

Lake Lacawac, Bruce R. Hargreaves, Lehigh University (brh0@lehigh.edu, http://www.lehigh.edu/~brh0)

4Apr2010: Station moved from dock from 12-2:30pm (new NE anchor installed)

The water level sensor (referenced to dock) settles for several days after moving platform to lake center and thus underestimates water level during this period.

Adjusted Tw sensors 13Nov07 based on comparison of depths and vs PUV & YSI sonde profiles (note that Tw at 11.3m matches PUV Tw at 12.5, probably within sediment boundary layer)

Tw12 adjusted to match others on bottom after moved to dock

H310 sensor depth & Lake level are based on differential pressure

sensor with ca 0.1mm resolution & vertical position referenced to bottom of lake.

Sensor PSIG converted to depth using density of water at 40C (1.43321 ps/m)

Lake level is referenced also to lower frame of dock at SE corner (2003-May2005)

(Actual water level at dock varies seasonally with density of water column and hourly from precip, runoff, evaporation, seepage & outflow. Outflow also varies with status of beaver dam)

Month summary	5280 ft/mile		1609.3 m/mile		WS-mph	WS Max-mph	WDIR-deg	Barom-mb	Sum Rad W/m2	Sum PAR μMols/m2	Tw 0.1m	Tw 0.5m	Tw 1m	Tw 2m	Tw 3m	Tw 4m	Tw 5m	Tw 6m	Tw 8m	Tw 10m	Tw 12m	H310 z (m)	Lakelevel-mm (40C)	cumul. rain-mm	Batt min-V	RH% CR10	RH% MUX enc	
	Tair avg-F	Tair max-F	Tair min-F	RHmin-F																								Rain-in
	73.1	71.6	54.7	7.16	4.5	30					68.5	68.9	68.8	68.4	67.5	67.1	62.9	54.6	46.1	44.9	43.9							
month	17.3	22.0	12.6	81.8	182.3	2.0	13.3	210.1	964.1	449508804	929	20.5	20.5	20.2	19.7	19.5	17.1	12.2	7.7	7.1	6.6	9.9	-159.2	182.3	12.5	31.7	28.8	

