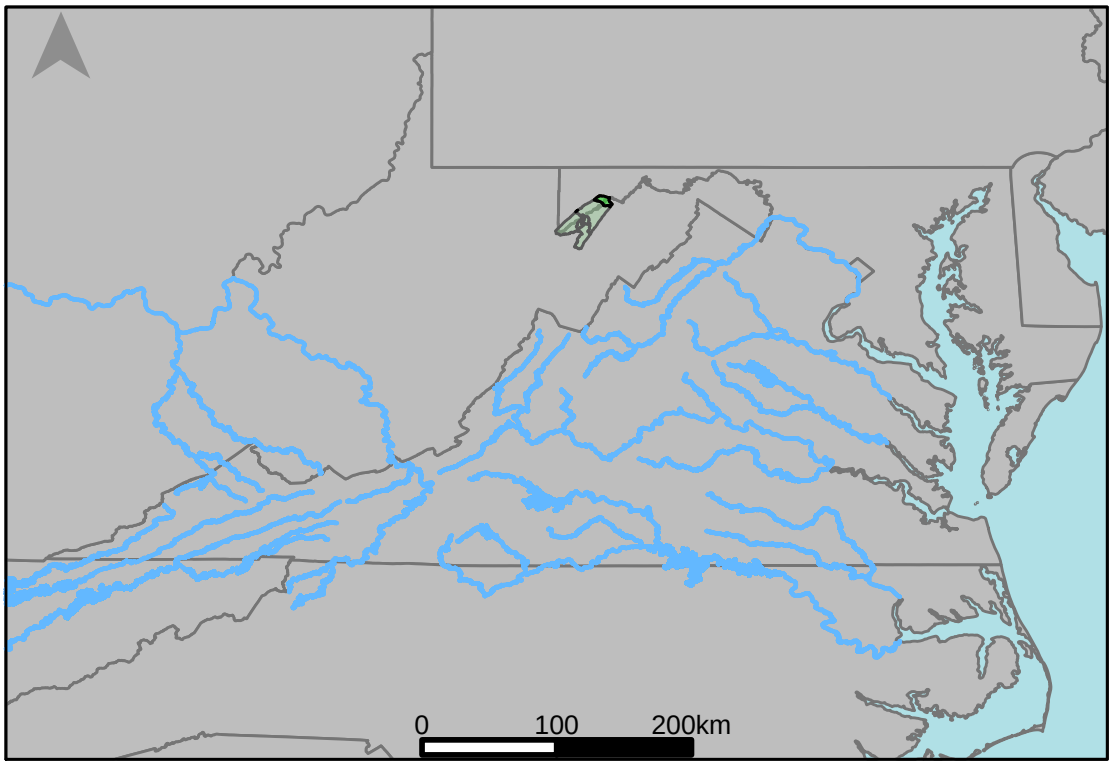
River Segment: PU3_4450_4440 - Scenario : CFBASE30Y20180615 : VaHydro Run 122 (Base) vs. VAHydro Run 123 (Climate Change)



The average daily discharge change between scenario 1 and scenario 2 for the 20 year timespan was 3.00601%, with 1.67% of its rolling three month time spans above 20% difference.

Table 1: Monthly Low Flows

	VAHydro Scen. 1	VAHydro Scen. 2	Pct. Difference
Jan. Low Flow	104	103	-0.96
Feb. Low Flow	241	241	0
Mar. Low Flow	311	351	12.86
Apr. Low Flow	249	299	20.08
May Low Flow	341	366	7.33
Jun. Low Flow	476	478	0.42
Jul. Low Flow	352	350	-0.57
Aug. Low Flow	273	273	0
Sep. Low Flow	161	160	-0.62
Oct. Low Flow	121	119	-1.65
Nov. Low Flow	75	74.8	-0.27
Dec. Low Flow	72.4	72.4	0

Table 2: Monthly Average Flows

	VAHydro Scen. 1	VAHydro Scen. 2	Pct. Difference
Overall Mean Flow	499	514	3.01
Jan. Mean Flow	583	622	6.69
Feb. Mean Flow	641	706	10.14
Mar. Mean Flow	861	881	2.32
Apr. Mean Flow	709	693	-2.26
May Mean Flow	559	573	2.5
Jun. Mean Flow	396	402	1.52
Jul. Mean Flow	341	340	-0.29
Aug. Mean Flow	299	300	0.33
Sep. Mean Flow	256	257	0.39
Oct. Mean Flow	287	289	0.7
Nov. Mean Flow	483	500	3.52
Dec. Mean Flow	578	618	6.92

