

Appendix C

RTK Parameter Optimization Spreadsheets

RTK Parameter Optimization

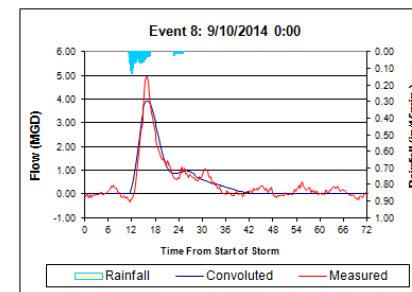
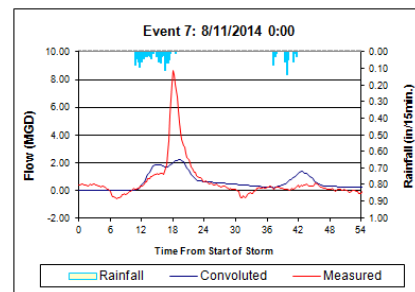
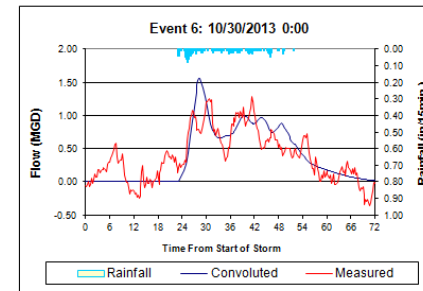
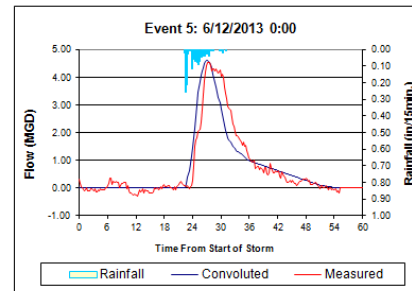
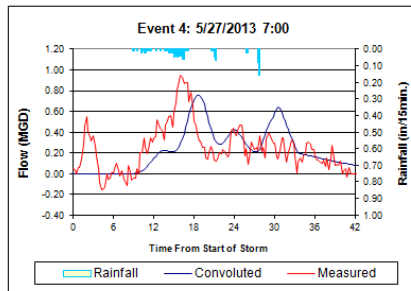
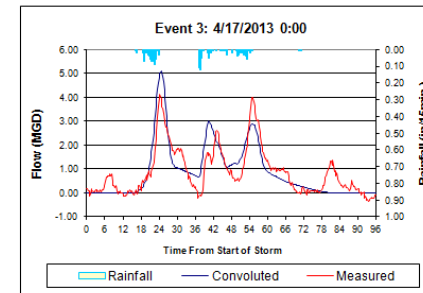
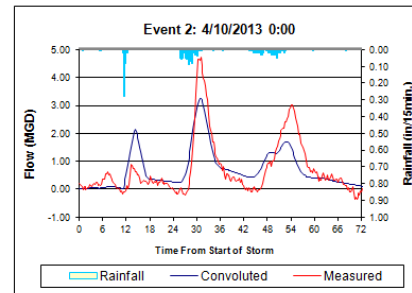
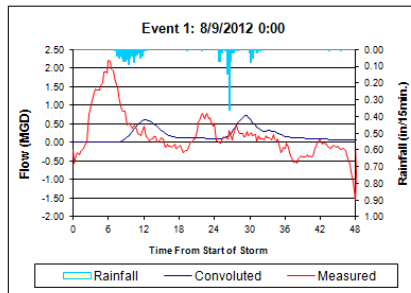
Meter BG-1

Area = 16538 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.00	1.50	3.00	6.00
Triangle 2	0.51	2.89	1.00	5.77
Triangle 3	0.49	3.82	6.35	28.08

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	9.14	--	0850	2.01	2.01	0.40	0.04%	Time stamp of meter data incorrect
2	0	9.94	--	0850	2.01	2.01	2.17	0.24%	
3	0	11.17	--	0850	1.84	1.84	3.46	0.42%	
4	0	2.91	--	LV-RG02	1.02	1.02	0.42	0.09%	Rainfall data suspect
5	0	6.73	--	0850	1.49	1.49	1.70	0.25%	
6	0	4.17	--	LV-RG02	1.42	1.42	1.14	0.18%	
7	0	16.02	--	0850	1.64	1.64	1.36	0.19%	High spatial variability
8	1	4.32	4.32	0850	1.44	1.44	1.43	0.22%	
Total	N/A	64.40	4.32	N/A	12.87	12.87	12.09	0.20%	



RTK Parameter Optimization

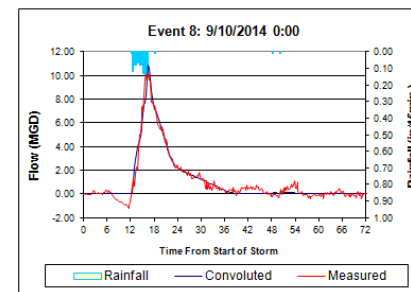
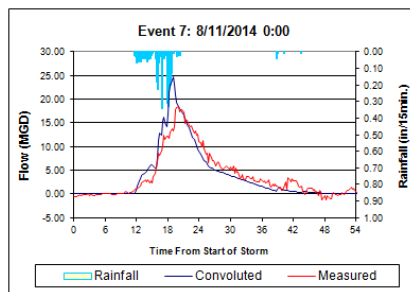
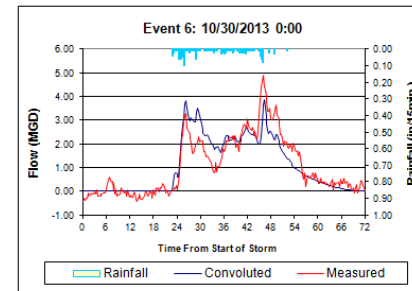
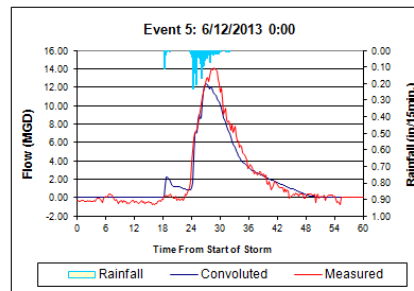
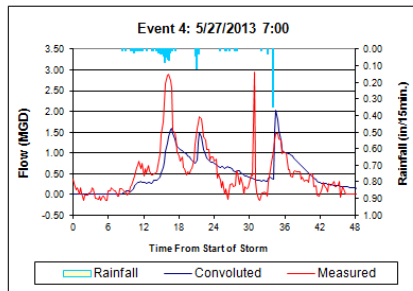
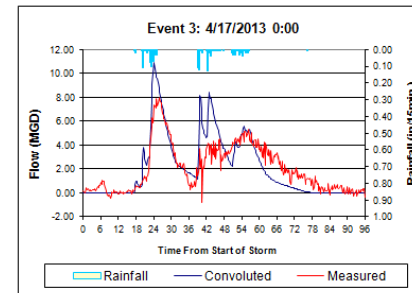
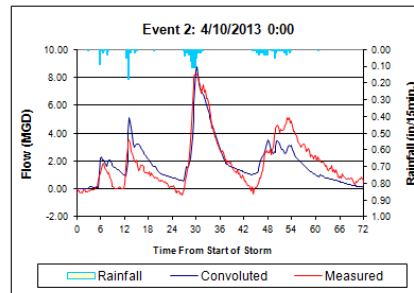
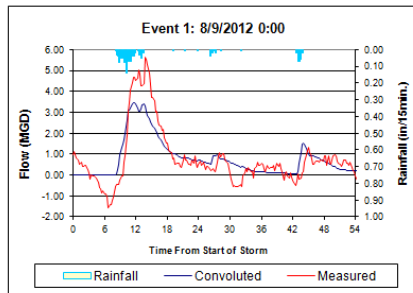
Meter LV11+LV04

