# Appendix for Model 03060102

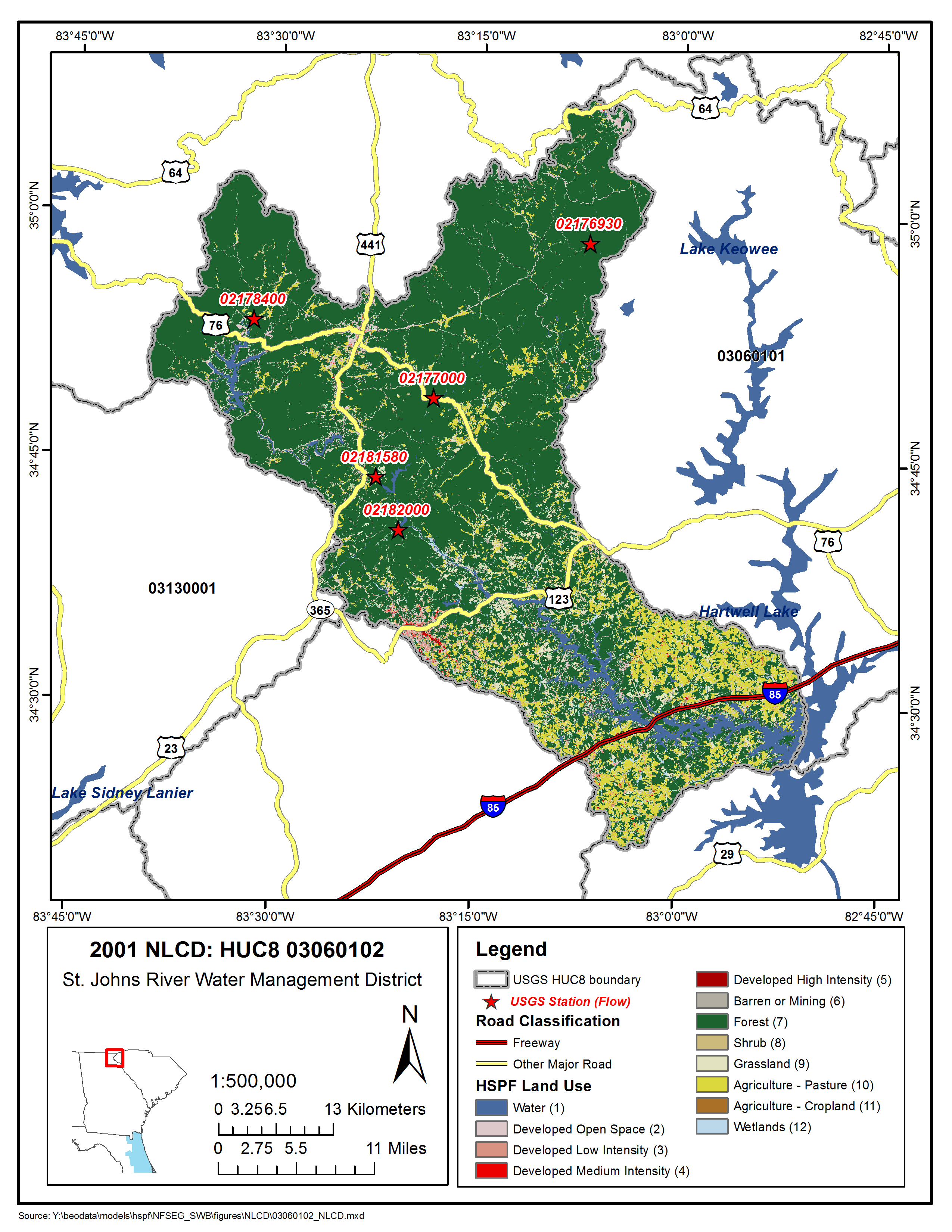


Figure 03060102-1: Land Cover from the National Land Cover Database.

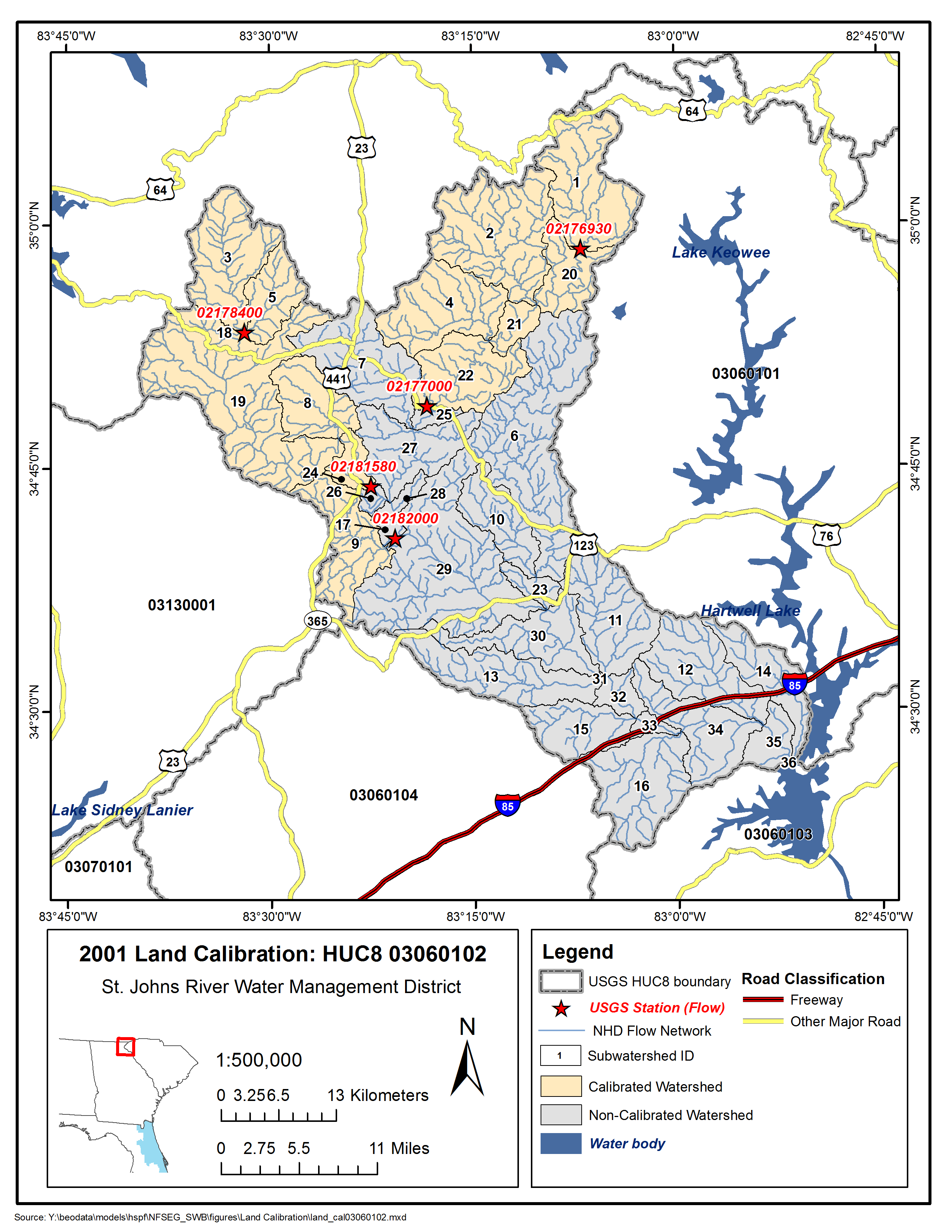


Figure 03060102-2: Calibrated sub-watersheds.

