

Green Roof Storm Routing Program

Using

Version12 Farzaneh Razaei Resu

Modified Pul's Method

Roof Number = 4

Roof Input Data

Roof Dimensions:	Length =	20	ft			
	Width =	70	ft			
	Area =	1400	ft ²			
				Pre	Elevations	
				Storage	Inches	
Elevation of Roof Bottom =					0	
	Drainage Layer	None				
	Total Porosity =	0.000	0.000	L ³ /L ³		
	Field Capacity =	0.000	0.000	L ³ /L ³		
	Drainable Porosity =	0.000	0.000	L ³ /L ³		
Elevation of Top of Drainage layer =					0.00	
	Media	Shale				
	Total Porosity =	0.540	0.334	L ³ /L ³		
	Field Capacity =	0.334	0.183	L ³ /L ³		
	Drainable Porosity =	0.206	0.151	L ³ /L ³		
Elevation of Top Of Media Layer =					4.00	
	Green Roof Plants					
	Total Porosity =	0.108	0.108	L ³ /L ³		
	Field Capacity =	0.108	0.059	L ³ /L ³		
	Drainable Porosity =	0.000	0.049	L ³ /L ³		
	Space Above Green Roof Plants					
	Total Porosity =	0.980	0.980	L ³ /L ³		
	Field Capacity =	0.950	0.950	L ³ /L ³		
	Drainable Porosity =	0.030	0.030	L ³ /L ³		
Elevation of Top of Green Roof Plants =					7.00	

Days Since Last Rain =	4	days
Month =	11	
Maximum ET =	0.200	in/day
ET Since last storm =	0.78	inches
ET Since last storm =	90.52	ft ³

Month
1
2
3

	Water	Water	Water	Water	Storage	
	That	That	Left	Left	Left	
	Can Be	Can Be	in	in	in	
	Lost	Lost	Layer	Layer	Layer	
Later	Inches	ft³	ft³	ft³	Inches	Inches

Drainage Layer	0	0.00	0.00	0.00	0.000	0.000	9
Media	1.336	155.87	70.48	85.39	0.732	0.604	10
Plants	0.380	44.33	20.05	24.29	0.208	0.172	11
Total =	1.716	200.20	90.52	109.68	0.940	0.776	12
Storage Before Runoff Begins =					90.52	ft³	

Preparation of Stage-Storage
and Outflow Indicator Relationships.

Elevations from bottom to top of Roof.

Storage in Gallons

Outflow is in Gallons per Minute (Gpm)

Outflow Indicator values computed from Storage in Gallons.

		$\Delta t = 0.0833$ hrs				
		2S/dt+O			Initial	
		Outflow			Wetting	
		Indicator			Elevation	
		cfs			Storage	
		cfs			ft³	
Elevation	Storage	Outflow				
inches	ft³	cfs				
Drainage Layer	0.00	0.00	0.0000	0.0000	0.00	5.60
Drainage Layer	0.00	0.00	0.0000	0.0000	0.00	5.60
Media	1.00	24.03	0.0287	0.1889	1.00	28.88
Media	1.50	36.05	0.0963	0.3367	1.50	40.52
Media	2.00	48.07	0.2144	0.5350	2.00	52.16
Media	2.50	60.08	0.3489	0.7497	2.50	63.80
Media	3.00	72.10	0.3899	0.8707	3.00	75.44
Media	3.50	84.12	0.4873	1.0483	3.50	87.08
Media	4.00	96.13	0.5848	1.2260	4.00	98.72
Plants	4.50	153.30	1.0332	2.0556	4.50	155.89
Plants	5.00	210.47	1.7544	3.1581	5.00	213.06
Plants	5.50	267.63	2.3393	4.1242	5.50	270.22
Plants	6.00	324.80	5.8481	8.0143	6.00	327.39
Plants	6.50	381.97	8.1874	10.7349	6.50	384.56
Plants	7.00	439.13	23.3926	26.3213	7.00	441.72

Modified Pul's Routing							
		Table					
		$\Delta t = 0.0833$ hrs				Flow	
						of	
						Elevation	
						of	
						Water	
						Stored	
						in	
						Roof	
						Roof	
Time	cfs	In+(In+1)	2S/dt-O	2S/dt+O	2S/dt+O	On+1	Zn+1
hrs	In	cfs	cfs	cfs	cfs	cfs	Storage
						ft³	

