



Summer WAS*IS Workshop Agenda

July 12–20, 2007

Boulder, Colorado

Thursday, July 12, 2007

- 6:00 p.m. Start of reception at NCAR, Center Green, Building 1 (3080 Center Green Drive)
- Help yourself to food, drinks, and dessert
- 6:15 p.m. Welcome to the WAS*IS Family (Eve Gruntfest, Julie Demuth, Sheldon Drobot)
- 6:30 p.m. Participants' 1-minute introductions
- Name, position, and affiliation
- 7:30 p.m. Why WAS*IS now? (Eve, Julie, Sheldon)
- Readings – (1) Demuth et al. 2007: Weather and Society * Integrated Studies: Building a community for integrating meteorology and social science
- (2) Morss et al. 2007: Societal and economic research and applications priorities for the North American THORPEX program
- WAS*IS up to now: how it's evolving and future prospects
 - What distinguishes WAS*IS from other efforts
 - Barriers we will overcome
 - Ground rules for the next 8 days
- 8:30 p.m. Adjourn

Friday, July 13, 2007

- 8:15 a.m. Arrive, get settled
- 8:30 a.m. Discuss logistics, sign travel vouchers, etc. (Julie, Eve, Sheldon)
- ☞ Daily themes: Capacity Building and Laying the Foundation for WAS*IS Success ☞
- 8:45 a.m. Getting to know your fellow WAS*ISers -- 5-minute intros to say (a) what you do, and (b) what you want from WAS*IS
- Moderator: Walker Ashley
- Jeff Cupo
 - Todd Crane

- Julie Malmberg
- Andrea Bleistein
- Wendy Pearson
- Kathy Sherman-Morris
- Dan Stillman
- Rebecca Jennings

- 9:30 a.m.** **The importance of problem definition (Rebecca Morss, NCAR)**
Readings – Morss, 2005: Problem definition in atmospheric science public policy
- Motivation for and key points of the article
 - Break into groups to discuss “problems” we pose
- 10:30 a.m.** **Break**
- 11:00 a.m.** **Report back from groups and discuss key points about problem definition**
Moderator: Rebecca Morss
- 11:30 a.m.** **Culture change underway: A panel of WAS*IS veterans (Kevin Barjenbruch, Rebecca Morss, Andrea Ray, Sarah Stapleton)**
Moderator: Eve
- Everyone to spend 3-5 minutes highlighting (a) what they do, and (b) anything key they want to mention
 - Group discussion for new WAS*ISers to ask questions
- 12:30 p.m.** **Lunch from NCAR cafeteria (grab extras!)**
- 1:30 p.m.** **Getting to know more of your fellow WAS*ISers**
Moderator: Andrea Schumacher
- Barry Goldsmith
 - Chad Omitt
 - David Novak
 - Heather Conley
 - Frank Davenport
 - Jenifer Martin
 - Lauren Hand
- 2:15 p.m.** **Speaking the same language (Heather Lazrus, Jenifer Martin, Julie)**
Readings – Pennesi, 2007: Improving forecast communication: Linguistic and cultural considerations
- Our varying interpretations of common and not-so-common words
 - Why it’s important to acknowledge and address this when collaborating
 - Break into groups to discuss various interpretations
- 3:45 p.m.** **Short break**

- 4:00 p.m. NOAA's needs and support for integrating meteorology and social science
([John Gaynor, National Oceanic and Atmospheric Administration](#))
Moderator: Julie
- How WAS*IS contributes to NOAA's efforts in (a) weather and health, and (b) communicating forecast uncertainty
- 4:45 p.m. Before WAS*IS, when WAS was all there was: Reflections from a survivor
([Bill Hooke, American Meteorological Society](#))
Moderator: Sheldon
- 5:30 p.m. Adjourn
- 5:45 p.m. Friends of WAS*IS reception ([NCAR cafeteria atrium, Foothills Lab, Bldg 2](#))

