Hurricane season combined with COVID-19 pandemic could create perfect storm

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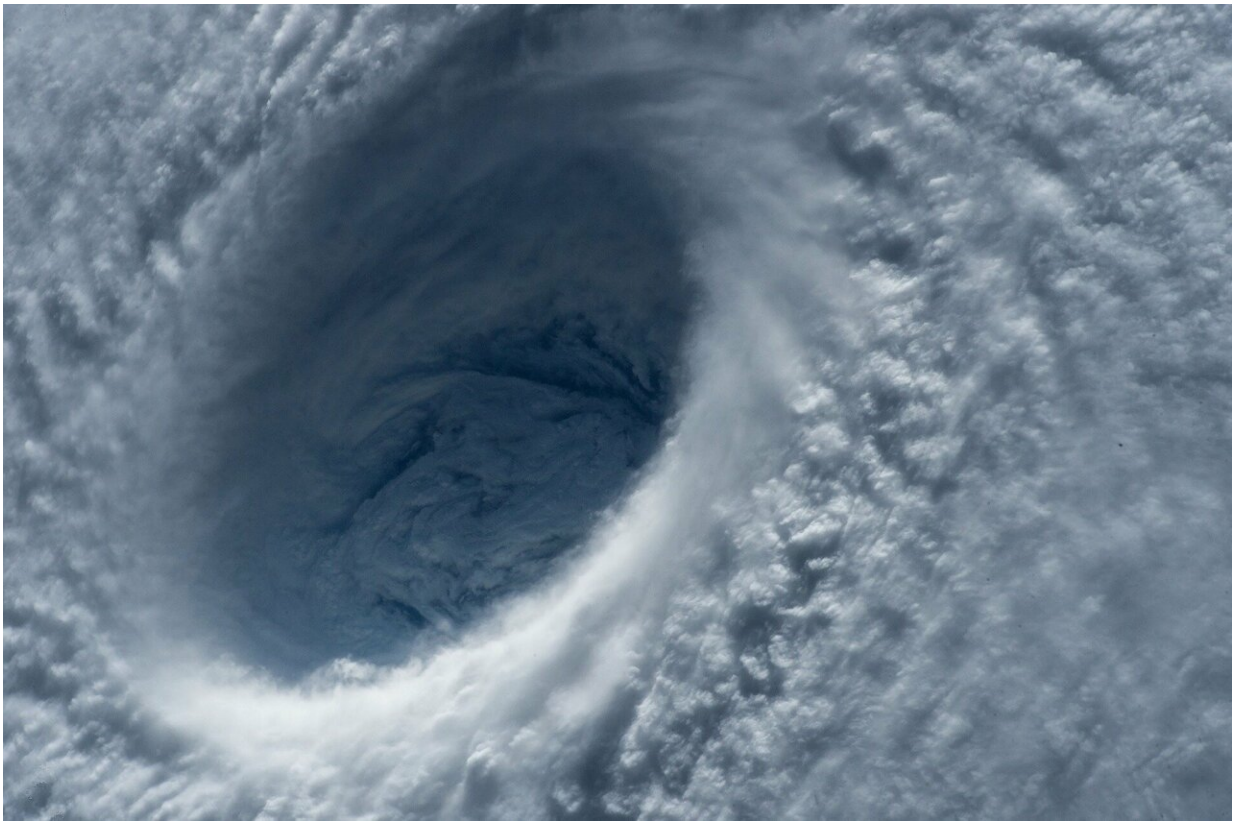

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When extreme climate conditions interact with stressors to social systems, such as the COVID-19 pandemic, the consequences could be severe unless experts from diverse backgrounds work together to

develop comprehensive solutions to combat their negative impacts.

That's the recommendation of a new article in *Nature Climate Change* published Monday and co-authored by a University of Central Florida researcher.

Thomas Wahl, an assistant professor in UCF's Department of Civil, Environmental and Construction Engineering and a member of UCF's National Center for Integrated Coastal Research, is one of 14 experts with diverse backgrounds who authored the article.

"In the perspective article my input mainly focused on the impacts of connected extremes on the water sector," Wahl says. "With my research group at UCF, we have extensively worked on many different projects focused on compound flooding, when, for example, storm surges coincide with extreme rainfall or high river discharge."

The article brought together scientists and stakeholder representatives with different backgrounds, ranging from the natural sciences to social sciences, public health and engineering.

The authors focused on four main sectors—food, water, health and infrastructure—where connected extremes often lead to unforeseen impacts.

Examples of connected extremes include the impact of Hurricane Maria in 2017 on Puerto Rico's under-maintained infrastructure, limited budget and aging population, and the spring 2011 Mississippi River floods in which water was released to protect urban areas at the detriment of agricultural lands.

A present example could be the COVID-19 pandemic and the current hurricane season, Wahl says.

"The COVID-19 crisis will very likely increase the impacts associated with the climatic extreme events that will inevitably occur somewhere across the globe over the next weeks or months or already have occurred," Wahl says.

"For example, shelters cannot operate at full capacity, health care systems are already under pressure, and emergency funds are depleted."

The researcher says many of the most impactful natural hazards experienced over the past decade could be considered connected extremes, where either different factors in the physical climate system combined in unfortunate ways or the impacts were made worse by interactions between physical and societal systems.

"It's important to recognize and treat connected extremes as such, and for scientists from different fields to engage directly with stakeholders and decision makers to develop new, robust and flexible policies to better combat their negative impacts," Wahl says.

More information: Colin Raymond et al, Understanding and managing connected extreme events, *Nature Climate Change* (2020). DOI: 10.1038/s41558-020-0790-4

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