0.00	0.0000	0.0000	0.00	0.00000		0.00	0.00	0.0
0.08	0.0000	0.0039	0.00	0.00000	0.00	0.000000	0.00	0.0
0.17	0.0039	0.0039	0.00	0.00389	0.00	0.000000	0.00	0.0
0.25	0.0000	0.0039	0.01	0.00778	0.00	0.000000	0.00	0.0
0.33	0.0039	0.0078	0.01	0.01167	0.00	0.000000	0.00	0.0
0.42	0.0039	0.0078	0.02	0.01944	0.00	0.000000	0.00	0.0
0.50	0.0039	0.0078	0.03	0.02722	0.00	0.000000	0.00	0.0
0.58	0.0039	0.0117	0.04	0.03500	0.00	0.000000	0.00	0.0
0.67	0.0078	0.0156	0.05	0.04667	0.00	0.000000	0.00	0.0
0.75	0.0078	0.0467	0.06	0.06222	0.00	0.000000	0.00	0.0
0.83	0.0389	0.0817	0.11	0.10889	0.00	0.000000	0.00	0.0
0.92	0.0428	0.0544	0.19	0.19056	0.00	0.000000	0.00	0.0
1.00	0.0117	0.0233	0.25	0.24500	0.00	0.000000	0.00	0.0
1.08	0.0117	0.0194	0.27	0.26833	0.00	0.000000	0.00	0.0
1.17	0.0078	0.0233	0.29	0.28778	0.00	0.000000	0.00	0.0
1.25	0.0156	0.0272	0.31	0.31111	0.00	0.000000	0.00	0.0
1.33	0.0117	0.0272	0.34	0.33833	0.00	0.000000	0.00	0.0
1.42	0.0156	0.0311	0.37	0.37	0.00	0.000000	0.00	0.0
1.50	0.0156	0.0272	0.40	0.40	0.00	0.000000	0.00	0.0
1.58	0.0117	0.0194	0.42	0.42	0.00	0.000000	0.00	0.0
1.67	0.0078	0.0156	0.44	0.44	0.00	0.000000	0.00	0.0
1.75	0.0078	0.0156	0.46	0.46	0.00	0.000000	0.00	0.0
1.83	0.0078	0.0156	0.47	0.47	0.00	0.000000	0.00	0.0
1.92	0.0078	0.0117	0.49	0.49	0.00	0.000000	0.00	0.0
2.00	0.0039	0.0078	0.50	0.50	0.00	0.000000	0.00	0.0
2.08	0.0039	0.0078	0.51	0.51	0.00	0.000000	0.00	0.0
2.17	0.0039	0.0039	0.52	0.52	0.00	0.000000	0.00	0.0
2.25	0.0000	0.0039	0.52	0.52	0.00	0.000000	0.00	0.0
2.33	0.0039	0.0078	0.53	0.53	0.00	0.000000	0.00	0.0
2.42	0.0039	0.0078	0.53	0.53	0.00	0.000000	0.00	0.0
2.50	0.0039	0.0039	0.54	0.54	0.00	0.000000	0.00	0.0
2.58	0.0000	0.0000	0.54	0.54	0.00	0.000000	0.00	0.0
2.67	0.0000	0.0000	0.54	0.54	0.00	0.000000	0.00	0.0
2.75	0.0000	0.0078	0.54	0.54	0.00	0.000000	0.00	0.0
2.83	0.0078	0.0117	0.55	0.55	0.00	0.000000	0.00	0.0
2.92	0.0039	0.0078	0.56	0.56	0.00	0.000000	0.00	0.0
3.00	0.0039	0.0078	0.57	0.57	0.00	0.000000	0.00	0.0
3.08	0.0039	0.0078	0.58	0.58	0.00	0.000000	0.00	0.0
3.17	0.0039	0.0039	0.59	0.59	0.00	0.000000	0.00	0.0
3.25	0.0000	0.0000	0.59	0.59	0.00	0.000000	0.00	0.0
3.33	0.0000	0.0000	0.59	0.59	0.00	0.000000	0.00	0.0
3.42	0.0000	0.0156	0.59	0.59	0.00	0.000000	0.00	0.0
3.50	0.0156	0.0194	0.61	0.61	0.00	0.000000	0.00	0.0
3.58	0.0039	0.0039	0.63	0.63	0.00	0.000000	0.00	0.0
3.67	0.0000	0.0078	0.63	0.63	0.00	0.000000	0.00	0.0
3.75	0.0078	0.0117	0.64	0.64	0.00	0.000000	0.00	0.0
3.83	0.0039	0.0039	0.65	0.65	0.00	0.000000	0.00	0.0
3.92	0.0000	0.0000	0.65	0.65	0.00	0.000000	0.00	0.0
4.00	0.0000	0.0078	0.65	0.65	0.00	0.000000	0.00	0.0
4.08	0.0078	0.0428	0.66	0.66	0.00	0.000410	0.01	0.3
4.17	0.0350	0.0389	0.69	0.70	0.04	0.006773	0.24	5.7

