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***Lake Thunderbird TMDL Monitoring Plan Implementation:  
Sample Year (SY) 2019- March Report***

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**SY2019 Monthly Report**

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*Lake Thunderbird TMDL Monitoring Plan Implementation:*

*March 2019 Monitoring Report*

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Oklahoma Water Resources Board  
Water Quality Programs Division  
Monitoring and Assessment Section  
3800 N. Classen, Oklahoma City, Oklahoma 73118  
405-530-8800

Contact

Sarah Dexter, Project Leader, [sarah.dexter@owrb.ok.gov](mailto:sarah.dexter@owrb.ok.gov)

Jason Murphy, Project Supervisor, [jason.murphy@owrb.ok.gov](mailto:jason.murphy@owrb.ok.gov)

Lance Phillips, Streams Program Manager, [lance.phillips@owrb.ok.gov](mailto:lance.phillips@owrb.ok.gov)

Bill Cauthron, Monitoring Coordinator, [bill.cauthron@owrb.ok.gov](mailto:bill.cauthron@owrb.ok.gov)

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## TABLE OF CONTENTS

<b>Table of Contents</b> .....	<b>3</b>
<b>List of Tables</b> .....	<b>3</b>
<b>List of Figures</b> .....	<b>3</b>
<b>Summary of March Water Quality Sampling</b> .....	<b>4</b>
<b>Results</b> .....	<b>4</b>

## LIST OF TABLES

TABLE 1 FIELD DATA FORM .....	5
TABLE 2 LABORATORY ANALYSIS SUMMARY .....	6
TABLE 3 QA/QC DATA .....	6
TABLE 4 STATION DISCHARGE SUMMARY .....	6

## LIST OF FIGURES

FIGURE 1 MONITORING STATION MAP .....	4
FIGURE 2 DISCHARGE SUMMARY WC-1.....	7
FIGURE 3 DISCHARGE SUMMARY URC-2.....	8
FIGURE 4 DISCHARGE SUMMARY UDB-1 .....	9
FIGURE 5 DISCHARGE SUMMARY TG-1 .....	10
FIGURE 6 DISCHARGE SUMMARY TE-1.....	11
FIGURE 7 DISCHARGE SUMMARY LT-1.....	12
FIGURE 8 DISCHARGE SUMMARY LRC-1.....	13
FIGURE 9 DISCHARGE SUMMARY JB-1 .....	14
FIGURE 10 DISCHARGE SUMMARY CC-1 .....	15
FIGURE 11 MONTHLY HYDROGRAPH TE-1 .....	16
FIGURE 12 MONTHLY HYDROGRAPH TG-1 .....	16
FIGURE 13 MONTHLY HYDROGRAPH UDB-1 .....	17
FIGURE 14 MONTHLY HYDROGRAPH JB-1 .....	17
FIGURE 15 MONTHLY HYDROGRAPH URC-2 .....	18
FIGURE 16 MONTHLY HYDROGRAPH WC-1.....	18
FIGURE 17 MONTHLY HYDROGRAPH LDB-1 .....	19
FIGURE 18 MONTHLY HYDROGRAPH LRC-1 .....	19
FIGURE 19 MARCH MESONET DATA.....	20

## SUMMARY OF MARCH WATER QUALITY SAMPLING

Sampling for March 2019 occurred on the twenty-fifth and was considered a base flow collection. Water samples were collected at all ten locations, and discharge was measured at nine locations. Mesonet data shows no precipitation occurring on the twenty-fifth, 0.32 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 March was 2.97 inches. All water level gauges were operational for the month, with the exception of CC-1 as a result of road construction activity, and LT-1 due to equipment malfunction.

## RESULTS

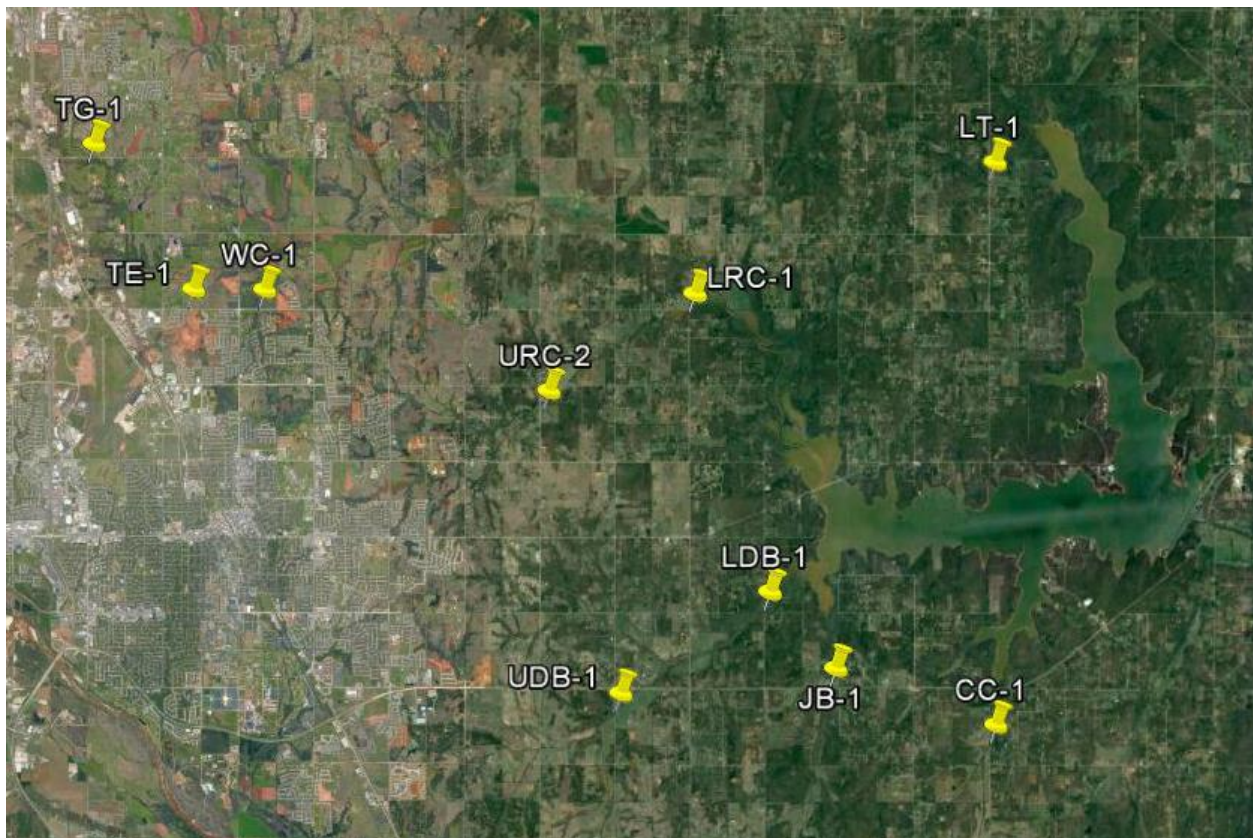


Figure 1 Monitoring Station Map

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	03-25-2019	9:30	SD	12.36	9.54	7.77	717	8.0	construction appears done
JB-1	Jim Blue Creek	03-25-2019	10:25	SD	11.59	8.67	7.70	844	6.0	
LDB-1	Lower Dave Blue Creek	03-25-2019	11:15	SD	15.21	7.32	7.82	718	72.0	
LRC-1	Lower Rock Creek	03-25-2019	13:20	SD	14.86	9.60	7.81	659	17.0	
LT-1	Lake Laterals	03-25-2019	11:50	SD	13.57	5.26	7.87	416	28.0	probably base flow, but stage higher than normal
TE-1	Little River Tributary	03-25-2019	15:35	SD	16.34	12.27	8.07	1140	20.0	
TG-1	Little River Tributary	03-25-2019	16:15	SD	15.77	14.50	8.14	1180	18.0	
UDB-1	Upper Dave Blue Creek	03-25-2019	8:50	SD	13.09	8.75	7.75	843	15.0	borderline base flow/above conditions
URC-2	Upper Rock Creek	03-25-2019	14:10	SD	13.47	9.70	7.97	751	10.0	rp1 barely over water. Higher stage than normal, probably slightly higher than base flow
WC-1	Woodcrest Creek	03-25-2019	15:05	SD	14.85	10.26	7.74	966	10.0	beaver dam gone

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	<0.05	0.19	0.030	<5.0
JB-1	Jim Blue Creek	<0.05	0.28	0.026	<5.0
LDB-1	Lower Dave Blue Creek	0.16	0.73	0.080	46.0
LRC-1	Lower Rock Creek	<0.05	0.44	0.042	8.0
LT-1	Lake Laterals	<0.05	0.68	0.066	16.0
TE-1	Little River Tributary	<0.05	0.61	0.041	18.0
TG-1	Little River Tributary	<0.05	0.80	0.069	28.0
UDB-1	Upper Dave Blue Creek	0.05	0.46	0.034	<5.0
URC-2	Upper Rock Creek	<0.05	0.44	0.028	6.0
WC-1	Woodcrest Creek	<0.05	0.58	0.071	36.0

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	0.05	0.41	0.034	<5.0
Duplicate RPD	0%	11.49%	0%	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	0.93	N/A
JB-1	Jim Blue Creek	1.24	17.01
LDB-1	Lower Dave Blue Creek	8.00	17.01
LRC-1	Lower Rock Creek	4.91	17.82
LT-1	Lake Laterals	0.77	4.64
TE-1	Little River Tributary	0.38	11.60
TG-1	Little River Tributary	1.95	9.35
UDB-1	Upper Dave Blue Creek	5.04	17.87
URC-2	Upper Rock Creek	3.00	12.94
WC-1	Woodcrest Creek	0.42	8.37

Table 4 Station Discharge Summary

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name WC032519.WAD  
Start Date and Time 2019/03/25 12:46:30

## Site Details

Site Name WC032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.5%	2.5%
Velocity	1.8%	6.5%
Width	0.2%	0.2%
Method	2.7%	-
# Stations	3.1%	-
<b>Overall</b>	<b>4.7%</b>	<b>7.1%</b>

## Summary

Averaging Int.	40	# Stations	16
Start Edge	LEW	Total Width	7.500
Mean SNR	41.4 dB	Total Area	4.950
Mean Temp	58.01 °F	Mean Depth	0.660
Disch. Equation	Mid-Section	Mean Velocity	0.0838
		<b>Total Discharge</b>	<b>0.4146</b>

