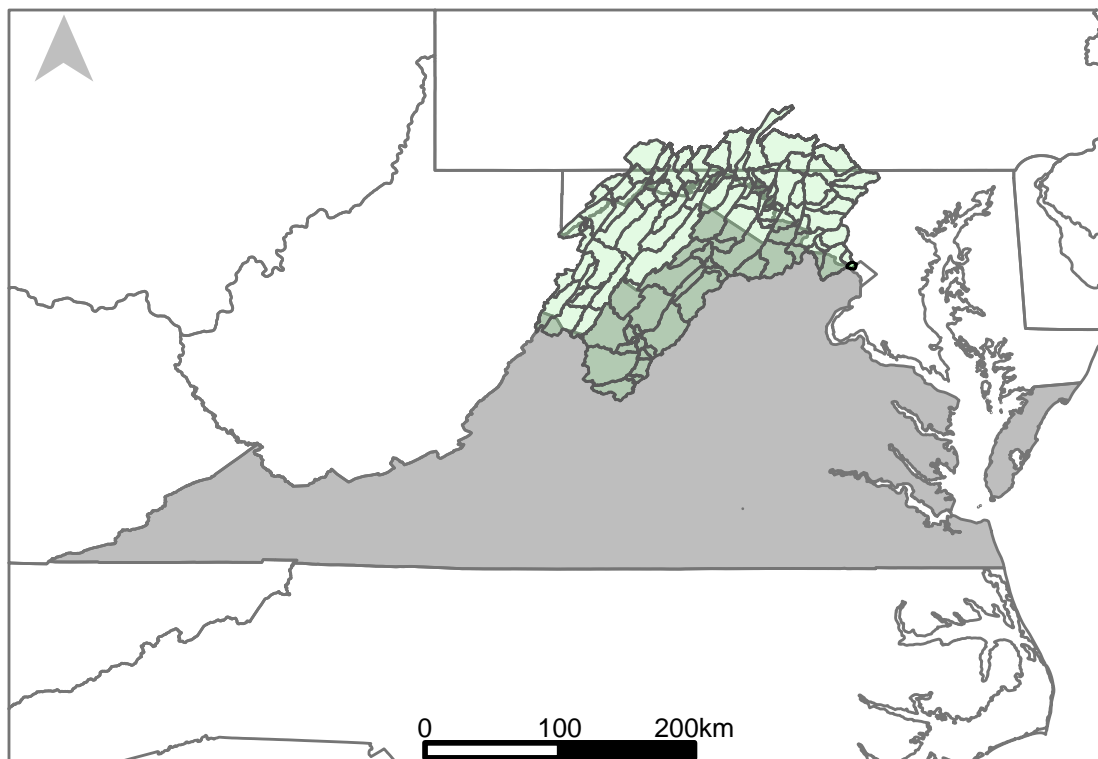# Appendix ##: River Segment: PM7_4820_0001 : Base 2018: CFBASE30Y20180615 vs. Climate Change: CBASE1808L55CY55R45P50R45P50Y

This river segment follows part of the flow of the Potomac River near Washington, DC. The gage is located in Montgomery County, MD (Lat 38<U+00B0>56'59.2", Long 77<U+00B0>07'39.5) approximately 1.8 miles east of Langley, Fairfax County. Drainage area is 11,560 sq. miles. This gage started taking data in 1930 and is still taking data currently. Low flow is affected slightly prior to July 1981 by the Stony River Reservoir, since December 1950, by the Savage River Reservoir (see station 01597500), and since July 1981, by the Jennings Randolph Lake. There is a U.S. Geological Survey satellite data-collection platform at station. The average daily discharge change between scenario 1 and scenario 2 for the 20 year timespan was 9.00901%, with 14.4% of its rolling three month time spans above 20% difference.

Table 1: Monthly Low Flows

	Scenario 1	Scenario 2	Pct. Difference
Jan. Low Flow	1820	1940	6.59
Feb. Low Flow	3000	3150	5
Mar. Low Flow	6450	6640	2.95
Apr. Low Flow	6660	7700	15.62
May Low Flow	8060	8580	6.45
Jun. Low Flow	8620	9260	7.42
Jul. Low Flow	8800	8800	0
Aug. Low Flow	5880	6040	2.72
Sep. Low Flow	3350	3270	-2.39
Oct. Low Flow	2200	2140	-2.73
Nov. Low Flow	1840	1800	-2.17
Dec. Low Flow	1310	1470	12.21