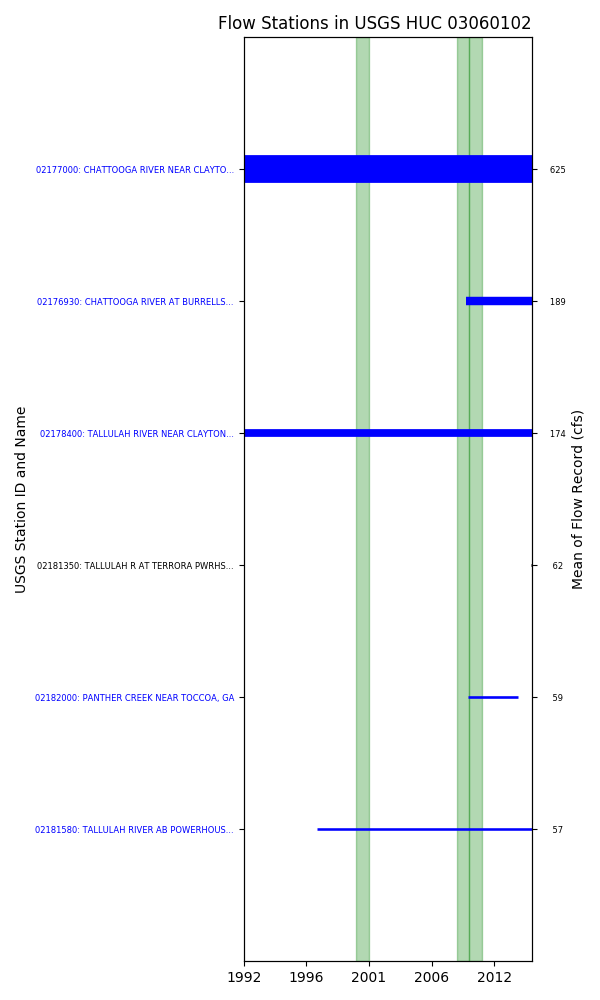


Figure 03060102-3: Station period of record. Blue color identifies gauges used for calibration.

## HSPF Reach 01, USGS Gauge 02176930

Table 03060102-1: Comparison Statistics Between HSPF Reach 01 and USGS Gauge 02176930.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | -46.41 |
| Standard error | 75.97 |
| Relative bias | -0.22 |
| Relative standard error | 0.50 |
| Nash-Sutcliffe coefficient | 0.75 |
| Coefficient of efficiency | 0.56 |
| Index of agreement | 0.77 |

Table 03060102-2: Hydrologic Indices Between USGS Gauge 02176930 and HSPF Reach 01.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02176930 | Simulated Reach 01 | Percent Difference |
| MA1: Mean, all daily flows | 201.27 | 153.46 | -23.75 |
| MA2: Median, all daily flows | 132.00 | 106.43 | -19.37 |
| MA3: CV, all daily flows | 145.17 | 135.89 | -6.40 |
| MA4: CV, log of all daily flows | 78.09 | 67.62 | -13.41 |
| MA5: Mean daily flow / median daily flow | 1.52 | 1.44 | -5.43 |
| MA9: (Q10 - Q90) / median daily flow | 2.45 | 2.28 | -7.24 |
| MA10: (Q20 - Q80) / median daily flow | 1.42 | 1.34 | -5.73 |
| MA11: (Q25 - Q75) / median daily flow | 1.13 | 1.10 | -2.18 |
| MA12: Mean monthly flow, January | 229.63 | 187.51 | -18.34 |
| MA13: Mean monthly flow, February | 154.79 | 133.35 | -13.85 |
| MA14: Mean monthly flow, March | 163.30 | 120.78 | -26.04 |
| MA15: Mean monthly flow, April | 152.51 | 107.39 | -29.58 |
| MA16: Mean monthly flow, May | 140.05 | 92.64 | -33.85 |
| MA17: Mean monthly flow, June | 94.04 | 77.43 | -17.67 |
| MA18: Mean monthly flow, July | 176.79 | 112.84 | -36.18 |
| MA19: Mean monthly flow, August | 75.94 | 56.81 | -25.20 |
| MA20: Mean monthly flow, September | 180.81 | 163.98 | -9.31 |
| MA21: Mean monthly flow, October | 99.58 | 88.29 | -11.33 |
| MA22: Mean monthly flow, November | 131.95 | 103.51 | -21.56 |
| MA23: Mean monthly flow, December | 235.24 | 180.16 | -23.42 |
| ML1: Mean minimum monthly flow, January | 151.40 | 138.25 | -8.69 |
| ML2: Mean minimum monthly flow, February | 138.00 | 129.65 | -6.05 |
| ML3: Mean minimum monthly flow, March | 128.25 | 119.60 | -6.74 |
| ML4: Mean minimum monthly flow, April | 123.50 | 119.46 | -3.27 |
| ML5: Mean minimum monthly flow, May | 111.25 | 107.40 | -3.46 |
| ML6: Mean minimum monthly flow, June | 82.00 | 91.73 | 11.86 |
| ML7: Mean minimum monthly flow, July | 104.00 | 94.40 | -9.23 |
| ML8: Mean minimum monthly flow, August | 68.00 | 69.60 | 2.35 |
| ML9: Mean minimum monthly flow, September | 56.80 | 55.12 | -2.96 |
| ML10: Mean minimum monthly flow, October | 68.20 | 77.37 | 13.44 |
| ML11: Mean minimum monthly flow, November | 75.40 | 78.31 | 3.85 |
| ML12: Mean minimum monthly flow, December | 107.60 | 102.80 | -4.46 |
| ML13: CV of minimum monthly flows | 57.15 | 54.65 | -4.38 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.31 | 0.36 | 14.18 |
| ML15: Mean minimum annual flow / mean annual flow | 0.18 | 0.26 | 40.76 |
| ML16: Median minimum annual flow / median annual flow | 0.27 | 0.32 | 21.43 |
| ML20: Ratio of baseflow volume to total flow volume | 0.57 | 0.71 | 25.33 |
| ML22: Mean annual minimum flow divided by catchment area | 0.45 | 0.45 | -0.54 |
| RA1: Mean of positive changes from one day to next (rise rate) | 134.26 | 79.67 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 216.22 | 208.93 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 43.32 | 15.85 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 260.64 | 284.36 |  |
| RA5: Ratio of days that are higher than previous day | 0.24 | 0.17 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.18 | 0.11 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.07 | 0.02 |  |
| RA8: Number of flow reversals from one day to the next | 76.83 | 54.83 |  |
| RA9: CV, number of flow reversals from one day to the next | 64.33 | 62.17 |  |

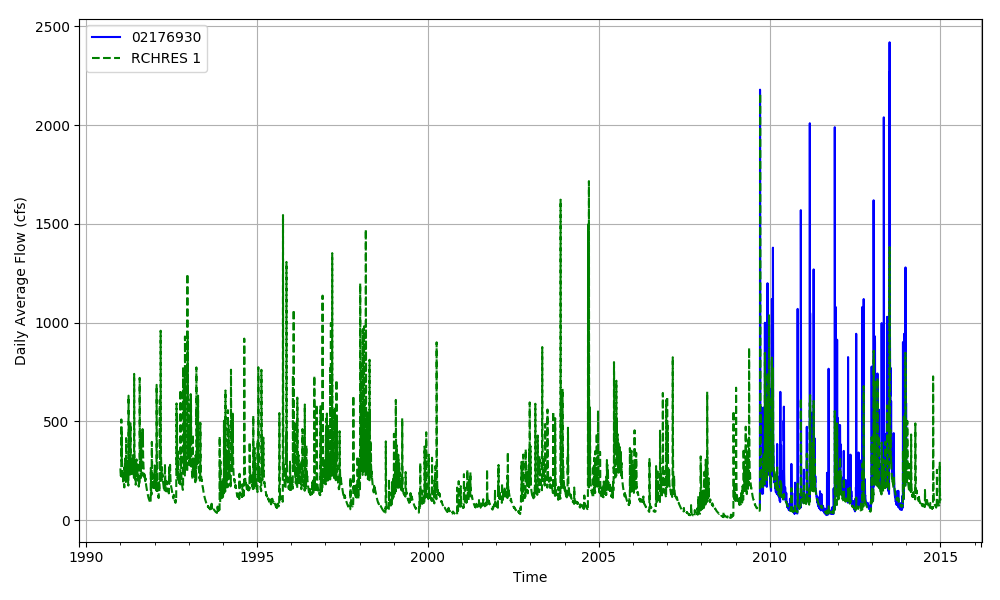


Figure 03060102-4: Daily flow for HSFP reach 01 and USGS station 02176930.