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 12:50:12 CDT 2019	2.000	8.370		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	12:46	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	12:46	0.50	0.6	0.600	0.6	0.240	0.0774	1.00	0.0774	0.300	0.0232	5.6
2	12:48	1.00	0.6	0.500	0.6	0.200	0.0610	1.00	0.0610	0.250	0.0153	3.7
3	12:49	1.50	0.6	0.500	0.6	0.200	0.1175	1.00	0.1175	0.250	0.0294	7.1
4	12:50	2.00	0.6	0.600	0.6	0.240	0.1083	1.00	0.1083	0.300	0.0325	7.8
5	12:51	2.50	0.6	0.600	0.6	0.240	0.1555	1.00	0.1555	0.300	0.0467	11.3
6	12:52	3.00	0.6	0.700	0.6	0.280	0.2264	1.00	0.2264	0.350	0.0792	19.1
7	12:53	3.50	0.6	0.800	0.6	0.320	0.2067	1.00	0.2067	0.400	0.0827	19.9
8	12:54	4.00	0.6	0.800	0.6	0.320	0.1391	1.00	0.1391	0.400	0.0556	13.4
9	12:55	4.50	0.6	0.900	0.6	0.360	0.0610	1.00	0.0610	0.450	0.0275	6.6
10	12:56	5.00	0.6	0.900	0.6	0.360	0.0253	1.00	0.0253	0.450	0.0114	2.7
11	12:57	5.50	0.6	0.900	0.6	0.360	0.0279	1.00	0.0279	0.450	0.0125	3.0
12	12:59	6.00	0.6	0.800	0.6	0.320	0.0020	1.00	0.0020	0.400	0.0008	0.2
13	13:00	6.50	0.6	0.800	0.6	0.320	-0.0072	1.00	-0.0072	0.400	-0.0029	-0.7
14	13:01	7.00	0.6	0.500	0.6	0.200	0.0030	1.00	0.0030	0.250	0.0007	0.2
15	13:01	7.50	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 2 Discharge Summary WC-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name URC32519.WAD  
 Start Date and Time 2019/03/25 11:55:25

## Site Details

Site Name URC032519  
 Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
 Serial # P4713  
 CPU Firmware Version 3.9  
 Software Ver 2.30  
 Mounting Correction 0.0%

## Units (English Units)

Distance ft  
 Velocity ft/s  
 Area ft<sup>2</sup>  
 Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.4%	1.9%
Velocity	0.9%	6.2%
Width	0.1%	0.1%
Method	2.1%	-
# Stations	2.0%	-
<b>Overall</b>	<b>3.2%</b>	<b>6.5%</b>

## Summary

Averaging Int. 40 # Stations 26  
 Start Edge LEW Total Width 13.000  
 Mean SNR 33.8 dB Total Area 8.025  
 Mean Temp 55.53 °F Mean Depth 0.617  
 Disch. Equation Mid-Section Mean Velocity 0.3733  
**Total Discharge 2.9954**

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 11:58:29 CDT 2019	1.500	12.940		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	11:55	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	11:56	0.50	0.6	0.300	0.6	0.120	0.0000	1.00	0.0000	0.150	0.0000	0.0
2	11:57	1.00	0.6	0.500	0.6	0.200	0.3054	1.00	0.3054	0.250	0.0764	2.5
3	11:58	1.50	0.6	0.500	0.6	0.200	0.2297	1.00	0.2297	0.250	0.0574	1.9
4	11:59	2.00	0.6	0.700	0.6	0.280	0.1867	1.00	0.1867	0.350	0.0654	2.2
5	12:01	2.50	0.6	0.800	0.6	0.320	0.2385	1.00	0.2385	0.400	0.0954	3.2
6	12:01	3.00	0.6	0.800	0.6	0.320	0.4718	1.00	0.4718	0.400	0.1887	6.3
7	<i>12:02</i>	<i>3.50</i>	<i>0.6</i>	<i>0.900</i>	<i>0.6</i>	<i>0.360</i>	<i>0.1608</i>	<i>1.00</i>	<i>0.1608</i>	<i>0.450</i>	<i>0.0723</i>	<i>2.4</i>
8	12:04	4.00	0.6	0.900	0.6	0.360	0.4905	1.00	0.4905	0.450	0.2207	7.4
9	12:05	4.50	0.6	1.000	0.6	0.400	0.4629	1.00	0.4629	0.500	0.2315	7.7
10	12:06	5.00	0.6	0.900	0.6	0.360	0.7841	1.00	0.7841	0.450	0.3528	11.8
11	12:07	5.50	0.6	0.900	0.6	0.360	0.6250	1.00	0.6250	0.450	0.2812	9.4
12	12:08	6.00	0.6	0.800	0.6	0.320	0.6575	1.00	0.6575	0.400	0.2629	8.8
13	12:08	6.50	0.6	0.800	0.6	0.320	0.7457	1.00	0.7457	0.400	0.2982	10.0
14	12:10	7.00	0.6	0.700	0.6	0.280	0.7110	1.00	0.7110	0.350	0.2489	8.3
15	12:11	7.50	0.6	0.700	0.6	0.280	0.7028	1.00	0.7028	0.350	0.2460	8.2
16	12:12	8.00	0.6	0.600	0.6	0.240	0.6125	1.00	0.6125	0.300	0.1838	6.1
17	12:13	8.50	0.6	0.600	0.6	0.240	0.4334	1.00	0.4334	0.300	0.1300	4.3
18	12:14	9.00	0.6	0.600	0.6	0.240	0.1135	1.00	0.1135	0.300	0.0341	1.1
19	<i>12:15</i>	<i>9.50</i>	<i>0.6</i>	<i>0.500</i>	<i>0.6</i>	<i>0.200</i>	<i>0.0459</i>	<i>1.00</i>	<i>0.0459</i>	<i>0.250</i>	<i>0.0115</i>	<i>0.4</i>
20	<i>12:15</i>	<i>10.00</i>	<i>0.6</i>	<i>0.500</i>	<i>0.6</i>	<i>0.200</i>	<i>-0.0804</i>	<i>1.00</i>	<i>-0.0804</i>	<i>0.250</i>	<i>-0.0201</i>	<i>-0.7</i>
21	<i>12:17</i>	<i>10.50</i>	<i>0.6</i>	<i>0.600</i>	<i>0.6</i>	<i>0.240</i>	<i>-0.0322</i>	<i>1.00</i>	<i>-0.0322</i>	<i>0.300</i>	<i>-0.0096</i>	<i>-0.3</i>
22	<i>12:18</i>	<i>11.00</i>	<i>0.6</i>	<i>0.500</i>	<i>0.6</i>	<i>0.200</i>	<i>-0.0705</i>	<i>1.00</i>	<i>-0.0705</i>	<i>0.250</i>	<i>-0.0176</i>	<i>-0.6</i>
23	<i>12:19</i>	<i>11.50</i>	<i>0.6</i>	<i>0.500</i>	<i>0.6</i>	<i>0.200</i>	<i>-0.0246</i>	<i>1.00</i>	<i>-0.0246</i>	<i>0.250</i>	<i>-0.0062</i>	<i>-0.2</i>
24	<i>12:20</i>	<i>12.00</i>	<i>0.6</i>	<i>0.300</i>	<i>0.6</i>	<i>0.120</i>	<i>-0.0367</i>	<i>1.00</i>	<i>-0.0367</i>	<i>0.225</i>	<i>-0.0083</i>	<i>-0.3</i>
25	12:20	13.00	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 Summary URC-2



# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name UDB32519.WAD  
Start Date and Time 2019/03/25 06:31:18

## Site Details

Site Name UDB032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	4.6%
Velocity	1.1%	4.0%
Width	0.1%	0.1%
Method	2.1%	-
# Stations	2.4%	-
<b>Overall</b>	<b>3.5%</b>	<b>6.1%</b>

## Summary

Averaging Int. 40 # Stations 21  
Start Edge LEW Total Width 16.500  
Mean SNR 31.9 dB Total Area 14.925  
Mean Temp 54.80 °F Mean Depth 0.905  
Disch. Equation Mid-Section Mean Velocity 0.3378  
**Total Discharge 5.0419**

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 06:29:25 CDT 2019	0.000	17.870		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	06:31	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
<i>1</i>	<i>06:31</i>	<i>1.00</i>	<i>0.6</i>	<i>0.600</i>	<i>0.6</i>	<i>0.240</i>	<i>0.0148</i>	<i>1.00</i>	<i>0.0148</i>	<i>0.600</i>	<i>0.0089</i>	<i>0.2</i>
2	06:32	2.00	0.6	1.100	0.6	0.440	0.1339	1.00	0.1339	1.100	0.1473	2.9
3	06:34	3.00	0.6	0.900	0.6	0.360	0.2090	1.00	0.2090	0.900	0.1881	3.7
4	06:36	4.00	0.6	0.900	0.6	0.360	0.3990	1.00	0.3990	0.900	0.3590	7.1
5	06:37	5.00	0.6	1.500	0.6	0.600	0.4954	1.00	0.4954	1.125	0.5573	11.1
6	06:57	5.50	0.6	1.500	0.6	0.600	0.5046	1.00	0.5046	0.750	0.3784	7.5
7	06:39	6.00	0.6	1.600	0.6	0.640	0.5436	1.00	0.5436	1.200	0.6524	12.9
8	06:40	7.00	0.6	0.800	0.6	0.320	0.3501	1.00	0.3501	0.800	0.2800	5.6
9	06:41	8.00	0.6	1.300	0.6	0.520	0.5351	1.00	0.5351	0.975	0.5217	10.3
10	06:56	8.50	0.6	1.400	0.6	0.560	0.5118	1.00	0.5118	0.700	0.3583	7.1
11	06:42	9.00	0.6	1.000	0.6	0.400	0.6017	1.00	0.6017	0.500	0.3009	6.0
12	06:54	9.50	0.6	1.000	0.6	0.400	0.5646	1.00	0.5646	0.500	0.2823	5.6
13	06:44	10.00	0.6	1.000	0.6	0.400	0.5210	1.00	0.5210	0.750	0.3907	7.7
14	06:45	11.00	0.6	0.900	0.6	0.360	0.2625	1.00	0.2625	0.900	0.2362	4.7
15	06:46	12.00	0.6	0.800	0.6	0.320	0.1719	1.00	0.1719	0.800	0.1375	2.7
16	06:47	13.00	0.6	0.800	0.6	0.320	0.1348	1.00	0.1348	0.800	0.1079	2.1
17	06:48	14.00	0.6	0.700	0.6	0.280	0.1512	1.00	0.1512	0.700	0.1059	2.1
18	06:50	15.00	0.6	0.700	0.6	0.280	0.0476	1.00	0.0476	0.700	0.0333	0.7
19	06:52	16.00	0.6	0.300	0.6	0.120	-0.0180	1.00	-0.0180	0.225	-0.0041	-0.1
20	06:52	16.50	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 Summary UDB-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name TG032519.WAD  
Start Date and Time 2019/03/25 14:00:57