4.25	0.0039	0.0039	0.71	0.73	0.07	0.010617	0.37	8.9
4.33	0.0000	0.0000	0.70	0.71	0.05	0.007986	0.28	6.7
4.41	0.0000	0.0000	0.68	0.70	0.04	0.005564	0.19	4.7
4.50	0.0000	0.0000	0.68	0.68	0.03	0.003876	0.14	3.3
4.58	0.0000	0.0039	0.67	0.68	0.02	0.002700	0.09	2.3
4.66	0.0039	0.0039	0.67	0.67	0.02	0.002471	0.09	2.1
4.75	0.0000	0.0000	0.67	0.67	0.02	0.002311	0.08	1.9
4.83	0.0000	0.0428	0.67	0.67	0.01	0.001610	0.06	1.4
4.91	0.0428	0.0739	0.69	0.71	0.05	0.007610	0.27	6.4
5.00	0.0311	0.0389	0.73	0.77	0.11	0.016508	0.58	13.8
5.08	0.0078	0.0506	0.74	0.77	0.11	0.017399	0.61	14.6
5.16	0.0428	0.0622	0.75	0.79	0.13	0.019789	0.69	16.6
5.25	0.0194	0.0272	0.77	0.81	0.15	0.023223	0.81	19.5
5.33	0.0078	0.0156	0.75	0.79	0.13	0.020307	0.71	17.0
5.41	0.0078	0.0117	0.73	0.77	0.11	0.016507	0.58	13.8
5.50	0.0039	0.0117	0.72	0.75	0.09	0.013269	0.46	11.1
5.58	0.0078	0.0078	0.71	0.73	0.07	0.011014	0.38	9.2
5.66	0.0000	0.0311	0.70	0.72	0.06	0.008853	0.31	7.4
5.75	0.0311	0.0428	0.71	0.73	0.07	0.010886	0.38	9.1
5.83	0.0117	0.0428	0.72	0.75	0.09	0.014072	0.49	11.8
5.91	0.0311	0.0311	0.73	0.77	0.11	0.016291	0.57	13.7
6.00	0.0000	0.0000	0.73	0.76	0.11	0.016068	0.56	13.5
6.08	0.0000	0.0000	0.71	0.73	0.07	0.011194	0.39	9.4
6.16	0.0000	0.0000	0.69	0.71	0.05	0.007799	0.27	6.5
6.25	0.0000	0.0000	0.68	0.69	0.04	0.005433	0.19	4.6
6.33	0.0000	0.0000	0.68	0.68	0.02	0.003785	0.13	3.2
6.41	0.0000	0.0000	0.67	0.68	0.02	0.002637	0.09	2.2
6.50	0.0000	0.0000	0.67	0.67	0.01	0.001837	0.06	1.5
6.58	0.0000	0.0000	0.66	0.67	0.01	0.001280	0.04	1.1
6.66	0.0000	0.0000	0.66	0.66	0.01	0.000892	0.03	0.7
6.75	0.0000	0.0000	0.66	0.66	0.00	0.000621	0.02	0.5
6.83	0.0000	0.0000	0.66	0.66	0.00	0.000433	0.02	0.4
6.91	0.0000	0.0000	0.66	0.66	0.00	0.000301	0.01	0.3
7.00	0.0000	0.0000	0.66	0.66	0.00	0.000210	0.01	0.2
7.08	0.0000	0.0000	0.66	0.66	0.00	0.000146	0.01	0.1
7.16	0.0000	0.0000	0.66	0.66	0.00	0.000102	0.00	0.1
7.25	0.0000	0.0000	0.66	0.66	0.00	0.000071	0.00	0.1
7.33	0.0000	0.0000	0.66	0.66	0.00	0.000049	0.00	0.0
7.41	0.0000	0.0000	0.66	0.66	0.00	0.000034	0.00	0.0
7.50	0.0000	0.0000	0.66	0.66	0.00	0.000024	0.00	0.0
7.58	0.0000	0.0000	0.66	0.66	0.00	0.000017	0.00	0.0
7.66	0.0000	0.0000	0.66	0.66	0.00	0.000012	0.00	0.0
7.75	0.0000	0.0000	0.66	0.66	0.00	0.000008	0.00	0.0
7.83	0.0000	0.0156	0.66	0.66	0.00	0.000006	0.00	0.0
7.91	0.0156	0.0311	0.67	0.67	0.02	0.002363	0.08	2.0
8.00	0.0156	0.0156	0.69	0.70	0.04	0.006365	0.22	5.3
8.08	0.0000	0.0000	0.69	0.70	0.04	0.006793	0.24	5.7
8.16	0.0000	0.0000	0.68	0.69	0.03	0.004733	0.17	4.0
8.25	0.0000	0.0039	0.67	0.68	0.02	0.003297	0.12	2.8
8.33	0.0039	0.0039	0.67	0.68	0.02	0.002887	0.10	2.4
8.41	0.0000	0.0000	0.67	0.68	0.02	0.002601	0.09	2.2

8.50	0.0000	0.0000	0.67	0.67	0.01	0.001812	0.06	1.5
8.58	0.0000	0.0000	0.66	0.67	0.01	0.001262	0.04	1.1
8.66	0.0000	0.0000	0.66	0.66	0.01	0.000879	0.03	0.7
8.75	0.0000	0.0000	0.66	0.66	0.00	0.000613	0.02	0.5
8.83	0.0000	0.0039	0.66	0.66	0.00	0.000427	0.01	0.4
8.91	0.0039	0.0039	0.66	0.66	0.01	0.000887	0.03	0.7
9.00	0.0000	0.0000	0.66	0.67	0.01	0.001208	0.04	1.0
9.08	0.0000	0.0000	0.66	0.66	0.01	0.000841	0.03	0.7
9.16	0.0000	0.0039	0.66	0.66	0.00	0.000586	0.02	0.5
9.25	0.0039	0.0078	0.66	0.66	0.01	0.000998	0.03	0.8
9.33	0.0039	0.0039	0.67	0.67	0.01	0.001875	0.07	1.6
9.41	0.0000	0.0000	0.67	0.67	0.01	0.001896	0.07	1.6
9.50	0.0000	0.0000	0.66	0.67	0.01	0.001321	0.05	1.1
9.58	0.0000	0.0000	0.66	0.66	0.01	0.000920	0.03	0.8
9.66	0.0000	0.0000	0.66	0.66	0.00	0.000641	0.02	0.5
9.75	0.0000	0.0000	0.66	0.66	0.00	0.000447	0.02	0.4
9.83	0.0000	0.0000	0.66	0.66	0.00	0.000311	0.01	0.3
9.91	0.0000	0.0000	0.66	0.66	0.00	0.000217	0.01	0.2
10.00	0.0000	0.0000	0.66	0.66	0.00	0.000151	0.01	0.1
10.08	0.0000	0.0000	0.66	0.66	0.00	0.000105	0.00	0.1
10.16	0.0000	0.0000	0.66	0.66	0.00	0.000073	0.00	0.1
10.25	0.0000	0.0000	0.66	0.66	0.00	0.000051	0.00	0.0
10.33	0.0000	0.0000	0.66	0.66	0.00	0.000036	0.00	0.0
10.41	0.0000	0.0000	0.66	0.66	0.00	0.000025	0.00	0.0
10.50	0.0000	0.0000	0.66	0.66	0.00	0.000017	0.00	0.0
10.58	0.0000	0.0000	0.66	0.66	0.00	0.000012	0.00	0.0
10.66	0.0000	0.0000	0.66	0.66	0.00	0.000008	0.00	0.0
10.75	0.0000	0.0000	0.66	0.66	0.00	0.000006	0.00	0.0
10.83	0.0000	0.0000	0.66	0.66	0.00	0.000004	0.00	0.0
10.91	0.0000	0.0000	0.66	0.66	0.00	0.000003	0.00	0.0
11.00	0.0000	0.0000	0.66	0.66	0.00	0.000002	0.00	0.0
11.08	0.0000	0.0000	0.66	0.66	0.00	0.000001	0.00	0.0
11.16	0.0000	0.0000	0.66	0.66	0.00	0.000001	0.00	0.0
11.25	0.0000	0.0000	0.66	0.66	0.00	0.000001	0.00	0.0
11.33	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.41	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.50	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.58	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.66	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.75	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.83	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
11.91	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.00	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.08	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.16	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.25	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.33	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.41	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.50	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.58	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.66	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0

