



Water-Data Report 2010

0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC

Cape Fear Basin
Haw Subbasin

LOCATION.--Lat 35°53'49", long 79°05'32" referenced to North American Datum of 1983, Orange County, NC, Hydrologic Unit 03030002, above dam, and 1.8 mi southwest of Chapel Hill.

DRAINAGE AREA.--30 mi².

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1989 to current year.

REMARKS.--Station operated to define water quality as part of a regional surface-water quality assessment. Samples for nutrient, chlorophyll *a*, and pheophytin *a* analyses were collected through a sampling zone equal to double the secchi disk depth using the depth-integration sampling technique. Prior to October 1, 2005, samples for chlorophyll *a* were analyzed using a high-performance liquid chromatography method.

**WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010**

Part 1 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Sample start time	Medium name	Sample type	Barometric pressure, mm Hg (00025)	Color, water, filtered, platinum cobalt units (00080)	Dissolved oxygen, water, unfiltered, mg/L (00300)	Dissolved oxygen, water, unfiltered, % saturation (00301)	pH, water, unfiltered, field, standard units (00400)	Specific conductance, water, unfiltered, μS/cm at 25 °C (00095)
10-09-2009	1145	Surface water	Regular	--	--	--	--	--	--
10-09-2009	1146	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	--
10-09-2009	1147	<i>QC sample - Surface water</i>	<i>Replicate</i>	--	--	--	--	--	--
10-09-2009	1150	Surface water	Regular	755	40	6.9	78	6.9	114
10-09-2009	1155	Surface water	Regular	755	--	.5	6	6.7	133
10-09-2009	1200	Surface water	Regular	755	--	.3	3	7.1	462
04-16-2010	1130	Surface water	Regular	--	--	--	--	--	--
04-16-2010	1135	Surface water	Regular	760	35	9.1	98	7.3	98
04-16-2010	1140	Surface water	Regular	760	--	.2	2	6.1	93
04-16-2010	1145	Surface water	Regular	760	--	.3	3	6.4	112
06-04-2010	1145	Surface water	Regular	--	--	--	--	--	--
06-04-2010	1150	Surface water	Regular	754	40	10.1	130	8.6	104
06-04-2010	1155	Surface water	Regular	754	--	.1	1	6.6	101
06-04-2010	1200	Surface water	Regular	754	--	.1	1	7.0	175
08-06-2010	1215	Surface water	Regular	--	--	--	--	--	--
08-06-2010	1220	Surface water	Regular	756	40	7.9	104	8.1	105
08-06-2010	1225	Surface water	Regular	756	--	.2	2	6.8	117
08-06-2010	1230	Surface water	Regular	756	--	.2	2	7.1	273

0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC—Continued

WATER-QUALITY DATA
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Part 2 of 6

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Date	Temperature, water, °C (00010)	Trans- parency, water, in situ, Secchi disc, m (00078)	Sampling depth, m (00098)	Dissolved solids dried at 180 °C, water, filtered, mg/L (70300)	Hardness, water, mg/L as CaCO ₃ (00900)	Calcium, water, filtered, mg/L (00915)	Magne- sium, water, filtered, mg/L (00925)	Potassium, water, filtered, mg/L (00935)	Sodium, water, filtered, mg/L (00930)	ANC, water, unfiltered, inflection- point, incremental titration method, field, mg/L as CaCO ₃ (00419)
10-09-2009	--	.50	1.0	--	--	--	--	--	--	--
10-09-2009	--	.50	1.0	--	--	--	--	--	--	--
10-09-2009	--	.50	1.0	--	--	--	--	--	--	--
10-09-2009	20.9	--	1.0	81	34.1	8.71	3.01	2.35	7.09	37.8
10-09-2009	20.1	--	3.0	--	--	--	--	--	--	--
10-09-2009	15.6	--	6.0	--	--	--	--	--	--	--
04-16-2010	--	1.10	2.2	--	--	--	--	--	--	--
04-16-2010	19.2	--	1.0	63	29.0	7.48	2.50	1.60	6.42	22.8
04-16-2010	11.3	--	4.0	--	--	--	--	--	--	--
04-16-2010	8.9	--	7.0	--	--	--	--	--	--	--
06-04-2010	--	.80	1.6	--	--	--	--	--	--	--
06-04-2010	27.8	--	1.0	76	33.4	8.47	2.97	1.95	6.61	27.9
06-04-2010	20.0	--	3.0	--	--	--	--	--	--	--
06-04-2010	11.4	--	7.0	--	--	--	--	--	--	--
08-06-2010	--	.80	1.6	--	--	--	--	--	--	--
08-06-2010	29.4	--	1.0	81	31.3	7.83	2.87	2.18	6.74	28.1
08-06-2010	24.8	--	3.0	--	--	--	--	--	--	--
08-06-2010	13.6	--	6.0	--	--	--	--	--	--	--