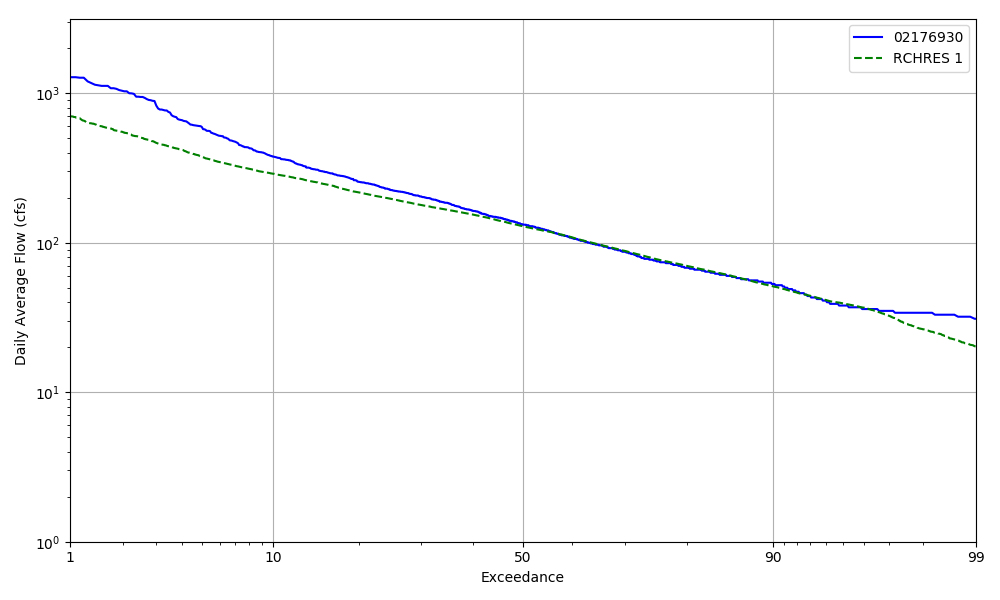


Figure 03060102-5: Daily exceedance for HSFP reach 01 and USGS station 02176930.

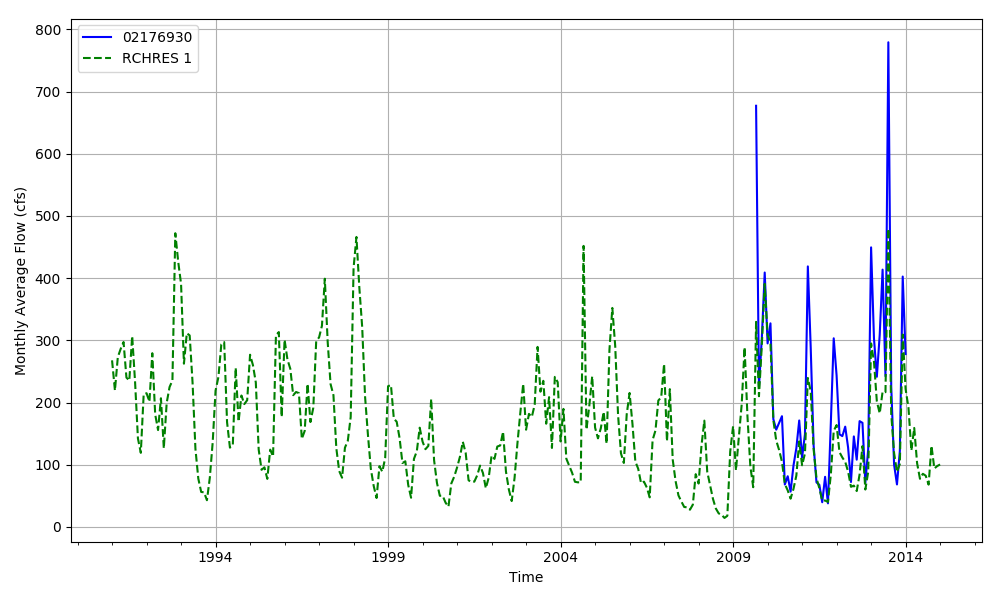


Figure 03060102-6: Monthly flow for HSFP reach 01 and USGS station 02176930.

## HSPF Reach 09, USGS Gauge 02182000

Table 03060102-3: Comparison Statistics Between HSPF Reach 09 and USGS Gauge 02182000.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | 15.65 |
| Standard error | 23.30 |
| Relative bias | 0.30 |
| Relative standard error | 0.56 |
| Nash-Sutcliffe coefficient | 0.68 |
| Coefficient of efficiency | 0.48 |
| Index of agreement | 0.76 |

Table 03060102-4: Hydrologic Indices Between USGS Gauge 02182000 and HSPF Reach 09.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02182000 | Simulated Reach 09 | Percent Difference |
| MA1: Mean, all daily flows | 52.08 | 67.35 | 29.31 |
| MA2: Median, all daily flows | 33.00 | 49.78 | 50.84 |
| MA3: CV, all daily flows | 74.95 | 72.85 | -2.80 |
| MA4: CV, log of all daily flows | 77.21 | 74.07 | -4.07 |
| MA5: Mean daily flow / median daily flow | 1.58 | 1.35 | -14.27 |
| MA9: (Q10 - Q90) / median daily flow | 3.03 | 2.58 | -14.95 |
| MA10: (Q20 - Q80) / median daily flow | 1.82 | 1.56 | -14.30 |
| MA11: (Q25 - Q75) / median daily flow | 1.44 | 1.15 | -20.32 |
| MA12: Mean monthly flow, January | 65.83 | 94.80 | 44.00 |
| MA13: Mean monthly flow, February | 59.79 | 78.36 | 31.04 |
| MA14: Mean monthly flow, March | 68.21 | 86.52 | 26.85 |
| MA15: Mean monthly flow, April | 52.19 | 64.69 | 23.96 |
| MA16: Mean monthly flow, May | 39.61 | 47.27 | 19.34 |
| MA17: Mean monthly flow, June | 32.84 | 36.36 | 10.71 |
| MA18: Mean monthly flow, July | 21.65 | 24.45 | 12.95 |
| MA19: Mean monthly flow, August | 19.49 | 27.14 | 39.21 |
| MA20: Mean monthly flow, September | 14.75 | 18.02 | 22.12 |
| MA21: Mean monthly flow, October | 18.85 | 22.55 | 19.63 |
| MA22: Mean monthly flow, November | 48.52 | 65.12 | 34.19 |
| MA23: Mean monthly flow, December | 69.24 | 98.31 | 41.98 |
| ML1: Mean minimum monthly flow, January | 45.00 | 60.36 | 34.13 |
| ML2: Mean minimum monthly flow, February | 56.67 | 71.33 | 25.88 |
| ML3: Mean minimum monthly flow, March | 52.67 | 67.94 | 29.00 |
| ML4: Mean minimum monthly flow, April | 54.33 | 68.23 | 25.57 |
| ML5: Mean minimum monthly flow, May | 39.00 | 50.87 | 30.45 |
| ML6: Mean minimum monthly flow, June | 29.00 | 39.56 | 36.41 |
| ML7: Mean minimum monthly flow, July | 18.67 | 26.32 | 41.02 |
| ML8: Mean minimum monthly flow, August | 15.17 | 20.66 | 36.21 |
| ML9: Mean minimum monthly flow, September | 12.63 | 17.15 | 35.76 |
| ML10: Mean minimum monthly flow, October | 17.20 | 21.93 | 27.50 |
| ML11: Mean minimum monthly flow, November | 36.50 | 44.13 | 20.89 |
| ML12: Mean minimum monthly flow, December | 36.75 | 50.90 | 38.50 |
| ML13: CV of minimum monthly flows | 79.29 | 65.54 | -17.34 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.44 | 0.37 | -17.71 |
| ML15: Mean minimum annual flow / mean annual flow | 0.33 | 0.28 | -15.28 |
| ML16: Median minimum annual flow / median annual flow | 0.32 | 0.29 | -11.36 |
| ML20: Ratio of baseflow volume to total flow volume | 0.75 | 0.75 | -0.24 |
| ML22: Mean annual minimum flow divided by catchment area | 0.14 | 0.15 | 9.35 |
| RA1: Mean of positive changes from one day to next (rise rate) | 21.45 | 35.54 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 252.93 | 227.97 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 10.06 | 6.57 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 271.13 | 313.24 |  |
| RA5: Ratio of days that are higher than previous day | 0.27 | 0.15 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.12 | 0.09 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.07 | 0.02 |  |
| RA8: Number of flow reversals from one day to the next | 92.25 | 57.50 |  |
| RA9: CV, number of flow reversals from one day to the next | 49.43 | 50.01 |  |