Table 3: Monthly High Flows

	VAHydro Scen. 1	VAHydro Scen. 2	Pct. Difference
Jan. High Flow	560	562	0.36
Feb. High Flow	575	664	15.48
Mar. High Flow	926	975	5.29
Apr. High Flow	1050	1030	-1.9
May High Flow	1060	1110	4.72
Jun. High Flow	1540	1630	5.84
Jul. High Flow	981	1060	8.05
Aug. High Flow	930	957	2.9
Sep. High Flow	691	686	-0.72
Oct. High Flow	537	532	-0.93
Nov. High Flow	475	473	-0.42
Dec. High Flow	375	372	-0.8

Table 4: Period Low Flows

	VAHydro Scen. 1	VAHydro Scen. 2	Pct. Difference
Min. 1 Day Min	1.15	1.15	0
Med. 1 Day Min	17.3	17.3	0
Min. 3 Day Min	1.3	1.3	0
Med. 3 Day Min	18.9	18.8	-0.53
Min. 7 Day Min	1.76	1.76	0
Med. 7 Day Min	26.1	25.7	-1.53
Min. 30 Day Min	16.8	16.2	-3.57
Med. 30 Day Min	76.9	78.3	1.82
Min. 90 Day Min	45.4	45.2	-0.44
Med. 90 Day Min	247	259	4.86
7Q10	4.69	4.01	-14.5
Year of 90-Day Min. Flow	1999	1999	0
Drought Year Mean	282	297	5.32
Mean Baseflow	319	335	5.02

Table 5: Period High Flows

	VAHydro Scen. 1	VAHydro Scen. 2	Pct. Difference
Max. 1 Day Max	8830	8840	0.11
Med. 1 Day Max	1830	1820	-0.55
Max. 3 Day Max	8240	8260	0.24
Med. 3 Day Max	1760	1750	-0.57
Max. 7 Day Max	5860	5880	0.34
Med. 7 Day Max	1510	1490	-1.32
Max. 30 Day Max	2390	2390	0
Med. 30 Day Max	1000	1000	0
Max. 90 Day Max	1440	1420	-1.39
Med. 90 Day Max	730	754	3.29

Table 6: Non-Exceedance Flows

	VAHydro Scen. 1	VAHydro Scen. 2	Pct. Difference
1% Non-Exceedance	15.4	14.8	-3.9
5% Non-Exceedance	51.6	50.6	-1.94
50% Non-Exceedance	397	409	3.02
95% Non-Exceedance	1310	1350	3.05
99% Non-Exceedance	1950	2010	3.08
Sept. 10% Non-Exceedance	23	22.5	-2.17