Location	% records	Date	Tair		RHair-%	Rain-mm	WS-m/s	WS Max-deg	WDIR-deg	Barom-mb	Sum Rad W/m2	Sum PAR μMols/m2	Tw 0.1m	Tw 0.5m	Tw 1m	Tw 2m	TW3m	TW4m	TW5m	TW6m	TW8m	TW H310-C	TW12m	H310 depth-m (40C)	Lakelevel-cumul. rain-mm (40C)	Batt min-V	RH% CR10	RH% MUX enc		
			Tair avg-C	Tair Hi-C																										
ND 100%	9/12/2010	244	23.6	30.6	16.3	78.3	0.0	0.9	5.1	224	967.6	21925245	45	25	24	24.1	23.2	21.8	20.9	15.4	11.2	7.5	7.0	6.5	10.0	-116.6	0.000	12.6	41.0	26.8
ND 100%	9/2/2010	245	24.5	31.2	18.3	78.0	0.0	1.2	6.3	237	965.1	22880660	47	26	25	24.7	23.5	22.0	20.9	15.6	11.3	7.5	7.0	6.5	10.0	-119.6	0.000	12.6	41.4	27.4
ND 100%	9/3/2010	246	23.2	27.1	19.8	89.1	0.0	0.9	4.1	158	957.0	12397666	27	26	25	25.3	23.8	22.2	20.9	15.6	11.3	7.5	7.0	6.5	10.0	-122.5	0.000	12.6	41.7	28.4
ND 100%	9/4/2010	247	17.4	22.2	12.5	74.3	0.0	3.2	11.3	255	954.5	17996892	37	24	24	24.2	24.0	22.4	20.9	15.7	11.4	7.5	7.1	6.6	10.0	-127.6	0.000	12.6	43.0	26.5
ND 100%	9/5/2010	248	14.0	17.9	10.4	76.5	0.0	1.9	7.5	239	963.4	18706389	38	23	23	22.6	22.7	22.3	21.0	15.7	11.4	7.5	7.1	6.6	10.0	-135.1	0.000	12.7	41.3	22.9
ND 100%	9/6/2010	249	16.6	23.4	7.3	69.9	0.0	1.6	6.7	220	970.4	22360217	46	22	22	22.0	21.9	21.7	21.2	15.8	11.5	7.5	7.1	6.6	10.0	-140.1	0.000	12.7	40.4	23.9
ND 100%	9/7/2010	250	23.1	28.3	18.5	69.0	0.0	2.6	8.5	203	967.4	1984533	46	22	22	22.2	21.9	21.6	21.3	15.9	11.5	7.6	7.1	6.6	10.0	-144.4	0.000	12.6	41.2	27.4
ND 100%	9/8/2010	251	20.6	24.1	14.8	67.9	0.0	3.5	10.8	257	959.1	19989008	41	22	22	22.2	22.2	21.9	21.3	16.1	11.6	7.6	7.1	6.6	9.9	-149.4	0.000	12.7	42.7	27.7
ND 100%	9/9/2010	252	14.3	15.3	13.1	82.3	0.0	3.4	8.7	291	959.1	5729602	12	21	21	21.1	21.2	21.1	21.2	16.2	11.6	7.6	7.1	6.6	9.9	-156.0	0.000	12.6	42.1	26.9
ND 100%	9/10/2010	253	14.5	16.9	12.7	83.8	0.3	3.0	309	309	961.4	8685155	19	20	20	20.0	20.1	20.0	20.2	16.9	11.7	7.6	7.1	6.5	9.9	-160.9	0.300	12.5	42.5	27.2
ND 100%	9/11/2010	254	15.6	21.4	9.6	76.4	0.0	1.3	5.7	158	965.1	2199588	45	20	20	19.9	19.6	19.4	19.6	17.5	11.7	7.6	7.1	6.6	9.9	-164.4	0.300	12.5	42.6	25.9
ND 100%	9/12/2010	255	14.2	15.9	13.3	94.7	6.2	1.5	6.6	124	965.6	1831379	4	19	19	19.6	19.6	19.3	19.5	17.8	12.2	7.7	7.1	6.5	9.9	-163.7	6.500	12.5	43.0	27.9
ND 100%	9/13/2010	256	15.5	21.1	12.2	91.5	0.9	1.4	6.4	199	963.3	15879441	33	19	19	19.4	19.3	19.1	19.2	17.4	11.9	7.6	7.1	6.5	9.9	-161.9	7.400	12.5	45.0	29.4
ND 100%	9/14/2010	257	13.7	18.3	10.2	82.9	0.1	2.3	9.7	263	963.0	12608598	45	19	19	19.4	19.4	19.2	19.2	16.5	12.0	7.7	7.1	6.5	9.9	-164.0	7.500	12.6	45.4	28.0
ND 100%	9/15/2010	258	12.9	17.5	8.7	77.8	0.0	2.5	8.7	268	967.8	20710334	42	19	19	19.1	19.1	18.9	19.0	17.7	12.1	7.7	7.1	6.5	9.9	-168.2	7.500	12.7	44.6	26.4
ND 100%	9/16/2010	259	13.3	17.6	6.9	85.3	5.9	1.7	8.9	181	966.1	9846949	21	19	19	18.7	18.8	18.6	18.3	18.0	13.5	7.7	7.1	6.5	9.9	-169.6	13.400	12.7	43.1	28.8
ND 100%	9/17/2010	260	14.0	16.8	11.7	90.9	0.4	2.4	9.5	293	964.0	11771241	25	18	18	18.6	18.6	18.5	18.7	17.7	12.4	7.7	7.1	6.5	9.9	-166.9	13.800	12.6	46.4	35.1
ND 100%	9/18/2010	261	14.3	21.0	9.3	84.3	0.1	1.2	5.7	198	970.7	20692051	43	19	19	18.5	18.4	18.2	18.4	17.8	12.5	7.7	7.1	6.5	9.9	-169.6	13.900	12.6	46.3	30.1
ND 100%	9/19/2010	262	17.7	24.8	11.8	82.5	0.4	1.3	5.6	245	968.4	6700662	14	19	19	19.0	18.7	18.3	18.4	17.9	12.7	7.8	7.1	6.6	9.9	-173.0	14.300	12.6	34.4	30.4
ND 100%	9/20/2010	263	13.4	17.0	9.8	74.3	0.1	3.1	11.1	277	966.9	21522259	49	19	19	18.8	18.8	18.6	18.6	18.0	13.0	7.8	7.2	6.7	10.0	-180.5	14.400	12.6	12.8	25.9
ND 100%	9/21/2010	264	13.6	21.4	4.3	71.1	0.0	1.8	6.7	178	968.5	20569550	42	18	18	18.5	18.5	18.2	18.4	18.1	13.1	7.8	7.2	6.7	10.0	-183.8	14.400	12.6	11.6	25.4
ND 100%	9/22/2010	265	20.6	27.0	16.6	77.2	2.0	1.8	289	289	966.1	15803954	33	19	19	18.6	18.5	18.2	18.3	18.0	13.5	7.9	7.2	6.6	10.0	-185.6	14.400	12.6	11.6	26.4
ND 100%	9/23/2010	266	19.2	23.3	14.2	88.8	0.1	0.9	6.0	173	970.6	12517614	35	20	19	19.2	18.7	18.3	18.4	17.9	13.5	7.9	7.2	6.7	10.0	-184.2	16.500	12.6	11.2	31.6
ND 100%	9/24/2010	267	23.8	29.7	17.5	78.6	0.0	2.4	9.3	171	965.7	16790145	26	20	20	19.9	19.0	18.4	18.4	17.8	13.5	7.9	7.3	6.7	10.0	-185.0	16.500	12.6	13.5	32.1
ND 100%	9/25/2010	268	21.8	25.4	13.6	64.0	0.0	2.6	9.5	203	960.3	19803164	40	21	21	20.7	19.5	18.6	18.5	17.7	13.5	7.9	7.3	6.7	10.0	-187.6	16.500	12.6	13.7	32.1
ND 100%	9/26/2010	269	13.9	16.7	9.4	83.4	0.0	1.2	4.2	200	966.4	11308189	23	20	20	20.1	20.1	18.8	18.6	17.7	13.7	7.9	7.3	6.8	9.9	-190.6	16.500	12.6	11.0	29.9
ND 100%	9/27/2010	270	15.6	20.8	13.0	98.1	12.5	2.1	8.9	60	964.4	2590495	6	19	19	19.4	19.5	19.2	18.7	18.1	15.1	8.3	7.3	6.8	10.0	-187.1	29.000	12.5	11.7	32.9
ND 100%	9/28/2010	271	20.2	23.4	16.4	91.5	16.8	2.9	10.7	149	965.6	7287458	16	19	19	19.3	19.4	19.1	18.7	18.0	15.4	9.9	7.3	6.9	10.0	-167.6	45.800	12.6	16.8	36.8
ND 100%	9/29/2010	272	16.1	21.8	11.9	82.8	0.0	1.1	5.5	164	962.6	15248190	32	19	19	19.3	19.2	19.0	18.8	17.6	14.2	8.7	7.3	6.9	10.0	-160.9	45.800	12.5	12.9	33.3
ND 100%	9/30/2010	273	17.8	22.7	14.6	98.6	136.5	2.6	13.3	218	957.1	1809077	5	19	19	19.2	19.3	19.0	18.9	17.8	14.8	8.9	7.4	7.0	10.1	-88.6	182.300	12.5	15.4	39.5