## Site Details

Site Name TG032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	1.6%
Velocity	0.6%	3.4%
Width	0.1%	0.1%
Method	2.0%	-
# Stations	2.3%	-
<b>Overall</b>	<b>3.3%</b>	<b>3.9%</b>

## Summary

Averaging Int.	40	# Stations	22
Start Edge	LEW	Total Width	20.500
Mean SNR	32.1 dB	Total Area	16.776
Mean Temp	59.60 °F	Mean Depth	0.818
Disch. Equation	Mid-Section	Mean Velocity	0.1164
		<b>Total Discharge</b>	<b>1.9530</b>

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 14:06:22 CDT 2019	5.000	9.350		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	14:00	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	14:00	1.00	0.6	0.500	0.6	0.200	-0.0430	1.00	-0.0430	0.500	-0.0215	-1.1
2	14:02	2.00	0.6	0.500	0.6	0.200	0.0597	1.00	0.0597	0.500	0.0299	1.5
3	14:04	3.00	0.6	0.900	0.6	0.360	0.0965	1.00	0.0965	0.900	0.0868	4.4
4	14:05	4.00	0.6	1.100	0.6	0.440	0.1729	1.00	0.1729	1.100	0.1902	9.7
5	14:06	5.00	0.6	1.100	0.6	0.440	0.1864	1.00	0.1864	1.100	0.2050	10.5
6	14:07	6.00	0.6	1.100	0.6	0.440	0.1824	1.00	0.1824	1.100	0.2007	10.3
7	14:08	7.00	0.6	1.100	0.6	0.440	0.1486	1.00	0.1486	1.100	0.1635	8.4
8	14:09	8.00	0.6	1.100	0.6	0.440	0.1204	1.00	0.1204	1.100	0.1325	6.8
9	14:10	9.00	0.6	1.000	0.6	0.400	0.1253	1.00	0.1253	1.000	0.1253	6.4
10	14:11	10.00	0.6	1.000	0.6	0.400	0.1184	1.00	0.1184	1.000	0.1184	6.1
11	14:12	11.00	0.6	1.000	0.6	0.400	0.1135	1.00	0.1135	1.000	0.1135	5.8
12	14:13	12.00	0.6	1.000	0.6	0.400	0.1624	1.00	0.1624	1.000	0.1624	8.3
13	14:14	13.00	0.6	0.900	0.6	0.360	0.1480	1.00	0.1480	0.900	0.1332	6.8
14	14:15	14.00	0.6	0.800	0.6	0.320	0.0912	1.00	0.0912	0.800	0.0730	3.7
15	14:16	15.00	0.6	0.700	0.6	0.280	0.0492	1.00	0.0492	0.700	0.0345	1.8
16	14:16	16.00	0.6	0.700	0.6	0.280	0.0499	1.00	0.0499	0.700	0.0349	1.8
17	14:18	17.00	0.6	0.600	0.6	0.240	0.1027	1.00	0.1027	0.600	0.0616	3.2
18	14:18	18.00	0.6	0.700	0.6	0.280	0.1060	1.00	0.1060	0.700	0.0742	3.8
19	14:19	19.00	0.6	0.600	0.6	0.240	0.0561	1.00	0.0561	0.600	0.0337	1.7
20	14:21	20.00	0.6	0.500	0.6	0.200	0.0036	1.00	0.0036	0.375	0.0014	0.1
21	14:21	20.50	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 5 Discharge Summary TG-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name TE032519.WAD  
Start Date and Time 2019/03/25 13:18:32

## Site Details

Site Name TE032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.2%	3.4%
Velocity	1.1%	9.3%
Width	0.2%	0.2%
Method	2.3%	-
# Stations	2.4%	-
<b>Overall</b>	<b>3.7%</b>	<b>9.9%</b>

## Summary

Averaging Int. 40 # Stations 21  
Start Edge LEW Total Width 11.000  
Mean SNR 41.5 dB Total Area 9.350  
Mean Temp 60.88 °F Mean Depth 0.850  
Disch. Equation Mid-Section Mean Velocity 0.0411  
**Total Discharge 0.3845**

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 13:23:02 CDT 2019	3.500	11.600		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	13:18	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	13:18	1.50	0.6	0.300	0.6	0.120	-0.0108	1.00	-0.0108	0.300	-0.0032	-0.8
2	13:19	2.00	0.6	0.400	0.6	0.160	0.0446	1.00	0.0446	0.200	0.0089	2.3
3	13:21	2.50	0.6	1.100	0.6	0.440	0.0600	1.00	0.0600	0.550	0.0330	8.6
4	13:21	3.00	0.6	1.000	0.6	0.400	0.0801	1.00	0.0801	0.500	0.0400	10.4
5	13:23	3.50	0.6	1.000	0.6	0.400	0.0863	1.00	0.0863	0.500	0.0431	11.2
6	13:24	4.00	0.6	1.200	0.6	0.480	0.0699	1.00	0.0699	0.600	0.0419	10.9
7	<i>13:25</i>	<i>4.50</i>	<i>0.6</i>	<i>1.400</i>	<i>0.6</i>	<i>0.560</i>	<i>0.0299</i>	<i>1.00</i>	<i>0.0299</i>	<i>0.700</i>	<i>0.0209</i>	<i>5.4</i>
8	13:26	5.00	0.6	1.500	0.6	0.600	0.0528	1.00	0.0528	0.750	0.0396	10.3
9	13:27	5.50	0.6	1.500	0.6	0.600	0.0551	1.00	0.0551	0.750	0.0413	10.8
10	13:29	6.00	0.6	1.300	0.6	0.520	0.0715	1.00	0.0715	0.650	0.0465	12.1
11	13:30	6.50	0.6	1.300	0.6	0.520	0.0614	1.00	0.0614	0.650	0.0399	10.4
12	13:31	7.00	0.6	1.300	0.6	0.520	0.0033	1.00	0.0033	0.650	0.0021	0.6
13	13:33	7.50	0.6	1.100	0.6	0.440	0.0141	1.00	0.0141	0.550	0.0078	2.0
14	<i>13:34</i>	<i>8.00</i>	<i>0.6</i>	<i>1.100</i>	<i>0.6</i>	<i>0.440</i>	<i>0.0351</i>	<i>1.00</i>	<i>0.0351</i>	<i>0.550</i>	<i>0.0193</i>	<i>5.0</i>
15	13:35	8.50	0.6	0.700	0.6	0.280	0.0043	1.00	0.0043	0.350	0.0015	0.4
16	<i>13:36</i>	<i>9.00</i>	<i>0.6</i>	<i>0.700</i>	<i>0.6</i>	<i>0.280</i>	<i>0.0243</i>	<i>1.00</i>	<i>0.0243</i>	<i>0.350</i>	<i>0.0085</i>	<i>2.2</i>
17	13:37	9.50	0.6	0.600	0.6	0.240	-0.0023	1.00	-0.0023	0.300	-0.0007	-0.2
18	13:39	10.00	0.6	0.500	0.6	0.200	0.0010	1.00	0.0010	0.250	0.0002	0.1
19	<i>13:40</i>	<i>10.50</i>	<i>0.6</i>	<i>0.400</i>	<i>0.6</i>	<i>0.160</i>	<i>-0.0315</i>	<i>1.00</i>	<i>-0.0315</i>	<i>0.200</i>	<i>-0.0063</i>	<i>-1.6</i>
20	13:40	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 6 Discharge Summary TE-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name LT032519.WAD  
Start Date and Time 2019/03/25 09:37:53

## Site Details

Site Name LT032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.5%	1.8%
Velocity	1.1%	9.0%
Width	0.2%	0.2%
Method	2.3%	-
# Stations	2.3%	-
<b>Overall</b>	<b>3.6%</b>	<b>9.3%</b>

## Summary

Averaging Int. 40 # Stations 22  
Start Edge LEW Total Width 11.000  
Mean SNR 38.0 dB Total Area 6.125  
Mean Temp 55.84 °F Mean Depth 0.557  
Disch. Equation Mid-Section Mean Velocity 0.1263  
**Total Discharge 0.7738**

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 09:49:40 CDT 2019	5.000	4.640		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	09:37	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
1	09:37	0.50	0.6	0.400	0.6	0.160	0.0000	1.00	0.0000	0.200	0.0000	0.0
2	09:39	1.00	0.6	0.500	0.6	0.200	0.0020	1.00	0.0020	0.250	0.0005	0.1
3	09:40	1.50	0.6	0.600	0.6	0.240	0.0919	1.00	0.0919	0.300	0.0276	3.6
4	09:41	2.00	0.6	0.600	0.6	0.240	0.0299	1.00	0.0299	0.300	0.0090	1.2
5	09:42	2.50	0.6	0.700	0.6	0.280	0.0013	1.00	0.0013	0.350	0.0005	0.1
6	09:44	3.00	0.6	0.700	0.6	0.280	0.0489	1.00	0.0489	0.350	0.0171	2.2
7	09:46	3.50	0.6	0.800	0.6	0.320	0.1503	1.00	0.1503	0.400	0.0601	7.8
8	09:47	4.00	0.6	0.800	0.6	0.320	0.1470	1.00	0.1470	0.400	0.0588	7.6
9	09:48	4.50	0.6	0.700	0.6	0.280	0.0915	1.00	0.0915	0.350	0.0320	4.1
10	09:50	5.00	0.6	0.800	0.6	0.320	-0.0003	1.00	-0.0003	0.400	-0.0001	0.0
11	09:51	5.50	0.6	0.800	0.6	0.320	0.1430	1.00	0.1430	0.400	0.0572	7.4
12	09:52	6.00	0.6	0.700	0.6	0.280	0.3402	1.00	0.3402	0.350	0.1191	15.4
13	09:53	6.50	0.6	0.600	0.6	0.240	0.3022	1.00	0.3022	0.300	0.0907	11.7
14	09:54	7.00	0.6	0.600	0.6	0.240	0.3819	1.00	0.3819	0.300	0.1146	14.8
15	09:56	7.50	0.6	0.600	0.6	0.240	0.2300	1.00	0.2300	0.300	0.0690	8.9
16	09:57	8.00	0.6	0.500	0.6	0.200	0.1066	1.00	0.1066	0.250	0.0267	3.4
17	09:58	8.50	0.6	0.500	0.6	0.200	0.1260	1.00	0.1260	0.250	0.0315	4.1
18	09:59	9.00	0.6	0.500	0.6	0.200	0.1358	1.00	0.1358	0.250	0.0340	4.4
19	10:00	9.50	0.6	0.400	0.6	0.160	0.1306	1.00	0.1306	0.200	0.0261	3.4
20	10:02	10.00	0.6	0.300	0.6	0.120	-0.0016	1.00	-0.0016	0.225	-0.0004	0.0
21	10:02	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 7 Discharge Summary LT-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

