



The Plio/Pleistocene to Holocene development of the pelagic North Pacific from surface to depth – assessing its role for the global carbon budget and Earth’s climate



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*SONNE-EMPEROR established a new paleoceanographic N - S reference transect along the **Emperor Seamount Chain** in the N Pacific. This transect between ~30°N and ~50°N crosses major oceanographic and climatic features, comprising the Kuroshio Extension, the Kuroshio Bifurcation Front, the Subarctic Boundary, and the Subarctic Front.*

*We compile and study **proxydata timeseries** to reconstruct the physical and chemical paleoceanography of the N Pacific. Our approach allows us to decipher both temporal and spatial variations in the pelagic N Pacific Subtropical and Subarctic gyres at surface, subsurface, and deep level on millennial to orbital timescales.*

*SONNE-EMPEROR will enable a dynamic and **three-dimensional understanding** of climate modes and their linkages not only to regional N Pacific, but also to S Pacific and Atlantic large-scale climate and ocean circulation patterns.*

