



Matt Lisignoli walks through an irrigation canal that ran dry last summer near Madras.

Nathan Howard/AP Photo

Megadrought in the West worsens

By **SETH BORENSTEIN**
Associated Press

The West's megadrought deepened so much last year that it is now the driest in at least 1,200 years and is a worst-case climate change scenario playing out live, a new study finds.

A dramatic drying in 2021 — about as dry as 2002 and one of the driest years ever recorded for the region — pushed the 22-year drought passed the previous record-holder for megadroughts in the late 1500s and shows no signs of easing in the near future, according to a study Monday in the journal Nature Climate Change.

The study calculated that 42% of this megadrought can be attributed to human-caused climate change.

"Climate change is changing the baseline conditions toward a drier, gradually drier state in the West and that means the worst-case scenario keeps getting worse," said study lead author Park Williams, a climate hydrologist at UCLA. "This is right in line with what people were thinking of in the 1900s as a worst-case scenario. But today I think we need to be even preparing for conditions in the future that are far worse than this."

Williams studied soil

moisture levels in the West — a box that includes California, Wyoming, Utah, Nevada, Arizona, most of Oregon and Idaho, much of New Mexico, western Colorado, northern Mexico, and the southwest corners of Montana and Texas — using modern measurements and tree rings for estimates that go back to the year 800. That's about as far back as estimates can reliably go with tree rings.

A few years ago, Williams studied the current drought and said it qualified as a lengthy and deep megadrought and that the only worse one was in the 1500s. He figured the current drought wouldn't surpass that one because megadroughts tended to peter out after 20 years. And, he said, 2019 was a wet year so it looked like the western drought might be coming to an end.

But the region dried up in late 2020 and 2021.

All of California was considered in official drought from mid-May until the end of 2021, and at least three-quarters of the state was at the highest two drought levels from June through Christmas, according to the U.S. drought monitor.

"For this drought to have just cranked up back to maximum drought intensity in late 2020 through 2021 is

a quite emphatic statement by this 2000s drought saying that we're nowhere close to the end," Williams said. This drought is now 5% drier than the old record from the 1500s, he said.

The drought monitor says 55% of the U.S. West is in drought with 13% experiencing the two highest drought levels.

This megadrought really kicked off in 2002 — one of the driest years ever, based on humidity and tree rings, Williams said.

"I was wondering if we'd ever see a year like 2002 again in my life and in fact, we saw it 20 years later, within the same drought," Williams said. The drought levels in 2002 and 2021 were a statistical tie, though still behind 1580 for the worst single year.

Climate change from the burning of fossil fuels is bringing hotter temperatures and increasing evaporation in the air, scientists say.

Williams used 29 models to create a hypothetical world with no human-caused warming then compared it to what happened in real life — the scientifically accepted way to check if an extreme weather event is due to climate change. He found that 42% of the drought conditions are directly from human-caused

warming. Without climate change, he said, the megadrought would have ended early on because 2005 and 2006 would have been wet enough to break it.

The study "is an important wake-up call," said Jonathan Overpeck, dean of environment at the University of Michigan, who wasn't part of the study. "Climate change is literally baking the water supply and forests of the Southwest, and it could get a whole lot worse if we don't halt climate change soon."

Williams said there is a direct link between drought and heat and the increased wildfires that have been devastating the West for years. Fires need dry fuel that drought and heat promote.

Eventually, this megadrought will end by sheer luck of a few good rainy years, Williams said. But then another one will start.

Daniel Swain, a UCLA climate scientist who wasn't involved in the study, said climate change is likely to make megadrought "a permanent feature of the climate of the Colorado River watershed during the 21st century."

OBITUARIES

Walter Bradley Wirth Portland Sept. 24, 1956 — Jan. 26, 2022

Fisherman, hunter and jokester Walter Bradley Wirth's love of life didn't come to an end with his death.

On Jan. 26, 2022, Brad passed away at home in Portland, at the age of 65, after a courageous battle with cancer. He was comforted and surrounded by his wife, Jill, and all of his children, who will continue to honor his legacy by living their lives with laughter.

His belly laugh entered this world on Sept. 24, 1956. Brad graduated from Albany High School in the class of 1975. Following graduation, he served with the U.S. Air Force. He married Joannie (Houston), and they had four children.

Brad began a career with Pacific Power and Light, coached many Little League teams and dug a few clams. Next up in life, there was ushered in a joining of families when Brad and Jill married in 2005. Together, they enjoyed celebrating all of their kids and grandkids.

Brad loved spending time outdoors by hunting,

hiking, fishing and camping. His other joys included watching his children and grandchildren play their favorite sports, pickling everything from cucumbers to eggs with his wife, Jill, and of course, raiding every huckleberry bush he could find.