Fig. 1: Hydrograph

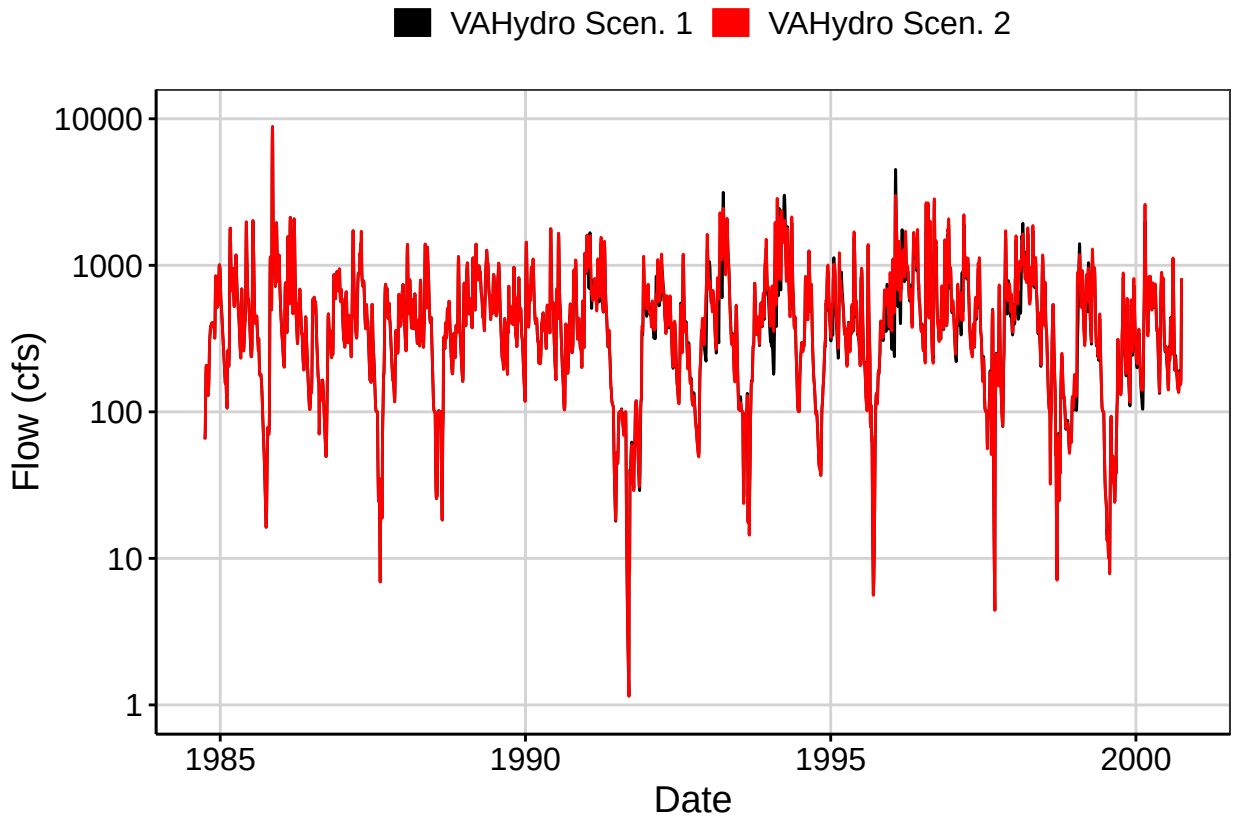


Fig. 2: Zoomed Hydrograph

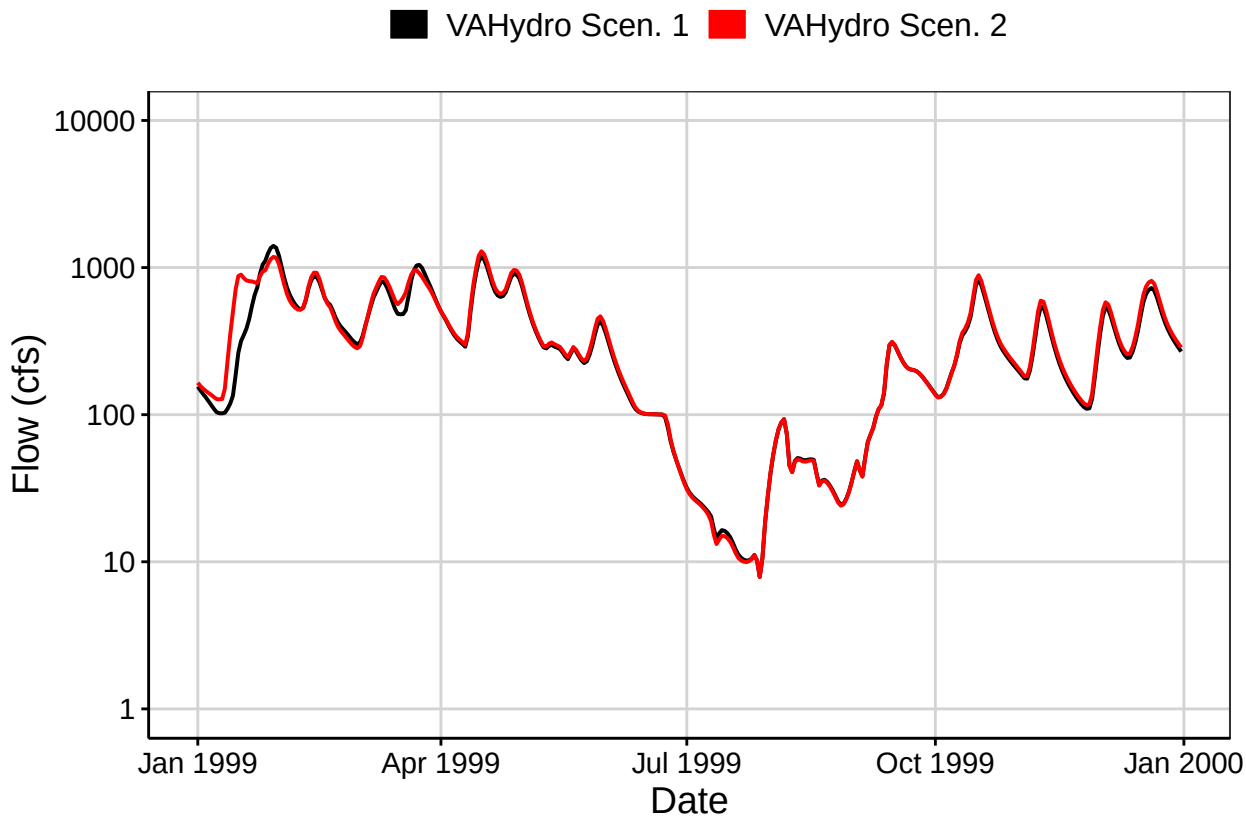


