



USDA Regional Hubs: Managing Your Risk in a Variable Climate



Climate Risks in the Northern Plains

How is climate variability affecting land managers in the Northern Plains?

Land managers in the Northern Plains are experiencing climatic variability on the ground that are outside of the ranges they have dealt with in the past. Examples include:

- 1) earlier starts to spring are resulting in longer growing seasons,
- 2) prolonged hot periods during the growing season are affecting crop maturity and resulting yields,
- 3) extreme events (excessive rainfall in September 2013 in Colorado; early October 2013 snowstorm in western South Dakota and northwestern Nebraska) dramatically influenced farmer and rancher livelihoods and enterprises,
- 4) the extensive and extreme drought conditions of 2012 and much of 2013 had substantial negative economic results for land managers and local economies.

What is USDA doing about it?

Regional Hubs to Manage Climate Risk

USDA is establishing regional Hubs to deliver science-based knowledge and practical information to farmers, ranchers and forest land managers to support decision-making related to climate variability and change in their region. Check it out at http://www.usda.gov/oce/climate_change/regional_hubs.htm.

What You Can Count On

Technical Support: The Hubs will provide tools and strategies for land managers to adaptively manage agricultural lands in response to drought, heat stress, excessive moisture, longer growing seasons, and changes in pest pressure.

Assessments and Regional Forecasts: USDA is looking ahead for producers. The Hubs will provide periodic regional assessments of risk and vulnerability in the agriculture sector to contribute to the National Climate Assessment, and provide accessible regional data and climate change forecast services for hazard and adaptation planning. That means more preparation time for producers on a seasonal basis.

Outreach and Education: The Hubs will connect to regional climate extension and education networks to provide practical help to farmers, ranchers, and forest landowners. This outreach will help land managers continue to thrive and provide food for the nation no matter what the weather may bring.

Coordination Makes a Difference

Leadership: One hub in each of the seven regions on the map below will coordinate a network of public, academic, and private sector organizations, researchers, and outreach specialists to help USDA bring the best minds together to help farmers, ranchers and forest landowners with climate variability. The Hubs will be centered at a USDA facility, which will be selected based on an internal competition at USDA.

Regional Coordination: Working with regional partners will combine efforts on climate variability. USDA will work with the National Oceanic and Atmospheric Administration's Regional Integrated Sciences and Assessments Program, and the Department of Interior's Climate Science Centers to provide data, findings, tools, and forecasts relevant to farmers, ranchers and forest landowners.

National Coordination: USDA Headquarters in Washington, DC, will help coordinate the Hubs on a national scale, and provide opportunities for the Hubs to learn from each other.

Building on Success Stories

- 1) The Natural Resources Conservation Service (NRCS) responded to concerns resulting from the recent drought with an Initiative for the Ogallala Aquifer, which supports 30% of American irrigated agriculture. This Initiative helped land managers improve water management and save money on irrigation through adjusting cropping systems, replacing inefficient irrigation systems and planting non-irrigated vegetation.
- 2) The Forest Service (FS) has compiled information and tools for land managers related to wildfires, invasive plants, forest disease, resource stewardship, wildlife, aquatic ecosystems, grasslands, water resources, vegetation distribution, ecosystem services and biodiversity at their Climate Change Resource Center website (<http://www.fs.fed.us/ccrc/>).
- 3) The Agricultural Research Service (ARS) used long-term (30-90 years) livestock weight gain data to determine effects of seasonal weather variability for ranchers. Wet winters and springs positively influence cattle production, whereas grazing season droughts can reduce cattle production by up to 60%. Cattle production is more sensitive to weather variability under heavy stocking rates. Land managers can use adaptive grazing management to reduce enterprise risk, and improve production capacity and production efficiency in the Northern Plains.

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