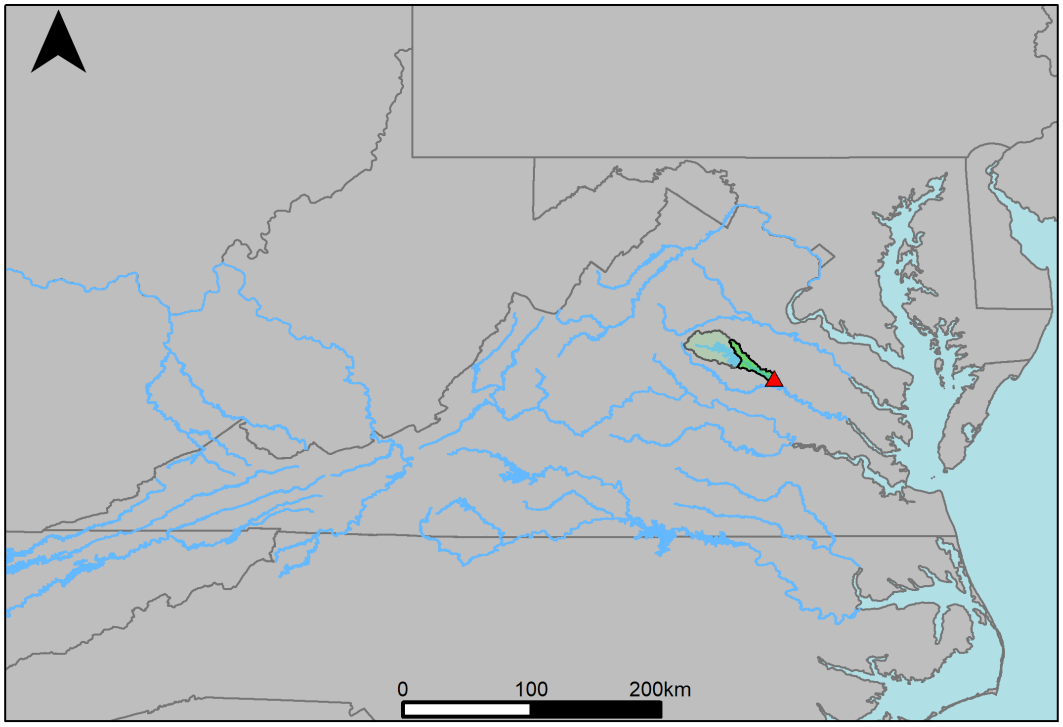
River Segment YP3_6330_6700: VA Hydro Run 11 vs. USGS Gage 01671020



This river segment follows part of the flow of the North Anna River at Hart Corner near Doswell, VA. Gage 01671020 is located in Hanover County, VA (Lat 37 51'00", Long 77 25'41") approximately 2.1 miles east of Doswell, VA. Drainage area is 462 sq. miles. This gage started taking data in 1979 and has been taking data periodically until now. Diversion at a point 0.8 mi upstream from station since 1973. Maximum discharge, 12,000 ft<U+00B3>/s, from rating curve extended above 10,100 ft<U+00B3>/s. The average daily discharge change between scenario 1 and scenario 2 for the 20 year timespan was -17.3797%, with 55% of its rolling three month time spans above 20% difference. The Nash-Sutcliffe Efficiency of the model, calculated between the gage and scenario data, was found to be 0.058.

Table 1: Monthly Low Flows

	VA Hydro: Runid_11_gage_timespan	VA Hydro: Runid_weighted	Pct. Difference
Jan. Low Flow	53.7	46.5	-13.4
Feb. Low Flow	69.5	53.2	-23.5
Mar. Low Flow	145	65	-55.2
Apr. Low Flow	181	81	-55.2
May Low Flow	191	134	-29.8
Jun. Low Flow	207	190	-8.21
Jul. Low Flow	173	110	-36.4
Aug. Low Flow	127	78.9	-37.9
Sep. Low Flow	108	67	-38
Oct. Low Flow	67.2	49.6	-26.2
Nov. Low Flow	54	41.3	-23.5
Dec. Low Flow	53.2	43.4	-18.4

Table 2: Monthly Average Flows

	VA Hydro: Runid_11_gage_timespan	VA Hydro: Runid_weighted	Pct. Difference
Overall Mean Flow	374	309	-17.4
Jan. Mean Flow	477	352	-26.2
Feb. Mean Flow	493	399	-19.1
Mar. Mean Flow	619	541	-12.6
Apr. Mean Flow	493	432	-12.4
May Mean Flow	444	422	-4.95
Jun. Mean Flow	276	274	-0.72
Jul. Mean Flow	153	113	-26.1
Aug. Mean Flow	108	87.2	-19.3
Sep. Mean Flow	259	203	-21.6
Oct. Mean Flow	243	143	-41.2
Nov. Mean Flow	383	297	-22.5
Dec. Mean Flow	548	448	-18.2

Table 3: Monthly High Flows

	VA Hydro: Runid_11_gage_timespan	VA Hydro: Runid_weighted	Pct. Difference
Jan. High Flow	603	228	-62.2
Feb. High Flow	540	304	-43.7
Mar. High Flow	1340	742	-44.6
Apr. High Flow	962	907	-5.72
May High Flow	736	668	-9.24
Jun. High Flow	1650	2040	23.6
Jul. High Flow	1410	1760	24.8
Aug. High Flow	778	1010	29.8
Sep. High Flow	383	629	64.2
Oct. High Flow	237	198	-16.5
Nov. High Flow	163	104	-36.2
Dec. High Flow	274	198	-27.7

Table 4: Period Low Flows

	VA Hydro: Runid_11_gage_timespan	VA Hydro: Runid_weighted	Pct. Difference
Min. 1 Day Min	40.6	7.58	-81.3
Med. 1 Day Min	45.5	34.3	-24.6
Min. 3 Day Min	40.6	9.01	-77.8
Med. 3 Day Min	45.9	35.2	-23.3
Min. 7 Day Min	40.7	12.7	-68.8
Med. 7 Day Min	46.9	36.2	-22.8
Min. 30 Day Min	42	17.3	-58.8
Med. 30 Day Min	55.8	45.7	-18.1
Min. 90 Day Min	48.2	30.4	-36.9
Med. 90 Day Min	96.6	60.5	-37.4
7Q10	41.5	22.6	-45.5
Year of 90-Day Min. Flow	2000	2010	0.3
Drought Year Mean	68.7	201	193
Mean Baseflow	170	137	-19.4

Table 5: Period High Flows

	VA Hydro: Runid_11_gage_timespan	VA Hydro: Runid_weighted	Pct. Difference
Max. 1 Day Max	8660	10700	23.6
Med. 1 Day Max	3260	4030	23.6
Max. 3 Day Max	7190	8190	13.9
Med. 3 Day Max	2770	2990	7.94
Max. 7 Day Max	4780	4420	-7.53
Med. 7 Day Max	2080	2060	-0.96
Max. 30 Day Max	2340	1850	-20.9
Med. 30 Day Max	1040	915	-12
Max. 90 Day Max	1380	1110	-19.6
Med. 90 Day Max	628	552	-12.1

Table 6: Non-Exceedance Flows

	VA Hydro: Runid_11_gage_timespan	VA Hydro: Runid_weighted	Pct. Difference
1% Non-Exceedance	42.3	24.7	-41.6
5% Non-Exceedance	47.1	36.6	-22.3
50% Non-Exceedance	203	108	-46.8
95% Non-Exceedance	1330	1010	-24.1
99% Non-Exceedance	2840	2950	3.87
Sept. 10% Non-Exceedance	46.1	37.2	-19.3