0209749990 UNIVERSITY LAKE AT INTAKES NEAR CHAPEL HILL, NC—Continued

WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

Part 3 of 6

[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Bi-carbonate, water, unfiltered, inflection-point, incremental titration method, field, mg/L (00450)	Chloride, water, filtered, mg/L (00940)	Fluoride, water, filtered, mg/L (00950)	Silica, water, filtered, mg/L as SiO ₂ (00955)	Sulfate, water, filtered, mg/L (00945)	Ammonia plus organic nitrogen, water, unfiltered, mg/L as N		Nitrate plus nitrite, water, filtered, mg/L as N	
						(00625)	(00608)	(00631)	(00613)
10-09-2009	--	--	--	--	--	.89	.074	E .010	E .001
10-09-2009	--	--	--	--	--	--	--	--	--
10-09-2009	--	--	--	--	--	--	--	--	--
10-09-2009	46.1	7.33	E .06	14.9	4.32	--	--	--	--
10-09-2009	--	--	--	--	--	1.7	.748	< .016	E .001
10-09-2009	--	--	--	--	--	11	8.04	< .016	.008
04-16-2010	--	--	--	--	--	.51	< .020	< .016	< .002
04-16-2010	27.9	8.04	E .05	10.8	7.87	--	--	--	--
04-16-2010	--	--	--	--	--	.39	.028	.054	.004
04-16-2010	--	--	--	--	--	.92	.549	E .012	.003
06-04-2010	--	--	--	--	--	.72	< .020	< .016	< .002
06-04-2010	32.8	7.56	.10	12.1	7.54	--	--	--	--
06-04-2010	--	--	--	--	--	.54	E .014	< .016	< .002
06-04-2010	--	--	--	--	--	2.1	1.50	< .016	.004
08-06-2010	--	--	--	--	--	.72	< .020	< .016	< .002
08-06-2010	34.3	7.69	.11	14.1	5.39	--	--	--	--
08-06-2010	--	--	--	--	--	.89	.079	< .016	< .002
08-06-2010	--	--	--	--	--	6.8	5.18	E .013	.008

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Date	Orthophosphate, water, filtered, mg/L as P (00671)	Phosphorus, water, unfiltered, mg/L as P (00665)	Chlorophyll a, phytoplankton, chromatographic method, μg/L (70953)	Pheophytin a, phytoplankton, μg/L (62360)	Aluminum, water, unfiltered, recoverable, μg/L (01105)	Cadmium, water, unfiltered, μg/L (01027)	Chromium, water, unfiltered, recoverable, μg/L (01034)	Cobalt, water, unfiltered, recoverable, micrograms per liter (01037)	Copper, water, unfiltered, recoverable, μg/L (01042)
10-09-2009	E .006	.053	31.0	16.5	--	--	--	--	--
10-09-2009	--	--	39.2	20.1	--	--	--	--	--
10-09-2009	--	--	34.6	17.8	--	--	--	--	--
10-09-2009	--	--	--	--	37	< .04	< .42	.22	< 1.4
10-09-2009	E .006	.066	--	--	--	--	--	--	--
10-09-2009	< .024	.098	--	--	--	--	--	--	--
04-16-2010	E .006	.040	8.3	E 4.4	--	--	--	--	--
04-16-2010	--	--	--	--	37	< .04	< .42	.12	< 1.4
04-16-2010	E .007	.026	--	--	--	--	--	--	--
04-16-2010	.014	.040	--	--	--	--	--	--	--
06-04-2010	.008	.043	17.5	E 4.4	--	--	--	--	--
06-04-2010	--	--	--	--	--	--	--	--	--
06-04-2010	E .007	.054	--	--	--	--	--	--	--
06-04-2010	.146	.262	--	--	--	--	--	--	--
08-06-2010	E .007	.044	7.8	E 1.8	--	--	--	--	--
08-06-2010	--	--	--	--	--	--	--	--	--
08-06-2010	.008	.062	--	--	--	--	--	--	--
08-06-2010	.177	.316	--	--	--	--	--	--	--