<b>File Information</b>		<b>Site Details</b>	
File Name	LRC32519.WAD	Site Name	LRC032519
Start Date and Time	2019/03/25 11:05:17	Operator(s)	ZMM

<b>System Information</b>		<b>Units (English Units)</b>		<b>Discharge Uncertainty</b>		
Sensor Type	FlowTracker	Distance	ft	<b>Category</b>	<b>ISO</b>	<b>Stats</b>
Serial #	P4713	Velocity	ft/s	Accuracy	1.0%	1.0%
CPU Firmware Version	3.9	Area	ft^2	Depth	0.2%	0.8%
Software Ver	2.30	Discharge	cfs	Velocity	0.3%	2.8%
Mounting Correction	0.0%			Width	0.1%	0.1%
				Method	1.7%	-
				# Stations	2.0%	-
				<b>Overall</b>	<b>2.8%</b>	<b>3.1%</b>

<b>Summary</b>			
Averaging Int.	40	# Stations	26
Start Edge	LEW	Total Width	13.000
Mean SNR	34.9 dB	Total Area	10.900
Mean Temp	58.13 °F	Mean Depth	0.838
Disch. Equation	Mid-Section	Mean Velocity	0.4505
		<b>Total Discharge</b>	<b>4.9111</b>

<b>Supplemental Data</b>					
#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 11:04:29 CDT 2019	0.000	17.820		

<b>Measurement Results</b>													
St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q	
0	11:05	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0	
1	11:10	1.00	0.6	0.400	0.6	0.160	0.0623	1.00	0.0623	0.300	0.0187	0.4	
2	<i>11:11</i>	<i>1.50</i>	<i>0.6</i>	<i>0.600</i>	<i>0.6</i>	<i>0.240</i>	<i>-0.0052</i>	<i>1.00</i>	<i>-0.0052</i>	<i>0.300</i>	<i>-0.0016</i>	<i>0.0</i>	
3	11:13	2.00	0.6	0.700	0.6	0.280	0.4318	1.00	0.4318	0.350	0.1511	3.1	
4	11:14	2.50	0.6	0.800	0.6	0.320	0.4311	1.00	0.4311	0.400	0.1724	3.5	
5	11:15	3.00	0.6	0.900	0.6	0.360	0.4767	1.00	0.4767	0.450	0.2145	4.4	
6	11:16	3.50	0.6	1.100	0.6	0.440	0.4760	1.00	0.4760	0.550	0.2618	5.3	
7	11:17	4.00	0.6	1.100	0.6	0.440	0.5177	1.00	0.5177	0.550	0.2848	5.8	
8	11:18	4.50	0.6	1.200	0.6	0.480	0.5164	1.00	0.5164	0.600	0.3099	6.3	
9	11:19	5.00	0.6	1.100	0.6	0.440	0.5305	1.00	0.5305	0.550	0.2918	5.9	
10	11:20	5.50	0.6	1.000	0.6	0.400	0.5410	1.00	0.5410	0.500	0.2705	5.5	
11	11:21	6.00	0.6	1.000	0.6	0.400	0.5207	1.00	0.5207	0.500	0.2603	5.3	
12	11:22	6.50	0.6	1.100	0.6	0.440	0.5184	1.00	0.5184	0.550	0.2851	5.8	
13	11:23	7.00	0.6	1.200	0.6	0.480	0.5157	1.00	0.5157	0.600	0.3095	6.3	
14	11:24	7.50	0.6	1.200	0.6	0.480	0.5007	1.00	0.5007	0.600	0.3004	6.1	
15	11:25	8.00	0.6	1.200	0.6	0.480	0.4869	1.00	0.4869	0.600	0.2922	5.9	
16	11:26	8.50	0.6	1.100	0.6	0.440	0.4419	1.00	0.4419	0.550	0.2431	4.9	
17	11:27	9.00	0.6	1.000	0.6	0.400	0.4452	1.00	0.4452	0.500	0.2226	4.5	
18	11:28	9.50	0.6	1.000	0.6	0.400	0.4475	1.00	0.4475	0.500	0.2238	4.6	
19	11:29	10.00	0.6	0.900	0.6	0.360	0.4383	1.00	0.4383	0.450	0.1972	4.0	
20	11:30	10.50	0.6	0.800	0.6	0.320	0.4324	1.00	0.4324	0.400	0.1729	3.5	
21	11:31	11.00	0.6	0.700	0.6	0.280	0.4170	1.00	0.4170	0.350	0.1460	3.0	
22	11:32	11.50	0.6	0.600	0.6	0.240	0.4091	1.00	0.4091	0.300	0.1227	2.5	
23	11:33	12.00	0.6	0.500	0.6	0.200	0.3488	1.00	0.3488	0.250	0.0872	1.8	
24	11:34	12.50	0.6	0.400	0.6	0.160	0.3704	1.00	0.3704	0.200	0.0741	1.5	
25	11:34	13.00	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 8 Discharge Summary LRC-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name JB032519.WAD  
Start Date and Time 2019/03/25 08:09:15

## Site Details

Site Name JB032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.1%	1.5%
Velocity	0.9%	3.6%
Width	0.1%	0.1%
Method	1.8%	-
# Stations	2.0%	-
<b>Overall</b>	<b>3.0%</b>	<b>4.1%</b>

## Summary

Averaging Int.	40	# Stations	25
Start Edge	LEW	Total Width	13.000
Mean SNR	30.0 dB	Total Area	14.300
Mean Temp	52.04 °F	Mean Depth	1.100
Disch. Equation	Mid-Section	Mean Velocity	0.0867
		<b>Total Discharge</b>	<b>1.2398</b>

## Supplemental Data

#	Time	Location	Gauge Height	Rated Flow	Comments
1	Mon Mar 25 08:08:34 CDT 2019	1.000	17.010		

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	08:09	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
<i>1</i>	<i>08:09</i>	<i>1.00</i>	<i>0.6</i>	<i>1.300</i>	<i>0.6</i>	<i>0.520</i>	<i>0.0778</i>	<i>1.00</i>	<i>0.0778</i>	<i>0.975</i>	<i>0.0758</i>	<i>6.1</i>
2	08:10	1.50	0.6	1.500	0.6	0.600	0.0846	1.00	0.0846	0.750	0.0635	5.1
3	08:11	2.00	0.6	1.200	0.6	0.480	0.0712	1.00	0.0712	0.600	0.0427	3.4
4	08:12	2.50	0.6	1.400	0.6	0.560	0.0823	1.00	0.0823	0.700	0.0576	4.6
5	08:13	3.00	0.6	1.400	0.6	0.560	0.0561	1.00	0.0561	0.700	0.0393	3.2
6	08:15	3.50	0.6	1.400	0.6	0.560	0.0860	1.00	0.0860	0.700	0.0602	4.9
7	08:16	4.00	0.6	1.400	0.6	0.560	0.0761	1.00	0.0761	0.700	0.0533	4.3
8	08:17	4.50	0.6	1.200	0.6	0.480	0.0942	1.00	0.0942	0.600	0.0565	4.6
9	08:19	5.00	0.6	1.100	0.6	0.440	0.1086	1.00	0.1086	0.550	0.0597	4.8
10	08:20	5.50	0.6	1.200	0.6	0.480	0.1142	1.00	0.1142	0.600	0.0685	5.5
11	08:21	6.00	0.6	1.200	0.6	0.480	0.1240	1.00	0.1240	0.600	0.0744	6.0
12	08:22	6.50	0.6	1.200	0.6	0.480	0.1542	1.00	0.1542	0.600	0.0925	7.5
13	08:23	7.00	0.6	1.300	0.6	0.520	0.1706	1.00	0.1706	0.650	0.1109	8.9
14	08:24	7.50	0.6	1.400	0.6	0.560	0.1565	1.00	0.1565	0.700	0.1095	8.8
15	08:25	8.00	0.6	1.400	0.6	0.560	0.1332	1.00	0.1332	0.700	0.0932	7.5
16	08:26	8.50	0.6	1.300	0.6	0.520	0.1161	1.00	0.1161	0.650	0.0755	6.1
17	08:27	9.00	0.6	1.300	0.6	0.520	0.0289	1.00	0.0289	0.650	0.0188	1.5
<i>18</i>	<i>08:29</i>	<i>9.50</i>	<i>0.6</i>	<i>1.100</i>	<i>0.6</i>	<i>0.440</i>	<i>0.0151</i>	<i>1.00</i>	<i>0.0151</i>	<i>0.550</i>	<i>0.0083</i>	<i>0.7</i>
<i>19</i>	<i>08:33</i>	<i>10.00</i>	<i>0.6</i>	<i>1.100</i>	<i>0.6</i>	<i>0.440</i>	<i>0.0138</i>	<i>1.00</i>	<i>0.0138</i>	<i>0.550</i>	<i>0.0076</i>	<i>0.6</i>
20	08:35	10.50	0.6	1.100	0.6	0.440	0.0148	1.00	0.0148	0.550	0.0081	0.7
<i>21</i>	<i>08:36</i>	<i>11.00</i>	<i>0.6</i>	<i>0.900</i>	<i>0.6</i>	<i>0.360</i>	<i>0.0604</i>	<i>1.00</i>	<i>0.0604</i>	<i>0.450</i>	<i>0.0272</i>	<i>2.2</i>
22	08:37	11.50	0.6	0.800	0.6	0.320	0.0735	1.00	0.0735	0.400	0.0294	2.4
<i>23</i>	<i>08:41</i>	<i>12.00</i>	<i>0.6</i>	<i>0.500</i>	<i>0.6</i>	<i>0.200</i>	<i>0.0194</i>	<i>1.00</i>	<i>0.0194</i>	<i>0.375</i>	<i>0.0073</i>	<i>0.6</i>
24	08:41	13.00	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 Summary JB-1

