



SEPTEMBER 2020

# WestFAST News

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Chair – Patrick Lambert; Federal Liaison Officer – Deborah Lawler

## [NASA Water Portal](#)

NASA 2020. This NASA Water Portal is a water information hub produced by NASA's Western Water Applications Office.

It provides interactive catalogs of Water Needs and NASA Water-Related Capabilities, as part of our mission to improve how water is managed in the arid western U.S. by getting NASA data, technology, and tools into the hands of water managers and decision makers. The portal serves as a hub for building connections between these catalogs and our partners, including water managers, decision makers, and scientists.

We welcome submissions to our Needs and Capabilities catalogs. Share your Water Need or Water Capability and we will be in touch at <https://wwao.jpl.nasa.gov/portal/>

## [NASA Funds Eight New Projects Exploring Connections Between the Environment and COVID-19](#)

NASA 09/03/20. While scientists around the world are confined to their homes during the COVID-19 pandemic, Earth observing satellites continue to orbit and send back images that reveal connections between the pandemic and the environment. “Satellites collect data all the time and don’t require us to go out anywhere,” Hannah Kerner, an assistant research professor at the University of Maryland in College Park, said.

Kerner is among eight researchers recently awarded a rapid-turnaround project grant, which supports investigators as they explore how COVID-19 lockdown measures are impacting the environment and how the environment can affect how the virus is spread.

The newest group of projects includes six that are looking to satellite images to help reveal how COVID-19 lockdown measures are impacting food security, fire ecology, urban surface heat, clouds and warming, air pollution and precipitation, and water quality and aquatic ecosystems. Two projects are exploring how the environment could be impacting how the virus is spread by monitoring dust and weather.

NASA’s Earth Science Division manages these projects that find new ways to use Earth observing data to better understand regional-to-global environmental, economic, and societal impacts of the COVID-19 pandemic.

### *Counting crops during COVID*

This year was looking to be a relatively normal year for crops until the pandemic and associated lockdown policies happened. Reduced air and ground travel caused the demand for ethanol to plummet, which caused corn prices to decline. Lockdown policies also made it harder for officials from the U.S. Department of Agriculture (USDA) to travel to farms and collect information about crop planting, progress, and conditions.

The subsequent lack of public information about crops caused uncertainty and volatility in agricultural markets and prices as growing seasons progressed. “Markets want to know how much of a specific kind of crop to expect,” Kerner said.

Kerner and her team are looking to satellite data from NASA’s and the U.S. Geological Survey’s Landsat, ESA’s (the European Space Agency) Copernicus Sentinel-2, NASA’s Moderate Resolution Imaging Spectroradiometer (MODIS) aboard the Terra and Aqua satellites, and Planet’s satellites to help supplement USDA’s information.

“We’re using satellite data and machine learning to map where and which crops are growing,” Kerner said. Specifically, they’re monitoring key commodity crops, which are corn and soybeans in the U.S. and winter wheat in Russia.

#### *Starting and stopping fires during lockdown*

There are far fewer intentional fires to boost biodiversity and reduce fuel loads in the Southeast this spring.

As COVID-19 lockdowns went into effect, the U.S. Forest Service temporarily suspended all of its intentional, or prescribed, burns on federal lands in the Southeast in March, and state agencies in Mississippi, South Carolina, and North Carolina followed suit.

Ben Poulter, a research scientist at NASA’s Goddard Space Flight Center in Greenbelt, Maryland, is using the Visible Infrared Imaging Radiometer Suite (VIIRS) on NASA and NOAA’s Suomi NPP satellite, as well as data from MODIS, to track fires across the country and better understand how COVID-19 social distancing policies, like federal travel restrictions, have affected both prescribed burns on the East Coast and wildfires in the West.

Ultimately, his team wants to better understand how fewer fires in the Southeast could be affecting biodiversity, since some species rely on fires to thrive, and causing fuels to accumulate in vegetation, potentially leading to more dangerous wildfires in the future.

On the other side of the country, the team is examining how COVID-19 policies are complicating fire suppression. As firefighting agencies have introduced social distancing practices to minimize the spread of COVID-19, like eliminating large camps of firefighters living in close quarters, Poulter said, “it may become more difficult to fight fires in the Western states.”

The team is also looking at how the total number of fires across the country could affect atmospheric chemistry. It will work with air quality scientists to determine if there will be an overall net increase or decrease in total carbon dioxide, among other pollutants, from wildfires in the West and prescribed fires in the East.

#### *Fewer cars might mean hotter surfaces*

Christopher Potter, a research scientist at NASA’s Ames Research Center in California’s Silicon Valley, is looking at how California’s shelter-in-place mandate in the San Francisco Bay Area has reduced the number of cars on the road and changed how parking lots, highways, and large industrial buildings’ surfaces absorb sunlight and reflect infrared heat.

“It suddenly got so quiet,” Potter said, “There was no traffic anywhere in late March and April.”

