If one aims to characterize an oceanic ecosystem, she needs to constrain both the stocks, i.e. the biomass of the organisms with different trophic roles, and the rates, i.e. the velocity of change in the quantity and/or quality of the stocks. In most of the surface ocean, photosynthesis is the most important biological rate that ends up driving the rate of other processes as grazing, mineralization and export, but since photosynthesis is bound to happen in the daytime, photoautotrophic organisms can produce oxygen and accumulate biomass only during part of the day. As a consequence of this diel asymmetry in biogeochemical processes, oxygen and phytoplankton biomass accumulate from sunrise to sunset and decrease during the night. Hence we can use rates of oxygen and particle accumulation and loss as proxies for rates of primary production, respiration and particle removal. This method has several advantages, but most importantly it allows computing rates from measurements collected by autonomous vehicles as gliders and floats. Nowadays biological oceanographers routinely use autonomous observations to study pelagic ecosystems, but measurements have been biased toward the quantification of stocks rather than rates. The estimation of rates from diel cycles may bridge part of this gap. I will present results from an ongoing project using diel cycles as proxies for rates of primary production, respiration, and community losses in the central North Pacific subtropical gyre. I will first show some results from shipboard observations, and I will then describe how a similar approach has been applied to compute rates from Seaglider observations with a focus on summer 2015, when autonomous observations were used to characterize the variability around an anticyclonic eddy North of Oahu.