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Characteristics of glacial terminations and inceptions in 100-year resolution NW Pacific sea surface temperature record over the last 400,000 years

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IODP Exp 346 Site U1429 is located on the northern Okinawa Trough in the East China Sea, which is under the influence of the Kuroshio Current, the western boundary current of the North Pacific Subtropical Gyre. Deep drilling at the site penetrated continuous sedimentary sequences of 180 m thick below seafloor, corresponding to approximately 400,000 years. The analysis of C37 alkenones was conducted to reconstruct past sea surface temperature with extremely high resolution of 100 years. Age control was done based on comparisons with cave records in China. Results show that each glacial and interglacial climate was never identical, and have unique characteristics over the four major climate cycles. Especially characters of transitions between glacial and interglacial periods (both terminations and inceptions) differ time to time. Since this record has extremely high resolution, it was comparable to nearby speleothem records in China and ice core records from Greenland and Antarctica as well. In this presentation, we will show the results which could be helpful to understanding the related dynamics of climate system.