Fig. 3: Flow Exceedance

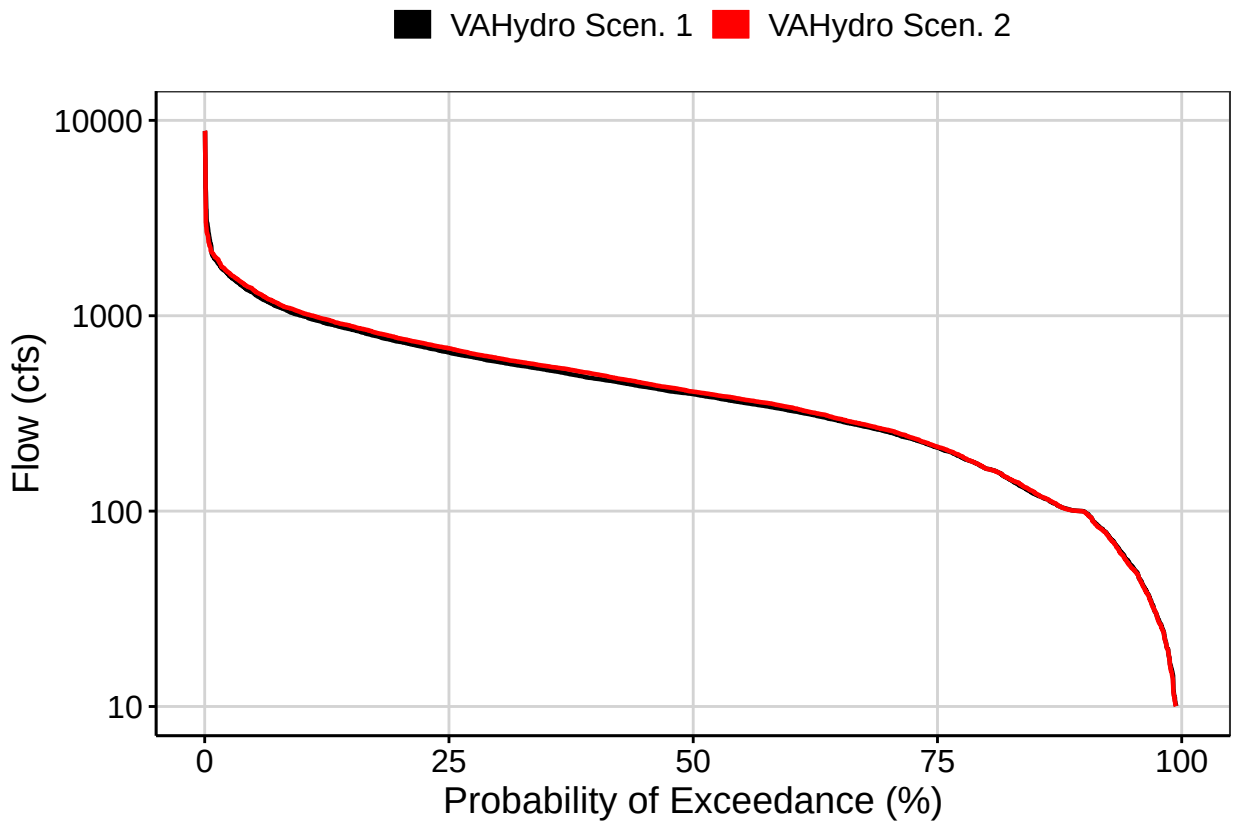


Fig. 4: Baseflow

