Lake Thunderbird TMDL Monitoring Plan Implementation: Sample Year (SY) 2020- June Report

SY2020 Monthly Report

Lake Thunderbird TMDL Monitoring Plan Implementation:

June 2020 Monitoring Report

Oklahoma Water Resources Board
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

SUMMARY OF JUNE WATER QUALITY SAMPLING

Sampling for June 2020 occurred on the twenty-second and was considered a base flow collection. Water samples and discharge measurements were collected at all ten locations. Mesonet data shows 0.16 inches of precipitation on the twenty-second, 2.03 inches of precipitation in the 72 hours prior to sampling, and no precipitation in the 72 hours after the sampling event. The total rainfall amount in Norman for the month of June was 2.19 inches. All water level gauges were operational for the month, except for LT-1, UDB-1, and WC-1 due to equipment malfunction.

RESULTS

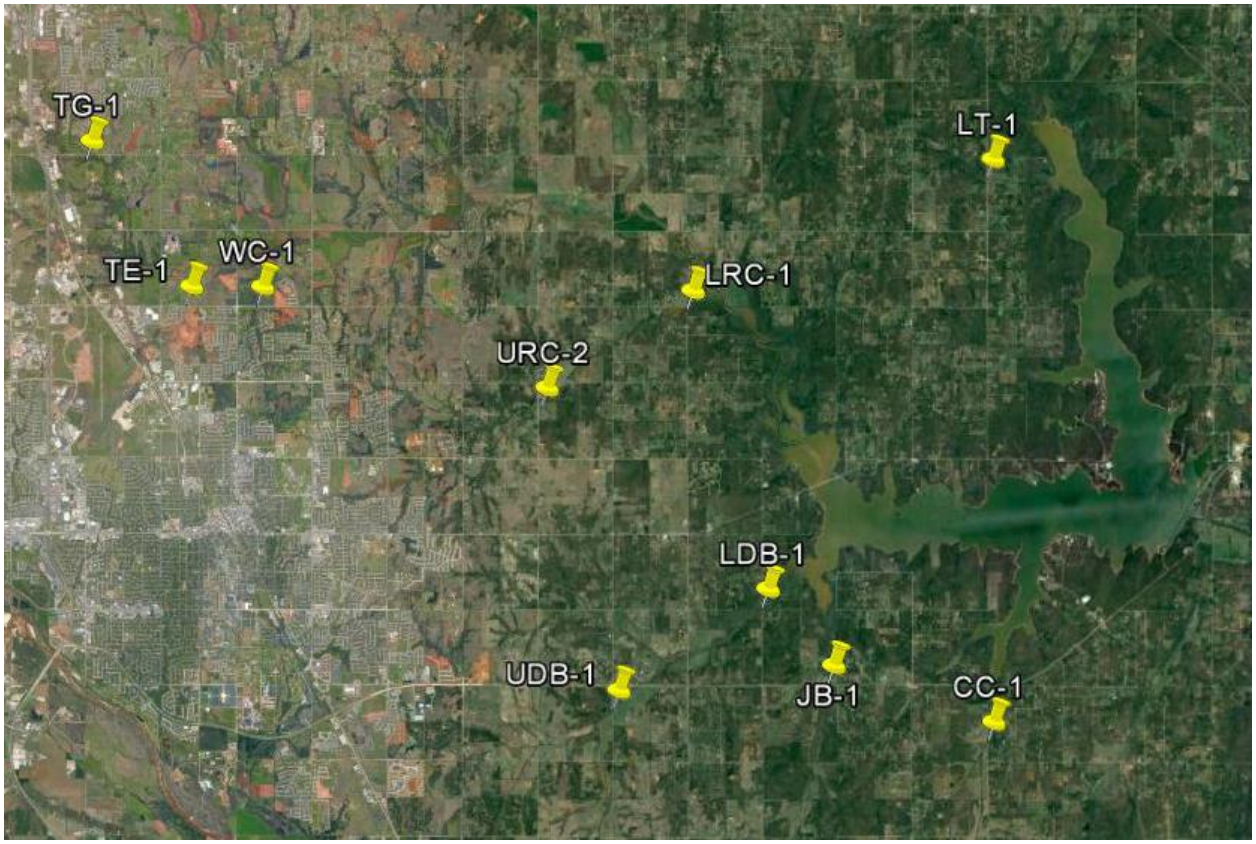

Figure 1 Monitoring Station Map

Monitoring Location ID	Monitoring Location Name	Date	Time	Field Crew	Water Temperature (°C)	Dissolved Oxygen (DO) (mg/l)	pH	Specific Conductance (mS/cm)	Turbidity (NTU)	Notes
CC-1	Clear Creek	6/22/2020	10:10	SD	21.91	7.26	7.94	627	16	
JB-1	Jim Blue Creek	6/22/2020	10:45	SD	21.42	7.56	7.85	851	22	neither RP over water, orifice out of water
LDB-1	Lower Dave Blue Creek	6/22/2020	12:05	SD	23.55	5.96	7.89	862	22	
LRC-1	Lower Rock Creek	6/22/2020	13:20	SD	25.77	8.10	7.90	654	10	
LT-1	Lake Laterals	6/22/2020	12:35	SD	25.01	4.46	7.38	339	66	barely connected to upstream
TE-1	Little River Tributary	6/22/2020	16:10	SD	28.39	7.94	8.11	389	91	
TG-1	Little River Tributary	6/22/2020	16:55	SD	27.25	8.09	8.28	400	33	
UDB-1	Upper Dave Blue Creek	6/22/2020	8:55	SD	20.97	6.95	7.86	530	189	battery dead at arrival
URC-2	Upper Rock Creek	6/22/2020	14:15	SD	22.50	5.62	7.69	462	168	RP1 not over water
WC-1	Woodcrest Creek	6/22/2020	15:00	SD	24.30	6.39	7.61	307	33	orifice very buried/clogged

Table 1 Field Data Form

Monitoring Location ID	Monitoring Location Name	Nitrate and Nitrite (mg/l)	Kjeldahl Nitrogen (mg/l)	Phosphorus (mg/l)	Total Suspended Solids (mg/l)
CC-1	Clear Creek	0.20	0.44	0.070	<5.0
JB-1	Jim Blue Creek	<0.05	0.51	0.064	<5.0
LDB-1	Lower Dave Blue Creek	0.35	0.85	0.076	20
LRC-1	Lower Rock Creek	0.24	0.44	0.058	8
LT-1	Lake Laterals	<0.05	1.30	0.129	32
TE-1	Little River Tributary	0.26	1.18	0.143	46
TG-1	Little River Tributary	0.17	1.15	0.176	20
UDB-1	Upper Dave Blue Creek	0.25	1.06	0.182	124
URC-2	Upper Rock Creek	0.18	1.12	0.174	86
WC-1	Woodcrest Creek	0.37	0.82	0.136	14

Table 2 Laboratory Analysis Summary

Monitoring Location Name	Nitrate and Nitrite (mg/l)	Kjeldahl Nitrogen (mg/l)	Phosphorus (mg/l)	Total Suspended Solids (mg/l)
Field Blank	<0.05	<0.10	<0.010	<5.0
Duplicate	0.20	0.41	0.069	<5.0
Duplicate RPD	0%	7.06%	1.44%	0%

Table 3 QA/QC Data

Quality assurance/quality control (QA/QC) of the data includes a field blank and duplicate sample from each collection event and is qualified by the OWRB. Relative Percent Difference (RPD) of the duplicate sample can be categorized into four levels, where Level 1 likely has no QA issues and Level 4 has major QA issues, and should be used with caution.

Monitoring Location ID	Monitoring Location Name	Discharge (cfs)	Stream Stage (ft)
CC-1	Clear Creek	0.86	20.70
JB-1	Jim Blue Creek	0.23	15.19
LDB-1	Lower Dave Blue Creek	9.63	16.78
LRC-1	Lower Rock Creek	1.79	17.99
LT-1	Lake Laterals	0.06	4.47
TE-1	Little River Tributary	1.51	11.60
TG-1	Little River Tributary	11.57	9.52
UDB-1	Upper Dave Blue Creek	7.68	17.91
URC-2	Upper Rock Creek	1.32	11.41
WC-1	Woodcrest Creek	0.58	7.81

Table 4 Station Discharge Summary

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	URC0622.WAD
Start Date and Time	2020/06/22 12:52:45

Site Details	
Site Name	URC062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty		
Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	2.5%
Velocity	0.9%	9.1%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.4%	-
Overall	**3.4%**	**9.5%**

