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Variations in the rate of net community production in the global oceans

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Net community production (NCP, photosynthesis minus respiration) and carbon export are fundamental properties that reflects the nature of euphotic zone ecosystems. They are also key fluxes in the global carbon cycle. This talk summarizes data on the global distribution of annually averaged NCP. We particularly emphasize data from the Southern Ocean and the South Pacific subtropical gyre. Beyond the latter domain, annually averaged NCP in the global ocean varies between $\sim$ 1-5 moles C m-2 yr-1, a surprisingly small range given the extreme spread of surface ocean nutrient concentrations. We discuss factors that tend to enhance production in nutrient-poor regions, and limit production in nutrient-rich regions.