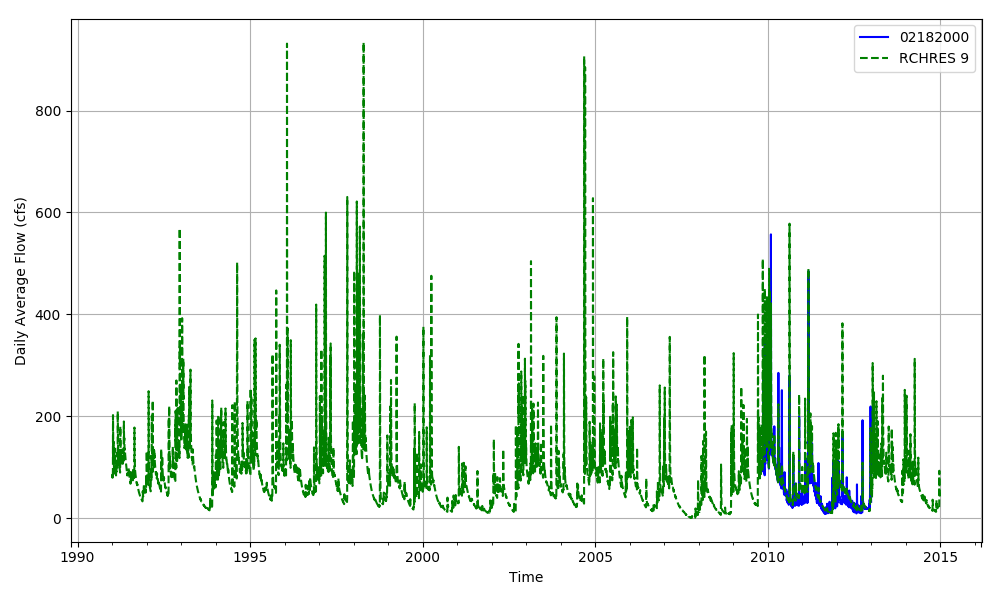


Figure 03060102-7: Daily flow for HSFP reach 09 and USGS station 02182000.

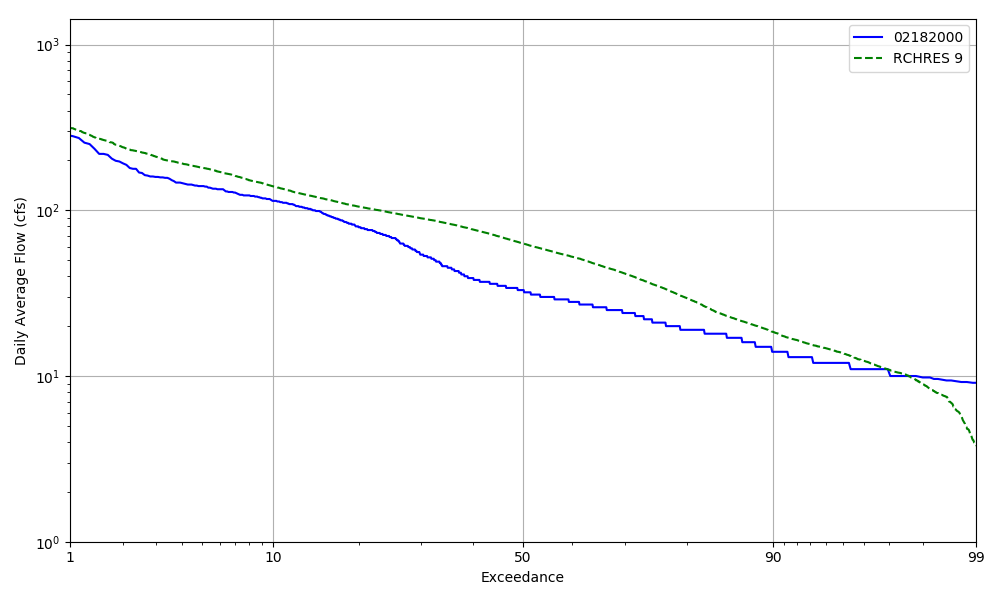


Figure 03060102-8: Daily exceedance for HSFP reach 09 and USGS station 02182000.

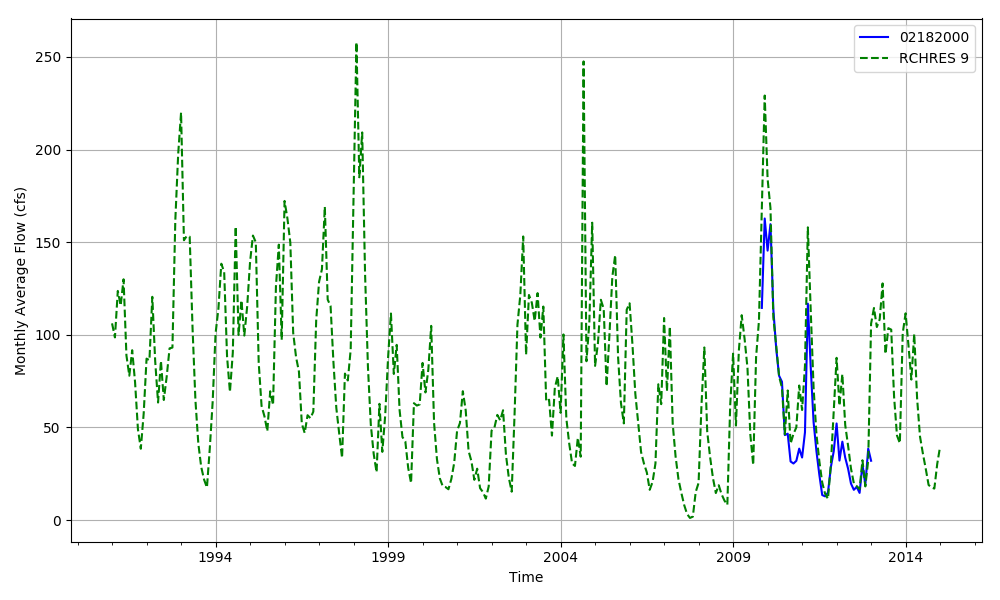


Figure 03060102-9: Monthly flow for HSFP reach 09 and USGS station 02182000.