Saturday, July 14, 2007

- 8:15 a.m. Arrive, get settled
- 🎪 Daily themes: Capacity Building, Research Tools, and Ideas 🎪**
- 8:30 a.m. Getting to know more of your fellow WAS*ISers
Moderator: [Laura Clemente](#)
- Sam Ng
 - Walker Ashley
 - Heather Lazrus
 - Russ Schumacher
 - Ivan Ramirez
 - Mike Seaman
 - Eleonora Demaria
- 9:15 a.m. Getting to know the rest of your fellow WAS*ISers
Moderator: [Russ Schumacher](#)
- Laura Clemente
 - Andrea Schumacher
 - Mark Hoekzema
 - Redina Herman
 - Craig Schmidt
 - Katrina Frank
 - Chris Maier
- 10:00 a.m. Break
- 10:30 a.m. Qualitative and quantitative research methods ([Mary Hayden, NCAR](#))
- Differences, pros, and cons of qualitative and quantitative methods
 - How qualitative and quantitative methods complement each other

- 11:00 a.m. **Focus groups (Mary)**
- Information, pointers, and pitfalls for focus group design and implementation
- 11:30 a.m. **Surveys (Julie)**
- Information, pointers, and pitfalls for survey design and implementation
- Noon **Case study/problem to consider for group work (Julie and Mary)**
- 12:15 p.m. **Working lunch: Ordering in sandwiches for lunch from Deli Zone and doing group work on focus groups and surveys**
- 1:15 p.m. **Report back on group work and gather resources**
Moderators: Julie and Mary
- 1:45 p.m. **Operational forecasting: How it's done and the role of social science**
- What is the general process of issuing a regular forecast? A watch? A warning?
Moderator: Sheldon
 - Views from the public sector (Jeff Cupo, Barry Goldsmith, Chad Omitt, Mike Seaman), 15 min
 - Views from the private sector (Mark Hoekzema, Rebecca Jennings, Dave Novak), 15 min
 - Open discussion, 15 min
 - What are the roles of social science to the operational forecasting community?
Moderator: Kevin
 - Private sector (Mark Hoekzema, Rebecca Jennings, Dave Novak), 20 min
 - Impacts database (Craig Schmidt), 10 min
 - Perspective of the NWS National Warning Coordination Meteorologist (Chris Maier), 10 min
 - Open discussion, 35 min
- 3:45 p.m. **Break**
- 4:15 p.m. **Other WAS*IS efforts: Learning about your extended WAS*IS family (Eve)**
- Highlight some of the ongoing efforts of past WAS*ISers and the people involved
- 4:45 p.m. **Brainstorming session**
Moderator: Sheldon
Recorder: Julie
- What ideas are coming up? What questions? What might you want to explore? What can you talk about during your day off tomorrow?
- 5:30 p.m. **Adjourn**
- 7:00 p.m. **Group dinner at Bacaro (921 Pearl Street)**

Sunday, July 15, 2007

Day off – everything today is optional!
Sleep in, hike around Boulder, shop, relax ... do whatever!

- 8:30 a.m. Leave Residence Inn for hike to Bear Peak
- 3:15 p.m. Leave Residence Inn for NWS trip
- 4:00 p.m. National Weather Service office visit

NO organized group dinner!

Monday, July 16, 2007

- 8:15 a.m. Arrive, get settled

☞ Daily theme: More Research Tools and Discussions on Vulnerability and User Needs ☞

- 8:30 a.m. More research methods
Moderator: Julie
 - Interviews (Todd Crane)
 - Ethnographic research (Heather Lazrus)
 - Discourse analysis (Jenifer Martin)
 - Others chiming in
- 9:30 a.m. Group discussion about research methods and methodological lessons learned, and collect resources
Moderator: Sheldon
- 10:30 a.m. Break
- 11:00 a.m. Vulnerability and Resilience
Moderator: Julie
Readings – (1) Kelman, 2003: Defining risk
(2) Pulwarty and Riebsame, 1997: The political ecology of vulnerability to hurricane-related hazards
 - What are vulnerability and resiliency? (Ilan Kelman, NCAR)
 - 5 minutes for each panelist to (a) discuss additional perspectives, (b) pose 1-2 questions or issues for group discussion (Frank Davenport, Ivan Ramirez, Heather Lazrus)
 - Group discussion and collect resources
- 12:30 p.m. Lunch from NCAR cafeteria (grab extras!)
- 1:30 p.m. GIS in Weather and Society (Olga Wilhelmi, NCAR)
Moderator: Sheldon
 - Overview of GIS and its applicability for societal impacts work

