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What's Happening at the Hub

May/June 2016

Southwest Indian Agriculture Association

The SW Climate Hub was asked to present on the subject of climate change at the 2016 Southwest Indian Agricultural Association Livestock Field Days held at the Apache Gold Casino Resort in San Carlos, AZ on April 12th and 13th. In our presentation, we reviewed recent and future climate changes and how these affect agriculture in Arizona. One of the topics that the audience found most interesting was recent and projected changes in precipitation. Several audience members observed that the monsoon is coming later and delivering less rain in June and July. The science supports their observations. While Arizona has a bimodal annual rainfall distribution, it is the North American Monsoon that delivers most of the annual precipitation over the state. Over the last twenty years (1991 – 2012), Arizona has been getting drier, compared to the period between 1900 and 1960. But there has been an increase in the amount of precipitation falling in short-lived, very heavy events.

[Read more](#)

Building Blocks for Climate Smart Agriculture Year 1 Report is out

Last April, Secretary Vilsack announced the USDA's Building Blocks for Climate Smart Agriculture and Forestry. This implementation plan and progress report gives an update on the building blocks framework. It outlines the goals for each building block, describes recent USDA actions to help farmers, ranchers, and forestland owners respond to climate change, and gives details of the implementation plans for each of the building blocks.

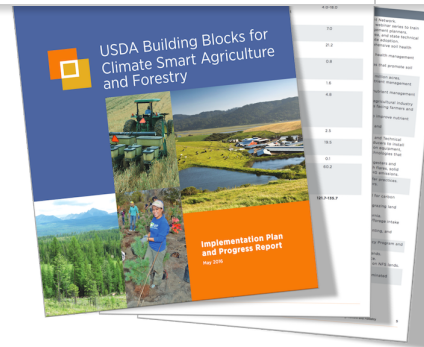
The report can be found at <http://www.usda.gov/documents/building-blocks-implementation-plan-progress-report.pdf>.

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Case studies, can be found here.

<http://usda.gov/climate-smart.html>.

The SW Hub is rescheduling their “Building Blocks” meetings. Watch the bulletin and the [website](#) for more information.



Briefing on USDA Climate Hubs and Natural Capital

In this webinar hosted by GreenLeadersDC on March 15, 2016, Randy Johnson presented information on the USDA Climate Hubs services, tools, and options available to farmers, ranchers, and landowners.

[Watch the Video](#)

USDA Announces Funding Opportunities

AFRI Foundational Program: **\$130 million** available for research, education, and extension relating to 2014 Farm Bill priorities. Due September 30. [View RFA](#)

AFRI Water for Agriculture Challenge Area: **\$10.7 million** available for critical water research. Due August 4. [View RFA](#)

Webinar

Conserving Nature's Stage: The Relevance of Geodiversity to Conservation Planning

June 8 - Participants will be introduced to the concept of using geodiversity (diversity of soils, topography, and other abiotic factors) as indicators of biodiversity and potential applications of geodiversity to conservation planning.

[Webinar Information](#)

Coping with Historic Drought in California Rangelands Developing Strategies, Tactics & Tools

This Building Blocks for Climate Smart Agriculture Workshop held in September 2015, was funded by USDA Climate Change Program Office and hosted by USDA Southwest Climate Hub and California Sub Hub.

The focus of the workshop was the current state of the livestock grazing industry and identifying possible post drought actions necessary to assist the industry in reestablishing sustainable grazing practices.

- Dr. Alexandros Xides, University of California Davis, talks about recent rangeland trends in California developed in support of a rangeland vulnerability assessment. [Watch the video...](#)
- Dr. Jim Thorne, University of California Davis, discusses methods to evaluate climate change impacts on rangelands using climate model projections. [Watch the video...](#)
- Dr. Joel Brown, USDA NRCS, explains the climate change mitigation strategy. [Watch the video...](#)

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Welcome Climate Fellow Julian Reyes

The USDA Southwest Climate Hub is pleased to welcome our first Climate Fellow, Julian Reyes, to join our team June 1, 2016. Julian was selected from an excellent pool of highly qualified applicants to serve as the Southwest Climate Fellow. Julian will soon complete his Ph.D. in civil and environmental engineering at Washington State University. His current research on evaluating the impacts of climate and management in rangeland ecosystems using eco-hydrologic modeling fits well with the Southwest Climate Hub research program. He earned his B.S. in civil engineering in 2010 from WSU. During his graduate studies, Julian left the Palouse for one year to conduct research in Bonn, Germany on a Fulbright Grant. Later, he completed a science policy fellowship at the U.S. Global Change Research Program in Washington, D.C. through an NSF-sponsored integrated graduate program. Additionally, Julian enjoys playing the alto sax and running. Welcome Julian!



Recent News

When in Drought: The California Farmers Who Don't Water Their Crops

Charlotte Simmonds | The Guardian | May 5, 2016

This article profiles several farmers (including renowned agroecology professor Steve Gliessman) who have responded to California's drought by reviving age-old "dry farming" techniques. Dry farming is not practical for everyone, but these growers of grapes, olives, and quinoa have noted improvements in crop quality as a co-benefit of water savings. [Read the article...](#)

Western U.S. Snowpack Melting at Record Speed

Ed Joyce | Capital Public Radio | May 7, 2016 |

The "Western Snowpack and Water Supply Conditions" report by NRCS for May 2016 found that, despite average or above-average snowfall earlier in the season, snowpack is now below average in much of the Western U.S. due to excessively warm temperatures. This winter, drought conditions improved modestly over some of Northern California, but NOAA's Climate Prediction Center says that drought will persist across California and much of the West through the summer.

