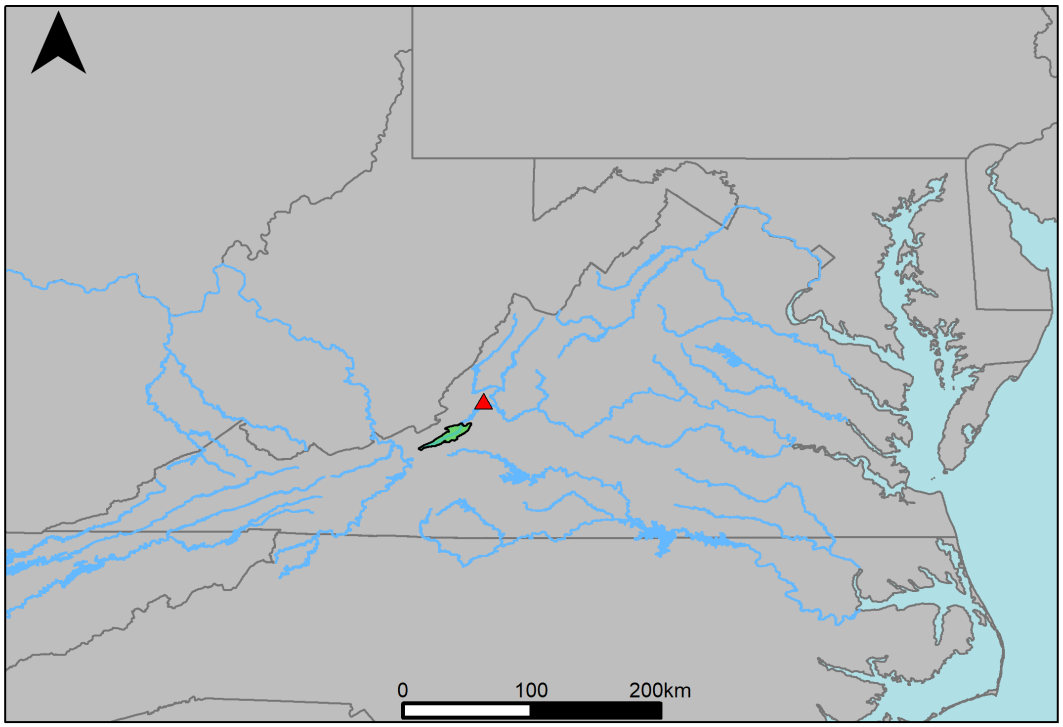
# River Segment JU1_7690_7490: VA Hydro Run 120 vs. VA Hydro Run 121




This river segment follows part of the flow of Craig Creek at Parr, VA. Gage 02018000 is located in Botetourt County, VA (Lat 37 39'57", long 79 54'42") approximately 0.2 miles northeast of Horton. Drainage area is 329 sq. miles. This gage started taking data in 1925 and is still taking data currently. There are no known anthropogenic alterations in this area that would affect the flow conditions. The average daily discharge change between scenario 1 and scenario 2 for the 20 year timespan was 4.14883%, with 0.556% of its rolling three month time spans above 20% difference.

**Table 1: Monthly Low Flows**

| | Scen. 1 | Scen. 2 | Pct. Difference |
|---|---|---|---|
| Jan. Low Flow | 17.5 | 17.8 | 1.41 |
| Feb. Low Flow | 37.5 | 39.6 | 5.53 |
| Mar. Low Flow | 70.2 | 71.4 | 1.82 |
| Apr. Low Flow | 89.4 | 98.1 | 9.7 |
| May Low Flow | 121 | 128 | 5.6 |
| Jun. Low Flow | 120 | 120 | -0.1 |
| Jul. Low Flow | 83.3 | 86 | 3.26 |
| Aug. Low Flow | 60.3 | 59.8 | -0.9 |
| Sep. Low Flow | 15.6 | 15.8 | 1.63 |
| Oct. Low Flow | 3.3 | 3.4 | 3.02 |
| Nov. Low Flow | 2.72 | 2.82 | 3.41 |
| Dec. Low Flow | 5.23 | 5.19 | -0.87 |

**Table 2: Monthly Average Flows**

| | Scen. 1 | Scen. 2 | Pct. Difference |
|---|---|---|---|
| Overall Mean Flow | 133 | 138 | 4.15 |
| Jan. Mean Flow | 202 | 216 | 6.96 |
| Feb. Mean Flow | 214 | 225 | 5.37 |
| Mar. Mean Flow | 258 | 254 | -1.26 |
| Apr. Mean Flow | 204 | 216 | 5.87 |
| May Mean Flow | 134 | 139 | 3.55 |
| Jun. Mean Flow | 101 | 105 | 4.18 |
| Jul. Mean Flow | 42.5 | 43.2 | 1.75 |
| Aug. Mean Flow | 49.3 | 52.2 | 5.84 |
| Sep. Mean Flow | 80.7 | 86.7 | 7.4 |
| Oct. Mean Flow | 71.3 | 72.4 | 1.57 |
| Nov. Mean Flow | 104 | 108 | 3.86 |
| Dec. Mean Flow | 141 | 150 | 6.27 |

**Table 3: Monthly High Flows**

| | Scen. 1 | Scen. 2 | Pct. Difference |
|---|---|---|---|
| Jan. High Flow | 59.9 | 62.2 | 3.88 |
| Feb. High Flow | 185 | 193 | 4.37 |
| Mar. High Flow | 228 | 270 | 18.4 |
| Apr. High Flow | 600 | 647 | 7.82 |
| May High Flow | 420 | 450 | 7.2 |
| Jun. High Flow | 524 | 535 | 2.25 |
| Jul. High Flow | 375 | 372 | -0.62 |
| Aug. High Flow | 233 | 248 | 6.47 |
| Sep. High Flow | 96.7 | 97 | 0.3 |
| Oct. High Flow | 71.1 | 81.3 | 14.3 |
| Nov. High Flow | 64.9 | 71.5 | 10.1 |
| Dec. High Flow | 74.9 | 79.5 | 6.17 |

**Table 4: Period Low Flows**

| | Scen. 1 | Scen. 2 | Pct. Difference |
|---|---|---|---|
| Min. 1 Day Min | 0.01 | 0.01 | 7.68 |
| Med. 1 Day Min | 1.36 | 1.32 | -2.86 |
| Min. 3 Day Min | 0.01 | 0.01 | 7.94 |
| Med. 3 Day Min | 1.55 | 1.5 | -2.8 |
| Min. 7 Day Min | 0.01 | 0.01 | 8.6 |
| Med. 7 Day Min | 2.02 | 1.97 | -2.64 |
| Min. 30 Day Min | 0.09 | 0.09 | 3.49 |
| Med. 30 Day Min | 6.75 | 7.09 | 5.09 |
| Min. 90 Day Min | 9.12 | 9.47 | 3.85 |
| Med. 90 Day Min | 25.9 | 26.5 | 2.33 |
| 7Q10 | 0.08 | 0.09 | 7.66 |
| Year of 90-Day Min. Flow | 2000 | 2000 | 0 |
| Drought Year Mean | 72.9 | 78 | 6.96 |
| Mean Baseflow | 72.4 | 73.4 | 1.44 |

**Table 5: Period High Flows**

| | Scen. 1 | Scen. 2 | Pct. Difference |
|---|---|---|---|
| Max. 1 Day Max | 3320 | 3350 | 0.71 |
| Med. 1 Day Max | 1510 | 1700 | 12.4 |
| Max. 3 Day Max | 2310 | 2320 | 0.42 |
| Med. 3 Day Max | 1100 | 1220 | 11.2 |
| Max. 7 Day Max | 1240 | 1240 | 0.09 |
| Med. 7 Day Max | 690 | 769 | 11.5 |
| Max. 30 Day Max | 715 | 716 | 0.21 |
| Med. 30 Day Max | 345 | 356 | 3.08 |
| Max. 90 Day Max | 479 | 514 | 7.23 |
| Med. 90 Day Max | 245 | 248 | 1.42 |

**Table 6: Non-Exceedance Flows**

| | Scen. 1 | Scen. 2 | Pct. Difference |
|---|---|---|---|
| 1% Non-Exceedance | 0.32 | 0.33 | 2.07 |
| 5% Non-Exceedance | 3.45 | 3.47 | 0.66 |
| 50% Non-Exceedance | 85.8 | 87.9 | 2.47 |
| 95% Non-Exceedance | 403 | 421 | 4.42 |
| 99% Non-Exceedance | 954 | 1070 | 12 |
| Sept. 10% Non-Exceedance | 1.28 | 1.32 | 3.14 |

## Additional Tables: Land-River Segment Flow Metrics

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| | Mean Unit Flow (cfs/sq. mi) |
|---|---|
| SURface Outflow | 0.00134 |
| InterFloW Outflow | 0.000396 |
| Active GroundWater Outflow | 0.000813 |

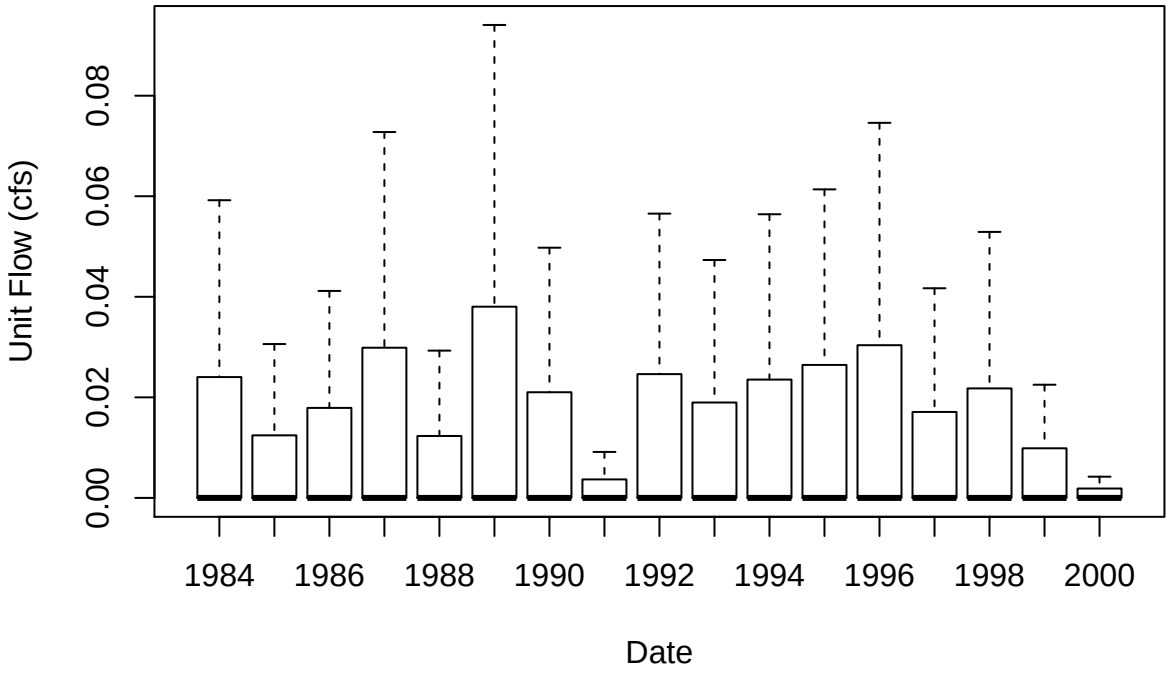
tab.cbp6_N51045_JU1_7690_7490.zero.day.ratios.by.flow

| | Ratio of Days with Zero Flow to Total Days |
|---|---|
| SURface Outflow | 0.637 |
| InterFloW Outflow | 0.465 |
| Active GroundWater Outflow | 0.342 |

tab.SURO.cbp6_N51045_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 4.31e-06 [0, 4.31e-06] |
| 1985 | 2.33e-06 [0, 2.33e-06] |
| 1986 | 5.19e-06 [0, 5.19e-06] |
| 1987 | 1.42e-05 [0, 1.42e-05] |
| 1988 | 1.76e-06 [0, 1.76e-06] |
| 1989 | 2.08e-05 [0, 2.08e-05] |
| 1990 | 7.11e-06 [0, 7.11e-06] |
| 1991 | 1.98e-07 [0, 1.98e-07] |
| 1992 | 1.13e-05 [0, 1.13e-05] |
| 1993 | 5.97e-06 [0, 5.97e-06] |
| 1994 | 9.56e-06 [0, 9.56e-06] |
| 1995 | 8.35e-06 [0, 8.35e-06] |
| 1996 | 3.7e-05 [0, 3.7e-05] |
| 1997 | 5.75e-06 [0, 5.75e-06] |
| 1998 | 6.15e-06 [0, 6.15e-06] |
| 1999 | 1.88e-06 [0, 1.88e-06] |
| 2000 | 2.88e-07 [0, 2.88e-07] |

