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WestFAST News

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Summer 2021 neck and neck with Dust Bowl summer for hottest on record

NOAA 9/9/21. U.S. plagued by multiple deadly weather and climate disasters in August

UPDATED: September 13, 2021. *Correction: The U.S. Significant Events map for August 2021 has been updated. The previous map mislabeled Tropical Storm Fred as a hurricane.*

A house and garage submerged in high flood waters in Waverly, Tennessee, after a complex of thunderstorms dropped more than a foot of rain across parts of central Tennessee on August 21, 2021. More than 20 people died in the flash floods. (Tennessee Emergency Management Agency)

Last month brought Hurricane Ida, numerous wildfires and devastating floods, capping off a summer of record heat and rainfall for many states throughout the country.

A summary of key findings from NOAA's latest monthly U.S. climate report follows:

Climate by the numbers
Meteorological summer | June through August
The average temperature during meteorological summer for the contiguous U.S. was 74.0 degrees F, 2.6 degrees above average. This technically exceeds the record heat of the 1936 Dust Bowl Summer, but the difference is extremely small (less than 0.01 of a degree F).*

A record 18.4% of the contiguous U.S. experienced record-warm temperatures. California, Idaho, Nevada, Oregon and Utah each reported their warmest summer on record, as 16 other states had a top-five warmest summer on record.

The average summer precipitation total was 9.48 inches — 1.16 inches above average — making it the eighth-wettest summer in the historical record. Mississippi had its wettest summer on record while Alabama, Massachusetts, Michigan and New York had a summer that ranked among their five wettest. Meanwhile, Minnesota had its seventh-driest summer on record.

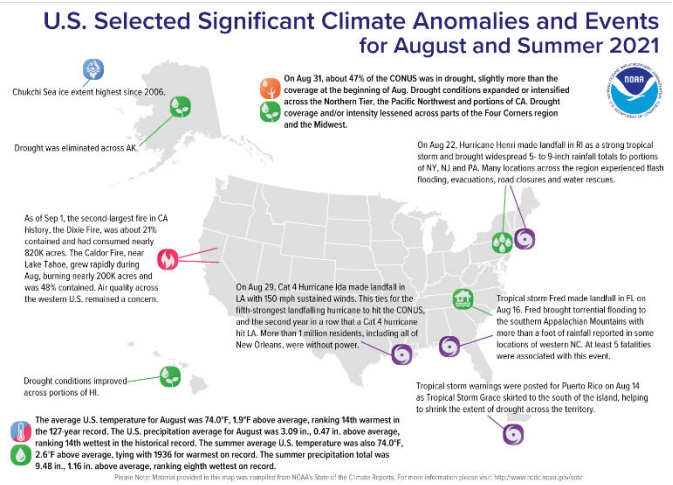
August 2021
The average temperature for August across the contiguous U.S. was 74.0 degrees F, 1.9 degrees above average, making it the 14th-warmest August on record. New Hampshire and Vermont both had their warmest Augusts on record, while Maine and Massachusetts had their second warmest.

The average precipitation for August for the contiguous U.S. was 3.09 inches (0.47 of an inch above average), ranking 14th wettest in the 127-year record. Mississippi ranked fourth wettest while Tennessee had its fifth-wettest August. The city of Tucson, Arizona, saw its wettest August on record thanks to an active Southwest monsoon season.
Year to date | YTD, January through August

The average U.S. temperature for the first eight months of 2021 was 55.6 degrees F — 1.8 degrees above the 20th-century average — making it the 13th-warmest such YTD on record.
California and Maine each reported their third-warmest YTD, while 16 other states had a top-10 warmest YTD.

The nation saw an average of 21.19 inches of precipitation for the YTD, 0.48 of an inch above the long-term average, which ranked in the middle third of the record.

Mississippi had its third-wettest YTD on record, while Montana had its fifth driest. California, Minnesota and North Dakota all had a top-10 driest YTD on record.



A map of the United States plotted with significant climate events that occurred during August and Summer 2021. Please see article text below as well as the full climate report highlights at http://bit.ly/USClimate202108.