Brad is survived by his parents, Deloris and Albert Wirth. He left behind all four of his children, Jennifer, Lyndsey, Kimberly and Mitchell, and their families. Brad left his beloved wife, Jill, and his three stepchildren. He also preceded his brothers, Bryan and Greg, and their families, in death. Brad wasn't shy in sharing his jokes and immense love for his 11 grandchildren.

The fishermen tales will live on through all those who have crossed paths at some point with Brad, but when you tell the story, don't forget the infamous belly laugh.

A short graveside ceremony will be held on March 11 at 1:30 p.m. at Willamette National Cemetery, followed by a reception.



Walter Wirth

OBITUARY POLICY

The Astorian publishes paid obituaries. The obituary can include a small photo and, for veterans, a flag symbol at no charge. The deadline for all obituaries is 9 a.m. the business day prior.

Obituaries may be edited for spelling, proper punctuation and style. Death notices and upcoming services will be published at no charge. Notices must be submitted by 9 a.m. the day before publication.

Obituaries and notices may be submitted online at DailyAstorian.com/obituaries, by email at ewilson@dailyastorian.com, placed via the funeral home or in person at The Astorian office, 949 Exchange St. in Astoria.

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SEVEN-DAY FORECAST FOR ASTORIA

TODAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	MONDAY
49 42	50 42	49 40	51 38	52 39	51 40	52 41
Low clouds	Cloudy with a shower	Low clouds	Mainly cloudy	Showers possible	Cloudy, rain possible	A shower possible

ALMANAC

Astoria through Sunday

Temperatures

High/low 54/32
Normal high/low 51/37
Record high 64 in 2017
Record low 21 in 1949

Precipitation

Sunday 0.00"
Month to date 0.49"
Normal month to date 3.50"
Year to date 13.97"
Normal year to date 14.09"

Forecasts and graphics provided by **AccuWeather, Inc.** ©2022

UNDER THE SKY

Tonight's Sky: Orion and friends are visible above the southern horizon after sunset.

Source: Jim Todd, OMSI

SUN AND MOON

Sunrise today 7:19 a.m.
Sunset tonight 5:41 p.m.
Moonrise today 4:39 p.m.
Moonset today 7:22 a.m.

Full	Last	New	First
Feb 16	Feb 23	Mar 2	Mar 10

TODAY'S TIDES

Astoria / Port Docks	Time	High (ft.)	Time	Low (ft.)
1:00 a.m.	7.3	6:27 a.m.	3.3	
12:05 p.m.	8.4	7:13 p.m.	-0.3	

Cape Disappointment

12:43 a.m.	7.0	5:41 a.m.	3.6	
11:43 a.m.	8.6	6:25 p.m.	-0.3	

Hammond

12:51 a.m.	7.3	6:00 a.m.	3.3	
11:54 a.m.	8.7	6:41 p.m.	-0.5	

Warrenton

12:55 a.m.	7.7	6:11 a.m.	3.4	
12:00 p.m.	8.8	6:57 p.m.	-0.2	

Knappa

1:37 a.m.	7.6	7:28 a.m.	2.8	
12:42 p.m.	8.6	8:14 p.m.	-0.3	

Depoe Bay

12:00 a.m.	7.2	5:08 a.m.	3.7	
10:58 a.m.	8.8	5:54 p.m.	-0.4	

NATIONAL CITIES

City	Today	Wed.
Atlanta	62/42/s	65/55/pc
Boston	30/19/s	40/39/c
Chicago	38/34/pc	50/26/r
Dallas	72/58/s	72/51/t
Denver	58/25/pc	34/14/sn
Honolulu	81/67/s	82/69/s
Houston	70/59/pc	76/65/c
Los Angeles	64/45/pc	68/46/s
Miami	75/70/pc	78/72/sh
New York City	35/28/s	48/42/pc
Phoenix	79/50/pc	66/45/pc
San Francisco	62/49/s	64/49/s
Wash., DC	44/30/s	58/46/pc

Weather (W): s-sunny, pc-partly cloudy, c-cloudy, sh-showers, t-thunderstorms, r-rain, sf-snow flurries, sn-snow, l-ice.

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REGIONAL FORECAST

Shown is today's weather. Temperatures are today's highs and tonight's lows.

City	Today	Wed.	City	Today	Wed.
Baker City	39/19/pc	39/18/sf	North Bend	52/40/pc	52/37/c
Brookings	53/42/s	61/44/s	Roseburg	49/40/c	49/36/c
Ilwaco	48/44/c	49/43/c	Seaside	50/42/c	51/43/sh
Newberg	50/38/c	50/42/c	Springfield	46/38/sh	49/36/c
Newport	48/43/c	50/41/c	Vancouver	49/39/c	49/42/c