Sediment Core Imaging

Longitudinal split open core sections were imaged using the SmartCIS 1600LS line scanning system of the MARUM GeoB Core Repository (<www.marum.de/en/Infrastructure/GeoBsmartCIS-1600-Line-Scanner.html>). Split surfaces of each section was freshly scraped immediately prior to imaging in order to capture the ephemeral nature of sedimentary features as some features oxidize within minutes. All images were acquired at a standard resolution of 500dpi (250dpi/ 1000dpi). In order to retain the relative variability in sediment lightness throughout the expedition camera aperture was fixed at f/8. This aperture setting imaged most sediments without the need for further adjustment. All sections were scanned using two light sources in order to achieve best lighting situations and reduce potential shadow effects of rough surfaces. A white calibration of the system was done on daily basis using a standardized white tile. Absolute color reproduction of the line scan images is ensured through the automatic application of a IT8.7/2-target referenced ICC-profile built-in the steering software of the line scanner. Section images were directly saved to the curatical database system ExpeditionDIS as jpeg files. Output also included a tab-delimited text file with red, green, blue, lightness (%) values as well as red/blue ratios in 1 mm down-core resolution for each section.