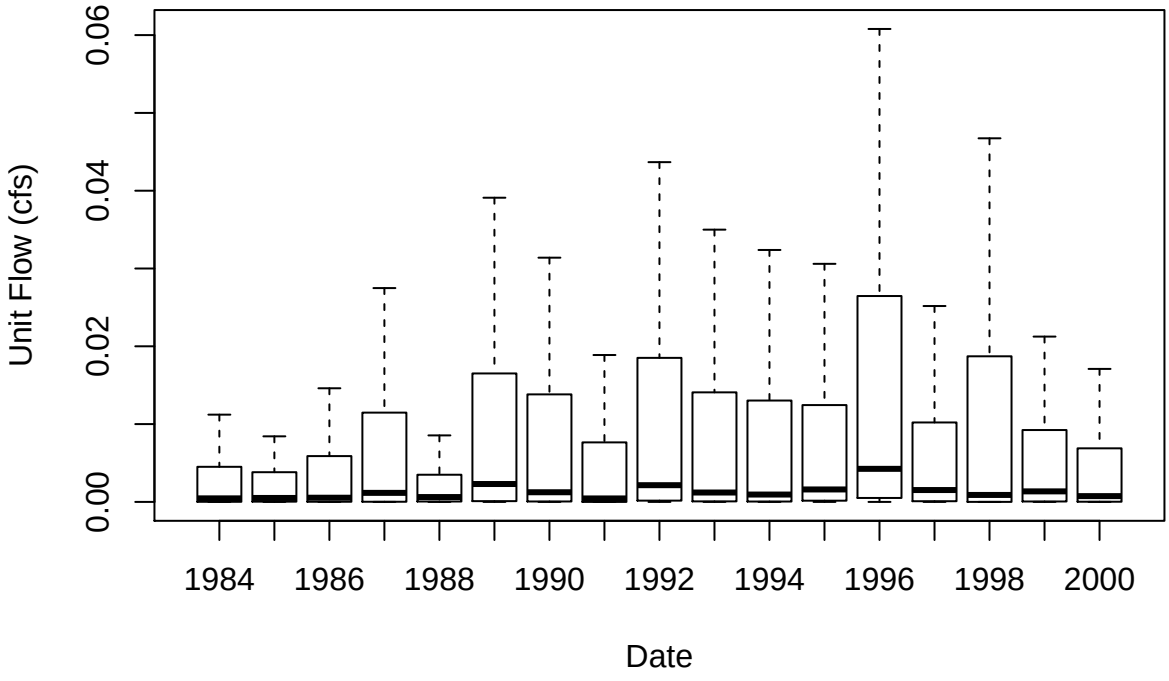
Fig: Boxplot of Annual SURO Flows for LR-seg cbp6_N51045_JU1_7690_7490



tab.IFWO.cbp6_N51045_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 3.78e-05 [0, 3.78e-05] |
| 1985 | 3.73e-05 [0, 3.73e-05] |
| 1986 | 3.95e-05 [0, 3.95e-05] |
| 1987 | 9.69e-05 [0, 9.69e-05] |
| 1988 | 3.29e-05 [0, 3.29e-05] |
| 1989 | 0.000183 [0, 0.000183] |
| 1990 | 0.000149 [0, 0.000149] |
| 1991 | 4.93e-05 [0, 4.93e-05] |
| 1992 | 0.000171 [0, 0.000171] |
| 1993 | 0.000126 [0, 0.000126] |
| 1994 | 0.000105 [0, 0.000105] |
| 1995 | 0.00013 [0, 0.00013] |
| 1996 | 0.000348 [0, 0.000348] |
| 1997 | 0.000107 [0, 0.000107] |
| 1998 | 0.000122 [0, 0.000122] |
| 1999 | 9.15e-05 [0, 9.15e-05] |
| 2000 | 6.91e-05 [0, 6.91e-05] |

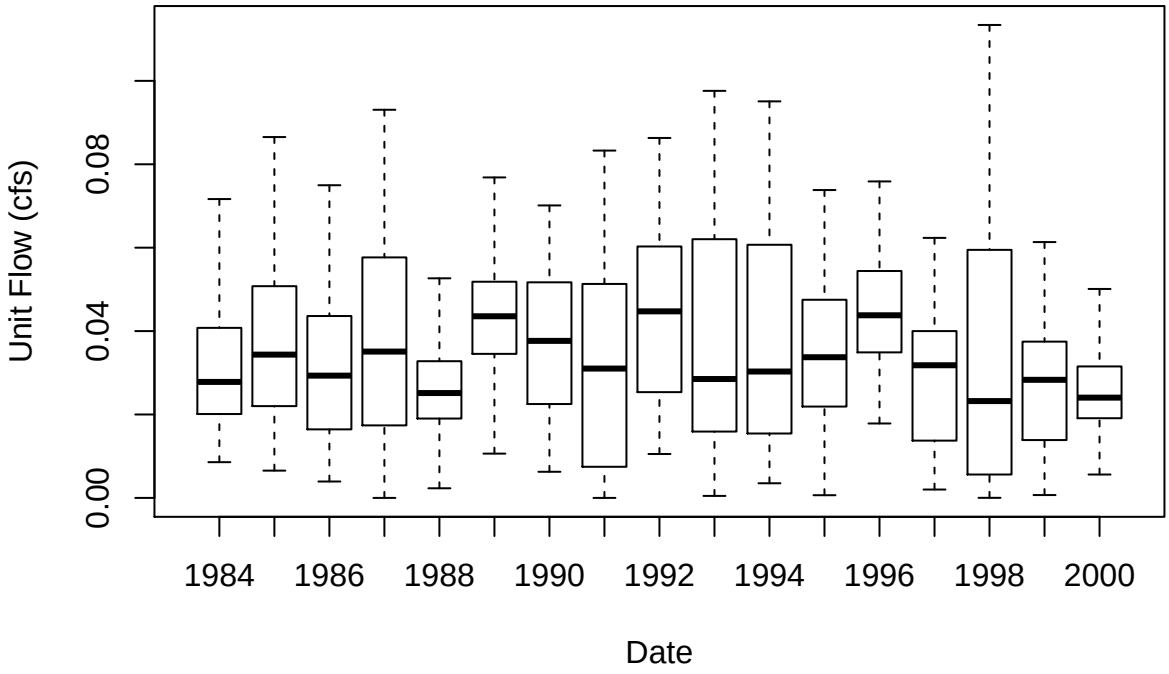
Fig: Boxplot of Annual IFWO Flows for LR-seg cbp6_N51045_JU1_7690_7490



tab.AGWO.cbp6_N51045_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 0.0012 [0, 0.0012] |
| 1985 | 0.00141 [0, 0.00141] |
| 1986 | 0.0012 [0, 0.0012] |
| 1987 | 0.00148 [0, 0.00148] |
| 1988 | 0.000993 [0, 0.000993] |
| 1989 | 0.00164 [0, 0.00164] |
| 1990 | 0.00152 [0, 0.00152] |
| 1991 | 0.0014 [0, 0.0014] |
| 1992 | 0.00175 [0, 0.00175] |
| 1993 | 0.00161 [0, 0.00161] |
| 1994 | 0.00146 [0, 0.00146] |
| 1995 | 0.00135 [0, 0.00135] |
| 1996 | 0.0017 [0, 0.0017] |
| 1997 | 0.00124 [0, 0.00124] |
| 1998 | 0.00142 [0, 0.00142] |
| 1999 | 0.00116 [0, 0.00116] |
| 2000 | 0.000958 [0, 0.000958] |

Fig: Boxplot of Annual AGWO Flows for LR-seg cbp6_N51045_JU1_7690_7490



tab.cbp6__N51045__JU1__7690__7490.means.by.land.use

| | Mean Unit Flow (cfs/sq. mi) |
|---|---|
| aop | 0.000668 |
| cch | 0.000787 |
| cci | 0.00114 |
| ccn | 0.000827 |
| cfr | 0.000639 |
| cir | 0.00114 |
| cmo | 0.000654 |
| cnr | 0.00114 |
| ctg | 0.000787 |
| dbl | 0.000692 |
| fnp | 0.00114 |
| for | 0.00064 |
| fsp | 0.00114 |
| gom | 0.000692 |
| gwm | 0.000692 |
| hfr | 0.000694 |
| lhy | 0.000668 |
| mch | 0.000787 |
| mci | 0.00114 |
| mcn | 0.000827 |
| mir | 0.00114 |
| mnr | 0.00114 |
| mtg | 0.000787 |
| nch | 0.000787 |
| nci | 0.00114 |
| nir | 0.00114 |
| nnr | 0.00114 |
| ntg | 0.000787 |
| oac | 0.000692 |
| ohy | 0.000668 |
| osp | 0.000654 |
| pas | 0.000668 |
| sch | 0.000692 |
| scl | 0.000692 |
| sgg | 0.000692 |
| sho | 0.00114 |
| som | 0.000692 |
| soy | 0.000692 |
| stb | 0.00114 |
| stf | 0.00114 |
| swm | 0.000692 |
| wfp | 0.00064 |
| wto | 0.00064 |

tab.cbp6_N51045_JU1_7690_7490.zero.day.ratios.by.land.use

| | Ratio of Days with Zero Flow to Total Days |
|---|---|
| aop | 0.281 |
| cch | 0.277 |
| cci | 0.891 |
| ccn | 0.255 |
| cfr | 0.32 |
| cir | 0.891 |
| cmo | 0.295 |
| cnr | 0.891 |
| ctg | 0.277 |
| dbl | 0.276 |
| fnp | 0.891 |
| for | 0.33 |
| fsp | 0.891 |
| gom | 0.276 |
| gwm | 0.276 |
| hfr | 0.279 |
| lhy | 0.28 |
| mch | 0.277 |
| mci | 0.891 |
| mcn | 0.255 |
| mir | 0.891 |
| mnr | 0.891 |
| mtg | 0.277 |
| nch | 0.277 |
| nci | 0.891 |
| nir | 0.891 |
| nnr | 0.891 |
| ntg | 0.277 |
| oac | 0.276 |
| ohy | 0.28 |
| osp | 0.295 |
| pas | 0.28 |
| sch | 0.276 |
| scl | 0.276 |
| sgg | 0.276 |
| sho | 0.891 |
| som | 0.276 |
| soy | 0.276 |
| stb | 0.891 |
| stf | 0.891 |
| swm | 0.276 |
| wfp | 0.33 |
| wto | 0.33 |

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| | Mean Unit Flow (cfs/sq. mi) |
|---|---|
| SURface Outflow | 0.0013 |
| InterFloW Outflow | 0.00035 |
| Active GroundWater Outflow | 0.000463 |