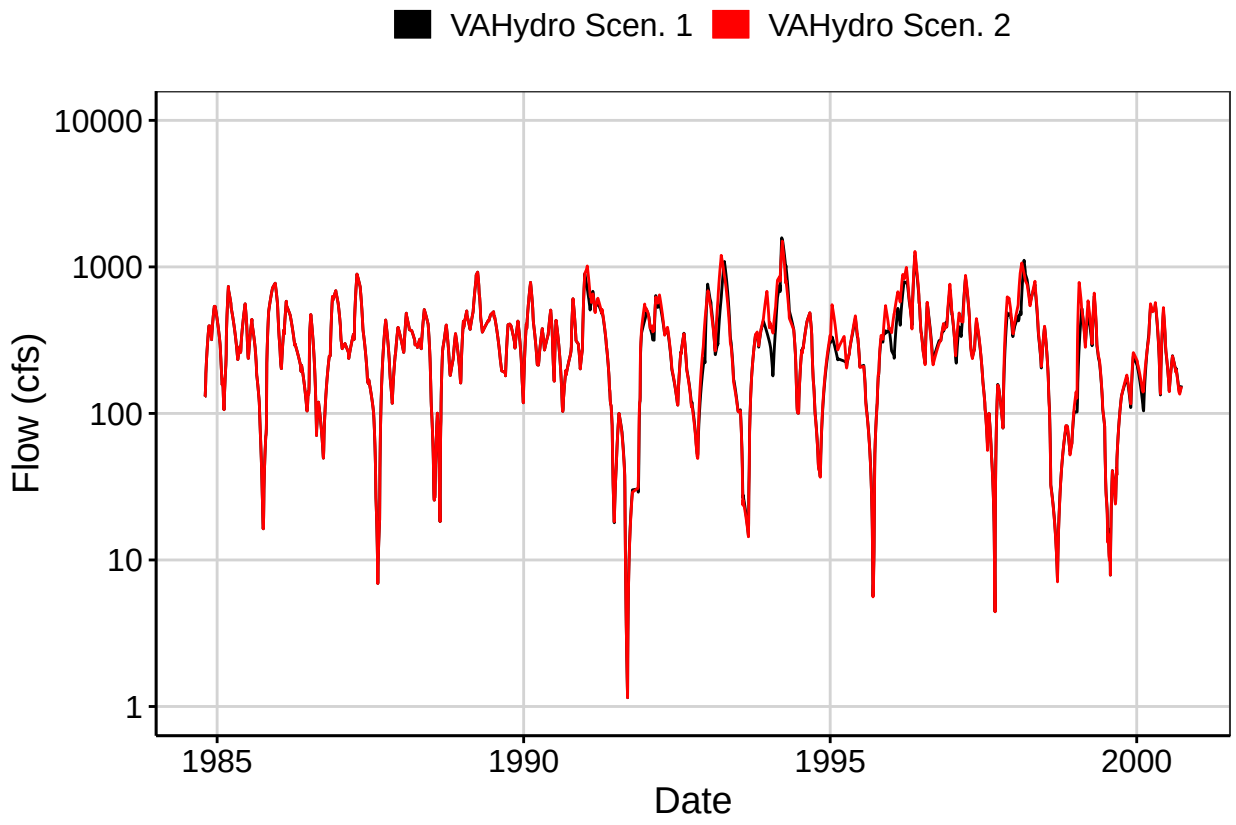


Fig. 5: Combined Baseflow

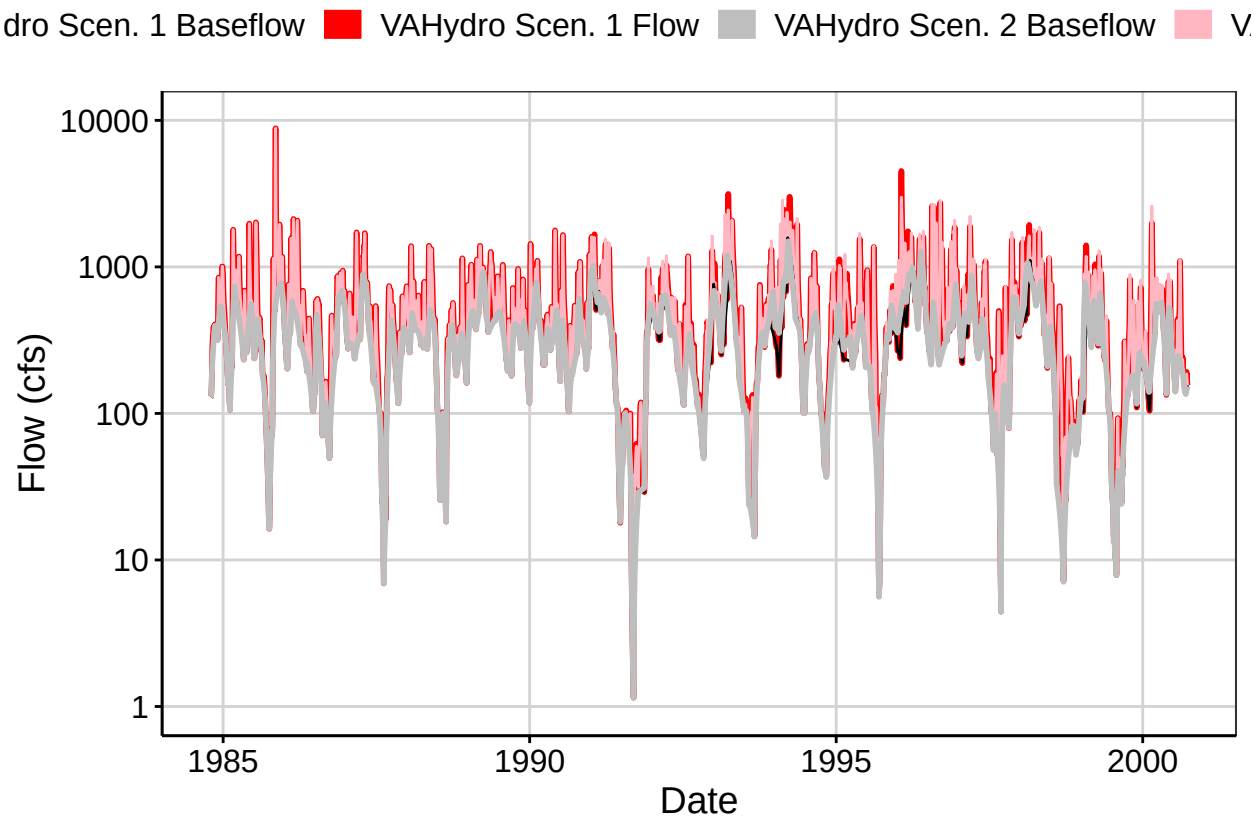


