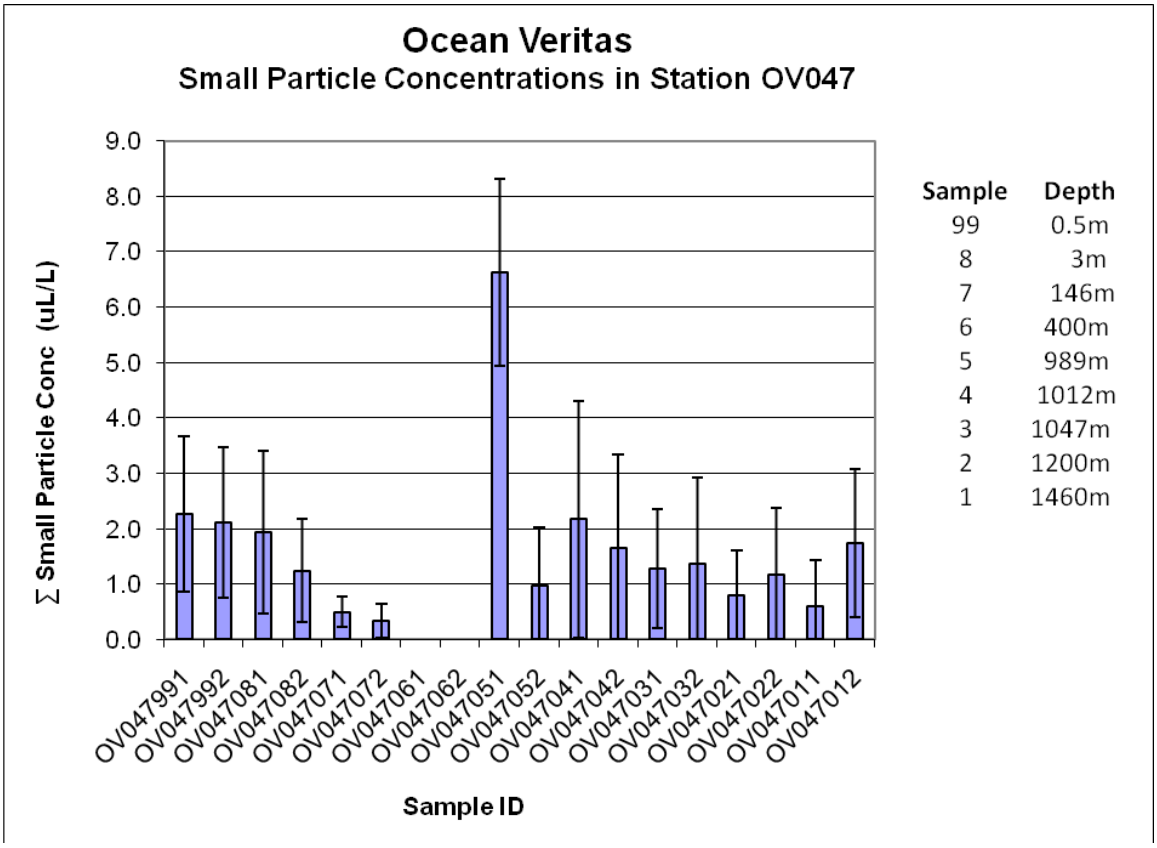
Daily Report: Tracking the Plume of Dispersed Oil using Particle Size Distribution Measurements