Summary			
Averaging Int.	40	# Stations	21
Start Edge	LEW	Total Width	11.000
Mean SNR	39.0 dB	Total Area	3.349
Mean Temp	71.66 °F	Mean Depth	0.304
Disch. Equation	Mid-Section	Mean Velocity	0.3946
		Total Discharge	**1.3215**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 12:58:24 CDT 2020	3.500	11.410		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:52	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	12:52	1.00	0.6	0.300	0.6	0.120	0.5026	1.00	0.5026	0.225	0.1130	8.6
2	12:54	1.50	0.6	0.300	0.6	0.120	0.4406	1.00	0.4406	0.150	0.0661	5.0
3	12:55	2.00	0.6	0.300	0.6	0.120	0.3215	1.00	0.3215	0.150	0.0482	3.6
4	12:56	2.50	0.6	0.300	0.6	0.120	0.4442	1.00	0.4442	0.150	0.0666	5.0
5	12:57	3.00	0.6	0.300	0.6	0.120	0.2280	1.00	0.2280	0.150	0.0342	2.6
6	12:58	3.50	0.6	0.300	0.6	0.120	0.1102	1.00	0.1102	0.150	0.0165	1.3
7	12:59	4.00	0.6	0.300	0.6	0.120	0.2651	1.00	0.2651	0.150	0.0397	3.0
8	*13:00*	*4.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1844*	*1.00*	*0.1844*	*0.150*	*0.0276*	*2.1*
9	*13:01*	*5.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.2382*	*1.00*	*0.2382*	*0.150*	*0.0357*	*2.7*
10	*13:02*	*5.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.4600*	*1.00*	*0.4600*	*0.150*	*0.0690*	*5.2*
11	13:02	6.00	0.6	0.300	0.6	0.120	0.5971	1.00	0.5971	0.150	0.0895	6.8
12	*13:03*	*6.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.6860*	*1.00*	*0.6860*	*0.150*	*0.1029*	*7.8*
13	*13:04*	*7.00*	*0.6*	*0.400*	*0.6*	*0.160*	*-0.0010*	*1.00*	*-0.0010*	*0.200*	*-0.0002*	*0.0*
14	13:06	7.50	0.6	0.500	0.6	0.200	0.3123	1.00	0.3123	0.250	0.0781	5.9
15	*13:07*	*8.00*	*0.6*	*0.500*	*0.6*	*0.200*	*0.5404*	*1.00*	*0.5404*	*0.250*	*0.1351*	*10.2*
16	*13:08*	*8.50*	*0.6*	*0.500*	*0.6*	*0.200*	*0.6224*	*1.00*	*0.6224*	*0.250*	*0.1556*	*11.8*
17	*13:09*	*9.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.8419*	*1.00*	*0.8419*	*0.150*	*0.1262*	*9.6*
18	13:10	9.50	0.6	0.300	0.6	0.120	0.6762	1.00	0.6762	0.150	0.1014	7.7
19	13:11	10.00	0.6	0.300	0.6	0.120	0.0722	1.00	0.0722	0.225	0.0162	1.2
20	13:11	11.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 2 Discharge Measurement Summary URC-2

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	CC062220.WAD
Start Date and Time	2020/06/22 08:39:04

Site Details	
Site Name	CC062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.8%	2.1%
Velocity	2.7%	10.4%
Width	0.3%	0.3%
Method	3.8%	-
# Stations	3.3%	-
Overall	**5.9%**	**10.7%**

Summary

Averaging Int.	40	# Stations	15
Start Edge	LEW	Total Width	7.000
Mean SNR	39.1 dB	Total Area	4.100
Mean Temp	70.36 °F	Mean Depth	0.586
Disch. Equation	Mid-Section	Mean Velocity	0.2086
		Total Discharge	**0.8555**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 08:38:22 CDT 2020	0.000	20.700		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:39	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*08:39*	*0.50*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0010*	*1.00*	*-0.0010*	*0.150*	*-0.0001*	*0.0*
2	*08:40*	*1.00*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0000*	*1.00*	*0.0000*	*0.200*	*0.0000*	*0.0*
3	*08:41*	*1.50*	*0.6*	*0.500*	*0.6*	*0.200*	*0.0095*	*1.00*	*0.0095*	*0.250*	*0.0024*	*0.3*
4	*08:43*	*2.00*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0253*	*1.00*	*-0.0253*	*0.300*	*-0.0076*	*-0.9*
5	*08:45*	*2.50*	*0.6*	*0.700*	*0.6*	*0.280*	*-0.0302*	*1.00*	*-0.0302*	*0.350*	*-0.0106*	*-1.2*
6	*08:46*	*3.00*	*0.6*	*0.700*	*0.6*	*0.280*	*0.1660*	*1.00*	*0.1660*	*0.350*	*0.0581*	*6.8*
7	*08:47*	*3.50*	*0.6*	*0.800*	*0.6*	*0.320*	*0.3363*	*1.00*	*0.3363*	*0.400*	*0.1345*	*15.7*
8	*08:48*	*4.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.5794*	*1.00*	*0.5794*	*0.400*	*0.2317*	*27.1*
9	*08:49*	*4.50*	*0.6*	*0.800*	*0.6*	*0.320*	*0.7224*	*1.00*	*0.7224*	*0.400*	*0.2889*	*33.8*
10	*08:51*	*5.00*	*0.6*	*0.700*	*0.6*	*0.280*	*0.5020*	*1.00*	*0.5020*	*0.350*	*0.1757*	*20.5*
11	*08:52*	*5.50*	*0.6*	*0.700*	*0.6*	*0.280*	*0.0400*	*1.00*	*0.0400*	*0.350*	*0.0140*	*1.6*
12	*08:55*	*6.00*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0643*	*1.00*	*-0.0643*	*0.300*	*-0.0193*	*-2.3*
13	*08:56*	*6.50*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0410*	*1.00*	*-0.0410*	*0.300*	*-0.0123*	*-1.4*
14	08:56	7.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 3 Discharge Measurement Summary CC-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	JB062220.WAD
Start Date and Time	2020/06/22 09:27:26

Site Details	
Site Name	JB062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.9%	7.2%
Velocity	2.4%	24.8%
Width	0.3%	0.3%
Method	4.6%	-
# Stations	5.1%	-
Overall	**7.4%**	**25.8%**

Summary

Averaging Int.	40	# Stations	10
Start Edge	LEW	Total Width	4.500
Mean SNR	51.1 dB	Total Area	2.000
Mean Temp	69.87 °F	Mean Depth	0.444
Disch. Equation	Mid-Section	Mean Velocity	0.1163
		Total Discharge	**0.2327**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 09:26:18 CDT 2020	0.000	15.190		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:27	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*09:27*	*0.50*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0075*	*1.00*	*-0.0075*	*0.300*	*-0.0023*	*-1.0*
2	*09:28*	*1.00*	*0.6*	*0.700*	*0.6*	*0.280*	*-0.0243*	*1.00*	*-0.0243*	*0.350*	*-0.0085*	*-3.7*
3	*09:29*	*1.50*	*0.6*	*0.600*	*0.6*	*0.240*	*-0.0404*	*1.00*	*-0.0404*	*0.300*	*-0.0121*	*-5.2*
4	09:31	2.00	0.6	0.500	0.6	0.200	0.0049	1.00	0.0049	0.250	0.0012	0.5
5	09:32	2.50	0.6	0.500	0.6	0.200	0.1407	1.00	0.1407	0.250	0.0352	15.1
6	09:33	3.00	0.6	0.400	0.6	0.160	0.4003	1.00	0.4003	0.200	0.0800	34.4
7	09:34	3.50	0.6	0.400	0.6	0.160	0.5259	1.00	0.5259	0.200	0.1052	45.2
8	09:35	4.00	0.6	0.300	0.6	0.120	0.2264	1.00	0.2264	0.150	0.0339	14.6
9	09:35	4.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 4 Discharge Measurement Summary JB-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	LRC0622.WAD
Start Date and Time	2020/06/22 11:59:52

Site Details	
Site Name	LRC062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	0.7%
Velocity	0.3%	4.7%
Width	0.1%	0.1%
Method	1.6%	-
# Stations	1.8%	-
Overall	**2.7%**	**4.8%**

