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November Issue of the Southwest Climate Hub Bulletin

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What's Happening at the Hub



NOW ONLINE
Free Climate Change and Water Cycle Curriculum Available

The Southwest Climate Hub and the Asombro Institute for Science Education has created a 10-hour curriculum unit on climate change for students in grades 6-12. The unit consists of nine hands-on activities conducted over 10 days and uses inexpensive and easy-to-find materials for the activities. The curriculum is available for free to download from the Asombro website.

[Download the Curriculum](#)



CLIMATE CHANGE EXCHANGE
SW Climate Hub Co-Hosted the Southwest Climate Summit

The Southwest Climate Hub is proud to be one of a group of federal climate change partners to have hosted the Summit, which was held November 2-3, 2015, in Sacramento, California. The Summit focused on bridging the gap from science to management in climate adaptation. Kris Havstad and Joel Brown, from the Southwest Climate Hub, moderated the two rangelands sessions at the summit.

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FROM THE NATION'S CAPITAL USDA Regional Climate Hub Leads Forum

The Climate Hub and Sub Hub leads from each region met with USDA agency representatives on October 20-22, 2015 in Washington, DC. The purpose of the meeting was to recap the accomplishments of 2015 and identify the priorities for 2016. Secretary Vilsack, Under Secretary Robert Bonnie and Under Secretary Catherine Woteki all spoke at the meeting.

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CALIFORNIA RANGELANDS SW Climate Hub & CA Sub Hub Led Workshop

Joel Brown, Emile Elias and Helena Deswood led a workshop on “Coping with Historic Drought in California Rangelands: Developing Strategies, Tactics and Tools” for 24 representatives of federal and state agencies, as well as universities. The workshop, which was held in late September, previewed the forthcoming California Rangeland Vulnerability Assessment.

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Recent Research

Increasing elevation of fire in the Sierra Nevada and implications for forest change

This article by Schwartz et al., published July 2015, looked at a 105-year data set and found increasing elevation extent of fires in the Sierra Nevada.

doi:10.1890/ES15-00003.1

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Can We Learn to Handle the Heat of Forest Fires?

This article from Audubon discusses the potential increase in number and severity of forest fires in California due to climate change, and management possibilities to create more fire-resilient forests.

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El Niño Gaining Strength

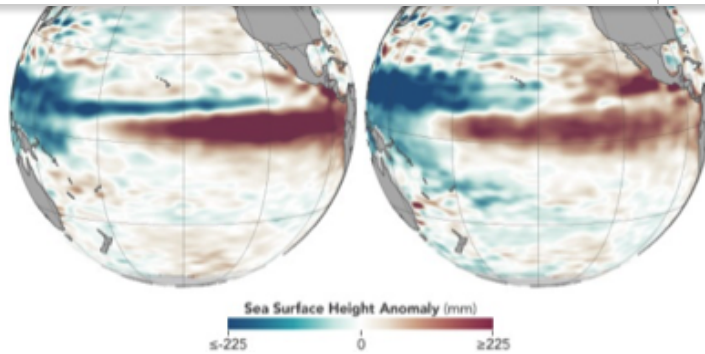
This update from NASA's Earth Observatory describes current El Niño conditions and how the sea surface height anomalies and other conditions for October 2015 are very similar to October 1997, when the largest El Niño on record occurred.

Catalogue of abrupt shifts in Intergovernmental Panel on Climate Change climate models

This study, published online on October 12, 2015, presented evidence of 37 forced abrupt regional

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snow cover, sea ice, and permafrost) and, to the knowledge of the researchers, the first systematic screening of the climate model ensemble that informed the recent Intergovernmental Panel on Climate Change report. *doi:* [10.1073/pnas.1511451112](https://doi.org/10.1073/pnas.1511451112)

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Recent News

[Snowpack in the Sierra Nevada: NASA Images from 2006-2015](#)

The Sierra Nevada mountain range has seen far less snow accumulation in recent years as long-term hot and dry conditions in California and Nevada has brought snowpack to historically low levels. Take a look at a [series of images showing the snowpack](#) on the Sierra Nevada from 2006 to 2015.

[The Strongest El Niño on Record is Expected to Influence Winter Outlook](#)

NOAA's Climate Prediction Center issued the U.S. Winter Outlook, favoring cooler and wetter weather in Southern Tier states, with above-average temperatures most likely in the West and across the Northern Tier. This year's El Niño is expected to influence weather and climate patterns this winter by impacting the position of the Pacific jet stream.

[EPA Awards \\$4 Million in Grants to Research the Impact of Drought on Water Quality](#)

The U.S. Environmental Protection Agency announced \$4 million to four institutions to conduct research to combat the effects of drought and extreme events on water quality in watersheds and at drinking water utilities. The grants will provide innovative strategies for protecting water quality and public health during periods of drought.

Upcoming Events

[Webinar: Can Collaboration Between Climate Scientists and Land Managers Lead to More Useful and Useable Climate Tools for Land Management](#)

November 10, 2015, 2-3pm MST
Online

[Webinar: Desatoya Mountains Project and the Porter Canyon Experimental Watershed](#)

November 12, 2015, 11am-12pm MST
Webinar

[2015 National Tribal GIS Conference](#)

November 16-20, 2015
Albuquerque, NM
Organized by the National Tribal Geographic Information Support Center and Southwestern

[Water Resource Sustainability Issues on Tropical Islands](#)

December 1-3, 2015
Honolulu, HI

[Waste - Recycling Strategies for Tribes](#)

December 1-3, 2015
Pensacola, FL

[Great Basin Climate Forum Series and Alternative Futures for the Great Basin](#)

December 2, 2015, 10am-4pm
Elko, NV

[Climate Fundamentals Academy: Northern CA Regional Workshop #1](#)

December 3-4, 2015

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& Grants

November 17-20, 2015
Phoenix, AZ

Resource Conservation Districts Annual Conference

November 18-21, 2015
Tenaya Lodge, Fish Camp, CA

Assessing Vulnerability and Developing Adaptation Strategies for Key Southern California Habitats

November 19, 2015, 1-2pm PST
Online

Renewable Natural Resources Foundation "Congress on Sustaining Western Water"

December 1-2, 2015
Washington, DC

American Geophysical Union Fall Meeting

December 14-18, 2015
San Francisco, CA

Upcoming EPA Climate Change & Water Workshops

Various Dates & Locations

Resiliency in New Mexico Food and Agriculture - Regional Meetings

Various Dates Starting December 2, 2015 - March 9, 2016
Locations throughout New Mexico

Meet Our Partners

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Natural Resources Conservation Service



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