

Ocean and monsoonal dynamics of the Japan Sea over the last 450,000 years – a coccolithophore perspective

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The semi-enclosed Japan Sea, located in the northwest margin of the Pacific Ocean, is an ideal region to investigate the interaction between the ocean, climate, and sea-level variability. Integrated Ocean Drilling Program (IODP) Expedition 346 (July 29-September 27, 2013), from Valdez, Alaska to Busan, South Korea, drilled seven sites in the Japan Sea and two sites in the East China Sea.

Site U1427, located at 35°57.9'N, 134°26.1'E in a 330m water depth in the Yamato Basin, was selected for this study. Coccolithophore paleoproductivity was reconstructed for the last 450kyr using coccolithophore

assemblages and coccolith absolute numbers. Samples were prepared using a combined technique of dilution and filtering. Following the counting routine, a minimum of 400 whole coccoliths per sample were recognized and classified using a scanning electron microscope at 3000X and 5000X. Coccolith preservation was generally poor to moderate, and the number of coccoliths remained relatively low, except during interglacials, when *Gephyrocapsa oceanica*, *Calcidiscus leptoporus*, and *Helicosphaera carteri* peaked due to influx of the Tsushima Warm Current into the Japan Sea.