

Climate and Agriculture Tools Workshop

Brookings, SD and Casper, WY

March 2016

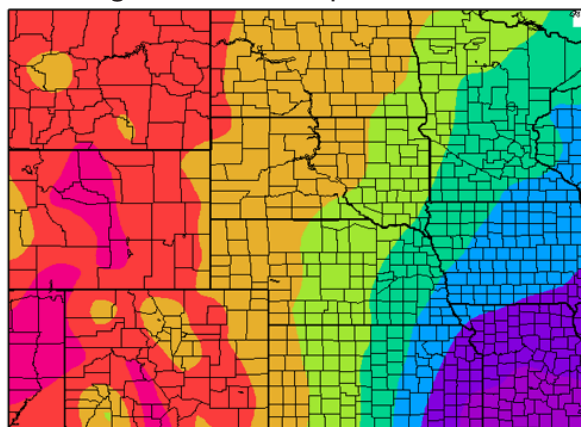
Corn field in South Dakota in 2012. (Photo courtesy Joseph Brum)

Regional Workshops Promote Partnerships in the Agricultural Sector

Two regional workshops were held in March 2016 to enhance and build partnerships between the regional climate and agricultural services communities. The workshops were held in conjunction with the United States Department of Agriculture (USDA) Northern Plains Regional Climate Hub “Building Blocks” workshops and were a team effort between the National Integrated Drought Information System (NIDIS), the National Oceanic and Atmospheric Administration (NOAA), the High Plains Regional Climate Center (HPRCC), and the American Association of State Climatologists (AASC).

The workshops were focused on the central and northern Plains - a region known for its highly variable climate, which can impact agriculture significantly. For instance, the east to west precipitation gradient is a key feature of this region and helps define the regional agricultural activities. In wetter areas of the east, row crops like corn and soybeans are common. But, in western areas of the region, which experience much drier conditions, wheat and rangeland prevail. Due to the differences in agricultural practices across the region, the workshop held in Brookings, South Dakota focused on row crops, such as corn and soybeans, while the workshop held in Casper, Wyoming focused more on wheat, alfalfa, and rangeland.

Average Annual Precipitation (inches)



10 15 20 25 30 35 40
High Plains Regional Climate Center

Participants

American Association of State Climatologists
Center for Rural Affairs
Colorado Climate Center
DTN/Schneider Electric
High Plains Regional Climate Center
Kansas Office of the State Climatologist
Montana Climate Office
Montana State University Extension
National Centers for Environmental Information
National Drought Mitigation Center
National Integrated Drought Information System
National Weather Service
Nebraska Extension
Nebraska National Forests and Grasslands
Nebraska State Climate Office
North Dakota State Climate Office
Regional Climate Centers
South Dakota State Climate Office
South Dakota State University Extension
Tribes of the Wind River Indian Reservation
USDA Animal & Plant Health Inspection Service
USDA Natural Resources Conservation Service
USDA Northern Plains Hub
Western Water Assessment
Wyoming Office of the State Engineer

Goals of the Workshops

Participants of both workshops were large and varied, so open discussion was encouraged to capture the wide range of needs. The following overarching goals helped guide the discussions:

- Build awareness and partnerships with the state and federal agricultural community. Specific topics included:
 - 1) National Integrated Drought Information System (NIDIS),
 - 2) State and regional climate programs and capacities,
 - 3) Sharing of federal climate activities regionally/locally,
 - 4) Determine potential expansion of Useful to Usable (U2U) product suite (www.AgClimate4U.org).
- Discuss effectiveness of the current weather and climate early warning information system
- Discuss monitoring efforts and needs in the Missouri River Basin states

Workshop Sponsors

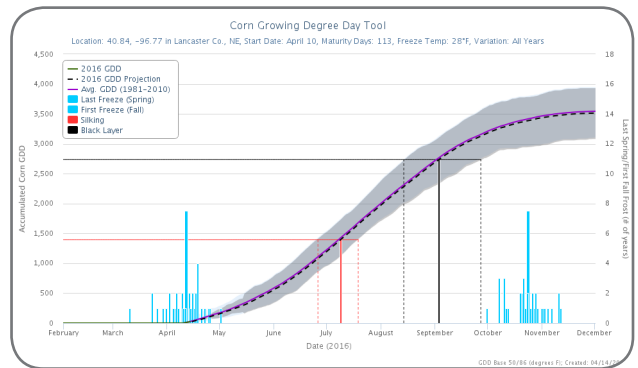


Next Steps

The workshop participants identified both long-term and short-term areas of future collaboration, including:

Decision Support Tools for Agriculture

In the spring of 2017, the U2U suite of Decision Support Tools (DST) will be transitioning to new homes within the Regional Climate Center (RCC) Program. Currently, these tools are available for select crops for states within the Corn Belt region. Participants expressed an interest in expanding the reach of these tools westward to include Colorado, Wyoming, and Montana. An enhancement of these tools to be applied to other crops such as wheat and alfalfa, in addition to the development of tools for rangeland, is also desired.



The cattle-climate interface. (Photo courtesy Glen Roebke)

Climate Data Training and Education

The High Plains Regional Climate Center (HPRCC) has conducted regional climate services workshops for various groups, such as the National Weather Service and the Tribes of the Wind River Indian Reservation. These sessions included introductions to the key partners in the Missouri River Basin region, as well as hands-on experience with climate data and information tools. Similar training sessions could be developed and tailored explicitly for extension or the USDA. Given the resources at the University of Nebraska-Lincoln, partners for the training could include the HPRCC, the National Drought Mitigation Center (NDMC), and the Nebraska State Climate Office (NSCO).

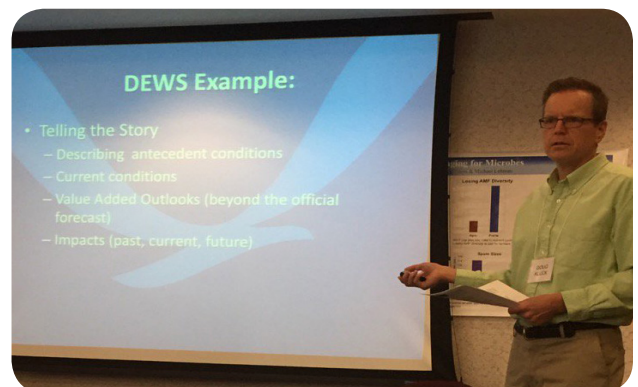
Enhanced Climate and Drought Early Warning for Wyoming Agriculture

A need has emerged for routine drought early warning bulletins for the state of Wyoming. Opportunities exist for collaboration between many workshop participants including NOAA, USDA, National Weather Service (NWS), HPRCC, Wyoming Office of the State Engineer, Tribes of the Wind River Indian Reservation, the Western Water Assessment, USDA, and university extension.

Looking for Existing Tools?

A suite of tools is already available to aid producers in their decisions and also in the early warning of climatic events, such as droughts and floods. See list below for more information.

- U2U Decision Support Tools
<https://mygeohub.org/groups/u2u/tools>
- Midwest and Great Plains Monthly Climate and Drought Webinars
<http://www.hprcc.unl.edu/webinars.php>
- Missouri River Basin Quarterly Climate Impacts and Outlook
<https://www.drought.gov/drought/dews/missouri-river-basin/reports-assessments-and-outlooks>



Doug Kluck presenting on ongoing activities in the region.
(Photo courtesy Natalie Umphlett)

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