Summary

Averaging Int.	40	# Stations	28
Start Edge	LEW	Total Width	15.000
Mean SNR	30.3 dB	Total Area	9.550
Mean Temp	77.72 °F	Mean Depth	0.637
Disch. Equation	Mid-Section	Mean Velocity	0.1870
		Total Discharge	**1.7858**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 12:02:04 CDT 2020	1.000	17.990		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:59	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*12:02*	*1.00*	*0.6*	*0.400*	*0.6*	*0.160*	*0.0010*	*1.00*	*0.0010*	*0.300*	*0.0003*	*0.0*
2	12:03	1.50	0.6	0.500	0.6	0.200	0.2434	1.00	0.2434	0.250	0.0609	3.4
3	12:05	2.00	0.6	0.600	0.6	0.240	0.2149	1.00	0.2149	0.300	0.0645	3.6
4	12:06	2.50	0.6	0.700	0.6	0.280	0.2274	1.00	0.2274	0.350	0.0796	4.5
5	12:07	3.00	0.6	0.800	0.6	0.320	0.2562	1.00	0.2562	0.400	0.1025	5.7
6	12:08	3.50	0.6	0.800	0.6	0.320	0.2625	1.00	0.2625	0.400	0.1050	5.9
7	12:10	4.00	0.6	0.800	0.6	0.320	0.2500	1.00	0.2500	0.400	0.1000	5.6
8	12:10	4.50	0.6	0.800	0.6	0.320	0.2395	1.00	0.2395	0.400	0.0958	5.4
9	12:12	5.00	0.6	0.800	0.6	0.320	0.2470	1.00	0.2470	0.400	0.0988	5.5
10	12:14	5.50	0.6	0.900	0.6	0.360	0.2293	1.00	0.2293	0.450	0.1032	5.8
11	12:15	6.00	0.6	0.900	0.6	0.360	0.2251	1.00	0.2251	0.450	0.1013	5.7
12	12:16	6.50	0.6	0.800	0.6	0.320	0.2211	1.00	0.2211	0.400	0.0884	5.0
13	12:17	7.00	0.6	0.800	0.6	0.320	0.2231	1.00	0.2231	0.400	0.0892	5.0
14	12:18	7.50	0.6	0.800	0.6	0.320	0.2192	1.00	0.2192	0.400	0.0876	4.9
15	12:19	8.00	0.6	0.800	0.6	0.320	0.2110	1.00	0.2110	0.400	0.0844	4.7
16	12:20	8.50	0.6	0.700	0.6	0.280	0.2096	1.00	0.2096	0.350	0.0734	4.1
17	12:21	9.00	0.6	0.700	0.6	0.280	0.1726	1.00	0.1726	0.350	0.0604	3.4
18	12:22	9.50	0.6	0.700	0.6	0.280	0.1234	1.00	0.1234	0.350	0.0432	2.4
19	12:23	10.00	0.6	0.700	0.6	0.280	0.1493	1.00	0.1493	0.350	0.0523	2.9
20	*12:24*	*10.50*	*0.6*	*0.700*	*0.6*	*0.280*	*0.0033*	*1.00*	*0.0033*	*0.350*	*0.0011*	*0.1*
21	12:26	11.00	0.6	0.700	0.6	0.280	0.1827	1.00	0.1827	0.350	0.0640	3.6
22	*12:27*	*11.50*	*0.6*	*0.700*	*0.6*	*0.280*	*0.1401*	*1.00*	*0.1401*	*0.350*	*0.0490*	*2.7*
23	12:28	12.00	0.6	0.700	0.6	0.280	0.1194	1.00	0.1194	0.350	0.0418	2.3
24	12:29	12.50	0.6	0.600	0.6	0.240	0.1339	1.00	0.1339	0.300	0.0402	2.2
25	12:31	13.00	0.6	0.500	0.6	0.200	0.1010	1.00	0.1010	0.250	0.0253	1.4
26	12:32	13.50	0.6	0.500	0.6	0.200	0.1476	1.00	0.1476	0.500	0.0738	4.1
27	12:32	15.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 5 Discharge Measurement Summary LRC-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	WC062220.WAD
Start Date and Time	2020/06/22 13:36:56

Site Details	
Site Name	WC062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.7%	0.0%
Velocity	2.1%	13.5%
Width	0.2%	0.2%
Method	3.4%	-
# Stations	4.2%	-
Overall	**6.0%**	**13.5%**

Summary

Averaging Int.	40	# Stations	12
Start Edge	LEW	Total Width	6.000
Mean SNR	31.2 dB	Total Area	1.574
Mean Temp	74.94 °F	Mean Depth	0.262
Disch. Equation	Mid-Section	Mean Velocity	0.3673
		Total Discharge	**0.5782**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 13:45:54 CDT 2020	5.000	7.810		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:36	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*13:38*	*1.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.7927*	*1.00*	*0.7927*	*0.225*	*0.1783*	*30.8*
2	*13:39*	*1.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.9560*	*1.00*	*0.9560*	*0.150*	*0.1433*	*24.8*
3	*13:40*	*2.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.7339*	*1.00*	*0.7339*	*0.150*	*0.1100*	*19.0*
4	*13:41*	*2.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0607*	*1.00*	*0.0607*	*0.150*	*0.0091*	*1.6*
5	*13:42*	*3.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0328*	*1.00*	*0.0328*	*0.150*	*0.0049*	*0.9*
6	13:43	3.50	0.6	0.300	0.6	0.120	0.3612	1.00	0.3612	0.150	0.0542	9.4
7	13:44	4.00	0.6	0.300	0.6	0.120	0.2142	1.00	0.2142	0.150	0.0321	5.6
8	13:45	4.50	0.6	0.300	0.6	0.120	0.1985	1.00	0.1985	0.150	0.0298	5.1
9	*13:46*	*5.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0863*	*1.00*	*0.0863*	*0.150*	*0.0129*	*2.2*
10	13:47	5.50	0.6	0.300	0.6	0.120	0.0236	1.00	0.0236	0.150	0.0035	0.6
11	13:47	6.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 6 Discharge Measurement Summary WC-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	UDB0622.WAD
Start Date and Time	2020/06/22 07:35:03

Site Details	
Site Name	UDB062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	2.5%
Velocity	1.0%	2.8%
Width	0.1%	0.1%
Method	1.9%	-
# Stations	2.3%	-
Overall	**3.3%**	**3.9%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	17.000
Mean SNR	40.1 dB	Total Area	16.474
Mean Temp	68.96 °F	Mean Depth	0.969
Disch. Equation	Mid-Section	Mean Velocity	0.4659
		Total Discharge	**7.6758**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 07:39:14 CDT 2020	5.000	17.910		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	07:35	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	07:35	1.00	0.6	0.800	0.6	0.320	0.1198	1.00	0.1198	0.800	0.0958	1.2
2	*07:36*	*2.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.2825*	*1.00*	*0.2825*	*0.800*	*0.2259*	*2.9*
3	*07:37*	*3.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.4019*	*1.00*	*0.4019*	*0.800*	*0.3215*	*4.2*
4	07:38	4.00	0.6	1.000	0.6	0.400	0.4688	1.00	0.4688	1.000	0.4688	6.1
5	07:40	5.00	0.6	1.500	0.6	0.600	0.7359	1.00	0.7359	1.125	0.8279	10.8
6	07:55	5.50	0.6	1.400	0.6	0.560	0.8212	1.00	0.8212	0.700	0.5748	7.5
7	07:41	6.00	0.6	1.500	0.6	0.600	0.9173	1.00	0.9173	0.750	0.6880	9.0
8	07:56	6.50	0.6	1.500	0.6	0.600	0.9386	1.00	0.9386	0.750	0.7040	9.2
9	07:42	7.00	0.6	1.500	0.6	0.600	0.8780	1.00	0.8780	0.750	0.6585	8.6
10	07:57	7.50	0.6	1.300	0.6	0.520	0.7579	1.00	0.7579	0.650	0.4926	6.4
11	07:43	8.00	0.6	1.000	0.6	0.400	0.7726	1.00	0.7726	0.500	0.3863	5.0
12	07:58	8.50	0.6	1.400	0.6	0.560	0.4800	1.00	0.4800	0.700	0.3360	4.4
13	07:44	9.00	0.6	1.400	0.6	0.560	0.5007	1.00	0.5007	1.050	0.5257	6.8
14	07:46	10.00	0.6	1.300	0.6	0.520	0.3274	1.00	0.3274	1.300	0.4256	5.5
15	07:47	11.00	0.6	0.800	0.6	0.320	0.3264	1.00	0.3264	0.800	0.2611	3.4
16	07:48	12.00	0.6	0.900	0.6	0.360	0.2379	1.00	0.2379	0.900	0.2141	2.8
17	07:49	13.00	0.6	0.900	0.6	0.360	0.2113	1.00	0.2113	0.900	0.1901	2.5
18	07:50	14.00	0.6	0.800	0.6	0.320	0.2024	1.00	0.2024	0.800	0.1619	2.1
19	07:51	15.00	0.6	0.800	0.6	0.320	0.1010	1.00	0.1010	0.800	0.0808	1.1
20	*07:52*	*16.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.0607*	*1.00*	*0.0607*	*0.600*	*0.0364*	*0.5*
21	07:52	17.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 7 Discharge Measurement Summary UDB-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	LT062220.WAD
Start Date and Time	2020/06/22 11:22:03

Site Details	
Site Name	LT062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.7%	0.0%
Velocity	2.1%	28.2%
Width	0.2%	0.2%
Method	3.7%	-
# Stations	4.6%	-
Overall	**6.4%**	**28.2%**