12.74	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.83	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.91	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
12.99	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.08	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.16	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.24	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.33	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.41	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.49	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.58	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.66	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.74	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.83	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.91	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
13.99	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
14.08	0.0000	0.0078	0.66	0.66	0.00	0.000000	0.00	0.0
14.16	0.0078	0.0078	0.66	0.67	0.01	0.001180	0.04	1.0
14.24	0.0000	0.0000	0.67	0.67	0.01	0.002001	0.07	1.7
14.33	0.0000	0.0000	0.66	0.67	0.01	0.001394	0.05	1.2
14.41	0.0000	0.0000	0.66	0.66	0.01	0.000971	0.03	0.8
14.49	0.0000	0.0000	0.66	0.66	0.00	0.000677	0.02	0.6
14.58	0.0000	0.0000	0.66	0.66	0.00	0.000471	0.02	0.4
14.66	0.0000	0.0000	0.66	0.66	0.00	0.000328	0.01	0.3
14.74	0.0000	0.0000	0.66	0.66	0.00	0.000229	0.01	0.2
14.83	0.0000	0.0000	0.66	0.66	0.00	0.000159	0.01	0.1
14.91	0.0000	0.0000	0.66	0.66	0.00	0.000111	0.00	0.1
14.99	0.0000	0.0000	0.66	0.66	0.00	0.000077	0.00	0.1
15.08	0.0000	0.0000	0.66	0.66	0.00	0.000054	0.00	0.0
15.16	0.0000	0.0000	0.66	0.66	0.00	0.000038	0.00	0.0
15.24	0.0000	0.0000	0.66	0.66	0.00	0.000026	0.00	0.0
15.33	0.0000	0.0000	0.66	0.66	0.00	0.000018	0.00	0.0
15.41	0.0000	0.0000	0.66	0.66	0.00	0.000013	0.00	0.0
15.49	0.0000	0.0000	0.66	0.66	0.00	0.000009	0.00	0.0
15.58	0.0000	0.0000	0.66	0.66	0.00	0.000006	0.00	0.0
15.66	0.0000	0.0000	0.66	0.66	0.00	0.000004	0.00	0.0
15.74	0.0000	0.0000	0.66	0.66	0.00	0.000003	0.00	0.0
15.83	0.0000	0.0000	0.66	0.66	0.00	0.000002	0.00	0.0
15.91	0.0000	0.0000	0.66	0.66	0.00	0.000001	0.00	0.0
15.99	0.0000	0.0000	0.66	0.66	0.00	0.000001	0.00	0.0
16.08	0.0000	0.0000	0.66	0.66	0.00	0.000001	0.00	0.0
16.16	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.24	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.33	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.41	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.49	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.58	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.66	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.74	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.83	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0
16.91	0.0000	0.0000	0.66	0.66	0.00	0.000000	0.00	0.0

State = NC

1 = Use the
2 = Use the

lts

RAIN = 2

Plant Interception = 0.05 in

Routing Interval Δt =

Cumu ET Rate (in)	% Full Biomass %	Plant Interception (in)	Water Left in Roof (in)
0.200	100	0.050	1.716
0.200	100	0.050	1.516
0.396	99	0.050	1.320
0.588	98	0.049	1.128
0.776	97	0.049	0.940
0.960	96	0.048	0.756
1.141	95	0.048	0.575
1.319	94	0.047	0.397
1.492	93	0.047	0.224
1.663	92	0.046	0.053
1.830	91	0.046	-0.114
1.994	90	0.045	-0.278
2.154	89	0.045	-0.438
2.312	88	0.044	-0.596
2.466	87	0.044	-0.750
2.617	86	0.043	-0.901
2.765	85	0.043	-1.049
2.911	84	0.042	-1.195
3.053	83	0.042	-1.337
3.193	82	0.041	-1.477
3.330	81	0.041	-1.614
3.464	80	0.040	-1.748

State	Multiplier
NC	5.4
PA	1.00

Rainfall Hyetograph

Time Hrs	Rainfall Intensity in/hr
0	0.000
0.0833	0.000
0.1666	0.120
0.2499	0.000
0.3332	0.120
0.4165	0.120
0.4998	0.120
0.5831	0.120
0.6664	0.240
0.7497	0.240
0.833	1.200
0.9163	1.320
0.9996	0.360
1.0829	0.360
1.1662	0.240
1.2495	0.480
1.3328	0.360
1.4161	0.480
1.4994	0.480
1.5827	0.360
1.666	0.240
1.7493	0.240
1.8326	0.240
1.9159	0.240
1.9992	0.120
2.0825	0.120
2.1658	0.120
2.2491	0.000
2.3324	0.120
2.4157	0.120
2.499	0.120
2.5823	0.000
2.6656	0.000
2.7489	0.000
2.8322	0.240
2.9155	0.120