Fig. 1: Hydrograph

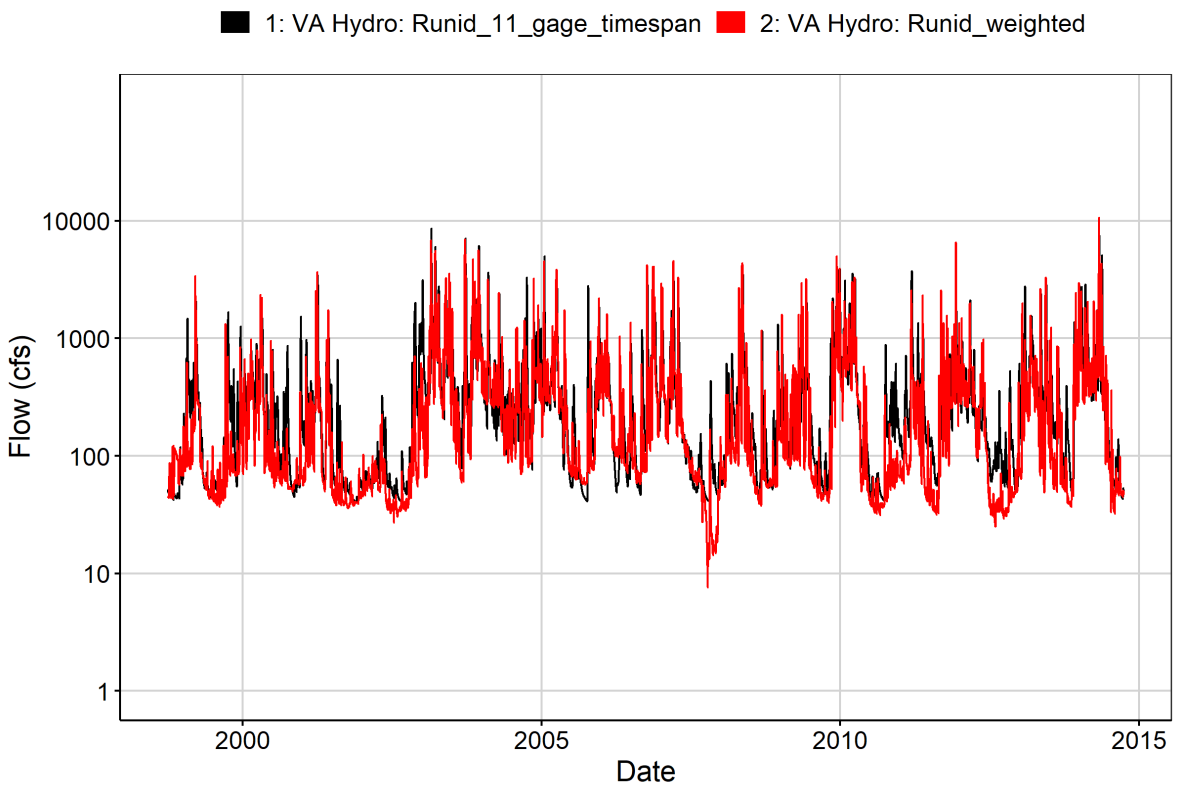


Fig. 2: Zoomed Hydrograph

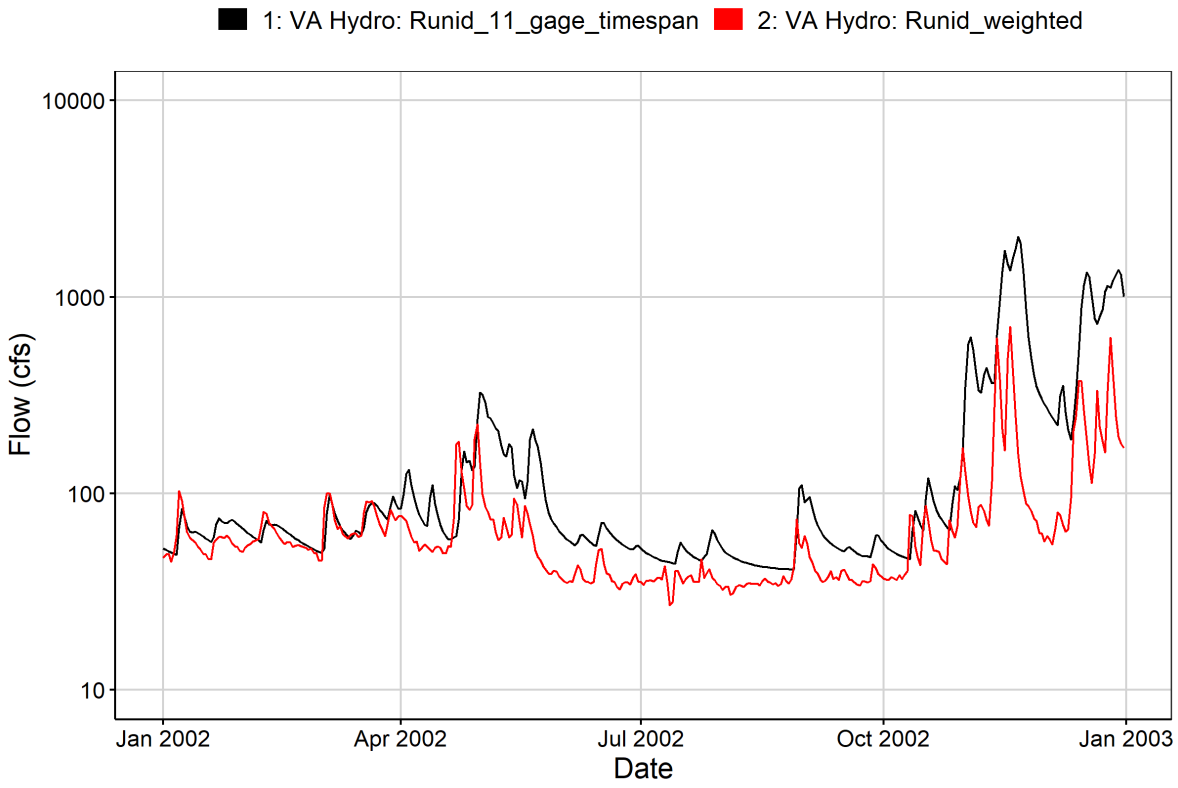


Fig. 3: Flow Exceedance

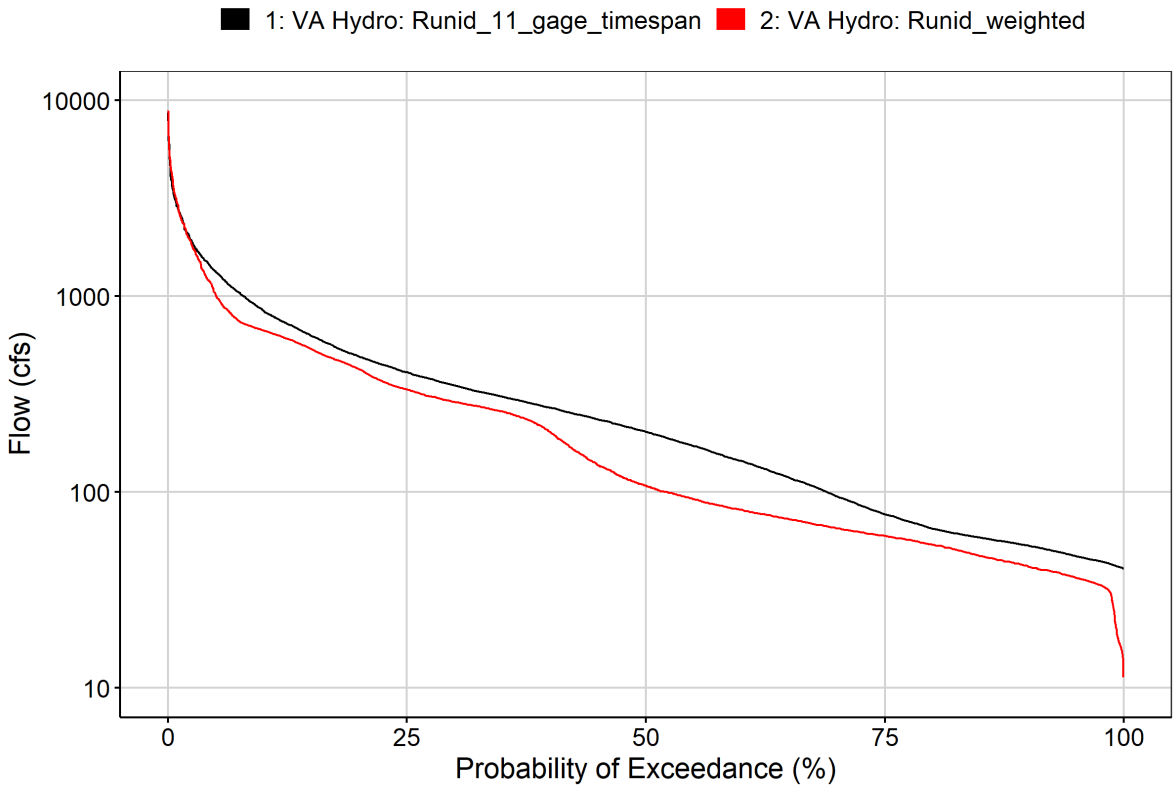


Fig. 4: Baseflow

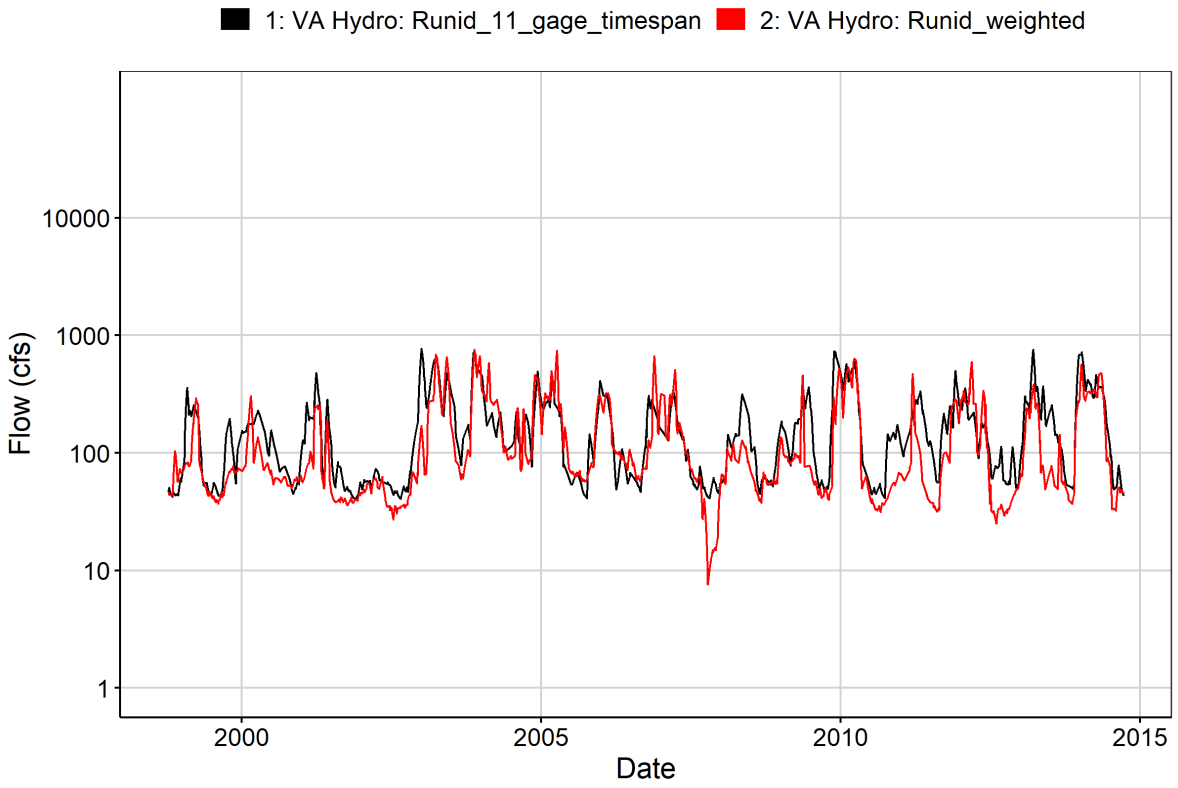


Fig. 5: Combined Baseflow

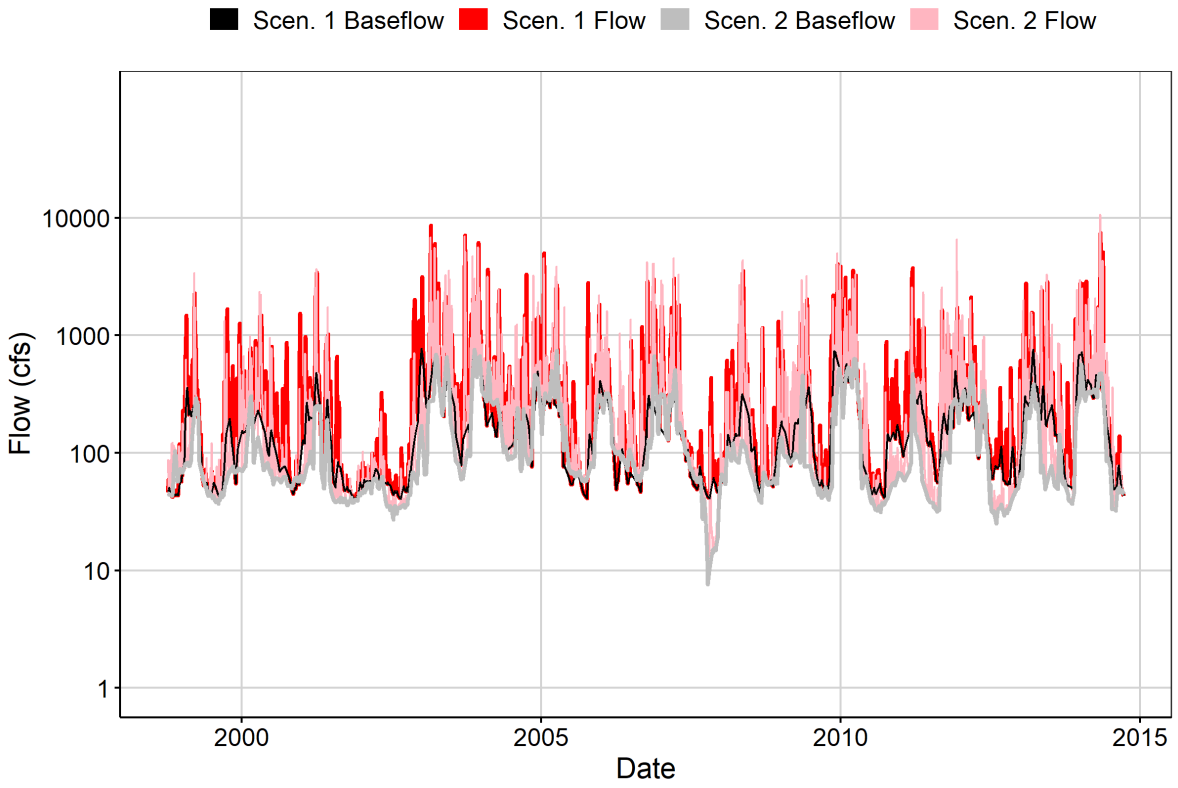


Fig. 6: Largest Difference Period

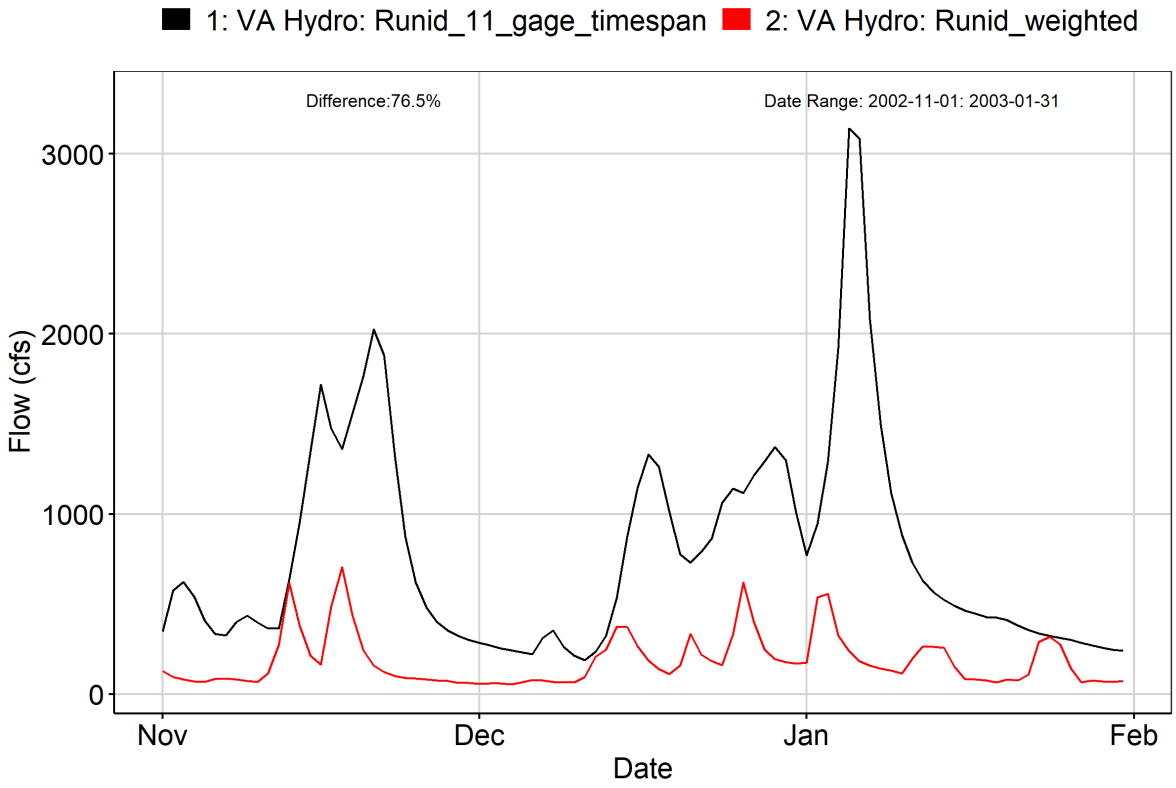


Fig. 7: Second Largest Difference Period

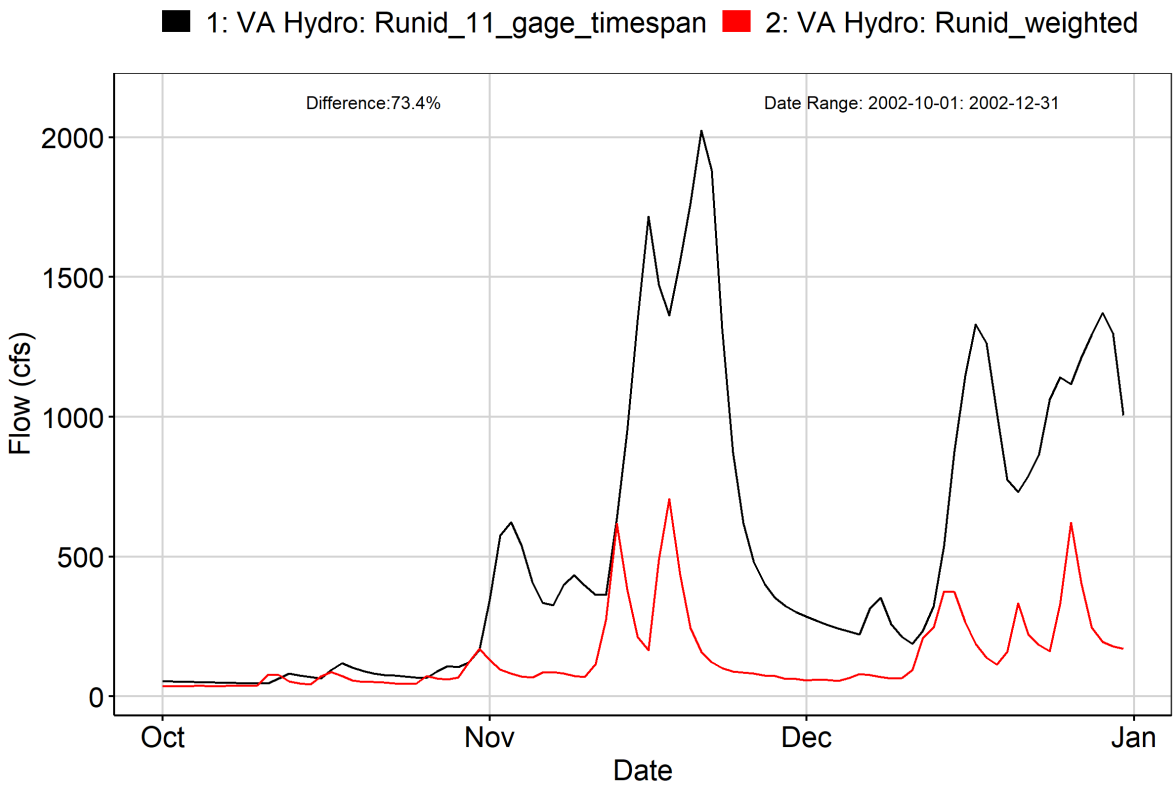


Fig. 8: Third Largest Difference Period

