WERA 1012

MANAGING AND UTILIZING PRECIPITATION
OBSERVATIONS FROM VOLUNTEER NETWORKS CONFERENCE

PROGRAM AGENDA

Sunday, May 22nd

5:00 - 6:00PM	Registration/Check-In Open -- Main Administration Building
5:00 – 7:00PM	Dining Hall Open for Dinner

Monday, May 23rd

7:00 – 9:00AM	Dining Hall Open for Breakfast
8:15AM	Registration Open – Long's Peak Lodge
8:30AM	**Welcome -- Surviving at 8,000 feet** (the air is thin up here!) - Welcome from Lee Sommers, WERA 1012 Administrative Advisor - Welcome from Adnan Akyuz, WERA 1012 Chairperson - 2011 - Introduction of Tony Bergantino, chair-elect for 2012 - Introduction of 2011 participants - Goals and objectives for 2011 workshop - Volunteering of meeting duties and election of officers for 2011-12 - WERA 1012 reporting requirements
9:30AM	**Session One: The CoCoRaHS Network: What's ahead 2011-13** *- A look at the "lay of the land" for new initiatives with current funding from NSF and NOAA grants.* Nolan Doesken, Henry Reges, Noah Newman, Julian Turner, Zach Schwalbe – CoCoRaHS Headquarters/Colorado State University
10:45AM	Coffee Break
11:00AM	**Session Two: The CoCoRaHS Network: CoCoRaHS State Perspectives & Discussion** *Reports from individual CoCORaHS state leaders . . . how are they doing, what are they doing, what can be done better with current resources?*
12:00PM	Lunch Break (Dining Hall open for Lunch 11:30AM-1:30PM)
1:30PM	**Session Three: Established Networks: (CWOP, NE Rain, HiDen, RainLog, ND ARBCON) + Discussion** *A look at established volunteer networks and their successes, challenges and what can be learned (some presentations via SKYPE)*

3:00PM	Coffee Break
3:30PM	**Session Three:** continued
4:30PM	**Session Four: Update on the NWS COOP Program and 125th Anniversary Planning**
5:15PM	Sessions Conclude for the Day
5:00 – 7:00PM	Dining Hall Open for Dinner
7:00PM	Short hike in Rocky Mountain National Park (Bear Lake/Nymph Lake)

Tuesday, May 24th

7:00 – 9:00AM	Dining Hall open for Breakfast
8:15 - 8:30AM	Registration Open -- Long's Peak Lodge
8:30AM	**Session Five: Uses of data . . . how are volunteer's data being used?** • *National Weather Service Forecast Office Perspective* • *River Forecast Center Perspective* • *National Operational Hydrologic Remote Sensing Center Perspective* • *USDA/Risk Management Agency* • *Others*
10:00AM	Coffee Break
10:15AM	**Session Six: Reports from WERA 1012 Subcommittees** • Committee for Precipitation Measurements • Training and Education Committee • CoCoRaHS/COOP Collaboration Committee • CoCoRaHS Committee for Data Quality Assurance and Control • Committee for Sustainability/Funding • NWS COOP 125th Anniversary Planning Committee • CoCoRaHS March Madness Regulations
12:15PM	Lunch Break (Dining Hall open for Lunch 11:30AM - 1:30PM)
1:30PM	**Session Seven: CoCoRaHS & NWS COOP Issues + Discussion** *What's working and not working at the moment.* *Priorities and new ideas.*
3:30PM	Coffee Break
4:00PM	**Session Seven:** continued
5:00PM	**NOAA Snow Workshop Preview:** a quick overview of issues to be discussed
5:15PM	Sessions Conclude for the Day
5:00 – 7:00PM	Dining Hall Open for Dinner

6:30PM Outing Rocky Mountain National Park (location to be determined)

Wednesday, May 25th

7:00 – 9:00AM Dining Hall Open for Breakfast

WERA 1012 "OVER-LAP DAY" WITH NOAA SNOW WORKSHOP

8:00 AM Welcome and Logistics

8:05AM Workshop challenge (Lawrimore)

Defining User Requirements

8:15AM FEMA's Snow Disaster Declaration Process (Miller)

8:45AM Evaluating snowfall events; Perspectives from FEMA Regions 1, 3, and 7 (Vanderschmitt, Brand, Hillman)

9:30AM State Government Perspective and Requirements (Gally, CO; Crumpler, VA; Green, NY; Ashby, NV)

10:00AM Coffee Break

10:30AM NWS Perspectives on Snowfall Observations and the Disaster Declaration Process (Maier)

Snowfall Observing Practices

10:50AM NOAA's Observer Training Program (J. Jones, NWS Training Center)

11:10AM COOP Network snowfall observing practices, present and future (National COOP Program Manager; Zdrojewski)

11:30AM NOAA/NWS Current Standard Observing Practices; ASOS, Snow Paid, Snow Spotter (Townsend)

11:50AM Snowfall observing practices within FAA's Contract Observing Program (CWO Ops Lead)

12:15PM Lunch Break (Dining Hall open for Lunch 11:30AM - 1:30PM)

1:15PM Snow data Panel Presenters will each have 5 minutes to provide perspectives on snow quality issues associated with data measurement practices and local quality control practices that help ensure data quality. A moderator will preside over a period of questions and answers. NCDC (Heim) Global Snow Climate Lab, Rutgers Univ. (Robinson) Midwest Regional Climate Center (Hilberg) NOHRSC (Olheiser) CoCoRaHS (Doesken)

2:30PM Coffee Break

3:00PM Perspectives on historical observing practices and homogeneity of the snowfall record; Part 1 (Kunkel)

3:15PM Perspectives on historical observing practices and homogeneity of the snowfall record; Part 2 (Hubbard)

