



Environmental controls on the distribution of alkenones and coccolithophore species in the Northeast Pacific Ocean.

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Coccolithophores play an important role in the earth's biogeochemical cycle, since they both photosynthesize and calcify. They are also known as producers of long-chain (C37-39), di- and tri-unsaturated ketone biomarkers now well known as alkenones. Stratigraphic records of these biomarkers in sediment are used to reconstruct the changes in SST and coccolithophore paleoproductivity. However, comparison of quantitative results for coccolithophore assemblages and alkenone concentration in the water column has rarely been done. We made such measurements during a week cruise aboard R/V Wecoma in the Northeast Pacific ($\sim 41.5^{\circ}\text{N}$ - $\sim 132^{\circ}\text{W}$) in September 2005. Temperature, salinity, nutrients and pigment concentrations were measured as well. Here, we present the standing stock results for two stations. At both sites, coccolithophore standing stocks were dominated by *Emiliana huxleyi* but displayed a high species diversity with depth in a highly stratified water column characterized by a pronounced deep chlorophyll maximum (DCM) at 60-70m. Maximum cell abundance was found in the DCM ($\sim 7 \times 10^6$ cells/L) and the depth profile had a strong correlation with alkenones abundance. The species *Gephyrocapsa oceanica*, which along with *Emiliana huxleyi* is known to be an alkenone producer, was present but rare at this temperate location.