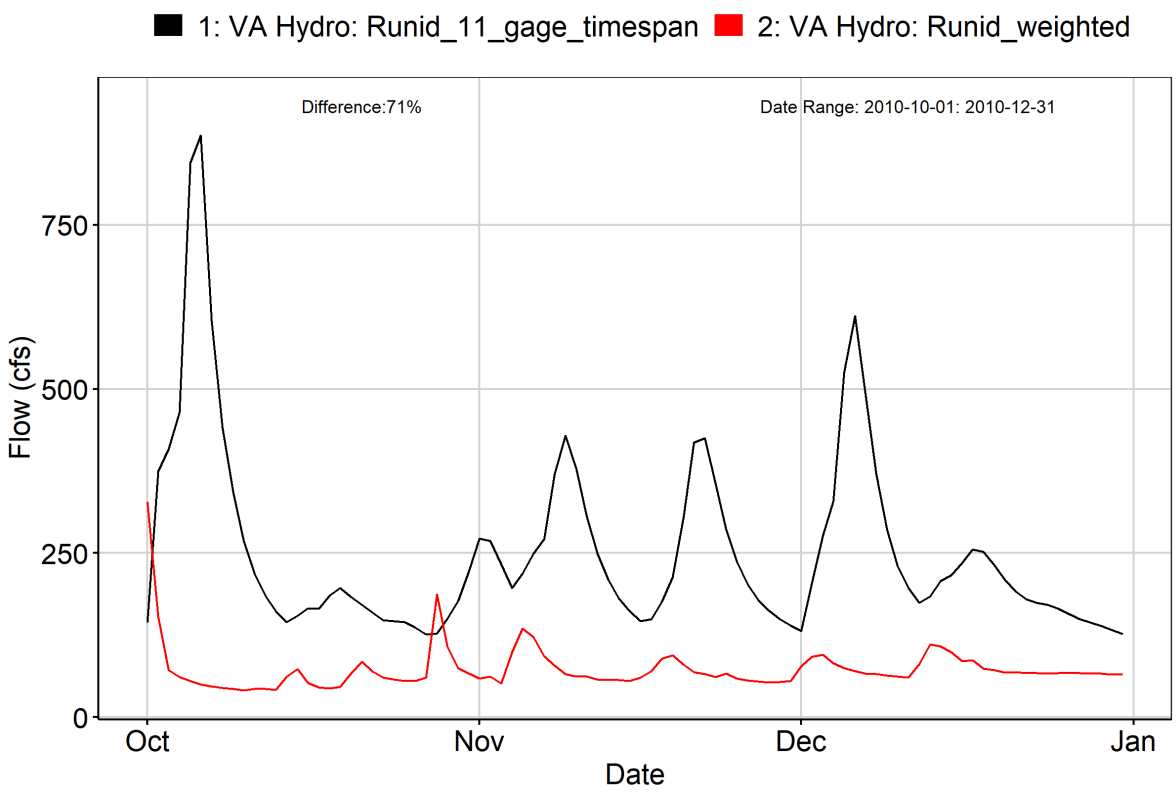


Fig. 9A: Residuals Plot

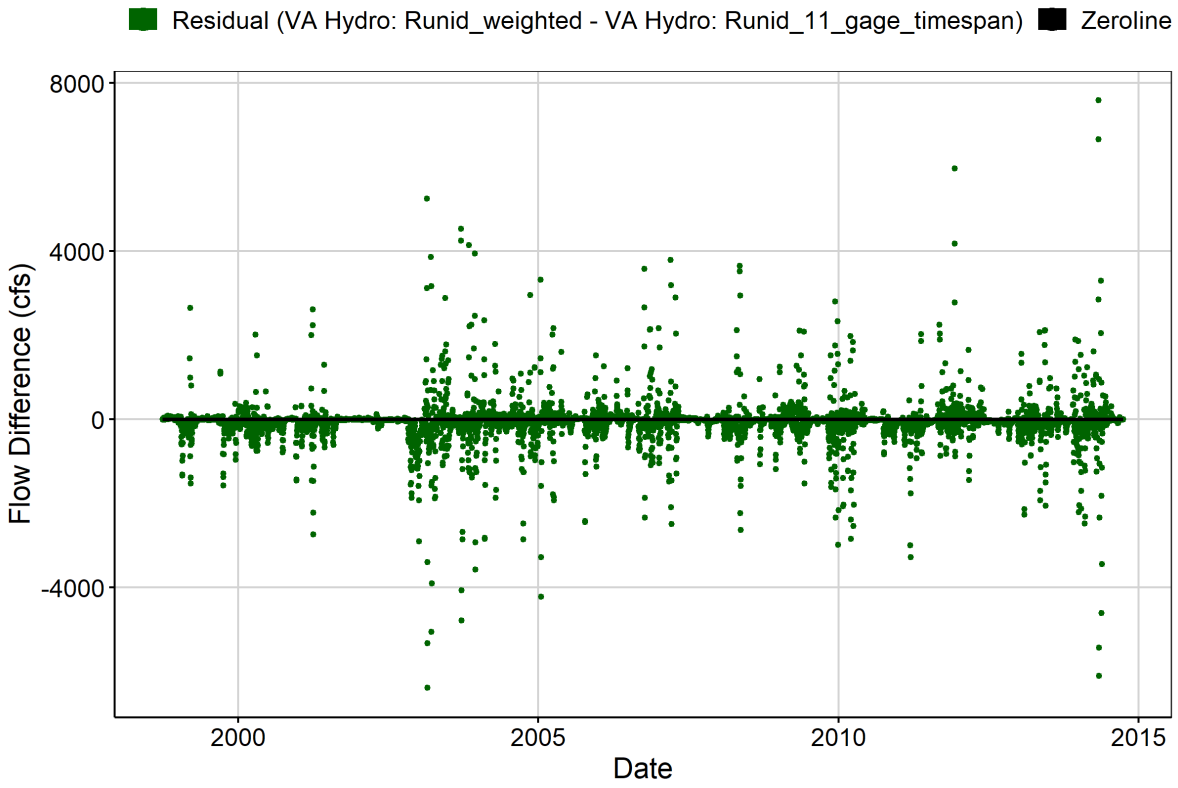


Fig. 9B: Area Weighted Residuals Plot

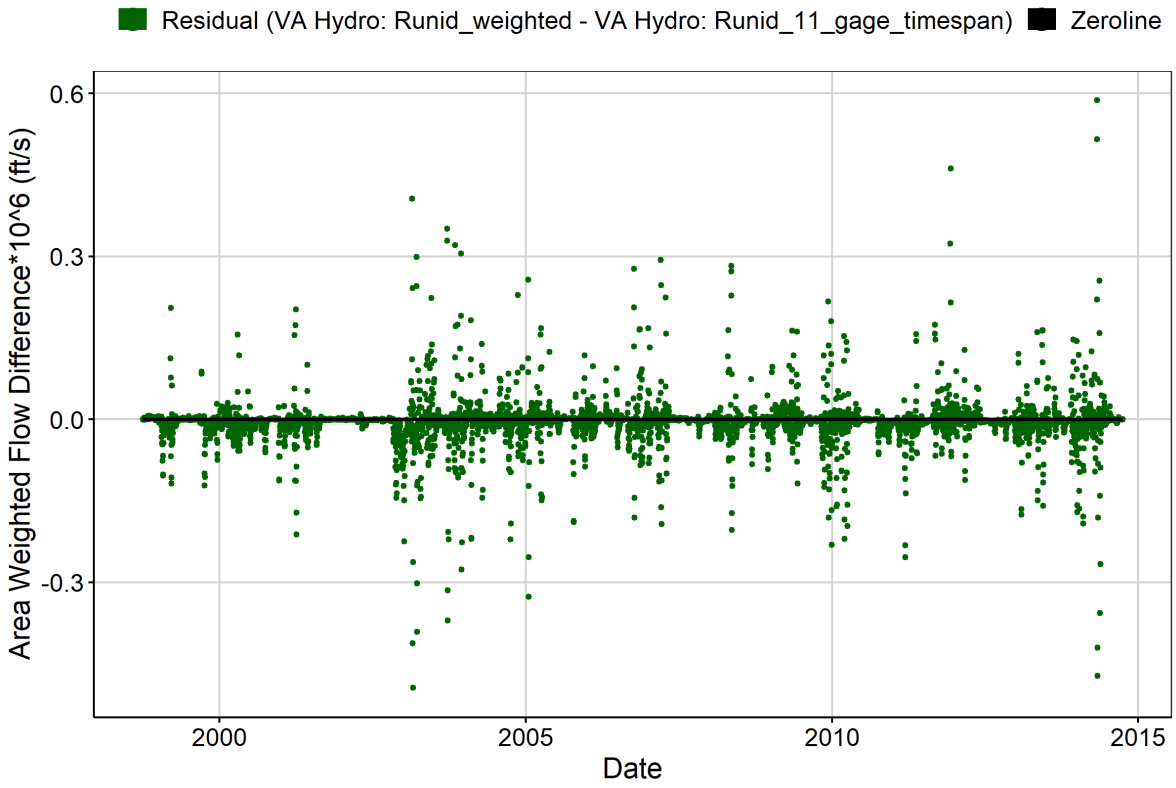
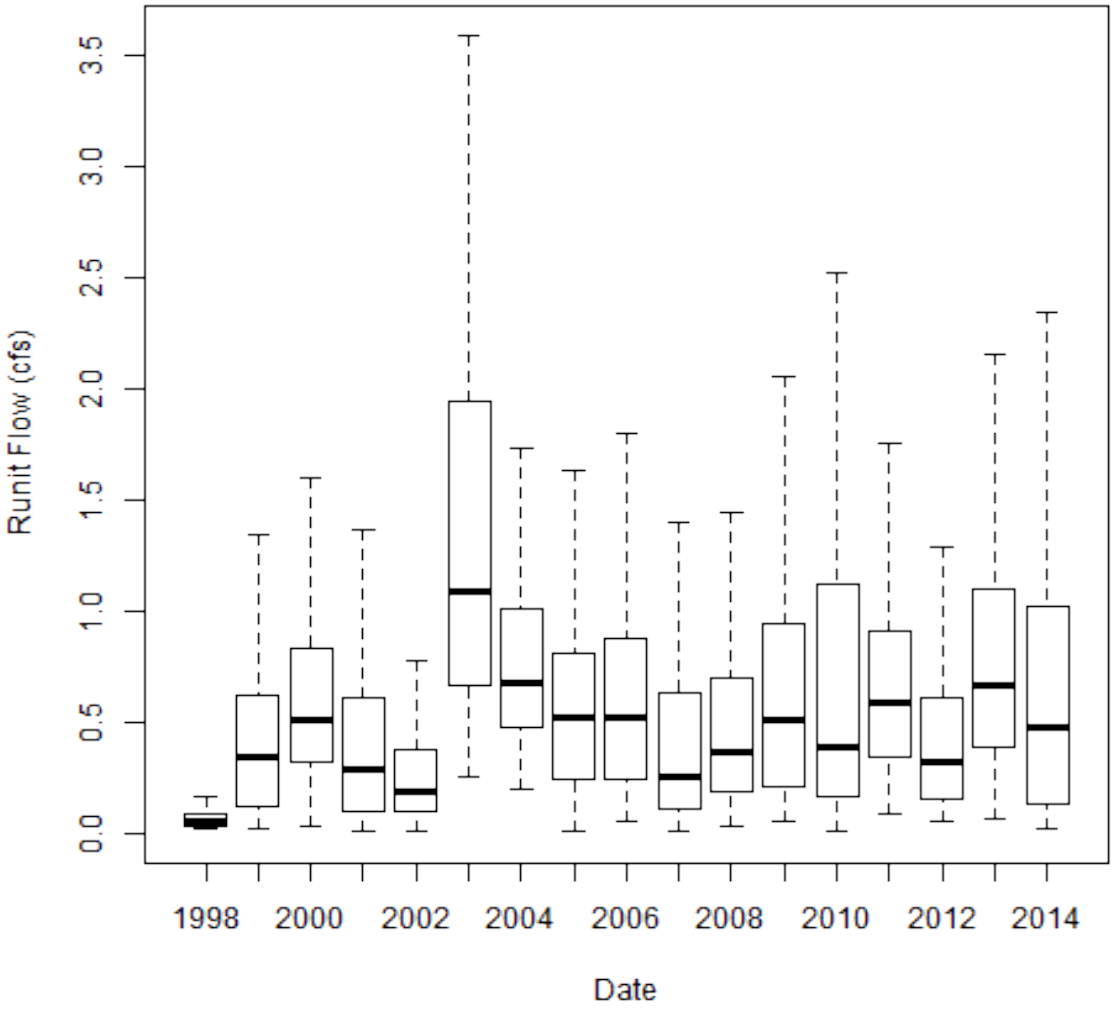


Fig. 10: VA Hydro Scen. 1 Runit Values (Outliers Excluded)



Tab: Annual IQR of Local Runoff Inflows

	IQR of Runit Flows (cfs/sq. mi) [25th, 75th]
1998	0.0547 [0.0335, 0.0882]
1999	0.498 [0.119, 0.617]
2000	0.511 [0.313, 0.824]
2001	0.512 [0.0991, 0.611]
2002	0.276 [0.0926, 0.369]
2003	1.27 [0.66, 1.93]