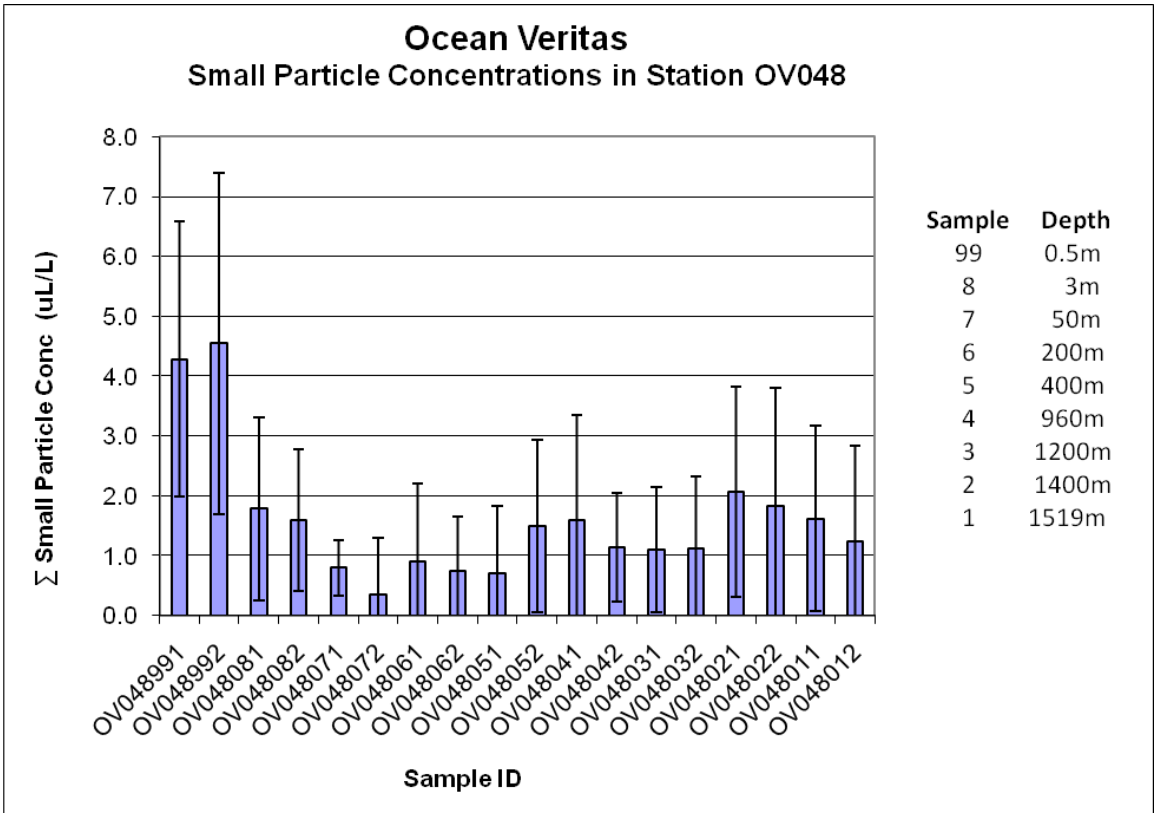
June 15, 2010

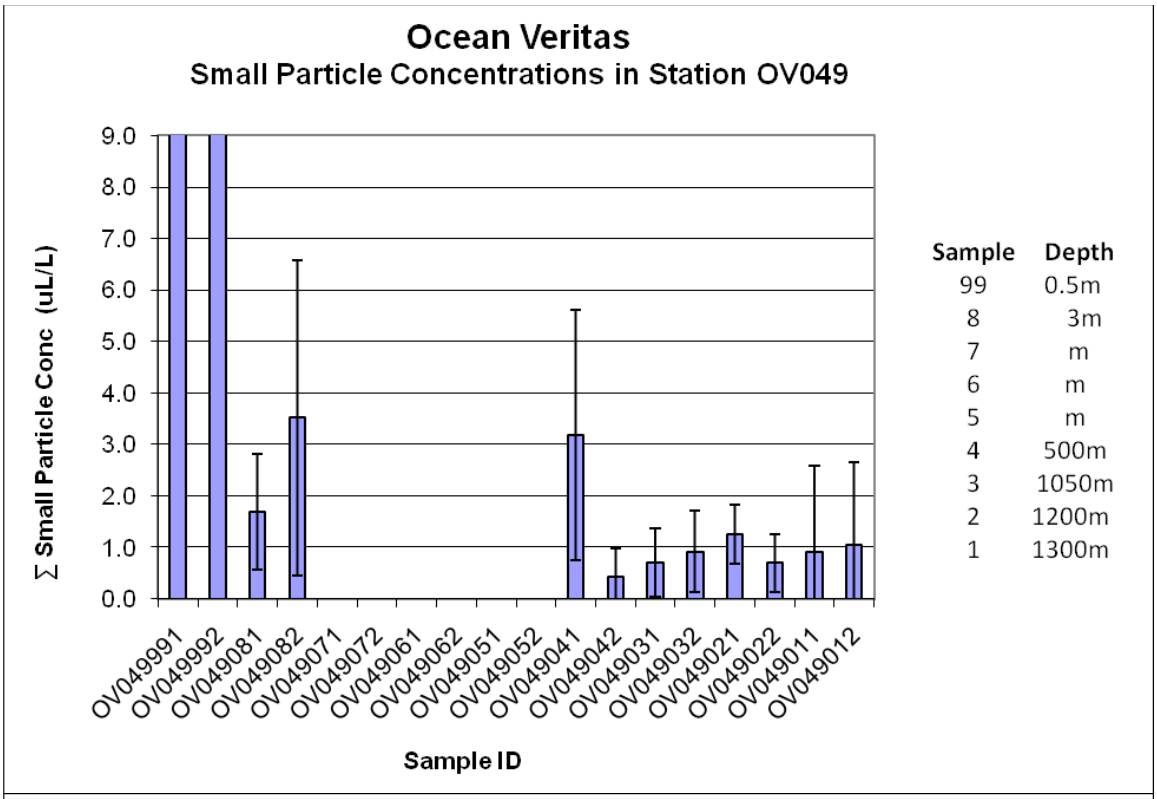
Water samples were collected at five stations for particle size distribution measurements using the LISST-100X particle counter. A total of 82 LISST samples were analyzed, including duplicates. Samples were also collected and stored for shore based fluorescence intensity ratio measurements.

