



The NHWC Transmission

Aug/Sept 2019

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NHWC 2019-21 Officers and Directors

Bruce Rindahl

President
Ventura County Watershed Protection District

Brad Heilwagen

Vice President
Wood, plc

Fritz Law

Secretary
OneRain Incorporated

Ben Pratt

Treasurer
Susquehanna River Basin Commission

Directors At-Large

Jimmy Stuart

SunWater

Mark Moore

Harris County Flood Control District

June Wolfe

Texas A&M AgriLife Research

Rob Hartman

Robert K. Hartman Consulting Services

Kevin Stewart (Trustee)

Mile High Flood District



Meet the 2019-21 NHWC Board of Directors

The June 2019 conference in Louisville, Kentucky marked the inauguration of the 2019-2021 NHWC Board of Directors. This issue is dedicated to introducing you to this distinguished body of flood warning professionals starting with our new President, Bruce Rindahl.

Bruce is a licensed Civil Engineer in Colorado and California, with more than 38 years of experience in a wide variety of water resource disciplines. Much of his experience is in the area of water supply planning and flood warning systems. He also has extensive experience in optimization of water resource systems, design and integration of computer models, geographical information systems and their use in water resource applications, floodplain analysis and development criteria. He developed and manages the flood warning system for Ventura County consisting of self-



Bruce Rindahl, NHWC President

reporting rain and stream gages that allows for the monitoring storm events and identify potential flood impacts through a public web interface available to emergency managers and the public alike. During storm events, the flood warning system is a vital tool for emergency services in Ventura County as well as the local office of the National Weather Service. In the past few years the Ventura County Sheriff's OES depended on the Flood Warning System to initiate evacuations of areas subject to debris flows from recent burn areas. In addition, the local media and general public rely heavily on the information from the flood warning system for rainfall totals, stream conditions and forecasts. During the past winter season, almost 80,000 users accessed the flood warning system web pages.

Bruce first became involved with ALERT technology in 1980 while working with the City of Aurora, Colorado. Working collaboratively with Kevin Stewart of the Urban Drainage and Flood Control District and others in the ALERT community, Bruce developed new and innovative ways to aide in decision support for flood preparedness. In 1994, the City of Aurora displayed the first real-time weather information on the web. He was been a board member of the ALERT Users Group since 2014 as their liaison to the NHWC.

During this next 2-year term, Bruce hopes to work with users throughout the county to develop data standards to share real-time hydrologic data for use in numerous decision support tools. He is also interested in growing and diversifying the membership of the NHWC.

Vice President

Brad Heilwagen has over 15 years of experience as a water resource engineer, consultant, and project manager, for a diverse range of project including flood prediction and warning, flood probability formulation, flood risk assessment, river and reservoir inflow forecasting, and Flood Insurance Rate Map Production. He has extensive experience working with FEMA Cooperating Technical Partners and the U.S. Army Corps of Engineers on Risk MAP and other flood preparedness projects, and his efforts with the City of Nashville resulted in a 2013 Engineering Excellence Award from the American Council of Engineering Companies. In his current role at Wood (formerly AMEC) Brad manages a team of 31 engineers, scientists, GIS specialists, and application developers working on a wide range of projects. Prior to Wood, Brad worked as a Water Management Engineer at Idaho Power Company and a Research Support Engineer for the University of Illinois. He graduated in 2003 from the University of Illinois with a B.S. in Agricultural Engineering.



Brad Heilwagen

After the May 2010 flood in Nashville, Brad took a keen interest in flood warning and chose to join NHWC. He became more involved in NHWC by helping with the 2013 Conference on the Agenda Committee. Brad assisted again in 2015, coordinating bus transportation and entertainment for the offsite social, printed programs and entertainment for the banquet, the hospitality suite, and serving as Emcee of the Awards Banquet. In 2015, Brad was also elected to the NHWC Board of Directors and appointed to the position of Secretary. From 2015-2019, Brad was responsible for administration of Board Meeting Minutes, website content, membership renewals, and social media. Brad took it up a notch in 2019 by serving as conference chair for the 2019 NHWC Conference in Louisville.

As Vice President, Brad also serves as the chair of the Executive Programs Committee (EPC). His goal is to see the EPC live up to its original goal: To facilitate the coordination and cooperation among all public and private sectors to share

Information across our large and diverse hydrologic warning community.