Summary

Averaging Int.	40	# Stations	11
Start Edge	LEW	Total Width	6.500
Mean SNR	41.7 dB	Total Area	1.574
Mean Temp	75.59 °F	Mean Depth	0.242
Disch. Equation	Mid-Section	Mean Velocity	0.0400
		Total Discharge	**0.0630**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 11:21:57 CDT 2020	2.000	4.470		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:22	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*11:22*	*2.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0003*	*1.00*	*0.0003*	*0.375*	*0.0001*	*0.2*
2	*11:25*	*2.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0039*	*1.00*	*0.0039*	*0.150*	*0.0006*	*0.9*
3	11:26	3.00	0.6	0.300	0.6	0.120	0.0351	1.00	0.0351	0.150	0.0053	8.4
4	*11:28*	*3.50*	*0.6*	*0.300*	*0.6*	*0.120*	*-0.0056*	*1.00*	*-0.0056*	*0.150*	*-0.0008*	*-1.3*
5	*11:30*	*4.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0010*	*1.00*	*0.0010*	*0.150*	*0.0001*	*0.2*
6	11:32	4.50	0.6	0.300	0.6	0.120	0.1214	1.00	0.1214	0.150	0.0182	28.9
7	*11:33*	*5.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1142*	*1.00*	*0.1142*	*0.150*	*0.0171*	*27.2*
8	*11:33*	*5.50*	*0.6*	*0.300*	*0.6*	*0.120*	*0.1086*	*1.00*	*0.1086*	*0.150*	*0.0163*	*25.8*
9	11:35	6.00	0.6	0.300	0.6	0.120	0.0407	1.00	0.0407	0.150	0.0061	9.7
10	11:35	6.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 8 Discharge Measurement Summary LT-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	TG062220.WAD
Start Date and Time	2020/06/22 15:32:04

Site Details	
Site Name	TG062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.1%	1.1%
Velocity	0.6%	2.9%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.3%	-
Overall	**3.1%**	**3.2%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	21.000
Mean SNR	39.3 dB	Total Area	20.900
Mean Temp	80.15 °F	Mean Depth	0.995
Disch. Equation	Mid-Section	Mean Velocity	0.5534
		Total Discharge	**11.5654**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 15:41:27 CDT 2020	11.000	9.520		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	15:32	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	15:32	1.00	0.6	0.900	0.6	0.360	0.2828	1.00	0.2828	0.900	0.2545	2.2
2	15:33	2.00	0.6	1.000	0.6	0.400	0.4088	1.00	0.4088	1.000	0.4088	3.5
3	15:34	3.00	0.6	1.300	0.6	0.520	0.4236	1.00	0.4236	1.300	0.5506	4.8
4	15:34	4.00	0.6	1.300	0.6	0.520	0.5427	1.00	0.5427	1.300	0.7054	6.1
5	15:36	5.00	0.6	1.200	0.6	0.480	0.5509	1.00	0.5509	1.200	0.6611	5.7
6	15:36	6.00	0.6	1.100	0.6	0.440	0.5965	1.00	0.5965	1.100	0.6561	5.7
7	15:37	7.00	0.6	1.000	0.6	0.400	0.7060	1.00	0.7060	1.000	0.7060	6.1
8	15:38	8.00	0.6	1.000	0.6	0.400	0.7480	1.00	0.7480	1.000	0.7480	6.5
9	15:39	9.00	0.6	1.000	0.6	0.400	0.7910	1.00	0.7910	1.000	0.7910	6.8
10	15:40	10.00	0.6	1.000	0.6	0.400	0.8048	1.00	0.8048	1.000	0.8048	7.0
11	15:41	11.00	0.6	1.000	0.6	0.400	0.7785	1.00	0.7785	1.000	0.7785	6.7
12	15:42	12.00	0.6	1.000	0.6	0.400	0.7844	1.00	0.7844	1.000	0.7844	6.8
13	15:43	13.00	0.6	1.000	0.6	0.400	0.6470	1.00	0.6470	1.000	0.6470	5.6
14	15:44	14.00	0.6	1.100	0.6	0.440	0.6739	1.00	0.6739	1.100	0.7413	6.4
15	15:45	15.00	0.6	1.100	0.6	0.440	0.5784	1.00	0.5784	1.100	0.6363	5.5
16	15:46	16.00	0.6	1.100	0.6	0.440	0.2457	1.00	0.2457	1.100	0.2703	2.3
17	15:47	17.00	0.6	1.100	0.6	0.440	0.4531	1.00	0.4531	1.100	0.4984	4.3
18	15:48	18.00	0.6	1.000	0.6	0.400	0.3947	1.00	0.3947	1.000	0.3947	3.4
19	15:49	19.00	0.6	1.000	0.6	0.400	0.3570	1.00	0.3570	1.000	0.3570	3.1
20	15:50	20.00	0.6	0.700	0.6	0.280	0.2444	1.00	0.2444	0.700	0.1711	1.5
21	15:50	21.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 9 Discharge Measurement Summary TG-1

Discharge Measurement Summary

Date Generated: Thu Aug 20 2020

File Information	
File Name	TE062220.WAD
Start Date and Time	2020/06/22 14:47:02

Site Details	
Site Name	TE062220
Operator(s)	ZMM

System Information	
Sensor Type	FlowTracker
Serial #	P4709
CPU Firmware Version	3.9
Software Ver	2.30
Mounting Correction	0.0%

Units	(English Units)
Distance	ft
Velocity	ft/s
Area	ft^2
Discharge	cfs

Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	1.8%
Velocity	1.3%	6.5%
Width	0.1%	0.1%
Method	2.2%	-
# Stations	2.3%	-
Overall	**3.6%**	**6.9%**

Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	13.500
Mean SNR	41.4 dB	Total Area	11.400
Mean Temp	82.25 °F	Mean Depth	0.844
Disch. Equation	Mid-Section	Mean Velocity	0.1324
		Total Discharge	**1.5093**

Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Jun 22 14:53:02 CDT 2020	5.500	11.600		

Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:47	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	*14:47*	*2.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0003*	*1.00*	*0.0003*	*0.600*	*0.0002*	*0.0*
2	*14:49*	*4.00*	*0.6*	*1.200*	*0.6*	*0.480*	*-0.0003*	*1.00*	*-0.0003*	*1.500*	*-0.0005*	*0.0*
3	*14:50*	*4.50*	*0.6*	*1.200*	*0.6*	*0.480*	*0.0787*	*1.00*	*0.0787*	*0.600*	*0.0472*	*3.1*
4	14:51	5.00	0.6	1.300	0.6	0.520	0.2513	1.00	0.2513	0.650	0.1633	10.8
5	14:53	5.50	0.6	1.200	0.6	0.480	0.2822	1.00	0.2822	0.600	0.1693	11.2
6	*14:54*	*6.00*	*0.6*	*1.200*	*0.6*	*0.480*	*0.2851*	*1.00*	*0.2851*	*0.600*	*0.1711*	*11.3*
7	14:55	6.50	0.6	1.400	0.6	0.560	0.3035	1.00	0.3035	0.700	0.2124	14.1
8	14:56	7.00	0.6	1.400	0.6	0.560	0.2001	1.00	0.2001	0.700	0.1401	9.3
9	*14:57*	*7.50*	*0.6*	*1.500*	*0.6*	*0.600*	*0.1880*	*1.00*	*0.1880*	*0.750*	*0.1410*	*9.3*
10	14:58	8.00	0.6	1.500	0.6	0.600	0.0673	1.00	0.0673	0.750	0.0504	3.3
11	*14:59*	*8.50*	*0.6*	*1.500*	*0.6*	*0.600*	*0.0466*	*1.00*	*0.0466*	*0.750*	*0.0349*	*2.3*
12	15:00	9.00	0.6	1.200	0.6	0.480	0.0732	1.00	0.0732	0.600	0.0439	2.9
13	15:01	9.50	0.6	0.800	0.6	0.320	0.1804	1.00	0.1804	0.400	0.0722	4.8
14	*15:02*	*10.00*	*0.6*	*0.800*	*0.6*	*0.320*	*0.1772*	*1.00*	*0.1772*	*0.400*	*0.0709*	*4.7*
15	15:03	10.50	0.6	0.800	0.6	0.320	0.2070	1.00	0.2070	0.400	0.0828	5.5
16	15:04	11.00	0.6	0.700	0.6	0.280	0.1188	1.00	0.1188	0.350	0.0416	2.8
17	15:05	11.50	0.6	0.700	0.6	0.280	0.0863	1.00	0.0863	0.350	0.0302	2.0
18	*15:06*	*12.00*	*0.6*	*0.600*	*0.6*	*0.240*	*0.0696*	*1.00*	*0.0696*	*0.300*	*0.0209*	*1.4*
19	*15:07*	*12.50*	*0.6*	*0.500*	*0.6*	*0.200*	*0.0449*	*1.00*	*0.0449*	*0.250*	*0.0112*	*0.7*
20	*15:08*	*13.00*	*0.6*	*0.300*	*0.6*	*0.120*	*0.0410*	*1.00*	*0.0410*	*0.150*	*0.0061*	*0.4*
21	15:08	13.50	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

Figure 10 Discharge Measurement Summary TE-1

Station Number:
Station Name: LDB 06222020

Meas. No: 1
Date: 06/22/2020

Party: SCD ZMM	Width: 37.8 ft	Processed by:
Boat/Motor:	Area: 121 ft²	Mean Velocity: 0.079 ft/s
Gage Height: 0.00 ft	G.H.Change: 0.000 ft	Discharge: 9.63 ft³/s

