

US EPA ARCHIVE DOCUMENT

Daily Report: Tracking the Plume of Dispersed Oil using Particle Size Distribution Measurements and Fluorescence Intensity Ratios

July 6, 2010

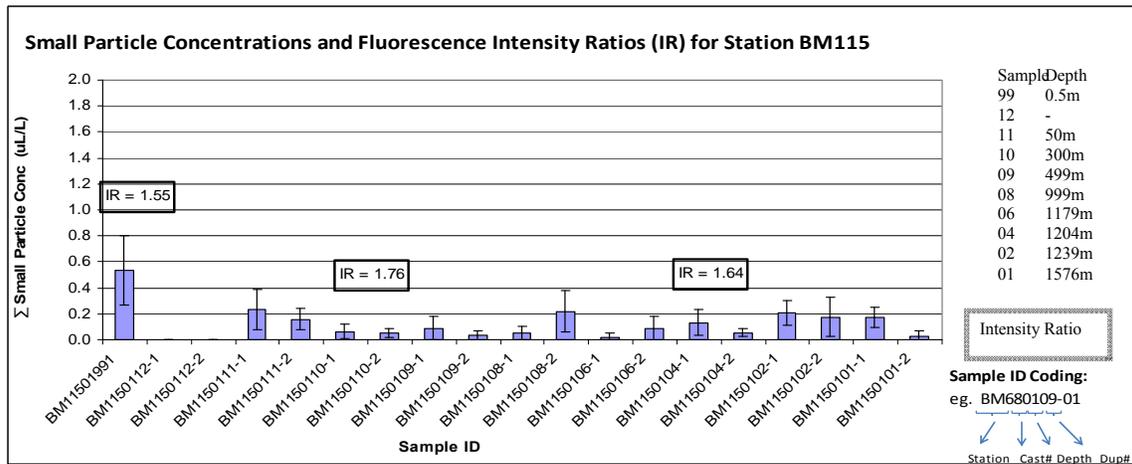
Water samples were collected at three stations for particle size distribution measurements using the LISST-100X particle counter. A total of 54 LISST samples were analyzed, including duplicates. Samples at depths of elevated fluorescence were selected from the CTD trace for fluorescence intensity ratio measurements and analyzed using a Quantech Life Sciences fixed wavelength fluorometer.

Figure 1 presents the small droplet (Σ 2.5 - 60 μ m) particle size data and fluorescence intensity ratios for stations BM115 through BM117. The station locations were:

BM115: Lat= 28.722317 Long= -88.357567
 BM116: Lat= 28.73676 Long= -88.34615
 BM117: Lat= 28.742527 Long= -88.352078

The LISST data did not show an increase in small particles at depth on stations BM115 through BM117. Slightly elevated concentrations of small particles were detected in the surface samples (0.5m, 3m, and 50m) on Station BM115 and BM117. The 2m sample at BM115 could not be collected due to a Niskon misfire.

The results of fluorescence intensity ratios showed that low ratios were observed in both the near surface waters (3m or less) and in the deeper water samples. Slightly elevated intensity ratios were observed in Station BM117 at 1259m.



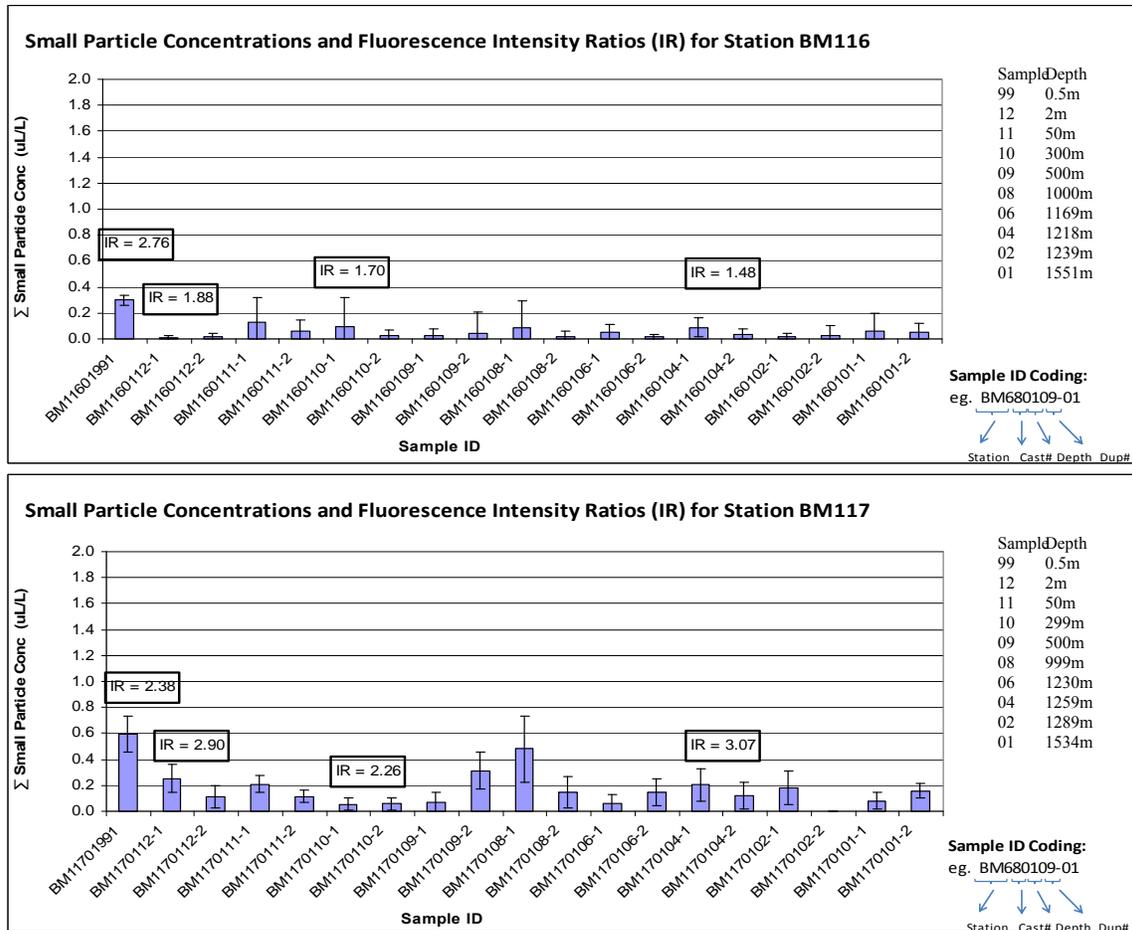


Figure 1: Average small particle concentrations and fluorescence intensity ratios as a function of depth for stations BM115 to BM117.