Other notable climate and extreme events from the report
Hurricane Ida battered the Gulf Coast: On August 29, Hurricane Ida made landfall as a Category-4 hurricane near Port Fourchon, Louisiana, with 150-mph sustained winds. It was the second year in a row that a Category-4 hurricane slammed Louisiana. More than 1 million residents, and all of New Orleans, were without power. Grand Isle, Louisiana, took a direct hit: An unprecedented 100% of homes were damaged, and almost 40% were nearly or completely destroyed.

Multiple flooding disasters struck with lethal results: Devastating flash flooding with multiple fatalities occurred during August from Tropical Storm Fred in western North Carolina, Tropical Storm Henri across parts of the Northeast, and historical flooding from a complex of thunderstorms that moved across middle Tennessee. From late August into early September, Hurricane Ida also dumped an extreme amount of rain across Louisiana; the hurricane's remnants submerged portions of the Northeast. With 35 fatalities reported during August, it was the deadliest month for flooding across the U.S. since Hurricane Harvey in 2017.

Wildfires swept through even more of California: The Dixie Fire in north-central California became the second-largest fire in the state's history. The state's Caldor Fire also grew rapidly during August, threatening communities in South Lake Tahoe. Air quality remains a concern across the U.S. due to increasing concentrations of airborne ash and fine particulates from smoke.
More > Access NOAA's latest climate report and download the images.

** Several of NOAA's reporting stations in Louisiana posted missing data for both temperature and precipitation from impacts caused by Hurricane Ida. NOAA's National Centers for Environmental Information is working to ensure all reports are validated; and as a result, a more complete accounting of the temperature statistics and precipitation across Louisiana during August will be available with the September report.*

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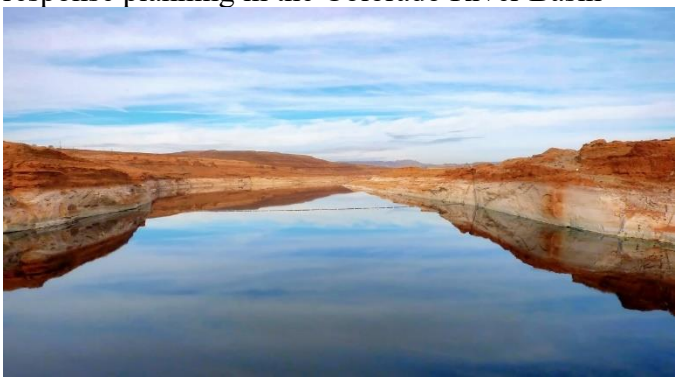
Reclamation releases updated projections of Colorado River system conditions

BOR 9/22/21. Modeling results assist drought response planning in the Colorado River Basin


Scenic view of the Colorado River near Lake Powell

COLORADO RIVER BASIN - The Bureau of Reclamation today released updated modeling projections of major reservoir levels within the Colorado River system over the next five years. These projections are used by Reclamation and water users in the basin for future water management planning. The new projections show continued elevated risk of Lake Powell and Lake Mead reaching critically-low elevations as a result of the historic drought and low-runoff conditions in the Colorado River Basin.

Today's announcement comes as the Administration pursues a whole-of-government approach to drought mitigation via the Interagency Drought Relief Working Group, co-chaired by the Department of the Interior. The Working Group is coordinating with partners across the federal government, providing assistance to impacted communities, and developing long-term solutions to climate change.

Lake Powell Projections
At Lake Powell, the projections indicate the potential of falling below minimum power pool as early as July 2022 should extremely dry hydrology continue into next year. Beyond 2022, the chance Lake Powell could fall below minimum power pool ranges from about 25% to 35%. Elevation 3,525 feet, the target elevation in Lake Powell, has an almost 90% chance of being reached next year. That target elevation provides a 35 vertical-foot buffer designed to minimize the risk of dropping below the minimum power pool elevation of 3,490 feet and balances the need to protect the infrastructure at Glen Canyon Dam and meet current operational obligations to the Lower Basin States of Arizona, California and Nevada.

"The latest outlook for Lake Powell is troubling," said Reclamation's Upper Colorado Basin Regional Director Wayne Pullan. "This highlights the importance of continuing to work collaboratively with the Basin States, Tribes and other partners toward solutions."

After consultation with - and acknowledgement from - all seven Basin States and other partners, under the emergency provisions of the 2019 Drought Response Operations Agreement (DROA), Reclamation started supplemental water deliveries in July 2021 to Lake Powell from the upper reservoirs of Flaming Gorge, Blue Mesa and Navajo. Those supplemental deliveries will provide up to an additional 181 thousand acre-feet of water to Lake Powell by the end of the 2021.