Area = 6906 acres

	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.18	0.38	3.00	1.54
Triangle 2	0.35	1.50	4.23	7.85
Triangle 3	0.47	3.00	6.85	23.54

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	10.94	--	LV-RG01	1.43	1.43	1.83	0.68%	DWF timing issue at start
2	0	15.84	--	LV-RG01	1.96	1.96	5.73	1.56%	
3	0	26.38	--	LV-RG01	1.73	1.73	8.17	2.52%	High spatial variability
4	0	5.87	--	LV-RG01	1.22	1.22	1.03	0.45%	
5	0	13.37	--	LV-RG01	1.78	1.78	5.08	1.52%	
6	0	8.87	--	LV-RG01	1.48	1.48	3.17	1.14%	
7	0	30.91	--	LV-RG01	2.80	2.80	8.55	1.63%	
8	1	7.36	7.36	LV-RG01	1.54	1.54	3.26	1.13%	
Total	N/A	119.53	7.36	N/A	13.94	13.94	36.81	1.33%	



RTK Parameter Optimization

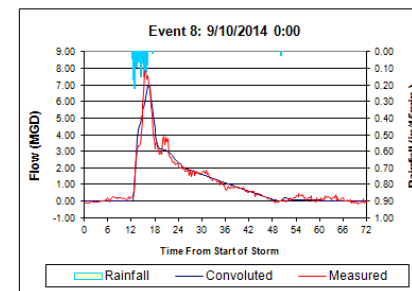
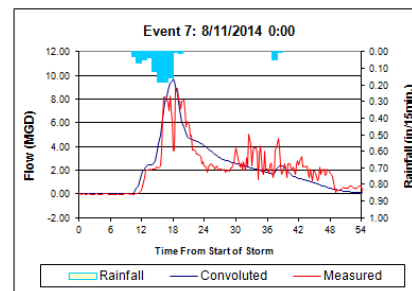
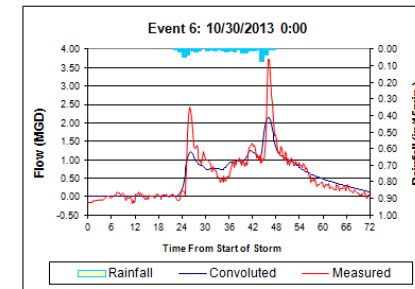
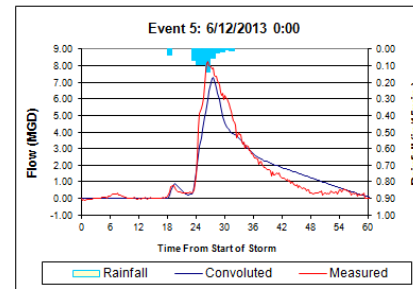
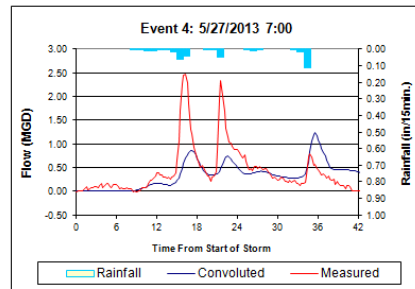
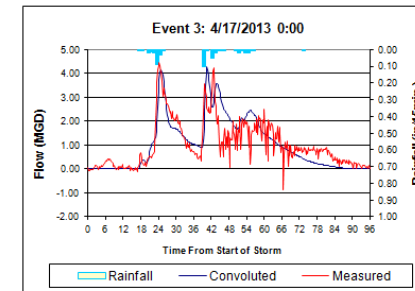
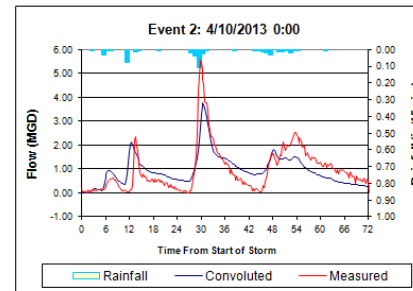
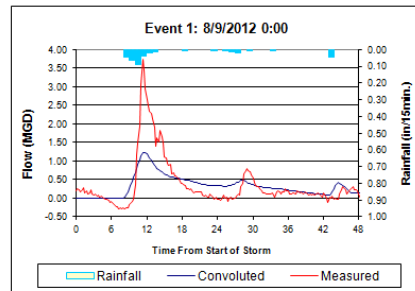
Meter LV14

Area = 1288 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.28	0.84	3.00	3.36
Triangle 2	0.14	2.78	2.77	10.50
Triangle 3	0.57	6.96	4.03	34.99