Maximum ET Rate in/month	Maximum ET Rate in/day	Equation Coeff.	Equation Coeff.	Season	Equation Coeff.
5.99	0.200	257.58	0.0199	Winter	47.70
5.99	0.200	257.58	0.0199	Winter	47.70
13.19	0.440	72.47	0.1674	Fall/Sp	13.42
13.19	0.440	72.47	0.1674	Fall/Sp	13.42
17.36	0.579	75.49	0.2165	Early Su	13.98
17.36	0.579	75.49	0.2165	Early Su	13.98
28.34	0.945	100.82	0.2718	Hot Su	18.67
17.36	0.579	75.49	0.2165	Early Su	13.98

0.00	0.00	0.0	0.0	0.00	0.00	21.33	6.7473	0.000
0.000	0.000	0.0	0.0	0.00	0.00	21.33	6.8306	0.000
0.000	0.010	0.0	0.3	0.11	0.00	21.38	6.9139	0.000
0.000	0.010	0.0	0.3	0.00	0.00	21.38	6.9972	0.000
0.000	0.020	0.0	0.5	0.11	0.00	21.43	7.0805	0.000
0.000	0.030	0.0	0.8	0.11	0.00	21.48	7.1638	0.000
0.000	0.040	0.0	1.0	0.11	0.00	21.54	7.2471	0.000
0.000	0.050	0.0	1.3	0.11	0.00	21.59	7.3304	0.000
0.000	0.070	0.0	1.8	0.22	0.00	21.69	7.4137	0.000
0.000	0.090	0.0	2.3	0.22	0.00	21.80	7.497	0.000
0.000	0.190	0.0	4.8	1.10	0.00	22.32	7.5803	0.000
0.000	0.300	0.0	7.6	1.21	0.00	22.89	7.6636	0.000
0.000	0.330	0.0	8.4	0.33	0.00	23.04	7.7469	0.000
0.000	0.360	0.0	9.1	0.33	0.00	23.20	7.8302	0.000
0.000	0.380	0.0	9.6	0.22	0.00	23.30	7.9135	0.480
0.000	0.420	0.0	10.7	0.44	0.00	23.51	7.9968	0.480
0.000	0.450	0.0	11.4	0.33	0.00	23.67	8.0801	0.000
0.000	0.490	0.0	12.4	0.44	0.00	23.88	8.1634	0.000
0.000	0.530	0.0	13.5	0.44	0.00	24.08	8.2467	0.000
0.000	0.560	0.0	14.2	0.33	0.00	24.24	8.33	0.120
0.000	0.580	0.0	14.7	0.22	0.00	24.34	8.4133	0.000
0.000	0.600	0.0	15.2	0.22	0.00	24.45	8.4966	0.000
0.000	0.620	0.0	15.7	0.22	0.00	24.55	8.5799	0.000
0.000	0.640	0.0	16.2	0.22	0.00	24.66	8.6632	0.000
0.000	0.650	0.0	16.5	0.11	0.00	24.71	8.7465	0.000
0.000	0.660	0.0	16.8	0.11	0.00	24.76	8.8298	0.000
0.000	0.670	0.0	17.0	0.11	0.00	24.81	8.9131	0.120
0.000	0.670	0.0	17.0	0.00	0.00	24.81	8.9964	0.000
0.000	0.680	0.0	17.3	0.11	0.00	24.86	9.0797	0.000
0.000	0.690	0.0	17.5	0.11	0.00	24.91	9.163	0.000
0.000	0.700	0.0	17.8	0.11	0.00	24.97	9.2463	0.120
0.000	0.700	0.0	17.8	0.00	0.00	24.97	9.3296	0.120
0.000	0.700	0.0	17.8	0.00	0.00	24.97	9.4129	0.000
0.000	0.700	0.0	17.8	0.00	0.00	24.97	9.4962	0.000
0.000	0.720	0.0	18.3	0.22	0.00	25.07	9.5795	0.000
0.000	0.730	0.0	18.5	0.11	0.00	25.12	9.6628	0.000
0.000	0.740	0.0	18.8	0.11	0.00	25.17	9.7461	0.000
0.000	0.750	0.0	19.0	0.11	0.00	25.23	9.8294	0.000
0.000	0.760	0.0	19.3	0.11	0.00	25.28	9.9127	0.000
0.000	0.760	0.0	19.3	0.00	0.00	25.28	9.996	0.000
0.000	0.760	0.0	19.3	0.00	0.00	25.28	10.0793	0.000
0.000	0.760	0.0	19.3	0.00	0.00	25.28	10.1626	0.000
0.000	0.800	0.0	20.3	0.44	0.00	25.49	10.2459	0.000
0.000	0.810	0.0	20.6	0.11	0.00	25.54	10.3292	0.000
0.000	0.810	0.0	20.6	0.00	0.00	25.54	10.4125	0.000
0.000	0.830	0.0	21.1	0.22	0.00	25.64	10.4958	0.000
0.000	0.840	0.0	21.3	0.11	0.00	25.69	10.5791	0.000
0.000	0.840	0.0	21.3	0.00	0.00	25.69	10.6624	0.000
0.000	0.840	0.0	21.3	0.00	0.00	25.69	10.7457	0.000
0.001	0.860	0.0	21.8	0.22	0.01	23.46	10.829	0.000
0.018	0.950	0.5	24.1	0.99	0.19	24.62	10.9123	0.000