Area Method: Avg. Course	ADCP Depth: 0.270 ft	Index Vel.: 0.00 ft/s	Rating No.: 1
Nav. Method: Bottom Track	Shore Ens.:10	Adj.Mean Vel: 0.00 ft/s	Qm Rating: U
MagVar Method: None (0.0°)	Bottom Est: Power (0.1667)	Rated Area: 0.000 ft²	Diff.: 0.000%
Depth: Composite (BT)	Top Est: Power (0.1667)	Control1: Unspecified	
Discharge Method: None		Control2: Unspecified	
% Correction: 0.00		Control3: Unspecified	

Screening Thresholds:		ADCP:	
BT 3-Beam Solution: YES	Max. Vel.: 6.91 ft/s	Type/Freq.: RiverRay / 0 kHz	
WT 3-Beam Solution: YES	Max. Depth: 5.00 ft	Serial #: 645654	Firmware: 44.16
BT Error Vel.: 3.28 ft/s	Mean Depth: 3.23 ft	Bin Size: 50 cm	Blank: 50 cm
WT Error Vel.: 32.81 ft/s	% Meas.: 48.53	BT Mode: 0	BT Pings: 1
BT Up Vel.: 32.81 ft/s	Water Temp.: None	WT Mode: 1	WT Pings: 1
WT Up Vel.: 32.81 ft/s	ADCP Temp.: 76.5 °F	WV : 170	
Use Weighted Mean Depth: YES			

Performed Diag. Test: NO
Performed Moving Bed Test: NO
Performed Compass Calibration: YES Evaluation: YES
Meas. Location:

Project Name: LDB06222020_1.mmt
Software: 2.20

Tr.#		Edge Distance		#Ens.	Discharge						Width	Area	Time		Mean Vel.		% Bad	
		L	R		Top	Middle	Bottom	Left	Right	Total			Start	End	Boat	Water	Ens.	Bins
002	L	3	3	242	2.33	4.41	2.79	-0.071	0.459	9.92	40	124	12:04	12:07	0.28	0.08	44	6
003	R	3	3	311	2.83	5.90	2.40	-0.918	-0.283	9.92	35	121	12:07	12:10	0.20	0.08	47	3
005	*R*	*3*	*3*	*259*	*4.10*	*3.71*	*2.61*	*-1.06*	*-0.318*	*9.04*	*39*	*120*	*12:13*	*12:16*	*0.25*	*0.08*	*41*	*6*
Mean		3	3	270	3.08	4.67	2.60	-0.683	-0.047	9.63	38	121	**Total**	00:12	0.24	0.08	44	5
SDev		0	0	36	0.911	1.12	0.194	0.535	0.439	0.510	2.5	2.3			0.04	0.00		
SD/M		0.0%	0.0%	13.3%	29.5%	23.9%	7.5%	78.3%	931.7%	5.3%	6.7%	1.9%			15.1%	4.2%		