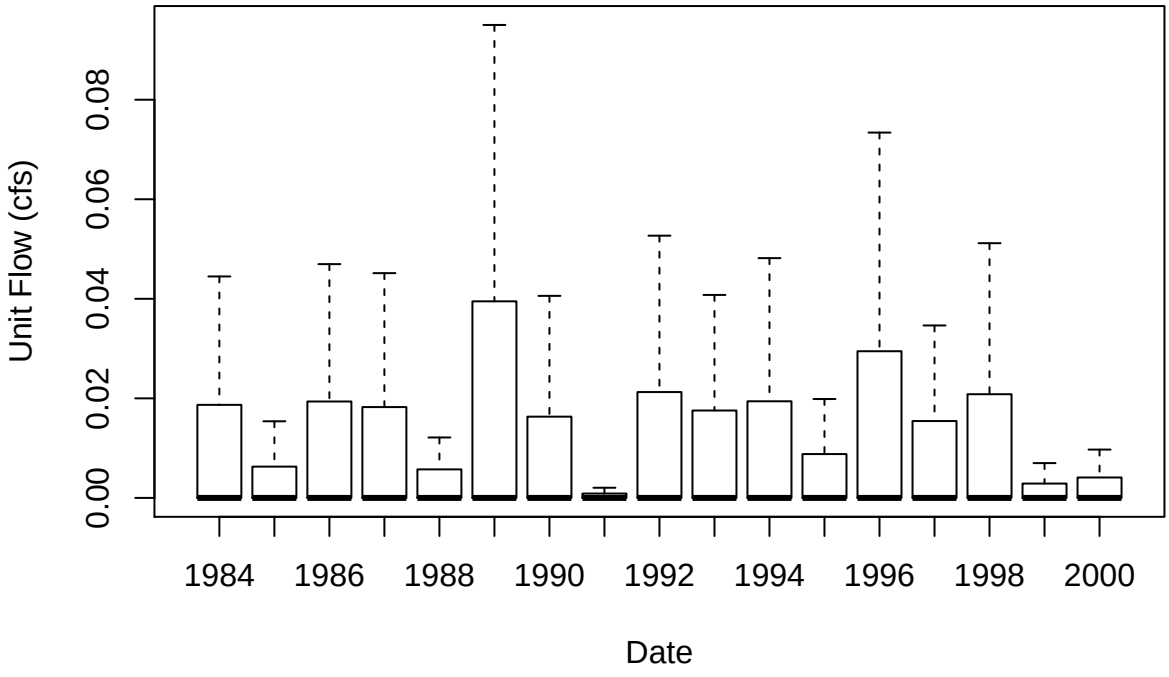
tab.cbp6_N51121_JU1_7690_7490.zero.day.ratios.by.flow

| | Ratio of Days with Zero Flow to Total Days |
|---|---|
| SURface Outflow | 0.673 |
| InterFloW Outflow | 0.519 |
| Active GroundWater Outflow | 0.36 |

tab.SURO.cbp6_N51121_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 2.77e-06 [0, 2.77e-06] |
| 1985 | 1.76e-06 [0, 1.76e-06] |
| 1986 | 5.83e-06 [0, 5.83e-06] |
| 1987 | 1.03e-05 [0, 1.03e-05] |
| 1988 | 8.85e-07 [0, 8.85e-07] |
| 1989 | 1.96e-05 [0, 1.96e-05] |
| 1990 | 4.78e-06 [0, 4.78e-06] |
| 1991 | 7.74e-09 [0, 7.74e-09] |
| 1992 | 1.22e-05 [0, 1.22e-05] |
| 1993 | 7.66e-06 [0, 7.66e-06] |
| 1994 | 6.62e-06 [0, 6.62e-06] |
| 1995 | 5.79e-06 [0, 5.79e-06] |
| 1996 | 3.7e-05 [0, 3.7e-05] |
| 1997 | 4.91e-06 [0, 4.91e-06] |
| 1998 | 7.22e-06 [0, 7.22e-06] |
| 1999 | 1.28e-07 [0, 1.28e-07] |
| 2000 | 1.83e-07 [0, 1.83e-07] |

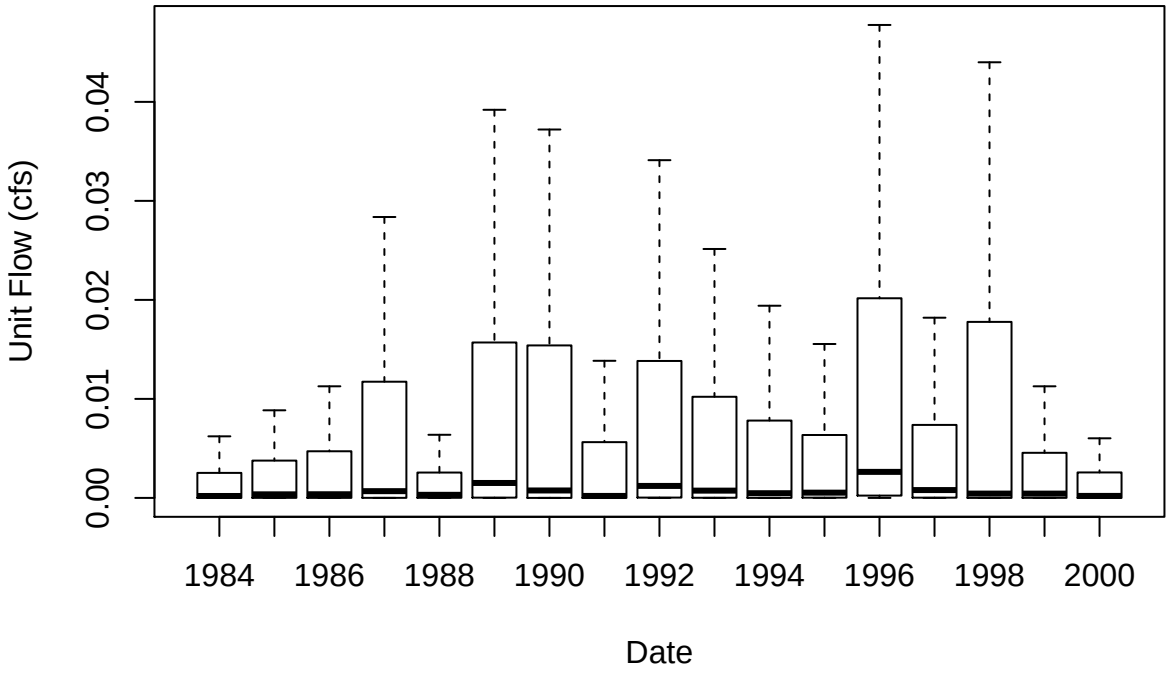
Fig: Boxplot of Annual SURO Flows for LR-seg cbp6_N51121_JU1_7690_7490



tab.IFWO.cbp6_N51121_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 1.94e-05 [0, 1.94e-05] |
| 1985 | 2.59e-05 [0, 2.59e-05] |
| 1986 | 3.87e-05 [0, 3.87e-05] |
| 1987 | 8.93e-05 [0, 8.93e-05] |
| 1988 | 2.18e-05 [0, 2.18e-05] |
| 1989 | 0.00016 [0, 0.00016] |
| 1990 | 0.000143 [0, 0.000143] |
| 1991 | 2.81e-05 [0, 2.81e-05] |
| 1992 | 0.000115 [0, 0.000115] |
| 1993 | 8.22e-05 [0, 8.22e-05] |
| 1994 | 7.39e-05 [0, 7.39e-05] |
| 1995 | 5.49e-05 [0, 5.49e-05] |
| 1996 | 0.000256 [0, 0.000256] |
| 1997 | 6.73e-05 [0, 6.73e-05] |
| 1998 | 0.000102 [0, 0.000102] |
| 1999 | 3.96e-05 [0, 3.96e-05] |
| 2000 | 2.35e-05 [0, 2.35e-05] |

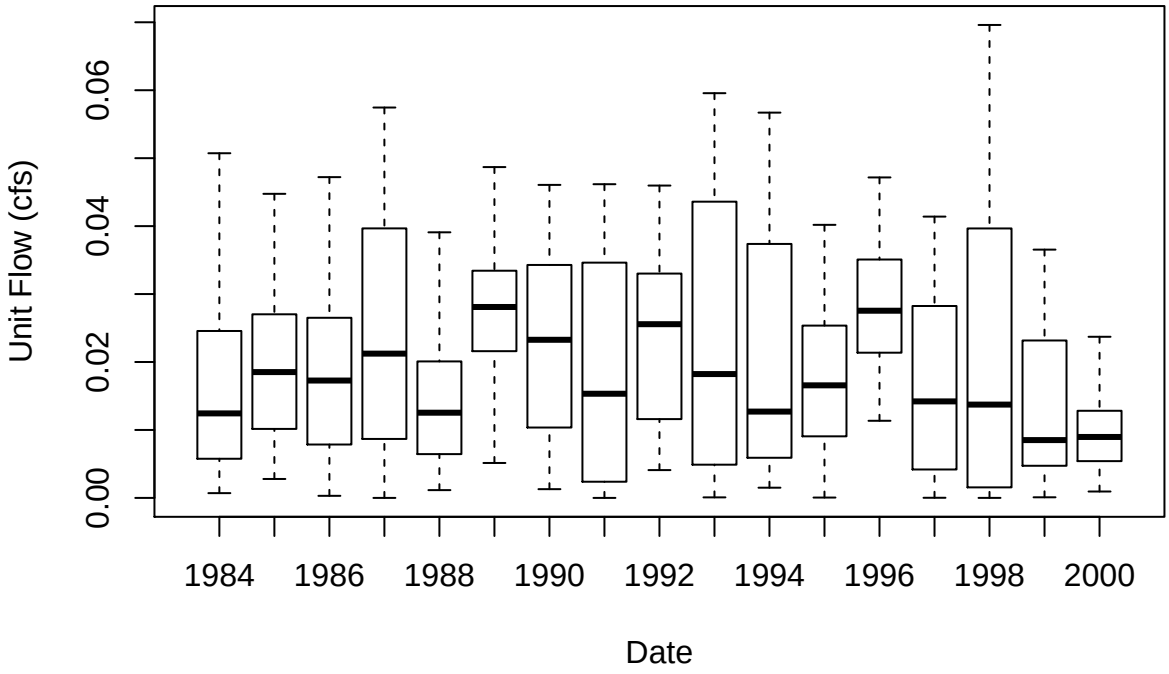
Fig: Boxplot of Annual IFWO Flows for LR-seg cbp6_N51121_JU1_7690_7490



tab.AGWO.cbp6_N51121_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 0.000606 [0, 0.000606] |
| 1985 | 0.000759 [0, 0.000759] |
| 1986 | 0.000764 [0, 0.000764] |
| 1987 | 0.000983 [0, 0.000983] |
| 1988 | 0.000563 [0, 0.000563] |
| 1989 | 0.00108 [0, 0.00108] |
| 1990 | 0.000965 [0, 0.000965] |
| 1991 | 0.000852 [0, 0.000852] |
| 1992 | 0.000987 [0, 0.000987] |
| 1993 | 0.00103 [0, 0.00103] |
| 1994 | 0.000803 [0, 0.000803] |
| 1995 | 0.000687 [0, 0.000687] |
| 1996 | 0.00109 [0, 0.00109] |
| 1997 | 0.000698 [0, 0.000698] |
| 1998 | 0.000956 [0, 0.000956] |
| 1999 | 0.000489 [0, 0.000489] |
| 2000 | 0.000399 [0, 0.000399] |