Potter and his team are monitoring parking lots and other surfaces to see if they are hotter or cooler during the pandemic. Visible light from the sun hits the surface and then is absorbed and reradiated as heat – a process called thermal heat flux.

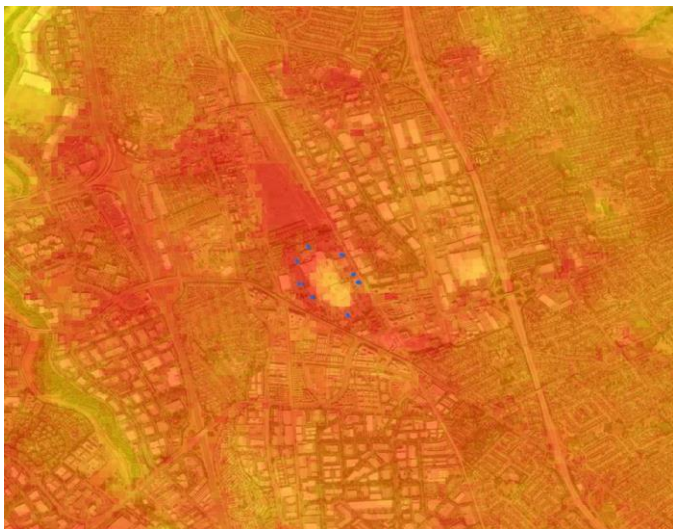
The team is using satellite thermal infrared sensor brightness temperatures from Landsat and land surface temperature from ECOSTRESS, which is a

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NASA sensor on the International Space Station, to map out large, flat urban features in the Bay Area and measure their thermal heat flux. He's also gathering on-the-ground measurements to ground truth the data.

Potter is asking questions like, if automobiles are parked and concentrated in giant lots, do you change the reflectance of the surface and the overall heat flux? Even shiny car windows may be enough to reflect sunlight, Potter said.

Potter and his team want to know how the entire Bay Area's urban heat flux has changed during the pandemic, and how that change has contributed to a more or less healthy environment for the millions of people living in it. Understanding potential changes in the thermal heat flux is a key indicator of how COVID-19 has altered the Bay Area's environmental footprint, Potter said.

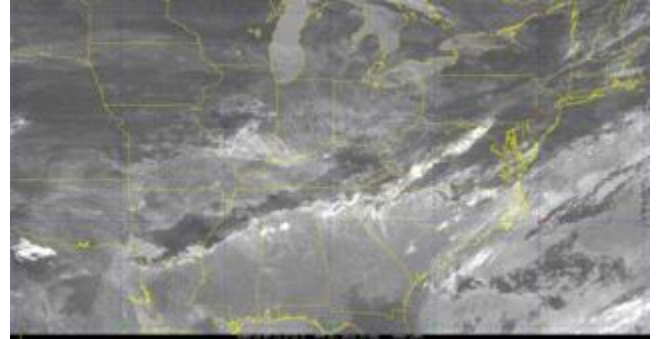


This image shows the ECOSTRESS land surface temperature variations measured on May 22, 2020, during the full lockdown period over an area centered on the Great Mall in Milpitas. The blue dots represent ground truth measurements on May 22 in large vacant parking lots. The darkish reddish shades show the highest temperatures on dark asphalt parking lots and roadways, and the yellow-greenish shades indicate lower temperatures in parklands and semi-vegetated areas. Bright white rooftops are in the middle shades.

Credits: Christopher Potter, NASA Ames Research Center

*Fewer planes and fewer clouds could make things cooler*

When you look up at a clear blue sky and the conditions are just right, you might see a plane soaring above and leaving behind a distinct white trail of clouds.



This image is from the GOES-16 satellite on April 1, 2018, when there were many flights and subsequently many contrails.

Credits: William Smith, NASA Langley Research Center

Those clouds, or contrails, are produced by aircraft engine exhaust or changes in air pressure. William Smith and Dave Duda, researchers at NASA's Langley Research Center in Hampton, Virginia, have been studying contrails for a couple decades. "Contrails are one of the only clouds we produce ourselves," Duda said. Although their effects vary and are difficult to quantify, their overall net effect is warming.

In response to COVID-19 travel bans and lockdown policies, we're flying a lot less and producing fewer contrails. Duda and Smith want to quantify this decrease to better understand how air traffic density impacts contrail formation and its radiative forcing. In other words, are fewer planes and fewer contrails helping to cool the atmosphere?

The team is using an established contrail detection algorithm to estimate coverage over the contiguous United States and the North Atlantic air traffic corridor over the 2020 slowdown period and compare that to a baseline period a couple years earlier when air traffic was unrestricted. Duda and

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Smith are also using MODIS to determine contrail optical properties to better understand how they reflect sunlight and trap energy from the surface and atmosphere below them.