Lake water & energy budget daily summary from hourly data (negative values: loss from lake; runoff & seepage term is residual after adjusting lake level change for all others)

Ratio of lake watershed to lake area: 2.61767578		Runoff & seepage as % of watershed area precip: 11.7%										Sum Terrepap2=Air PD.mbar/WS.m/s's					
Grand sum/avg	17.30	20.52	20.48	20.46	20.21	19.73	19.50	1.8	449508804	-60467	130.9	182.3	56.3	-89.1	-7.5	-8.8	
9/1/2010	244	23.5	25.04	24.38	24.12	23.15	21.83	0.8	21925245	-11533	-2.953	0.0	-1.9	-2.0	-0.2	1.2	
9/2/2010	245	24.48	25.26	25.17	24.69	23.51	22.02	0.89	1.1	2280660	-1570	-3.023	0.0	-1.5	-2.3	-0.4	1.2
9/3/2010	246	23.22	25.53	25.49	25.33	23.83	22.18	0.89	0.8	12936766	-1018	-2.320	0.0	-1.9	-1.5	-0.1	1.2
9/4/2010	247	17.42	24.15	24.16	24.23	24.02	22.39	2.088	2.9	17996892	-5674	-8.472	0.0	-0.8	-8.4	-0.4	1.2
9/5/2010	248	13.98	22.53	22.53	22.60	22.68	22.31	21.01	1.7	18706389	-3931	-5.976	0.0	-1.2	-5.8	-0.2	1.2
9/6/2010	249	16.59	22.00	21.98	22.03	21.93	21.86	21.22	1.5	22360217	-3044	-4.394	0.0	-0.7	-4.5	-0.4	1.2
9/7/2010	250	23.06	22.18	22.14	22.17	21.95	21.61	21.28	2.3	21984533	-2172	-4.711	0.0	-2.0	-3.2	-0.7	1.2
9/8/2010	251	20.57	22.11	22.11	22.19	22.24	22.10	21.33	3.2	19989008	-4113	-5.836	0.0	-0.2	-6.1	-0.7	1.2
9/9/2010	252	14.2															