Fig: Boxplot of Annual AGWO Flows for LR-seg cbp6_N51121_JU1_7690_7490



tab.cbp6__N51121__JU1__7690__7490.means.by.land.use

| | Mean Unit Flow (cfs/sq. mi) |
|---|---|
| aop | 0.000488 |
| cch | 0.000642 |
| cci | 0.00104 |
| ccn | 0.000688 |
| cfr | 0.000448 |
| cir | 0.00104 |
| cmo | 0.000467 |
| cnr | 0.00104 |
| ctg | 0.000642 |
| dbl | 0.000519 |
| fnp | 0.00104 |
| for | 0.000448 |
| fsp | 0.00104 |
| gom | 0.000519 |
| gwm | 0.000519 |
| hfr | 0.00052 |
| lhy | 0.000488 |
| mch | 0.000642 |
| mci | 0.00104 |
| mcn | 0.000688 |
| mir | 0.00104 |
| mnr | 0.00104 |
| mtg | 0.000642 |
| nch | 0.000642 |
| nci | 0.00104 |
| nir | 0.00104 |
| nnr | 0.00104 |
| ntg | 0.000642 |
| oac | 0.000519 |
| ohy | 0.000488 |
| osp | 0.000467 |
| pas | 0.000488 |
| sch | 0.000519 |
| scl | 0.000519 |
| sgg | 0.000519 |
| sho | 0.00104 |
| som | 0.000519 |
| soy | 0.000519 |
| stb | 0.00104 |
| stf | 0.00104 |
| swm | 0.000519 |
| wfp | 0.000448 |
| wto | 0.000448 |

tab.cbp6_N51121_JU1_7690_7490.zero.day.ratios.by.land.use

| | Ratio of Days with Zero Flow to Total Days |
|---|---|
| aop | 0.328 |
| cch | 0.333 |
| cci | 0.895 |
| ccn | 0.302 |
| cfr | 0.393 |
| cir | 0.895 |
| cmo | 0.349 |
| cnr | 0.895 |
| ctg | 0.333 |
| dbl | 0.318 |
| fnp | 0.894 |
| for | 0.401 |
| fsp | 0.894 |
| gom | 0.318 |
| gwm | 0.318 |
| hfr | 0.327 |
| lhy | 0.329 |
| mch | 0.333 |
| mci | 0.895 |
| mcn | 0.302 |
| mir | 0.895 |
| mnr | 0.895 |
| mtg | 0.333 |
| nch | 0.333 |
| nci | 0.895 |
| nir | 0.895 |
| nnr | 0.895 |
| ntg | 0.333 |
| oac | 0.318 |
| ohy | 0.329 |
| osp | 0.351 |
| pas | 0.329 |
| sch | 0.318 |
| scl | 0.318 |
| sgg | 0.318 |
| sho | 0.895 |
| som | 0.318 |
| soy | 0.318 |
| stb | 0.895 |
| stf | 0.895 |
| swm | 0.318 |
| wfp | 0.401 |
| wto | 0.401 |

“Number of features found: 1” $varkey [1] “om_class_cbp_eos_file”

$featureid [1] 451050 Levels: 451050

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$propcode [1] “vahydro-1.0”

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$featureid [1] 4836252

$entity_type [1] “dh_properties”

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| | Mean Unit Flow (cfs/sq. mi) |
|---|---|
| SURface Outflow | 0.00146 |
| InterFloW Outflow | 0.000295 |
| Active GroundWater Outflow | 0.000571 |

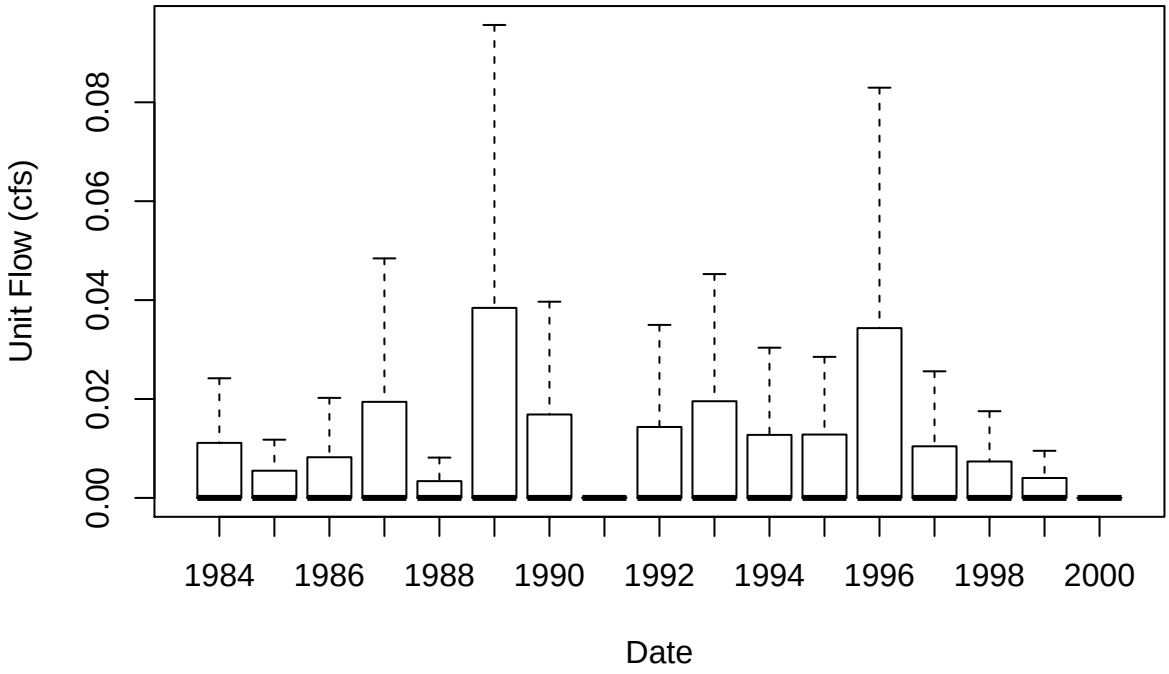
tab.cbp6_N51161_JU1_7690_7490.zero.day.ratios.by.flow

| | Ratio of Days with Zero Flow to Total Days |
|---|---|
| SURface Outflow | 0.681 |
| InterFloW Outflow | 0.442 |
| Active GroundWater Outflow | 0.326 |

tab.SURO.cbp6_N51161_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 5.93e-07 [0, 5.93e-07] |
| 1985 | 1.12e-06 [0, 1.12e-06] |
| 1986 | 1.69e-06 [0, 1.69e-06] |
| 1987 | 9.16e-06 [0, 9.16e-06] |
| 1988 | 5.44e-07 [0, 5.44e-07] |
| 1989 | 1.93e-05 [0, 1.93e-05] |
| 1990 | 8.61e-06 [0, 8.61e-06] |
| 1991 | 2.04e-09 [0, 2.04e-09] |
| 1992 | 5.94e-06 [0, 5.94e-06] |
| 1993 | 9.54e-06 [0, 9.54e-06] |
| 1994 | 5.07e-06 [0, 5.07e-06] |
| 1995 | 3.64e-06 [0, 3.64e-06] |
| 1996 | 3.01e-05 [0, 3.01e-05] |
| 1997 | 3.92e-06 [0, 3.92e-06] |
| 1998 | 1.99e-06 [0, 1.99e-06] |
| 1999 | 5.36e-07 [0, 5.36e-07] |
| 2000 | 2.85e-10 [0, 2.85e-10] |

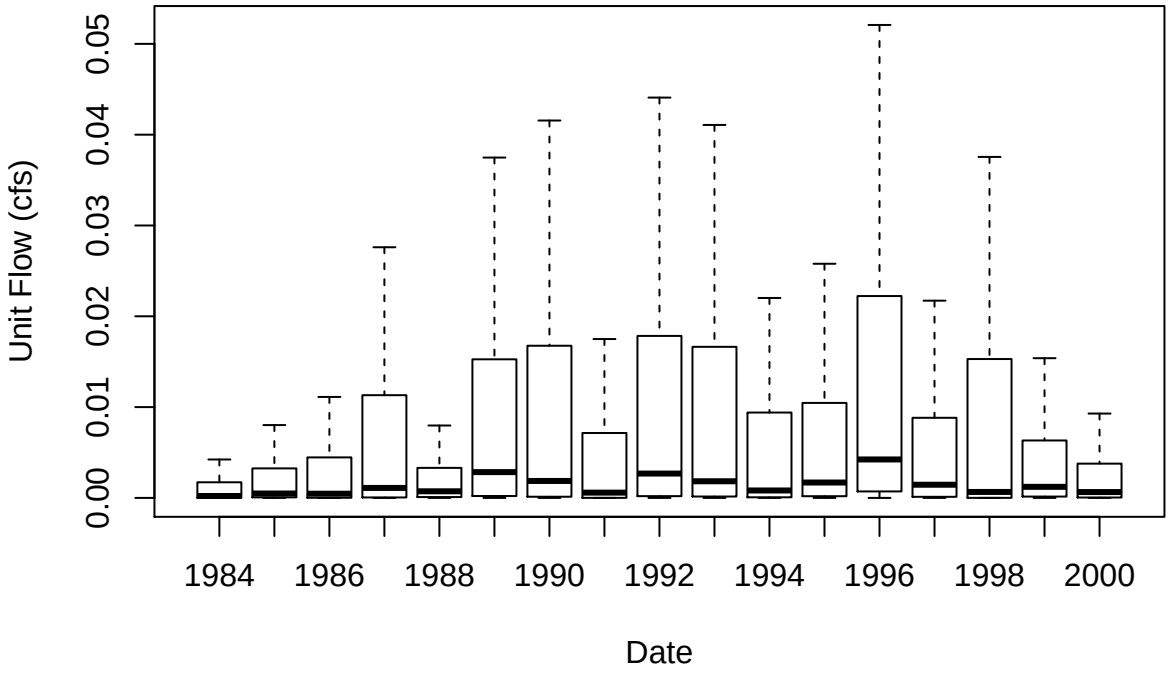
Fig: Boxplot of Annual SURO Flows for LR-seg cbp6_N51161_JU1_7690_7490



tab.IFWO.cbp6_N51161_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 1.82e-05 [0, 1.82e-05] |
| 1985 | 3.44e-05 [0, 3.44e-05] |
| 1986 | 3.64e-05 [0, 3.64e-05] |
| 1987 | 0.000102 [0, 0.000102] |
| 1988 | 3.84e-05 [0, 3.84e-05] |
| 1989 | 0.000201 [0, 0.000201] |
| 1990 | 0.000212 [0, 0.000212] |
| 1991 | 6.31e-05 [0, 6.31e-05] |
| 1992 | 0.00021 [0, 0.00021] |
| 1993 | 0.000182 [0, 0.000182] |
| 1994 | 7.97e-05 [0, 7.97e-05] |
| 1995 | 0.00012 [0, 0.00012] |
| 1996 | 0.000323 [0, 0.000323] |
| 1997 | 0.000114 [0, 0.000114] |
| 1998 | 8.86e-05 [0, 8.86e-05] |
| 1999 | 7.85e-05 [0, 7.85e-05] |
| 2000 | 5.23e-05 [0, 5.23e-05] |

