

Archived: Friday, October 25, 2019 12:56:55 PM
From: Colleen M. Spero
Sent: Fri, 25 Oct 2019 12:38:20
To: Valerie Moore
Subject: [External] email
Sensitivity: Normal

Hi Colleen,

Here are the files Gardner and I saved from our work today.

Specifically, you will find three files for each of three periods:

- 1) For the period of 2004-2018, Calendar, Climatic, and Water Years
- 2) For the period of 1989-2017, Calendar, Climatic, and Water Years
- 3) For the entire period of record, Calendar, Climatic, and Water Years

I believe the naming conventions will make sense, but if you need assistance deciphering, let me know.

I also included a frequency curve for the period of record.

In looking at the two files you sent me, I honestly do not know where the data in EPA's table 1 came from. What I saw by comparing those numbers to the USGS published data is that for 1995, days 2, 3, and 4 all match USGS minimum instantaneous recorded data. Days 1, 5, 6, and 7 are not the minimum, maximum, or mean for those days. The values listed for days 5 and 6 are recorded values during those days, but are not the minimum, maximum, or mean. Finally, the values listed for days 1 and 7 are not recorded values, nor are they minimum, maximum, or mean. I would recommend only the approved data provided by the USGS on the USGS NWISWeb page be utilized in making management decisions.

I hope this information is helpful. If you need anything further, feel free to reach out.

Thanks, RJV.

Richard J. Verdi
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"If your actions inspire others to dream more, learn more, do more and become more, you are a leader." -- John Quincy Adams

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Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:25 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used for these computations. Users are responsible for assessment and interpretation.

Description: 01100000
 Year Boundaries: April 1 - March 31
 Period in report: April 1, 1988 - March 31, 2017
 Parameter: 7-day low
 Non-zero values: 29
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

1257.100	1528.600	1694.300	1097.600	2092.900	884.140	1471.400	581.430
1270.000	997.430	1114.300	844.860	1785.700	947.860	899.000	2104.300
2422.900	1724.300	2200.000	1112.900	2285.700	2268.600	1021.600	1467.100
1350.000	2010.000	1445.700	1111.400	856.430			

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs)	3.131
Variance (logs)	0.026
Standard Deviation (logs)	0.161
Skewness (logs)	-0.150
Standard Error of Skewness (logs)	0.434
Serial Correlation Coefficient (logs)	0.019
Coefficient of Variation (logs)	0.051

Frequency Curve - Parameter values at selected probabilities

Non-exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals	
				Lower	Upper
0.1000	10.00	837.160	1.003	637.470	988.260
0.5000	2.00	1365.500	1.004	1174.800	1582.000

Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:21 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used for these computations. Users are responsible for assessment and interpretation.

Description: 01100000
 Year Boundaries: January 1 - December 31
 Period in report: January 1, 1925 - December 31, 2018
 Parameter: 7-day low
 Non-zero values: 95
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

1456.700	1230.300	1334.900	2215.700	2900.000	1241.000	989.290	1336.400
1344.000	1575.000	1106.000	1622.300	1538.000	1586.100	3030.000	1423.400
1516.600	1012.300	1527.600	1614.700	1468.000	2129.700	2081.000	1086.900
1036.900	1225.900	1088.900	3247.100	1416.300	1094.700	2041.400	1335.700
1450.900	729.430	1435.300	1279.600	1431.400	1425.300	1438.900	991.140
686.290	723.000	951.290	1443.700	1289.600	1509.100	1194.300	1160.900
1600.900	1805.700	1015.400	1315.100	1985.700	1163.100	1015.100	1334.000
866.710	1788.600	1412.700	1006.600	1113.100	1236.900	2124.300	1420.000
1257.100	1528.600	1694.300	1097.600	2092.900	884.140	1471.400	581.430
1270.000	997.430	1114.300	844.860	1785.700	947.860	899.000	2104.300
2422.900	1724.300	2200.000	1112.900	2285.700	2268.600	1021.600	1467.100
1350.000	2010.000	1445.700	1111.400	856.430	1251.400	1380.000	

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs)	3.135
Variance (logs)	0.020
Standard Deviation (logs)	0.141
Skewness (logs)	0.198
Standard Error of Skewness (logs)	0.247
Serial Correlation Coefficient (logs)	0.115
Coefficient of Variation (logs)	0.045

Frequency Curve - Parameter values at selected probabilities

Non-exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals
				Lower Upper

-----	-----	-----	-----	-----	-----
0.1000	10.00	907.330	1.001	826.330	979.240
0.5000	2.00	1349.700	1.001	1257.600	1449.300

Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:24 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used
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 and interpretation.