## HSPF Reach 18, USGS Gauge 02178400

Table 03060102-5: Comparison Statistics Between HSPF Reach 18 and USGS Gauge 02178400.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | -36.25 |
| Standard error | 52.41 |
| Relative bias | -0.20 |
| Relative standard error | 0.54 |
| Nash-Sutcliffe coefficient | 0.70 |
| Coefficient of efficiency | 0.48 |
| Index of agreement | 0.73 |

Table 03060102-6: Hydrologic Indices Between USGS Gauge 02178400 and HSPF Reach 18.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02178400 | Simulated Reach 18 | Percent Difference |
| MA1: Mean, all daily flows | 177.50 | 141.23 | -20.43 |
| MA2: Median, all daily flows | 143.00 | 122.27 | -14.50 |
| MA3: CV, all daily flows | 80.77 | 63.85 | -20.95 |
| MA4: CV, log of all daily flows | 58.20 | 54.60 | -6.19 |
| MA5: Mean daily flow / median daily flow | 1.24 | 1.16 | -6.94 |
| MA9: (Q10 - Q90) / median daily flow | 1.80 | 1.65 | -8.56 |
| MA10: (Q20 - Q80) / median daily flow | 1.13 | 1.07 | -4.89 |
| MA11: (Q25 - Q75) / median daily flow | 0.89 | 0.87 | -2.16 |
| MA12: Mean monthly flow, January | 238.76 | 203.29 | -14.86 |
| MA13: Mean monthly flow, February | 219.69 | 194.00 | -11.69 |
| MA14: Mean monthly flow, March | 240.00 | 193.60 | -19.33 |
| MA15: Mean monthly flow, April | 222.25 | 173.23 | -22.06 |
| MA16: Mean monthly flow, May | 180.71 | 144.58 | -19.99 |
| MA17: Mean monthly flow, June | 148.07 | 110.76 | -25.20 |
| MA18: Mean monthly flow, July | 128.86 | 96.12 | -25.40 |
| MA19: Mean monthly flow, August | 114.40 | 78.44 | -31.43 |
| MA20: Mean monthly flow, September | 127.10 | 86.98 | -31.57 |
| MA21: Mean monthly flow, October | 104.14 | 88.84 | -14.69 |
| MA22: Mean monthly flow, November | 142.11 | 108.23 | -23.84 |
| MA23: Mean monthly flow, December | 188.32 | 157.97 | -16.12 |
| ML1: Mean minimum monthly flow, January | 131.92 | 128.71 | -2.43 |
| ML2: Mean minimum monthly flow, February | 150.26 | 144.06 | -4.13 |
| ML3: Mean minimum monthly flow, March | 159.70 | 146.29 | -8.40 |
| ML4: Mean minimum monthly flow, April | 161.78 | 141.45 | -12.57 |
| ML5: Mean minimum monthly flow, May | 124.26 | 114.96 | -7.48 |
| ML6: Mean minimum monthly flow, June | 99.35 | 95.78 | -3.59 |
| ML7: Mean minimum monthly flow, July | 81.57 | 78.20 | -4.13 |
| ML8: Mean minimum monthly flow, August | 71.65 | 66.86 | -6.69 |
| ML9: Mean minimum monthly flow, September | 66.17 | 59.27 | -10.44 |
| ML10: Mean minimum monthly flow, October | 68.87 | 65.56 | -4.81 |
| ML11: Mean minimum monthly flow, November | 77.52 | 72.41 | -6.59 |
| ML12: Mean minimum monthly flow, December | 111.04 | 104.76 | -5.66 |
| ML13: CV of minimum monthly flows | 50.27 | 51.65 | 2.74 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.35 | 0.34 | -1.52 |
| ML15: Mean minimum annual flow / mean annual flow | 0.28 | 0.30 | 7.91 |
| ML16: Median minimum annual flow / median annual flow | 0.32 | 0.31 | -2.46 |
| ML20: Ratio of baseflow volume to total flow volume | 0.69 | 0.81 | 17.42 |
| ML22: Mean annual minimum flow divided by catchment area | 0.50 | 0.45 | -9.55 |
| RA1: Mean of positive changes from one day to next (rise rate) | 79.24 | 40.76 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 221.15 | 250.26 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 26.57 | 9.89 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 303.52 | 296.98 |  |
| RA5: Ratio of days that are higher than previous day | 0.24 | 0.20 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.16 | 0.05 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.06 | 0.02 |  |
| RA8: Number of flow reversals from one day to the next | 106.08 | 81.75 |  |
| RA9: CV, number of flow reversals from one day to the next | 18.84 | 20.95 |  |

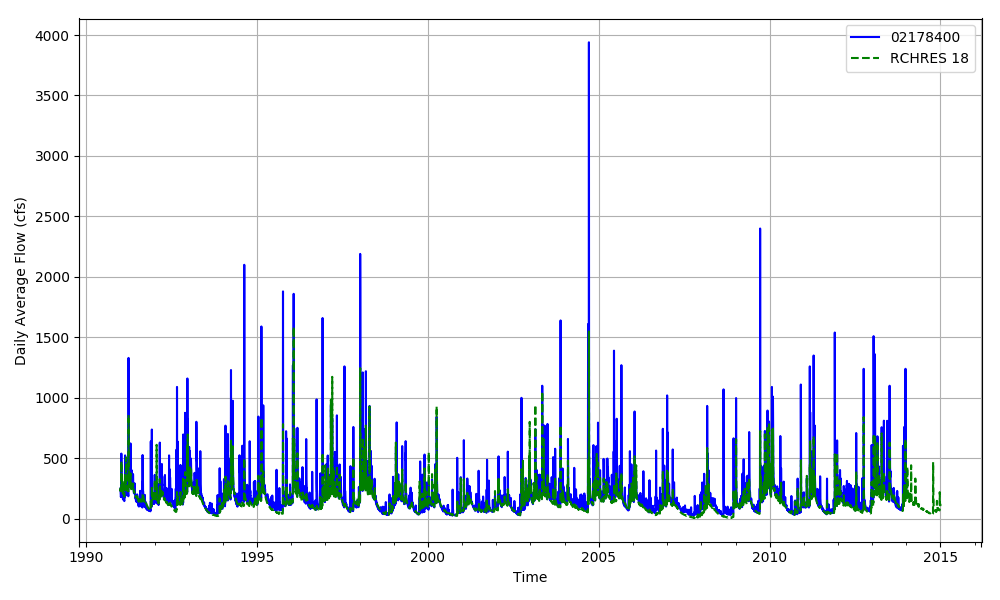


Figure 03060102-10: Daily flow for HSFP reach 18 and USGS station 02178400.

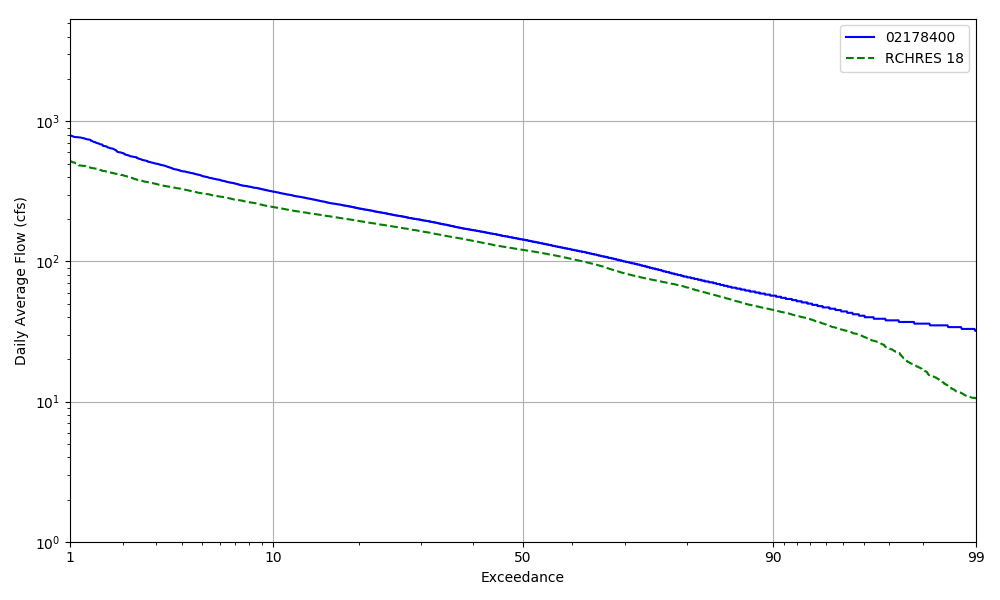


Figure 03060102-11: Daily exceedance for HSFP reach 18 and USGS station 02178400.

