USDA Climate Hubs Quarterly Report

Q2 FY19

PURPOSE

The Climate Hubs reduce climate related risks to agriculture, forestry, and rural communities by working with and through USDA agencies and partners. The hubs develop and deliver science-driven strategies and tools so that USDA programs, advisors, and land managers can make informed decisions to manage risk.

Assessments & Syntheses

Southern Plains: In the Southern Plains, projected changes in intense precipitation have numerous implications for agricultural production, yet their spatio-temporal characteristics remain poorly understood and defined. The SPCH published a study in February 2019 in the journal Climate that synthesized existing knowledge on the definitions and categories of intense precipitation events, and assessed reported trends in those categories at both national and regional scales. This study is part of a foundation for additional, SPCH-supported analyses on intense precipitation in the region, including the use of weather generator models to simulate long-term trends and probabilities.

Midwest Hub and the USDA SCRI High Tunnel team have been asked to submit a full-proposal in support of the regional high tunnel community. The team is identifying information and technology needs related to internal-external abiotic conditions; their current adaptive management strategies to increase yield and revenue; and relative effectiveness of current high tunnel practices across the project area.

Outreach & Education

Northwest Hub is supporting an integrated and collaborative effort in rangeland adaptation in Wallowa County, in eastern Oregon. A stakeholder meeting was hosted by the Wallowa Rangelands Community Based Observing Network (CBON) to refine two decision support tools. These tools include PHYGROW, which is a Livestock Early Warning System tool, and Land Trendr, a tool to enable rangeland managers to better assess timing, availability and quality of forage for livestock production. At this workshop, participants (including local observers and citizen scientists) were trained on how to collect relevant data using the GLOBE LandCover cell phone app.

Dr. John Weir, Prescribed Fire Extension Specialist, Oklahoma State University, presents during the classroom component of the "Fire Suppression Through Prescribed Fire" training school and demonstration on January 5, 2019 in Concho, OK. (photo credit: Clay Pope)

Outreach & Education

Northeast Hub: Engaged with farmers, food system professionals, and people interested in sustainable agriculture at the 28th Annual Sustainable Agriculture Meeting of Pennsylvania Association for Sustainable Agriculture in Lancaster, PA. Provided direct technical consultation for nearly 1,900 attendees through a USDA Northeast Climate Hub tradeshow booth. Highlighted regionally relevant climate change assessments and products. Future collaborations with new partners stemmed from the event. *(USDA Partners: USFS, ARS, National Agroforestry Center, Northern Forests Hub)*

Northern Plains (NPCH), Southern Plains (SPCH), and Southwest Hubs (SWCH) organized and facilitated a special session on the USDA Climate Hubs at the 2019 annual meeting of the National Association of Conservation Districts, held February 4, 2019 in San Antonio, TX. Hub team members presented examples of case studies and success stories, such as the AgRisk Data Viewer and Grass-Cast grassland productivity forecast, and highlighted strengths of existing partnerships between the Climate Hubs, conservation districts, and other key partners such as NRCS. The Hubs also participated in focus groups that emphasized soil health resiliency and adaptation strategies in response to extreme weather and climate events.*(USDA Partners: ARS, NRCS)*

Northern Plains Hub: engaged 55 Wyoming agricultural stakeholders at two different outreach events: the Wyoming Pesticide Applicators Annual Conference, and WESTI Ag Days. NPCH gave two presentations: "Weather Risks to Consider when Applying Pesticides" and "Essential Weather & Climate Resources." These presentations highlighted many of the Hubs' and partners' online climate, weather, and drought preparedness tools and resources. This generated excellent questions and discussion from the audience, and resulted in several rural Wyoming residents signing-up to be CoCoRaHS volunteers.

Southwest Climate Hub was featured in a new article "Learning to Live with Less Water" by Futurum, a magazine and online platform aimed at inspiring young people to follow a career in the sciences, research and technology. The article and activity page were sent to ~50,000 schools world-wide in March 2019. The activity page features links to 14 science activities created by the Asombro Institute for Science Education in partnership with the Southwest Climate Hub.

Technical Support

Northern Forests Hub: Published an online Story Map tool for land managers to better understand variations in future growing degree days, plant hardiness zones, and heat zones, metrics that influence plant growth and survival. It displays mapped projections of change throughout the century for the conterminous United States. Each pair of maps presented compares recent conditions (1980-2009) to potential conditions under a scenario of high greenhouse gas emissions at the end of the century (RCP 8.5; high level of emissions over the next several decades).

Southeast Hub and the University of Georgia implemented a wet bulb calculator on the georgiaweather.net website following user-engagement requests from Georgia producers and commodity groups. This tool will help producers determine when to start irrigating crops for frost protection.

California Hub, USFS Region 5, USFS Pacific Southwest Research, American Forests, Colorado State University and the Northern Forests Climate Hub submitted a proposal for the 2019 Climate Change Investment Healthy Forest Grant.