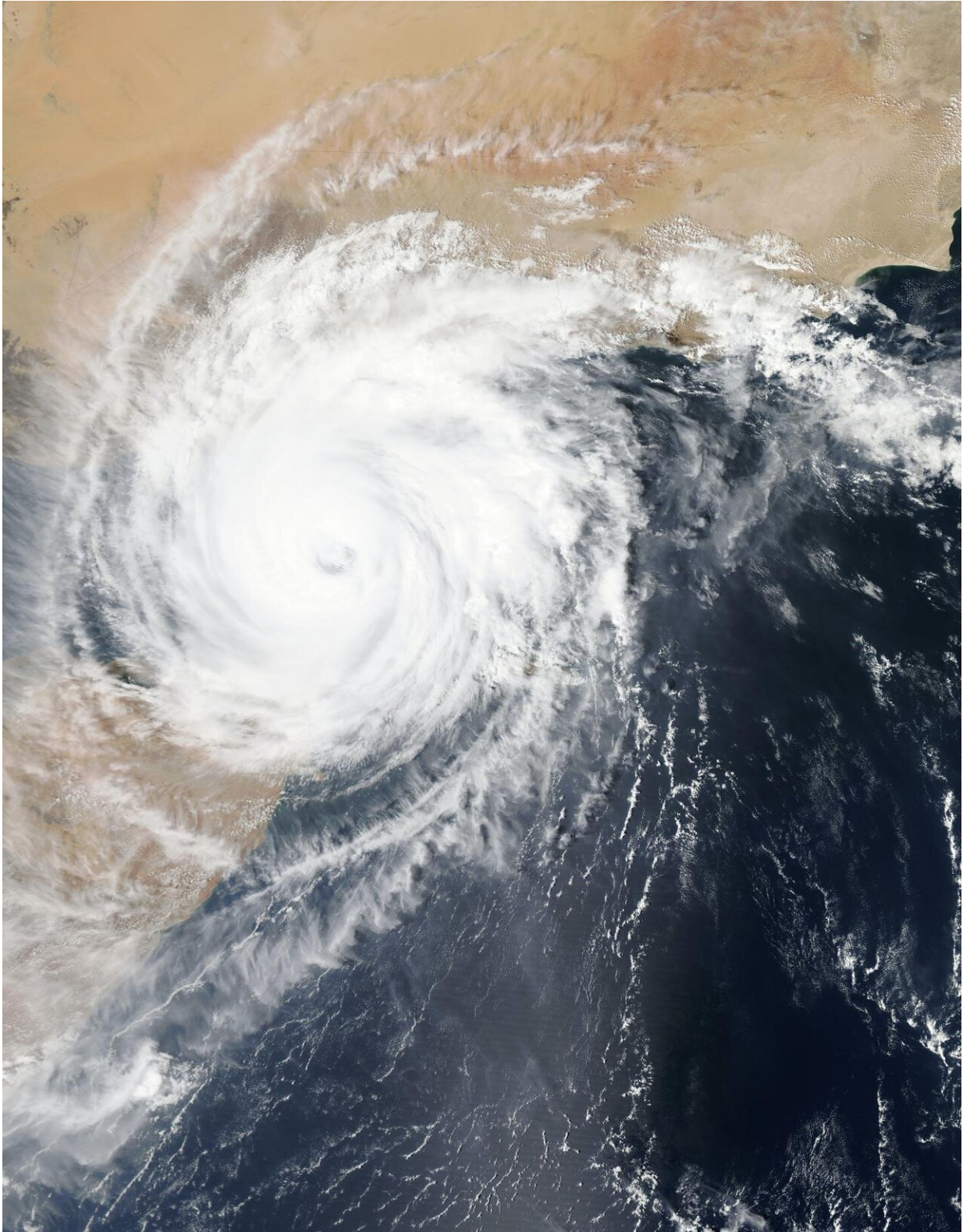


More than meets the eye (of the storm): Typhoons in Korea amplified wildfires in America

February 1 2021



The wildfires that wrecked Western America in the fall of 2020 may have been

worsened by an unexpected source: three typhoons that occurred in the Korean Peninsula mere days before. Credit: NASA on Unsplash

The year 2020 played host to an uncharacteristically large number of natural disasters. The year began with large wildfires in the Amazon rainforest and Australia. A series of wildfires broke out in the American states of California during summer and Oregon in September 2020. In particular, the Oregon wildfire intensified to an uncontrollable extent and was spread over a wide area by strong gusts of wind that carried it forward. These unseasonably strong winds may have been stoked by an unexpected source: typhoons on the other side of the Pacific Ocean.

In late August and early September, three storms—Bavi, Mayask, and Haishen—occurred just two weeks apart in the Korean peninsula, causing floods, mudslides, and several casualties. In a recently published article in *Geophysical Research Letters*, evidence was presented that these storms had more than enough energy to perturb the jet stream—creating an atmospheric "wave train" that amplified [weather conditions](#), which increased the likelihood of wildfires in North America. This evidence was discovered by an international team led by Associate Professor Jin-Ho Yoon from Gwangju Institute of Science and Technology, Korea, and Prof. Shih-Yu (Simon) Wang from Utah State University.

Commenting on their findings, Dr. Yoon states, "Typhoon Haishen prolonged the initial fire spread and maintained anomalously hot and dry conditions in California and extreme wind events in Oregon." "One typhoon of this magnitude would not be unusual in Korea each year," said co-author Prof. Wang, "But three in two weeks? That was quite historic."

How could a typhoon that hit Korea affect weather in America? Dr.

Yoon explains that the outflow from the three typhoons amplified an atmospheric "wave train," creating a reverse air flow across the Pacific by shifting a climatologically west wind regime to an east wind regime. It also increased the [pressure gradient](#) across Western America, such that the [atmospheric pressure](#) was at an all-time low in the last 40 years.

The team's findings show how weather-related disasters, often thought to be confined to a smaller geographical region, have a 'domino effect,' causing effects that snowball into larger disasters even over an ocean away.

More information: Jacob Stuivenvolt Allen et al, Three western pacific typhoons strengthened fire weather in the recent northwest U.S. conflagration, *Geophysical Research Letters* (2020). [DOI: 10.1029/2020GL091430](#)

Provided by GIST (Gwangju Institute of Science and Technology)

Citation: More than meets the eye (of the storm): Typhoons in Korea amplified wildfires in America (2021, February 1) retrieved 17 April 2024 from <https://phys.org/news/2021-02-eye-storm-typhoons-korea-amplified.html>

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