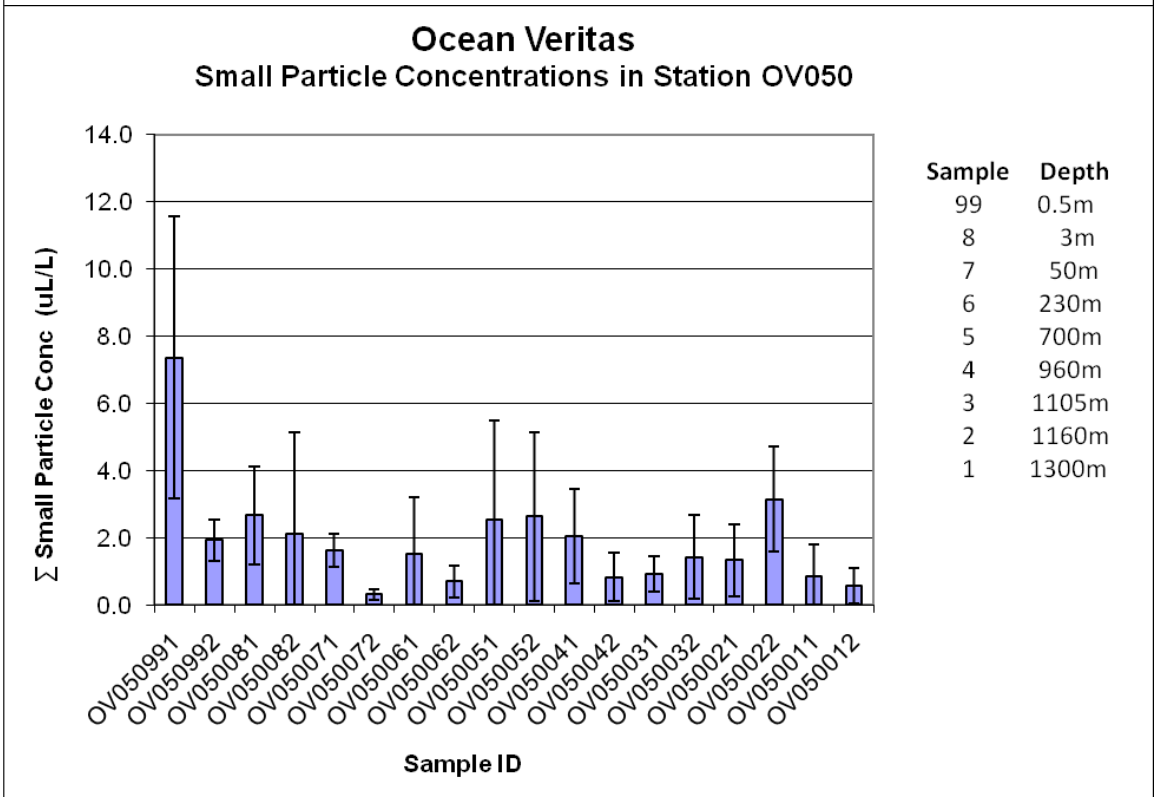
Figure 1 presents the small droplet (∑ 2.5 - 60µm) particle size data for stations OV047 through OV051. LISST analysis and in-situ fluorometry detected a slightly increased small particle concentration in subsurface around 1000m depth in all stations. The LISST compliments the CTD fluorescence signal revealing a slight elevation of small particles at the bottom depths.

Station #	Lat	Long
OV047	28.741417	-88.417597
OV048	28.732010	-88.376790
OV049	28.780754	-88.387846
OV050	28.780347	-88.347809
OV051	28.754515	-88.357993


Ocean Veritas
Small Particle Concentrations in Station OV047
∑ Small Particle Conc (uL/L)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
OV047991
OV047992
OV047081
OV047082
OV047071
OV047072
OV047061
OV047062
OV047051
OV047052
OV047041
OV047042
OV047031
OV047032
OV047021
OV047022
OV047011
OV047012
Sample ID
Sample Depth
99 0.5m
8 3m
7 146m
6 400m
5 989m
4 1012m
3 1047m
2 1200m
1 1460m


