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ENGR 115 Lab 14

In flows coinsidered :	Precipitation						
	tributaries						
outflows considered:	evaporation						
	outflow outlets						
Input method 1 (Velocity meter)	fts/sec	cross-section[cm^2]	cross section [ft^2]	Flow rate [ft^3 per second]	Flow rate [m^3 per second]		
run 1	0.15	6615	7.12032673	1.068049009	0.03024378		
run 2	0.1	6615	7.12032673	0.712032673	0.02016252		
run 3	0.3	6615	7.12032673	2.136098019	0.06048756		
inflow measurement							
Input Method 2 (ping pong ball ball flow rate)	distance[cm]	cross-section[cm]	Inflow (m3/s)	time[s]			
Run 1	7.25	6615	0.00316	13.19			
Run 2	6.9	6615	0.00286	14.59			
Run 3	6.31	6615	0.00372	11.22			
Output (Bucket Method)	Outflow (m3/s)	[s]	diameter [cm]	height [cm]			
run 1	0.00206	30	28.8	9.5			
run 2	0.00227	30	28.8	9.5			
run 3	0.00186	30	28.8	9.5			
Precipitation:	no rain						
evaporation estimate	0.54						

Average Velocity for Input 1 [m^3 per second]	0.03696462
Average Velocity for Input 2 [m^3 per second]	0.003246667
Average Velocity for Outflow [m^3 per second]	0.002063333

Average Velocity between inputs 1 and 2	0.020105643

Difference between Input and output	0.01804231
Is fern Lake at steady State?	According to our data, no. Its volume is increasing at a very slow rate

Pan evaporation in month of December [in/month]	0.72
Estimated evaporation [in/month]	0.54
Estimated evaporation [m^/s]	5.29167E-09
Surface Area of Fern Lake [km^2]	0.008

Estimated evaporation [m^3/s]	4.23333E-05