0.046	0.960	1.2	24.4	0.11	0.30	25.31	10.9956	0.000
0.066	0.960	1.7	24.4	0.00	0.23	24.84	11.0789	0.000
0.081	0.960	2.0	24.4	0.00	0.16	24.40	11.1622	0.000
0.091	0.960	2.3	24.4	0.00	0.11	24.09	11.2455	0.000
0.097	0.960	2.5	24.4	0.00	0.08	23.88	11.3288	0.000
0.104	0.970	2.6	24.6	0.11	0.07	23.84	11.4121	0.000
0.110	0.970	2.8	24.6	0.00	0.07	23.81	11.4954	0.000
0.114	0.970	2.9	24.6	0.00	0.05	23.68	11.5787	0.000
0.133	1.080	3.4	27.4	1.21	0.22	24.77	11.662	0.000
0.176	1.160	4.5	29.5	0.88	0.47	26.38	11.7453	0.000
0.221	1.180	5.6	30.0	0.22	0.49	26.54	11.8286	0.000
0.271	1.289	6.9	32.8	1.21	0.56	26.98	11.9119	0.000
0.331	1.339	8.4	34.0	0.55	0.66	27.60	11.9952	0.000
0.383	1.359	9.7	34.5	0.22	0.58	27.07	12.0785	0.000
0.426	1.379	10.8	35.0	0.22	0.47	26.38	12.1618	0.000
0.460	1.389	11.7	35.3	0.11	0.38	25.80	12.2451	0.000
0.488	1.409	12.4	35.8	0.22	0.31	25.39	12.3284	0.000
0.511	1.409	13.0	35.8	0.00	0.25	24.99	12.4117	0.000
0.539	1.489	13.7	37.8	0.88	0.31	25.36	12.495	0.000
0.575	1.519	14.6	38.6	0.33	0.40	25.94	12.5783	0.000
0.617	1.599	15.7	40.6	0.88	0.46	26.34	12.6616	0.000
0.658	1.599	16.7	40.6	0.00	0.46	26.30	12.7449	0.000
0.687	1.599	17.5	40.6	0.00	0.32	25.42	12.8282	0.000
0.707	1.599	18.0	40.6	0.00	0.22	24.80	12.9115	0.000
0.721	1.599	18.3	40.6	0.00	0.15	24.37	12.9948	0.000
0.731	1.599	18.6	40.6	0.00	0.11	24.07	13.0781	0.000
0.738	1.599	18.7	40.6	0.00	0.07	23.87	13.1614	0.000
0.742	1.599	18.9	40.6	0.00	0.05	23.72	13.2447	0.000
0.746	1.599	18.9	40.6	0.00	0.04	23.62	13.328	0.000
0.748	1.599	19.0	40.6	0.00	0.03	23.55	13.4113	0.000
0.750	1.599	19.0	40.6	0.00	0.02	23.50	13.4946	0.000
0.751	1.599	19.1	40.6	0.00	0.01	23.47	13.5779	0.000
0.751	1.599	19.1	40.6	0.00	0.01	23.44	13.6612	0.000
0.752	1.599	19.1	40.6	0.00	0.01	23.43	13.7445	0.000
0.752	1.599	19.1	40.6	0.00	0.00	23.41	13.8278	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.41	13.9111	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.40	13.9944	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.40	14.0777	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.39	14.161	0.240
0.753	1.599	19.1	40.6	0.00	0.00	23.39	14.2443	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.39	14.3276	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.39	14.4109	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.39	14.4942	0.000
0.753	1.599	19.1	40.6	0.00	0.00	23.39	14.5775	0.000
0.759	1.639	19.3	41.6	0.44	0.07	23.82	14.6608	0.000
0.776	1.679	19.7	42.7	0.44	0.18	24.54	14.7441	0.000
0.793	1.679	20.1	42.7	0.00	0.19	24.62	14.8274	0.000
0.805	1.679	20.5	42.7	0.00	0.13	24.25	14.9107	0.000
0.814	1.679	20.7	42.7	0.00	0.09	23.99	14.994	0.000
0.821	1.689	20.9	42.9	0.11	0.08	23.91	15.0773	0.000
0.828	1.689	21.0	42.9	0.00	0.07	23.86	15.1606	0.000

0.832	1.689	21.1	42.9	0.00	0.05	23.72	15.2439	0.000
0.836	1.689	21.2	42.9	0.00	0.04	23.62	15.3272	0.000
0.838	1.689	21.3	42.9	0.00	0.02	23.55	15.4105	0.000
0.840	1.689	21.3	42.9	0.00	0.02	23.50	15.4938	0.000
0.841	1.689	21.4	42.9	0.00	0.01	23.46	15.5771	0.000
0.843	1.699	21.4	43.2	0.11	0.03	23.55	15.6604	0.000
0.846	1.699	21.5	43.2	0.00	0.03	23.61	15.7437	0.000
0.848	1.699	21.5	43.2	0.00	0.02	23.54	15.827	0.000
0.850	1.699	21.6	43.2	0.00	0.02	23.49	15.9103	0.000
0.852	1.709	21.6	43.4	0.11	0.03	23.57	15.9936	0.000
0.857	1.719	21.8	43.7	0.11	0.05	23.73	16.0769	0.000
0.862	1.719	21.9	43.7	0.00	0.05	23.73	16.1602	0.000
0.865	1.719	22.0	43.7	0.00	0.04	23.63	16.2435	0.000
0.868	1.719	22.0	43.7	0.00	0.03	23.55	16.3268	0.000
0.869	1.719	22.1	43.7	0.00	0.02	23.50	16.4101	0.000
0.870	1.719	22.1	43.7	0.00	0.01	23.47	16.4934	0.000
0.871	1.719	22.1	43.7	0.00	0.01	23.44	16.5767	0.000
0.872	1.719	22.1	43.7	0.00	0.01	23.43	16.66	0.000
0.872	1.719	22.2	43.7	0.00	0.00	23.41	16.7433	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.41	16.8266	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.40	16.9099	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.40	16.9932	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.0765	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.1598	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.2431	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.3264	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.4097	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.493	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.5763	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.6596	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.7429	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.8262	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.9095	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	17.9928	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.0761	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.1594	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.2427	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.326	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.4093	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.4926	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.5759	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.6592	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.7425	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.8258	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.9091	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	18.9924	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	19.0757	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	19.159	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	19.2423	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	19.3256	0.000
0.873	1.719	22.2	43.7	0.00	0.00	23.39	19.4089	0.000