Ocean Veritas
Small Particle Concentrations in Station OV048
∑ Small Particle Conc (uL/L)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
OV048991
OV048992
OV048081
OV048082
OV048071
OV048072
OV048061
OV048062
OV048051
OV048052
OV048041
OV048042
OV048031
OV048032
OV048021
OV048022
OV048011
OV048012
Sample ID
Sample Depth
99 0.5m
8 3m
7 50m
6 200m
5 400m
4 960m
3 1200m
2 1400m
1 1519m


Ocean Veritas
Small Particle Concentrations in Station OV049
∑ Small Particle Conc (uL/L)
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
OV049991
OV049992
OV049081
OV049082
OV049071
OV049072
OV049061
OV049062
OV049051
OV049052
OV049041
OV049042
OV049031
OV049032
OV049021
OV049022
OV049011
OV049012
Sample ID
Sample Depth
99 0.5m
8 3m
7 m
6 m
5 m
4 500m
3 1050m
2 1200m
1 1300m


Ocean Veritas
Small Particle Concentrations in Station OV050
∑ Small Particle Conc (uL/L)
14.0
12.0
10.0
8.0
6.0
4.0
2.0
0.0
OV050991
OV050992
OV050081
OV050082
OV050071
OV050072
OV050061
OV050062
OV050051
OV050052
OV050041
OV050042
OV050031
OV050032
OV050021
OV050022
OV050011
OV050012
Sample ID
Sample Depth
99 0.5m
8 3m
7 50m
6 230m
5 700m
4 960m
3 1105m
2 1160m
1 1300m

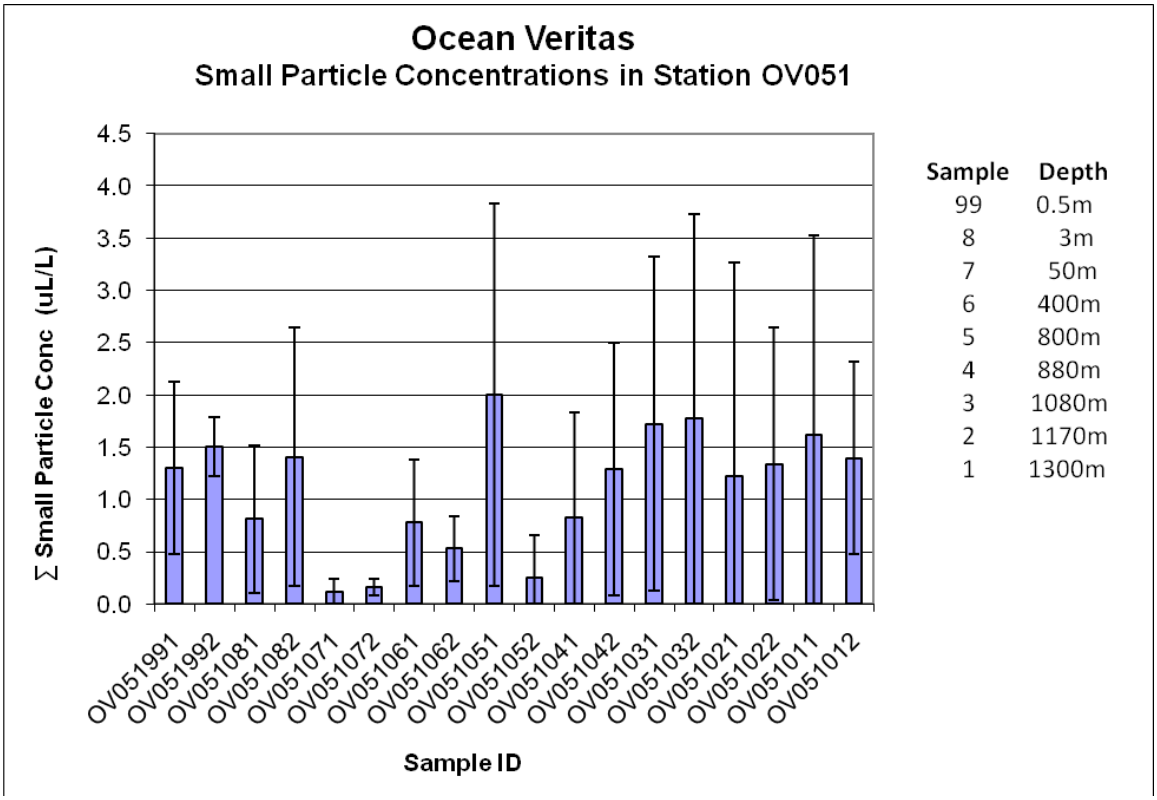


Figure 1: Average small particle concentrations as a function of depth from stations OV042 to OV046.