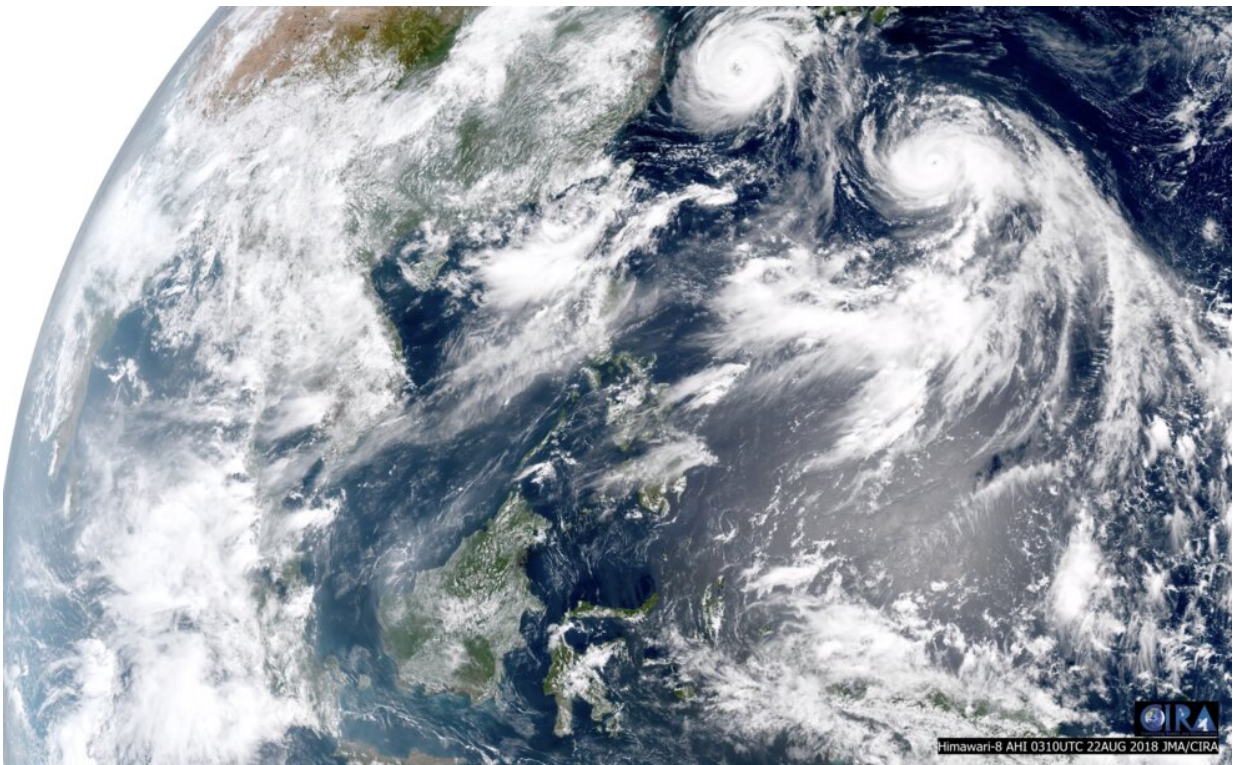


# Philippine airborne campaign targets weather, climate science

August 26 2019, by Samson Reiny

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Smoke off the west coast of Borneo and dueling tropical cyclones in the Philippine Sea are shown in this color image from the Advanced Himawari Imager aboard the JAXA Himawari-8 satellite, from August 21st, 2018. Credits: CIRA/CSU and JAXA/NOAA/NASA

NASA's P-3B science aircraft soared into the skies over the Philippines on Aug. 25 to begin a nearly two-month-long investigation on the impact

that smoke from fires and pollution have on clouds, a key factor in improving weather and climate forecasts. The Cloud, Aerosol, and Monsoon Processes Philippines Experiment (CAMP2Ex) is the most comprehensive field campaign to date in Maritime Southeast Asia to study the relationship between aerosol particles as they interact with surrounding monsoon meteorology, cloud microphysics and the sun's radiation.

Led by NASA, the U.S. Naval Research Laboratory (NRL) and the Manila Observatory in conjunction with the Philippine Atmospheric, Geophysical and Astronomical Services Administration and the Philippine Department of Science and Technology, CAMP2Ex comprises an interdisciplinary, international team of field researchers, modelers and remote sensing developers.

The study seeks to tackle some of the most difficult [weather](#) and climate phenomena to understand, monitor and forecast. The Maritime Continent—comprising Sumatra, Malay Peninsula, Borneo, Sulawesi, the Philippines and numerous other islands and surrounding seas—has been long sought out as an area of scientific inquiry. Agricultural and deforestation fires from the region along with air pollution from cities provide a ready supply of [aerosol particles](#) that influence major weather processes. Besides the torrential monsoons over the Asian archipelago, the region also produces moisture that provides rainfall over the Pacific Ocean and can even influence weather in the continental United States.

"We know aerosol particles can affect clouds and precipitation, but we don't yet have a quantitative understanding of those processes," said Hal Maring, Radiation Sciences Program Manager at NASA Headquarters in Washington. "Our goal is to improve satellite products and numerical models to help scientists better predict weather and climate."

"Numerous studies have linked the presence of pollution and smoke

from agricultural fires and fires from deforestation to changes in cloud and storm properties, but we lack the observations of the actual mechanisms taking place," said NRL research meteorologist Jeffrey Reid. "CAMP2Ex provides a much-needed crucible for satellite observing systems and model predictions to monitor and understand how atmospheric composition and weather interact."

Provided by NASA's Goddard Space Flight Center

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