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WATER-QUALITY DATA
WATER YEAR OCTOBER 2009 TO SEPTEMBER 2010

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[%, percent; ANC, acid neutralizing capacity; CaCO₃, calcium carbonate; N, nitrogen; P, phosphorus; SiO₂, silicon dioxide; m, meters; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; μS/cm, microsiemens per centimeter; μg/L, micrograms per liter; <, less than; E, estimated]

Date	Iron, water, unfiltered, recover- able, μg/L (01045)	Lead, water, unfiltered, recover- able, μg/L (01051)	Manganes e, water, unfiltered, recover- able, μg/L (01055)	Mercury, water, unfiltered, recover- able, μg/L (71900)	Molybdenu m, water, unfiltered, recoverabl e, microgram s per liter (01062)	Nickel, water, unfiltered, recover- able, μg/L (01067)	Silver, water, unfiltered, recover- able, μg/L (01077)	Zinc, water, unfiltered, recover- able, μg/L (01092)	Arsenic, water, unfiltered, μg/L (01002)	Selenium, water, unfiltered, μg/L (01147)
10-09-2009	--	--	--	--	--	--	--	--	--	--
10-09-2009	--	--	--	--	--	--	--	--	--	--
10-09-2009	--	--	--	--	--	--	--	--	--	--
10-09-2009	550	.11	414	.010	.4	< .36	< .02	3.6	.93	.15
10-09-2009	2,840	--	2,370	--	--	--	--	--	--	--
10-09-2009	50,600	--	9,480	--	--	--	--	--	--	--
04-16-2010	--	--	--	--	--	--	--	--	--	--
04-16-2010	211	.10	58.1	.017	.4	< .36	< .02	E 1.1	.35	.11
04-16-2010	253	--	138	--	--	--	--	--	--	--
04-16-2010	1,990	--	2,170	--	--	--	--	--	--	--
06-04-2010	--	--	--	--	--	--	--	--	--	--
06-04-2010	266	--	72.0	--	--	--	--	--	--	--
06-04-2010	295	--	334	--	--	--	--	--	--	--
06-04-2010	15,700	--	4,390	--	--	--	--	--	--	--
08-06-2010	--	--	--	--	--	--	--	--	--	--
08-06-2010	227	--	102	--	--	--	--	--	--	--
08-06-2010	298	--	1,640	--	--	--	--	--	--	--
08-06-2010	35,200	--	6,670	--	--	--	--	--	--	--

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WATER YEAR OCTOBER
2009 TO SEPTEMBER
2010**

Part 6 of 6

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Date	Organic carbon, water, unfiltered, mg/L (00680)
10-09-2009	--
10-09-2009	--
10-09-2009	--
10-09-2009	9.4
10-09-2009	--
10-09-2009	--
04-16-2010	--
04-16-2010	5.5
04-16-2010	--
04-16-2010	--
06-04-2010	--
06-04-2010	7.5
06-04-2010	--
06-04-2010	--
08-06-2010	--
08-06-2010	8.0
08-06-2010	--
08-06-2010	--