

the most prevalent and highly regarded group is likely the thousands of CoCoRaHS (Community Collaborative Rain, Hail and Snow Network) volunteers who collect precipitation information every day. In Kathmandu, researchers and community members are collecting data to learn about their local environment. Citizen scientists work with up-and-coming researchers from the community, allowing local expertise to funnel back into the region rather than be exported out.

Take Laxmi Bastola for example. Laxmi learned about S4W-Nepal when she talked to some of the team having tea after work on the Hanumante River near her house. At 22 years old she works as a receptionist in a co-operative bank by day while taking vocational training classes in the afternoon. Additionally, in her daily routine, she takes rainfall measurements using the locally made gauge shown in Figure 2. Or Pawan Giri, who was inspired to begin collecting daily water levels, rain amounts, and water quality parameters after he spoke with a SW4-Nepal team that was performing a flow measurement of the Nakkhu River near his house. Locals to the area have watched the river change as regional water needs diverted part of the flow, but having verifiable long-term measurements better quantifies this change over time. Equally important, both citizen and scientific members of the community learn more about their local environment while providing the necessary information for proper resource management moving forward.



Figure 2 - Rainfall comparison between different gauging.

How do they collect data? By using technology that has become ubiquitous: smart phones. Specifically, they take advantage of the fact that smart phones contain a high-resolution camera and can associate important metadata with each photo, including a time stamp and location –

making the collected information both accurate and verifiable (Figure 3). This method combines a simple data collection method with modern technology to create a region-wide data collection network.



Figure 3 – Stage data collection with smartphone camera.

“In most developing countries, fundamental information about the amount, location, and quality of water is lacking. Moreover, this makes it [...] impossible to know how all these are changing over time and space due to natural or human activities. The lack of information about water resources has several undesirable outcomes. We aim to develop the information necessary for wise stewardship of water resources, while at the same time making a difference in people’s lives.” - S4W-Nepal Website

So how can you help? As their name implies, by donating a smartphone! Many of us may have unused smartphones at home or work. Citizen scientists can use working applicable phones to begin taking measurements. Damaged phones will be repaired by the local community. Unusable phones are sold to recyclers – the funds are then used for additional water monitoring. Even without a smartphone, donations can improve data collection. For example, \$1 creates a rain gauge, \$15 installs a new staff gauge, and \$30 supports a local citizen scientist to take precipitation measurements for a monsoon. Researchers need this information because, as S4W quotes from Lord Kelvin (a 19th-century Scottish mathematician), *“you can’t manage a resource you don’t measure”*.

To find out more about this project, visit

<http://www.smartphones4water.org/projects/nepal/>

or email Mark at Mark.Moore@hcfcd.org.

Information and photos are from the S4W-Nepal website.

**Call for Presentation Abstracts
Deadline Extended to November 9, 2018!**

We understand that Hurricane Michael, Hurricane Florence, and numerous local flood events across the U.S. in the past few months have caused our NHC members and friends to be so inundated with work that they've not had time to put together an abstract for the 2019 NHC Biennial Training Conference & Exhibition, to be held on June 17-20, 2019 at the Galt House in Louisville, Kentucky.

Given the number of requests we have received to extend the abstract submission deadline, it is only prudent for us to give y'all a couple extra weeks to submit.

Download our 2019 Conference Call for Abstracts Flyer

NHC 10th Annual Texas Fall Workshop

November 14-15, 2018

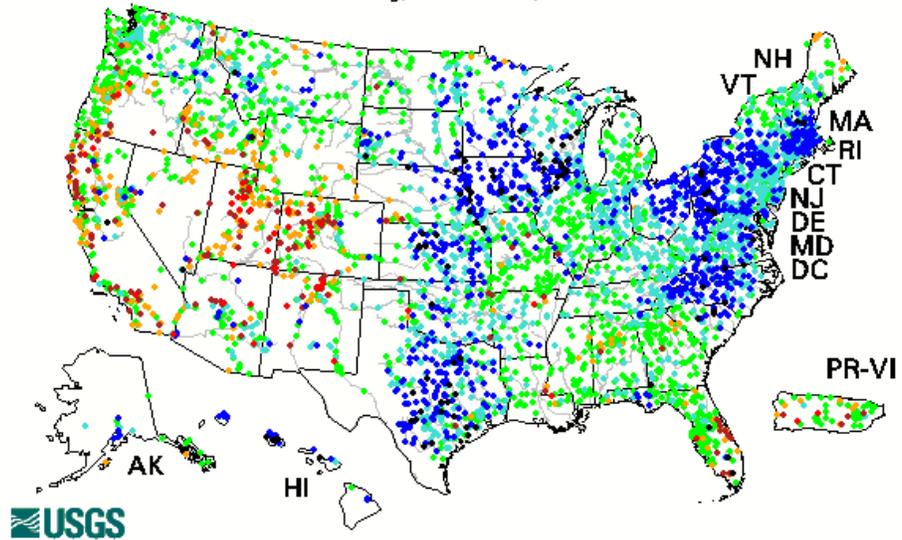
Like last year, the venue for this years' workshop will be the historic Menger Hotel located at 204 Alamo Plaza in San Antonio, Texas.