# Discharge Measurement Summary

Date Generated: Tue Mar 26 2019

## File Information

File Name CC032519.WAD  
Start Date and Time 2019/03/25 07:23:01

## Site Details

Site Name CC032519  
Operator(s) ZMM

## System Information

Sensor Type FlowTracker  
Serial # P4713  
CPU Firmware Version 3.9  
Software Ver 2.30  
Mounting Correction 0.0%

## Units (English Units)

Distance ft  
Velocity ft/s  
Area ft<sup>2</sup>  
Discharge cfs

## Discharge Uncertainty

Category	ISO	Stats
Accuracy	1.0%	1.0%
Depth	0.3%	3.9%
Velocity	1.7%	16.2%
Width	0.2%	0.2%
Method	2.5%	-
# Stations	2.2%	-
<b>Overall</b>	<b>3.8%</b>	<b>16.7%</b>

## Summary

Averaging Int. 40 # Stations 23  
Start Edge LEW Total Width 22.000  
Mean SNR 33.5 dB Total Area 19.100  
Mean Temp 53.75 °F Mean Depth 0.868  
Disch. Equation Mid-Section Mean Velocity 0.0489  
**Total Discharge 0.9338**

## Measurement Results

St	Clock	Loc	Method	Depth	%Dep	MeasD	Vel	CorrFact	MeanV	Area	Flow	%Q
0	07:23	0.00	None	0.000	0.0	0.0	0.0000	1.00	0.0000	0.000	0.0000	0.0
<i>1</i>	<i>07:23</i>	<i>1.00</i>	<i>0.6</i>	<i>0.600</i>	<i>0.6</i>	<i>0.240</i>	<i>0.0810</i>	<i>1.00</i>	<i>0.0810</i>	<i>0.600</i>	<i>0.0486</i>	<i>5.2</i>
<i>2</i>	<i>07:26</i>	<i>2.00</i>	<i>0.6</i>	<i>0.800</i>	<i>0.6</i>	<i>0.320</i>	<i>0.1289</i>	<i>1.00</i>	<i>0.1289</i>	<i>0.800</i>	<i>0.1031</i>	<i>11.0</i>
<i>3</i>	<i>07:28</i>	<i>3.00</i>	<i>0.6</i>	<i>0.600</i>	<i>0.6</i>	<i>0.240</i>	<i>0.1099</i>	<i>1.00</i>	<i>0.1099</i>	<i>0.600</i>	<i>0.0660</i>	<i>7.1</i>
<i>4</i>	<i>07:29</i>	<i>4.00</i>	<i>0.6</i>	<i>0.800</i>	<i>0.6</i>	<i>0.320</i>	<i>0.0515</i>	<i>1.00</i>	<i>0.0515</i>	<i>0.800</i>	<i>0.0412</i>	<i>4.4</i>
<i>5</i>	<i>07:30</i>	<i>5.00</i>	<i>0.6</i>	<i>1.100</i>	<i>0.6</i>	<i>0.440</i>	<i>0.1014</i>	<i>1.00</i>	<i>0.1014</i>	<i>1.100</i>	<i>0.1115</i>	<i>11.9</i>
<i>6</i>	<i>07:31</i>	<i>6.00</i>	<i>0.6</i>	<i>1.100</i>	<i>0.6</i>	<i>0.440</i>	<i>0.0719</i>	<i>1.00</i>	<i>0.0719</i>	<i>1.100</i>	<i>0.0790</i>	<i>8.5</i>
<i>7</i>	<i>07:32</i>	<i>7.00</i>	<i>0.6</i>	<i>1.000</i>	<i>0.6</i>	<i>0.400</i>	<i>0.0423</i>	<i>1.00</i>	<i>0.0423</i>	<i>1.000</i>	<i>0.0423</i>	<i>4.5</i>
<i>8</i>	<i>07:33</i>	<i>8.00</i>	<i>0.6</i>	<i>0.900</i>	<i>0.6</i>	<i>0.360</i>	<i>0.0262</i>	<i>1.00</i>	<i>0.0262</i>	<i>0.900</i>	<i>0.0236</i>	<i>2.5</i>
<i>9</i>	<i>07:35</i>	<i>9.00</i>	<i>0.6</i>	<i>0.800</i>	<i>0.6</i>	<i>0.320</i>	<i>0.0115</i>	<i>1.00</i>	<i>0.0115</i>	<i>0.800</i>	<i>0.0092</i>	<i>1.0</i>
<i>10</i>	<i>07:36</i>	<i>10.00</i>	<i>0.6</i>	<i>0.900</i>	<i>0.6</i>	<i>0.360</i>	<i>-0.0272</i>	<i>1.00</i>	<i>-0.0272</i>	<i>0.900</i>	<i>-0.0245</i>	<i>-2.6</i>
<i>11</i>	<i>07:37</i>	<i>11.00</i>	<i>0.6</i>	<i>1.000</i>	<i>0.6</i>	<i>0.400</i>	<i>0.0128</i>	<i>1.00</i>	<i>0.0128</i>	<i>1.000</i>	<i>0.0128</i>	<i>1.4</i>
<i>12</i>	<i>07:39</i>	<i>12.00</i>	<i>0.6</i>	<i>0.800</i>	<i>0.6</i>	<i>0.320</i>	<i>-0.0072</i>	<i>1.00</i>	<i>-0.0072</i>	<i>0.800</i>	<i>-0.0058</i>	<i>-0.6</i>
<i>13</i>	<i>07:40</i>	<i>13.00</i>	<i>0.6</i>	<i>0.600</i>	<i>0.6</i>	<i>0.240</i>	<i>-0.0013</i>	<i>1.00</i>	<i>-0.0013</i>	<i>0.600</i>	<i>-0.0008</i>	<i>-0.1</i>
<i>14</i>	<i>07:41</i>	<i>14.00</i>	<i>0.6</i>	<i>1.200</i>	<i>0.6</i>	<i>0.480</i>	<i>0.0036</i>	<i>1.00</i>	<i>0.0036</i>	<i>1.200</i>	<i>0.0043</i>	<i>0.5</i>
<i>15</i>	<i>07:42</i>	<i>15.00</i>	<i>0.6</i>	<i>1.600</i>	<i>0.6</i>	<i>0.640</i>	<i>0.0302</i>	<i>1.00</i>	<i>0.0302</i>	<i>1.600</i>	<i>0.0483</i>	<i>5.2</i>
<i>16</i>	<i>07:43</i>	<i>16.00</i>	<i>0.6</i>	<i>1.800</i>	<i>0.6</i>	<i>0.720</i>	<i>0.0463</i>	<i>1.00</i>	<i>0.0463</i>	<i>1.800</i>	<i>0.0833</i>	<i>8.9</i>
<i>17</i>	<i>07:45</i>	<i>17.00</i>	<i>0.6</i>	<i>1.500</i>	<i>0.6</i>	<i>0.600</i>	<i>0.1339</i>	<i>1.00</i>	<i>0.1339</i>	<i>1.500</i>	<i>0.2008</i>	<i>21.5</i>
<i>18</i>	<i>07:46</i>	<i>18.00</i>	<i>0.6</i>	<i>1.000</i>	<i>0.6</i>	<i>0.400</i>	<i>0.0213</i>	<i>1.00</i>	<i>0.0213</i>	<i>1.000</i>	<i>0.0213</i>	<i>2.3</i>
<i>19</i>	<i>07:47</i>	<i>19.00</i>	<i>0.6</i>	<i>0.500</i>	<i>0.6</i>	<i>0.200</i>	<i>0.0863</i>	<i>1.00</i>	<i>0.0863</i>	<i>0.500</i>	<i>0.0431</i>	<i>4.6</i>
<i>20</i>	<i>07:49</i>	<i>20.00</i>	<i>0.6</i>	<i>0.300</i>	<i>0.6</i>	<i>0.120</i>	<i>0.0449</i>	<i>1.00</i>	<i>0.0449</i>	<i>0.300</i>	<i>0.0135</i>	<i>1.4</i>
<i>21</i>	<i>07:50</i>	<i>21.00</i>	<i>0.6</i>	<i>0.200</i>	<i>0.6</i>	<i>0.080</i>	<i>0.0640</i>	<i>1.00</i>	<i>0.0640</i>	<i>0.200</i>	<i>0.0128</i>	<i>1.4</i>
<i>22</i>	<i>07:50</i>	<i>22.00</i>	<i>None</i>	<i>0.000</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0000</i>	<i>1.00</i>	<i>0.0000</i>	<i>0.000</i>	<i>0.0000</i>	<i>0.0</i>