2004	0.536 [0.474, 1.01]
2005	0.567 [0.241, 0.808]

	IQR of Runit Flows (cfs/sq. mi) [25th, 75th]
2006	0.633 [0.24, 0.873]
2007	0.525 [0.106, 0.631]
2008	0.503 [0.187, 0.69]
2009	0.739 [0.205, 0.944]
2010	0.957 [0.163, 1.12]
2011	0.566 [0.343, 0.909]
2012	0.455 [0.153, 0.608]
2013	0.708 [0.382, 1.09]
2014	0.892 [0.128, 1.02]

Fig. 11: Smallest Difference Period

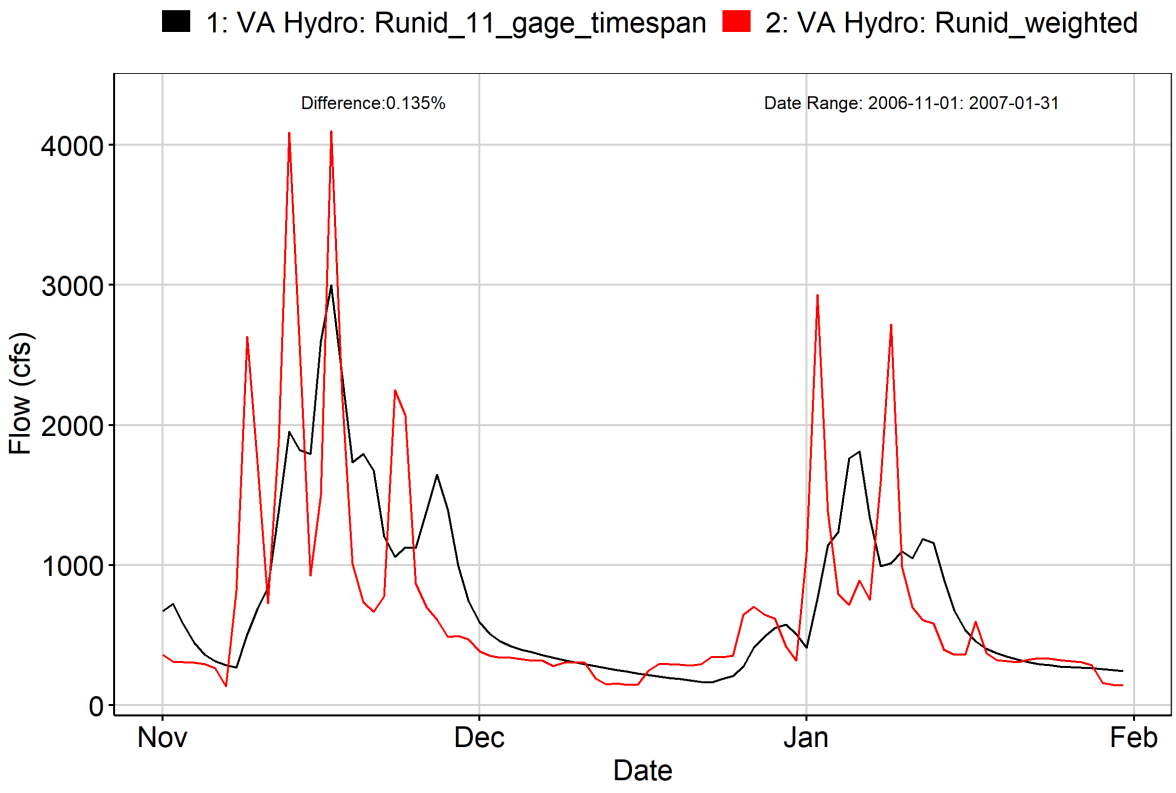


Fig. 12: Second Smallest Difference Period

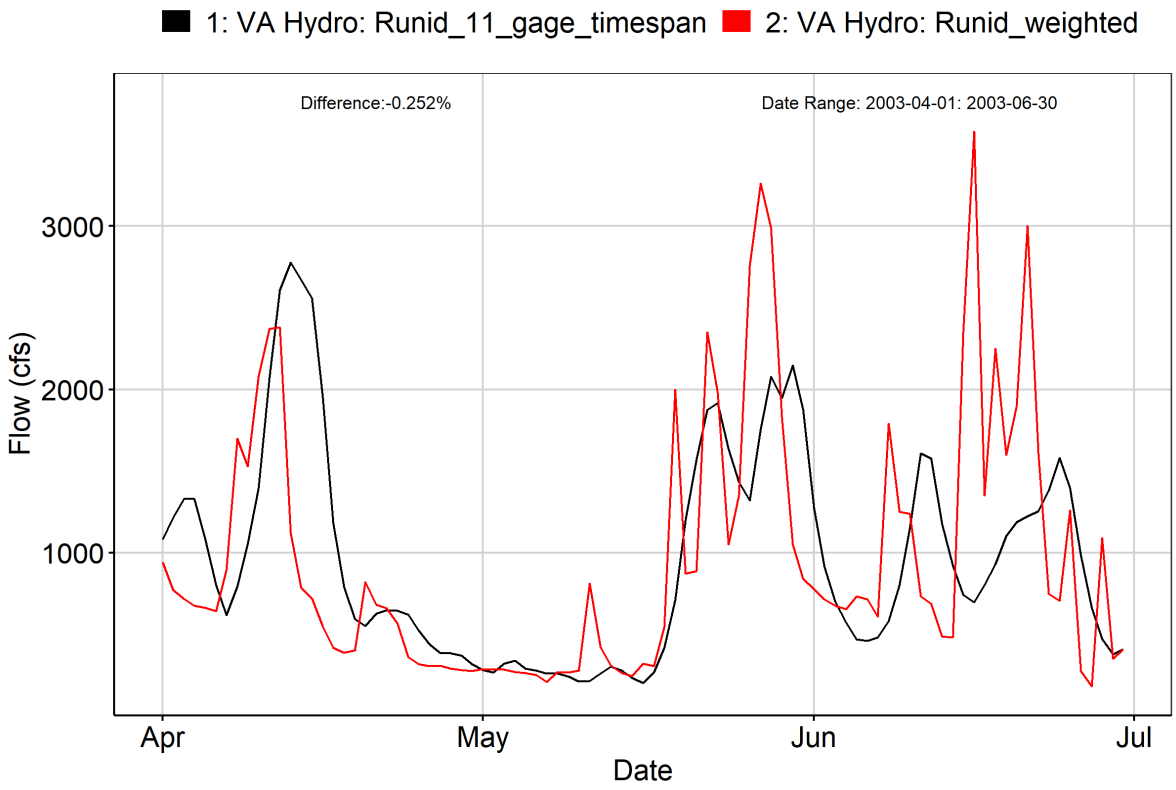
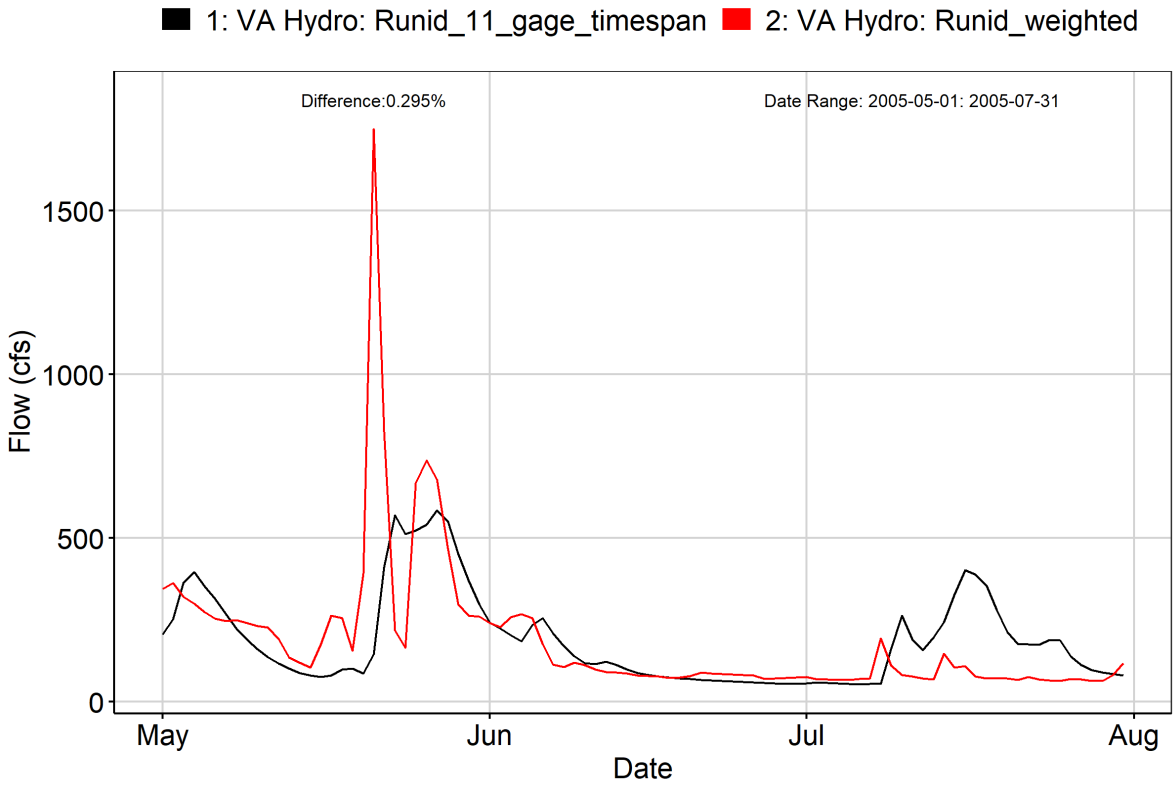