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/ Volume (MG)	Event Capture	
1	0	6.50	--	PG-033	1.42	1.42	0.72	1.45%	
2	0	10.06	--	PG-033	1.98	1.98	2.95	4.26%	
3	0	12.05	--	PG-033	1.90	1.90	4.08	6.14%	
4	0	6.04	--	PG-033	1.43	1.43	0.76	1.52%	
5	0	9.75	--	PG-033	2.05	2.05	3.61	5.04%	
6	0	4.71	--	PG-033	1.67	1.67	1.63	2.80%	
7	0	16.40	--	PG-033	3.58	3.58	4.85	3.88%	High spatial variability
8	1	5.27	5.27	R-12	1.63	1.63	3.04	5.34%	
Total	N/A	70.80	5.27	N/A	15.66	15.66	21.65	3.58%	



RTK Parameter Optimization

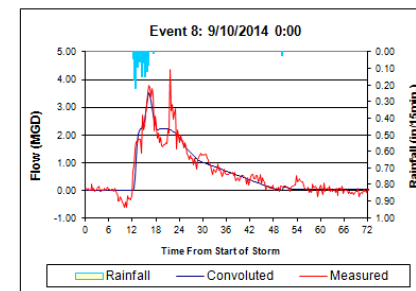
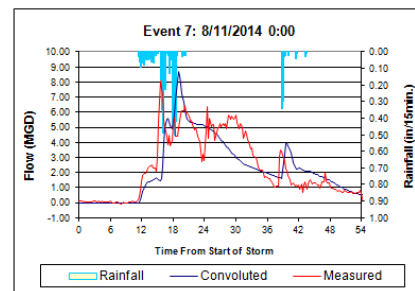
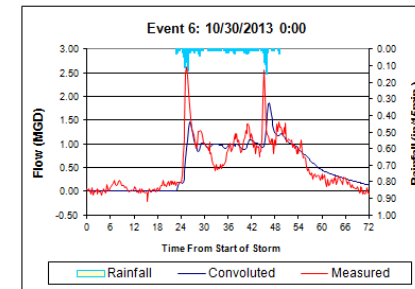
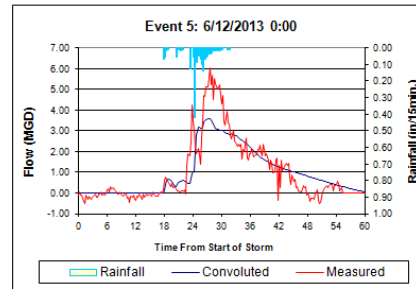
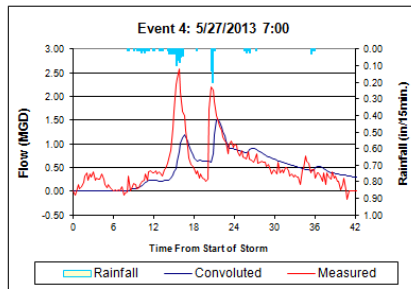
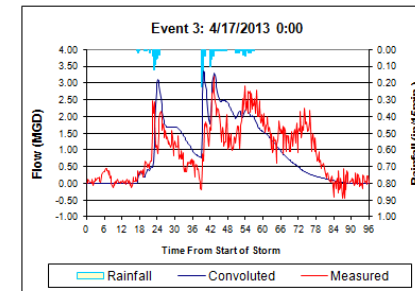
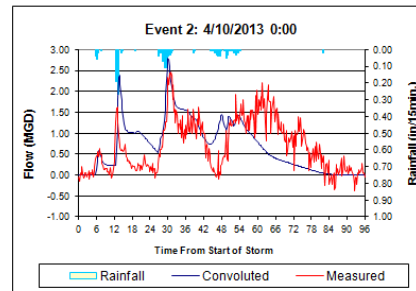
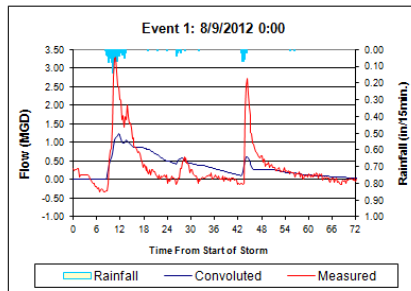
Meter LV15

Area = 798 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.16	0.59	3.00	2.37
Triangle 2	0.27	2.00	5.88	13.75
Triangle 3	0.56	8.00	3.35	34.82

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	8.01	--	LV-RG01	1.43	1.43	1.02	3.29%	Rain gauge not in service
2	0	11.43	--	R-12	2.11	2.11	2.77	6.06%	
3	0	12.79	--	R-12	1.69	1.69	3.75	10.23%	
4	0	5.28	--	R-12	1.12	1.12	0.92	3.79%	
5	0	11.32	--	R-12	1.89	1.89	2.44	5.97%	High spatial variability
6	0	5.17	--	R-12	1.80	1.80	1.62	4.15%	
7	0	19.33	--	R-12	4.74	4.74	5.33	5.19%	
8	1	4.74	4.74	R-12	1.63	1.63	1.87	5.28%	
Total	N/A	78.07	4.74	N/A	16.41	16.41	19.71	5.81%	