A married father of two, Brad spends most of his free time training for and racing long distance/duration obstacle course races and trail runs, rock climbing or bike riding with his kids, perfecting his smoker and Dutch oven cooking recipes, or enjoying a fine glass (or two) of Kentucky Bourbon.

Secretary



Fritz Law

Since 2012 Fritz Law has worked at OneRain as the Director of U.S. Sales, he works with new and existing flood ALERT/ALERT2 agencies to modernize their base station platforms and networks. He helps provide high quality data and professional services to customers who need accurate rainfall-related information to make high-value decisions. Many new opportunities have risen now that OneRain is partnering with the Vieuxs, High Sierra Electronics, Forest Technology Systems and Lambrecht Meteo in Germany all under the Advanced Environmental Monitoring umbrella. Fritz has been in the water industry for the past 30 years measuring water, controlling water, pumping water and conserving water while at John Deere and earlier as a certified golf course superintendent. Fritz has a B.S. in Mechanical Engineering from the University of Colorado.

Fritz is an avid photographer and enjoys multi-day white water rafting trips with his family and close friends. Life centers on family, adventures with his wife Cathy and their 4 children.

Treasurer

Ben is a licensed Civil Engineer in the Commonwealth of Pennsylvania, with nearly 20 years of experience in water resources related projects. His practice has included work in both public and private sectors, including



Ben Pratt

regulatory compliance, water/wastewater infrastructure design and permitting, drought forecasting and monitoring, hydrologic/hydraulic modelling, flood inundation mapping, flood risk communication, and flood forecast and warning system design and implementation. Ben has served the Susquehanna River Basin Commission, located in Harrisburg, PA, since August 2006, as a water resources engineer, managing the Commission's commitment to protect human life and reduce damages from flooding across the 27,500 square mile Susquehanna River Basin. Ben is currently embarking on his 2nd term as NHWC Treasurer. Ben's passion for providing innovative and cost-effective solutions by leveraging available technology, is most evident by his recent work to develop a cellular based camera network to facilitate flood forecast and warning in the Susquehanna basin. Ben graduated from the Pennsylvania State University with a B.S. in Environmental Engineering in December of 1999.

Director At-Large



James Stuart

James Stuart is a Chartered Professional Engineer from Queensland, Australia with over 20 years of experience in flood forecasting, warning and related critical asset management. He currently manages the Water Resources and Dam Safety

portfolio at Sunwater in Brisbane where he has led teams through some of Australia's most significant flood events. Sunwater own and operate some of Australia's largest dams. Prior to his current role, James worked in Peru at the Peruvian weather service and led the flood warning service in Queensland. James is experienced in managing hydrographic networks and has developed innovative tools for effective communication of hydrologic warning in Queensland. Experienced at working under significant pressure. Originally from the UK, James commenced his career managing dam upgrades and carrying out flood studies for the England and Wales Environment Agency.

James first joined the NHWC in 2016 and attended the 2017 conference in Squaw Valley, presenting on recent progress in removing flood frequency references to flood warning communication. Elected to the Board the same year, James has a keen interest in the rainfall characteristics of Atmospheric Rivers and other tropical events.

James is looking forward to working through the next Board term to 2021 and aims to utilize technology to improve knowledge sharing between the USA and Australia. Many of the issues both countries experience are the same and communication and integration are constantly improving.

Director At-Large



Mark Moore

Mark Moore is the Hydrologic Specialist for the Harris County Flood Control District (HCFCD), which includes the city of Houston and surrounding areas. He received a B.S. in both Astronomy and Environmental Science with a focus in Biological

Sciences from the University of Texas at Austin. His primary duties at HCFCD include monitoring the Flood Warning System (FWS), adapting and integrating new technologies, responding to flood events, and assisting partner agencies with the installation and maintenance of flood warning gauges. He started working with HCFCD a few months before their transition to ALERT2 and helped lead the way for the successful implementation of the new technology.

HCFCD's hard work was put to the test during Hurricane Harvey, when the gauge network received over 99% of expected data. He has also led regional training workshops with attendees from across Texas and Louisiana covering the basics of flood warning technologies and how to properly maintain a flood warning system. Mark participates in the ALERT2 Technical Working Group, which designs and maintains the standards for the ALERT2 protocol. In his free time, he likes to travel across the globe. Recent visits include France, Germany, Luxembourg, Switzerland, Japan, and Korea.