The atmosphere must be sufficiently cold and moist for a contrail to form, so there are typically more contrails during the winter and spring. “Not all contrails are equal,” Duda said. If one forms in the middle of clouds, it doesn’t have a significant impact. “You see the biggest impact when there’s an otherwise clear sky and a contrail adds cloudiness to it,” Duda said.

Improving our understanding of how and when contrails form could help scientists inform airlines on ideal routes to fly planes. “It might be possible to reduce contrails and their effects by making occasional flight altitude or routing adjustments much like the airlines do now to avoid turbulence,” Smith said.

#### *Less air pollution may mean less rain*

Gabriele Villarini, a professor at the University of Iowa in Iowa City, and Wei Zhang, a scientist in the same institute, want to understand the connection between reduced air pollution during the pandemic and sharp decreases in precipitation in the western U.S.

Moisture in the atmosphere condenses around aerosols, or particles like dust, and falls to Earth as rain and snow. Fewer aerosols during the pandemic may have been responsible for the reduced precipitation in February and March 2020 across the western U.S., with areas receiving less than 50% compared to a typical year. Understanding how the decrease in precipitation is related to reduced aerosols could be valuable to water resource managers.

Villarini is aiming to use NASA’s satellite data on water vapor, precipitation, and aerosols as well as a comprehensive climate model that can combine atmospheric conditions such as moisture and temperature with chemical properties and processes

that take place in the atmosphere. The model will help his team pinpoint the extent to which the reduction in aerosols is responsible for the decrease in precipitation as opposed to the natural variability in the climate system.

“This project will help us understand how COVID-19 is impacting the natural environment,” Villarini said.

#### *Finding a human imprint on water quality in Belize*

The coastal area of Belize includes the largest barrier reef in the Northern Hemisphere, offshore atolls, several hundred sand cays, mangrove forests, coastal lagoons, and estuaries. It is one of the most biodiverse ecosystems in the Atlantic and is home to colorful fish and playful sea turtles, many of which are endangered.



A snapshot of the Belize Barrier Reef. The system’s seven sites are a significant habitat for threatened species, including marine turtles, manatees, and the American marine crocodile.

Credits: Wouter Naert, Unsplash

Robert Griffin, a professor at the University of Alabama in Huntsville, was working on a NASA project to study the reef’s health when COVID-19 happened. “The pandemic created a natural experiment,” Griffin said, to better understand how urban pollutants affect water quality and coral reef health.

Griffin and his team are studying how decreased tourism is impacting urban and agricultural sources

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of pollutants, such as nitrogen and phosphorus, to water quality off the coast of Belize.

In addition to on-the-ground data, the team is using Landsat images to note how the pandemic is affecting land use changes, which affects how many pollutants are produced and able to reach water bodies and ecosystems. Griffin is also using MODIS and VIIRS data to monitor water quality.

Griffin's team is working with Belize government officials to help guide coastal marine development for the upcoming five years. "This research could provide guidance for land use planners as they determine how to deal with urban non-point sources of pollution," like nutrients and sediments, that end up in the water and impact coral reef systems, Griffin said.

#### *Dust storms, society, and COVID-19*

Pablo Méndez-Lázaro, a professor at the University of Puerto Rico in San Juan, is examining how the environment could affect the spread of the novel coronavirus that causes COVID-19. More specifically, he wants to know if seasonal African dust that travels to the Caribbean between May and August every year will have significant impacts on health and mortality associated with the virus.

African dust travels from the Sahara Desert, across the Atlantic Ocean, to Puerto Rico and the Caribbean. Microorganisms in the dust particles can be linked to infectious diseases.

Méndez-Lázaro and his team are working with epidemiologists, among many specialists, to better understand how African dust impacts public health. "We see this as a Rubik's Cube," Méndez-Lázaro said, to demonstrate how his research is one of various moving parts to understand a larger issue. "Each tiny, colored cube is a different part of the puzzle," focused on epidemiological research, societal studies, clinical studies, vaccine research, and environmental work, Méndez-Lázaro said.

The team is using VIIRS to measure aerosols in the atmosphere as a proxy for the dust clouds that arrive in the Caribbean. It's also using MODIS and the European Commission's Copernicus Atmosphere Monitoring System to characterize the aerosols.

Méndez-Lázaro is working closely with the Puerto Rico Department of Health, the National Weather Service's San Juan Office, as well as physicians and patients, to gather information on people who have contracted respiratory diseases through contact with African dust.

"We believe that there could be an exacerbation of COVID-19 patients in the Caribbean during African dust events," Méndez-Lázaro said, like the "Godzilla" event in June.

#### *Weather, air quality, and COVID-19*

Yulia R. Gel, a professor at the University of Texas at Dallas, and Huikyo Lee, a scientist at NASA's Jet Propulsion Laboratory in Pasadena, California, along with other collaborators, want to help clarify what environmental factors could impact a second wave of COVID-19 cases and determine how certain we can be with those conclusions.