- 2:00 p.m. Case study – A flash flood risk assessment of the Colorado Front Range using GIS
- Hands-on ArcGIS activity -- use sample data to analyze and to compare and contrast findings
- 3:00 p.m. Report back on using GIS
Moderator: Olga
- 3:30 p.m. Break
- 4:00 p.m. User relationships, user needs assessments, and decision support systems
(Bill Mahoney, NCAR)
Moderator: Eve
- 4:30 p.m. Group discussion about user needs assessments
Readings – Morss et al., 2005: Flood risk, uncertainty, and scientific information for decision making: Lessons from an interdisciplinary project
Moderator: Sheldon
- 5:30 p.m. Adjourn
- 7:00 p.m. Group dinner at Dushanbe Teahouse (1770 13th Street)

Tuesday, July 17, 2007

☞ Daily theme: Real-Life Examples of the Intersection of Weather and Society ☞

- 7:00 a.m. Leave from Residence Inn for Fort Collins (everyone to ride on bus)
- Discuss the chronology, synoptic conditions, and experiences of the Fort Collins flood the night of July 28, 1997 (Matt Kelsch, UCAR/Cooperative Program for Operational Meteorology, Education, and Training)
- 8:00 a.m. Arrive at site of Fort Collins flood
- Discuss what happened before, during, and after the flood, including meteorology, hydrology, land use regulations, and emergency response (Matt)
- 9:30 a.m. Arrive at Fort Collins Storm Water Utility (700 Wood St.)
- Bathroom breaks
 - The 1997 Fort Collins Flood: Putting the Stormwater System to the Test (Marsha Hilmes-Robinson, Fort Collins Storm Water Utility)
 - Discuss the actions of the City of Fort Collins during and after the flood
 - City of Fort Collins: Regulatory changes after a natural disaster (Susan Hayes, Fort Collins Storm Water Utility)
 - Discuss the local floodplain regulations before, immediately following, and nine years after the flood

- 10:45 a.m. Bathroom breaks
- 11:00 a.m. Leave for site of Big Thompson flood of July 31, 1976
- 11:30 a.m. Arrive at Viestenz-Smith park just above the narrows in the canyon
- Have Silver Mine subs for lunch!
- 12:30 p.m. Reminders of the past and the current state
- Matt will lead the class on a walking tour to look at tree scars from the flood and observe engineering of the river
 - Take the self-guided tour around the ruins of the power plant that was destroyed by the Big Thompson flood
- 1:15 p.m. Continue up the canyon
- Point out evidence of the flood
 - Talk about Olympus dam upon arriving in Estes Park
- 2:00 p.m. Arrive at Rocky Mountain National Park to visit scar of Lawn Lake flood of July 15, 1982
- Look at the topographic replica of the park at the visitor's center and Matt will explain where Lawn Lake is
- 2:30 p.m. Arrive at the Lawn Lake Alluvial Fan
- Matt explains the timeline of the 1982 flood
 - Explore the rocks and waterfalls ... take photos!
- 3:30 p.m. Depart for Boulder
- 6:30 p.m. Dinner at Boulder Beer Brewery (bring cash) (2880 Wilderness Place)

Wednesday, July 18, 2007

- 8:15 a.m. Arrive, get settled
- 🌀 Daily theme: Discussions about Communication, Risk, and Decision Making 🌀**
- 8:30 a.m. Communicating weather information in general (Rebecca Jennings, Mark Hoekzema, Chris Maier, Dave Novak, Wendy Pearson, Dan Stillman)
- Readings – (1) Pennesi, 2007: Improving forecast communication: Linguistic and cultural considerations
(2) Brooks and O'Hair, 2006: Communication of Uncertainty
- Moderator: Julie
- 5 minutes for each panelist to (a) discuss a few key points, and (b) pose 1-2 questions or issues for group discussion
 - Group discussion
 - Collect resources and ideas