RTK Parameter Optimization

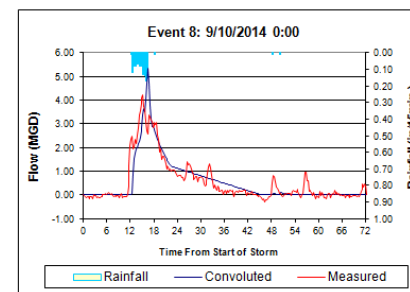
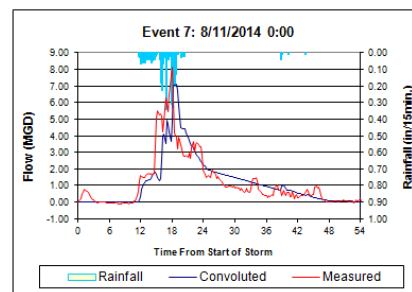
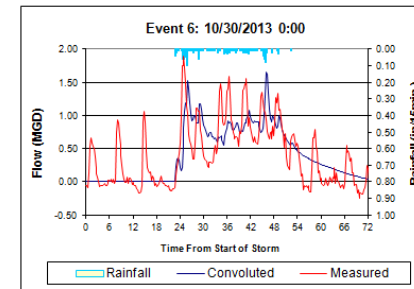
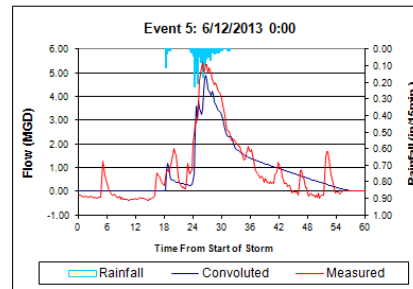
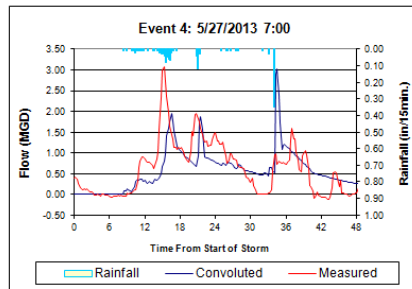
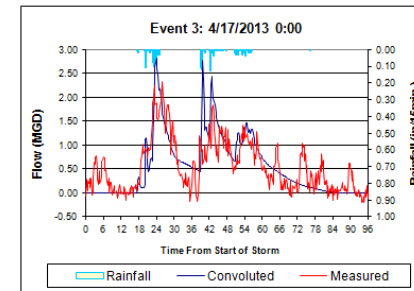
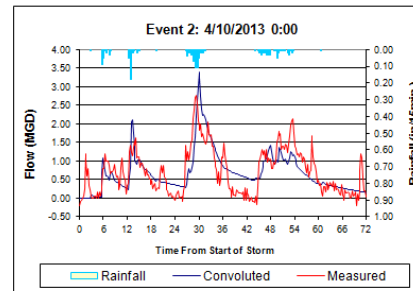
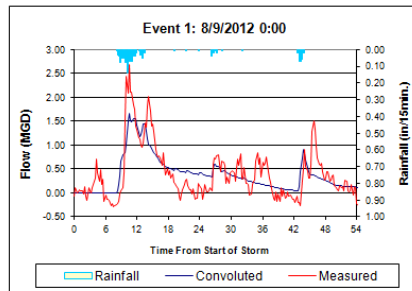
Meter LV16

Area = 1188 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.21	0.31	3.00	1.25
Triangle 2	0.27	1.58	3.11	6.50
Triangle 3	0.52	5.93	4.19	30.76

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	5.19	--	LV-RG01	1.43	1.43	0.92	1.99%	
2	0	7.33	--	LV-RG01	1.96	1.96	2.13	3.36%	
3	0	7.86	--	LV-RG01	1.73	1.73	2.20	3.94%	
4	0	7.52	--	LV-RG01	1.22	1.22	1.26	3.21%	
5	0	8.55	--	LV-RG01	1.78	1.78	2.12	3.69%	
6	0	6.01	--	LV-RG01	1.48	1.48	1.24	2.60%	
7	0	13.72	--	LV-RG01	2.80	2.80	2.70	2.99%	
8	1	7.38	7.38	LV-RG01	1.54	1.54	1.64	3.30%	High spatial variability
Total	N/A	63.57	7.38	N/A	13.94	13.94	14.20	3.13%	



RTK Parameter Optimization

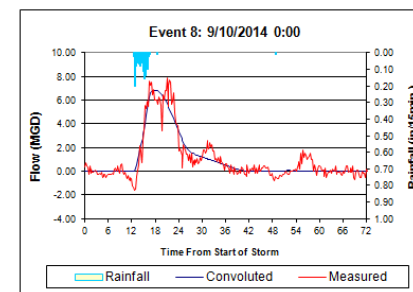
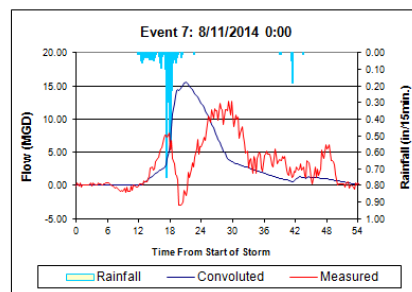
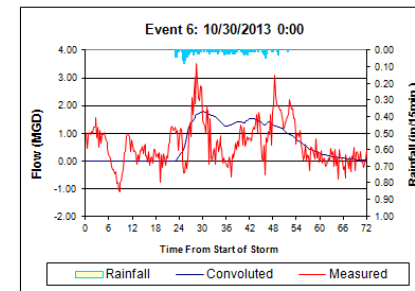
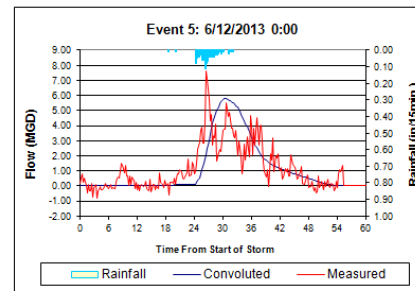
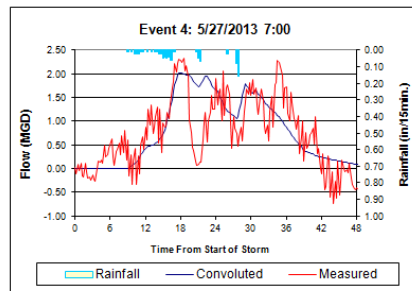
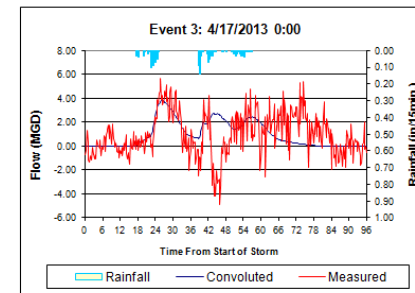
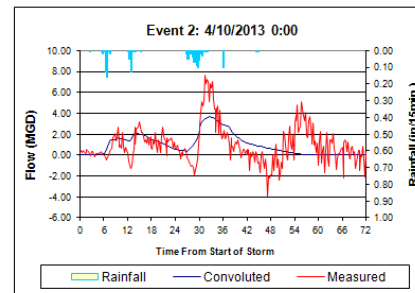
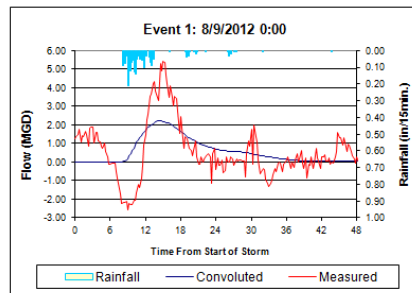
Meter LVBASIN-LV04

