

17 April 2011: platform moved to lake center, 1-2pm

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.

19Sept12: Tw1.0m failed; modeled from Tw0.5 and Tw2.0 until

H310 sensor depth & lake level are based on differential pressure

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

Sensor PSIG converted to depth using density of water at 40C (1.43321 psim)

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)

rain sum (in.) Aug-Sep2011--> 20.71		5280 ft/mile		1609.3 m/mile		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)		
Tair avg F	Tair min F	Tair max F	WS-mph	WS-mph	WS-mph	WS-mph	WS-mph	WS-mph	WS-mph	
Month sum avg Tw										
14.3	17.3	28.7	5.0	92.9	253.7	1.5	9.6	202.3	966.0	361350837
month (All)										

Location	% records	Date	Day of Yr		Tair-C	Tair-Hi-C	Tair-Min-	Rain-	WS-Max	WS-Min	WS-DIR	Barom-mb	Sum Rad W/m2	Sum PAR uMol/m2/s	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 depth-m (40C)		Lakelevel-cumul. rain-mm (40C)		Batt min-V		RH% CR10		RH% MUX	
			Tair-C	Tair-Hi-C											Tair-Min-	RHair-%	WS-m/s	deg	Sum PAR uMol/m2/s	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-enc	cumul. rain-enc	Batt min-V	RH% CR10	RH% MUX																																
LC 100%	100%	9/1/2011	244	19.1	23.6	13.2	86.7	0.0	1.2	5.8	217	970.0	18438249	38	22.05	21.91	21.69	20.73	20.17	19.00	12.45	9.22	7.15	6.8	7.08	9.8	52.4	0.000	12.6	16.6	59.3																																					
LC 100%	100%	9/2/2011	245	18.6	21.8	16.9	89.2	0.0	1.5	4.7	188	967.9	10992862	23	21.86	21.84	22.02	20.87	20.16	18.79	12.56	9.22	7.16	6.8	7.05	9.8	43.4	0.000	12.6	16.0	59.5																																					
LC 100%	100%	9/3/2011	246	22.3	28.7	17.7	92.4	0.0	1.6	5.4	248	963.9	17570659	37	22.66	21.83	21.83	21.06	20.17	18.70	12.61	9.22	7.15	6.8	7.03	9.8	36.7	0.000	12.6	18.2	56.8																																					

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 water to lake area: 2.61767576												Runoff & seepage as % of watershed area precip: 25.5%				
Grand sum/avg	17.32	20.81	20.62	20.41	19.68	19.05	18.03	1.3	361350837	-37526	56.5	253.7	168.8	-55.3	-5.5	0.0
SumTerre vap2=Air PD.mbar^WS.m/s^s																

DATE	Day/Yr	Avg Tair C		Avg Tw 0.5 Avg	Avg Tw 1m	Avg Tw 2m	Avg Tw 3m	Avg Tw 4m	Avg WS	Sum Rad	Sum H Evap	Sum Lk. lvl	Sum Rain	Sum Lake seepage	Sum Lake evap	Sum Terre vap2
		Tair C	Tair Hi-C													
9/1/2011	244	19.01	22.06	21.91	20.79	20.73	20.17	19.00	1.1	18438249	-9378	0.0	-2.2	-1.9	-0.6	-0.6
9/2/2011	245	18.62	21.86	21.84	22.02	20.87	20.16	18.79	1.4	10992862	-1389	-7.69	0.0	-1.5	-2.0	-0.3
9/3/2011	246	22.35	28.66	21.83	21.83	21.06	20.17	18.70	1.5	17570659	-474	-5.44	0.0	-1.4	-0.7	-0.3

Normal diffuse	#N/A	#N/A	15%	18	#N/A	#N/A
#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A

==SCALE ADJ (1.0e0 adjustment) 4.184 (cm3) 1.000 (joule/calorie is joule/degree for 4.184)

SumTerre vap2=Air PD.mbar^WS.m/s^s 4.184 (40C) ==CONVERT HEAT TO DEGREES cm3/m2 (for 0-4m integrated depth) 6000000

Solar Heat input (KJ/m2)	Sum H evap (KJ/m2)	solar heat absorbed - evap loss (KJ/m2)	% of absorbed solar heat lost via evap	Solar Heat input (absorbed from solar rad), Tw 0-6m starting Tw (0-6m)	ending Tw (0-6m)	actual dTww 0-6m	RESID: NON-SOLAR FLUX to offset absorbed solar to match ftw LESS EVAP (degC 0-6m)	Evap loss (degC 0-6m)
17148	-1178	15970	6.9%	18.26	18.34	0.08	(0.60)	-0.03
10223	-1250	8973	12.2%	18.34	18.27	(0.07)	(0.48)	-0.05
16341	-427	15914	2.6%	18.27	18.39	(0.12)	(0.53)	-0.02

slope intercept 4.184 6000000

RESID: NON-SOLAR FLUX to offset absorbed solar to match ftw LESS EVAP (degC 0-6m)

Evap loss (degC 0-6m)	ftw LESS EVAP (degC 0-6m)
(0.60)	-0.03
(0.48)	-0.05
(0.53)	-0.02
(0.41)	-0.01
(0.11)	-0.05
(0.48)	-0.08
(0.49)	-0.06
(0.34)	-0.02
(0.45)	-0.02
(0.79)	-0.05
(0.35)	-0.05
(0.58)	-0.04
(0.69)	-0.06
(0.48)	-0.03
(0.75)	-0.12
(1.09)	-0.14
(0.77)	-0.09
(0.97)	-0.09
(0.94)	-0.08
(0.49)	-0.03
(1.86)	-0.01
1.34	0.00
0.08	0.00
(0.37)	-0.01
(0.39)	-0.01
(0.45)	-0.02
(0.21)	-0.02
(0.09)	-0.02
(0.55)	-0.04
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A
#N/A	#N/A