Fig. 13: Third Smallest Difference Period



Additional Tables: Land-River Segment Flow Metrics

Tab: Mean Flows by Flow Type: LR-Seg cbp6_N51085_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
SURface Outflow	0.00147
InterFloW Outflow	0.000212
Active GroundWater Outflow	0.000629

Tab: Ratio of Zero-Flow Days by Flow Type: LR-Seg cbp6_N51085_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
SURface Outflow	0.701
InterFloW Outflow	0.468
Active GroundWater Outflow	0.326

Tab: IQR for SURface Outflow: LR-Seg cbp6_N51085_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	0 [0, 0]
1999	1.01e-09 [0, 1.01e-09]
2000	3.02e-06 [0, 3.02e-06]
2001	0 [0, 0]
2002	5.64e-09 [0, 5.64e-09]
2003	1.77e-05 [0, 1.77e-05]
2004	5.62e-06 [0, 5.62e-06]
2005	1.66e-08 [0, 1.66e-08]
2006	4.6e-10 [0, 4.6e-10]
2007	0 [0, 0]
2008	8.63e-08 [0, 8.63e-08]
2009	2.38e-06 [0, 2.38e-06]
2010	2.17e-07 [0, 2.17e-07]
2011	8.32e-07 [0, 8.32e-07]
2012	9.22e-08 [0, 9.22e-08]
2013	6.64e-06 [0, 6.64e-06]
2014	5.8e-07 [0, 5.8e-07]

Tab: IQR for InterFloW Outflow: LR-Seg cbp6_N51085_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	1.6e-06 [0, 1.6e-06]
1999	4.03e-05 [0, 4.03e-05]
2000	5.46e-05 [0, 5.46e-05]
2001	1.87e-05 [0, 1.87e-05]
2002	1.81e-05 [0, 1.81e-05]
2003	0.000302 [0, 0.000302]
2004	0.00011 [0, 0.00011]
2005	5.04e-05 [0, 5.04e-05]
2006	5.11e-05 [0, 5.11e-05]
2007	1.64e-05 [0, 1.64e-05]
2008	2.91e-05 [0, 2.91e-05]
2009	5.46e-05 [0, 5.46e-05]
2010	3.15e-05 [0, 3.15e-05]
2011	7.15e-05 [0, 7.15e-05]
2012	2.73e-05 [0, 2.73e-05]
2013	0.000126 [0, 0.000126]
2014	6.18e-05 [0, 6.18e-05]

Tab: IQR for Active GroundWater Outflow: LR-Seg cbp6_N51085_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	0.000162 [0, 0.000162]
1999	0.000827 [0, 0.000827]
2000	0.000945 [0, 0.000945]
2001	0.000743 [0, 0.000743]
2002	0.000594 [0, 0.000594]
2003	0.00175 [0, 0.00175]
2004	0.00131 [0, 0.00131]
2005	0.000936 [0, 0.000936]
2006	0.00118 [0, 0.00118]
2007	0.000733 [0, 0.000733]
2008	0.000843 [0, 0.000843]
2009	0.00112 [0, 0.00112]
2010	0.00101 [0, 0.00101]
2011	0.00107 [0, 0.00107]
2012	0.00075 [0, 0.00075]
2013	0.00142 [0, 0.00142]
2014	0.00112 [0, 0.00112]

Tab: Mean Flows by Land Use: LR-Seg cbp6_N51085_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
aop	0.000458
cch	0.00068
cci	0.00129
ccn	0.000695
cfr	0.000392
cir	0.00129
cmo	0.000407
cnr	0.00129
ctg	0.00068
dbl	0.000485
fnp	0.00129
for	0.000393
fsp	0.00129
gom	0.000485
gwm	0.000485
hfr	0.000535
lhy	0.000458
mch	0.00068
mci	0.00129
mcn	0.000695
mir	0.00129
mnr	0.00129
mtg	0.00068
nch	0.00068
nci	0.00129
nir	0.00129
nnr	0.00129
ntg	0.00068
oac	0.000485
ohy	0.000458
osp	0.000408
pas	0.000458
sch	0.000485
scl	0.000485
sgg	0.000485
sho	0.00129
som	0.000485
soy	0.000485
stb	0.00129
stf	0.00129
swm	0.000485
wfp	0.000393
wto	0.000393

Tab: Ratio of Zero-Flow Days by Land Use: LR-Seg cbp6_N51085_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
aop	0.302
cch	0.29
cci	0.911
ccn	0.281
cfr	0.328
cir	0.911
cmo	0.314
cnr	0.911
ctg	0.29
dbl	0.293
fnp	0.908
for	0.33
fsp	0.908
gom	0.293
gwm	0.293
hfr	0.288
lhy	0.302
mch	0.29
mci	0.911
mcn	0.281
mir	0.911
mnr	0.911
mtg	0.29
nch	0.29
nci	0.911
nir	0.911
nnr	0.911
ntg	0.29
oac	0.293
ohy	0.302
osp	0.317
pas	0.302
sch	0.293
scl	0.293
sgg	0.293
sho	0.911
som	0.293
soy	0.293
stb	0.911
stf	0.911
swm	0.293
wfp	0.33
wto	0.33

Tab: Mean Flows by Flow Type: LR-Seg cbp6_N51033_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
SURface Outflow	0.00152
InterFloW Outflow	0.000255
Active GroundWater Outflow	0.000519

Tab: Ratio of Zero-Flow Days by Flow Type: LR-Seg cbp6_N51033_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
SURface Outflow	0.705
InterFloW Outflow	0.486
Active GroundWater Outflow	0.326

Tab: IQR for SURface Outflow: LR-Seg cbp6_N51033_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	0 [0, 0]
1999	1.23e-09 [0, 1.23e-09]
2000	3.21e-06 [0, 3.21e-06]
2001	0 [0, 0]
2002	2.78e-09 [0, 2.78e-09]
2003	4.19e-05 [0, 4.19e-05]
2004	5.81e-06 [0, 5.81e-06]
2005	3.47e-09 [0, 3.47e-09]
2006	1.83e-09 [0, 1.83e-09]
2007	0 [0, 0]
2008	2.52e-08 [0, 2.52e-08]
2009	5.79e-06 [0, 5.79e-06]
2010	6.66e-07 [0, 6.66e-07]
2011	4.37e-06 [0, 4.37e-06]
2012	1.88e-09 [0, 1.88e-09]
2013	5.69e-06 [0, 5.69e-06]
2014	2.69e-07 [0, 2.69e-07]

Tab: IQR for InterFloW Outflow: LR-Seg cbp6_N51033_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	1.3e-06 [0, 1.3e-06]
1999	4.42e-05 [0, 4.42e-05]
2000	7.65e-05 [0, 7.65e-05]
2001	2.34e-05 [0, 2.34e-05]
2002	2.13e-05 [0, 2.13e-05]
2003	0.000338 [0, 0.000338]
2004	9.2e-05 [0, 9.2e-05]
2005	6.84e-05 [0, 6.84e-05]
2006	5.57e-05 [0, 5.57e-05]
2007	1.02e-05 [0, 1.02e-05]
2008	4.18e-05 [0, 4.18e-05]
2009	6.89e-05 [0, 6.89e-05]
2010	3.96e-05 [0, 3.96e-05]
2011	9.66e-05 [0, 9.66e-05]
2012	2.91e-05 [0, 2.91e-05]
2013	9.51e-05 [0, 9.51e-05]
2014	4.61e-05 [0, 4.61e-05]

Tab: IQR for Active GroundWater Outflow: LR-Seg cbp6_N51033_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	0.000153 [0, 0.000153]
1999	0.000732 [0, 0.000732]
2000	0.000858 [0, 0.000858]
2001	0.000645 [0, 0.000645]
2002	0.000449 [0, 0.000449]
2003	0.00145 [0, 0.00145]
2004	0.00102 [0, 0.00102]
2005	0.000869 [0, 0.000869]
2006	0.000989 [0, 0.000989]
2007	0.000549 [0, 0.000549]
2008	0.000767 [0, 0.000767]
2009	0.000985 [0, 0.000985]
2010	0.000833 [0, 0.000833]
2011	0.00096 [0, 0.00096]
2012	0.000624 [0, 0.000624]
2013	0.00107 [0, 0.00107]
2014	0.000922 [0, 0.000922]

Tab: Mean Flows by Land Use: LR-Seg cbp6_N51033_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
aop	0.000469
cch	0.000689
cci	0.00124
ccn	0.000709
cfr	0.000407
cir	0.00124
cmo	0.000423
cnr	0.00124
ctg	0.000689
dbl	0.000497
fnp	0.00124
for	0.000408
fsp	0.00124
gom	0.000497
gwm	0.000497
hfr	0.000538
lhy	0.000468
mch	0.000689
mci	0.00124
mcn	0.000709
mir	0.00124
mnr	0.00124
mtg	0.000689
nch	0.000689
nci	0.00124
nir	0.00124
nnr	0.00124
ntg	0.000689
oac	0.000497
ohy	0.000468
osp	0.000423
pas	0.000468
sch	0.000497
scl	0.000497
sgg	0.000497
sho	0.00124
som	0.000497
soy	0.000497
stb	0.00124
stf	0.00124
swm	0.000497
wfp	0.000408
wto	0.000408

Tab: Ratio of Zero-Flow Days by Land Use: LR-Seg cbp6_N51033_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
aop	0.311
cch	0.302
cci	0.91
ccn	0.297
cfr	0.338
cir	0.91
cmo	0.323
cnr	0.91
ctg	0.302
dbl	0.302
fnp	0.91
for	0.341
fsp	0.91
gom	0.302
gwm	0.302
hfr	0.3
lhy	0.315
mch	0.302
mci	0.91
mcn	0.297
mir	0.91
mnr	0.91
mtg	0.302
nch	0.302
nci	0.91
nir	0.91
nnr	0.91
ntg	0.302
oac	0.302
ohy	0.315
osp	0.324
pas	0.315
sch	0.302
scl	0.302
sgg	0.302
sho	0.91
som	0.302
soy	0.302
stb	0.91
stf	0.91
swm	0.302
wfp	0.341
wto	0.341

Tab: Mean Flows by Flow Type: LR-Seg cbp6_N51109_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
SURface Outflow	0.00166
InterFloW Outflow	0.000243
Active GroundWater Outflow	0.000259

Tab: Ratio of Zero-Flow Days by Flow Type: LR-Seg cbp6_N51109_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
SURface Outflow	0.703
InterFloW Outflow	0.521
Active GroundWater Outflow	0.326

Tab: IQR for SURface Outflow: LR-Seg cbp6_N51109_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	0 [0, 0]
1999	1.31e-09 [0, 1.31e-09]
2000	5.55e-06 [0, 5.55e-06]
2001	0 [0, 0]
2002	8.45e-07 [0, 8.45e-07]
2003	0.000498 [0, 0.000498]
2004	3.57e-05 [0, 3.57e-05]
2005	7.52e-06 [0, 7.52e-06]
2006	0 [0, 0]
2007	0 [0, 0]
2008	1.8e-09 [0, 1.8e-09]
2009	2.07e-05 [0, 2.07e-05]
2010	1.91e-06 [0, 1.91e-06]
2011	2.13e-06 [0, 2.13e-06]
2012	4.32e-07 [0, 4.32e-07]
2013	4.55e-05 [0, 4.55e-05]
2014	2.82e-06 [0, 2.82e-06]