Table 2: Monthly Average Flows

	Scenario 1	Scenario 2	Pct. Difference
Overall Mean Flow	11100	12100	9.01
Jan. Mean Flow	14500	16400	13.1
Feb. Mean Flow	15800	17100	8.23
Mar. Mean Flow	21800	22600	3.67
Apr. Mean Flow	16700	17200	2.99
May Mean Flow	13000	13700	5.38
Jun. Mean Flow	7690	7900	2.73
Jul. Mean Flow	4900	5160	5.31
Aug. Mean Flow	4680	5170	10.47
Sep. Mean Flow	5480	6390	16.61
Oct. Mean Flow	6040	6900	14.24
Nov. Mean Flow	10700	12300	14.95
Dec. Mean Flow	12300	14200	15.45

Table 3: Monthly High Flows

	Scenario 1	Scenario 2	Pct. Difference
Jan. High Flow	5420	6800	25.46
Feb. High Flow	14900	20000	34.23
Mar. High Flow	18600	25200	35.48
Apr. High Flow	25400	26600	4.72
May High Flow	20000	23000	15
Jun. High Flow	49600	55400	11.69
Jul. High Flow	22200	24200	9.01
Aug. High Flow	22100	23600	6.79
Sep. High Flow	13400	13800	2.99
Oct. High Flow	7080	7310	3.25
Nov. High Flow	4300	6160	43.26
Dec. High Flow	5120	6700	30.86

Table 4: Period Low Flows

	Scenario 1	Scenario 2	Pct. Difference
Min. 1 Day Min	194	212	9.28
Med. 1 Day Min	761	774	1.71
Min. 3 Day Min	207	216	4.35
Med. 3 Day Min	789	804	1.9
Min. 7 Day Min	227	238	4.85
Med. 7 Day Min	842	876	4.04
Min. 30 Day Min	462	587	27.06
Med. 30 Day Min	1540	1820	18.18
Min. 90 Day Min	932	1100	18.03
Med. 90 Day Min	2850	3160	10.88
7Q10	318	350	10.06
Year of 90-Day Min. Flow	1999	1999	0
Drought Year Mean	5618.25	6572.52	16.99
Mean Baseflow	63900	68600	7.36

Table 5: Period High Flows

	Scenario 1	Scenario 2	Pct. Difference
Max. 1 Day Max	256000	264000	3.12
Med. 1 Day Max	58800	63200	7.48
Max. 3 Day Max	223000	230000	3.14
Med. 3 Day Max	53600	57900	8.02
Max. 7 Day Max	141000	148000	4.96
Med. 7 Day Max	44300	47500	7.22
Max. 30 Day Max	53500	53700	0.37
Med. 30 Day Max	28500	30800	8.07
Max. 90 Day Max	36800	40300	9.51
Med. 90 Day Max	20200	20800	2.97