As the Upper Basin States continue to work towards the development of a Drought Operations plan that will govern potential future supplemental deliveries, previous modeling assumptions regarding any additional or continued DROA releases have been removed to provide a clearer representation of future risk. The removal of these assumptions was the main contributor in the increase in risk between the last set of projections released in June of this year.

Lake Mead Projections
At Lake Mead, today's projections indicate the chance of Lake Mead declining to elevation 1,025 feet (the third shortage trigger) is as high as 66% in 2025, and that there is a 22% chance of the reservoir elevation dropping to 1,000 feet the same year.

Reclamation continues to work with all seven Colorado River Basin States to address current conditions in the Colorado River Basin.
"This five-year probability table underscores the need for additional actions beyond the 2007 Guidelines and the 2019 Drought Contingency Plan to be taken to enhance our efforts to protect Lake Mead, Lake Powell and the Colorado River system overall," said Tom Buschatzke, Director of the Arizona Department of Water Resources.

Most of the flow of the Colorado River originates in the Rocky Mountains. The Upper Basin experienced an exceptionally dry spring in 2021, with April to July runoff into Lake Powell totaling just 26% of average, despite near-average snowfall last winter. Total Colorado River system storage today is 39% of capacity, down from 49% at this time last year.

Today's release also includes updated presentations that utilize additional forecast information to improve public understanding of Reclamation's future hydrologic projections. In keeping with its commitment to better inform all water users and the public regarding the hydrologic tools available, Reclamation has added in-depth information on its website about modeling and projections in the

Colorado River system. A new interactive tool also allows users to explore projected reservoir conditions under a range of inflow forecasts.

"We're providing detailed information on our modeling and projections to further generate productive discussions about the future of Lake Powell and Lake Mead based on the best data available," said Reclamation's Lower Colorado Basin Regional Director Jacklynn Gould. "Being prepared to adopt further actions to protect the elevations at these reservoirs remains a Reclamation priority and focus."

To view the most recent Colorado River system projections,
visit https://www.usbr.gov/lc/region/g4000/riverops/crss-5year-projections.html.

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U.S. Fish and Wildlife Service Proposes Delisting 23 Species from Endangered Species Act Due to Extinction

FWS 9/29/21.

Tubercled-Blossom Pearly Mussel (Epioblasma torulosa torulosa) - Deforestation and intensive agriculture from the time of early settlement were dominant factors in the demise of these mussels.

The U.S. Fish and Wildlife Service is proposing to remove 23 species from the Endangered Species Act (ESA) due to extinction. Based on rigorous reviews of the best available science for each of these species, the Service has determined these species are extinct, and thus no longer require listing under the ESA.

The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. For the species proposed for delisting today, the protections of the ESA came too late, with most either extinct, functionally extinct, or in steep decline at the timing of listing.

"With climate change and natural area loss pushing more and more species to the brink, now is the time to lift up proactive, collaborative, and innovative efforts to save America's wildlife. The Endangered Species Act has been incredibly effective at preventing species from going extinct and has also inspired action to conserve at-risk species and their habitat before they need to be listed as endangered or threatened," **said Secretary Deb Haaland.** "We will continue to ensure that states, Tribes, private landowners, and federal agencies have the tools they need to conserve America's biodiversity and natural heritage."

These species extinctions highlight the importance of the ESA and efforts to conserve species before declines become irreversible. The circumstances of each also underscore how human activity can drive species decline and extinction, by contributing to habitat loss, overuse and the introduction of invasive species and disease. The growing impacts of climate change are anticipated to further exacerbate these threats and their interactions. They also underscore ongoing conservation challenges of the Service. Almost 3 billion birds have been lost in North America since 1970. These extinctions highlight the need to take action to prevent further losses.

Stemming this extinction crisis is a central component of the Biden-Harris administration's *America the Beautiful* initiative, a locally led and voluntary, nationwide effort to conserve, connect, and restore 30 percent of lands and waters by 2030. One of the initiative's goals is to enhance wildlife habitat and improve biodiversity -- to keep species from reaching the point where they are in danger of extinction or are too far gone to save.