Figure 11 Discharge Measurement Summary LDB-1

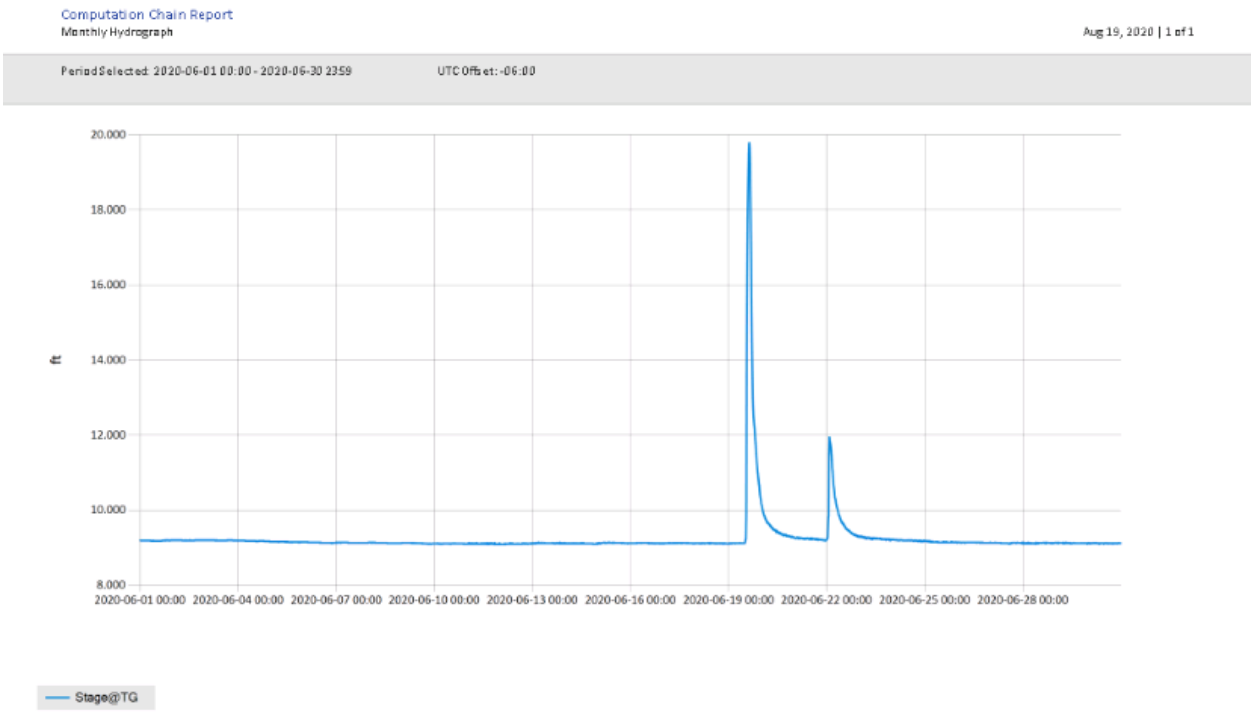

Figure 12 Monthly Hydrograph TG-1

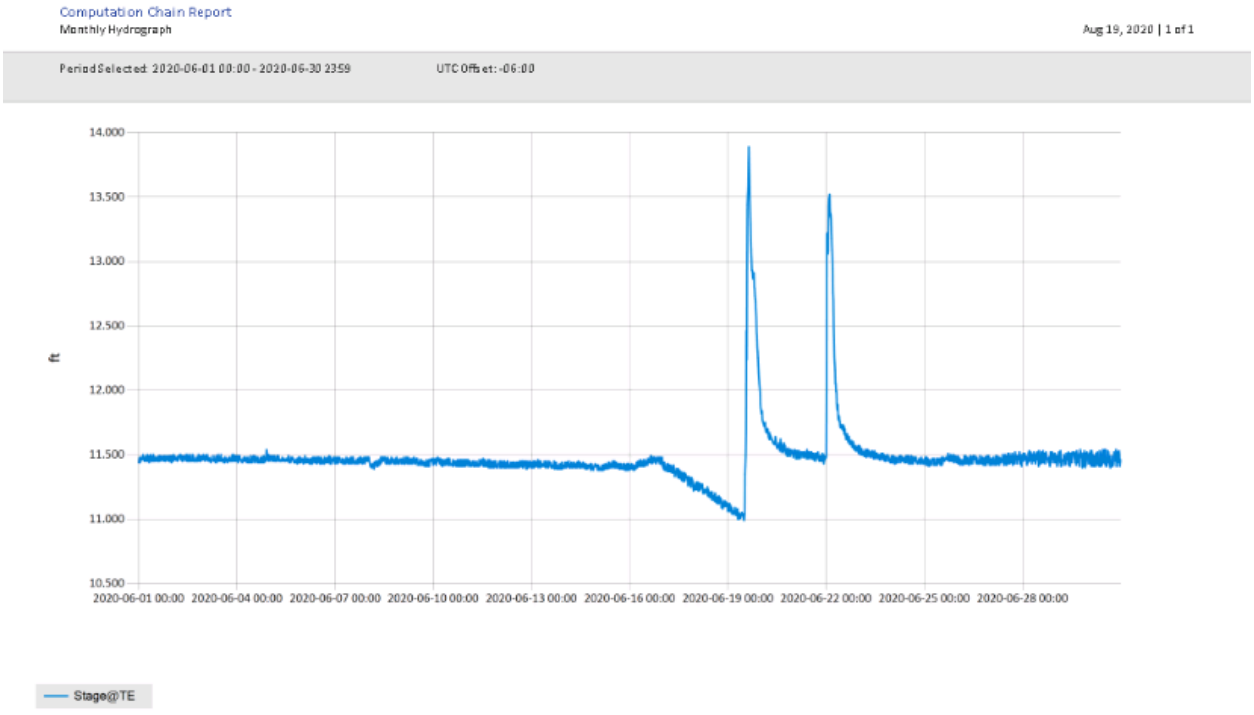

Figure 13 Monthly Hydrograph TE-1

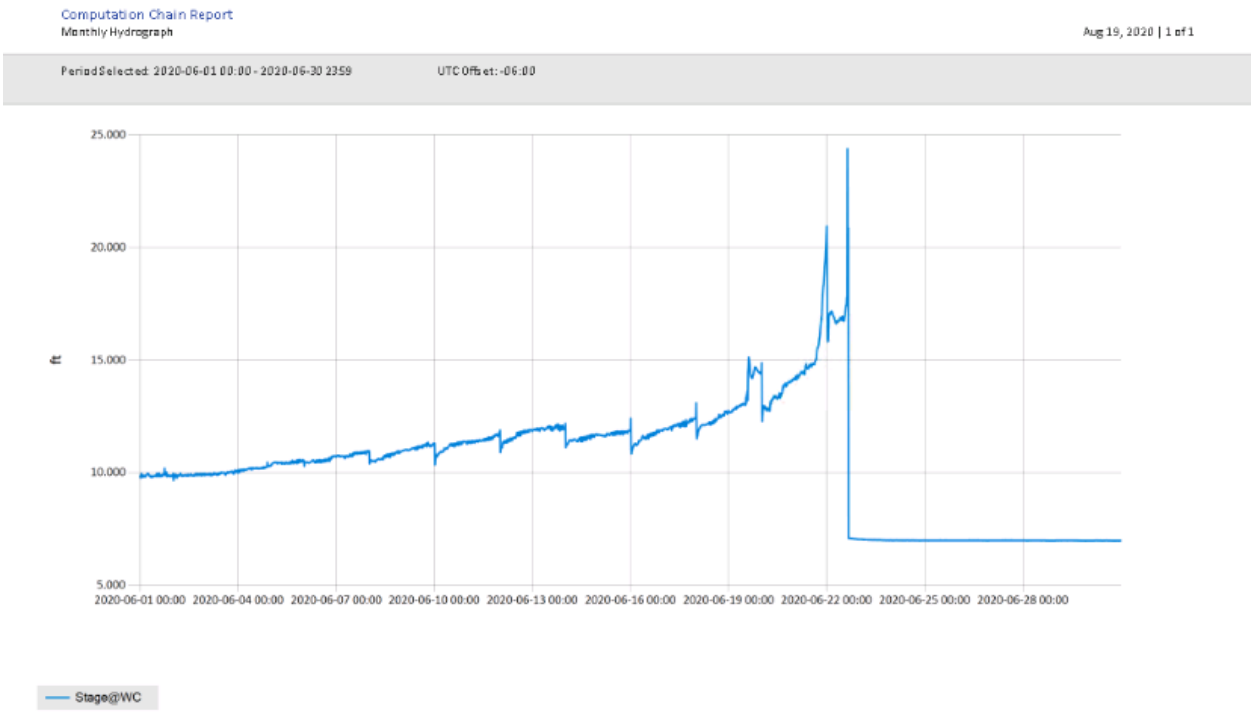

Figure 14 Monthly Hydrograph WC-1

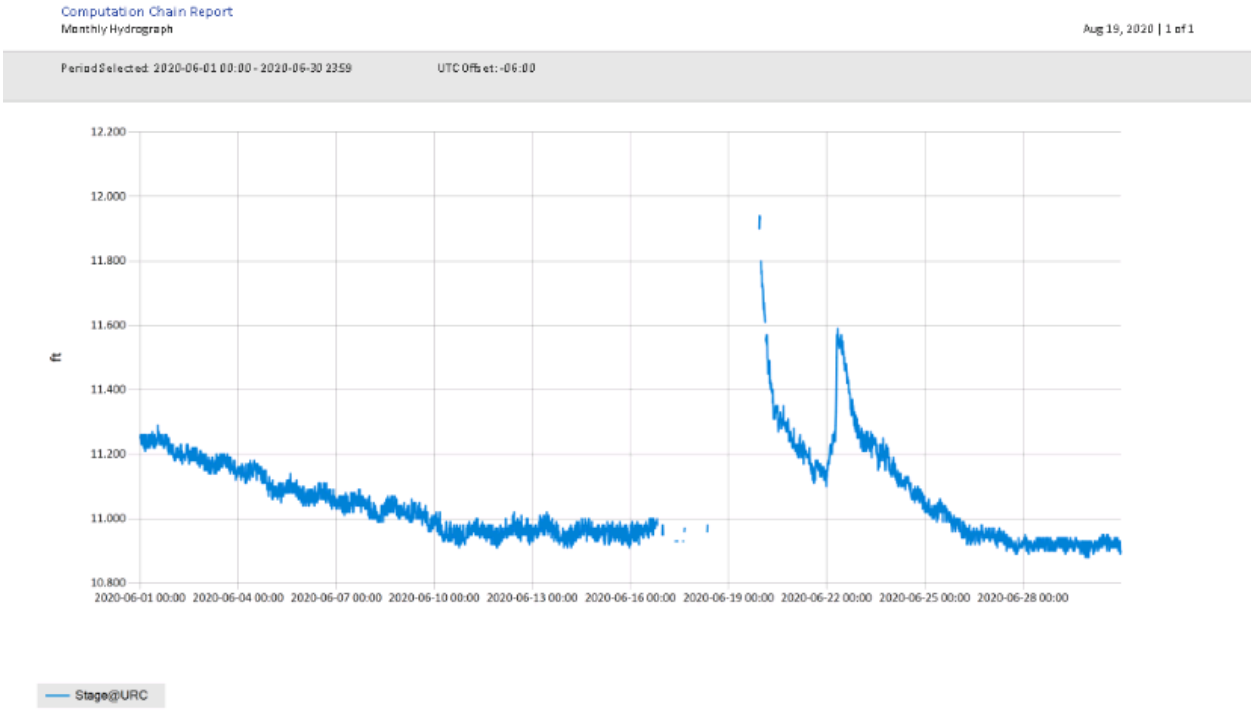

Figure 15 Monthly Hydrograph URC-2

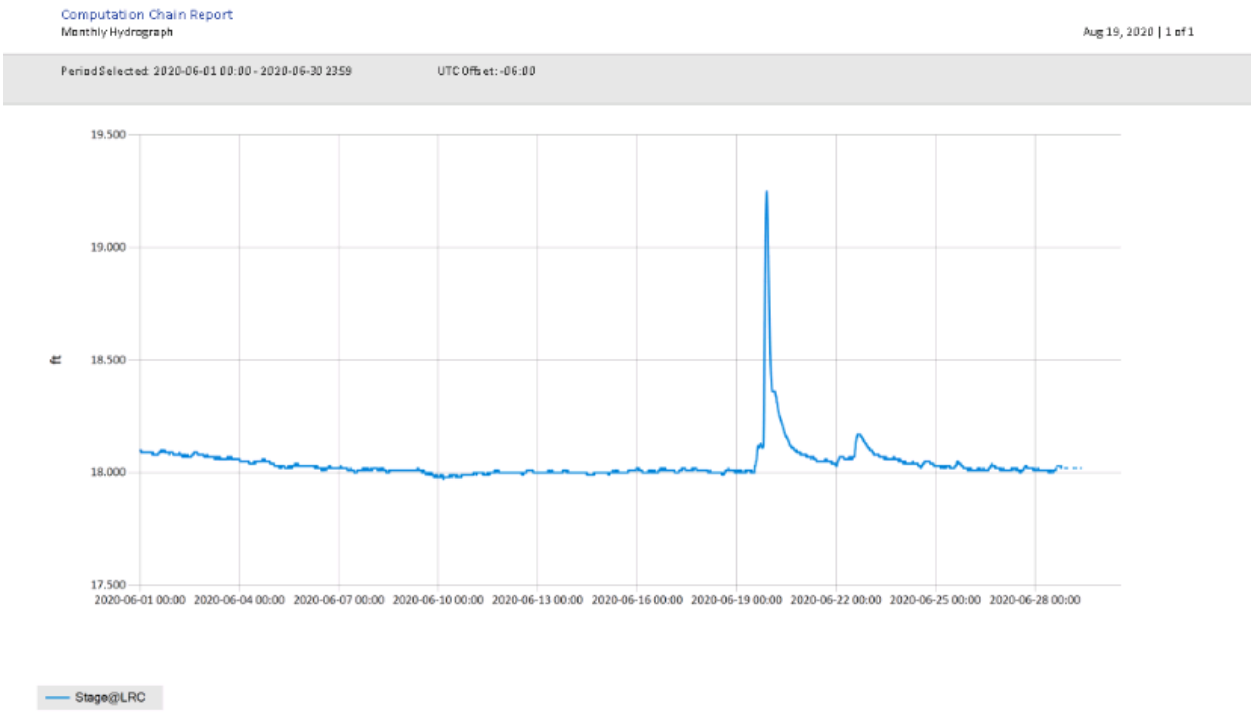

Figure 16 Monthly Hydrograph LRC-1

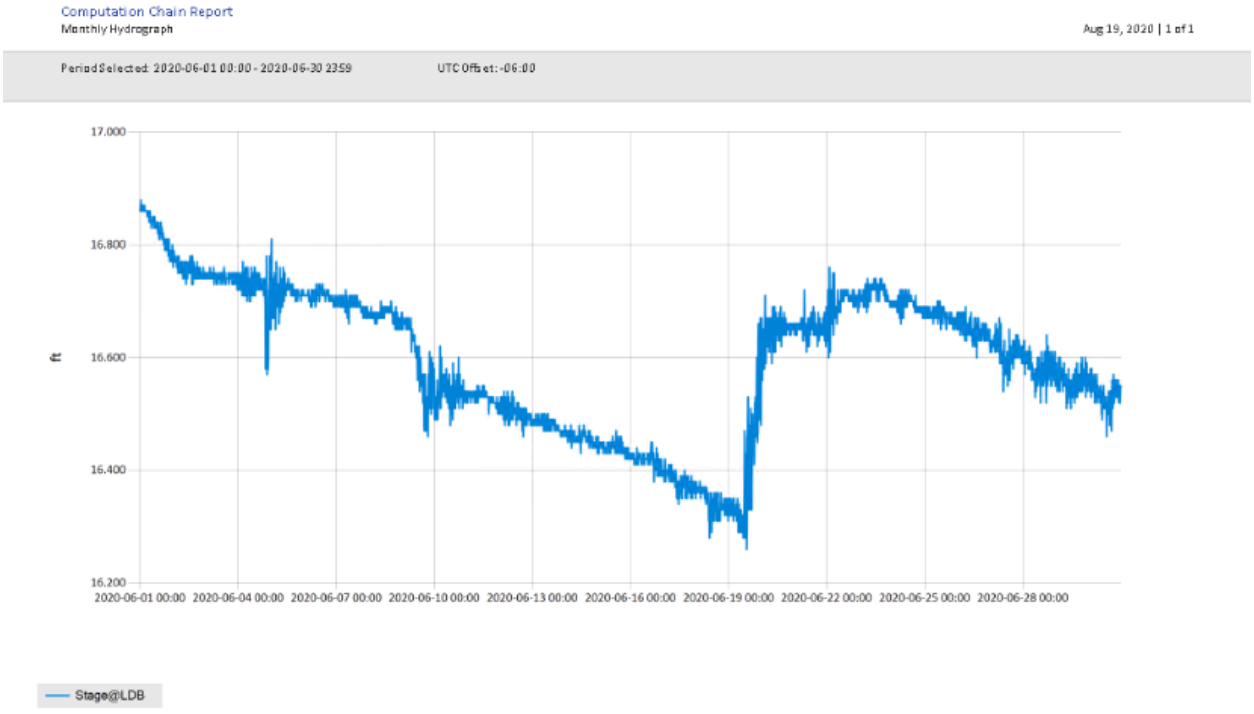

Figure 17 Monthly Hydrograph LDB-1

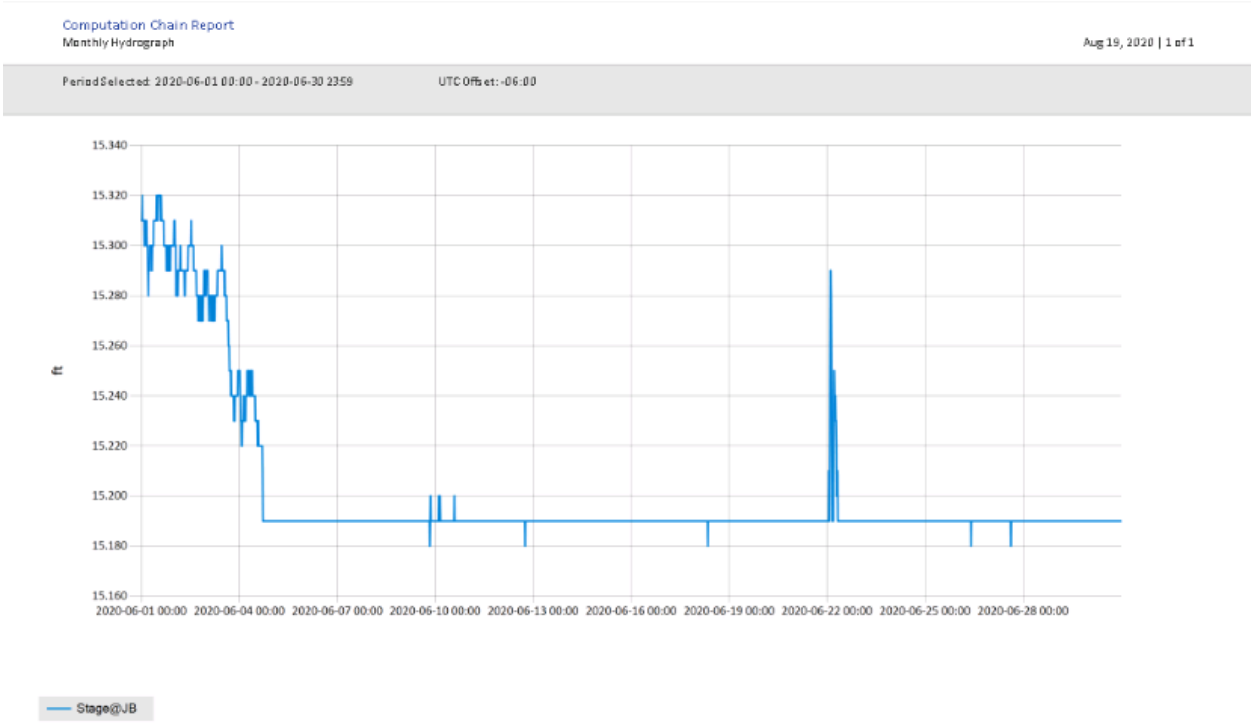

Figure 18 Monthly Hydrograph JB-1

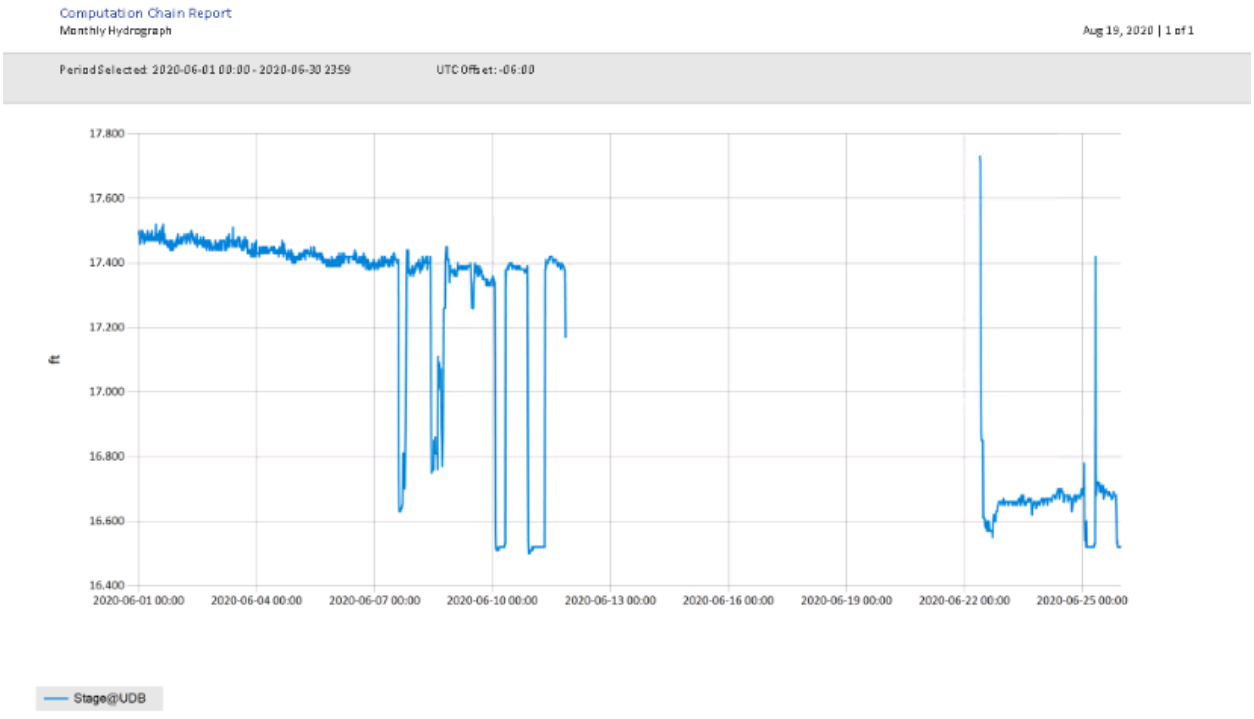

Figure 19 Monthly Hydrograph UDB-1

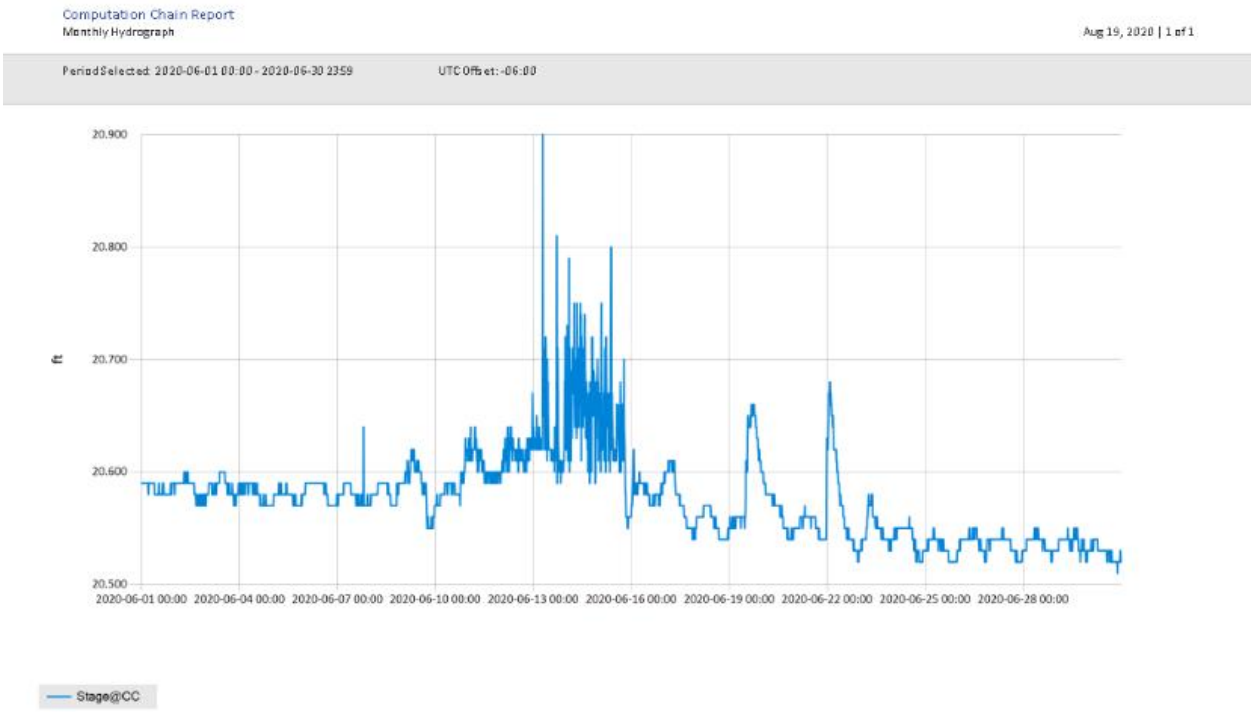

Figure 20 Monthly Hydrograph CC-1

MESONET CLIMATOLOGICAL DATA SUMMARY — June 2020 — Time Zone: Midnight-Midnight CST

(NRMN) Norman — Nearest City: 2.1 NW Norman — County: Cleveland

Latitude: 35-14-09 — Longitude: 97-27-53 — Elevation: 1171 feet

DAY	TEMPERATURE (°F) MAX	MIN	AVG	DEWPT	DEG DAYS HDD	CDD	HUMIDITY (%) MAX	MIN	AVG	RAIN (in)	PRESSURE (in) STN	MSL	WIND SPEED (mph) DIR	AVG	MAX	SOLAR (MJ/m^2)	4" SOIL TEMPERATURES SOD	BARE	MAX	MIN
1	83	65	73.3	60.9	0	9	77	49	66	0.00	28.88	30.13	SSE	6.9	17.7	23.70	71.2	76.7	84	70
2	87	65	76.1	65.8	0	11	86	53	71	0.00	28.79	30.04	SSE	7.3	20.5	22.03	72.0	78.1	84	72
3	90	70	80.1	69.2	0	15	93	52	71	0.00	28.68	29.92	S	8.4	20.3	27.80	73.8	81.3	89	74
