



NEW STUDY SHOWS LINK BETWEEN EL NIÑO AND MARINE DEBRIS IN NORTHWESTERN HAWAIIAN ISLANDS

According to a new study, a significantly higher amount of marine debris comes ashore in the Northwestern Hawaiian Islands during El Niño periods than when La Niña conditions are present. The 16-year study, published in *Marine Pollution Bulletin*, is the first to document the influence of El Niño and La Niña on marine debris in the NWHI.

The study, *Factors affecting marine debris deposition at French Frigate Shoals, Northwestern Hawaiian Islands Marine National Monument, 1990–2006*, looked at 16 years of marine debris data and compared those numbers to known periods of both El Niño and La Niña. Evidence suggests that the increase in marine debris on the shores of the NWHI is a result of the southward movement of the Subtropical Convergence Zone, an area in the North Pacific where two ocean currents meet and is known to have high densities of marine debris. The STCZ shifts southward, into the NWHI, during El Niño periods.

The study is based on data gathered by volunteers with the U.S. Fish and Wildlife Service, who tabulated, collected, and removed more than 52,000 pieces of debris since 1990 from the shores of the Hawaiian Islands National Wildlife Refuge's Tern Island station, a part of French Frigate Shoals in what is now the Papahānaumokuākea Marine National Monument. More than 70 percent of the debris removed from Tern Island, including buoys, bottles, and cigarette lighters, was made of plastic.

“Greater attention is being paid to the oceans and atmosphere and how they are affecting everything, from the environment and marine debris, to our economy,” said Carey Morishige, outreach coordinator for the NOAA Marine Debris Program and lead author of the study. “Studies like this help provide information that can be used to effectively continue addressing the pervasive problem of marine debris.”

This new study focuses mainly on smaller debris items (excluding nets), which on any beach create an eyesore and can also be ingested by wildlife such as the Laysan albatross, a seabird whose main breeding population is located in the NWHI. Marine debris, from plastic bottles and lighters to derelict nets, remains one of the main threats to ecosystems of the NWHI, an area afforded our nation's highest level of protection. The NWHI are also home to the endangered Hawaiian monk seal, threatened green sea turtle, coral reefs, and an abundance of other species.

The study was designed and funded with assistance from the Fish and Wildlife Service's Pacific Islands Fish and Wildlife Office and the University of Hawai'i Sea Grant Program.

The NOAA Marine Debris Program works with other NOAA offices including NOAA Fisheries Service and the NOAA National Ocean Service, as well as other federal, state, and local agencies and private sector partners to support national, state, local and international efforts to protect and conserve our nation's natural resources, oceans, and coastal waterways from the impacts of marine debris.

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