Her interdisciplinary team is studying whether surface air temperature and humidity are impacting transmission rates, and, if they are, how they are doing it. It's also teasing out a potential link between aerosols and COVID-19 severity and mortality.

Gel and her collaborators are using weather data from the Atmospheric InfraRed Sounder on the Aqua satellite and Cross-track Infrared Sounder on the Suomi NPP satellite. The team will obtain aerosol data from the Multi-angle Imaging SpectroRadiometer and MODIS and use machine learning algorithms and advanced analyses to track the dynamics of the virus's spread and its mortality rate over space and time.

More specifically, her team is using geometric deep learning algorithms, coupled with topological data

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analysis, which allow it to track COVID-19 transmission patterns that are driven, for instance, by different population characteristics, like age, gender, ethnicity, and income, as well as environmental factors. The advanced tools allow the team to consider factors that are not accessible using conventional approaches based on geographic proximity.

Gel aims to provide a powerful software tool to help predict the seasonal COVID-19 progression on a regional to global scale, while quantifying a broad range of associated uncertainties.

For more information, visit <https://science.nasa.gov/earth-science/rnes-awards>  
Elizabeth Goldbaum, NASA Earth Science Division

## [Transforming Water Management with NASA Data](#)

NASA 09/15/20. From the water we drink to the water used to irrigate our food, water is everywhere. What information do water managers need to better measure and manage their water resources?



Nevada farmer Denise Moyle will use the new OpenET web platform to plan the irrigation of her alfalfa fields. Credit: Glow by G Photography.

*Accurate, consistent, and timely data.*

Building upon more than two decades of research, a new web-based platform called OpenET will soon be putting NASA data in the hands of farmers, water managers and conservation groups to accelerate improvements and innovations in water management. Slated to launch in 2021, OpenET uses publicly available data and open-source models to provide satellite-based information on evapotranspiration (the "ET" in OpenET) in areas as small as a quarter of an acre and at daily, monthly and yearly intervals.

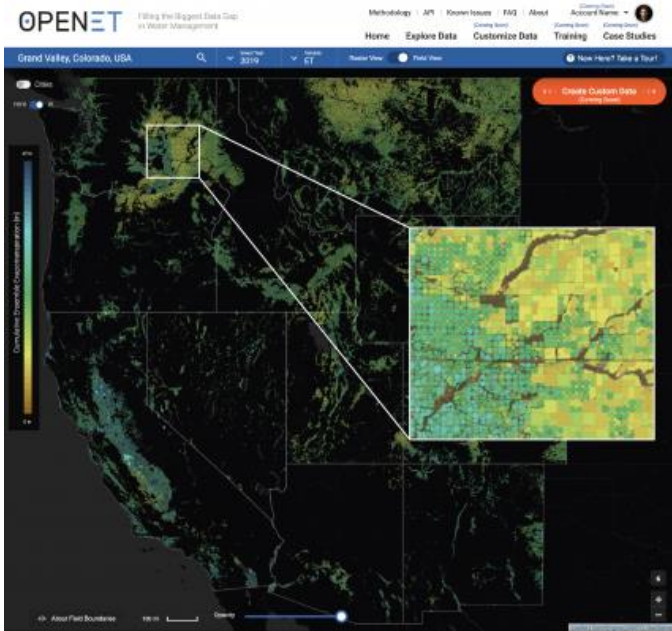
Evapotranspiration is the process by which water is transferred from the land to the atmosphere, by water leaving the soil (evaporation) and water lost through plant leaves and stems (transpiration). Evapotranspiration is an important measure of how much water is used or "consumed" by agricultural crops and other plants.

In the arid western United States, where the majority of water used by people is for irrigation to grow crops, having an accurate measure of evapotranspiration is critical to balancing water supplies and water demand. Until OpenET, there has not been an operational system for measuring and distributing evapotranspiration data at the scale of individual fields across the western United States. OpenET will be available to the public next year, supplying evapotranspiration data across 17 western states.

### *The OpenET initiative*

"What OpenET offers is a way for people to better understand their water usage and, more importantly, their water loss through evapotranspiration," said Denise Moyle, an alfalfa farmer in Diamond Valley, Nevada, and an OpenET collaborator. "Giving farmers and other water managers better information is the greatest value of OpenET."

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A screenshot of the OpenET interface. Credit: NASA.

The OpenET platform is being developed through a unique collaboration of scientists, farmers and water managers from across the western United States, as well as software engineers specializing in data access and visualization for large Earth observation datasets.

Led by NASA, the nonprofit Environmental Defense Fund (EDF), the Desert Research Institute (DRI) and data applications developer HabitatSeven, with funding from the Water Funder Initiative and in-kind support from Google Earth Engine, OpenET primarily uses satellite datasets from the Landsat program, which is a partnership between NASA and the U.S. Geological Survey (USGS). Additional data comes from NASA's Terra and Aqua satellites, the National Oceanic and Atmospheric Administration (NOAA) GOES series of satellites and others.

