Managing and Utilizing Precipitation Observations from Volunteer Networks

11th Annual Meeting of the WERA 1012 Technical Committee
May 16-18, 2018
Estes Park, CO

Executive Summary

The 11th meeting of the WERA 1012 Committee convened at the YMCA of the Rockies in Estes Park, CO by Co-Chairs Steve Hilberg and Chris Daly. This year's meeting was organized around four main sessions: WERA Partners, Instrumentation and Protocols, Data, Data, and More Data, and CoCoRaHS Support and Operations.

The meeting began with a short welcome presentation by Michael Harrington, WERA 1012 Advisor from Colorado State University. Russ Schumacher, the new Colorado State Climatologist talked about his background and perspective coming to the Colorado Climate Center and to CoCoRaHS.

WERA Partners
Molly Woloszyn, the Regional Drought Information Coordinator, NOAA/National Integrated Drought Information System (NIDIS) described how CoCoRaHS data are integrated into NIDIS activities across the country. Chris Daly with the PRISM Climate Group at Oregon State University described some of the data issues they are trying to resolve, and stated they are testing a procedure to deal with shifting time of observations. Rick Fleetwood with Environment Canada (EC) and CoCoRaHS Canada spoke about CoCoRaHS Canada activities. Jim Zdrojewski with the Climate Services Branch, National Weather Service provided a climate services update. Climate folds into all areas of the Weather Ready Nation (WRN) goals of the NWS. Tom Trunk, with the Office of Observations, Programs Management Branch, National Weather Service gave a remote presentation on the history and background of the U.S. Cooperative Network.

Instrumentation and Protocols
Lucy Plahmer with **WeatherYourWay.com**, the major outlet for the 4-inch rain gauge used by CoCoRaHS, described how her company got started and plans for the future. Mike Crimmins, Associate Professor & Extension Specialist - Climate Science, Department of Soil, Water, & Environmental Science, the University of Arizona, gave a remote presentation about precipitation monitoring in remote ranches and rangeland for drought planning. There were discussions about the CoCoRaHS extreme rainfall protocol (i.e. what to do when the rain gauge overflows), changes in hail pad distribution (there is a waning interest in hail pads), the CoCoRaHS soil moisture measurements, and a new effort to develop a method and protocol to measure ice accretion. Chris Daly concluded this session with a case study of rain gauge

tampering in eastern Colorado and western Kansas in an attempt to compromise the Risk Management Agency's rain index for the area to obtain insurance payouts.

Data, Data, and More Data

Amanda Farris, Program Manager for the Carolinas Integrated Sciences & Assessments discussed the status of the Condition Monitoring program, which the CISA piloted. The Condition Monitoring Reports are used regularly in drought monitoring, and are also used by the NWS for fire weather forecasts, winter weather, and frost/freeze information. Nolan Doesken reviewed the expansion of the many applications and uses of CoCoRaHS data since the network began. Steve Hilberg described and demonstrated the E-T and water balance maps now produced by the Midwestern Regional Climate Center for the Midwest Drought Early Warning System (DEWS). This is the only spatial depiction of these parameters currently available. Dani Talmadge and Steve Hilberg updated everyone on the status of CoCoRaHS quality control and quality assurance. There are roughly 5500 QC tickets generated per year, with most errors occurring in winter with the addition of snow measurements.

CoCoRaHS Support and Operations

Nolan Doesken reported that CoCoRaHS is going strong. We have gone several years without any of the federal grants that helped us to get to the national and international scale. Henry Reges reported on activities with respect to state and regional coordinator support. He has visited over 50 NWS offices and the Bahamas. Matt Spies, Connecticut State Coordinator reported on recruiting and retention. The number of daily reports per day were higher in 2017 than in 2016 especially in the warm season, and we are on about the same track for 2018. Julian Turner from CoCoRaHS headquarters provided an update on the status of IT. There are a number of overarching issues to deal with. Ideally, additional personnel resources are needed to work on the operational website and database, web development, app development, and system administration. Internet security has become a major issue to deal with on a daily basis. This session concluded with a discussion and brainstorming on communicating about WERA 1012 to coordinators and partners on a regular basis, encouragement to contribute and attend, how to best maintain continuity from year to year, assembling a to-do list of action items that can be addressed by the committee and perhaps completed in the coming year. This led to a long discussion about the value of newsletters and communicating to our observers.

WERA 1012 is a Multistate Research Coordinating Committee and Information Exchange Group formed under the auspices of the Western Associations of Agricultural Experiment Station Directors (WAAESD). The committee includes participation from 15 Land Grant states and five non-land grant institutions. Anyone with an interest in volunteer precipitation networks is welcome to participate in the annual meeting.

The next annual meeting will be held May 15-17, 2019 at the YMCA of the Rockies in Estes Park, Colorado.