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USDA Southwest Climate Hub Bulletin

News, research and events for the Southwest Climate Hub (SWCH) region
June 2018

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Farewell Al Rango - friend, super scientist, hub director emeritus

November 7, 1942 – April 26, 2018

In January of this year, we celebrated Al Rango's 45 years of service with the US government. It is now with great sadness that we share the news of his passing. Al was director of the Southwest Climate Hub for four years, and during that time he guided the Hub from strength to strength, building partnerships with colleagues across the southwest and in Hawaii.

Friends and family gathered for "Al's Jamboree" on June 15th 2018 at the Jornada Ranch Headquarters. They shared memories of his scientific career, his sportsmanship and his love of a good micro-brewed beer.

Al was an incredibly dedicated and productive scientist, with a career that spanned 5 decades. Al's significant contributions to snow hydrology and remote sensing research won him recognition internationally and he received several awards over the years including NASA's Exceptional Service Medal (1974), USDA-ARS Senior Scientist of the Year (1999) and the prestigious Presidential Rank Award of Meritorious Senior Professional (2005).

Although most well-known for his work with snow, Al worked in many areas beyond the white stuff. He joined the USDA-ARS Jornada Experimental Range in 2000, transferring from the USDA-ARS Hydrology and Remote Sensing Laboratory in Beltsville. At the Jornada, Al expanded his remote sensing expertise to improving methods for monitoring the ecological status of rangelands. Notably, Al pioneered the use of Unmanned Aerial Vehicles (UAVs) for rangeland remote sensing and monitoring.

While a tremendously successful scientist in his own right, Al was also a great team player and a generous and considerate mentor. Al always strongly supported women in science and he is remembered

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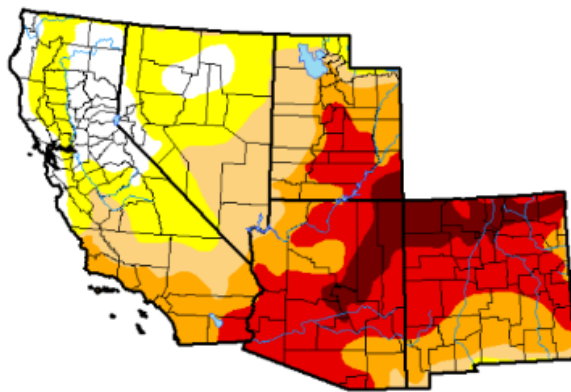
travelled nationally and internationally to play golf. He coached his daughter’s soccer team for many years – earning him “Coach of the Year” in 1987 from the Maryland State Youth Soccer Association. Colleagues remember him for organizing basketball teams both at NASA and the ARS, and at the Jornada, he captained the “Jornada Rangers” softball team. And he was a big supporter of teams in all kinds of sports at New Mexico State University from basketball, football and baseball to equestrian!

Al was also a connoisseur of well-crafted beers. Whenever travelling to a new city, Al used his research skills to find out the location of the best breweries and would be sure to sample the local amber or brown ales. For Al, a cold glass of beer with friends was an important reward after a long day of field work, for celebrating success or failure after a game of basketball or softball, or for sharing thoughts after a long day at a scientific conference.

Al is greatly missed by his colleagues here at the Jornada. We feel so very fortunate to have had the opportunity to have celebrated his life in a way in which he would have approved. If you were unable to attend – or are only just hearing about his passing – and would like a copy of the commemorative booklet from the event, please contact caiti@nmsu.edu.

U.S. Drought Monitor USDA Southwest Climate Hub

June 12, 2018
(Released Thursday, Jun. 14, 2018)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.87	88.13	68.25	51.52	31.64	7.29
Last Week 06-05-2018	11.87	88.13	68.31	50.71	31.44	7.29
3 Months Ago 03-13-2018	4.04	95.96	67.87	46.33	13.21	0.00
Start of Calendar Year 01-01-2018	30.86	69.14	41.51	9.27	0.00	0.00
Start of Water Year 09-26-2017	72.24	27.76	6.04	0.16	0.03	0.00
One Year Ago 06-13-2017	75.29	24.71	9.12	0.32	0.00	0.00

Intensity:
■ D0 Abnormally Dry ■ D3 Extreme Drought
■ D1 Moderate Drought ■ D4 Exceptional Drought
■ D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
 Brian Fuchs
 National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>

Drought conditions and resources

For our region, the U.S. Drought Monitor showed 88 percent in abnormally dry to exceptional drought. The Four Corners area is still in extreme to exceptional drought.