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"OpenET will empower farmers and water managers across the west to build more accurate water budgets and identify stress, resulting in a more resilient system for agriculture, people and ecosystems," said Maurice Hall, head of EDF's Western Water program. "We envision OpenET leveling the playing field by providing the same trusted data to all types of users, from the small farmer to regional water planners."

### *A water game changer*

California's Delta Watermaster Michael George is responsible for administering water rights within the Sacramento-San Joaquin River Delta, which supplies drinking water to more than 25 million Californians and helps irrigate 3 million acres of farmland. For him, the development of OpenET signals an exciting opportunity for the future of water in the west.

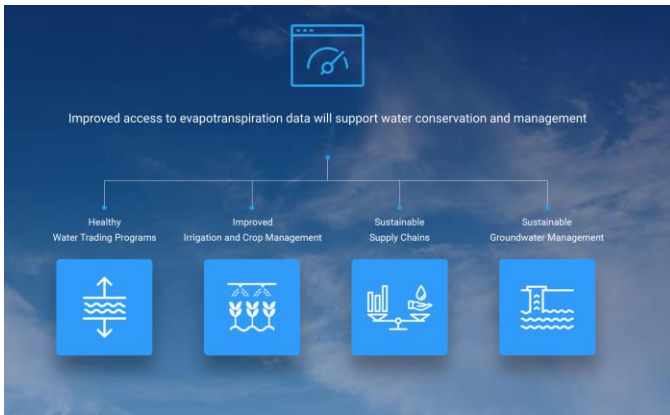
"OpenET represents a game-changing leap forward for water management," George said. "It will help landowners and water managers in the Bay-Delta save millions of dollars that would otherwise have to be spent on water meters to more accurately measure water use, as required by state law."

In addition to helping Delta farmers save costs, OpenET data will improve water management in the area, according to Forrest Melton, program scientist for NASA's Western Water Applications Office. He is also with the NASA Ames Research Center Cooperative for Research in Earth Science and Technology (ARC-CREST).

"The importance of careful, data-driven water management in the Delta and other regions can't be overstated," he explained. "In addition to supplying water for drinking and growing food, the Delta provides critical habitat for endangered species. For a water manager, trying to balance all of these demands is almost impossible without accurate, timely data."

The OpenET team is currently collaborating with water users on several case studies across the west.

In California's Central Valley, the Rosedale-Rio Bravo Water Storage District is already starting to use OpenET data as the foundation for an online water accounting and trading platform to help farmers in the district manage groundwater sustainably. In Colorado, high-altitude ranchers will be using OpenET as they experiment with different irrigation strategies to conserve water.



Expanded access to evapotranspiration data will help improve crop management, water conservation, water trading programs and supply chains. Credit: OpenET.

"What OpenET offers is a way for people to better understand their water usage and, more importantly, their water loss through evapotranspiration," Moyle said. "Giving farmers and other water managers better information is the greatest value of OpenET."

The OpenET team includes leading national and international experts in remote sensing of ET, cloud computing, and water resources, policy and markets, partnered with nationally recognized web development teams specializing in translating scientific data and information for advanced decision support.

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## Open, trusted data

Landsat science team member Justin Huntington of DRI emphasized the value of getting this type of early feedback on the OpenET system from future users. "Working closely with farmers and water managers on the design of OpenET has given us invaluable insights into how to best make ET data available to support water management in Diamond Valley and other basins across the west," he said.

Because the OpenET system uses open-source software and open data sources, it will help water managers establish an agreed upon measure of evapotranspiration across agricultural areas, said Melton. Different estimates of evapotranspiration have previously been a source of confusion for water managers, he said, explaining that water users and managers currently have to evaluate a variety of methodologies to measure water use and evapotranspiration, which often leads to different numbers and debates over accuracy.

OpenET provides a solution to those debates, said project manager Robyn Grimm. "OpenET brings together several well-established methods for calculating evapotranspiration from satellite data onto a single platform so that everyone who makes decisions about water can work from the same playbook, using the same consistent, trusted data," said Grimm, who is also a senior manager at EDF.

The need for a resource like OpenET is also pressing beyond California and across the American west, Melton said.

"Our water supplies in the west are crucial to providing food for the country and beyond, and yet these supplies are under increasing levels of stress," Melton said. "OpenET will provide the data we need to address the challenge of water scarcity facing many agricultural regions around the world and ensure we have enough water for generations to come."

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## New Collaboration Between NRCS and FEMA To Provide Disaster Recovery Assistance

NRCS 09/22/20. USDA's Natural Resources Conservation Service (NRCS) today announced the release of a joint Interagency Coordination and Operations (ICO) plan that enhances collaboration with the Federal Emergency Management Agency (FEMA) to help communities recover from natural disasters and related emergencies.

