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

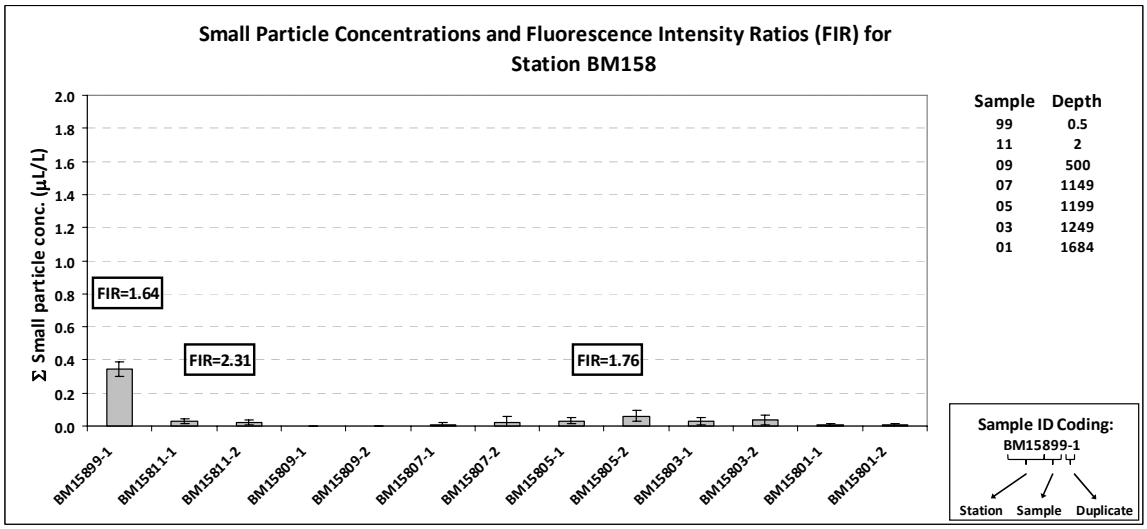
August 05, 2010

Water samples were collected at four stations for particle size distribution measurements using the LISST-100X particle counter. A total of 52 duplicate LISST samples were analyzed. Samples at depths with elevated CDOM fluorescence levels and/or oxygen anomalies were selected for fluorescence intensity ratio measurements using a Quantech Life Sciences fixed wavelength fluorometer.

Station	Latitude	Longitude
BM158	28.150282	-88.789127
BM159	28.192105	-88.754170
BM160	28.224707	-88.716812
BM161	28.254302	-88.759448

With the exception of the surface water sample, small particle concentrations were <0.1 µl/L at all depths. The surface "bucket" samples (0.5 m) at all stations had elevated concentrations of small particles ranging from 0.15 to 0.34 µl/L. The CDOM *in-situ* fluorometry profiles from all stations did not show elevated fluorescence.

Fluorescence intensity ratios were measured at the surface along with depths where a slight depression was observed in the *in-situ* dissolved oxygen profile. The results of these analyses showed low fluorescence intensity ratios (<3.25).



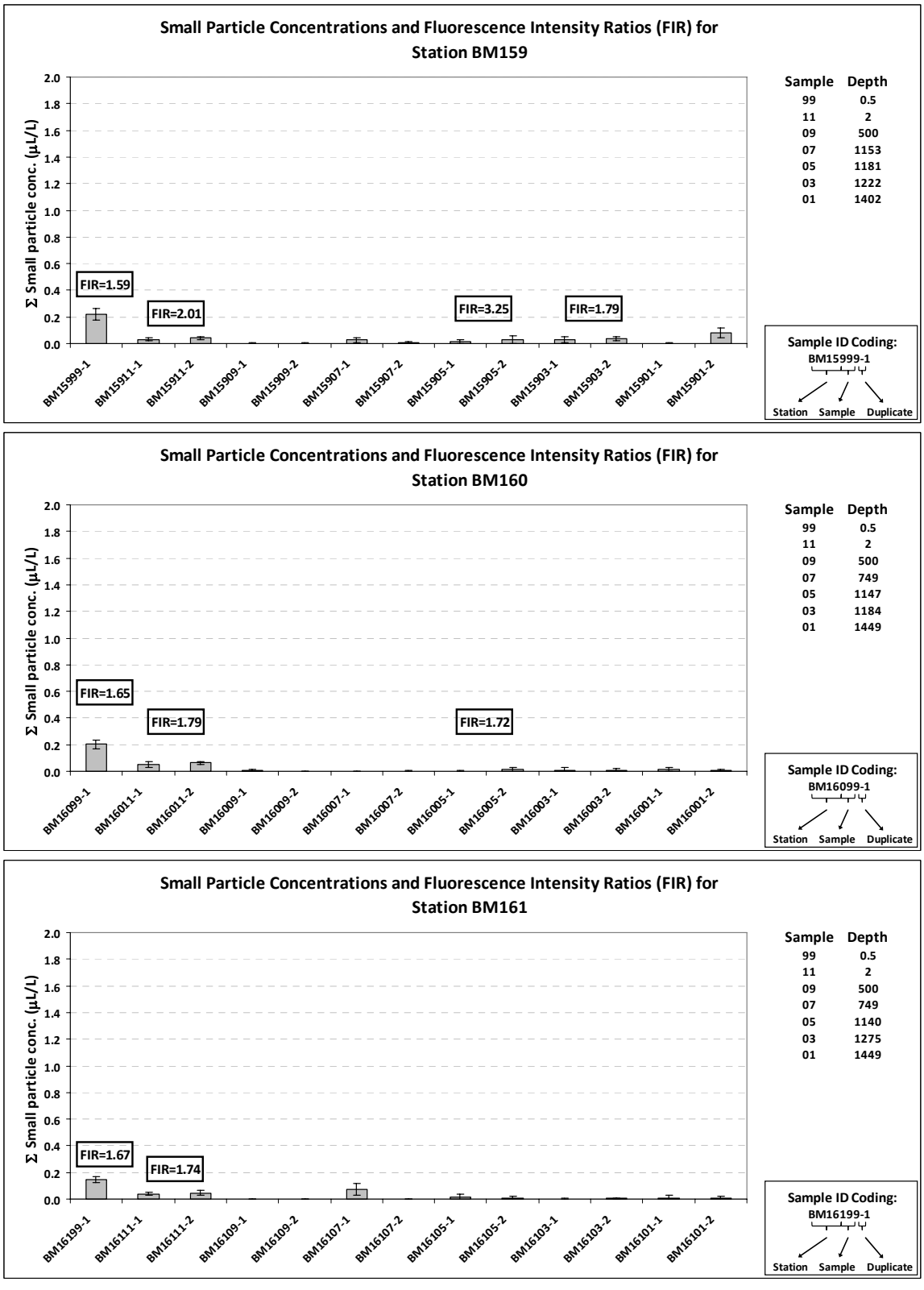


Figure 1: Average small particle concentrations and fluorescence intensity ratios as a function of depth for stations BM158 to BM161.