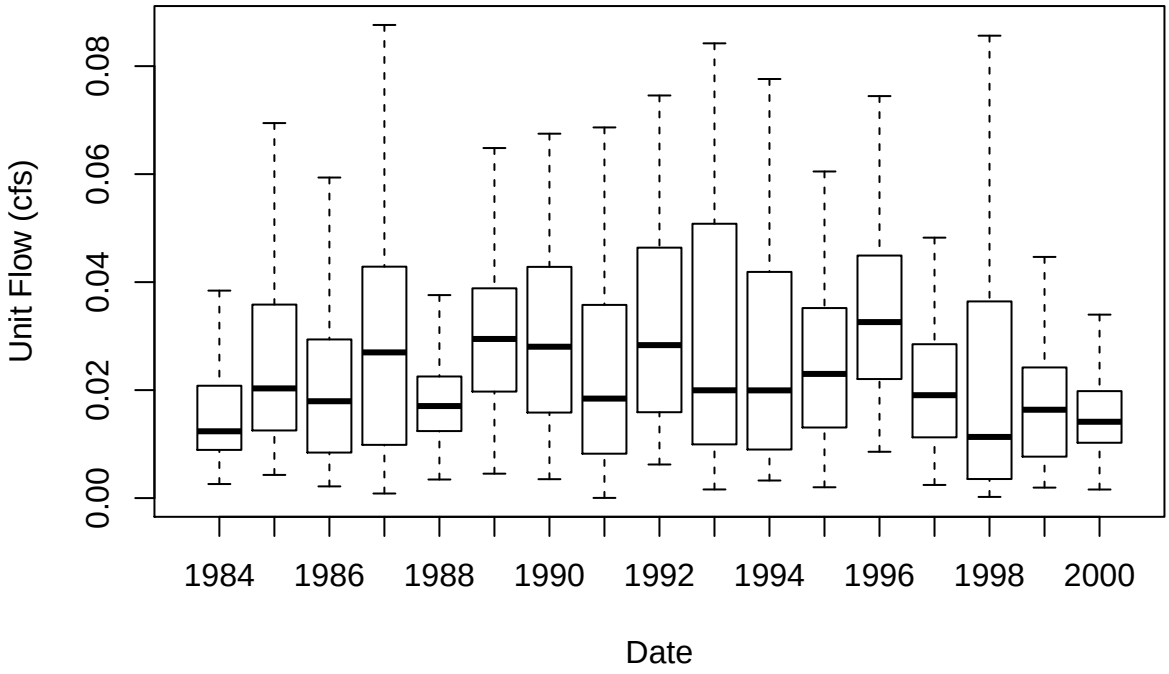
Fig: Boxplot of Annual IFWO Flows for LR-seg cbp6_N51161_JU1_7690_7490



tab.AGWO.cbp6_N51161_JU1_7690_7490.iqr.by.lrseg.flow.annual

| | IQR of Unit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 0.000535 [0, 0.000535] |
| 1985 | 0.000876 [0, 0.000876] |
| 1986 | 0.000777 [0, 0.000777] |
| 1987 | 0.00117 [0, 0.00117] |
| 1988 | 0.000673 [0, 0.000673] |
| 1989 | 0.00115 [0, 0.00115] |
| 1990 | 0.00116 [0, 0.00116] |
| 1991 | 0.000878 [0, 0.000878] |
| 1992 | 0.00117 [0, 0.00117] |
| 1993 | 0.00119 [0, 0.00119] |
| 1994 | 0.000962 [0, 0.000962] |
| 1995 | 0.000946 [0, 0.000946] |
| 1996 | 0.0013 [0, 0.0013] |
| 1997 | 0.000778 [0, 0.000778] |
| 1998 | 0.000723 [0, 0.000723] |
| 1999 | 0.000704 [0, 0.000704] |
| 2000 | 0.000577 [0, 0.000577] |

Fig: Boxplot of Annual AGWO Flows for LR-seg cbp6_N51161_JU1_7690_7490



tab.cbp6__N51161__JU1__7690__7490.means.by.land.use

| | Mean Unit Flow (cfs/sq. mi) |
|---|---|
| aop | 0.000538 |
| cch | 0.000705 |
| cci | 0.00116 |
| ccn | 0.000722 |
| cfr | 0.0005 |
| cir | 0.00116 |
| cmo | 0.000509 |
| cnr | 0.00116 |
| ctg | 0.000705 |
| dbl | 0.000564 |
| fnp | 0.00116 |
| for | 0.0005 |
| fsp | 0.00116 |
| gom | 0.000564 |
| gwm | 0.000564 |
| hfr | 0.000594 |
| lhy | 0.000538 |
| mch | 0.000705 |
| mci | 0.00116 |
| mcn | 0.000722 |
| mir | 0.00116 |
| mnr | 0.00116 |
| mtg | 0.000705 |
| nch | 0.000705 |
| nci | 0.00116 |
| nir | 0.00116 |
| nnr | 0.00116 |
| ntg | 0.000705 |
| oac | 0.000564 |
| ohy | 0.000538 |
| osp | 0.000509 |
| pas | 0.000538 |
| sch | 0.000564 |
| scl | 0.000564 |
| sgg | 0.000564 |
| sho | 0.00116 |
| som | 0.000564 |
| soy | 0.000564 |
| stb | 0.00116 |
| stf | 0.00116 |
| swm | 0.000564 |
| wfp | 0.0005 |
| wto | 0.0005 |

tab.cbp6__N51161__JU1__7690__7490.zero.day.ratios.by.land.use

| | Ratio of Days with Zero Flow to Total Days |
|---|---|
| aop | 0.278 |
| cch | 0.28 |
| cci | 0.897 |
| ccn | 0.267 |
| cfr | 0.306 |
| cir | 0.897 |
| cmo | 0.294 |
| cnr | 0.897 |
| ctg | 0.28 |
| dbl | 0.277 |
| fnp | 0.9 |
| for | 0.311 |
| fsp | 0.9 |
| gom | 0.277 |
| gwm | 0.277 |
| hfr | 0.272 |
| lhy | 0.281 |
| mch | 0.28 |
| mci | 0.897 |
| mcn | 0.267 |
| mir | 0.897 |
| mnr | 0.897 |
| mtg | 0.28 |
| nch | 0.28 |
| nci | 0.897 |
| nir | 0.897 |
| nnr | 0.897 |
| ntg | 0.28 |
| oac | 0.277 |
| ohy | 0.281 |
| osp | 0.295 |
| pas | 0.281 |
| sch | 0.277 |
| scl | 0.277 |
| sgg | 0.277 |
| sho | 0.897 |
| som | 0.277 |
| soy | 0.277 |
| stb | 0.897 |
| stf | 0.897 |
| swm | 0.277 |
| wfp | 0.311 |
| wto | 0.311 |

