Calibration of color values extracted from “Namahage” core scanner images using spectrophotometry

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Spectrophotometers are typically used to accurately analyze the color of sediment cores. However, in many cases the process is manual and time consuming. Here we extract color values from images produced with a “Namahage” scanner for comparison to values obtained on the same cores with a spectrophotometer to obtain a calibration equation. We next consider the significance of the equation to increase calibration reliability.

We use sediment cores obtained during Cruise KS-22-4 of the Shinsei maru that were collected from the flanks of the Okinawa Trough under influence of the Kuroshio Current. Because color values in these cores are slightly limited, whether the calibration equation is applicable to color values of a higher range requires verification. Furthermore because multiple “Namahages” exist and while each generally uses the same model of parts for lighting and image capture, variability in the manufacturing process of these components may cause variation in the color values obtained from individual scanners. For that reason, analysis of additional core images, obtained from different environments with different “Namahage” scanners, is needed.

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