Area = 9534 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.07	1.25	1.00	2.50
Triangle 2	0.53	3.00	2.80	11.40
Triangle 3	0.40	7.00	2.71	25.98

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	16.98	--	LV-RG02	1.84	1.84	1.15	0.24%	DWF timing issue at start
2	0	25.64	--	LV-RG02	1.61	1.61	2.90	0.70%	Upstream SSO occurred
3	0	35.60	--	LV-RG02	1.70	1.70	3.80	0.86%	
4	0	8.04	--	LV-RG02	1.02	1.02	1.58	0.60%	
5	0	18.00	--	LV-RG02	1.05	1.05	2.71	1.00%	High spatial variability/Upstream SSO occurred
6	0	12.25	--	LV-RG02	1.42	1.42	1.82	0.50%	
7	0	72.42	--	LV-RG02	3.66	3.66	7.23	0.76%	
8	1	11.76	11.76	LV-RG02	1.33	1.33	3.00	0.87%	
Total	N/A	200.69	11.76	N/A	13.63	13.63	24.20	0.69%	



RTK Parameter Optimization

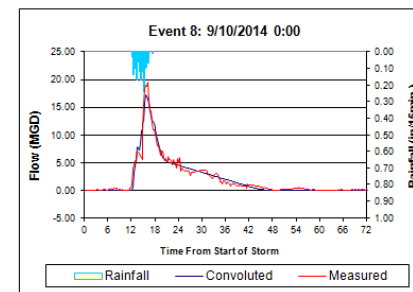
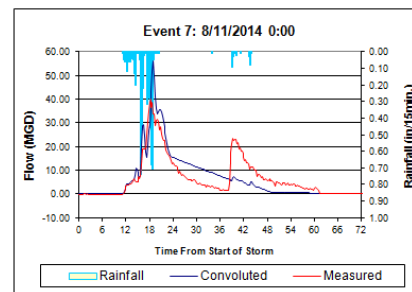
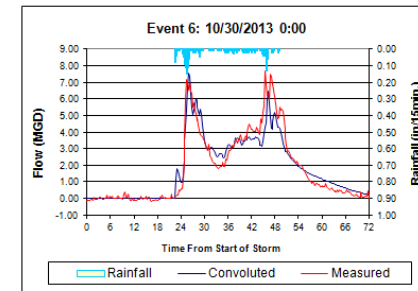
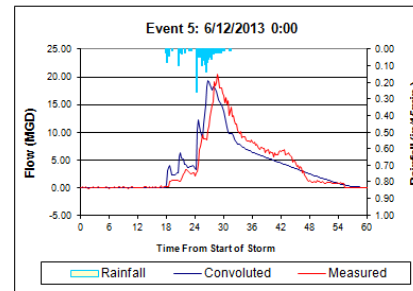
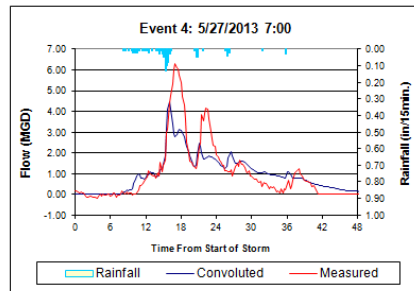
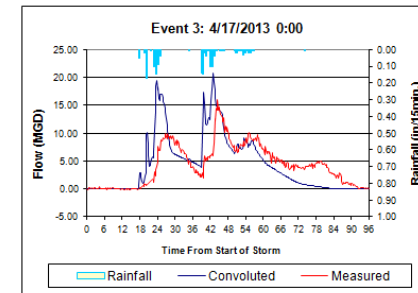
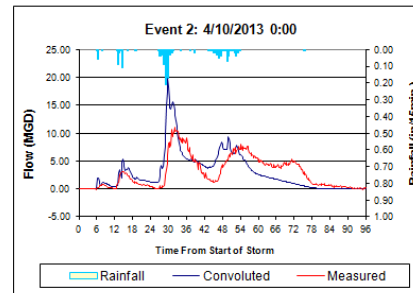
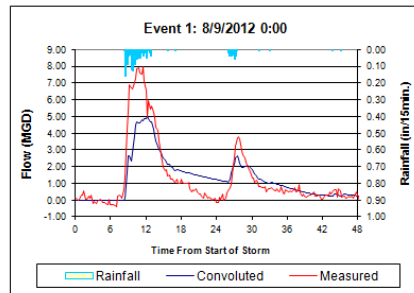
Meter M1

Area = 1924 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.16	0.31	3.00	1.25
Triangle 2	0.22	2.35	1.00	4.70
Triangle 3	0.62	3.00	9.26	30.79

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	14.27	--	R-27	1.39	1.39	2.60	3.59%	
2	0	48.16	--	R-27	2.30	2.30	11.66	9.70%	
3	0	69.16	--	R-27	2.17	2.17	17.13	15.11%	
4	0	10.70	--	R-27	0.93	0.93	2.01	4.13%	
5	0	31.94	--	R-28	1.67	1.67	9.35	10.72%	
6	0	11.11	--	R-27	1.97	1.97	5.43	5.28%	
7	0	93.91	--	R-27	6.07	6.07	19.67	6.20%	High spatial variability
8	1	12.37	12.37	R-27	1.70	1.70	6.10	6.87%	
Total	N/A	291.62	12.37	N/A	18.20	18.20	73.95	7.70%	