For more information and to register for the workshop, visit the **workshop web page**.



Hydrologic Conditions in the United States Through October 23, 2018

Tuesday, October 30, 2018

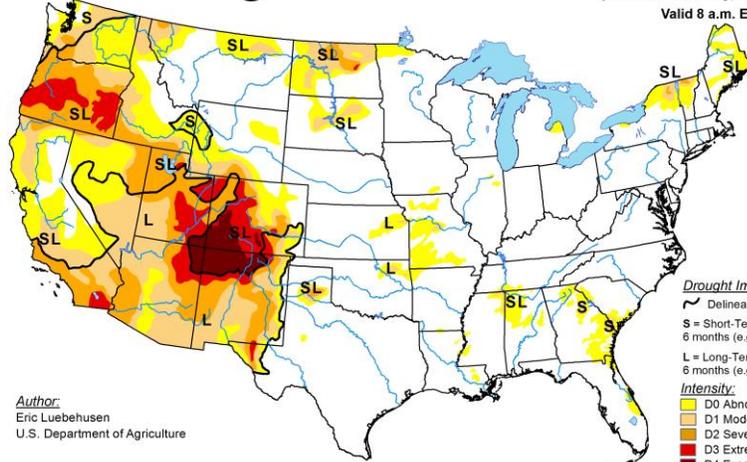


Explanation - Percentile classes						
●	●	●	●	●	●	●
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Latest stream flow conditions in the United States. (courtesy USGS)

U.S. Drought Monitor

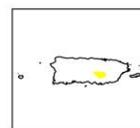
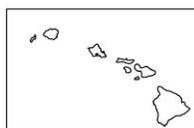
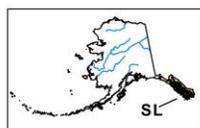
October 23, 2018
(Released Thursday, Oct. 25, 2018)
Valid 8 a.m. EDT



Author:
Eric Luebbehusen
U.S. Department of Agriculture

Drought Impact Types:
 ~ Delineates dominant impacts
 S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
 L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)
Intensity:
 D0 Abnormally Dry
 D1 Moderate Drought
 D2 Severe Drought
 D3 Extreme Drought
 D4 Exceptional Drought

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



Latest drought conditions in the United States. (courtesy National Drought Mitigation Center)

October Newsletter Articles Focus: Hydrology

The NHWC is requesting articles that focus on hydrology - the science behind the work we do.

Please consider preparing a short article about new methods, research, or discoveries in hydrology or a recent significant hydrologic event.

Submit your article to:

editor@hydrologicwarning.org

November 9th is the deadline for inclusion in the November issue.

Future Newsletter Articles Focus

To give you more time to prepare articles, below is the article focus schedule for the next four months:

Nov - Hydrology

Dec - Hazard

**Communication &
Public Awareness**

Jan - Modeling/Analysis

Feb - Data Collection

NHWC Calendar

November 14-15, 2018 – [10th Annual Texas Fall Workshop](#), San Antonio, Texas

June 17-20, 2019 – [The NHWC 13th Biennial Training Conference and Exposition](#), Louisville, Kentucky

General Interest Calendar

November 7-9, 2018 – [Arizona Floodplain Management Association Fall 2018 Conference](#), Tucson, Arizona

(See the [event calendar](#) on the NHWC website for more information.)

Parting Shot

ALERT Users Group

Fall Meeting & Workshop – October 25, 2018



45 people attended this year's ALERT Users Group Fall Meeting and Workshop in Sacramento, California. Topics included CNRFC/NWS Update and Winter Weather Outlook, Jamestown, Colorado Flood Recovery, 2017 Fires in Sonoma County, California, ALERT2 Transmitter Troubleshooting, Bay Area (California) X-Banding Project, Historical Data Management Strategies, and (shown above) 2017 Thomas Fire presented by Ron Marotto, AUG President and County of Ventura, California Supervising Hydrographer.

Photo by **Brian Iserman**, JE Fuller/Hydrology & Geomorphology, Inc.
NHWC Editor

National Hydrologic Warning Council

*Providing Timely, Quality Hydrologic Information to Protect Lives,
Property, and the Environment*

<http://www.hydrologicwarning.org>