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

Figure 10 Discharge Summary CC-1

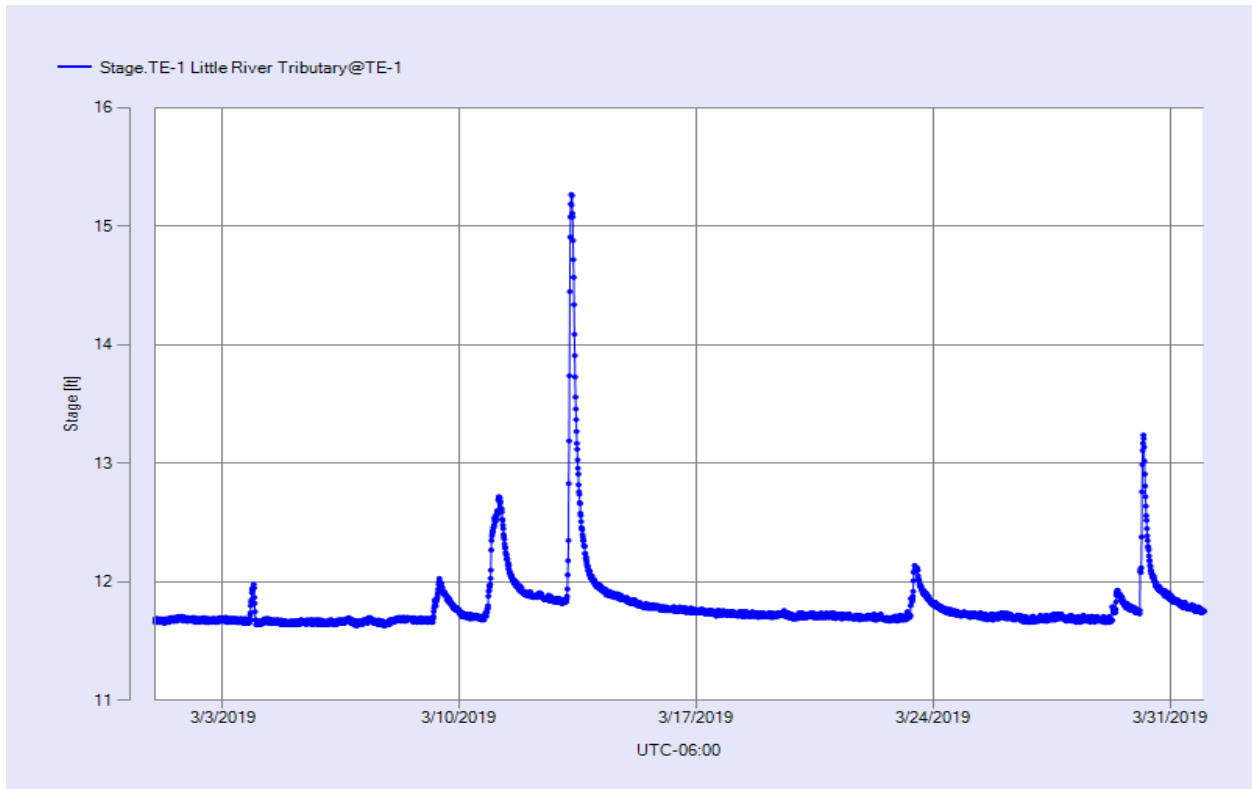


Figure 11 Monthly Hydrograph TE-1

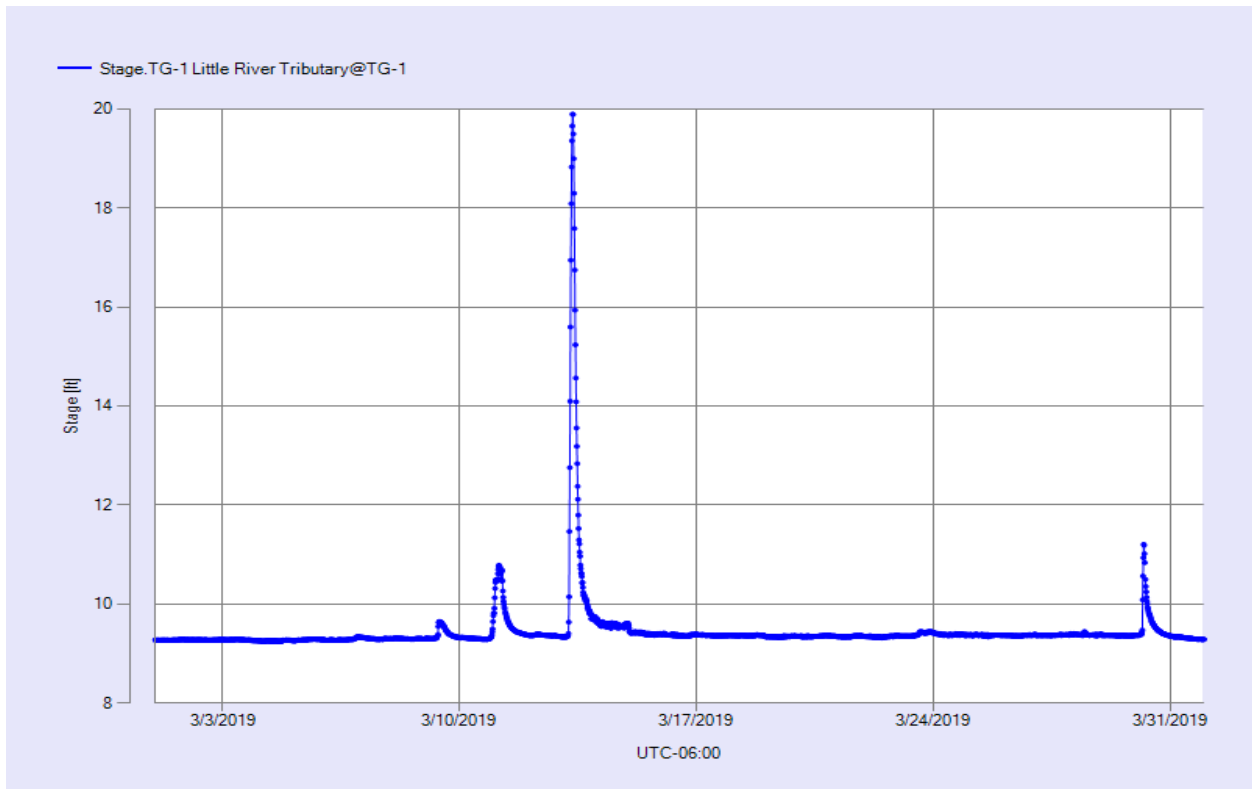


Figure 12 Monthly Hydrograph TG-1



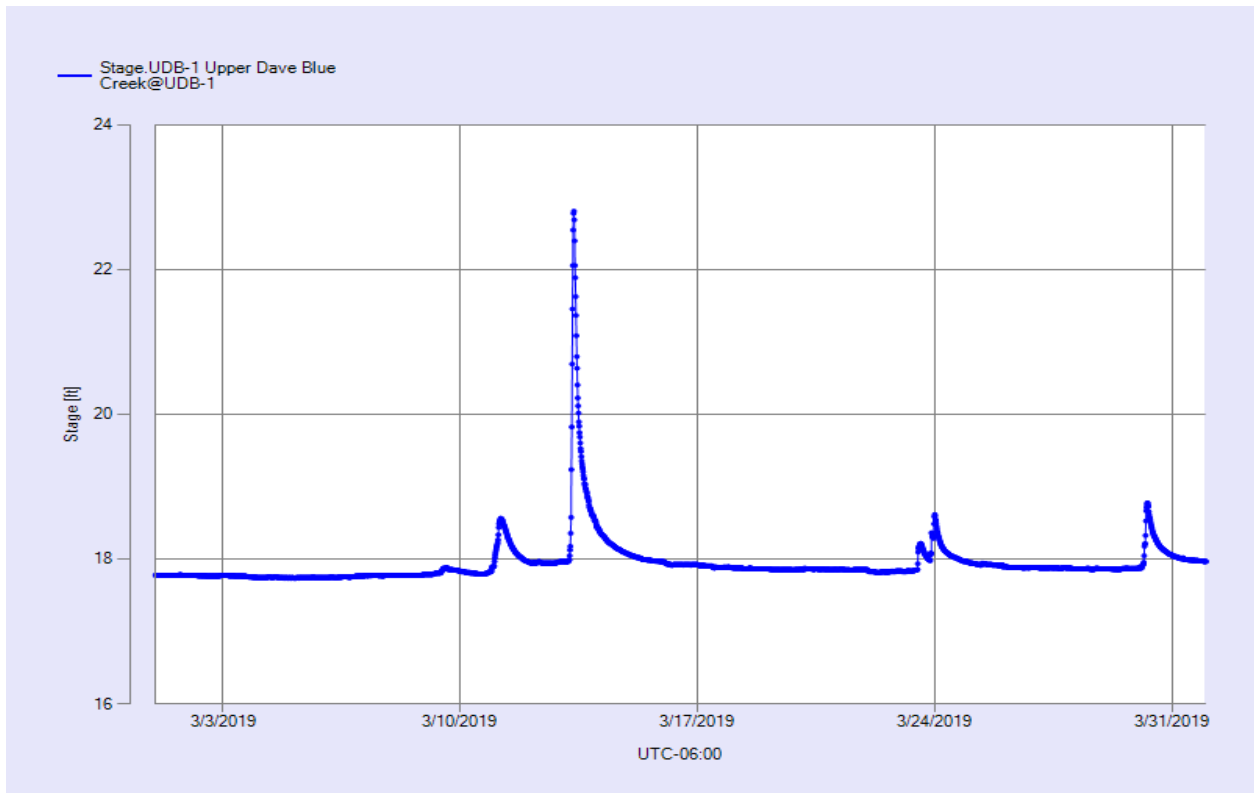


Figure 13 Monthly Hydrograph UDB-1

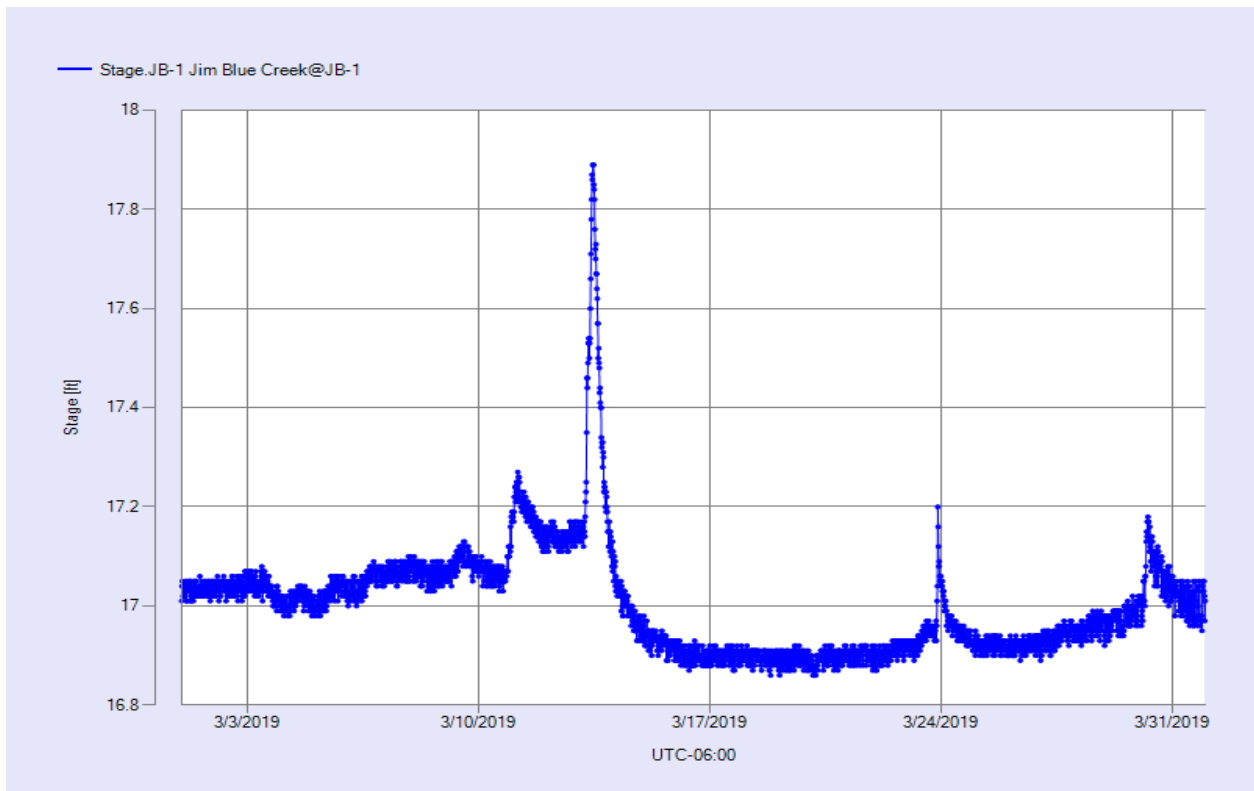


Figure 14 Monthly Hydrograph JB-1

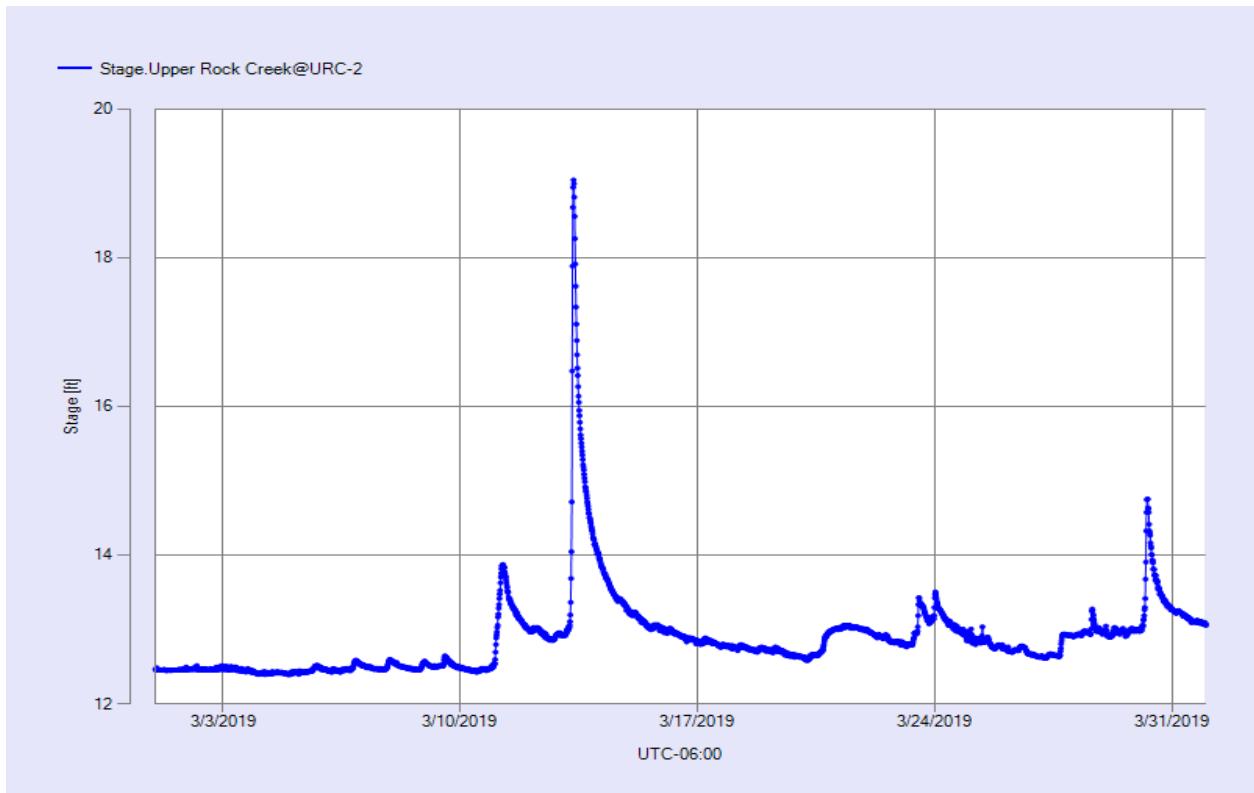


Figure 15 Monthly Hydrograph URC-2

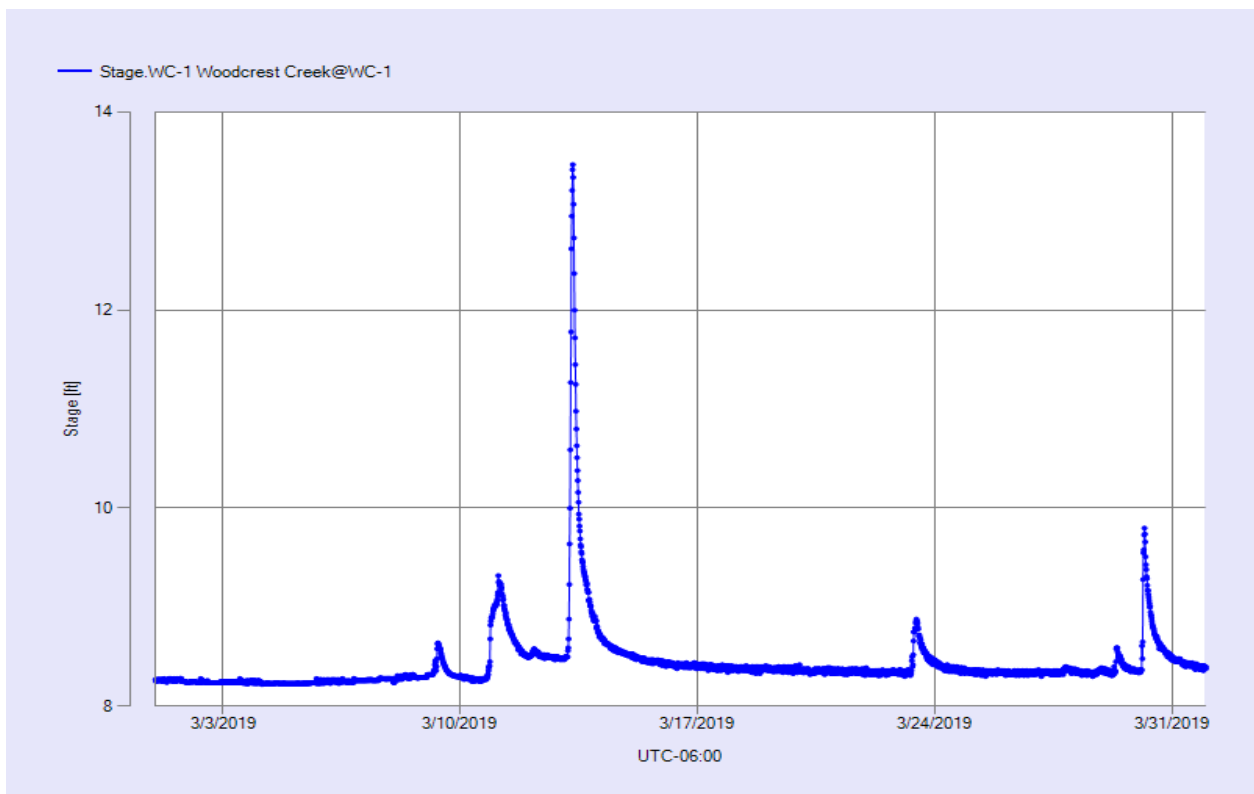


Figure 16 Monthly Hydrograph WC-1

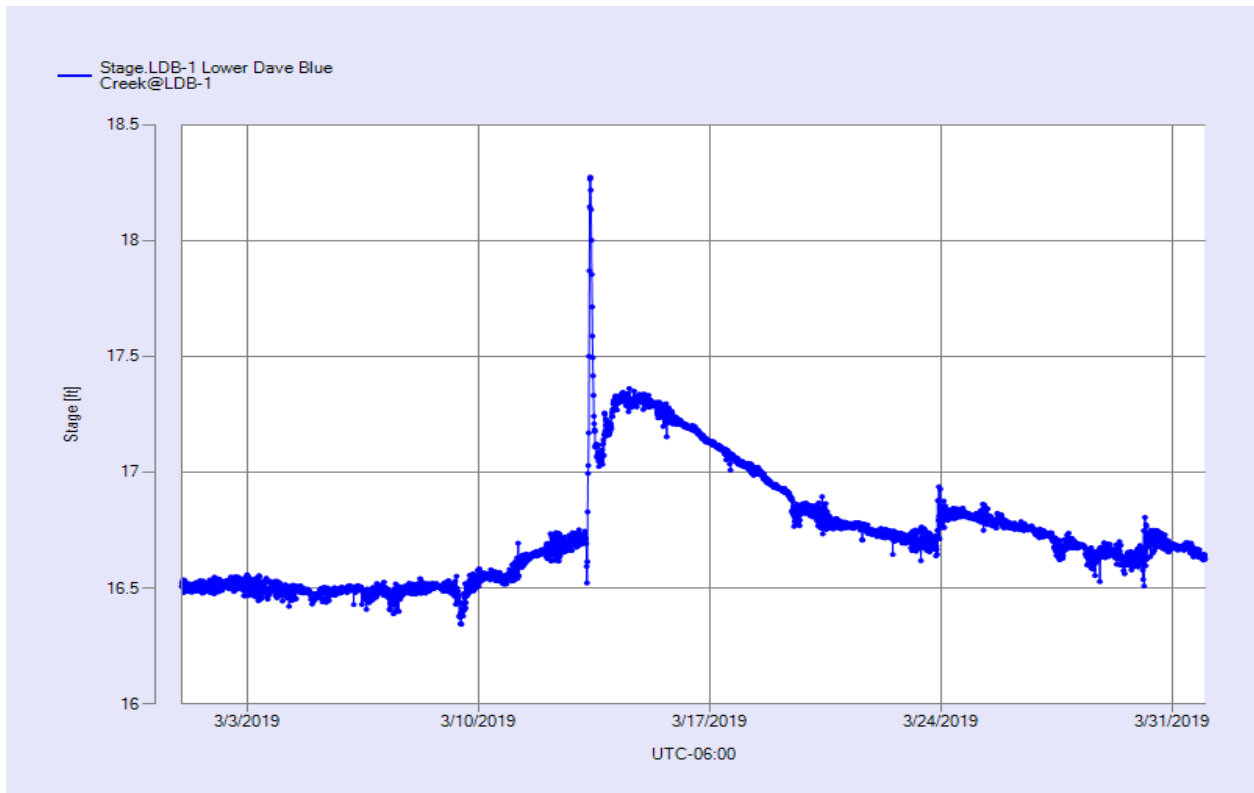


Figure 17 Monthly Hydrograph LDB-1

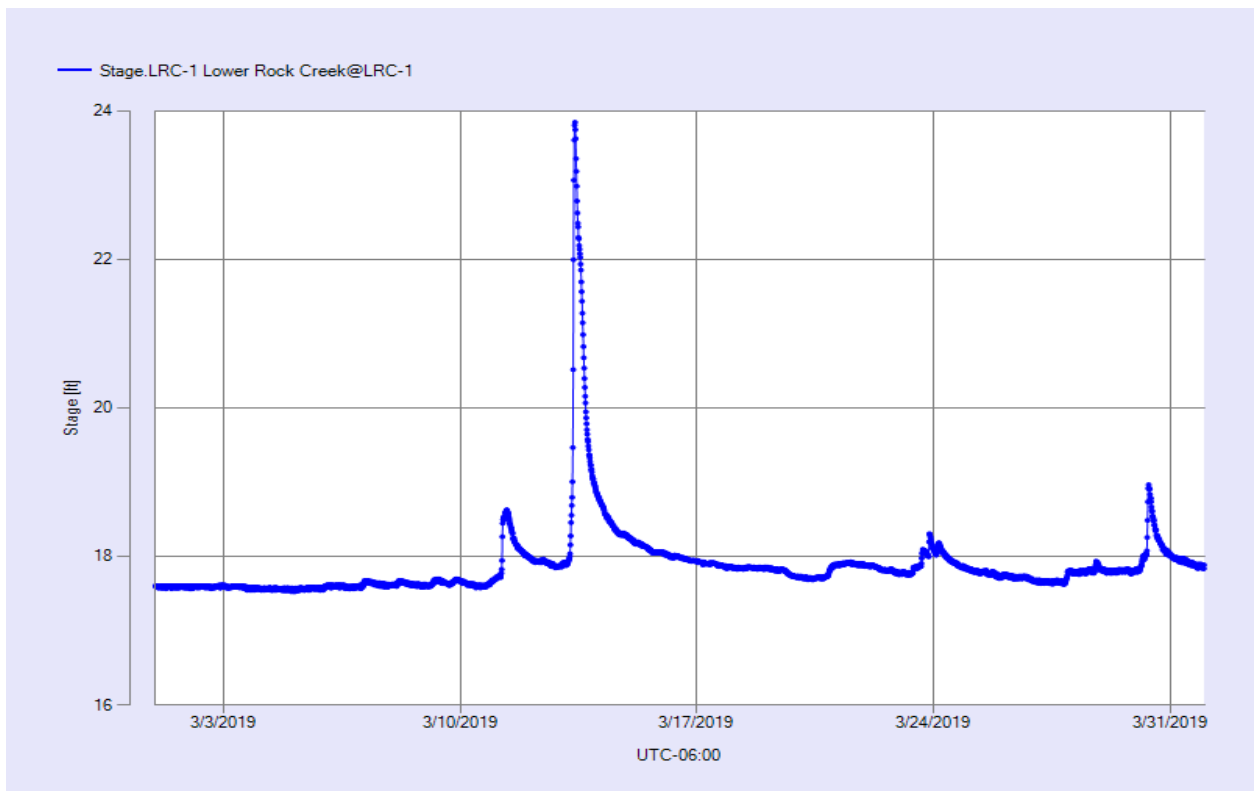


Figure 18 Monthly Hydrograph LRC-1

MESONET CLIMATOLOGICAL DATA SUMMARY  
 (NRMN) Norman  
 Latitude: 35-14-09

March 2019  
 Nearest City: 2.1 NW Norman  
 Longitude: 97-27-53

Time Zone: Midnight-Midnight CST  
 County: Cleveland  
 Elevation: 1171 feet

DAY	TEMPERATURE ( °F )				DEG DAYS		HUMIDITY (%)			RAIN (in)	PRESSURE (in)		WIND SPEED (mph)			SOLAR (MJ/m <sup>2</sup> )	4" SOIL TEMPERATURES				
	MAX	MIN	AVG	DEWPT	HDD	CDD	MAX	MIN	AVG		STN	MSL	DIR	AVG	MAX		SOD	BARE	MAX	MIN	
1	37	25	29.9	26.7	34	0	95	75	88	0.03	28.84	30.09	NA	NA	NA	6.90	38.8	35.8	39	35	
2	36	26	32.5	28.3	34	0	95	74	84	0.00	28.91	30.17	NNE*	NA	19.5*	3.11	39.0	36.9	38	36	
3	32	14	23.1	16.1	42	0	95	59	75	0.00	29.03	30.29	N	16.6	29.3	8.55	38.0	36.0	37	35	
4	27	10	16.7	1.3	47	0	75	31	52	0.00	29.19	30.45	N	11.0	21.8	12.68	35.4	33.6	35	33	
