

Weather whiplash: Summer lurches from drought to flood

BY SETH BORENSTEIN
AP Science Writer

Parts of northern Texas, mired in a drought labeled as extreme and exceptional, are flooding under torrential rain. In a drought.

Sound familiar? It should. The Dallas region is just the latest drought-suffering-but-flooded locale during a summer of extreme weather whiplash, likely goosed by human-caused climate change, scientists say. Parts of the world are lurching from drought to deluge.

The St. Louis area and 88% of Kentucky early in July were considered abnormally dry and then the skies opened up, the rain poured in biblical proportions, inch after inch, and deadly flooding devastated communities. The same thing happened in Yellowstone in June. Earlier this month, Death Valley, in a severe drought, got a near record amount of rainfall in one day, causing floods, and is still in a nasty drought.

China's Yangtze River is drying up, a year after deadly flooding. China is baking under what is a record-long heat wave, already into its third month, with a preliminary report of an overnight low temperature only dipping down to 94.8 degrees in the heavily populated city of Chongqing. And in western China flooding from a sudden downpour has killed more than a dozen people.

In the Horn of Africa in the midst of a devastating but off-ignored famine and drought, nearby flash floods add to the humanitarian disaster unfolding. Europe, which suffered through unprecedented flooding last year, has baked with record heat compounded by a 500-year drought that is drying up rivers and threatening power supplies.

"So we really have had a lot of whiplash," said Kentucky's interim climatologist



Yffy Yossifor/Dallas Morning News

A car drives through a flooded area on Rosedale Street near Hemphill during a heavy rainstorm Monday, Aug. 22, 2022, in Fort Worth, Texas.

Megan Schargorodski. "It is really difficult to emotionally go through all of these extremes and get through it and figure out how to be resilient through the disaster after disaster that we see."

In just two weeks in late July and early August, the U.S. had 10 downpours that are only supposed to happen 1% of the time — sometimes called 1-in-100-year storms — calculated Weather Prediction Center forecast branch chief Greg Carbin. That's not counting the Dallas region, a likely 1-in-1,000-year storm, where some places got more than 9 inches of rain in 24 hours ending Monday, Aug. 22, with several inches more forecast to come.

"These extremes of course are getting more extreme," said National Center for Atmospheric Research climate scientist Gerald Meehl, who wrote some of the first studies 18 years ago about extreme weather and climate change. "This is in line with what we expected."

Weather whiplash, "where all of a sudden it changes to the opposite" extreme, is becoming more noticeable because

it's so strange, said climate scientist Jennifer Francis of the Woodwell Climate Research Center in Falmouth, Massachusetts. She is in the middle of a study of whiplash events.

The scientists at World Weather Attribution, mostly volunteers who quickly examine extreme weather for a climate change fingerprint, have a strict criteria of events to investigate: they have to be record-breaking, cause a significant number of deaths, or impact at least 1 million people. So far this year they've been swamped. There have been 41 events — eight floods, three storms, eight droughts, 18 heat waves and four cold waves — that have reached that threshold point, said WWA official Julie Arrighi, associate director of the Red Cross Red Crescent Climate Center.

In the United States, many of the big heavy summer rains are traditionally connected to hurricanes or tropical systems, like last year's Hurricane Ida that smacked Louisiana and then plowed through the South until it flooded the New York, New Jersey region with record rainfall rates.

But this July and August, the nation had been hit with "an overabundance of non-tropical related extreme rainfall," the National Weather Service's Carbin said. "That's unusual."

Scientists suspect climate change is at work in two different ways.

The biggest way is simple physics. As the atmosphere warms it holds more water, 4% more for every degree (7% more for every degree Celsius), scientists said.

Think of the air as a giant sponge, said UCLA and Nature Conservancy climate scientist Daniel Swain. It soaks up more water from parched ground like a sponge "which is why we're seeing worse droughts in some places," he said. Then when a weather system travels further, juicy with that extra water, it has more to dump, causing downpours.