Description: 01100000
 Year Boundaries: January 1 - December 31
 Period in report: January 1, 1990 - December 31, 2017
 Parameter: 7-day low
 Non-zero values: 29
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

1528.600	1694.300	1097.600	2092.900	884.140	1471.400	581.430	1270.000
997.430	1114.300	844.860	1785.700	947.860	899.000	2104.300	2422.900
1724.300	2200.000	1112.900	2285.700	2268.600	1021.600	1467.100	1350.000
2010.000	1445.700	1111.400	856.430	1251.400			

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs)	3.131
Variance (logs)	0.026
Standard Deviation (logs)	0.161
Skewness (logs)	-0.149
Standard Error of Skewness (logs)	0.434
Serial Correlation Coefficient (logs)	0.030
Coefficient of Variation (logs)	0.051

Frequency Curve - Parameter values at selected probabilities

Non- exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals	
				Lower	Upper
0.1000	10.00	837.030	1.003	637.500	988.060
0.5000	2.00	1365.200	1.004	1174.500	1581.700

Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:05 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used
 for these computations. Users are responsible for assessment
 and interpretation.

Description: 01100000
 Year Boundaries: April 1 - March 31
 Period in report: April 1, 1924 - March 31, 2019
 Parameter: 7-day low
 Non-zero values: 95
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

1456.700	1230.300	1334.900	2215.700	2900.000	1241.000	989.290	1336.400
1344.000	1575.000	1106.000	1622.300	1538.000	1586.100	3030.000	1423.400
1516.600	1012.300	1527.600	1614.700	1468.000	2129.700	2081.000	1086.900
1036.900	1225.900	1088.900	3247.100	1416.300	1094.700	2041.400	1335.700
1450.900	729.430	1435.300	1279.600	1431.400	1425.300	1438.900	991.140
686.290	723.000	951.290	1443.700	1289.600	1509.100	1194.300	1160.900
1600.900	1805.700	1015.400	1315.100	1985.700	1163.100	1015.100	1334.000
866.710	1788.600	1412.700	1006.600	1113.100	1236.900	2124.300	1420.000
1257.100	1528.600	1694.300	1097.600	2092.900	884.140	1471.400	581.430
1270.000	997.430	1114.300	844.860	1785.700	947.860	899.000	2104.300
2422.900	1724.300	2200.000	1112.900	2285.700	2268.600	1021.600	1467.100
1350.000	2010.000	1445.700	1111.400	856.430	1251.400	1380.000	

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs)	3.135
Variance (logs)	0.020
Standard Deviation (logs)	0.141
Skewness (logs)	0.198
Standard Error of Skewness (logs)	0.247
Serial Correlation Coefficient (logs)	0.115
Coefficient of Variation (logs)	0.045

Frequency Curve - Parameter values at selected probabilities

Non- exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals Lower Upper
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-----	-----	-----	-----	-----	-----
0.1000	10.00	907.330	1.001	826.330	979.240
0.5000	2.00	1349.700	1.001	1257.600	1449.300

Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:23 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used for these computations. Users are responsible for assessment and interpretation.

Description: 01100000
 Year Boundaries: October 1 - September 30
 Period in report: October 1, 1988 - September 30, 2017
 Parameter: 7-day low
 Non-zero values: 29
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

1257.100	1694.300	1097.600	2092.900	884.140	1471.400	581.430	1270.000
997.430	1402.900	844.860	1785.700	947.860	899.000	1280.000	2422.900
1724.300	2232.900	1112.900	1258.600	2268.600	1021.600	1467.100	1350.000
2010.000	1467.100	1111.400	856.430	966.570			

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs)	3.112
Variance (logs)	0.023
Standard Deviation (logs)	0.151
Skewness (logs)	0.005
Standard Error of Skewness (logs)	0.434
Serial Correlation Coefficient (logs)	-0.091
Coefficient of Variation (logs)	0.049

Frequency Curve - Parameter values at selected probabilities

Non-exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals	
				Lower	Upper
0.1000	10.00	828.220	1.003	661.930	959.720
0.5000	2.00	1293.600	1.005	1125.500	1488.300

Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:35 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used for these computations. Users are responsible for assessment and interpretation.

Description: 01100000
 Year Boundaries: October 1 - September 30
 Period in report: October 1, 2003 - September 30, 2018
 Parameter: 7-day low
 Non-zero values: 15
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