Table 6: Non-Exceedance Flows

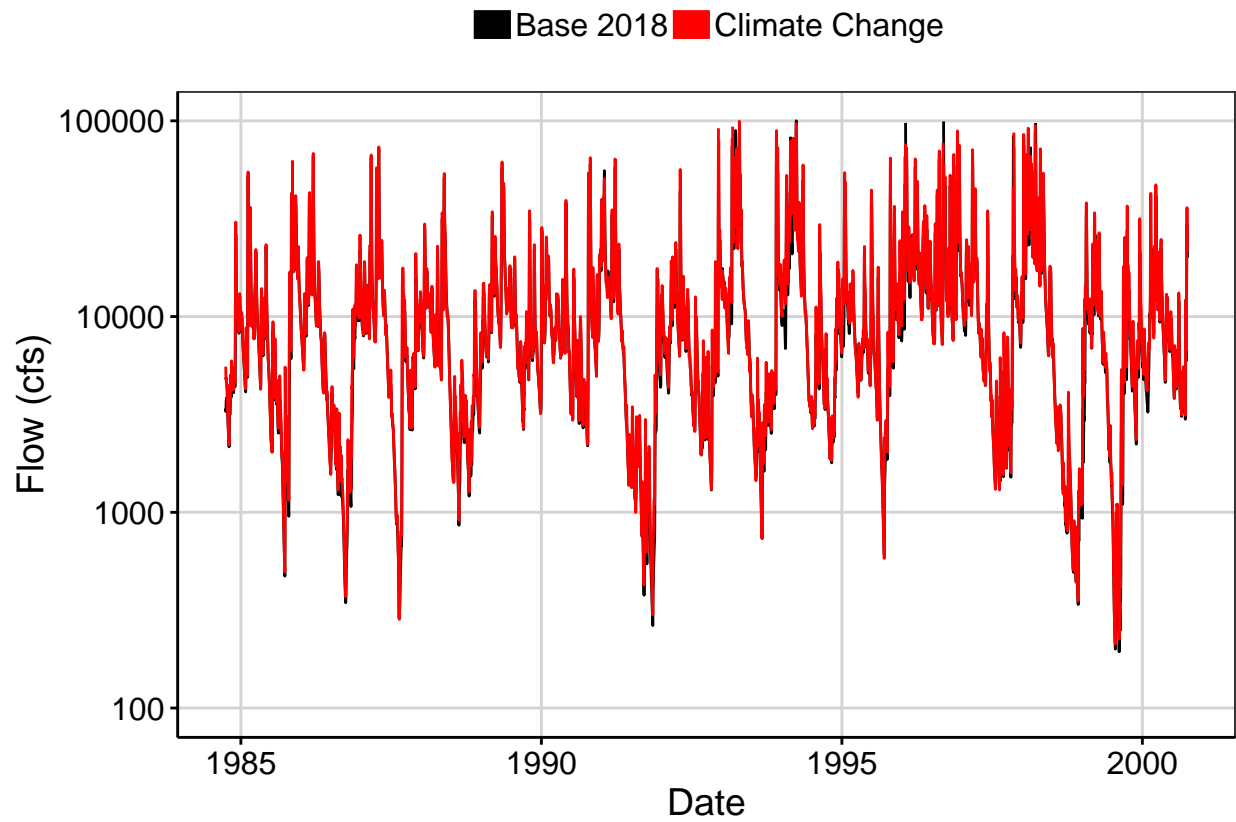|	Scenario 1	Scenario 2	Pct. Difference
1% Non-Exceedance	417	489	17.27
5% Non-Exceedance	1050	1190	13.33
50% Non-Exceedance	7690	8140	5.85
95% Non-Exceedance	33600	37200	10.71
99% Non-Exceedance	63900	68600	7.36
Sept. 10% Non-Exceedance	793	855	7.82