Specifically, the plan will improve the coordination, communication, and training between the agencies in disaster recovery efforts.

"NRCS and FEMA share a common mission of helping people who are impacted by natural disasters and emergencies, so it makes sense to work together in these situations to provide the best service and assistance to those who have been affected," said NRCS Acting Chief Kevin Norton.

"This is a great example of federal agencies working together to integrate our operations and streamline the recovery process for impacted communities," said FEMA Assistant Administrator, Recovery Directorate, Keith Turi.

In 2018, NRCS and FEMA signed a Memorandum of Understanding (MOU) that provided for more efficient service to those impacted by disasters by increasing training opportunities between the agencies, enhancing communication between agencies at both the field level and headquarters, and establishing a ICO plan outlining coordinated efforts between NRCS and FEMA when responding to disasters and emergencies that involve both agencies.

Following natural disasters, programs like NRCS' Emergency Watershed Protection Program (EWPP) and FEMA's Public Assistance (PA) program play crucial roles in recovery.

EWPP helps state, local, and tribal governments relieve imminent threats to life and property caused by natural disasters that impair a watershed. EWPP assistance is also directly available for landowners when a floodplain easement is the preferred alternative. Meanwhile, the PA program helps state, local, tribal, territorial governments and certain private nonprofit organizations respond to and recover from major disasters or emergencies by providing financial assistance for debris removal, life-saving emergency protective measures, and restoring public infrastructure.

Through the plan announced today, NRCS and FEMA will jointly identify opportunities for the agencies to cross-train staff to foster a better understanding of each agency's authorities and emergency and disaster response capabilities, encourage the sharing of ideas, and build a foundation for cohesive teamwork during response and recovery efforts.

For more information about FEMA disaster recovery assistance, visit [fema.gov](http://fema.gov). Information on NRCS conservation and disaster assistance programs can be found at [nrcs.usda.gov](http://nrcs.usda.gov).

## New Soil Moisture Research Results

NIDIS 09/24/20. Soil moisture is a critical variable and influences the climate system through modification of energy and moisture fluxes of the boundary layer. This in turn affects temperature, humidity, and precipitation. In addition, soil moisture is used as an indicator for agricultural drought, and recent studies have determined soil moisture as a key indicator of, and possible early warning for, flash drought in the United States. Due to its significance, accurate soil moisture information is critical for subseasonal-to-seasonal climate prediction as well as forecasting extreme events at those timescales.

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A cross-section of soil. A cross-section of soil.  
Image: Elena Arkadova.

The National Coordinated Soil Moisture Monitoring Network (NCSMMN), a NIDIS-led initiative, is laying the foundation for a high-resolution, real-time gridded soil moisture product that leverages data from in situ networks, satellite platforms, and land surface models. As a precursor to this development, NIDIS funded a study through NOAA's Climate Program Office Modeling, Analysis, Predictions, and Projections (MAPP) Program to evaluate in situ soil moisture observations from 1,200+ stations. This was the first study to complete an in situ data validation effort at this scale in the United States. Since in situ soil moisture observations are vital for a comprehensive soil moisture monitoring infrastructure, evaluation of the United States' current in situ soil moisture monitoring infrastructure can provide a means toward more informed satellite and model calibration and validation.

The study, published in the [Journal of Hydrometeorology](#), employed a triple collocation approach to evaluate the fidelity of in situ soil moisture observations across the contiguous United States. The goal of the research was to determine the monitoring stations that are best suited for: (1) inclusion in national-scale soil moisture datasets, (2) deriving in-situ-informed gridded soil moisture

products, and (3) validating and benchmarking satellite and model soil moisture data.

It was found that 90% of the 1,233 stations evaluated exhibited high spatial consistency with satellite remote sensing and land surface model soil moisture datasets. In addition, in situ error did not significantly vary by climate, soil type, or sensor technology, but instead, the stations with high error were affected by land cover and station factors that are more difficult to identify. The study authors included Trent Ford, Illinois State Climatologist; Steven Quiring, Chen Zhao, and Zachary T. Leasor, The Ohio State University; and Christian Landry, Southern Illinois University-Carbondale.

Another study, funded in part by NOAA's Climate Program Office through the MAPP Program and also published in the [Journal of Hydrometeorology](#), uses a new methodology that helps improve soil moisture predictions. The study combined remotely sensed soil moisture and evapotranspiration data with a land surface model to better characterize hydrologic fluxes in the Apalachicola–Chattahoochee–Flint (ACF) Basin in the Southeast United States. The model showed improvement in soil moisture predictions through the use of both evapotranspiration and soil moisture data. The authors also produced monthly and weekly drought maps using the soil moisture percentiles from their model and compared against the U.S. Drought Monitor (USDM) archive maps. They found that their results are consistent with the USDM maps during the winter and spring season but have slightly higher drought severity.