e synthetic hyetograph.
e hyetograph from your storm.

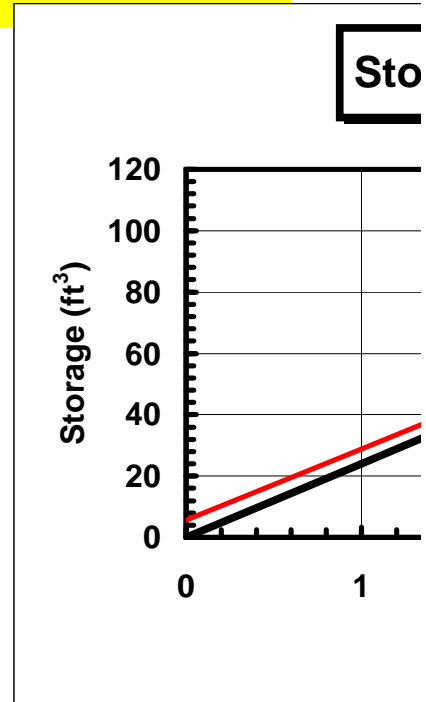
July

0.0833 Hr

Inflow Gpm	Inflow Cfs
0.000	0.00000
0.000	0.00000
1.746	0.00389
0.000	0.00000
1.746	0.00389
1.746	0.00389
1.746	0.00389
1.746	0.00389
3.491	0.00778
3.491	0.00778
17.456	0.03889
19.201	0.04278
5.237	0.01167
5.237	0.01167
3.491	0.00778
6.982	0.01556
5.237	0.01167
6.982	0.01556
6.982	0.01556
5.237	0.01167
3.491	0.00778
3.491	0.00778
3.491	0.00778
3.491	0.00778
1.746	0.00389
1.746	0.00389
1.746	0.00389
0.000	0.00000
1.746	0.00389
1.746	0.00389
1.746	0.00389
0.000	0.00000
0.000	0.00000
0.000	0.00000
3.491	0.00778
1.746	0.00389

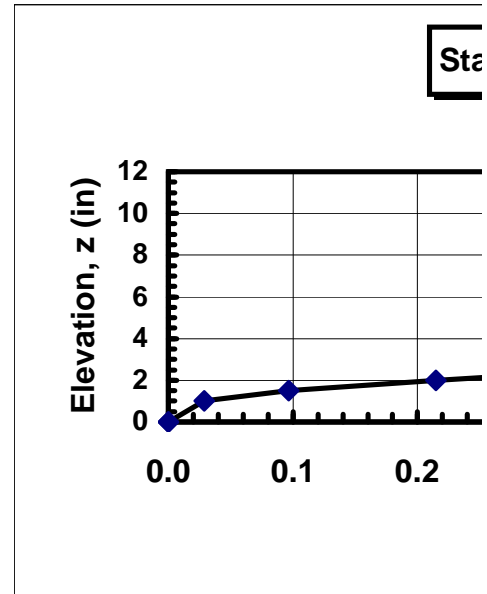
Stage-Storage Relationship

Elevation inches	Wetting	Drying
	Storage ft ³	Storage ft ³
0.00	0.00	5.60
0.00	0.00	5.60
1.00	24.03	28.88
1.50	36.05	40.52
2.00	48.07	52.16
2.50	60.08	63.80
3.00	72.10	75.44
3.50	84.12	87.08
4.00	96.13	98.72
		155.89
		213.06
		270.22
		327.39



Stage-Discharge Relationship

Outflow cfs	Elevation feet
0.0000	0.00
0.0000	0.00
0.0287	1.00
0.0963	1.50
0.2144	2.00
0.3489	2.50
0.3899	3.00
0.4873	3.50
0.5848	4.00