"The Service is actively engaged with diverse partners across the country to prevent further

extinctions, recover listed species and prevent the need for federal protections in the first place," **said Martha Williams**, Service Principal Deputy Director. "The Endangered Species Act has been incredibly successful at both preventing extinctions and at inspiring the diverse partnerships needed to meet our growing 21st century conservation challenges."

While protections were provided too late for these 23 species, the ESA has been successful at preventing the extinction of more than 99% of species listed. In total, 54 species have been delisted from the ESA due to recovery, and another 56 species have been downlisted from endangered to threatened. The Service's current workplan includes planned actions that encompass 60 species for potential downlisting or delisting due to successful recovery efforts. Additionally, numerous species have avoided ESA listing thanks to the collaborative efforts of federal agencies, states, Tribes and private landowners, with the ESA serving as a catalyst for conservation efforts that help protect imperiled species and their habitat. Species being proposed for delisting include the ivory-billed woodpecker, Bachman's warbler, two species of freshwater fishes, eight species of Southeastern freshwater mussels and eleven species from Hawai'i and the Pacific Islands.

Ivory-billed woodpecker – Once America's largest woodpecker, it was listed in 1967 as endangered under the precursor to the ESA, the Endangered Species Preservation Act (ESPA). The last commonly agreed upon sighting of the ivory-billed woodpecker was in April 1944 on the Singer Tract in the Tensas River region of northeast Louisiana. Despite decades of extensive survey efforts throughout the southeastern U.S. and Cuba, it has not been relocated. Primary threats leading to its extinction were the loss of mature forest habitat and collection.

Bachman's warbler – As early as 1953, Bachman's warbler was one of the rarest songbirds in North America. When first listed in 1967 as an endangered species under the Endangered Species Preservation Act, the bird had not been seen in the U.S. since 1962. Last documented in Cuba in 1981, there have been no verifiable sightings in that country since then. The loss of mature forest habitat and widespread collection are the primary reasons for its extinction.

Eight species of freshwater mussels – Reliant on healthy streams and rivers with clean, reliable water, freshwater mussels are some of the most imperiled species in the U.S., home to more than half of the world's species of freshwater mussels. Mussels proposed for delisting due to extinction are all located in the Southeast, America's biodiversity hot spot for freshwater mussels. They are the: flat pigtoe (Mississippi), southern acornshell (Alabama, Georgia, Tennessee), stirrupshell (Alabama), upland combshell, (Georgia, Alabama, Tennessee), green-blossom pearly (Tennessee, Virginia), turgid-blossom pearly mussel (Tennessee, Alabama, Arkansas), yellow-blossom pearly mussel (Tennessee, Alabama) and the tubercled-blossom pearly mussel(Alabama, Illinois, Indiana, Kentucky, Tennessee, West Virginia, southern Ontario, Canada).

Hawai'i and the Pacific Islands – Eleven species from Hawai'i and Guam are being proposed for delisting due to extinction, many of which had striking characteristics, such as the long curved beaks of the Kauai akialoa and nukupu'u, the haunting call of the Kauai `o`o, and the brilliant colors of the Maui akepa and Molokai creeper. Species endemic to islands face a heightened risk of extinction due to their isolation and small geographic ranges. Hawai'i and the Pacific Islands are home to more than 650 species of plants and animals listed under the ESA. This is more than any other state, and most of these species are found nowhere else in the world.

San Marcos gambusia – Listed in 1980, this freshwater fish was found in the slow-flowing section of the San Marcos River in Texas. The San Marcos gambusia had a limited historic range of occurrence and has not been found in the wild since 1983. Primary reasons for its extinction include habitat alteration due to groundwater depletion, reduced spring flows, bottom plowing and reduced aquatic vegetation, as well as hybridization with other species of gambusia.

Scioto madtom – Listed as endangered in 1975, the Scioto madtom was a fish species found in a small section of the Big Darby Creek, a tributary of the Scioto River, in Ohio. The Scioto madtom was

known to hide during the daylight hours under rocks or in vegetation and emerge after dark to forage along the bottom of the stream. Only 18 individuals of the madtom were ever collected with the last confirmed sighting in 1957. The exact cause of the Scioto madtom's decline is unknown, but was likely due to modification of its habitat from siltation, industrial discharge into waterways and agricultural runoff.

