

Station Aloha: A Gathering Place for Discovery, Education and Scientific Collaboration

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The North Pacific Subtropical Gyre (NPSG) is one of the largest biomes on Earth. Despite the global significance of the NPSG for energy and matter transformations and its key role in the ocean's carbon cycle, it is undersampled and not well characterized with respect to ecosystem structure and dynamics. Since Oct 1988, interdisciplinary teams of scientists from the University of Hawaii and around the world have conducted research at Station ALOHA (22.75 N, 158 W), a site chosen to be representative of this expansive oligotrophic habitat. Three major field programs, the Hawaii Ocean Time-series (HOT; 1988-present), the Center for Microbial Oceanography: Research and Education (C-MORE; 2006-2016) and the Simons Collaboration on Ocean Processes and Ecology (SCOPE; 2014-present), have contributed to the creation and dissemination of knowledge with a focus on microbial processes and biogeochemistry. In Nov 2015, the American Society for Microbiology designated Station ALOHA a "Milestones in Microbiology" site in recognition of historic and visionary accomplishments. After three decades of intensive study, we now have a new view of an old ocean, with revised paradigms built on the strength of high-quality time-series data, insights from the application of -omics techniques and observations from autonomous gliders. The pace of new discovery, and the importance of integrating this new understanding into predictive models is an enormous contemporary challenge with great scientific and societal relevance.