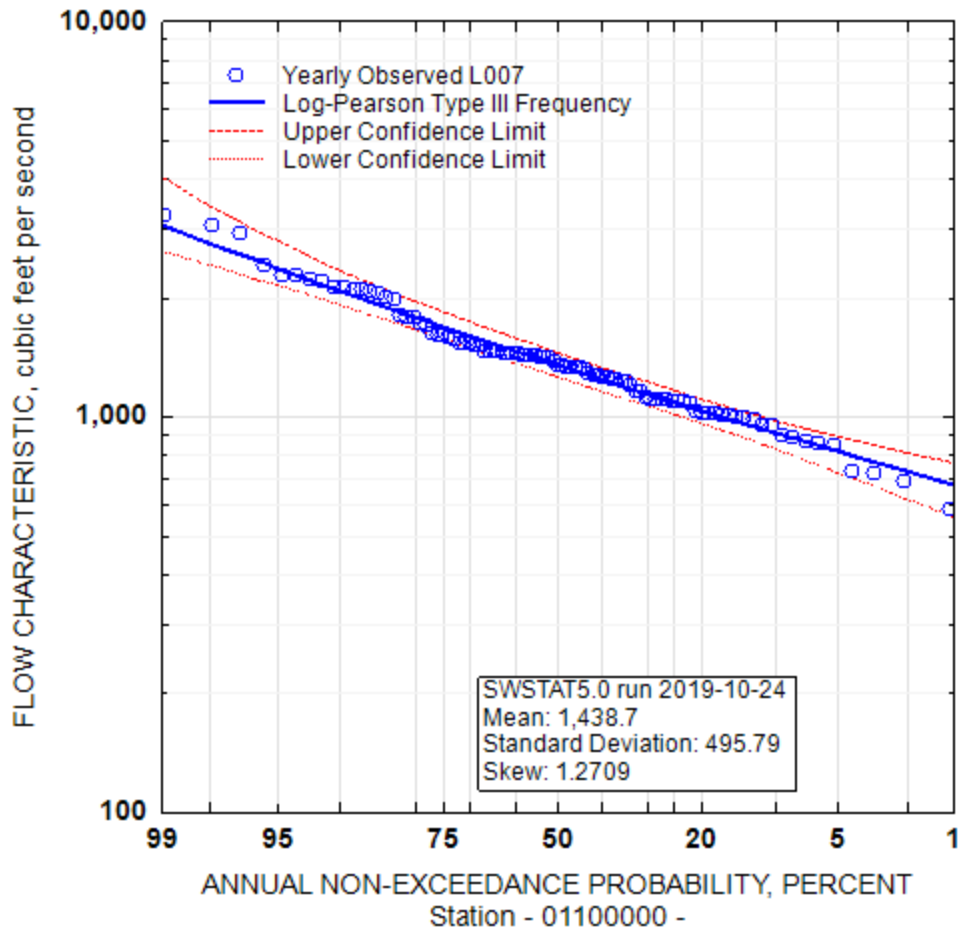
2422.900 1724.300 2232.900 1112.900 1258.600 2268.600 1021.600 1467.100
 1350.000 2010.000 1467.100 1111.400 856.430 966.570 1251.400

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs) 3.154
 Variance (logs) 0.021
 Standard Deviation (logs) 0.144
 Skewness (logs) 0.284
 Standard Error of Skewness (logs) 0.580
 Serial Correlation Coefficient (logs) 0.180
 Coefficient of Variation (logs) 0.046

Frequency Curve - Parameter values at selected probabilities

Non-exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals	
-----	-----	-----	-----	Lower	Upper
0.1000	10.00	943.120	1.008	696.830	1127.800
0.5000	2.00	1403.200	1.012	1168.400	1712.600



Program SWStat U.S. GEOLOGICAL SURVEY Seq 00001
 Ver. 5.0 Log-Pearson & Pearson Type III Statistics Run Date / Time
 03/13/2018 based on USGS Program A193 10/24/2019 2:22 PM

Notice -- Log-Pearson Type III or Pearson Type III distributions are used for these computations. Users are responsible for assessment and interpretation.

Description: 01100000
 Year Boundaries: October 1 - September 30
 Period in report: October 1, 1923 - September 30, 2018
 Parameter: 7-day low
 Non-zero values: 95
 Zero values: 0
 Negative values: 0 (ignored)

Input time series (zero and negative values not included in listing.)

1261.400	1230.300	1334.900	1572.000	3065.000	1248.100	1220.000	1079.000
1336.400	1575.000	1106.000	1681.700	1538.000	1906.600	1586.100	1423.400
1448.600	1030.900	1110.000	1670.400	1468.000	2129.700	2081.000	1977.700
1036.900	1177.700	1088.900	1200.300	1536.000	1094.700	1209.900	1335.700
1450.900	729.430	823.290	1279.600	1431.400	1425.300	1438.900	991.140
913.570	686.290	951.290	1443.700	1289.600	1509.100	1194.300	1160.900
1263.400	1628.000	1015.400	1315.100	1985.700	1163.100	1015.100	1265.900
866.710	1544.300	1412.700	1006.600	1113.100	1236.900	2124.300	1420.000
1261.900	1257.100	1694.300	1097.600	2092.900	884.140	1471.400	581.430
1270.000	997.430	1402.900	844.860	1785.700	947.860	899.000	1280.000
2422.900	1724.300	2232.900	1112.900	1258.600	2268.600	1021.600	1467.100
1350.000	2010.000	1467.100	1111.400	856.430	966.570	1251.400	

LOG PEARSON TYPE III Frequency Curve Parameters
 (based on logs of the non-zero values)

Mean (logs)	3.115
Variance (logs)	0.016
Standard Deviation (logs)	0.125
Skewness (logs)	0.158
Standard Error of Skewness (logs)	0.247
Serial Correlation Coefficient (logs)	0.131
Coefficient of Variation (logs)	0.040

Frequency Curve - Parameter values at selected probabilities

Non-exceedance Probability	Recurrence Interval	Parameter Value	Variance of Estimate	95-Pct Confidence Intervals
				Lower Upper

-----	-----	-----	-----	-----	-----
0.1000	10.00	906.360	1.001	831.340	969.800
0.5000	2.00	1294.100	1.001	1215.400	1378.300