12:00 - 1:00 Lunch

Session: Experience with the Water-Energy-Food Initiative in Different Basins (Chair: Claudia Pahl-Wostl, Germany)

1:00 - 1:20 Integrating Water and Energy, and Using Renewable Energy and Aquifer Management to Support Food Security (Magdalena AK Muir, Calgary)
1:20 - 1:40 Driving Forces of Resource Governance in the Forestry Sector of the Philippines
(Herminia C. Tanguilig, Philippines)
1:40 - 2:00 The International Joint Commission (IJC) and its role in adapting to Climate Change along the Canada-US border (Jim Bruce, Ottawa)

**Basin Case Studies: Europe**

2:00 - 2:20 Danube Basin (Hans-Peter Nachtnebel, Germany)
2:20 - 2:40 Elbe River (Summary by Janos Bogardi, Germany)

**Basin Case Studies: Lake Winnipeg (Chair: Hank Venema)**

2:40 - 3:00 Climate Variability in Western Canada (Ray Garnett, Winnipeg)
3:00 - 3:20 Perspectives of Lake Winnipeg Basin, Red River Basin Commission (RRBC) (Lance Yohe, Minnesota)

3:20 - 3:40 **Break**
3:40 - 4:00 Perspectives of the Lake Winnipeg Basin (Alf Warkentin, Winnipeg)
4:00 - 4:20 Perspectives of the Saskatchewan River Basin (Al Howard, Regina)
4:20 - 4:45 Discussion

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**May 4, 2012 – DAY 4 hosted by GWSP**

8:00 - 8:30 **Coffee/Tea**

**Session: Experience with the Water-Energy-Food Initiative in Different Basins: Introductions to other GCI II Basins (Chair: Dimple Roy, Winnipeg)**

8:30 - 8:50 Jordan River (Survey Summary by Sina Marx)
8:50 - 9:10 The Murray Darling River Basin (Survey Summary by Rick Lawford)
9:10 - 9:30 The Amudarya Basin (Survey Summary by Sina Marx)
9:30 - 10:00 Chinese Rivers: the Yellow and Huai Rivers (Survey Summary by Sina Marx)
10:00 - 10:20  The Mekong River Basin (Survey Summary by Janos Bogardi)

10:20 - 10:40  Break

Session: Introductions to other GCI II Basins (Chair: Claudia Pahl-Wostl, Germany)

10:40 - 11:00  Issues in Managing Water for Energy and Food Security in Africa (Gabriel Senay, USGS, South Dakota)

11:00 - 11:20  The Okavango Basin (Survey Summary by Rick Lawford, Winnipeg)

11:20 - 11:40  The Volta Basin (Summarized by Marc Andreini, Nebraska (TBC))

11:40 - 12:00  The Incomati Basin (Survey Summary by Sina Marx, Germany)

12:00 - 12:10  Introduction to the Breakout Groups (Rick Lawford, Winnipeg)

12:10 - 1:00  Lunch

Session: Identifying Themes for Further Synthesis as part of GCI II (Chair: Janos Bogardi)

1:00 - 2:30  Breakout Discussions:
- Group 1: Basins in Developed Countries
- Group 2: Basins in Developing Countries

2:30 - 3:10  Plenary Presentations from the Breakout Groups

3:10 - 3:30  Break

3:30 - 4:00  General Discussion on:
- Common issues, themes and solutions arising from case studies
- Ways in which the W-E-F Conference findings inform the case studies and vice versa
- Messages from the Conference and Workshop that should be taken to Rio +20

4:00 - 4:30  Meeting Summary and Concluding Remarks (Rick Lawford, Janos Bogardi, Hank Venema)