Fig. 6: Largest Difference Segment

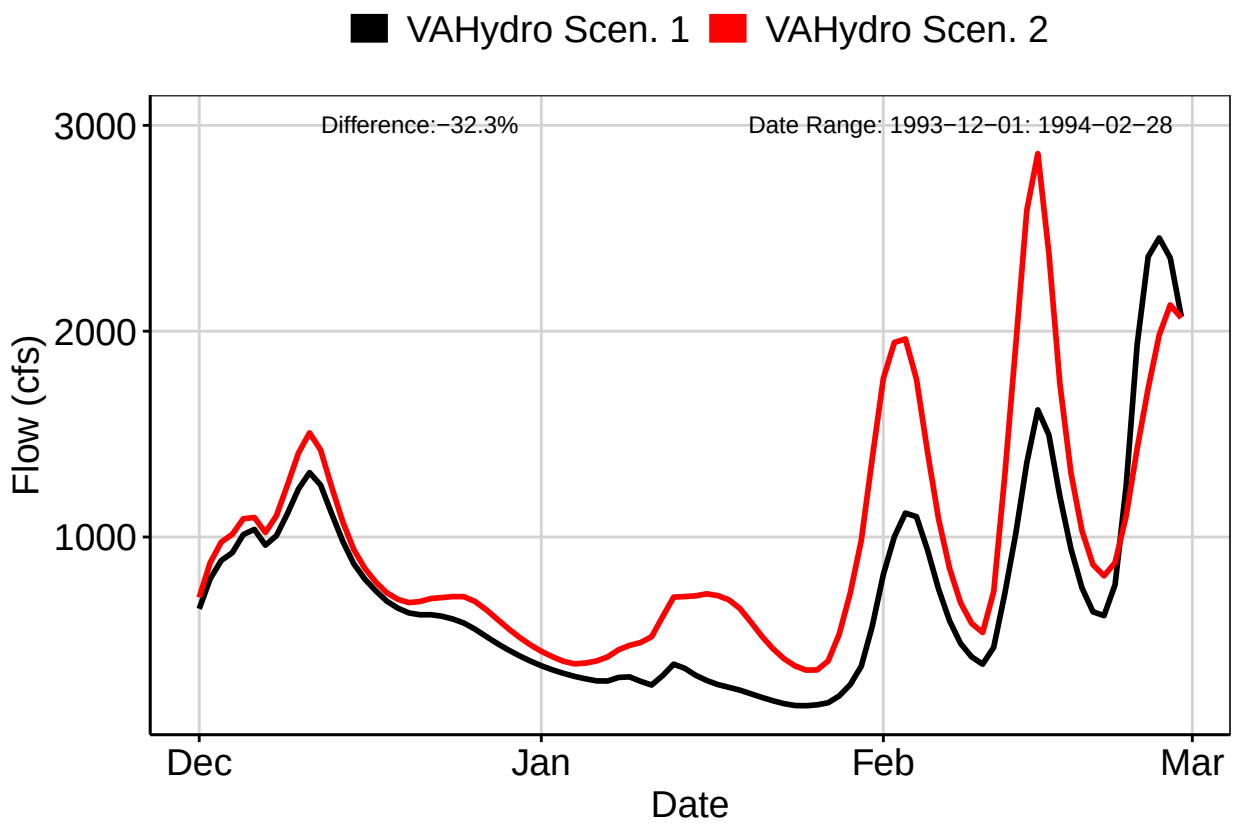


Fig. 7: Second Largest Difference Segment