Tab: IQR for InterFloW Outflow: LR-Seg cbp6_N51109_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	5.81e-07 [0, 5.81e-07]
1999	4.28e-05 [0, 4.28e-05]
2000	5.74e-05 [0, 5.74e-05]
2001	1.51e-05 [0, 1.51e-05]
2002	2.82e-05 [0, 2.82e-05]
2003	0.000318 [0, 0.000318]
2004	0.000116 [0, 0.000116]
2005	8.76e-05 [0, 8.76e-05]
2006	4.04e-05 [0, 4.04e-05]
2007	1.09e-05 [0, 1.09e-05]
2008	2.66e-05 [0, 2.66e-05]
2009	9.37e-05 [0, 9.37e-05]
2010	3.48e-05 [0, 3.48e-05]
2011	7.17e-05 [0, 7.17e-05]
2012	3.08e-05 [0, 3.08e-05]
2013	0.000128 [0, 0.000128]
2014	5.37e-05 [0, 5.37e-05]

Tab: IQR for Active GroundWater Outflow: LR-Seg cbp6_N51109_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	6.73e-05 [0, 6.73e-05]
1999	0.000376 [0, 0.000376]
2000	0.000403 [0, 0.000403]
2001	0.000329 [0, 0.000329]
2002	0.000243 [0, 0.000243]
2003	0.00079 [0, 0.00079]
2004	0.000526 [0, 0.000526]
2005	0.000469 [0, 0.000469]
2006	0.000461 [0, 0.000461]
2007	0.000282 [0, 0.000282]
2008	0.000314 [0, 0.000314]
2009	0.000465 [0, 0.000465]
2010	0.000409 [0, 0.000409]
2011	0.00045 [0, 0.00045]
2012	0.000304 [0, 0.000304]
2013	0.000562 [0, 0.000562]
2014	0.000472 [0, 0.000472]

Tab: Mean Flows by Land Use: LR-Seg cbp6_N51109_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
aop	0.00043
cch	0.000633
cci	0.0012
ccn	0.000655
cfr	0.000374
cir	0.0012
cmo	0.000388
cnr	0.0012
ctg	0.000633
dbl	0.000462
fnp	0.0012
for	0.000374
fsp	0.0012
gom	0.000462
gwm	0.000462
hfr	0.000486
lhy	0.000429
mch	0.000633
mci	0.0012
mcn	0.000655
mir	0.0012
mnr	0.0012
mtg	0.000633
nch	0.000633
nci	0.0012
nir	0.0012
nnr	0.0012
ntg	0.000633
oac	0.000462
ohy	0.000429
osp	0.000388
pas	0.000429
sch	0.000462
scl	0.000462
sgg	0.000462
sho	0.0012
som	0.000462
soy	0.000462
stb	0.0012
stf	0.0012
swm	0.000462
wfp	0.000374
wto	0.000374

Tab: Ratio of Zero-Flow Days by Land Use: LR-Seg cbp6_N51109_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
aop	0.325
cch	0.333
cci	0.905
ccn	0.326
cfr	0.351
cir	0.905
cmo	0.335
cnr	0.905
ctg	0.333
dbl	0.319
fnp	0.905
for	0.357
fsp	0.905
gom	0.319
gwm	0.319
hfr	0.313
lhy	0.324
mch	0.333
mci	0.905
mcn	0.326
mir	0.905
mnr	0.905
mtg	0.333
nch	0.333
nci	0.905
nir	0.905
nnr	0.905
ntg	0.333
oac	0.319
ohy	0.324
osp	0.336
pas	0.324
sch	0.319
scl	0.319
sgg	0.319
sho	0.905
som	0.319
soy	0.319
stb	0.905
stf	0.905
swm	0.319
wfp	0.357
wto	0.357

Tab: Mean Flows by Flow Type: LR-Seg cbp6_N51177_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
SURface Outflow	0.00162
InterFloW Outflow	0.000252
Active GroundWater Outflow	0.000317

Tab: Ratio of Zero-Flow Days by Flow Type: LR-Seg cbp6_N51177_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
SURface Outflow	0.697
InterFloW Outflow	0.53
Active GroundWater Outflow	0.326

Tab: IQR for SURface Outflow: LR-Seg cbp6_N51177_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	0 [0, 0]
1999	2.95e-09 [0, 2.95e-09]
2000	3.46e-06 [0, 3.46e-06]
2001	0 [0, 0]
2002	0 [0, 0]
2003	0.000205 [0, 0.000205]
2004	8.58e-06 [0, 8.58e-06]
2005	6.19e-06 [0, 6.19e-06]
2006	1.14e-09 [0, 1.14e-09]
2007	6.56e-09 [0, 6.56e-09]
2008	7.63e-09 [0, 7.63e-09]
2009	1.11e-05 [0, 1.11e-05]
2010	1.81e-06 [0, 1.81e-06]
2011	6.66e-06 [0, 6.66e-06]
2012	8.05e-07 [0, 8.05e-07]
2013	8.54e-06 [0, 8.54e-06]
2014	1.44e-06 [0, 1.44e-06]

Tab: IQR for InterFloW Outflow: LR-Seg cbp6_N51177_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	1.04e-06 [0, 1.04e-06]
1999	2.83e-05 [0, 2.83e-05]
2000	4.7e-05 [0, 4.7e-05]
2001	1.3e-05 [0, 1.3e-05]
2002	1.95e-05 [0, 1.95e-05]
2003	0.000327 [0, 0.000327]
2004	5.33e-05 [0, 5.33e-05]
2005	6.93e-05 [0, 6.93e-05]
2006	4.19e-05 [0, 4.19e-05]
2007	6.54e-06 [0, 6.54e-06]
2008	3.02e-05 [0, 3.02e-05]
2009	6.67e-05 [0, 6.67e-05]
2010	3.68e-05 [0, 3.68e-05]
2011	8.65e-05 [0, 8.65e-05]
2012	3.26e-05 [0, 3.26e-05]
2013	5.49e-05 [0, 5.49e-05]
2014	4.21e-05 [0, 4.21e-05]

Tab: IQR for Active GroundWater Outflow: LR-Seg cbp6_N51177_YP3_6330_6700

	IQR of Unit Flows (cfs/sq. mi) [25th, 75th]
1998	8.95e-05 [0, 8.95e-05]
1999	0.000444 [0, 0.000444]
2000	0.00056 [0, 0.00056]
2001	0.000398 [0, 0.000398]
2002	0.000279 [0, 0.000279]
2003	0.000927 [0, 0.000927]
2004	0.000562 [0, 0.000562]
2005	0.000583 [0, 0.000583]
2006	0.000558 [0, 0.000558]
2007	0.000305 [0, 0.000305]
2008	0.000442 [0, 0.000442]
2009	0.000582 [0, 0.000582]
2010	0.000538 [0, 0.000538]
2011	0.000653 [0, 0.000653]
2012	0.000392 [0, 0.000392]
2013	0.000617 [0, 0.000617]
2014	0.000571 [0, 0.000571]

Tab: Mean Flows by Land Use: LR-Seg cbp6_N51177_YP3_6330_6700

	Mean Unit Flow (cfs/sq. mi)
aop	0.000452
cch	0.000655
cci	0.00118
ccn	0.000676
cfr	0.000392
cir	0.00118
cmo	0.00041
cnr	0.00118
ctg	0.000655
dbl	0.000481
fnp	0.00118
for	0.000392
fsp	0.00118
gom	0.000481
gwm	0.000481
hfr	0.000509
lhy	0.000451
mch	0.000655
mci	0.00118
mcn	0.000676
mir	0.00118
mnr	0.00118
mtg	0.000655
nch	0.000655
nci	0.00118
nir	0.00118
nnr	0.00118
ntg	0.000655
oac	0.000481
ohy	0.000451
osp	0.00041
pas	0.000451
sch	0.000481
scl	0.000481
sgg	0.000481
sho	0.00118
som	0.000481
soy	0.000481
stb	0.00118
stf	0.00118
swm	0.000481
wfp	0.000392
wto	0.000392

Tab: Ratio of Zero-Flow Days by Land Use: LR-Seg cbp6_N51177_YP3_6330_6700

	Ratio of Days with Zero Flow to Total Days
aop	0.327
cch	0.328
cci	0.907
ccn	0.322
cfr	0.36
cir	0.907
cmo	0.341
cnr	0.907
ctg	0.328
dbl	0.321
fnp	0.907
for	0.362
fsp	0.907
gom	0.321
gwm	0.321
hfr	0.313
lhy	0.326
mch	0.328
mci	0.907
mcn	0.322
mir	0.907
mnr	0.907
mtg	0.328
nch	0.328
nci	0.907
nir	0.907
nnr	0.907
ntg	0.328
oac	0.321
ohy	0.326
osp	0.341
pas	0.326
sch	0.321
scl	0.321
sgg	0.321
sho	0.907
som	0.321
soy	0.321
stb	0.907
stf	0.907
swm	0.321
wfp	0.362
wto	0.362