5	43	13	27.2	8.1	37	0	81	22	49	0.00	29.21	30.47	NNW	6.8	22.2	21.12	35.7	33.3	35	32	
6	54	20	37.3	13.5	28	0	65	20	41	0.00	29.04	30.30	SSE	9.6	31.3	20.91	37.3	36.2	41	33	
7	61	40	49.9	33.3	14	0	89	36	54	0.00	28.67	29.91	S	9.9	26.8	12.53	40.8	41.5	46	38	
8	54	42	48.5	45.9	17	0	100	76	91	0.00	28.58	29.82	N	6.1	13.8	7.00	43.7	44.7	47	43	
9	73	46	59.1	38.5	6	0	96	20	53	0.20	28.47	29.71	NNE	15.4	43.2	21.55	47.2	49.0	54	46	
10	46	37	40.1	30.9	23	0	98	49	71	0.54	28.92	30.18	NNE	9.5	24.8	4.84	45.6	45.9	50	44	
11	60	38	48.9	44.1	16	0	98	65	85	0.19	29.01	30.27	NNE	5.3	15.6	9.94	46.0	46.1	51	43	
12	61	51	55.3	54.7	9	0	100	91	98	0.05	28.75	29.99	SSE	10.0	25.4	2.75	49.6	50.6	52	49	
13	70	50	62.2	46.8	5	0	98	32	63	1.05	28.20	29.43	SSW	21.1	52.8	19.74	53.1	54.2	57	52	
14	54	42	47.6	29.6	17	0	64	39	50	0.00	28.70	29.95	NW	17.3	36.9	18.14	49.9	51.0	54	48	
15	54	33	43.7	21.7	21	0	72	25	43	0.00	29.13	30.40	NNW	12.3	31.2	23.12	47.2	45.9	50	42	
16	61	27	45.8	24.1	21	0	92	22	48	0.00	29.14	30.40	SSE	2.6	12.2	23.16	47.0	45.7	53	39	
17	68	32	52.0	28.6	15	0	87	22	45	0.00	29.04	30.30	SW	4.7	20.5	22.97	48.7	48.0	54	41	
18	69	36	54.8	29.6	12	0	78	22	42	0.00	29.01	30.27	S	3.7	14.2	22.55	50.2	49.7	56	43	
19	71	44	57.7	33.8	8	0	67	23	43	0.00	28.93	30.19	S	9.3	29.0	21.58	51.0	50.9	56	45	
20	63	43	51.8	36.4	12	0	94	28	60	0.02	28.97	30.23	NW	8.8	26.8	21.13	52.5	53.2	58	50	
21	68	37	53.0	34.0	13	0	76	29	50	0.00	28.93	30.19	N	5.8	17.9	22.60	51.7	52.6	60	46	