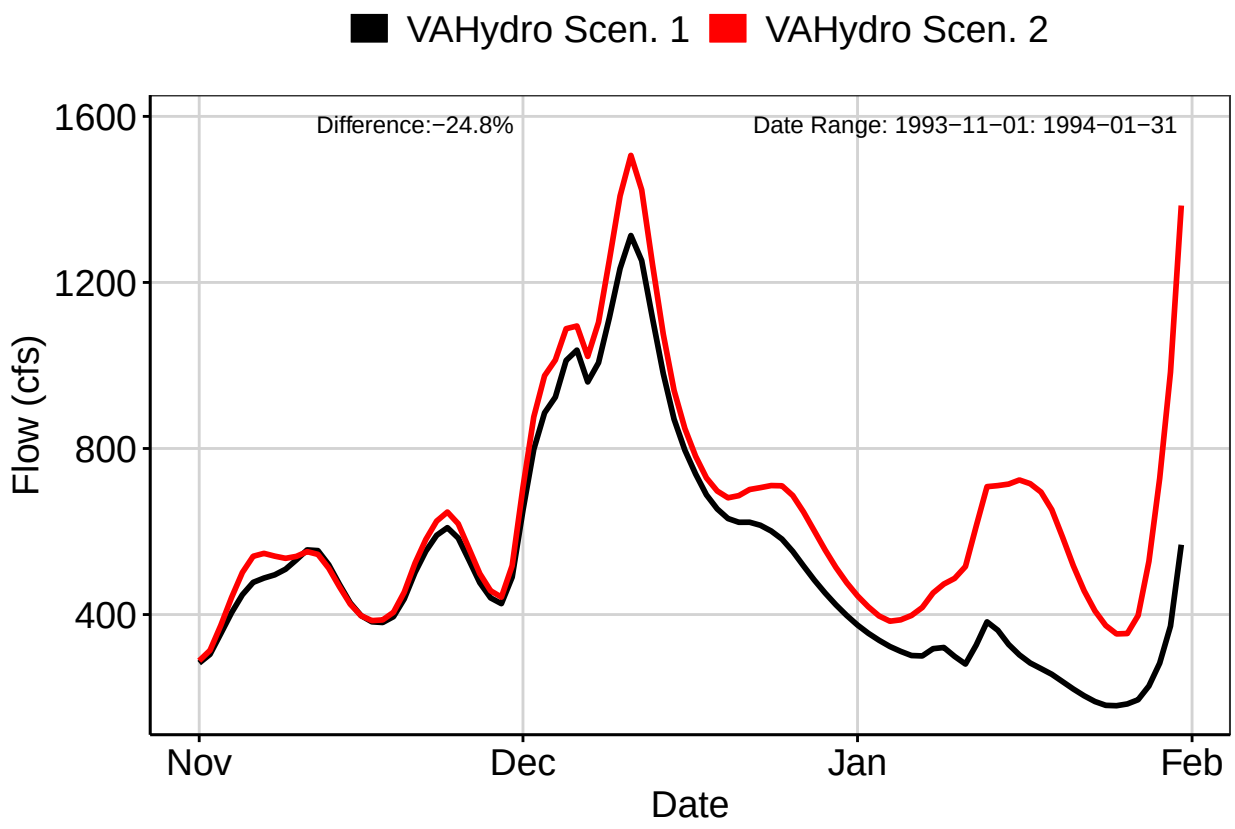


Fig. 8: Third Largest Difference Segment

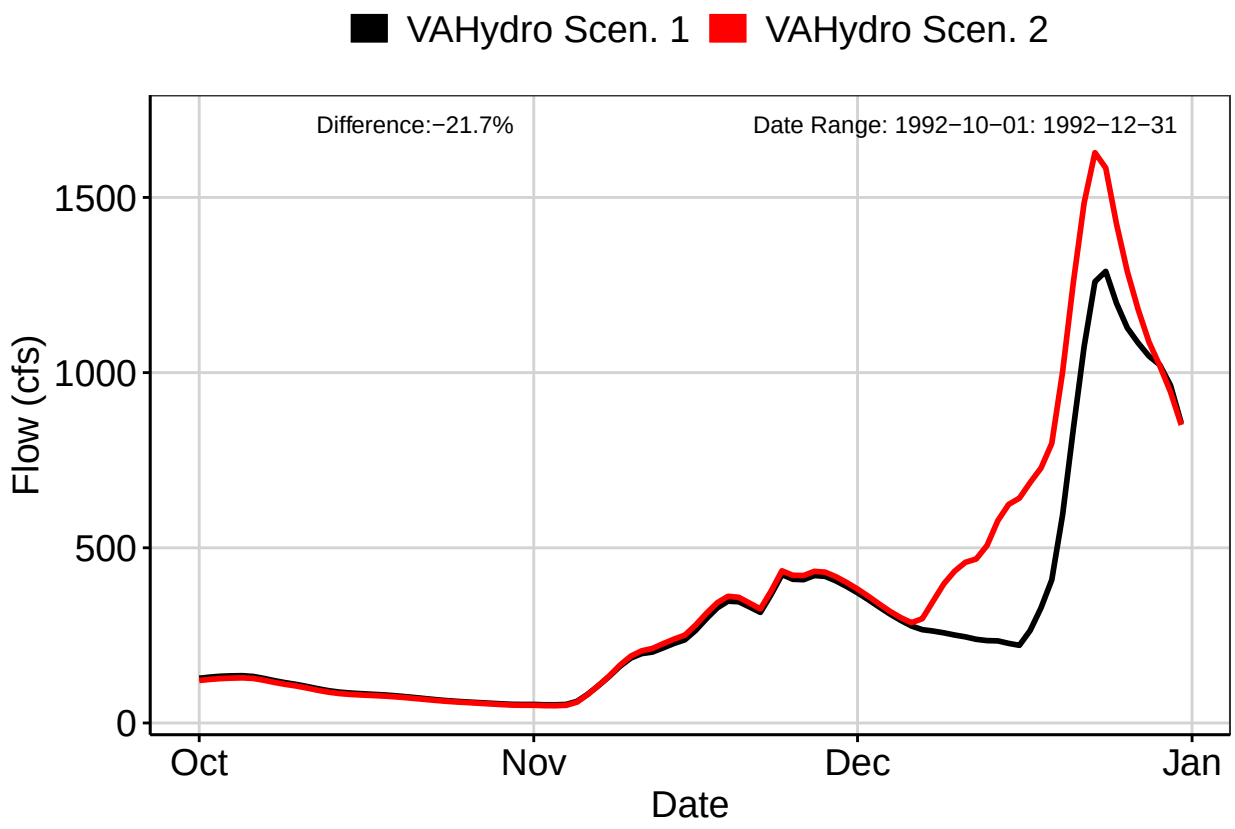