“The evolution of drought, especially agricultural drought, is related to a close interaction between soil moisture and evapotranspiration and understanding how changes in soil moisture affects changes in evapotranspiration,” said NASA researcher Chris Hain. The method developed in this project provides improved information about this important interaction between soil moisture and evapotranspiration that can't be achieved by

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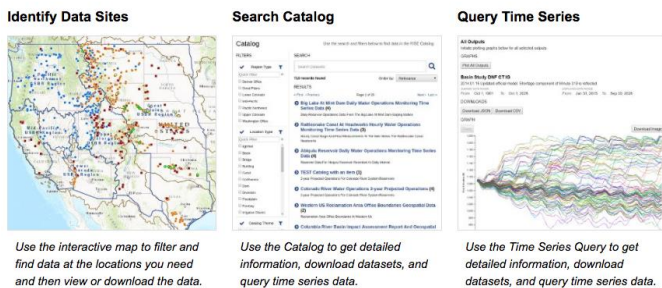
combining either with land surface models in isolation. The authors note that additional studies are needed to extend the study region and apply this framework over the Southeast United States and the entire contiguous United States.

## [Reclamation launches online tool providing public access to water, power & environmental data](#)

USBR 09/24/20. The Bureau of Reclamation has launched an online tool that makes water, power and environmental data readily available to the public. The Reclamation Information Sharing Environment, also known as RISE, provides searchable data and maps in the West.

"RISE is a tool for everyone to access a range of Reclamation's water and power-related data in a single location," said Reclamation Commissioner Brenda Burman. "This is just the beginning as Reclamation continues to be responsive to users' needs by expanding our data offerings and adding additional functionality."

Reclamation Information Sharing Environment (RISE)



Welcome to the Reclamation Information Sharing Environment (RISE)

The data available from RISE includes observed and modeled water operations data, hydropower data, endangered and invasive species and habitat monitoring data, water quality data, research results and reports, and more. For example, users will have access to daily reservoir storage and release data from the Lower and Upper Colorado Basins and the Missouri Basin with the California-Great Basin and Columbia-Pacific Northwest regional data coming

soon. Also available will be hydropower generation data from facilities across the Western United States, water quality data from wells at the Brackish Groundwater National Desalination Research Facility, and small mammal monitoring data from the Lower Colorado River Multi-Species Conservation Planning Area.

Reclamation previously shared data in various ways, ranging from posting data in machine-readable formats and pdfs on its website to mailing hard copies of data to interested groups or individuals. This presented a barrier for broad access and use of the data, as well as stakeholders and users not being aware of where or how to access data that they may need.

RISE is helping prioritize to get the most current data and information to our customers and the public. You can access RISE or learn more about the application at <https://data.usbr.gov>.

## **Upcoming Meetings**

### [WSWC Fall \(194<sup>th</sup>\) Meetings](#)

Virtual via Zoom

Scheduled for October 13 -15, 2020

### [Western Governors Association 2020 Winter Meeting](#)

Coronado, CA

December 9-10, 2020

### [Western Governors 2021 Annual Meeting](#)

Sunriver, OR

May 14-16, 2021

## **Upcoming Events**

### [WestFAST Webinar: The Bureau of Reclamation's Prize Competitions Program](#)

Wednesday, October 21, 2020, at 10:00AM MDT

### [WestFAST Webinar: The Bureau of Reclamation's Transportation Program](#)

Wednesday, November 18, 2020, at 10:00AM MST

**The WESTERN STATES FEDERAL AGENCY SUPPORT TEAM (WestFAST) is a collaboration between 12 Federal agencies with water management responsibilities in the West, including: BLM, DOD, EPA, FWS, NASA, NOAA, NPS, NRCS, Reclamation, USACE, USFS, and USGS. WestFAST was established to support the Western States Water Council and the Western Governors' Association in coordinating Federal efforts regarding water issues.**



[WestFAST Webinar: Salinity in the Western United States](#), Tuesday, December 8, 2020, at 1:00PM MST

[Annual Sub-seasonal-to-Seasonal \(S2S\) Workshop](#)  
San Diego, CA  
*POSTPONED UNTIL 2021*

## Other Federal News

EPA 09/01/20. [Trump Administration and Partners Designate Arizona's Rio Salado as the 20th Urban Waters Federal Partnership Project](#)

USBR 09/01/20. [Reclamation seeks to streamline National Historic Preservation Act compliance for water delivery structures](#)

EPA 09/02/20. [EPA Updates WIFIA Loan, Saving More Money for San Diego Ratepayers](#)

EPA 09/02/20. [EPA Announces Two Near-Term, Clean Water Projects in the Tijuana River](#)

USDOJ 09/02/20. [Court Finds Individual and Company Liable for Violating the Clean Water Act when Filling Sensitive Tidal Channels and Marsh](#)

EPA 09/03/20. [In Cheyenne, EPA Announces Wyoming's Primacy for Class VI Underground Injection Control Program, Highlights Final Power Plant Effluent Limitation Guidelines Rule](#)