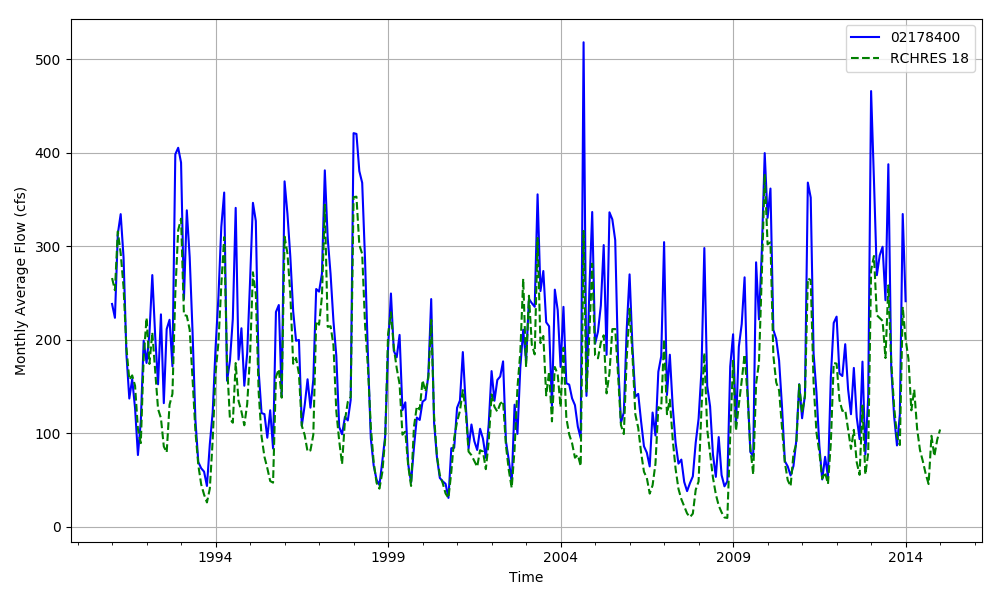


Figure 03060102-12: Monthly flow for HSFP reach 18 and USGS station 02178400.

## HSPF Reach 22, USGS Gauge 02177000

Table 03060102-7: Comparison Statistics Between HSPF Reach 22 and USGS Gauge 02177000.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | -61.08 |
| Standard error | 143.33 |
| Relative bias | -0.10 |
| Relative standard error | 0.38 |
| Nash-Sutcliffe coefficient | 0.85 |
| Coefficient of efficiency | 0.67 |
| Index of agreement | 0.83 |

Table 03060102-8: Hydrologic Indices Between USGS Gauge 02177000 and HSPF Reach 22.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02177000 | Simulated Reach 22 | Percent Difference |
| MA1: Mean, all daily flows | 634.54 | 573.67 | -9.59 |
| MA2: Median, all daily flows | 508.00 | 484.14 | -4.70 |
| MA3: CV, all daily flows | 76.90 | 64.36 | -16.30 |
| MA4: CV, log of all daily flows | 60.88 | 57.52 | -5.52 |
| MA5: Mean daily flow / median daily flow | 1.25 | 1.18 | -5.14 |
| MA9: (Q10 - Q90) / median daily flow | 1.93 | 1.74 | -9.74 |
| MA10: (Q20 - Q80) / median daily flow | 1.23 | 1.15 | -6.45 |
| MA11: (Q25 - Q75) / median daily flow | 0.98 | 0.92 | -5.33 |
| MA12: Mean monthly flow, January | 821.42 | 793.95 | -3.34 |
| MA13: Mean monthly flow, February | 742.78 | 731.89 | -1.47 |
| MA14: Mean monthly flow, March | 817.86 | 755.00 | -7.69 |
| MA15: Mean monthly flow, April | 745.36 | 666.49 | -10.58 |
| MA16: Mean monthly flow, May | 615.19 | 551.31 | -10.38 |
| MA17: Mean monthly flow, June | 548.30 | 457.21 | -16.61 |
| MA18: Mean monthly flow, July | 504.77 | 410.88 | -18.60 |
| MA19: Mean monthly flow, August | 447.63 | 353.01 | -21.14 |
| MA20: Mean monthly flow, September | 518.28 | 412.63 | -20.39 |
| MA21: Mean monthly flow, October | 407.38 | 400.35 | -1.73 |
| MA22: Mean monthly flow, November | 502.23 | 474.83 | -5.46 |
| MA23: Mean monthly flow, December | 680.17 | 638.90 | -6.07 |
| ML1: Mean minimum monthly flow, January | 492.79 | 495.68 | 0.59 |
| ML2: Mean minimum monthly flow, February | 534.83 | 537.54 | 0.51 |
| ML3: Mean minimum monthly flow, March | 561.13 | 541.99 | -3.41 |
| ML4: Mean minimum monthly flow, April | 556.96 | 532.93 | -4.31 |
| ML5: Mean minimum monthly flow, May | 443.91 | 436.82 | -1.60 |
| ML6: Mean minimum monthly flow, June | 362.13 | 366.97 | 1.34 |
| ML7: Mean minimum monthly flow, July | 320.48 | 320.63 | 0.05 |
| ML8: Mean minimum monthly flow, August | 279.13 | 281.73 | 0.93 |
| ML9: Mean minimum monthly flow, September | 257.65 | 258.98 | 0.51 |
| ML10: Mean minimum monthly flow, October | 267.00 | 281.81 | 5.55 |
| ML11: Mean minimum monthly flow, November | 298.70 | 312.00 | 4.45 |
| ML12: Mean minimum monthly flow, December | 420.48 | 425.56 | 1.21 |
| ML13: CV of minimum monthly flows | 55.86 | 52.28 | -6.41 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.36 | 0.36 | 0.76 |
| ML15: Mean minimum annual flow / mean annual flow | 0.29 | 0.31 | 7.31 |
| ML16: Median minimum annual flow / median annual flow | 0.34 | 0.34 | 0.59 |
| ML20: Ratio of baseflow volume to total flow volume | 0.72 | 0.79 | 9.87 |
| ML22: Mean annual minimum flow divided by catchment area | 1.89 | 1.90 | 0.57 |
| RA1: Mean of positive changes from one day to next (rise rate) | 244.66 | 174.75 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 265.50 | 242.90 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 85.58 | 41.51 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 370.15 | 296.89 |  |
| RA5: Ratio of days that are higher than previous day | 0.25 | 0.19 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.12 | 0.06 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.05 | 0.02 |  |
| RA8: Number of flow reversals from one day to the next | 104.92 | 68.08 |  |
| RA9: CV, number of flow reversals from one day to the next | 17.42 | 20.03 |  |

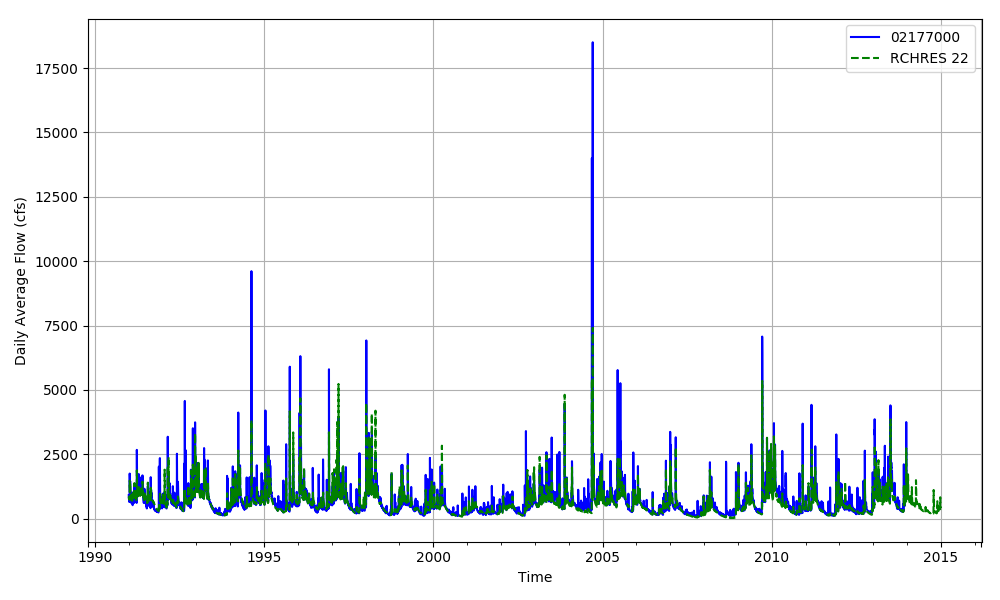


Figure 03060102-13: Daily flow for HSFP reach 22 and USGS station 02177000.