On June 4, Farm Service Agency began accepting new applications for losses for the calendar year 2017 or 2018 filed under the [Livestock Indemnity Program](#) (LIP) or [Emergency Assistance for Livestock, Honey Bees, and Farm-raised Fish Program](#) (ELAP). Producers who already submitted applications and received decisions on their applications for these years do not need to file again, but they can reapply if they have additional losses or their application was disapproved because it was filed late. Producers interested in

The 86th Annual Western Snow Conference Recap



The 86th Western Snow Conference
Snow in the Context of Climate Extremes and Change



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as the latest streamflow and water quality measurement techniques.
The [2019 Western Snow Conference](#) is scheduled for April 15-18 in Reno, NV.

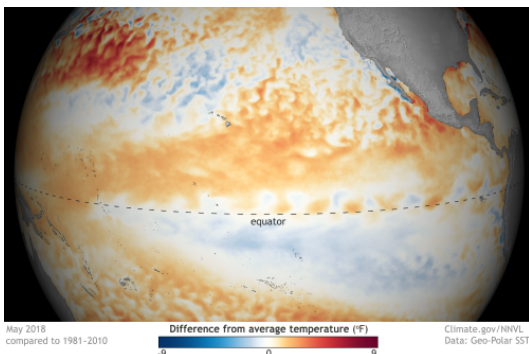
News

A Better Way to Think About Wildland Fires

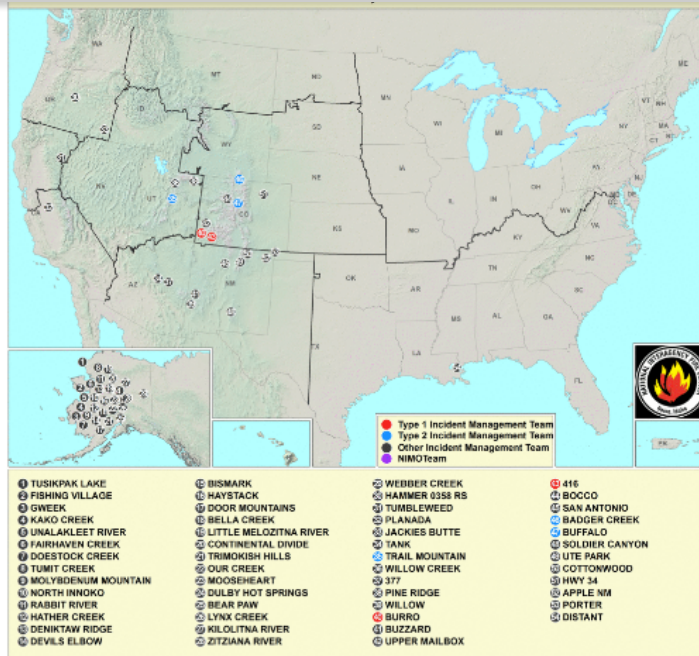
This video explains what makes a fire in the West unique, and demonstrates the importance and benefits of healthy fire to forest ecosystems.



As the monsoon season approaches, what will the outlook be like? Take a listen to the [CLIMAS Southwest Climate Podcast](#) for June 2018.



El Niño-Southern Oscillation (ENSO) Update
Currently, we are in an [ENSO neutral conditions](#) and those conditions are expected to last through most of the summer. Late summer or early autumn, there will be a 50% chance of El Niño and there will be about a 65% chance of El Niño conditions in the winter.

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Arizona, Colorado, and New Mexico have [closed national forests](#) to prevent the risk of wildfires.

The [Active Fire Mapping Program](#) is managed by the USDA Forest Service Geospatial Technology and Applications Center. The program provides near real-time detection and characterization of wildland fire conditions in a geospatial context for the continental United States, Alaska, Hawaii, and Canada.