While technological advancements have allowed significant improvements to flood warning systems nationwide, I believe proper system maintenance plays just as important a role. Unfortunately, information about how the technology works and the best way to maintain it can be difficult to find. My goal in joining the NHCW board is to help provide the necessary resources for agencies to make informed decisions regarding system operation.

Director At-Large



June Wolfe

Dr. June Wolfe III is a Research Scientist with Texas A&M AgriLife and directs the Water Science Laboratory at the Blackland Research Center in Temple, Texas where he has worked since 1987. He earned his B.A. in

biology and chemistry from The University of Texas at Austin, M.S. in horticulture from Texas A&M University, and Ph.D. in aquatic ecology from Baylor University. His professional experience and interests span many fields including environmental instrumentation, hydrology, water chemistry, aquatic microbiology, soils, and plant physiology. He has almost 20 years of experience developing, operating, and assessing local flood alert systems in Central Texas due to the inherent relationship between environmental research monitoring and flood events. He has been involved with NHCW since 2009 and is currently assisting the Fort Hood military installation with improving their high-water risk reduction program. Personal interests include family, reading, gardening, fishing, computers, electronics, and amateur radio.

As a new NHCW board member, I hope to contribute to the organization through activities which improve the understanding, interpretation, and application of high-water risk information by non-technical audiences. I am also interested in helping protect hydrological radio spectrum allocations as the FCC considers sharing the 1675-1680 MHz band (used for federal GOES

satellite hydrological data transmissions) with commercial wireless broadband interests.

Director At-Large

Rob Hartman is a consulting hydrologist who retired as the Hydrologist in Charge (HIC) of the California-Nevada River Forecast Center (CNRFC), an office of NOAA's National Weather Service in



Rob Hartman

September 2016. Rob has 35 years of federal flood and water supply forecasting experience including 20 years in his former position. As HIC, Rob worked collaboratively to expand the breadth, depth, and application of CNRFC and NWS Hydrology Program services, develop leaders, and pioneer the implementation of innovative technologies. Rob's experience includes all aspects of RFC operations, development, and management obtained in positions at three NWS River Forecast Centers, the USDA/Soil Conservation Service, and the NWS Office of Hydrologic Development. As a consultant, Rob has been actively involved in the Forecast Informed Reservoir Operations (FIRO) project, research applications, and helping clients appropriately apply forecasts in their reservoir and flood management schemes. Rob has a B.S. degree in Forestry from Utah State University and an M.S. degree in Watershed Management from the University of Arizona. Rob resides in Roseville, CA.

Flood warning, automated data collection, and decision support tools were central themes during my federal career. I developed custom detection and notification software for the Mt. St. Helens and Heppner ALERT systems in the early and mid '80s and supported the efforts of both AUG and NHCW while managing the CNRFC. My goals in joining the NHCW board are to leverage and offer my experience with the program and to develop the connection between NHCW and traditional water management agencies and organizations. 🌍

11th Annual NHWC Texas Workshop

November 5-6, 2019
Embassy Suites in
San Marcos, Texas

This year's Texas Workshop venue will be the Embassy Suites located at

1001 E. McCarty Lane
San Marcos, TX 7866

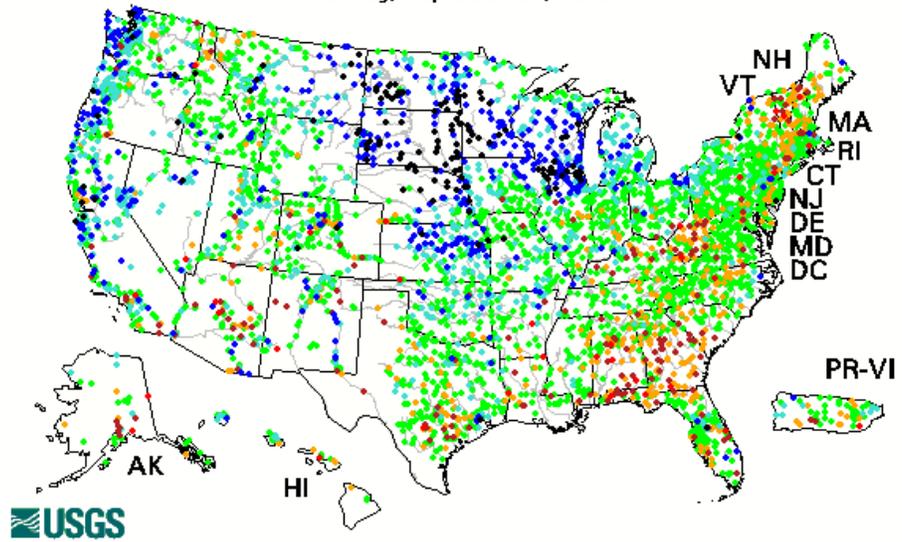
This 2-day interactive workshop will focus on recent flooding in the State of Texas, recovery efforts, and new initiatives since Hurricane Harvey, as well as flood warning system performance and maintenance, public communication during disasters, dam safety, reservoir operations, and flood forecasting.