- 10:00 a.m. **Communication of weather forecast uncertainty information (Julie, Andrea Bleistein)**
Moderator: Sheldon
Readings – (1) NRC, 2006: Completing the Forecast: Characterizing and Communicating Uncertainty for Better Decisions Using Weather and Climate Forecasts. (Ch 4 only)
(2) AMS, 2002: Enhancing weather information with probability forecasts
- 10 minutes for each panelist to (a) discuss a few key points, and (b) pose discussion questions or ideas for group discussion
 - Following up on points raised by John Gaynor on Friday
 - Collect resources and ideas
- 10:30 a.m. **Break**
- 11:00 a.m. **Uncertainty (cont)**
- Noon **Ordering in lunch from Noodles & Company**
- 1:00 p.m. **Making Weather Warnings Work: Building and Maintaining Relationships among Scientists, Practitioners, and Users (Eve and Sheldon)**
Readings – (1) Drobot et al. 2007: Risk factors for driving into flooded roads
(2) Hayden et al. 2007: Information sources for flash flood warnings
- Elements of the warning process and looking at false alarms
 - Collect resources and ideas
- 2:00 p.m. **Risk perception and decision-making (Kathleen Tierney, unconfirmed)**
Readings – (1) Slovic et al. 2004: Risk as analysis and risk as feelings: Some thoughts about affect, reason, risk, and rationality
(2) Kluger, 2006: Why we worry about the things we shouldn't ... and ignore the things we should
(3) Fischhoff et al., 2002: Risk perception and communication
Moderator: Mary
- Factors that influence people's risk perception and decision-making
- 3:30 p.m. **Break**
- 4:00 p.m. **The NCAR Societal Impacts Program (Jeff Lazo)**
- The mission and work of SIP
 - The importance of WAS*IS and WAS*ISers to SIP
- 4:15 p.m. **Group project/discussion ideas**
Moderator: Sheldon
- Identifying group project/discussion ideas
 - Potentially break into groups to begin discussing ideas in greater depth
- 5:30 p.m. **Adjourn**

NO organized group dinner!

Thursday, July 19, 2007

8:15 a.m. Arrive, get settled

🌀 Daily themes: WAS*IS and the Bigger Picture 🌀

8:30 a.m. Value of weather information and weather forecasts as public goods (Jeff Lazo)
Readings – (1) Lazo, 2007: Economics of weather impacts and weather forecasts
(2) Lazo et al, 2007: Methodologies for assessing economic benefits of National Meteorological and Hydrological Services

9:30 a.m. The weather-climate continuum (Eleonora Demaria, Ivan Ramirez, Heather Conley, Todd Crane, Frank Davenport)

Moderator: Julie

- 5 minutes for each panelist to (a) discuss questions we pose, and (b) pose 1-2 additional questions, issues, or thoughts for group discussion
- Is there a great divide between the weather and climate communities?
- What key similarities and differences are there (e.g., methodologies, tools, and concepts) between weather and climate research and practice?
- What can we learn from the climate community about integrating social science into meteorology?
- Collect resources

10:30 a.m. Break

11:00 a.m. Common ground -- Using your fellow WAS*ISers as resources

Moderator: Sheldon

- Ask the nitty gritty questions you've always wanted to know the answer to
- Get information and advice on your career-related questions

Noon Moving ahead on integrating social science (Eve)

12:30 p.m. Lunch from NCAR cafeteria

1:30 p.m. Group work all afternoon

5:30 p.m. Adjourn

7:00 p.m. Final group celebratory dinner at Carelli's (645 30th Street)

Friday, July 20, 2007

8:15 a.m. Arrive, get settled

🌀 Morning theme: Making WAS*IS Live On 🌀

8:30 a.m. Looking forward: Next steps to getting to IS (Eve, Julie, Sheldon)

- Summarize group project ideas
- Future get-togethers
- Getting to know the rest of the WAS*IS family
- Breaking down barriers
- Ideas for the future of WAS*IS
- Changing the culture and measuring progress

10:30 a.m. Short Break

10:45 a.m. After the WAS*IS ecstasy, the laundry (Susi Moser, NCAR)

Moderator: Eve

- Thinking about how WAS*IS changed you
- Strategies for when you go back to the real world

11:30 a.m. Ciao, ciao and wrap-up (Eve, Julie, and Sheldon)

11:45 a.m. Ordering in lunch from Chipotle and evaluating the workshop

1:00 p.m. Adjourn