RTK Parameter Optimization

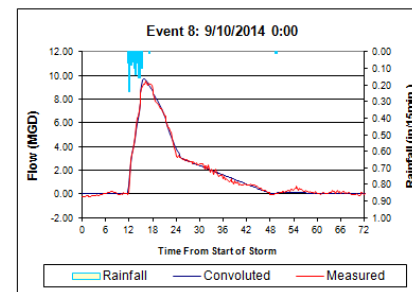
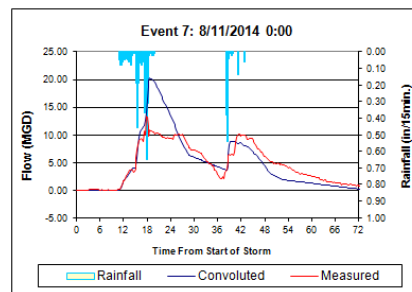
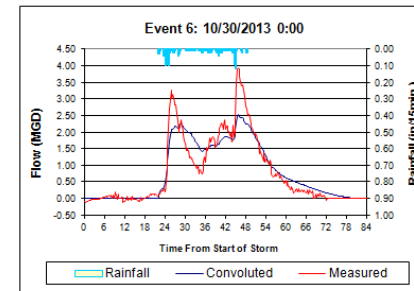
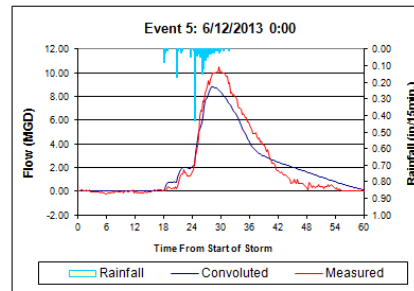
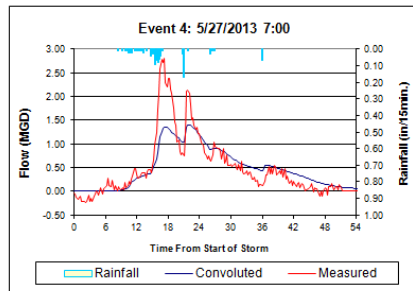
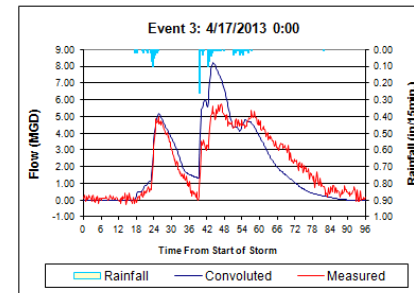
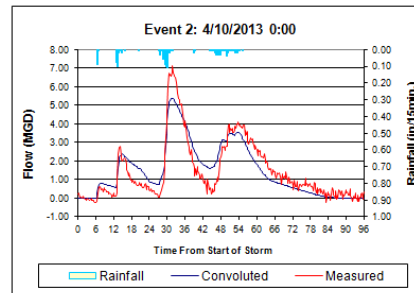
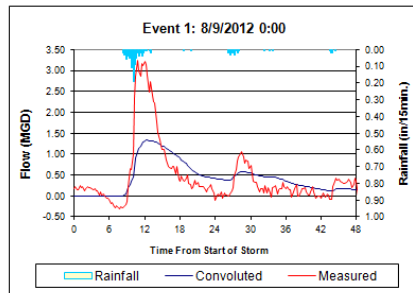
Meter M2

Area = 1911 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.07	0.60	3.00	2.41
Triangle 2	0.41	2.27	3.78	10.83
Triangle 3	0.52	7.75	3.52	35.03

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/ Volume (MG)	Event Capture	
1	0	7.30	--	GC-RG01	1.14	1.14	0.92	1.56%	Upstream SSO suspected
2	0	11.93	--	GC-RG01	1.68	1.68	5.81	6.67%	
3	0	19.69	--	GC-RG01	1.69	1.69	8.26	9.42%	
4	0	4.81	--	GC-RG01	0.98	0.98	1.09	2.14%	
5	0	12.64	--	GC-RG01	1.69	1.69	5.33	6.08%	High spatial variability/Upstream SSO suspected
6	0	6.36	--	GC-RG01	1.71	1.71	2.77	3.12%	
7	0	43.72	--	GC-RG01	5.11	5.11	14.20	5.36%	
8	1	3.07	3.07	GC-RG01	1.65	1.65	5.06	5.92%	
Total	N/A	109.51	3.07	N/A	15.65	15.65	43.46	5.03%	



RTK Parameter Optimization

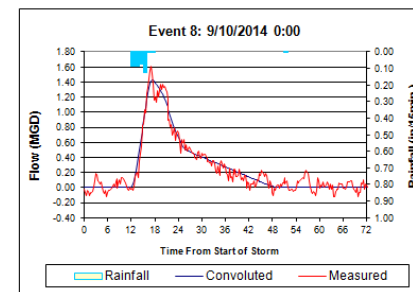
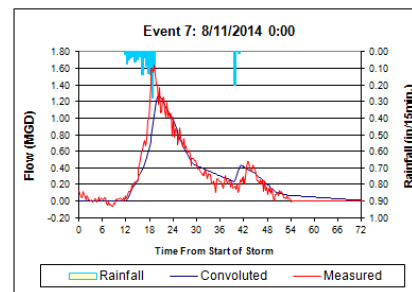
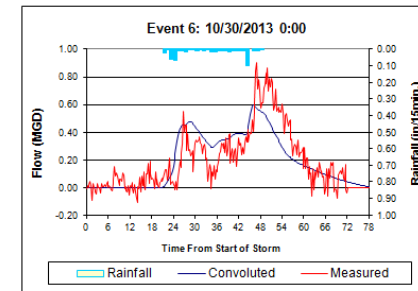
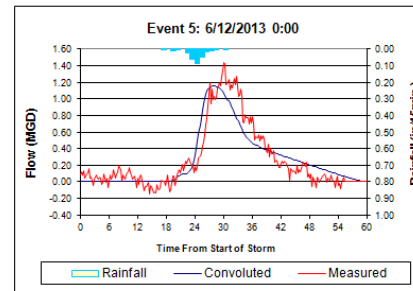
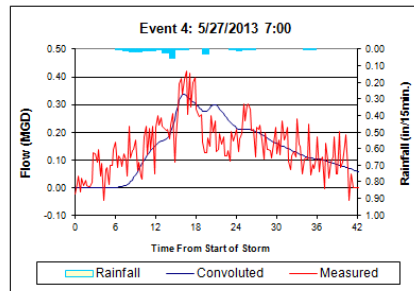
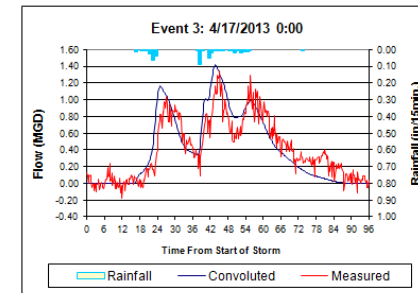
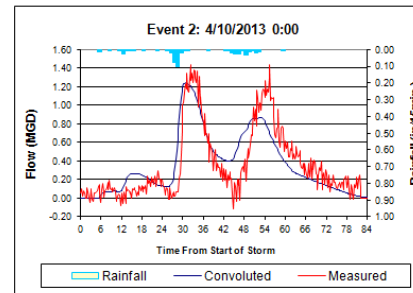
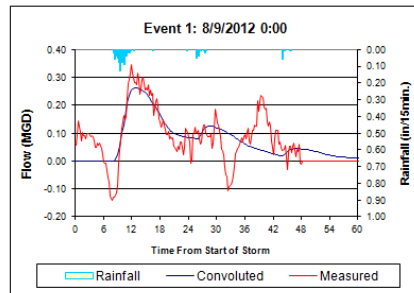
Meter P15