4	94	73	82.6	67.4	0	19	83	34	62	0.00	28.57	29.81	S	10.9	41.4	26.96	75.3	83.8	92	77
5	94	66	81.9	67.0	0	15	82	41	62	0.00	28.66	29.91	S	5.6	17.2	29.39	75.6	85.1	93	77
6	93	73	83.3	70.5	0	18	89	45	67	0.00	28.68	29.93	SE	6.6	17.0	29.39	77.2	87.0	95	80
7	90	73	81.5	68.6	0	16	87	43	66	0.00	28.60	29.84	SE	8.3	19.9	29.64	77.7	87.0	94	81
8	92	68	81.5	69.2	0	15	95	50	68	0.00	28.46	29.70	SE	5.4	16.2	28.87	77.7	87.2	95	80
9	86	61	76.0	55.7	0	8	90	25	53	0.00	28.44	29.67	W	16.4	43.3	29.59	76.3	85.2	90	80
10	85	58	71.2	42.7	0	7	75	19	39	0.00	28.82	30.07	NW	15.5	44.5	31.20	72.8	80.1	86	74
11	89	53	73.9	51.3	0	6	85	26	50	0.00	29.00	30.26	SSE	4.9	18.2	30.18	71.8	80.6	89	72
12	91	65	77.8	56.0	0	13	71	27	49	0.00	28.99	30.25	SSE	7.2	24.9	26.73	73.1	81.9	89	76
13	92	64	79.4	57.7	0	13	81	28	51	0.00	28.86	30.11	SSE	7.6	20.7	29.87	74.1	83.0	90	76
14	91	67	80.4	59.7	0	14	78	31	52	0.00	28.85	30.10	SSE	8.1	24.4	29.97	75.3	84.3	91	78
15	92	68	80.3	61.2	0	15	74	34	54	0.00	28.89	30.15	SSE	7.2	20.2	24.08	75.4	84.0	89	78
16	93	72	81.3	65.3	0	17	82	34	60	0.00	28.84	30.09	SSE	9.0	23.8	27.74	76.5	84.9	91	79
17	92	71	81.1	63.3	0	16	84	34	57	0.00	28.74	29.99	SSE	10.4	24.5	29.18	77.1	85.3	92	79
18	92*	72*	82.1*	60.7*	0*	17*	72*	33*	50*	0.00*	28.66*	29.90*	SSE*	11.3*	28.1*	NA	76.7*	85.6*	92*	80*
19	86	65	71.8	64.4	0	10	97	57	79	1.48	28.72	29.97	SSE	9.3	28.6	6.85	74.1	79.7	85	73
20	88	65	75.8	64.8	0	12	96	42	71	0.00	28.71	29.96	SSW	6.0	17.6	26.26	74.6	76.5	83	71
