

Matt Church reviewed the on-going efforts and progress at the Hawaii Ocean Time series HOT program. Based on the nearly 17 year record of monthly observations at the field site for the HOT program, Station ALOHA, investigators are beginning to assemble information on temporal variability in plankton processes and biogeochemical cycling spanning diurnal to decadal time scales. Some of the questions that have guided research at Station ALOHA include: “What are relevant time scales for us to study phytoplankton diversity?” and “Are these time and space scales the same as ones that control biogeochemical cycles?” In 1988, Dave Karl and Roger Lukas initiated observations at Station ALOHA under the auspices of the JGOFS (Joint Global Ocean Flux Study). The central objectives of the HOT program are to characterize time-dependent dynamics at the Station ALOHA. The following points summarize the findings to date: 1) prokaryotes dominate the system, 2) oceanic biology regulates nutrient stoichiometry and carbon export, 3) the surface ocean appears chronically oligotrophic, 4) nitrogen fixation plays an important role in nutrient dynamics and carbon export, 5) the organization of plankton populations seems to be controlled by longer-term oceanic teleconnections. Church urges the microbial oceanographic community to consider time series stations in future census of marine microbe efforts. The existing data sets available from time series stations provide us with a framework for a census. If we are interested in examining how diversity maps onto biogeochemical cycling we need to sample at the appropriate time scales to capture both short term population dynamics and longer term (decadal and inter-decadal time scales) ecosystem transitions.