Additional Figures: Land-River Segment Flow Boxplots

Fig: Annual SURO Flows for LR-seg cbp6_N51085_YP3_6330_6700

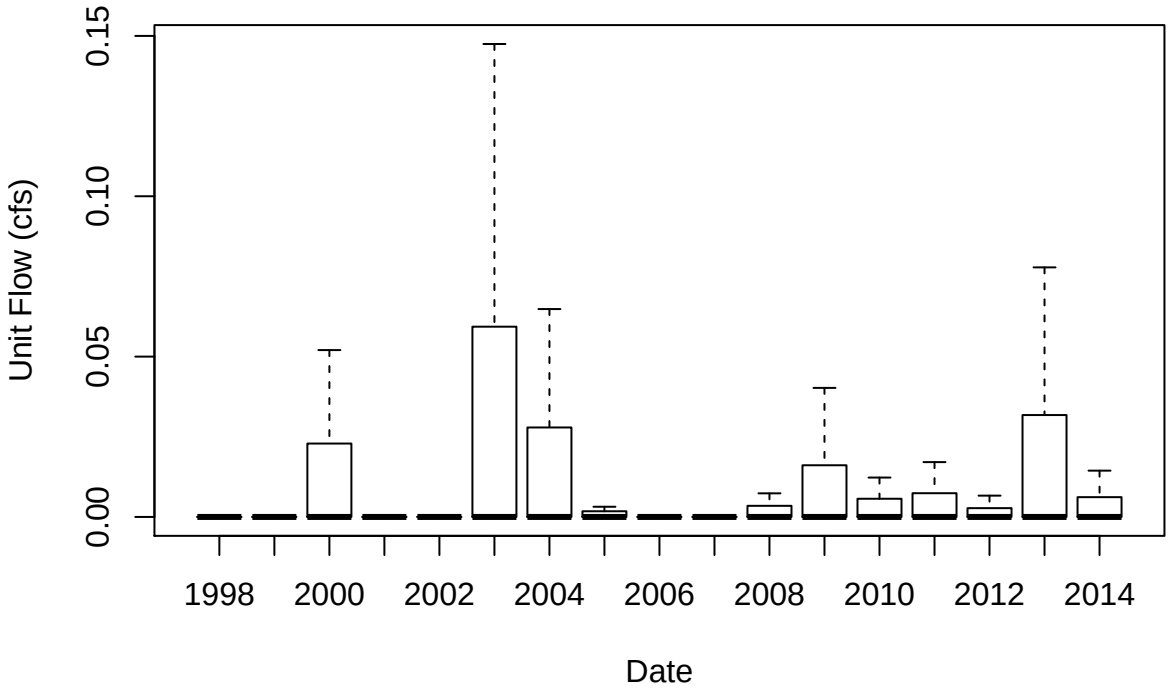


Fig: Annual IFWO Flows for LR-seg cbp6_N51085_YP3_6330_6700

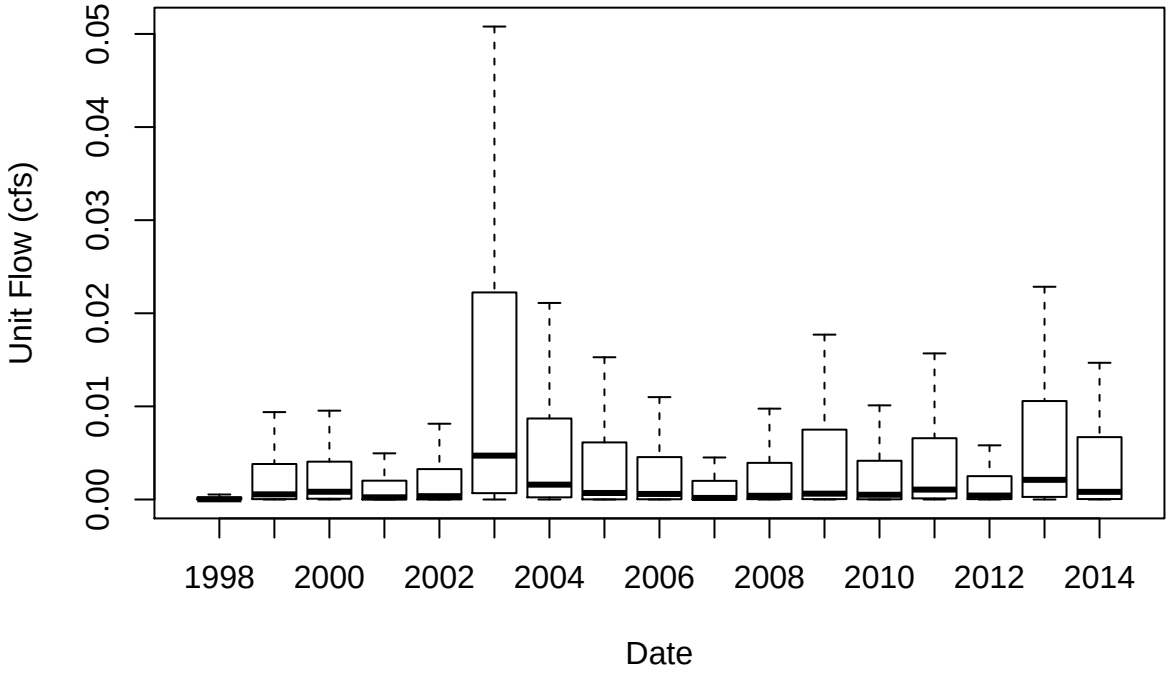


Fig: Annual AGWO Flows for LR-seg cbp6_N51085_YP3_6330_6700

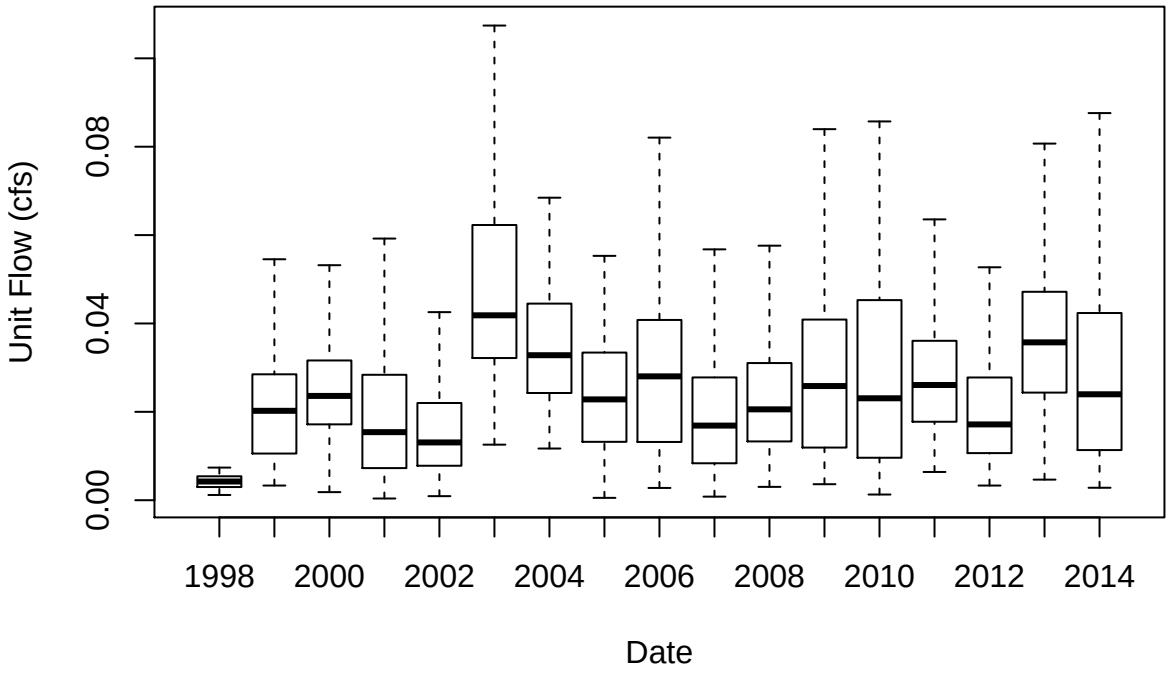


Fig: Annual SURO Flows for LR-seg cbp6_N51033_YP3_6330_6700

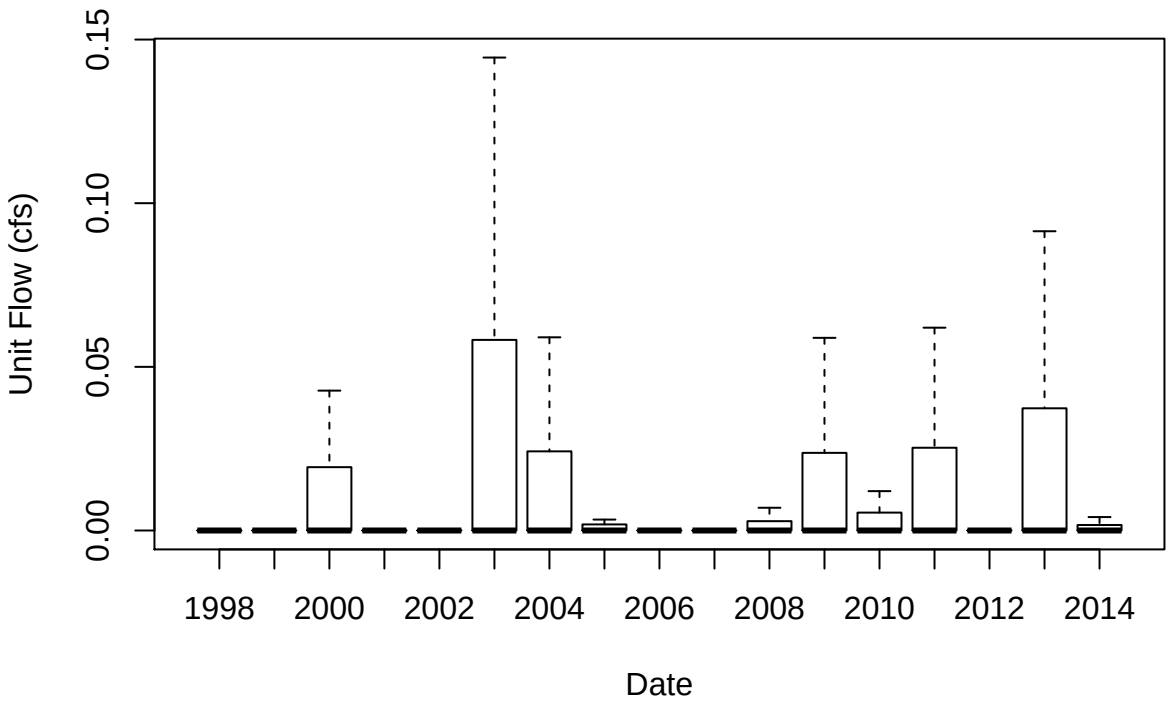


Fig: Annual IFWO Flows for LR-seg cbp6_N51033_YP3_6330_6700

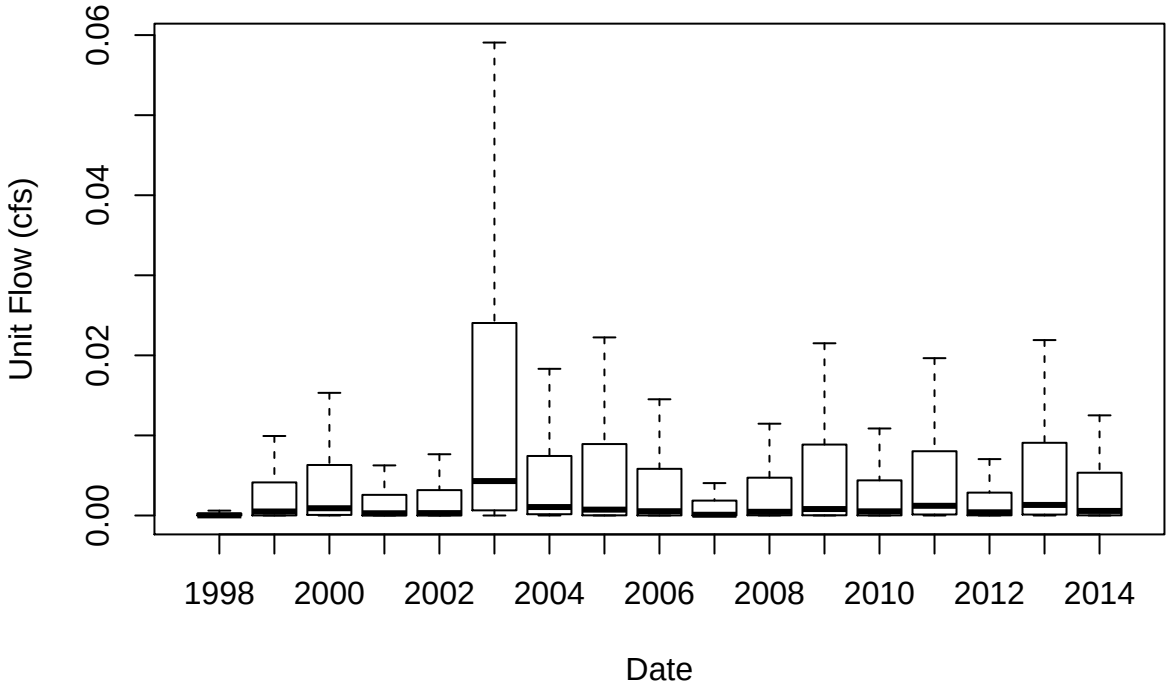


Fig: Annual AGWO Flows for LR-seg cbp6_N51033_YP3_6330_6700