Area = 6078 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.01	1.12	1.77	3.10
Triangle 2	0.38	1.51	5.95	10.48
Triangle 3	0.61	5.40	5.36	34.33

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	1.03	--	R-14	1.04	1.04	0.19	0.11%	
2	0	3.78	--	WTUA LR	1.92	1.92	1.26	0.40%	
3	0	3.65	--	WTUA LR	1.76	1.76	1.64	0.56%	
4	0	1.00	--	WTUA LR	0.83	0.83	0.26	0.19%	
5	0	2.41	--	WTUA LR	1.09	1.09	0.66	0.37%	
6	0	2.31	--	WTUA LR	1.80	1.80	0.62	0.21%	
7	0	2.23	--	WTUA LR	2.94	2.94	0.81	0.17%	
8	1	1.43	1.43	WTUA LR	1.52	1.52	0.75	0.30%	High spatial variability
Total	N/A	17.84	1.43	N/A	12.90	12.90	6.18	0.34%	



RTK Parameter Optimization

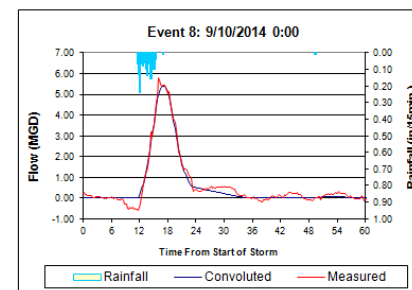
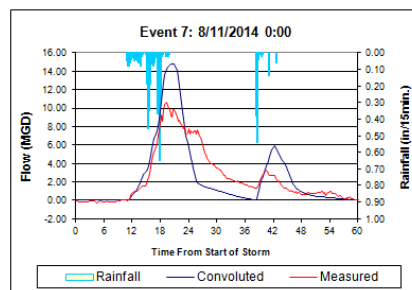
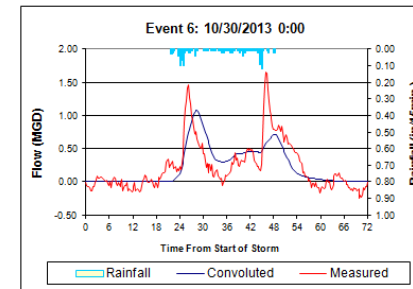
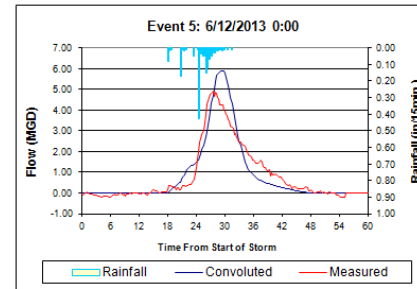
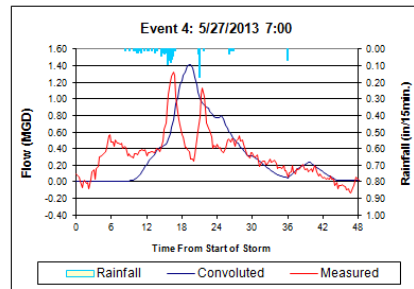
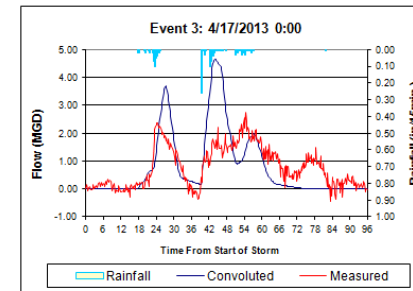
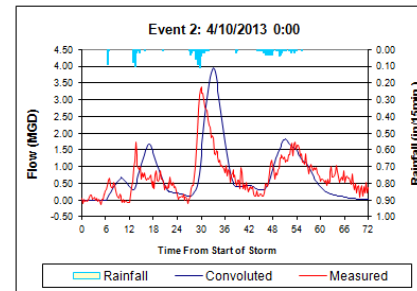
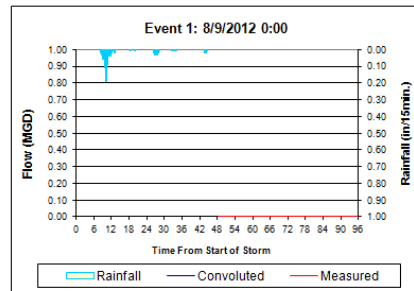
Meter WE14

Area = 4108 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.08	1.50	3.00	6.00
Triangle 2	0.26	3.00	6.00	21.00
Triangle 3	0.66	3.75	1.19	8.21

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/ Volume (MG)	Event Capture	
1	0	--	--	GC-RG01	1.14	1.14	N/A	0.00%	Meter not in service
2	0	11.32	--	GC-RG01	1.68	1.68	2.26	1.20%	
3	0	17.50	--	GC-RG01	1.69	1.69	3.11	1.65%	Upstream SSO suspected
4	0	4.40	--	GC-RG01	0.98	0.98	0.65	0.59%	
5	0	8.22	--	GC-RG01	1.69	1.69	2.03	1.08%	
6	0	3.96	--	GC-RG01	1.71	1.71	0.67	0.35%	
7	0	30.88	--	GC-RG01	5.11	5.11	6.16	1.08%	High spatial variability/Upstream SSO suspected
8	1	3.58	3.58	GC-RG01	1.65	1.65	1.47	0.80%	
Total	N/A	79.85	3.58	N/A	15.65	15.65	16.35	0.97%	