22	73	38	57.5	35.5	10	0	88	26	48	0.00	28.86	30.11	SE	7.0	22.3	19.85	52.4	54.4	61	48	
23	74	50	60.9	51.7	3	0	95	41	74	0.32	28.72	29.97	SSE	10.1	27.0	15.21	54.8	56.8	60	54	
24	67	49	60.4	52.5	7	0	92	51	77	0.00	28.76	30.01	NNW	7.3	16.5	14.12	57.3	58.2	61	56	
25	60	43	51.6	44.0	13	0	92	56	76	0.00	28.98	30.24	N	9.0	20.8	12.51	55.0	54.3	57	52	
26	69	38	54.2	40.6	12	0	99	33	65	0.00	29.06	30.32	SE	4.2	13.8	23.34	54.7	55.3	63	48	
27	74*	50*	61.1*	44.5*	3*	0*	78*	35*	56*	0.00*	28.91*	30.17*	SSE*	11.3*	30.2*	19.56*	55.8*	57.8*	63*	53*	
28	75	57	65.3	53.6	0	1	77	57	66	0.00	28.74	29.99	S	13.2	32.7	16.33	57.5	60.5	65	56	
29	70	49	63.1	56.0	6	0	95	68	78	0.02	28.61	29.86	SSE	11.6	27.2	6.57	58.4	60.5	62	59	
30	49	37	42.8	33.9	22	0	97	54	72	0.55	28.92	30.17	N	18.6	40.9	8.31	54.0	52.6	60	47	
31	51	30	40.9	22.7	24	0	77	28	51	0.00	29.12	30.38	N	7.8	20.7	25.20	51.0	47.4	53	42	
	59*	37*	48.2*	34.2*	<- Monthly Averages ->						28.88*	30.14*	N	9.9*	52.8*	15.74*	48.4*	48.3*	53*	45*	
Temperature - Highest: 75*							Degree Days - Total HDD: 530*					Number of Days With:									
Lowest: 10*							Total CDD: 1*					Tmax ≥ 90: 0* Rainfall ≥ 0.01 inch: 10*									
Rainfall: Monthly Total: 2.97* in.							Humidity - Highest: 100*					Tmax ≤ 32: 2* Rainfall ≥ 0.10 inch: 6*									
Greatest 24 Hr: 1.05* in.							Lowest: 20*					Tmin ≤ 32: 9* Avg Wind Speed ≥ 10 mph: 12*									
												Tmin ≤ 0: 0* Max Wind Speed ≥ 30 mph: 8*									

Figure 19 March Mesonet Data