

Library Reference 7.7

Statistical comparison of mean results between South and North deep stations from 1999 to 2011 combined.

Statistically significant results ($P < 0.05$) are shaded yellow. NA= No data available.

Parameter	Units	Upper Mixed Layer				Lower Water Layer			
		N	South	North	P	N	South	North	P
Secchi Disc Depth	meters	50	2.07	2.22	0.006	0	NA	NA	--
pH	Std Units	51	7.85	7.90	0.000	51	7.53	7.54	0.167
Temperature	°C	51	14.0	14.0	0.756	51	9.03	9.02	0.902
Specific conductance	umHos/cm	32	1,825	1,865	0.088	32	1,918	1,932	0.310
Dissolved oxygen	mg/L	51	10.2	10.2	0.855	51	5.78	5.56	0.044
5-day BOD ¹	mg/L	47	2.60	2.72	0.243	47	3.23	3.31	0.544
Total Alkalinity	mg/L	51	167	167	0.751	51	190	191	0.356
Total Organic Carbon	mg/L	51	3.88	3.95	0.376	51	3.60	3.68	0.542
TOC Filtered	mg/L	48	3.58	3.61	0.579	48	3.32	3.44	0.455
Total Inorganic Carbon	mg/L	50	42	43	0.163	50	50	50	0.687
Total Kjeldahl Nitrogen	mg/L	51	0.97	0.94	0.0116	51	1.48	1.45	0.282
TKN Filtered	mg/L	51	0.80	0.76	0.024	51	1.32	1.30	0.410
Organic Nitrogen	mg/L	51	0.54	0.51	0.019	51	0.40	0.39	0.201
Ammonia-N	mg/L	51	0.42	0.42	0.754	51	1.08	1.07	0.478
Nitrite-N	mg/L	51	0.072	0.069	0.001	51	0.068	0.068	0.985
Nitrate-N	mg/L	51	1.68	1.59	5.9E-10	51	1.31	1.22	0.029
Total Phosphorus ²	mg/L	51	0.06	0.06	0.124	51	0.16	0.16	0.414
Soluble Reactive Phosphorus	mg/L	51	0.02	0.03	0.194	51	0.12	0.12	0.667
Silica	mg/L	40	2.44	2.48	0.363	40	3.86	3.94	0.210
Silica (dissolved)	mg/L	11	2.94	2.86	0.347	11	4.35	4.32	0.871
Calcium	mg/L	51	131	134	0.022	51	134	136	0.027
Sodium	mg/L	51	225	225	0.979	51	233	234	0.868
Potassium	mg/L	51	4.50	4.45	0.056	51	4.31	4.29	0.353
Sulfate	mg/L	51	158	159	0.675	51	151	151	0.944
Chloride	mg/L	51	424	426	0.125	51	434	436	0.630
Total Solids	mg/L	51	1,232	1,241	0.138	51	1,256	1,262	0.333
Total Volatile Solids ¹	mg/L	42	210	220	0.096	42	208	207	0.958
Total Suspended Solids	mg/L	51	3.29	3.03	0.066	51	2.73	2.62	0.459
Volatile Suspended Solids ¹	mg/L	42	2.46	2.42	0.691	42	2.08	2.01	0.361
Total Dissolved Solids	mg/L	51	1,149	1,167	0.023	51	1,174	1,182	0.225
Turbidity	NTU	39	3.74	3.30	0.016	0	NA	NA	--
Arsenic	mg/L	51	0.002	0.002	P-1	51	0.002	0.002	0.109
Iron	mg/L	51	0.088	0.069	0.000	51	0.102	0.083	0.163
Copper	mg/L	51	0.002	0.002	0.714	51	0.002	0.002	0.103
Chromium	mg/L	51	0.001	0.001	0.282	51	0.002	0.001	0.149
Cadmium	mg/L	51	0.001	0.001	0.250	51	0.001	0.001	0.322
Mercury	ng/L	12	2.73	2.00	0.035	12	2.56	3.42	0.414
Methyl mercury	ng/L	12	0.11	0.08	0.042	12	0.36	0.44	0.213
Lead	mg/L	38	0.003	0.002	0.160	38	0.002	0.003	0.238
Magnesium	mg/L	51	23.76	23.96	0.066	51	23.50	23.79	0.087
Manganese	mg/L	51	0.029	0.044	0.321	51	0.21	0.22	0.723
Nickel	mg/L	51	0.004	0.004	0.299	51	0.004	0.004	0.708
Selenium	mg/L	51	0.002	0.002	P-1	51	0.002	0.002	P-1
Zinc	mg/L	51	0.008	0.006	0.082	51	0.008	0.007	0.213
Phaeophytin-a ¹	meters	23	0.79	0.71	0.521	0	NA	NA	--
Chlorophyll-a; Log Transformed	mg/m3	51	8.47	9.02	0.310	0	NA	NA	--
Fecal Coliforms; Log Transformed	count/100	51	22.0	13.4	0.0003	0	NA	NA	--
E. coli; Log Transformed	count/100	42	17.3	10.5	0.009	0	NA	NA	--

Notes: UML = 0m, 3m and 6m; LWL = 12m, 15m, 18m

The averages are based on concentration data, and are not volume-averages. Phaeophytin-a and Chlorophyll-a were collected in the Photic Zone through 2007; in 2008 through 2010, only Tube Composite samples were collected. Averages were calculated using the laboratory reported limit of detection when an observation was reported at below that limit. NA = Not Analyzed.

P-1 indicates the Pearson correlation was 1, and the values between North and South were identical.

¹ no samples in 2011

² includes TP (1999,2005-2011) and TP(Manual) (2000-2005)