RTK Parameter Optimization

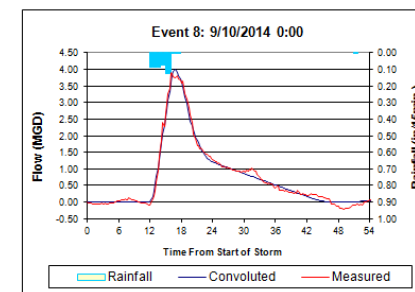
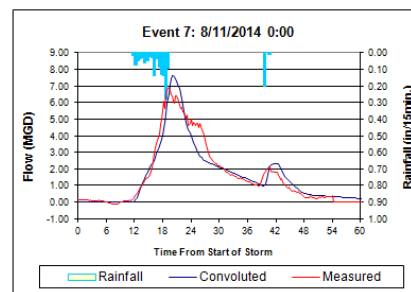
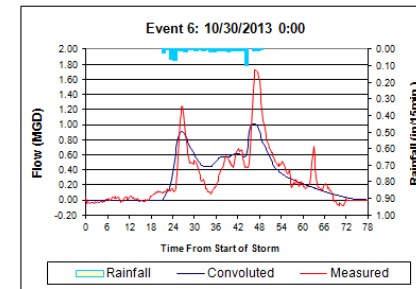
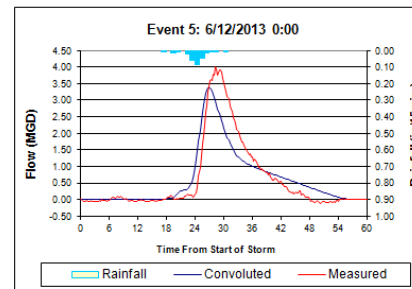
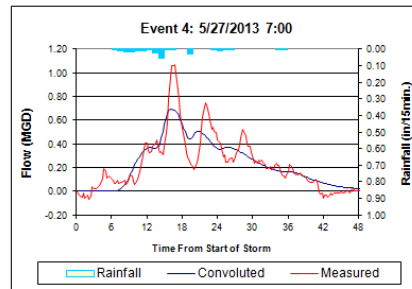
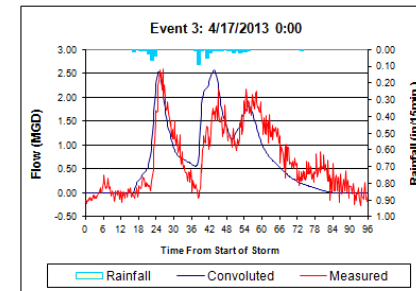
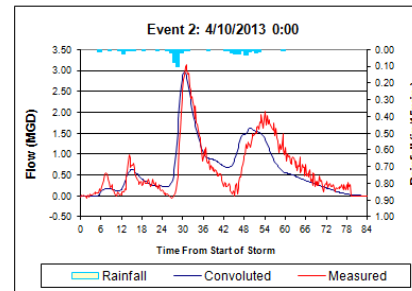
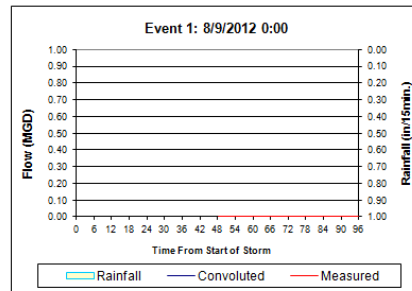
Meter WE25

Area = 2682 acres

Unit Hydrograph Parameters				
	R (fraction)	T (hrs)	K (ratio)	Base Time (hours)
Triangle 1	0.16	1.10	3.00	4.40
Triangle 2	0.22	2.76	1.87	7.91
Triangle 3	0.63	3.25	8.50	30.87

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/ Volume (MG)	Event Capture	
1	0	--	--	WTUA LR	0.00	0.00	#N/A	0.00%	Meter not in service
2	0	6.33	--	WTUA LR	1.92	1.92	2.24	1.60%	
3	0	8.41	--	WTUA LR	1.76	1.76	2.76	2.15%	
4	0	1.56	--	WTUA LR	0.83	0.83	0.46	0.77%	
5	0	6.81	--	WTUA LR	1.09	1.09	1.48	1.86%	
6	0	3.27	--	WTUA LR	1.80	1.80	0.94	0.72%	
7	0	8.31	--	WTUA LR	2.94	2.94	4.01	1.87%	High spatial variability
8	1	1.54	1.54	WTUA LR	1.52	1.52	1.64	1.48%	
Total	N/A	36.22	1.54	N/A	11.86	11.86	13.53	1.49%	



RTK Parameter Optimization

Meter WE28

Area = 1664 acres

Unit Hydrograph Parameters			
	R (fraction)	T (hrs)	K (ratio)
Triangle 1	0.18	1.50	3.00
Triangle 2	0.51	3.00	2.69
Triangle 3	0.30	3.00	11.23

Initial Abstraction: 0 inches

Goodness of Fit				Event Summary					Notes
Event No.	Weight	Difference Value	Weighted Difference Value	Rain Gauge	Rainfall (in)	Excess Rainfall (in)	RDI/I Volume (MG)	Event Capture	
1	0	--	--	GC-RG01	1.14	1.14	#N/A	0.00%	Meter not in service
2	0	9.31	--	GC-RG01	1.68	1.68	2.16	2.85%	
3	0	11.11	--	GC-RG01	1.69	1.69	3.76	4.92%	High spatial variability
4	0	2.11	--	GC-RG01	0.98	0.98	0.35	0.79%	
5	0	5.36	--	GC-RG01	1.69	1.69	1.66	2.18%	
6	0	4.00	--	GC-RG01	1.71	1.71	0.75	0.97%	
7	0	24.61	--	GC-RG01	5.11	5.11	6.35	2.75%	
8	1	2.77	2.77	GC-RG01	1.65	1.65	1.72	2.31%	
Total	N/A	59.28	2.77	N/A	15.65	15.65	16.76	2.40%	