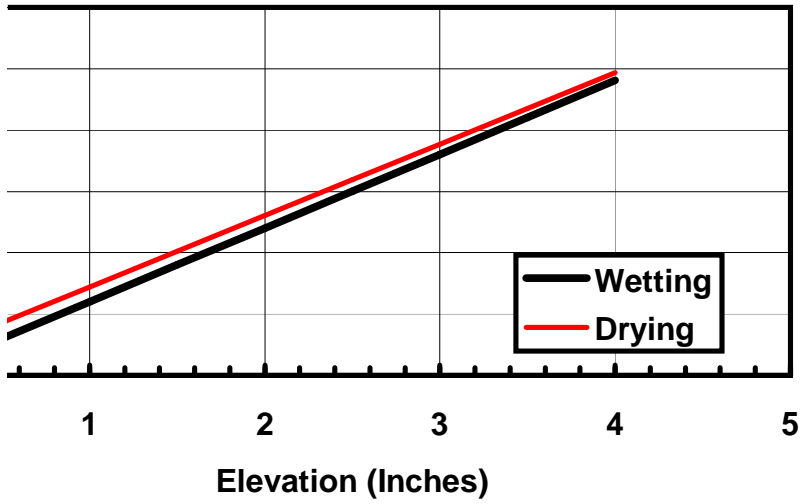
Outflow Indicator Relationship

Wetting	Wetting	Drying	Drying
	2S/dt+O		2S/dt+O

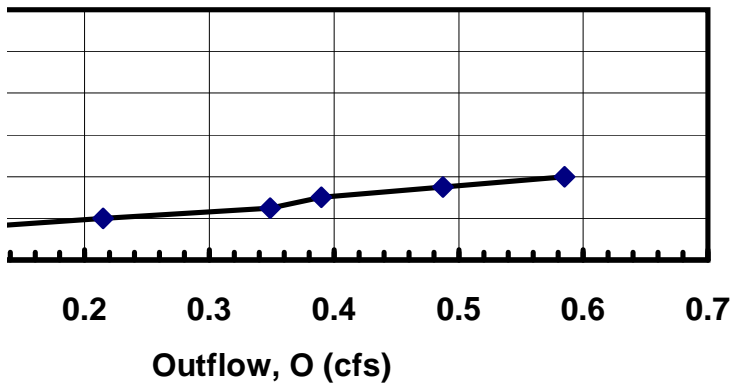
0.000	0.00000
0.000	0.00000
0.000	0.00000
0.000	0.00000
0.000	0.00000
0.000	0.00000
0.000	0.00000
0.000	0.00000



Storage - Elevation

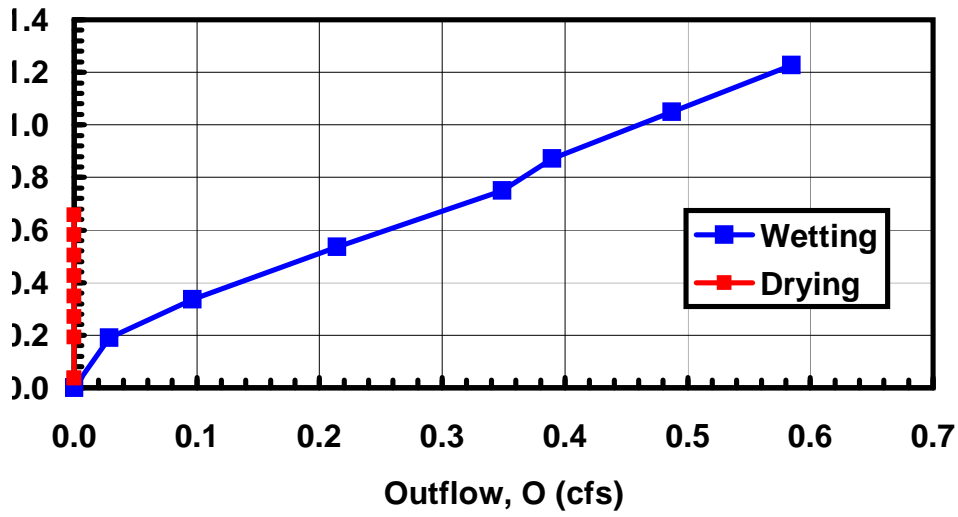


Stage - Outflow

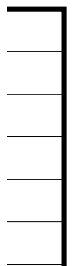
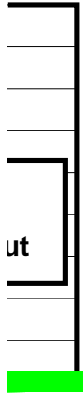
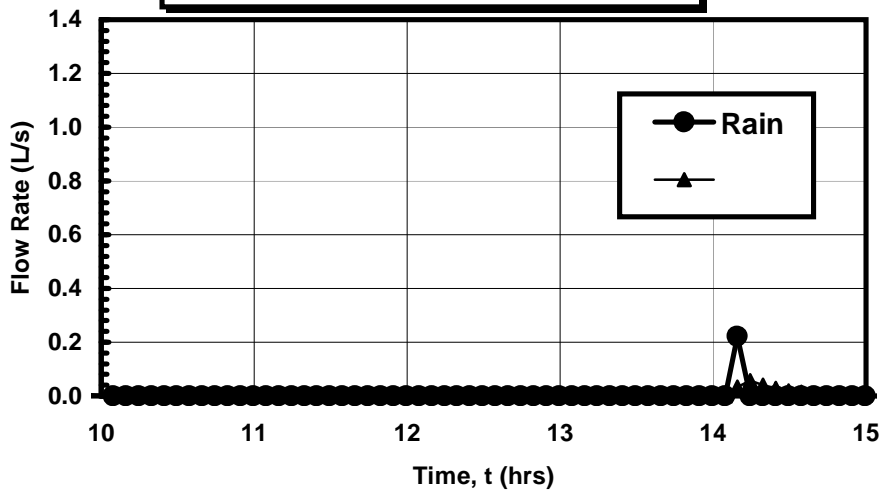


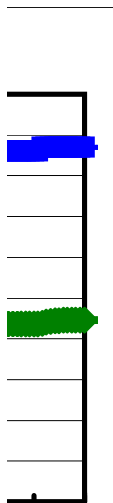
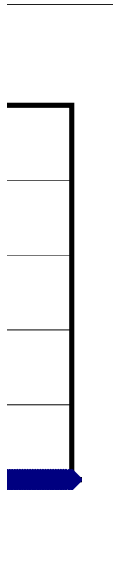
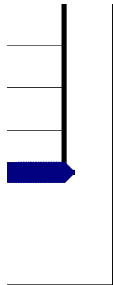
$2S/dt+O$ versus O

2S/dt+O versus O



100-Year Rain After 5 Dry Days in July





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