3:30PM Quantifying Errors and Bias in snowfall records: Perspectives from the WMO Solid Precipitation Inter-comparison (D. Yang)

3:45PM **Breakout Session #1: Improving the Quality of Snowfall Measurements at the Point of Observation**
Objective: *Develop recommendations for standardizing snowfall measurement practices across networks, with special attention given to* (1) Observing Procedures, (2) Training Tools and Methods, and (3) Snow spotter and other unofficial NWS data sources (Townsend)

5:00PM Return to Plenary, Summaries and Recommendations from Breakouts

5:45PM Sessions Conclude for the Day

Thursday, May 26th

7:00 – 9:00AM Dining Hall Open for Breakfast

8:00AM Review of Day 1 and Objectives for Day 2 (Lawrimore)
Emerging Measurement Technologies

8:10AM The Delaware automated snow-observing network (Brinson, Univ. of Delaware)

8:40AM Automated snowfall observations at the national and regional level; Environment Canada (D. Yang)

9:00AM The Snotel Automated Snow Network (Gillespie)

9:20AM Auto measurement R&D, Leveraging activities within the RCRN/HCN-M Program; Marshall Test Bed, CO (E. Guttman, B. Baker calling in)

9:40AM **Breakout Session #2: Expanding the Quantity of Current Snowfall Observations**
Objective: Identify ways to e*xpand the network of high quality snowfall observations, with special focus on:*
(1) Establishing methods for incorporating additional data sources (manual or automated) that meet established quality standards
(2) Refiningtheworkplanfor2011-2012NOAA/RCRNautomatedsnowmeasurementstudy
(3) Identifyingnewwaystoleverageexistinggovernmentandnon-governmentrelationships

10:45AM Coffee Break

11:00AM Summaries and Recommendations from Breakout #2

Improving NOAA's Historical Snow Climatologies and Products

11:30AM NOAA's Snow Climatology Dataset and User Perspectives (Heim/Kearns)

11:50AM New Gridding Methodologies; NCDC's 5X5 km gridding methodology (Vose/Squires)

12:10AM Development and Applications of a 1X1 Degree snowfall dataset (Mote)

12:30PM **Lunch Break** (Dining Hall open for Lunch 11:30AM - 1:30PM)

1:30PM Snow product development and delivery at NOHRSC (Halquist)

1:50PM Web-based data delivery at NCDC (Squires)

2:10PM FEMA; Providing services to States – FEMA's Data and Product delivery needs and capabilities (Vaughn)

2:40PM Break

3:00PM **Breakout Session #3: Improving Analysis and Assessment Capabilities through an improved historical record** Objective: *Identify methods for resolving inadequacies in existing snow climatologies and data accessibility within NOAA, with special attention given to (1) quality control of historical data, (2) methods for resolving data density limitations, and (3)* improved solutions to web-based delivery of snow data and products.

4:15PM Summaries and Recommendations from Breakout #3

5:45PM Sessions Conclude for the Day

7:00PM Group Event

Friday, May 27th

7:00 – 9:00AM Dining Hall Open for Breakfast

8:00AM Separating Hail and Snow reporting practices (Zdrojewski)

8:30AM **Breakout Session #4: Hail reporting practices within NOAA networks**
Objective: *Develop recommendations for changes to NWS Directives that will clarify and standardize hail reporting practices across COOP and ASOS networks to preserve the snow record.*

9:15AM Summaries and Recommendations from Breakout #4

10:00AM Coffee Break

10:15AM Setting the stage for Breakout #5 (Lawrimore)

10:30AM **Breakout Session #5: Charting a way forward**
Objective: *With consideration given to FEMA's snow disaster assessment process, prioritize recommendations from each breakout session and create a list of action items with POC's and due dates*
• At the close of Day 2, the set of highest priority issues and recommendations will be brought forth and revisited during the final set of breakout discussions. Considering need for recommendations on how FEMA could better tailor snow disaster assessment process and changes NOAA can make to improve its delivery of high quality observations to meet FEMA's and the aviation community's needs.

11:30AM Open discussion of Recommendations from Breakouts and Agreement on way forward

1:00PM **Workshop Ends** *(Dining Hall remains open until 1:30PM)*

What does WERA stand for?

III. WESTERN MULTISTATE PROJECTS

A. Research Projects (W)
Multistate Research Projects involve cooperative, jointly planned research employing multidisciplinary approaches in which SAESs, working with the ARS, or other college or university, cooperate to solve problems that concern more than one state and, usually, more than one region. Cooperative Extension and academic faculty are encouraged to participate if and where appropriate to meeting joint objectives.

B. Coordinating Committees (WCC)
Coordinating Committees provide a mechanism a for addressing critical regional issues where multistate coordination or information exchange is appropriate within a function (i.e. research, education or extension); have expected outcomes; convey knowledge; and are peer reviewed. The work of Western Coordinating Committees can be classified into the following categories:

• Multistate research, education or extension programs with clearly established, outcome oriented, goals where research results are already available. Knowledge is conveyed utilizing methodology which results in increased understanding and effective resolution of identified needs.
• Multistate research, education or extension coordination resulting in increased communication between faculty, avoidance of unnecessary duplication and gained efficiencies in the use of resources and shared ideas.

*C. **Education/Extension and Research Activity (WERA)***
These activities serve to integrate two or more functions (i.e., education, extension and research) on a particular topic where multistate coordination or information exchange is appropriate; have expected outcomes; convey knowledge; and are peer reviewed. The work of Western Education/Extension and Research Activity Committees can be described as follows:

• Fully integrated research, education and extension program coordination with clearly defined, impact-oriented objectives, where results are effectively embodied in educational efforts to assist those in need.