To reserve your hotel room at the NHWC rate, please use this [link](#).

For all conference details, please visit the [conference link](#).

Hydrologic Conditions in the United States Through September 10, 2019

Tuesday, September 17, 2019

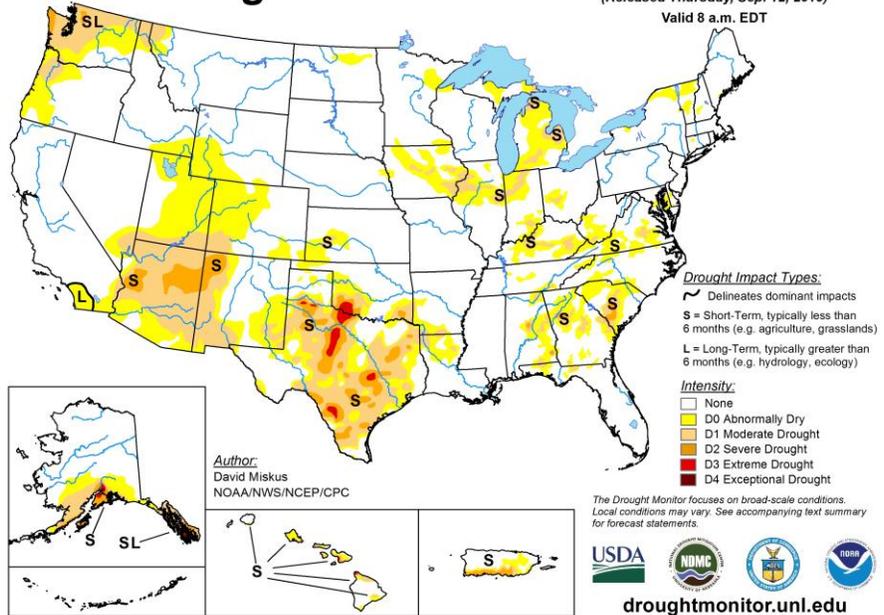


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

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

U.S. Drought Monitor

September 10, 2019
(Released Thursday, Sep. 12, 2019)
Valid 8 a.m. EDT



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

Call for Newsletter Articles:

The NHWC is requesting articles that focus on the following topics:

Data Collection

practices, technologies and tools used to gather and disseminate real-time hydro-meteorological data

Hazard Communication and Public Awareness

practices, technologies and tools used to get the right real-time data and information to the right people for the right response

Hydrology

new methods, research, or discoveries in hydrology or a recent significant hydrologic event that helps us understand the science behind the floods

Modeling & Analysis

practices, technologies and tools used to model, predict and analyze hydro-meteorological events and to support decision making for emergency response and floodplain management

Submit your article to:

editor@hydrologicwarning.org

October 11th is the deadline for inclusion in the October issue.

NHWC Calendar

November 5-6, 2019 – [NHWC Texas Workshop](#), San Marcos, Texas
[Registration Link](#)

General Interest Calendar

October 17, 2019 – [ALERT Users Group 2019 Fall Meeting & Workshop](#), Sacramento, California

December 9-13, 2019 – [American Geophysical Union Fall Meeting 2019](#), San Francisco, California
[note: This will include sessions on flood hydrology.]

May 5-8, 2020 – [ALERT Users Group Training Conference and Exposition](#), Ventura, California

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

Parting Shot

Efficiency



How do you efficiently install a high-water detection system consisting of 13 Masters and 26 Remote flashing beacon sites for the City of New Orleans?

With a trailer like this one pictured at left.

The project was completed on August 2, 2019. This custom trailer was designed by Carl Schori of StreamWorks to transport multiple pre-assembled poles. He welded the trailer and racks together for the express purpose of transporting as many poles as possible.

Note the trenching attachment on the platform. A good example of efficient logistics.

Photo courtesy High Sierra Electronics, Inc.

National Hydrologic Warning Council

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

<http://www.hydrologicwarning.org>