**Fig. 1: Hydrograph**

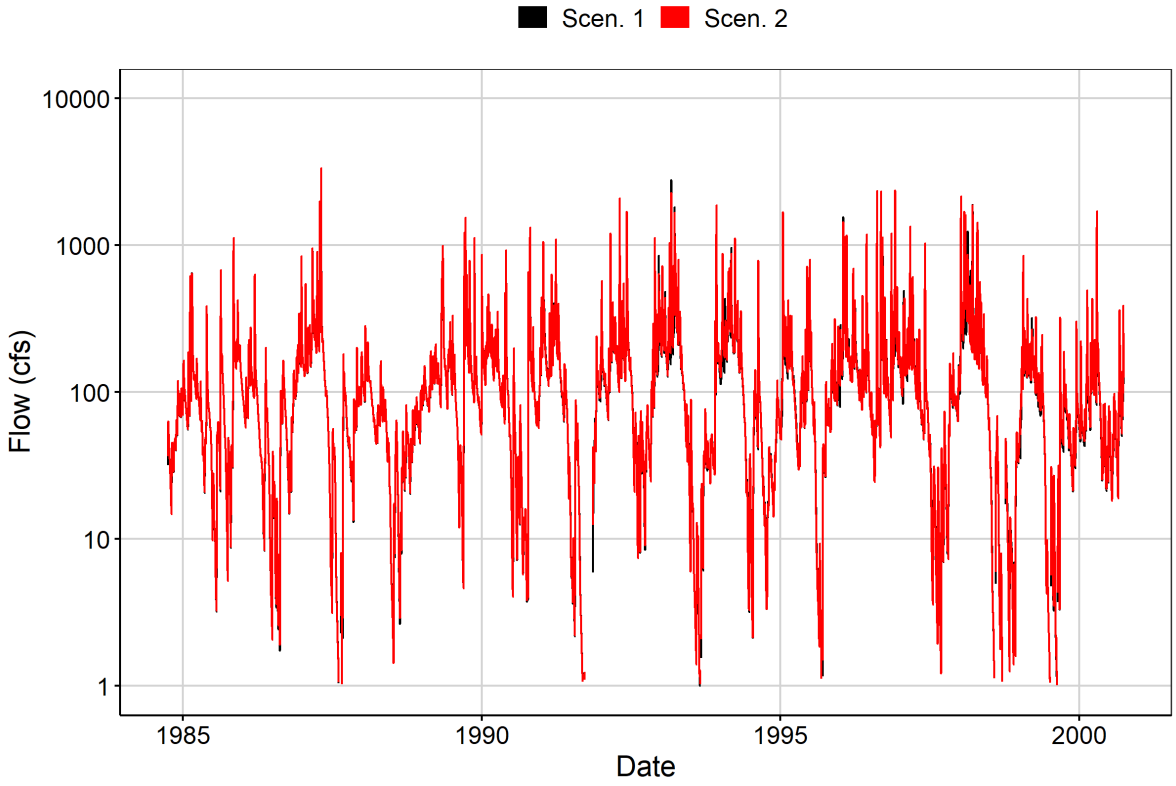


**Fig. 2: Zoomed Hydrograph**

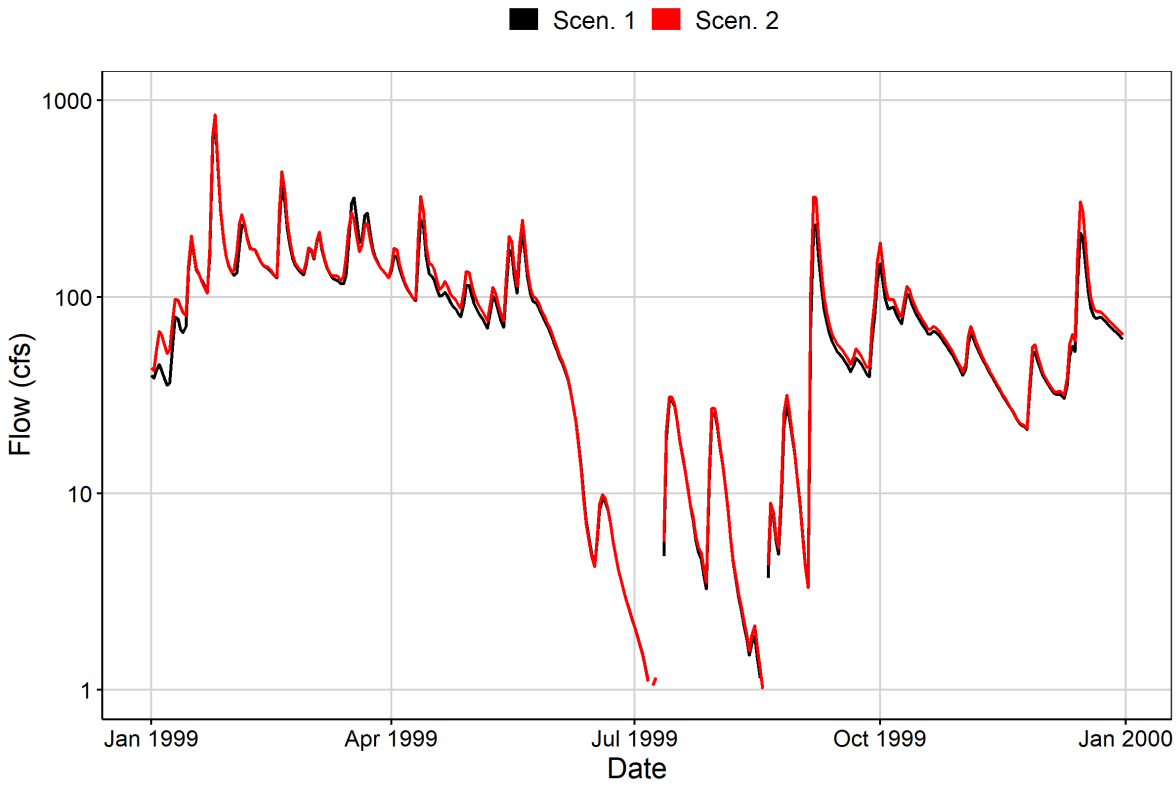


**Fig. 3: Flow Exceedance**

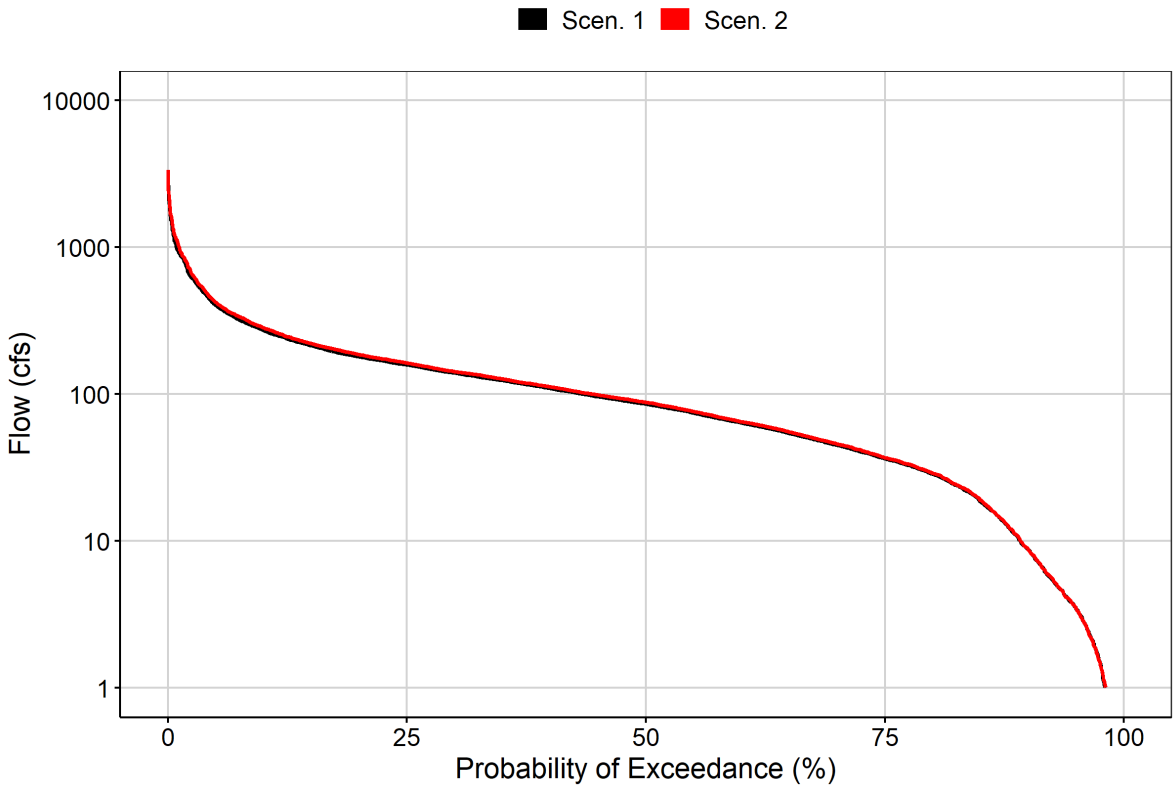


**Fig. 4: Baseflow**

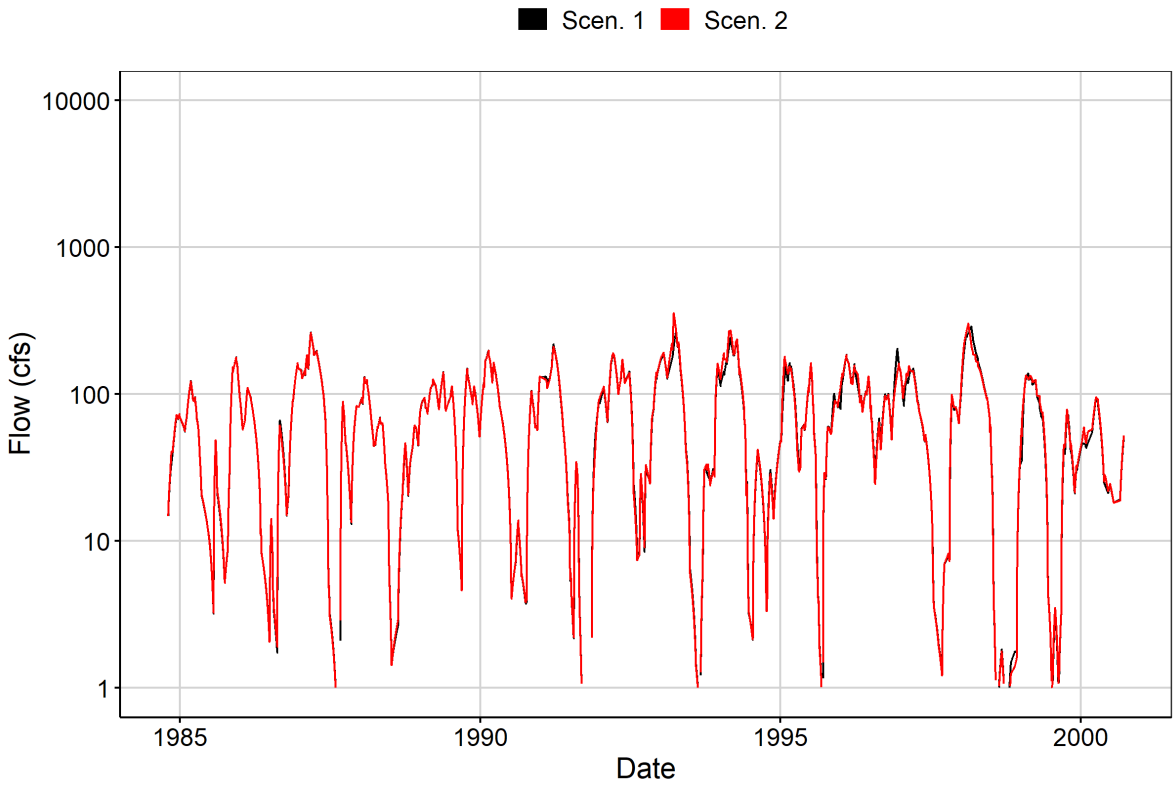


**Fig. 5: Combined Baseflow**

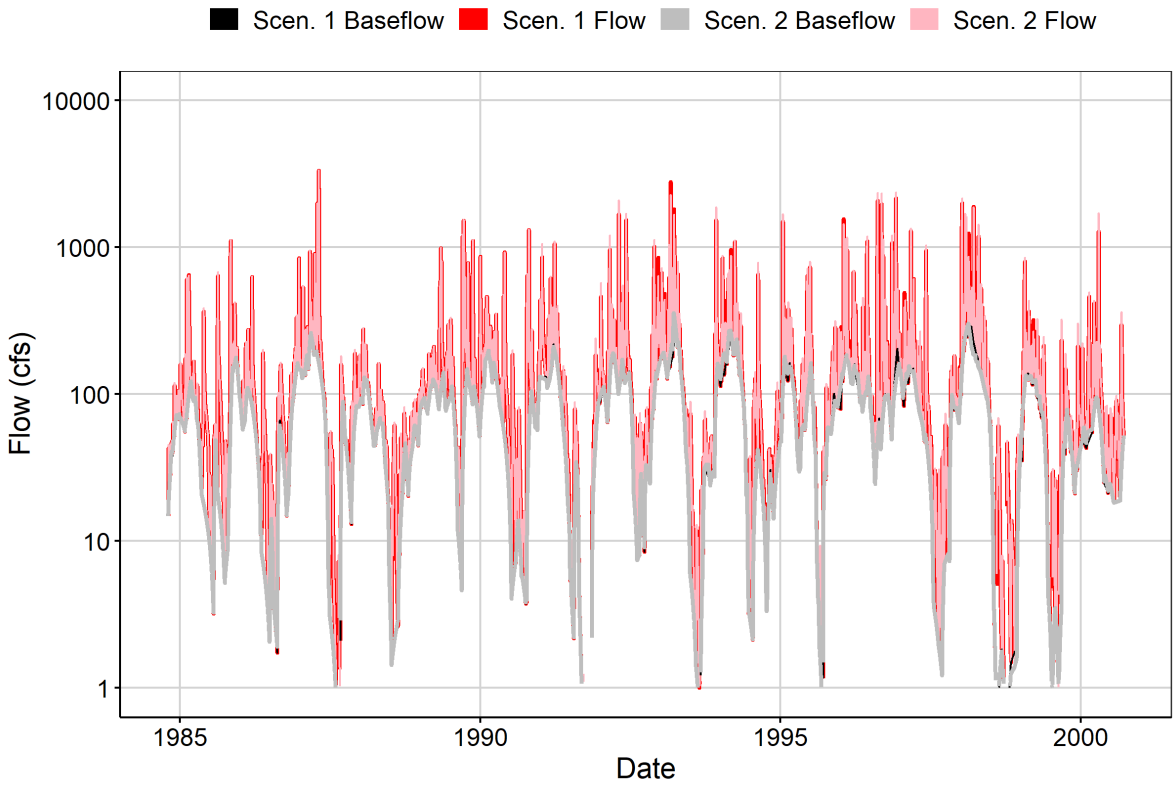