[Read the article...](#)

Thousands of Sierra Trees Getting Cut to Prepare for Summer

Marc Benjamin | Fresno Bee | April 24, 2016

The current drought and associated bark beetle outbreaks has caused high mortality in forests of the southern Sierras, leaving millions of dead trees that pose a major fire risk. This article describes current efforts to thin or remove dead trees; the challenging economics of removing the biomass; and the responses of local landowners. [Read the article...](#)

'Extension' Beyond Traditional Academic Jobs

John H. Tibbetts | Science Magazine | May 16, 2016

This article describes the diverse ways in which the U.S. Cooperative Extension System produces much-needed research while engaging with constituents on the ground. It highlights several examples of climate-relevant extension work in California, including Tapan Pathak's work on agricultural adaptation and Lenya Quinn-Davidson's work on multifactoral causes of wildfire in

[Subscribe](#)[Past Issues](#)[Translate ▼](#)**Western Aquifers: We Can't Be Wasting Water**

Bruce Lieberman | Yale Climate Connections | March 16, 2016

[Read the article...](#)

Recent Research

Spotlight on 2015 Research by the Rocky Mountain Research Station Grassland, Shrubland, and Desert Ecosystems Science Program - *Update on the accomplishments that address conservation, restoration and resiliency of sagebrush ecosystems; availability, adaptation, seed zones and deployment of native plant species; the role of climate in species adaptation, carbon storage, and land management; and the effects of disturbances and stressors on ecosystems* [Read the publication](#)

Rangeland Drought: Effects, Restoration, and Adaptation - *Drought can have severe impacts on rangeland ecosystems in North America. For the purposes of this chapter, rangelands include natural grasslands, savannas, shrublands, many deserts, tundras, alpine communities, marshes, meadows, and woodlands...* [Read the publication](#)

Indigenous Experiences in the U.S. with Climate Change and Environmental Stewardship in the Anthropocene - *The recognition of climate change issues facing tribal communities and indigenous peoples in the United States is growing, and understanding its impacts is rooted in indigenous ethical perspectives and systems of ecological knowledge. This foundation presents a context and guide for contemporary indigenous approaches to address climate change impacts that are comprehensive and holistic...* [Read the publication](#)

Modeling the Effects of Local Climate Change on Crop Acreage - *The impacts of climate change on agriculture depend on local conditions and crops grown. For instance, warmer winter temperatures in a given area would reduce chill hours, potentially cutting yields for some crops but extending the growing season for others. Using a century of climate data and six decades of acreage data, we established quantitative economic relationships between the evolution of local climate and acreage of 12 important crops in Yolo County...* [Read the publication](#)

Which California Foods You Consume Makes Little Impact on Drought-Relevant Water Usage - *To be relevant to California's drought, discussions of water used to produce food items should focus on the irrigation water relevant to production in California. By that measure, drought-relevant water used to produce livestock products such as beef and milk is moderate compared to crop products such as wine and broccoli.* [Read the publication](#)

Upcoming Events

AgroEnviron 2016: The 10th International Symposium on Agriculture and the Environment, May 23-27, 2016 [Read more...](#)

Webinar: A Climate Change Vulnerability Assessment of California's Terrestrial Vegetation, May 26, 2016, 1:00-2:00 PM PT [Read more...](#)

Tribal Climate Change Adaptation

Climate Change, Global Food Security, and the US Food System, July 12-15, 2016, Boulder, CO [Read more...](#)

North American Symposium on Climate Adaptation, August 16-18, 2016, New York City [Read more...](#)

2016 California Adaptation Forum, September 7-8, 2016, Long Beach, California [Read more...](#)

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Climate Education Regional Workshop Registration, June 13-16, 2016, Salt Lake City, Utah [Read more...](#)

Toward Sustainable Groundwater in Agriculture - An International Conference Linking Science and Policy, June 28-30, 2016 [Read more...](#)

Action, October 18-21, 2016, Davis, California [Read more...](#)

25th Annual California Invasive Plant Council Symposium, Abstract submission closes June 1, conference is November 2-5, 2016, Yosemite, California [Read more...](#)

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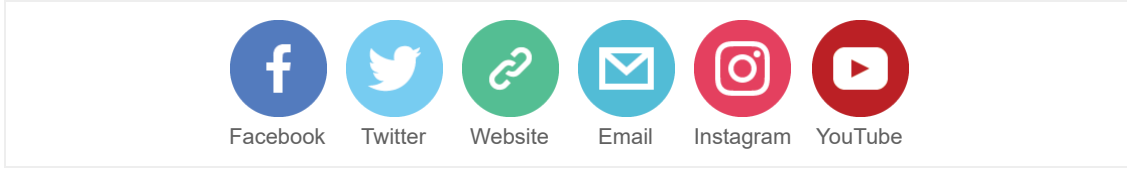
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