USF&WS 09/04/20. [Proposal Clarifies Critical Habitat Designations. Public input sought on processes for considering critical habitat exclusions under the Endangered Species Act](#)

USBR 09/04/20. [South Dakota Game, Fish and Parks to manage Belle Fourche Reservoir Wildlife Management Areas](#)

USF&WS 09/10/20. [Trump Administration Announces More Than \\$130 Million in Public-Private Funding for Wetland Conservation Projects](#)

NOAA 09/10/20. [August 2020 was third-warmest on record for the U.S., and dry conditions dominated the West](#)

NOAA 09/10/20. [September 2020 ENSO update: La Niña is here!](#)

DOI 09/10/20. [Trump Administration Announces More Than \\$130 Million in Public-Private Funding for Wetland Conservation Projects](#)

NASA 09/10/20. [NASA Takes an Insured Look at Hailstorm Risk](#)

USBR 09/11/20. [Reclamation invests \\$3.3 million for internal applied science projects to improve modeling, forecasting and data tools](#)

USDOJ 09/12/20. [Request Denied for Preliminary Injunction on the Administration's Landmark New Regulations Implementing the National Environmental Policy Act](#)

EPA 09/15/20. [EPA resolves safe drinking water violations and secures human health at Camp Paintrock in Big Horn County, Wyoming](#)

EPA 09/15/20. [EPA reaches settlement with Alaska quarry operator for Clean Water Act violations](#)

EPA 09/15/20. [EPA takes action to address drinking water violations at the Indian Health Service Blackfoot Community Hospital Public Water System in Browning, Montana](#)

NOAA 09/15/20. [August 2020: The warmest summer on record for the Northern Hemisphere comes to an end](#)

USACE 09/15/20. [Army Corps of Engineers seeks public comments on proposal to renew and revise nationwide permits](#)

USBR 09/15/20. [Reclamation projects Colorado River drought operations for the next 5 years](#)

USBR 09/16/20. [Reclamation ensures stable water supply for Eastern New Mexico with \\$27 million funding award for rural water system](#)

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EPA 09/17/20. [U.S. EPA Announces \\$69 Million WIFIA Loan for Innovative Water Recycling Project in Oceanside, CA](#)

EPA 09/17/20. [EPA Announces Over \\$6 Million in Funding to Research How to Control and Prevent Harmful Algal Blooms](#)

EPA 09/17/20. [EPA Announces Water Infrastructure Loans for Oceanside, Calif and Salt Lake City—Totaling More Than \\$415 Million](#)

USBR 09/17/20. [Reclamation awards \\$22.1 million for Webster Dam repairs, bolsters flood control for central Kansas](#)

NRCS 09/17/20. [USDA Invests \\$50 million in Innovative, Partner-Driven Conservation Projects](#)

NOAA 09/17/20. [The U.S. drought vulnerability rankings are in: How does your state compare?](#)

EPA 09/18/20. [EPA Announces \\$348.6 Million Water Infrastructure Loan to Salt Lake City](#)

EPA 09/18/20. [Senior EPA Officials Wrap Up Week Highlighting Progress on Water Reuse and Water Infrastructure](#)

USBR 09/18/20. [Reclamation awards \\$37.2 million to 11 salinity control projects in Colorado and Wyoming](#)

DOI 09/18/20. [Trump Administration Transfers Federal Water Projects in Utah to Local Water Users](#)

USDOJ 09/18/20. [Trump Administration Transfers Federal Water Projects in Utah to Local Water Users](#)

NRCS 09/22/20. [New Collaboration Between NRCS and FEMA To Provide Disaster Recovery Assistance](#)

RURAL DEVELOPMENT 09/22/20. [Trump Administration Invests \\$268 Million in Rural Water and Wastewater Infrastructure Improvements in 28 States](#)

NWS 09/23/20. [NOAA upgrades Global Ensemble Forecast System](#)

NOAA 09/24/20. [Catch a wave: how waves from the MJO and ENSO impact U.S. rainfall](#)

USBR 09/24/20. [Trump Administration takes steps to transfer federal water facilities to local ownership in Idaho](#)

NRCS 09/28/20. [USDA Awards \\$5 Million to Support Wetland Mitigation Banking](#)

USBR 09/28/20. [Reclamation joins state and local entities to stretch limited water supply into the fall on the Rio Grande](#)

EPA 09/30/20. [EPA Announces \\$20 Million Water Infrastructure Loan to the City of Tacoma, Washington](#)

USBR 09/30/20. [Trump Administration takes another step to transfer federal water facilities to local ownership in Utah](#)

## PEOPLE

USBR 09/01/20. [Richard LaFond named Technical Service Center director](#)

USBR 09/23/20. [Reclamation selects Nick Williams to oversee hydropower dams in Interior Region 7](#)

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