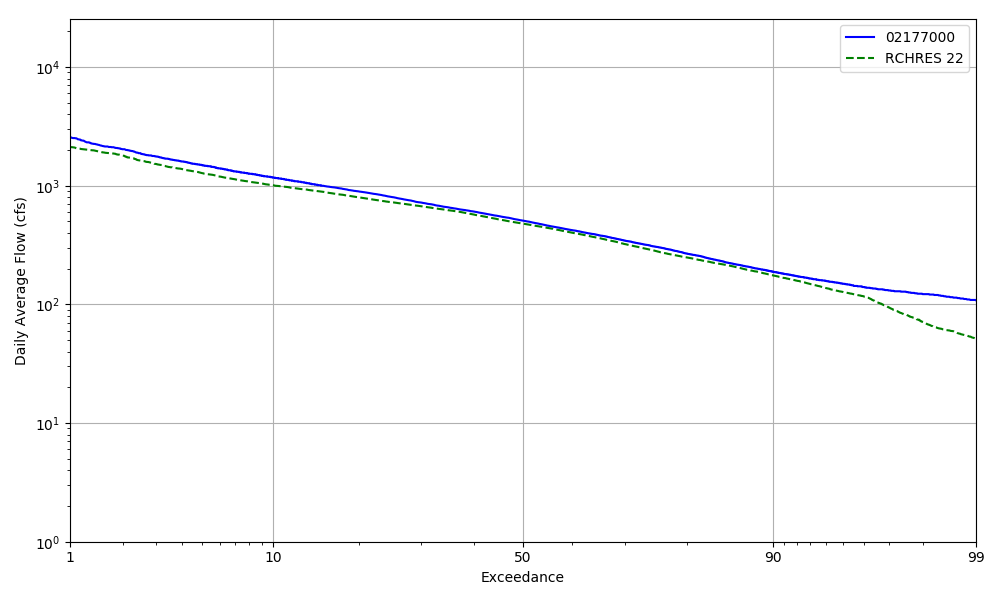


Figure 03060102-14: Daily exceedance for HSFP reach 22 and USGS station 02177000.

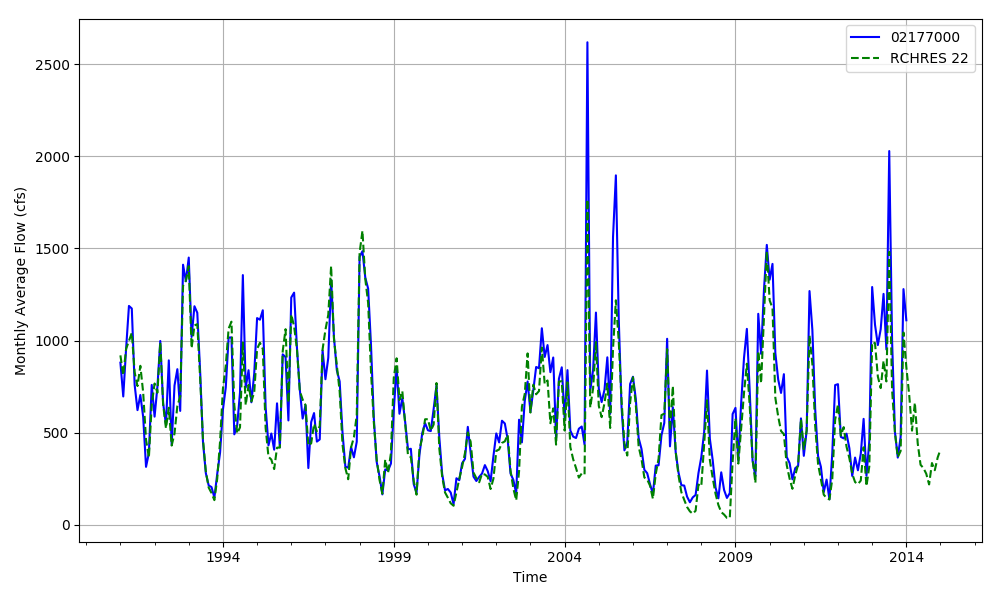


Figure 03060102-15: Monthly flow for HSFP reach 22 and USGS station 02177000.

## HSPF Reach 24, USGS Gauge 02181580

Table 03060102-9: Comparison Statistics Between HSPF Reach 24 and USGS Gauge 02181580.

|  |  |
| --- | --- |
| Statistic | Value |
| Bias | 234.67 |
| Standard error | 304.20 |
| Relative bias | 4.03 |
| Relative standard error | 5.15 |
| Nash-Sutcliffe coefficient | -25.55 |
| Coefficient of efficiency | -9.49 |
| Index of agreement | 0.08 |

Table 03060102-10: Hydrologic Indices Between USGS Gauge 02181580 and HSPF Reach 24.

|  |  |  |  |
| --- | --- | --- | --- |
| Hydrologic Index and description (Olden and Poff, 2003) | Observed 02181580 | Simulated Reach 24 | Percent Difference |
| MA1: Mean, all daily flows | 58.29 | 290.79 | 398.84 |
| MA2: Median, all daily flows | 41.00 | 233.83 | 470.31 |
| MA3: CV, all daily flows | 164.33 | 75.29 | -54.19 |
| MA4: CV, log of all daily flows | 46.70 | 61.56 | 31.82 |
| MA5: Mean daily flow / median daily flow | 1.42 | 1.24 | -12.53 |
| MA9: (Q10 - Q90) / median daily flow | 0.78 | 1.96 | 150.84 |
| MA10: (Q20 - Q80) / median daily flow | 0.29 | 1.15 | 291.75 |
| MA11: (Q25 - Q75) / median daily flow | 0.22 | 0.86 | 290.56 |
| MA12: Mean monthly flow, January | 41.89 | 422.46 | 908.56 |
| MA13: Mean monthly flow, February | 38.17 | 400.91 | 950.41 |
| MA14: Mean monthly flow, March | 44.93 | 362.47 | 706.74 |
| MA15: Mean monthly flow, April | 77.33 | 336.07 | 334.60 |
| MA16: Mean monthly flow, May | 53.53 | 280.21 | 423.47 |
| MA17: Mean monthly flow, June | 37.86 | 219.72 | 480.39 |
| MA18: Mean monthly flow, July | 42.01 | 212.11 | 404.95 |
| MA19: Mean monthly flow, August | 50.89 | 166.81 | 227.79 |
| MA20: Mean monthly flow, September | 110.90 | 183.32 | 65.30 |
| MA21: Mean monthly flow, October | 55.24 | 172.52 | 212.29 |
| MA22: Mean monthly flow, November | 72.64 | 237.31 | 226.67 |
| MA23: Mean monthly flow, December | 42.52 | 365.84 | 760.37 |
| ML1: Mean minimum monthly flow, January | 35.03 | 257.70 | 635.67 |
| ML2: Mean minimum monthly flow, February | 34.38 | 281.10 | 717.75 |
| ML3: Mean minimum monthly flow, March | 36.06 | 264.21 | 632.64 |
| ML4: Mean minimum monthly flow, April | 35.44 | 257.18 | 625.72 |
| ML5: Mean minimum monthly flow, May | 35.00 | 217.08 | 520.23 |
| ML6: Mean minimum monthly flow, June | 35.94 | 185.50 | 416.18 |
| ML7: Mean minimum monthly flow, July | 35.62 | 162.14 | 355.13 |
| ML8: Mean minimum monthly flow, August | 36.12 | 132.43 | 266.59 |
| ML9: Mean minimum monthly flow, September | 36.88 | 108.99 | 195.56 |
| ML10: Mean minimum monthly flow, October | 36.31 | 139.85 | 285.13 |
| ML11: Mean minimum monthly flow, November | 34.62 | 160.55 | 363.71 |
| ML12: Mean minimum monthly flow, December | 34.71 | 214.88 | 519.14 |
| ML13: CV of minimum monthly flows | 20.11 | 50.40 | 150.59 |
| ML14: Mean minimum daily flow / mean median annual flow | 0.64 | 0.36 | -43.72 |
| ML15: Mean minimum annual flow / mean annual flow | 0.46 | 0.29 | -37.06 |
| ML16: Median minimum annual flow / median annual flow | 0.69 | 0.35 | -49.95 |
| ML20: Ratio of baseflow volume to total flow volume | 0.66 | 0.78 | 18.44 |
| ML22: Mean annual minimum flow divided by catchment area | 0.26 | 0.90 | 243.21 |
| RA1: Mean of positive changes from one day to next (rise rate) | 39.36 | 99.79 |  |
| RA2: CV, mean of positive changes from one day to next (rise rate) | 708.35 | 296.82 |  |
| RA3: Mean of negative changes from one day to next (fall rate) | 28.48 | 25.65 |  |
| RA4: CV, mean of negative changes from one day to next (fall rate) | 769.06 | 421.09 |  |
| RA5: Ratio of days that are higher than previous day | 0.29 | 0.18 |  |
| RA6: Median of difference in log of flows over two consecutive days of rising | 0.06 | 0.05 |  |
| RA7: Median of difference in log of flows over two consecutive days of falling | 0.04 | 0.02 |  |
| RA8: Number of flow reversals from one day to the next | 123.29 | 54.41 |  |
| RA9: CV, number of flow reversals from one day to the next | 22.30 | 34.74 |  |