Fig. 9A: Residuals Plot

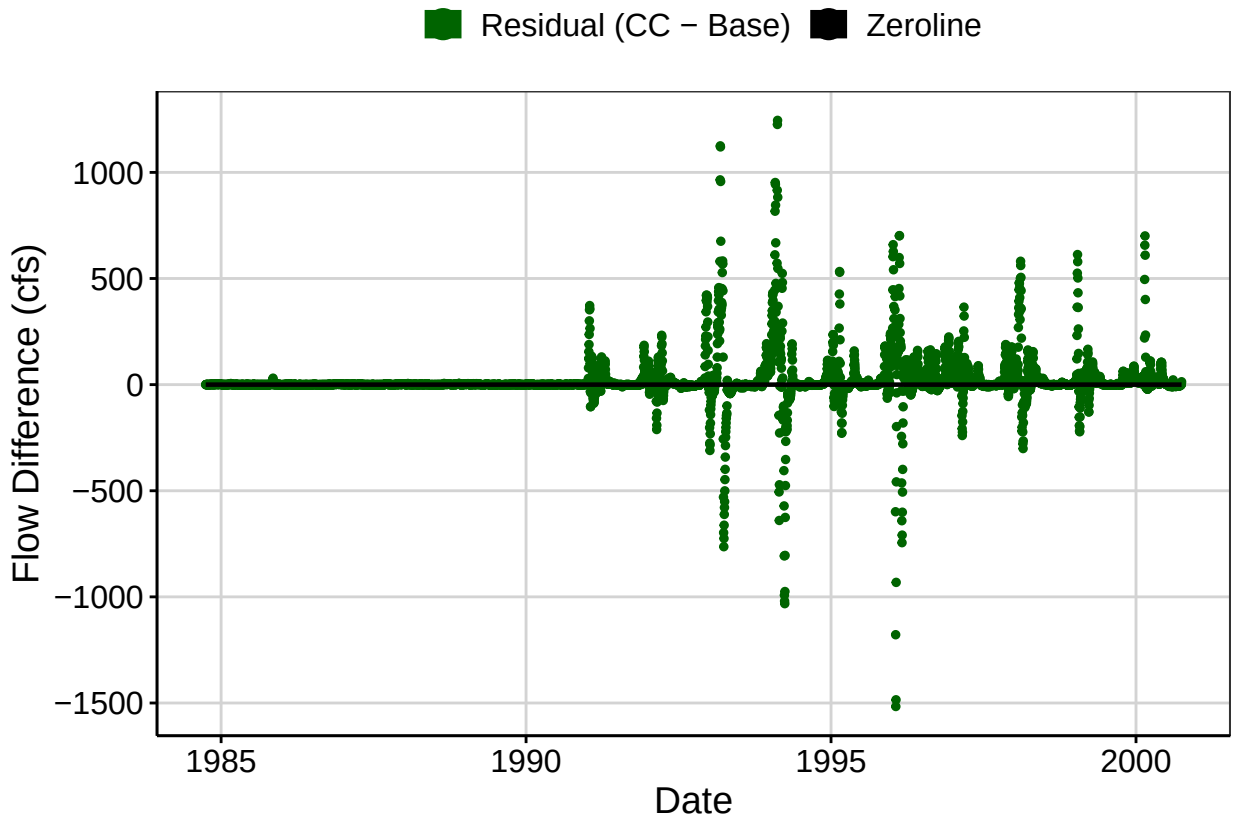


Fig. 9B: Area Weighted Residuals Plot