The Service seeks information, data, and comments from the public regarding this proposal to remove these 23 species from the ESA and declare them extinct. The proposed rule will be available in the *Federal Register* Reading Room on September 29, 2021 at https://www.federalregister.gov/public-inspection using the link found under the Fish and Wildlife Service Endangered and Threatened Wildlife and Plants section. This will be publishing in the *Federal Register* on September 30, 2021. We will accept comments received or postmarked on or before November 29, 2021. Comments submitted electronically using the Federal eRulemaking Portal must be received by 11:59 p.m. Eastern Time on the closing date.

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Upcoming Meetings

Droughts and Wildfires Be Dammed: how beavers help build landscape-scale climate resilience
WestFAST Webinar 10/20/21 10am - 11am MT

Other Federal News

EPA 9/2/21. EPA Report Shows Disproportionate Impacts of Climate Change on Socially Vulnerable Populations in the United States

BOR 9/2/21. Reclamation awards $3.1 million in grants to develop water data, modeling and forecasting tools and information for water managers

BOR 9/7/21. Notice of Funding Opportunity for Central Valley Project Improvement Act fisheries habitat and facilities improvement now available

BOR 9/8/21. Reclamation launches prize competition seeking new ideas to improve sediment modeling in river systems

EPA 9/8/21. EPA Announces Plans for New Wastewater Regulations, Including First Limits for PFAS, Updated Limits for Nutrients

USGS 9/8/21. How to Use Next Generation Monitoring Location Pages

EPA 9/10/21. Administrator Regan Discusses Climate Change and Environmental Justice with Mexico and Canada at CEC Council Session

NASA 9/14/21. August 2021 was Earth's sixth-warmest August on record

EPA 9/14/21. Commission for Environmental Cooperation Launches EJ4Climate, $2 Million Environmental Justice and Climate Resilience Grant Program

EPA 9/16/21. EPA Rescinds Previous Administration's Guidance on Clean Water Act Permit Requirements

BOR 9/16/21. Reclamation announces Notice of Funding Opportunity for agricultural water conservation and efficiency projects

DOI 9/17/21. Interior Department Executes Water Rights Settlement Agreement with the Confederated Salish & Kootenai Tribes of the Flathead Indian Reservation

BLM 9/17/21. Secretary Haaland Outlines Next Steps to Rebuild Bureau of Land Management

EPA 9/20/21. EPA Announces Recipients of $12 Million in Grant Funding to Support Small, Rural, and Tribal Wastewater Systems

FWS 9/22/21. Interior Department Announces More Than $111 Million in Funding for Wetland Conservation Projects and National Wildlife Refuges

NOAA 9/23/21. NOAA awards $60 million in education grants to HBCUs

NRCS 9/24/21. USDA Investing $75 million in Partner-Led Projects with Focus on Climate-Smart Ag, Equity in Program Delivery

EPA 9/27/21. EPA Now Hosting Biweekly National Environmental Justice Community Engagement Calls

FWS 9/28/21. U.S. Fish and Wildlife Service Announces Nearly $80 Million to States for Collaborative Efforts to Conserve Habitat for America's Most Imperiled Species

EPA 9/28/21. EPA Awards Nearly $6 Million for Research on Potential Risks from Pollutants Found in Biosolids from Wastewater Treatment

FWS 9/28/21. Interior Department Ensures Migratory Bird Treaty Act Works for Birds and People

FWS 9/29/21. Department of the Interior Announces Host for Midwest Climate Adaptation Science Center

NOAA 9/29/21. NOAA awards $900,000 to advance community resilience through education

People

DOI 9/1/21. Interior Department Announces New Biden-Harris Appointees

DOI 9/8/21. Bryan Newland Ceremonially Sworn In as Interior Department Assistant Secretary for Indian Affairs

BOR 9/10/21. Reclamation selects Levi Johnson for Central Valley Operations Deputy Manager

NOAA 9/13/21. Kelly Kryc joins NOAA as Deputy Assistant Secretary for International Fisheries

BLM 9/27/21. BLM announces winners of the 2021 Stewardship Awards

BOR 9/28/21. Reclamation selects Levi Brekke Ph.D. to bolster R&D to address impacts of climate change

BOR 9/30/21. Reclamation selects Dr. Malynda Aragon Cappelle to manage desalination research facility