Another factor is the stuck and wavier jet stream — the atmospheric river that moves weather systems around the world — said Woodwell's Francis. Storm systems don't move and just dump huge amounts of water in some places.

Biden announces nearly \$3 billion in military aid for Ukraine's defense

BY LOLITA C. BALDOR AND MATTHEW LEE
Associated Press

WASHINGTON — Six months after Russia's invasion of Ukraine, President Joe Biden announced Wednesday, Aug. 24 that he is sending \$2.98 billion in new military aid to Ukraine that will enable forces there to fight for years to come.

In a statement, Biden said the aid will allow Ukraine to acquire air defense systems, artillery systems and munitions, drones and other equipment "to ensure it can continue to defend itself over the long term."

The announcement comes as Ukraine is celebrating its 1991 declaration of independence from the Soviet Union.

"I know this independence day is bitter-sweet for many Ukrainians as thousands have been killed or wounded, millions have been displaced from their homes, and so many others have fallen victim to Russian atrocities and attacks," Biden said. "But six months of relentless attacks have only strengthened Ukrainians' pride in themselves, in their country, and in their thirty-one years of independence."

The aid package is being provided under the Ukraine Security Assistance Initiative. Officials said it will include money for the small, hand-launched Puma drones, the longer-endurance Scan Eagle surveillance drones, which are launched by catapult, and, for the first time, the British Vampire drone system, which can be launched off ships. Several officials spoke on the condition of anonymity to discuss the aid before its public release.

As Russia's war on Ukraine drags on, U.S. security assistance is shifting to a longer-term campaign that also will likely keep more American military troops in Europe into the future, U.S. officials said.

Unlike most previous packages, the new funding is largely aimed at helping Ukraine secure its medium- to long-term defense posture, according to officials familiar with the matter. Earlier shipments, most of them done under presidential drawdown authority, have focused on Ukraine's more immediate needs for weapons and ammunition and involved materiel that the Pentagon already has in stock that can be shipped in short order.

Besides providing longer-term assistance that Ukraine can use for potential future defense needs, the new package is intended to reassure Ukrainian officials that the United States intends to keep up its support, regardless of the day-to-day back and forth of the conflict.

"The United States of America is committed to supporting their sovereignty," Biden said.

NATO Secretary-General Jens Stoltenberg noted the more extended focus Tuesday as he reaffirmed the alliance's support for the conflict-torn country.

"Winter is coming, and it will be hard, and what we see now is a grinding war of attrition. This is a battle of wills, and a battle of logistics. Therefore we must sustain our support for Ukraine for the long term, so that Ukraine prevails as a sovereign, independent nation," Stoltenberg said, speaking at a virtual conference about Crimea, organized by Ukraine.

Six months after Russia invaded, the war has slowed to a grind, as both sides trade combat strikes and small advances in the east and south. Both sides have seen thousands of troops killed and injured, as Russia's bombardment of cities has killed countless innocent civilians.

There are fears that Russia will intensify attacks on civilian infrastructure and government facilities in the coming days because of the holiday celebrating Ukraine's 1991 declaration of independence from the Soviet Union and the day marking six months since the invasion.

On Monday, the U.S. Embassy in Ukraine and the State Department issued a new security alert for Ukraine that repeated a call for Americans in the country to leave due to the danger.

"Given Russia's track record in Ukraine, we are concerned about the continued threat that Russian strikes pose to civilians and civilian infrastructure," it said.

Other NATO allies are also marking the independence day with new aid announcements.

German Chancellor Olaf Scholz said his country is providing more than 500 million euros (nearly \$500 million) in aid, including powerful anti-aircraft systems. The aid will include rocket launchers, ammunition, anti-drone equipment, a dozen armored recovery vehicles and three additional IRIS-T long-range air defense systems, the German news agency dpa reported.

