SCIENCE & TECHNOLOGY

Study: Heatwaves Can Force Ocean Life to Flee Great Distances

August 11, 2020

A new study shows that heatwaves can cause fish and other creatures in the world's oceans to travel thousands of kilometers in search of cooler waters.

Scientists at the U.S. National Oceanic and Atmospheric Administration, or NOAA, reported on the study last week. Their research is based on a new way of measuring heatwaves. It is called "**thermal** displacement."

A research paper describing the process appeared in the publication *Nature*.

NOAA notes that earlier research has centered on how hot weather can increase ocean surface temperatures over time. Heatwaves can cause changes to the ocean environment, killing large numbers of seabirds and affecting **corals** and other sea life.

Thermal displacement measures how far fish, whales and other **mobile species** must travel to find cooler ocean surface temperatures. The measurement depends on the rate at which temperature changes across the ocean.

Research scientist Michael Jacox calls thermal displacement a powerful new way of looking at ocean heatwaves. "When the environment changes, many species move," he said in a statement. "This research helps us understand and measure the degree of change they may be responding to."

Jacox is with the NOAA Southwest Fisheries Science Center in California.

Heatwaves can add to the difficulties the world's oceans are already facing from long-term warming linked to climate change.

The scientists examined information related to ocean heatwaves from 1982 to 2019. They looked at the displacement of different species during these events.

In some places, cooler water would not be far from warmer seas, such as where different parts of the ocean meet, the study found. But in **tropical** areas - where temperature changes are usually small - some sea creatures would need to travel more than 2,000 kilometers to find cooler water.

Jacox says fast-moving displacement of sea life can affect many kinds of sea creatures and have human costs, as well.

"Some of the most mobile species - many fish, whales, and turtles - hold great value for humans," he said. Fisheries and **tourism** could be harmed, and threatened species could also face displacement, he added.

Michael Alexander of NOAA's Physical Sciences Laboratory helped lead the research team. He said the study "may give us an idea how the **ecosystem** may change in the future." This could, for example, help predict how far fishermen would have to travel to reach the fish they want to harvest, he said.

I'm Bryan Lynn.

Agence France-Presse reported this story. Bryan Lynn adapted the report for VOA Learning English, with additional information from NOAA. George Grow was the editor.

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Words in This Story

thermal – *adj.* relating to heat

coral – *n.* a hard, usually pink or white substance produced by a type of a very small sea animal

mobile – *adj.* able to move or be easily moved

species – *n.* a group of animals or plants that are similar and can produce young animals or plants

tropical – *adj.* from or in the hottest parts of the world

tourism – *n.* the activity of traveling to a place for pleasure

ecosystem – *n.* a biological community of interacting organisms and their physical environment