Southwest Drought May Webinar

The webinar was held on May 23, 2018 and the [recording and two-page summary](#) is now available. Thank you to Brian Fuchs, Climatologist with the National Drought Mitigation Center, and Ed Delgado, National Interagency Fire Center Predictive Services Manger.

Research

[Vulnerability of Regional Forest and Agricultural Ecosystems to a Changing Climate](#)

Our long-awaited collection of seven articles based upon the Vulnerability Assessment of Southwestern Agriculture and Forests to a changing climate is now available, in its entirety, online. Our special issue focuses on the impacts of climate change and variability on agricultural production systems in the Southwestern U.S. including rangelands, field crops, specialty crops, and forested systems. The landscapes of the Southwest are diverse leading to a dynamic range of exposure, sensitivity and adaptive capacity, as well as diverse risks. Because of this, agriculture in the Southwest has remained resilient given increasing water scarcity and warmer temperatures, and may also serve as an instructive example for future adaptation in other areas becoming hotter and drier.

(Climatic Change)

[Tribal Economies: Water Settlements, Agriculture, and Gaming in the Western U.S.](#)

This study included fifty-one tribes in the Western U.S. and examined patterns in water rights quantification, agriculture, gaming and economic characteristics.

(Journal of Contemporary Water Research and Education)

[Switching on the Big Burn of 2017](#)

2017 was one of the costliest wildfire seasons due to fuel, aridity, and ignitions. There is a shift in the baseline in risks and cost of wildfires and the authors recommend policy changes to promote adaptation to

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[Anticipatory natural resource science and management for a changing future](#)

The authors examine the urgency of adopting anticipatory science and management to strengthen natural resource planning and management.

(Frontiers in Ecology and in the Environment)

[Assessing Tribal College Priorities for Enhancing Climate Adaptation on Reservation Lands](#)

This assessment found that Tribal Colleges and Universities would need additional financial support and human resource investments to adequately meet the climate adaptation needs on tribal lands. The financial support would improve climate science teaching, research, and professional development programs.

(Journal of Contemporary Water Research and Education)

[Challenges and opportunities at the nexus of energy, water, and food: A perspective from the southwest United States](#)

The food-energy-water nexus is important given the increasing scarcity of water and energy stresses caused by growing human populations, changes in weather and climate extremes, water-intensive food production and processing technologies, and energy-intensive water transport. Using the American Southwest as an example, this review paper highlights challenges and innovative solutions for sustainable water and energy consumption.

(MRS Energy & Sustainability: A Review Journal)

[Announcements](#)

Introduction to Climate Change Adaptation Planning

Deadline: June 20, 2018

The Institute for Tribal Environmental Professionals (ITEP) will be offering the [course](#) in San Diego, CA on August 7-9, 2018 for tribal environmental and natural resource professionals working for federally recognized tribes.

National Adaptation Forum Call for Proposals

Deadline: August 3, 2018

Proposals are being accepted for symposia, training sessions, working groups, oral presentations, posters, and the tools cafe. The Call for Proposals is [here](#).

[Events](#)

Meetings

[Subscribe](#)[Past Issues](#)[Translate ▼](#)[Conference](#), June 26-28[Remote Sensing of ET Workshop](#), June 26-29[2018 Sustainable Agriculture Education Association \(SAEA\) Conference](#), July 27-29[Soil and Water Conservation Society Conference](#), July 29 - August 1[National Conference on Ecosystem Restoration](#), August 26-30[California Adaptation Forum](#), August 27-29

Webinars

[Drought in the Southwest: Conditions, Impacts, and Forecast](#), June 25[Intermountain West DEWS - Climate, Water, and Drought](#), June 26[Southern Plains Drought](#), June 27[Climate Science: What's New?](#), July 12[California-Nevada Drought & Climate Outlook](#), July 23[Droughts, Floods and Wildfire](#), July 26[California-Nevada Drought & Climate Outlook](#), September 24

Submit Your News Item Here!

Do you know about a webinar, workshop, conference, or story that you would like to share with the SWCH community?

If so, please send it to helena.deswood@ars.usda.gov with "SWCH News" in the subject line!

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