

Recent events that indicate Earth's climate has entered uncharted territory

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Published 3:51 AM GMT+12, July 7, 2023

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As a warming Earth simmered into worrisome new territory this week, scientists said the unofficial records being set for average planetary temperature were a clear sign of how pollutants released by humans are warming their environment. But the heat is also just one way the planet is telling us something is gravely wrong, they said.



1 of 4 | FILE - A homeless person lies on the sidewalk while holding a water bottle, Sunday, July 2, 2023, in downtown Los Angeles. Excessive heat warnings remain in place in many areas across the U.S. and are expected to last at least through Monday. (AP Photo/Damian Dovarganes, File)ASSOCIATED PRESS

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2 of 4 | FILE - Smoke billows from the Donnie Creek wildfire burning north of Fort St. John, British Columbia, Canada, Sunday, July 2, 2023. (AP Photo/ Noah Berger, File)ASSOCIATED PRESS



3 of 4 | FILE - This January 2017 photo provided by Ted Scambos shows sea ice on the ocean surrounding Antarctica during an expedition to the Ross Sea. Ice in the ocean off the southern continent steadily increased from 1979 and hit a record high in 2014. (Ted Scambos/National Snow and Ice Data Center via AP, File)ASSOCIATED PRESS



4 of 4 | FILE - Lobster fishermen work at sunrise, Thursday, Sept. 8, 2022, off Kennebunkport, Maine. The waters off New England logged the second-warmest year in their recorded history in 2022, according to researchers. (AP Photo/Robert F. Bukaty, File)ASSOCIATED PRESS

“Heat sets the pace of our climate in so many ways ... it’s never just the heat,” said Kim Cobb, a climate scientist at Brown University.

Dying coral reefs, more intense Nor’easters and the wildfire smoke that has choked much of North America this summer are among the many other signals of climate distress.

“The increasing heating of our planet caused by fossil fuel use is not unexpected, but it is dangerous for us humans and for the ecosystems we depend on. We

need to stop it, fast,” said Stefan Rahmstorf of the Potsdam Institute for Climate Impact Research.

Some other recent “firsts” and events that indicate climate change has entered uncharted territory.

OCEAN WARMING

Most of the planet is covered by oceans, which have absorbed 90% of the recent warming caused by planet-warming gases such as carbon dioxide and methane. In April, global ocean temperature soared to 69.98 degrees Fahrenheit (21.1 degrees Celsius), which was attributed to the combination of greenhouse gas emissions and the early El Nino formation. Newly published data from the Copernicus Climate Change Service documented “exceptionally warm” ocean temperatures in the North Atlantic with “extreme” marine heat waves near Ireland, the U.K., and in the Baltic Sea.

WILDFIRE SMOKE

Several rounds of wildfire smoke originating from northern Canada brought dangerous air quality levels to eastern North America. The high levels of wildfire smoke have become familiar on the West Coast, but scientists say that climate change will make wildfires and

smoke more likely and intense and that the East Coast will see more of it.



FILE - The swollen Los Esclavos River flows violently under a bridge during Tropical Storm Amanda in Cuilapa, eastern Guatemala, May 31, 2020. Global warming is altering the intensity and frequency of extreme weather events, such as El Nino and La Nina, the natural variations in temperatures in parts of the Pacific Ocean. (AP Photo/Moises Castillo, File)



Cracked soil lines the Rio Grande on the northern edge of Albuquerque, N.M., on Thursday, Dec. 20, 2018. The irrigation canals are all but dry as farmers along the river are setting in for winter, holding out hope that the El Nino weather system will develop and save them from what could otherwise be another dry start to the next growing season. (AP Photo/Susan Montoya Bryan)

EL NINO ARRIVES EARLY

The current El Nino — a period of warming Pacific Ocean waters — formed a month or two earlier than usual, replacing a La Nina that, with its cooling of Pacific waters, served as a damper on global temperatures. That means it will have more time than usual to strengthen. The World Meteorological Organization predicts there is a 98% chance that at least one of the

next five years will be the warmest on record, beating 2016 when an exceptionally strong El Nino was present.



FILE - In this July 22, 2017, file photo a polar bear steps out of a pool while walking on the ice in the Franklin Strait in the Canadian Arctic Archipelago. (AP Photo/David Goldman, File)

SHRINKING ANTARCTIC SEA ICE

Scientists are watching Antarctic sea ice shrink to record lows. The 4.5 million square miles (11.7 million square kilometers) covered by the sheet on June 27 was almost 1 million square miles (2.6 million square kilometers) less than average for that date for the period from

1981-2010, according to the National Snow and Ice Data Center.

Put another way, an area nearly four times the size of Texas was gone from the ice sheet.

Associated Press writer Seth Borenstein contributed from Washington.