The funding must still be approved by parliament, and some of it won't be delivered until next year.

And Canada's Prime Minister Justin Trudeau announced \$3.85 million for two Ukraine projects through the Peace and Stabilization Operations Program.

It includes about \$2.9 million in funding for ongoing development of Ukraine's national police force and other emergency services, and about \$950,000 to help advise Ukraine's defense ministry.

To date, the U.S. has provided about \$13.6 billion in military aid to Ukraine since the beginning of the Biden administration, including 19 packages of weapons taken directly from Defense Department stocks since August 2021.

U.S. defense leaders are also eyeing plans that will expand training for Ukrainian troops outside their country, and for militaries on Europe's eastern and southern flanks that feel most threatened by Russia's aggression.

Arizona levee breached, hiker is missing after floods hit the West

BY SAM METZ AND JESSE BEDAYN
Associated Press

A levee was breached Monday, Aug. 22 in a small town near the Arizona-New Mexico state line, forcing the evacuations of 60 people after a week-end of flash floods across the American Southwest that also swept away one woman who is still missing in Utah's Zion National Park.

In Duncan, a rural Arizona town located about 180 miles from Phoenix, weekend rains overwhelmed a dirt-barrier levee built more than a century ago to contain the Gila River, putting the town under inches of water. As many as 60 residents have evacuated, Fire Chief Hayden Boyd said. Water had already begun to recede, but more needed to be before the town is safe to return to, Boyd added.

The flooding incident was among several to recently wreak havoc on a drought-stricken region that spans from Dallas, Texas to Las Vegas, Nevada — stranding tourists, closing highways and funneling trees and rocks toward downtowns. Heavy rains pummeled the Dallas-Fort Worth area, causing streets to flood and submerging vehicles as officials warned motorists to stay off the roads.

And rescue teams in southern Utah expanded their search for a lost hiker

who found herself stranded amid torrential flooding. The episode illustrated how deteriorating weather conditions can transform the region's striking landscapes enjoyed by millions — including its striking canyons made of red rock and limestone — from picture-worthy paradises into life-threatening nightmares.

Rangers said their area that teams were searching for Jetal Agnihotri, a 29-year-old from Tucson, Arizona, now includes parts of the Virgin River that flow out from the southern border of Zion National Park, where the Virgin River flows the southward toward the town of Hurricane. Agnihotri was among a group of hikers who were swept away by floodwaters rushing through a popular hiking location in one of the park's many slot canyons. Both the National Weather Service and Washington County, Utah, had issued flood warnings for the area that day.

All of the hikers except Agnihotri were found on high ground and were rescued after water levels receded. Her brother told a local television station she could not swim.

Zion National Park is among the United States' most visited recreation areas even though it frequently becomes hazardous and is put under flood warnings by the National Weather Service.

Floods can create danger for experienced hikers and climbers as well as the many novices who have flocked to the park since the pandemic bolstered an outdoor recreation boom. Despite warnings, flash flooding routinely traps people in the park's slot canyons, which are as narrow as windows in some spots and hundreds of feet deep.

"Once you're in there, you're just kind of S.O.L. if (a flash flood) happens," said Scott Cundy, whose Arizona-based trekking company takes visitors on guided tours through the park.

Cundy vividly remembers one year when he was taking a group on a tour and turned to see a wall of water plunging toward them. They rushed to reach high ground in the Grand Canyon, a two-hour drive from Zion. Until moments before, he hadn't seen one cloud in the sky. "It happens very fast," he said. Given the topography, Cundy will cancel trips if there's even a hint of rain in the narrow canyons of Zion.

Farther southeast, nearly 200 hikers had to be rescued in New Mexico, where flooded roads left them stranded in Carlsbad Caverns National Park.

In parks like Zion and Carlsbad Caverns, flooding can transform canyons, slick rocks and normally dry washes into deadly channels of fast-moving water and debris in mere minutes.

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