21	85	66	75.3	65.4	0	11	95	50	72	0.55	28.65	29.89	SSE	8.6	36.5	19.70	75.6	76.2	81	72
22	88	65	76.7	66.9	0	12	97	51	74	0.16	28.64	29.88	SSW	6.0	17.0	26.07	76.5	77.1	83	71
23	84	63	76.3	64.0	0	9	87	45	67	0.00	28.71	29.96	NNE	7.8	21.9	22.89	77.9	77.4	81	74
24	87	60	75.5	59.4	0	8	95	39	61	0.00	28.72	29.97	SE	4.0	14.8	29.70	77.1	78.9	89	70
25	90	69	79.5	66.5	0	15	87	46	66	0.00	28.73	29.98	SSE	7.2	20.5	28.91	78.3	82.9	91	75
26	92	71	80.9	71.5	0	17	97	53	75	0.00	28.73	29.97	S	8.5	22.7	27.23	79.6	84.7	93	78
27	90	72	80.5	69.6	0	16	83	55	70	0.00	28.64	29.88	S	11.1	27.6	22.36	79.4	84.2	90	79
28	88	75	80.5	71.6	0	16	85	63	75	0.00	28.50	29.74	S	12.0	29.5	19.79	79.1	83.7	88	79
29	92*	76*	82.7*	72.6*	0*	19*	86*	58*	72*	0.00*	28.49*	29.73*	S *	13.2*	29.2*	NA	79.2*	84.0*	90*	80*
30	93	76	84.0	74.1	0	19	88	59	73	0.00	28.50	29.74	S	12.8	29.9	25.66	80.2	85.8	92	80
	90*	68*	78.8*	64.1*	<- Monthly Averages ->						28.71*	29.95*	SSE*	8.8*	44.5*	26.13*	76.0*	82.4*	89*	76*

Temperature - Highest: 94*
Lowest: 53*

Degree Days - Total HDD: 0*
Total CDD: 408*

Rainfall: Monthly Total: 2.19* in.
Greatest 24 Hr: 1.48* in.

Humidity - Highest: 97*
Lowest: 19*

Number of Days With:
Tmax ≥ 90: 18*
Tmax ≤ 32: 0*
Tmin ≤ 32: 0*
Tmin ≤ 0: 0*
Rainfall ≥ 0.01 inch: 3*
Rainfall ≥ 0.10 inch: 3*
Avg Wind Speed ≥ 10 mph: 9*
Max Wind Speed ≥ 30 mph: 4*

* Denotes incomplete record

Figure 21 June Mesonet Data