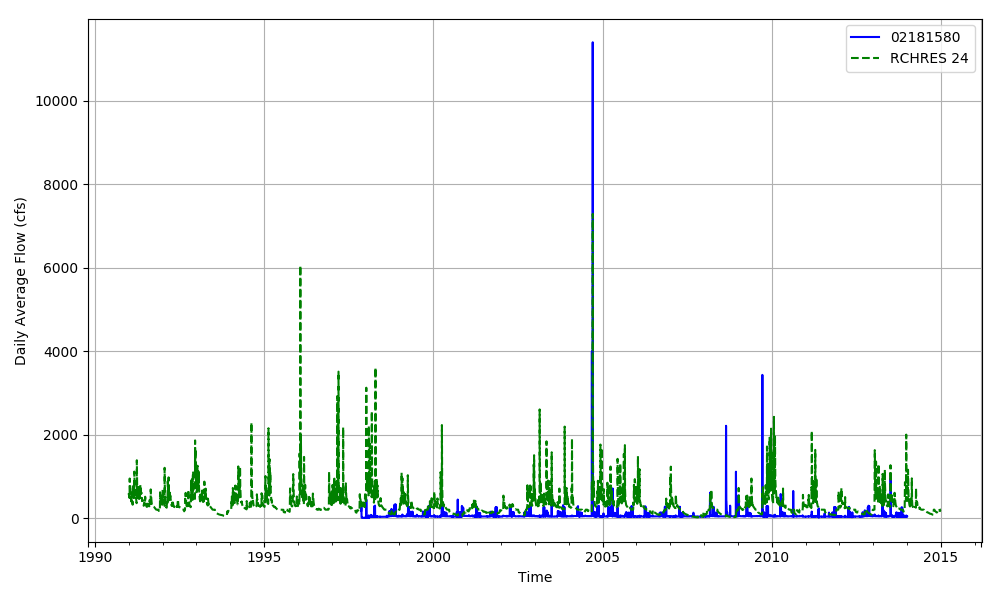


Figure 03060102-16: Daily flow for HSFP reach 24 and USGS station 02181580.

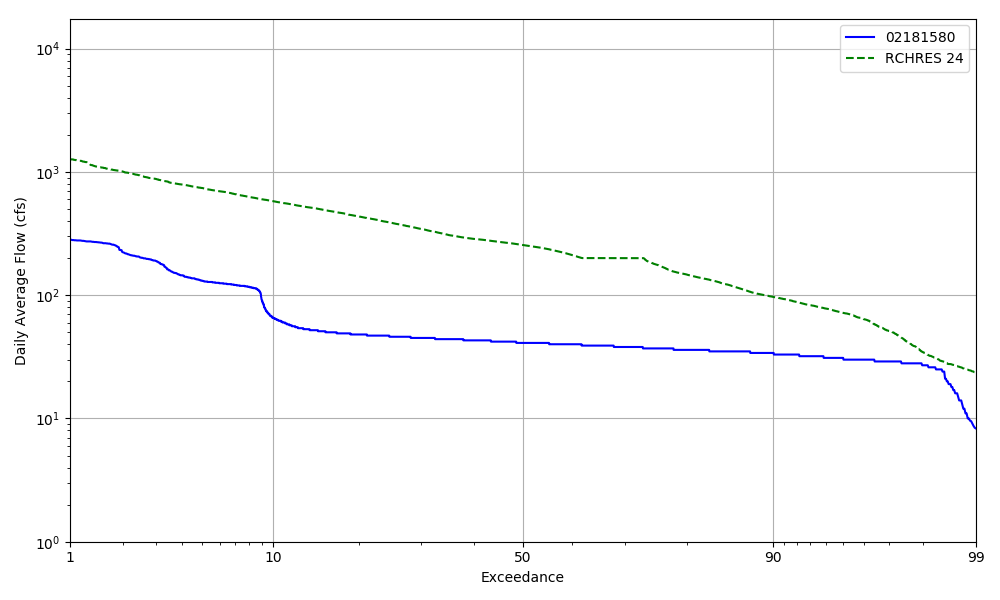


Figure 03060102-17: Daily exceedance for HSFP reach 24 and USGS station 02181580.

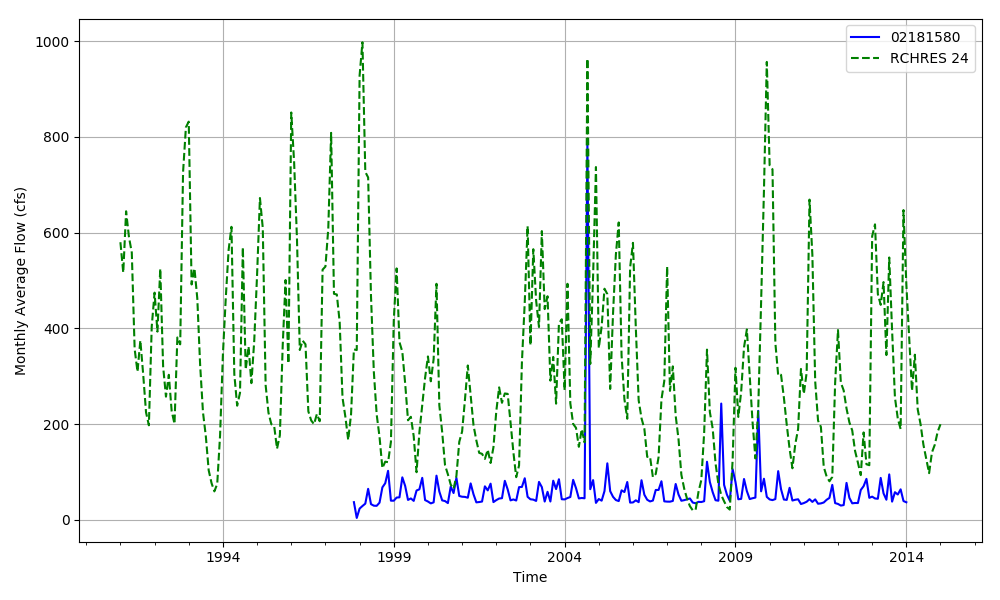


Figure 03060102-18: Monthly flow for HSFP reach 24 and USGS station 02181580.