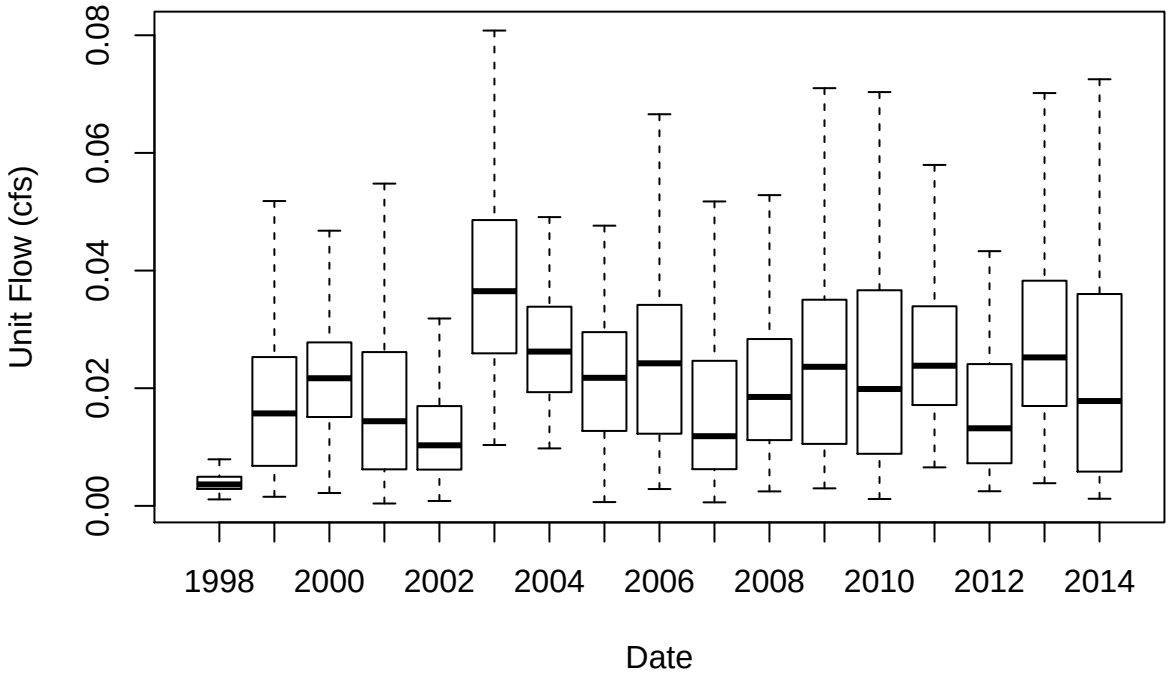


Fig: Annual SURO Flows for LR-seg cbp6_N51109_YP3_6330_6700

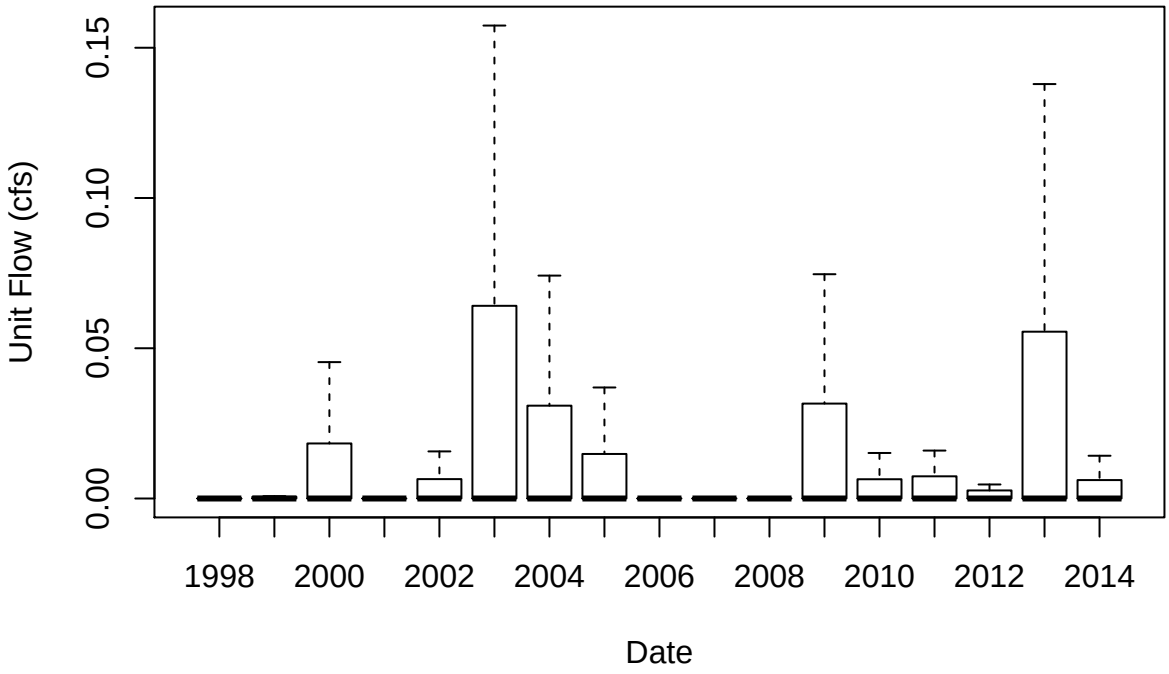


Fig: Annual IFWO Flows for LR-seg cbp6_N51109_YP3_6330_6700

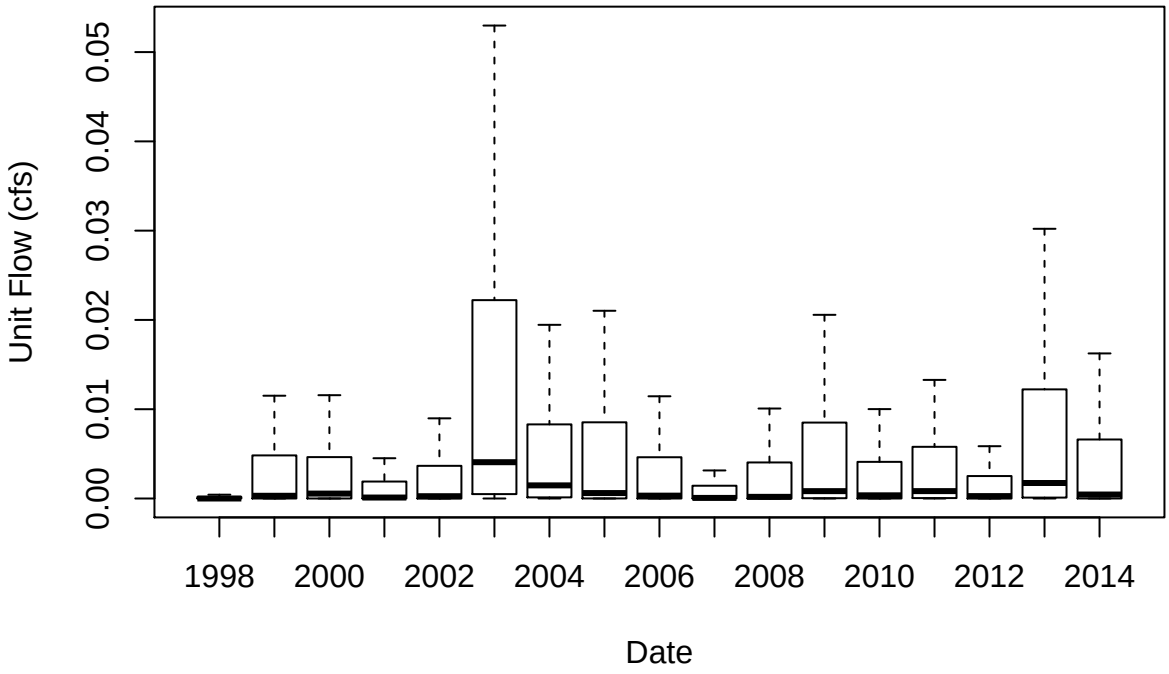


Fig: Annual AGWO Flows for LR-seg cbp6_N51109_YP3_6330_6700

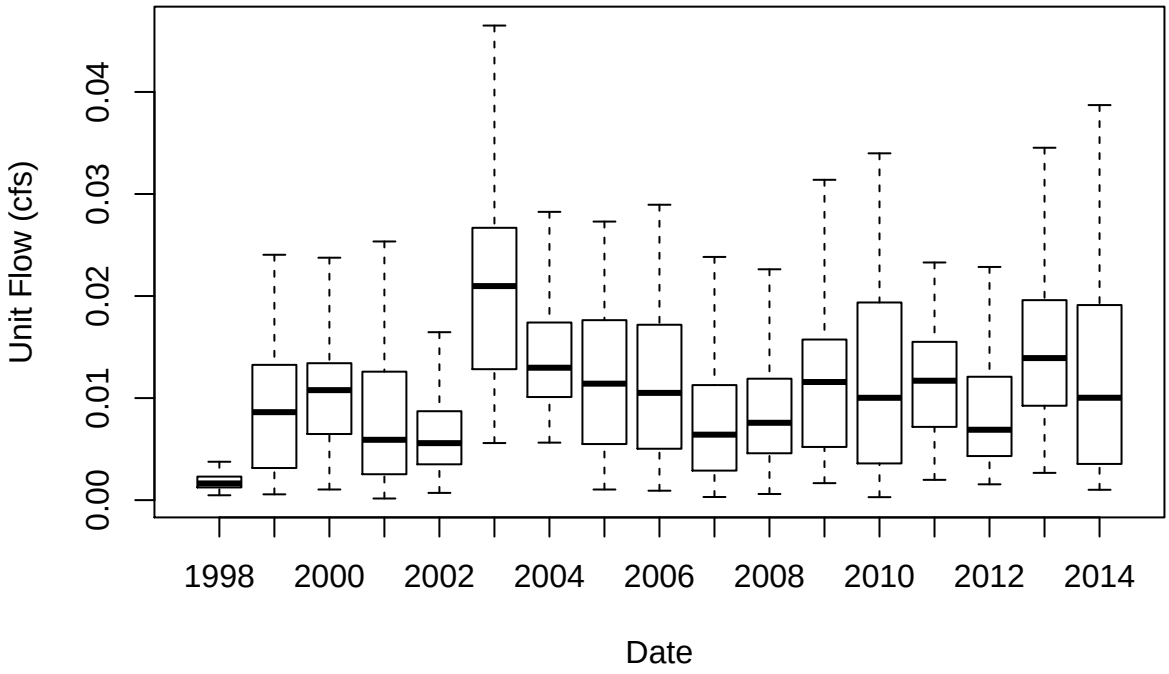
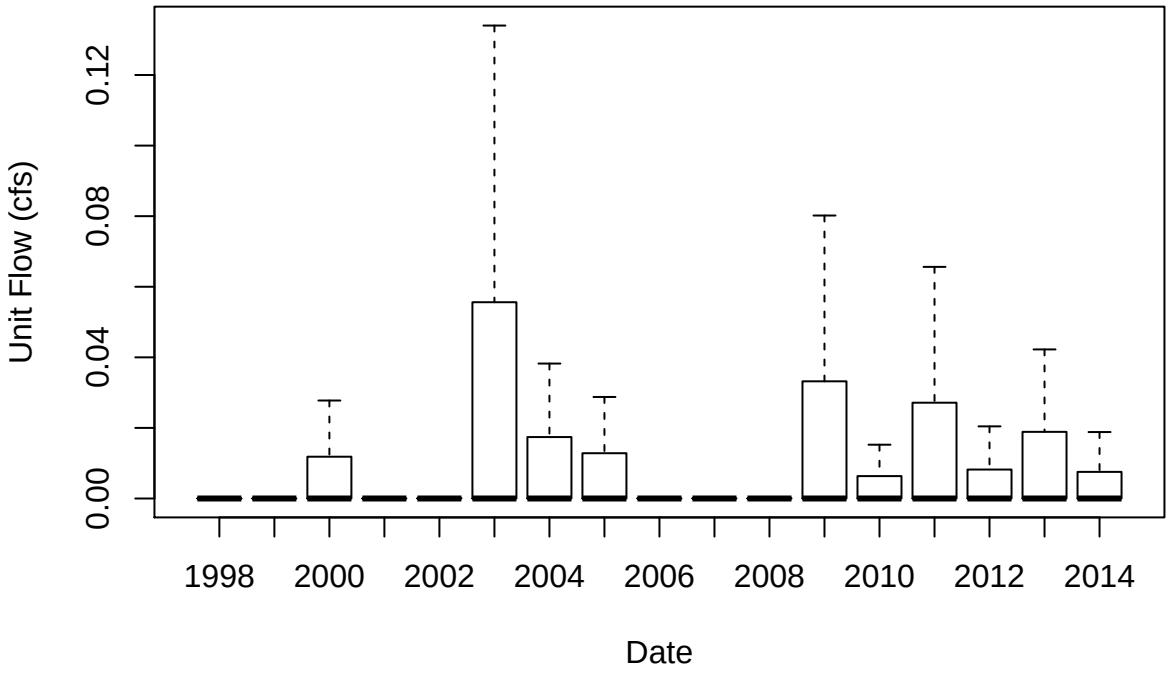


Fig: Annual SURO Flows for LR-seg cbp6_N51177_YP3_6330_6700



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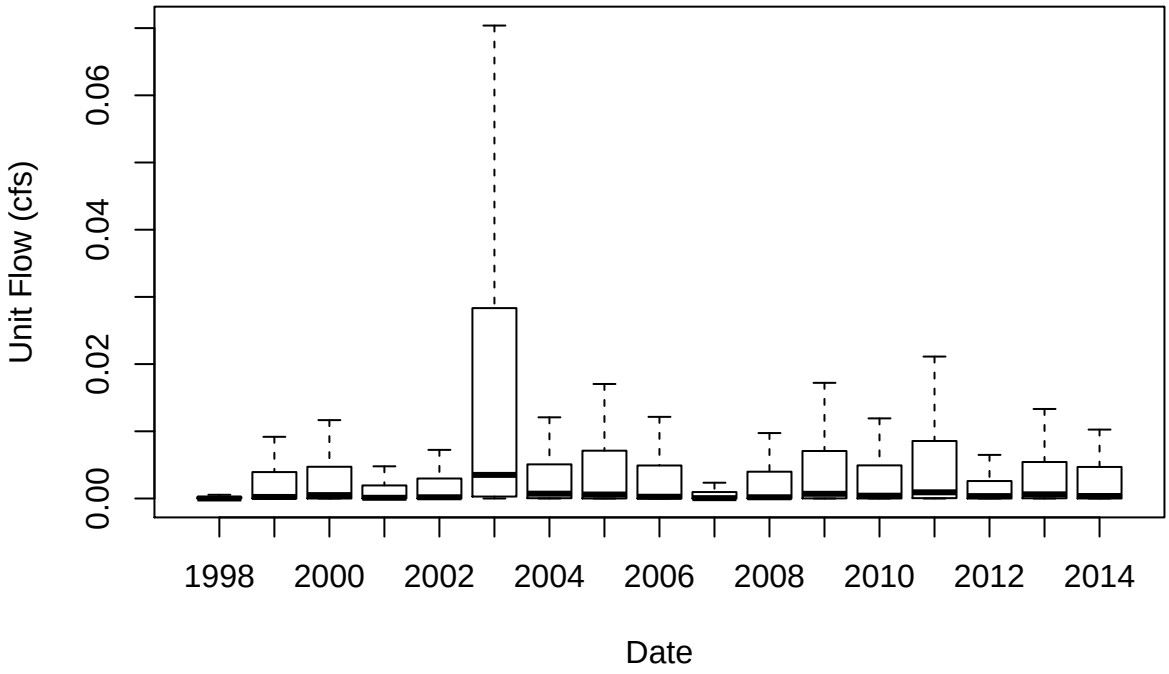

Fig: Annual AGWO Flows for LR-seg cbp6_N51177_YP3_6330_6700