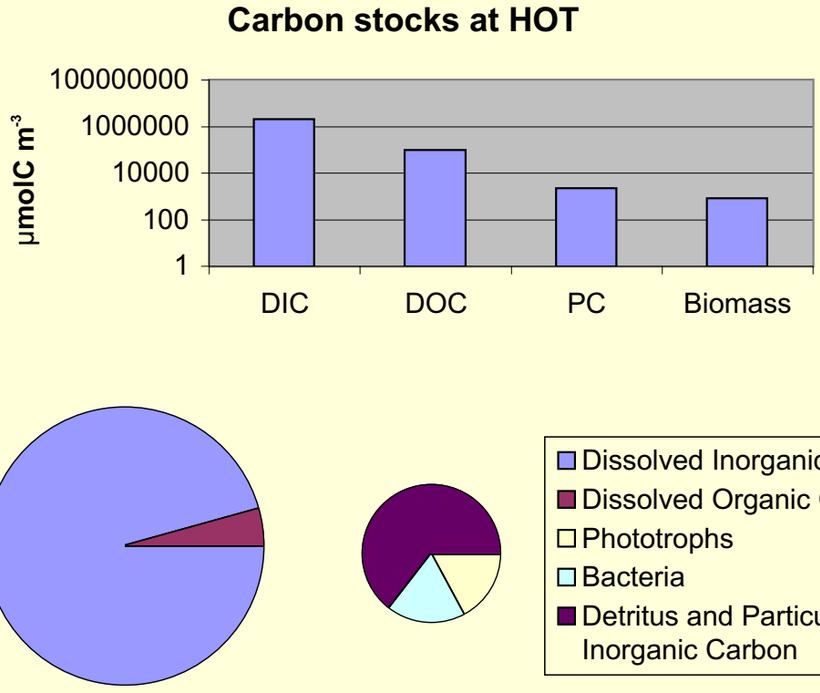
Hawaii Ocean Time-series Program

R/V Moana Wave in Honolulu Harbor

Carbon Stocks at HOT. Carbon is distributed in the sea in a wide variety of forms: particulate and dissolved, organic and inorganic. Biogeochemical processes involving marine plankton mediate the transformations among these forms and control the transport of carbon to the deep sea.

Deployment of PAR FLUX moored sediment trap during HOT cruise, July 1992



Here we depict the amounts of carbon in various pools at the Hawaii Ocean Time-series site in the oligotrophic North Pacific gyre. Note the large amount of dissolved inorganic carbon (DIC or TCO_2), and the small amounts of living plankton biomass. Yet the plankton mediate the carbon cycle. The small pool sizes and rapid turnover times of marine plankton render the ocean carbon system susceptible to perturbation by climate change.