**Fig. 6: Largest Difference Period**

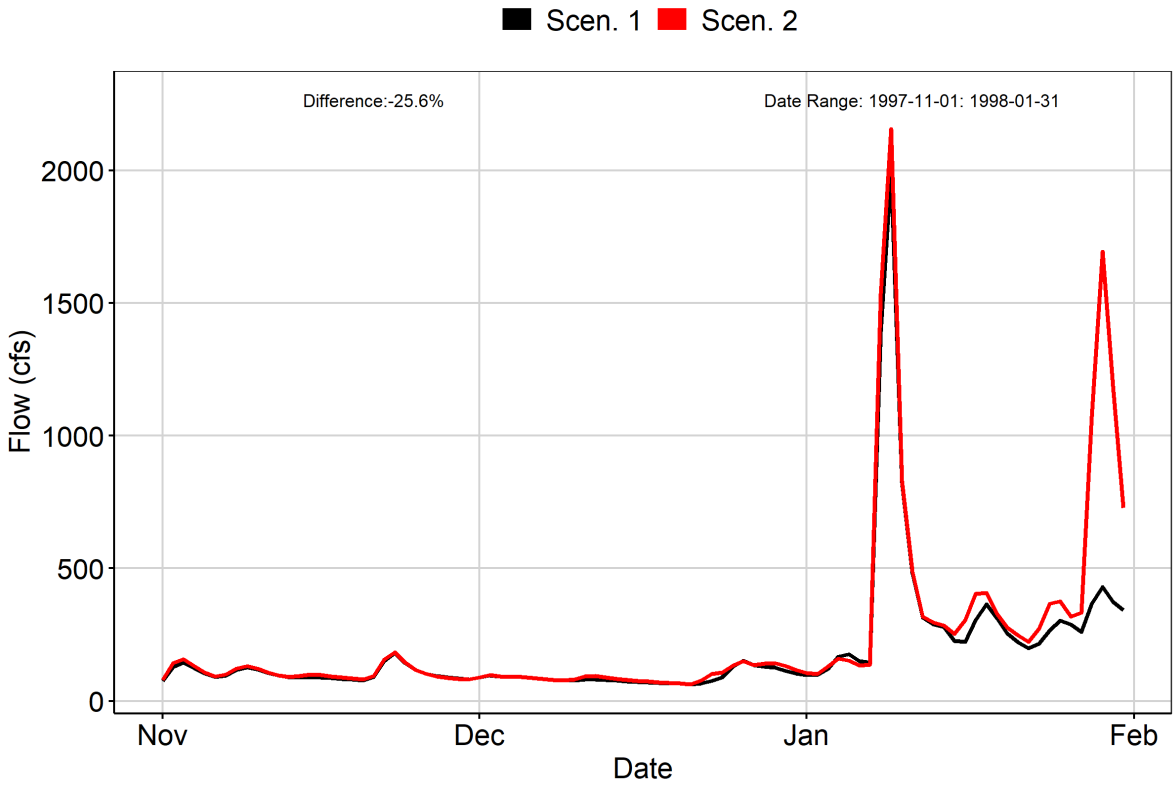


**Fig. 7: Second Largest Difference Period**

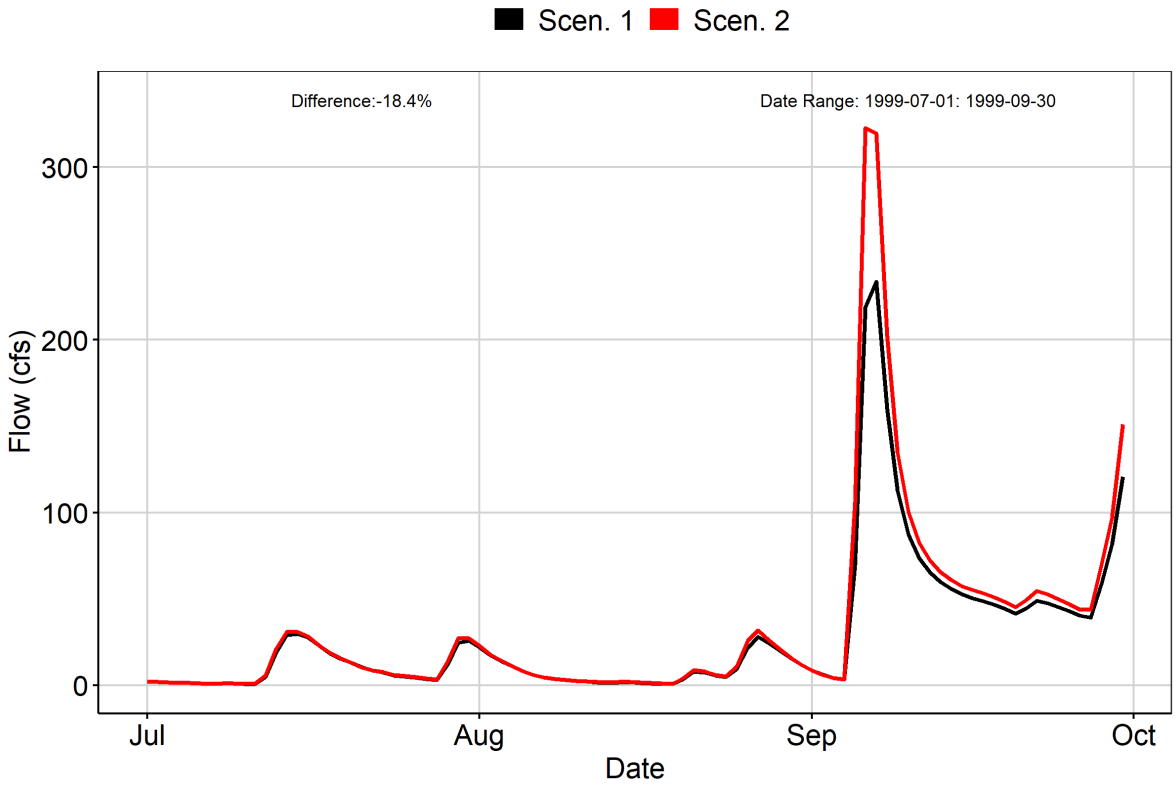


**Fig. 8: Third Largest Difference Period**

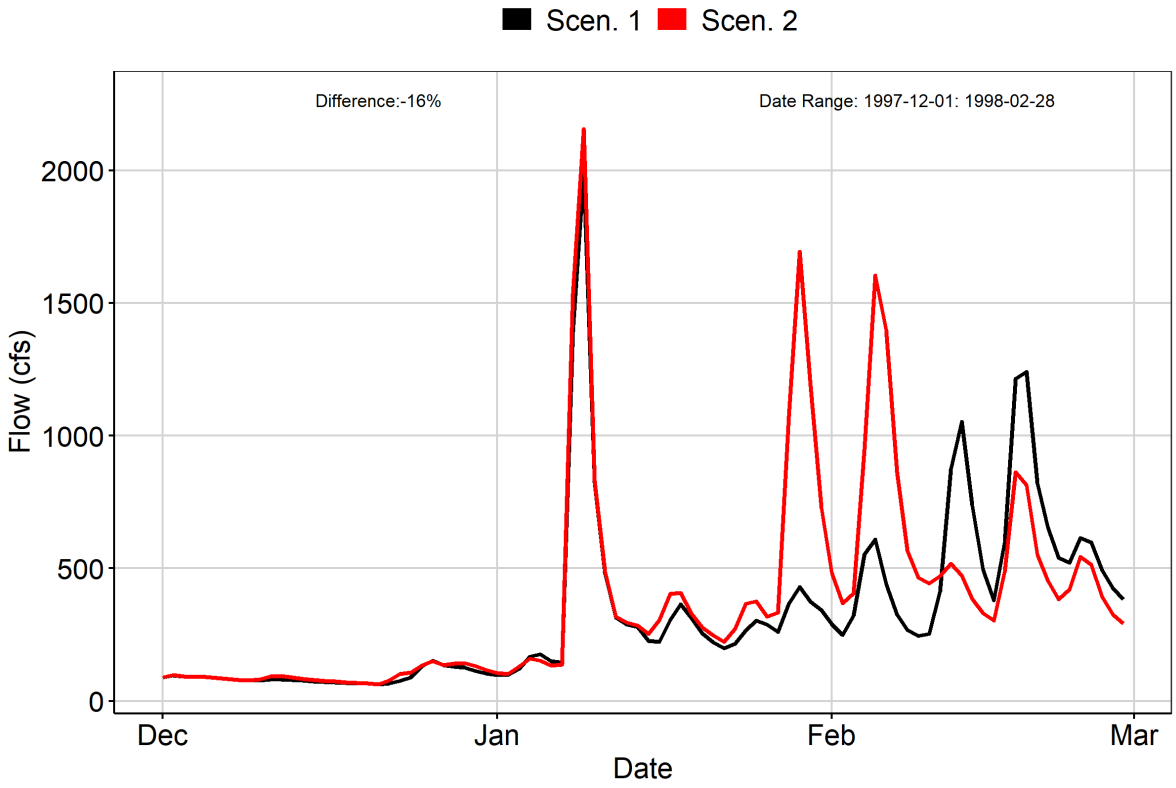
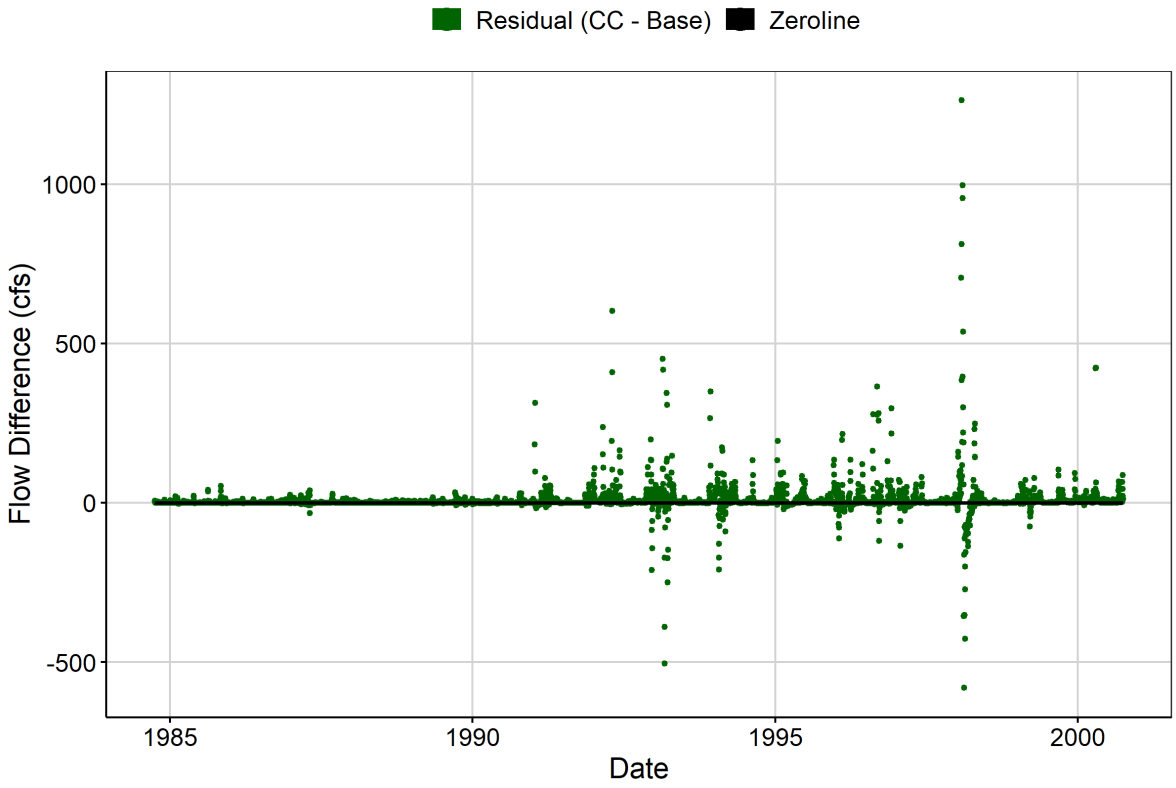


