

Lake Lacawac, Bruce R. Hargreaves, Lehigh University (brh0@lehigh.edu, http://www.lehigh.edu/~brh0) 41°22.5'N 75°17.3'W elevation 428m
 18 Apr 2014, 10:40-11:40am EDT; platform moved to lake center 16Nov 2013: platform move to dock 11:45-13:00 EDT
 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.

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 psf/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 sum	avg Tw	Tair avg	Tair max	Tair min	Rain-in	WS-mpH	WS max	Std pressure at sea level = 1 atm = 760 mm Hg = 29.92" Hg = 1013.2 mbars		Std pressure at 428m elevation = 724 mm Hg, 29.61 in. Hg. (965.2 mbars)														Lakelevel-mm (40C)	cumul. rain-mm	Batt min-V	RH% CR10 enc	RH% MUX enc	
		F	F	F				Tw 0.1m F	Tw 0.5m F	Tw 1m F	Tw 2m F	Tw 3m F	Tw 4m F	Tw 5m F	Tw 6m F	Tw 8m F	Tw 10m F	Tw 12m F	H310_z (m)										
(All)	15.3	20.2	29.6	9.2	74.6	101.8	1.7	12.0	241.8	964.7	661724363	1365	25.2	25.1	25.0	24.8	21.2	15.8	11.7	9.7	7.7	6.4	6.3	11.1	13.2	101.8	12.4	18.4	20.2

PAR & PYR Integration period=15min instead of 60min after 11am on 9/11/2013

Data

Location	% records	Date	Day of Yr	Tair avg-C	Tair Hi-C	Tair Min-C	RHair-%	Rain-mm	WS-max	WS Min	WDIR-deg	Barom-mb	Sum Rad J/m2	Sum PAR μMols/2s	Tw 0.1m	Tw 0.5m	Tw 1m	Tw 2m	Tw 3m	TW4m	TW5m	TW6m	TW8m	TW H310-C	TW12m	H310 depth-m	Lakelevel-cumul. rain-mm (40C)	Batt min-V	RH% CR10 enc	RH% MUX enc	
LC	100%	7/1/2014	182	24.8	29.2	19.8	72.5	0.0	2.3	8.2	218	961.5	26097519	55.0	25.85	25.78	25.66	23.95	18.97	14.41	11.01	9.41	7.01	6.3	6.17	11.1	32.4	0.000	12.5	14.5	15.3
LC	100%	7/2/2014	183	24.4	28.8	21.1	83.8	4.6	1.6	10.9	192	961.7	17352230	36.4	26.72	26.52	26.38	24.32	19.02	14.44	11.05	9.45	7.04	6.3	6.20	11.1	29.1	4.600	12.5	15.5	17.8

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

Ratio of lake watershed to lake area	2.6176758	Runoff & seepage as % of watershed area precip	22%
Grand sum/avg	20.23 25.22 25.10 25.05 24.49 21.20 15.81	1.6	661724363 -102755 -79.3 101.8 59.5 -142.6 -8.0 0.0

Nominal diffuse NR from water=2%	-8921.7	506171.9	16%
Sum Terrestrial=Air/PD, mbar*WS, m/s/s		19	19.3
Sum Terrestrial=Air/PD, mbar*WS, m/s/s		-3.6	-19.6

DATE	DOY	Data														Sum Terrestrial=Air/PD, mbar*WS, m/s/s	Sum Solar Heat input (absorbed from solar rad), KJ/m2	Sum H evap solar heat absorbed (KJ/m2)	Solar heat evap loss (KJ/m2)	% of absorbed solar heat lost via evap	Solar Heat input absorbed from solar rad, Tw 0-2m	Starting Tw (0-6m)	Ending Tw (0-6m)	actual dTw, 0-6m	RESID: NON-SOLAR FLUX to offset absorbed solar to match dTw		
		AvgTair	AvgTw	AvgTw0.5	AvgTw1m	AvgTw2m	AvgTw3m	AvgTw4m	AvgWS CSI	SumRad J/m2	SumH Evap (0.9-KJ/m2)	Sum Lk L, M/S Rain	Sum Runoff & seepage, SumLake L	Sum Terrestrial=Air/PD, mbar*WS, m/s/s	6000000										6000000	evap loss (deg C-dm)	RESID: NON-SOLAR FLUX to offset absorbed solar to match dTw LESS EVAP (deg C-dm)
7/1/2014	182	24.75	18.82	25.76	25.63	23.94	18.96	14.42	2.1	26397486	-2866	-5.777	0.0	0.2	-4.0	-0.5	24271	-2580	21691	10.6%	0.97	18.49	18.65	0.16	(0.81)	-0.10	(0.70)
7/2/2014	183	24.53	26.71	26.51	26.37	24.30	19.02	14.45	1.5	17352185	-1967	1.417	4.6	1.4	-2.7	-0.2	16138	-1770	14388	11.0%	0.64	18.65	18.98	0.33	(0.31)	-0.07	(0.24)
7/3/2014	184	22.34	27.05	26.70	26.62	24.48	19.23	14.56	1.2	19997196	-2489	12.039	15.9	1.4	-3.5	-0.2	18597	-2240	16357	12.0%	0.74	18.98	19.08	0.10	(0.64)	-0.09	(0.55)