**Fig. 9A: Residuals Plot**



## Fig. 9B: Area Weighted Residuals Plot

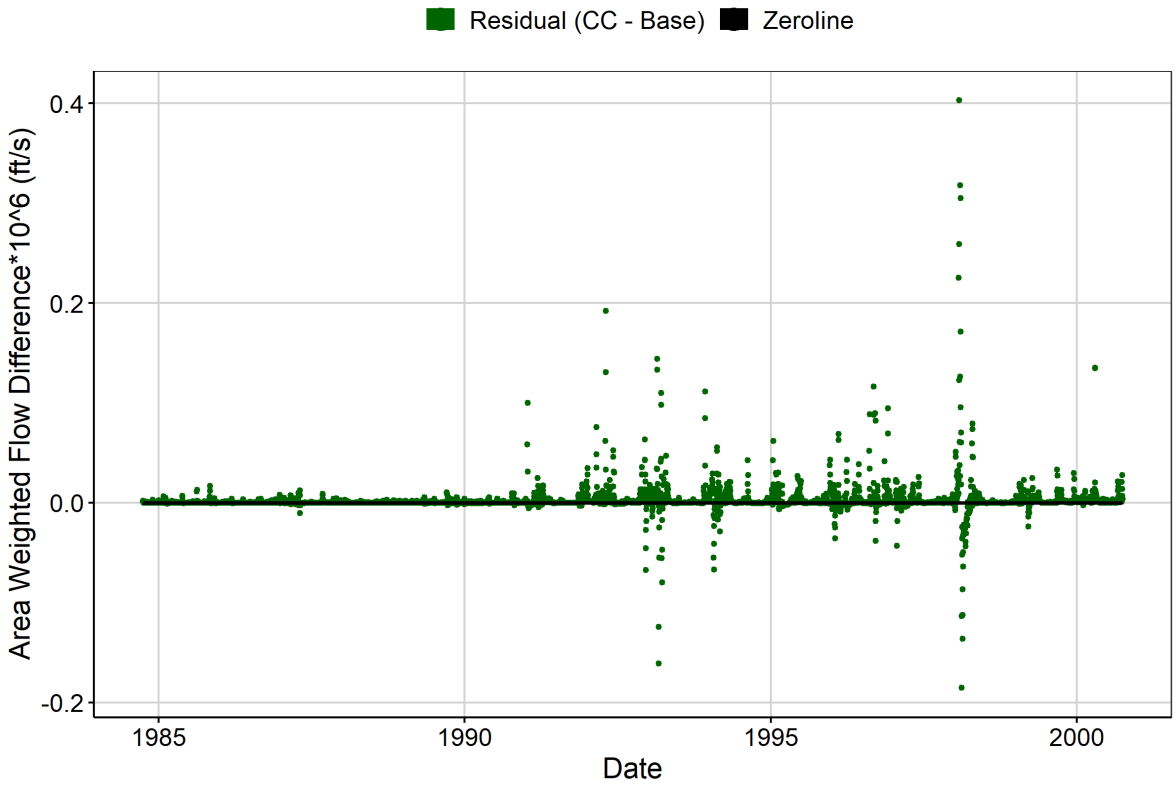
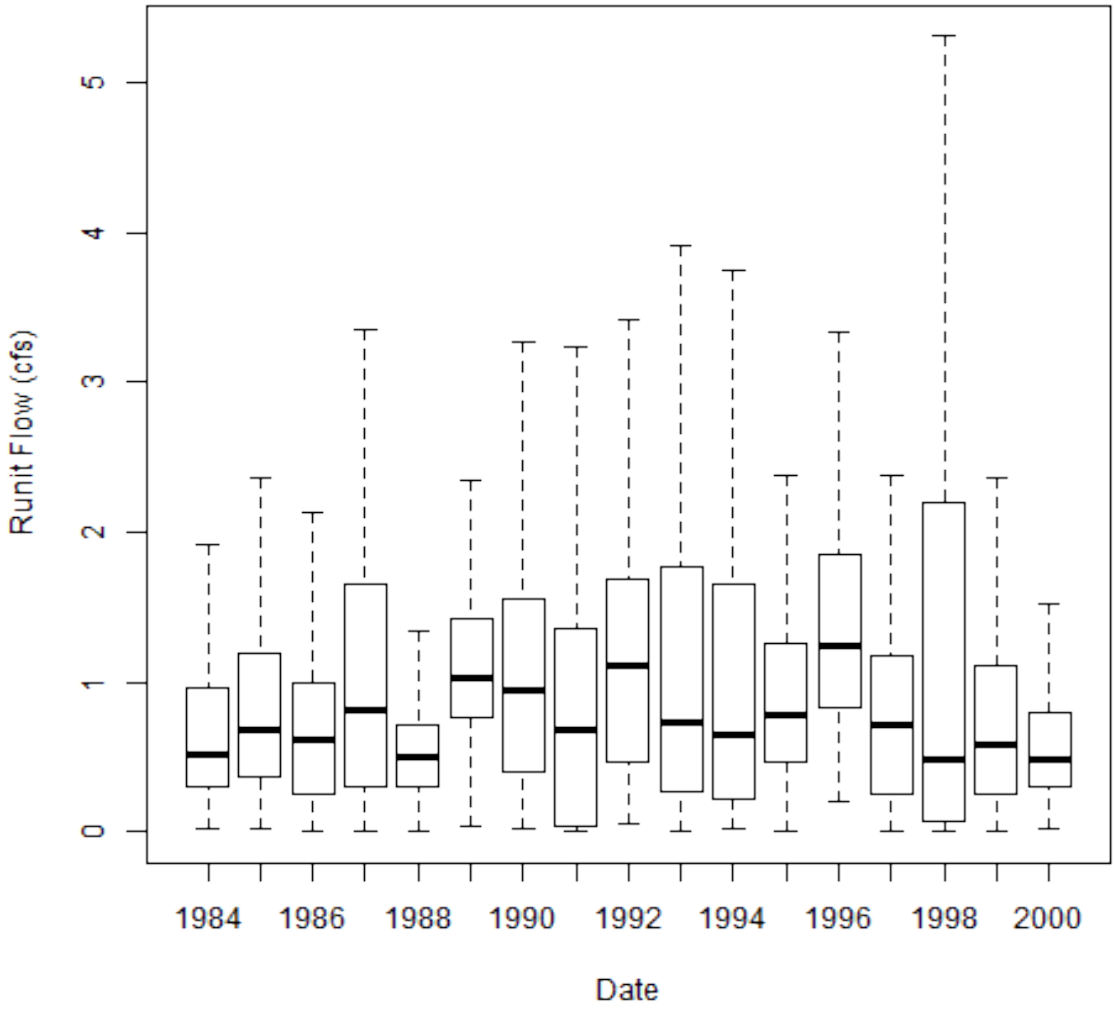


**Fig. 10: VA Hydro Scen. 1 Runit Values (Outliers Excluded)**




| | IQR of Runit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1984 | 1.04 [0.312, 1.35] |
| 1985 | 1.04 [0.312, 1.35] |
| 1986 | 1.04 [0.312, 1.35] |
| 1987 | 1.04 [0.312, 1.35] |
| 1988 | 1.04 [0.312, 1.35] |
| 1989 | 1.04 [0.312, 1.35] |
| 1990 | 1.04 [0.312, 1.35] |
| 1991 | 1.04 [0.312, 1.35] |
| 1992 | 1.04 [0.312, 1.35] |
| 1993 | 1.04 [0.312, 1.35] |
| 1994 | 1.04 [0.312, 1.35] |
| 1995 | 1.04 [0.312, 1.35] |

| | IQR of Runit Flows (cfs/sq. mi) [25th, 75th] |
|---|---|
| 1996 | 1.04 [0.312, 1.35] |
| 1997 | 1.04 [0.312, 1.35] |
| 1998 | 1.04 [0.312, 1.35] |
| 1999 | 1.04 [0.312, 1.35] |
| 2000 | 1.04 [0.312, 1.35] |

**Fig. 11: Smallest Difference Period**

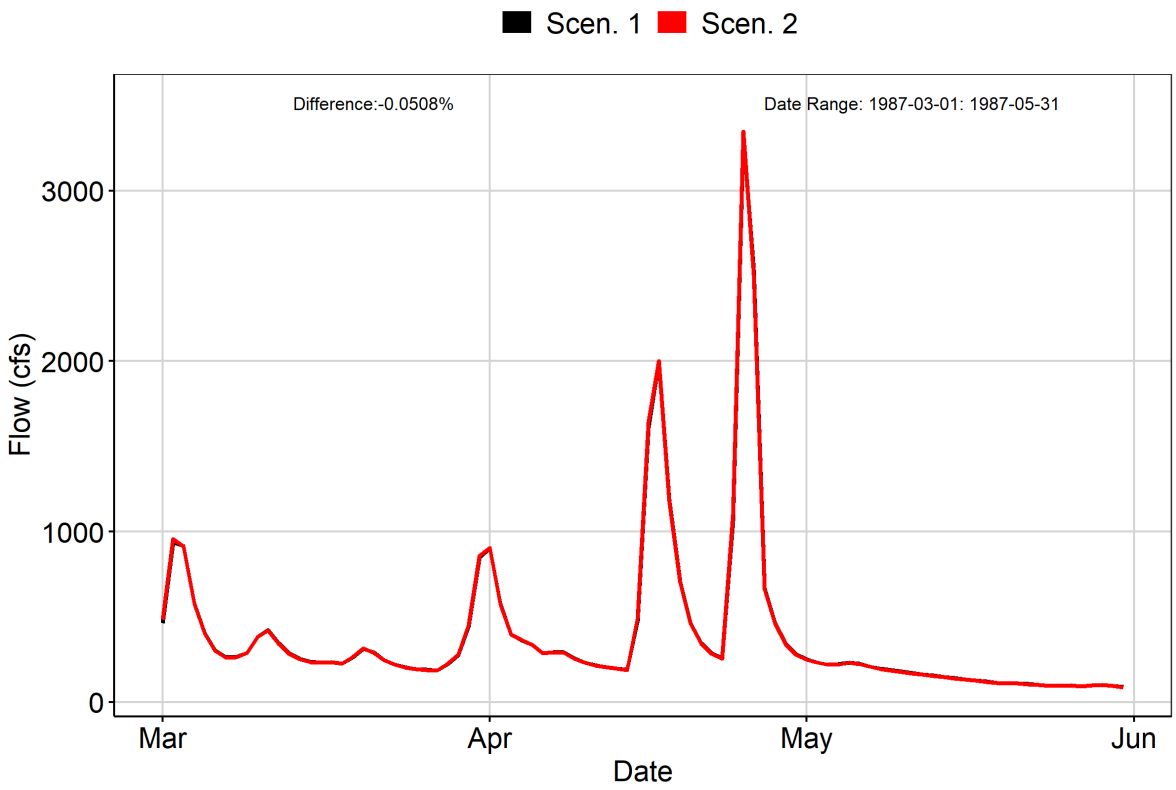


**Fig. 12: Second Smallest Difference Period**

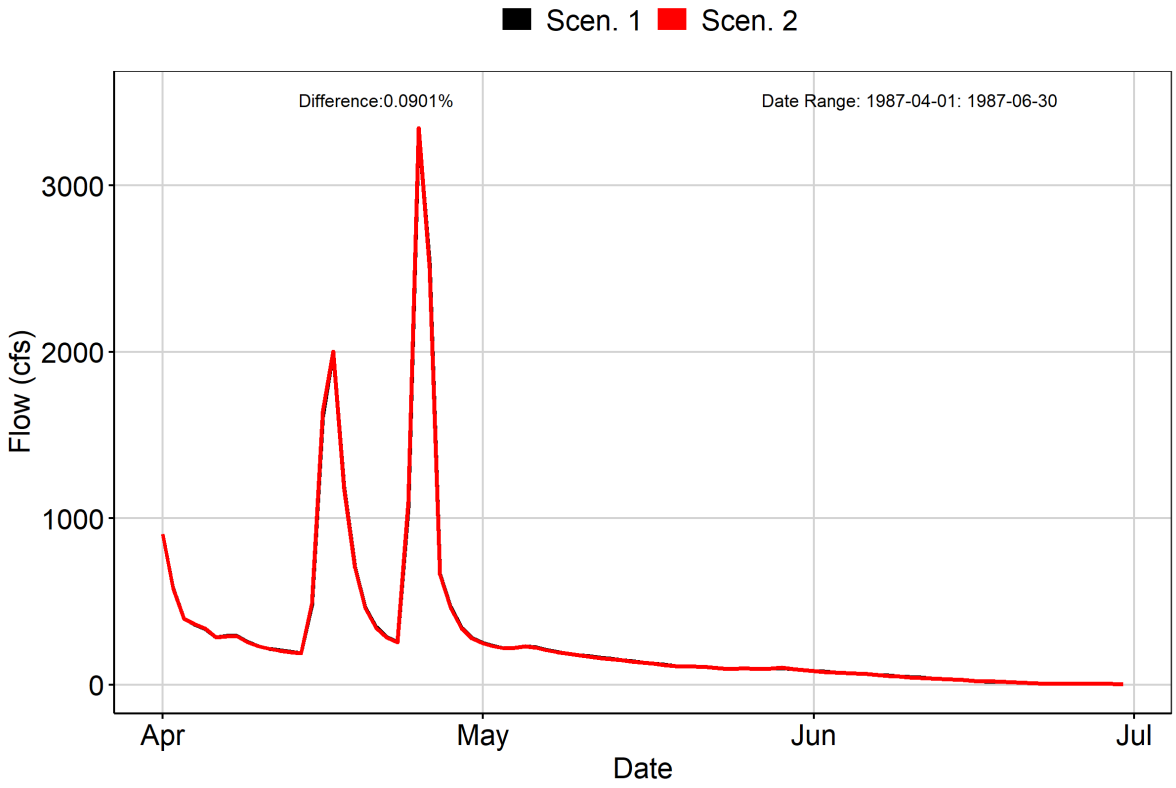


**Fig. 13: Third Smallest Difference Period**