Fig. 1: Hydrograph

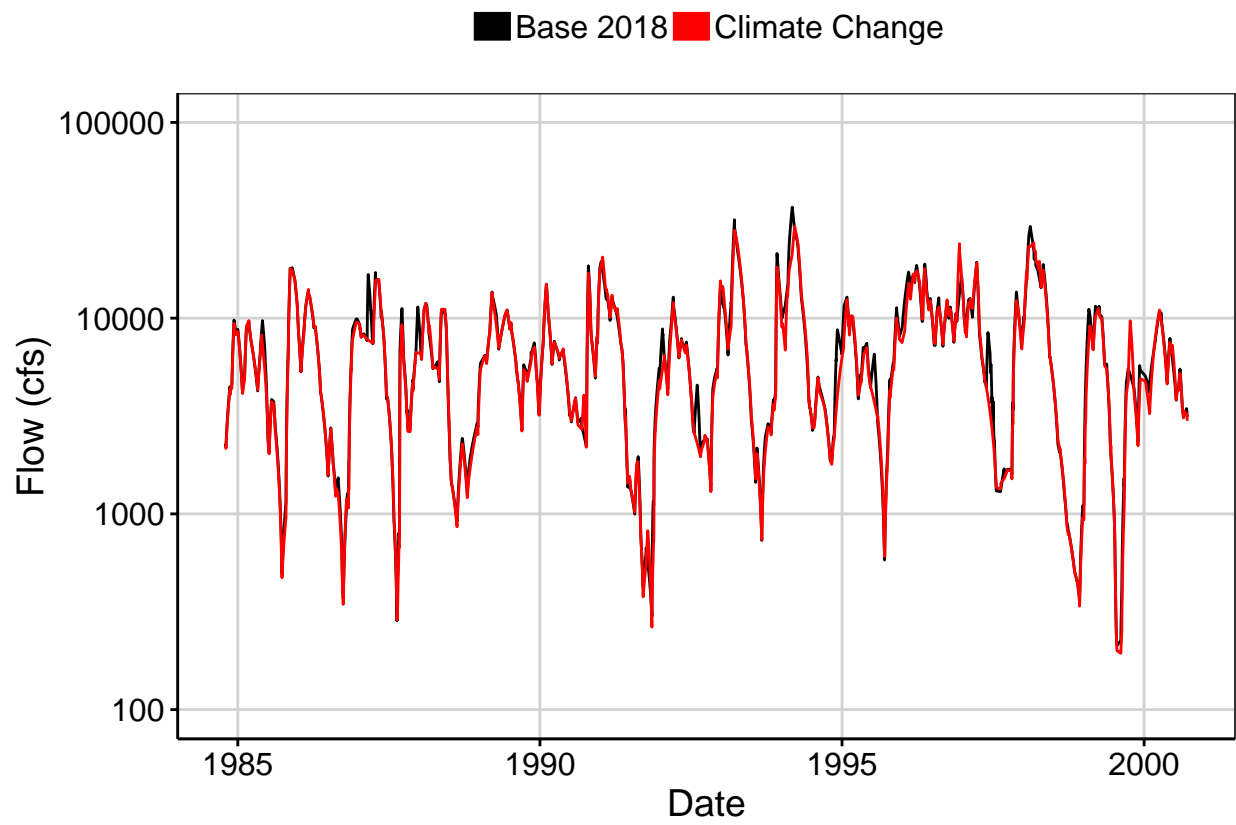**Fig. 2: Zoomed Hydrograph**
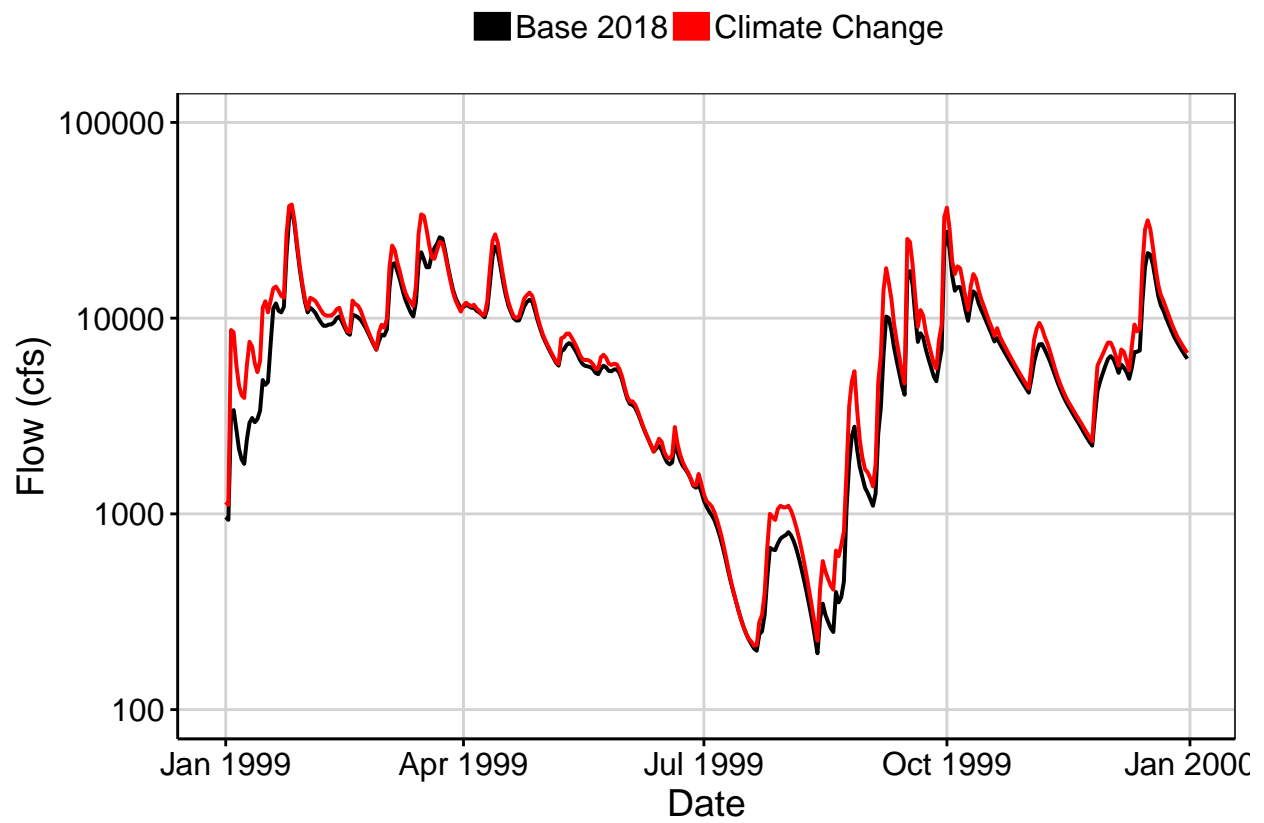
Fig. 3: Flow Exceedance
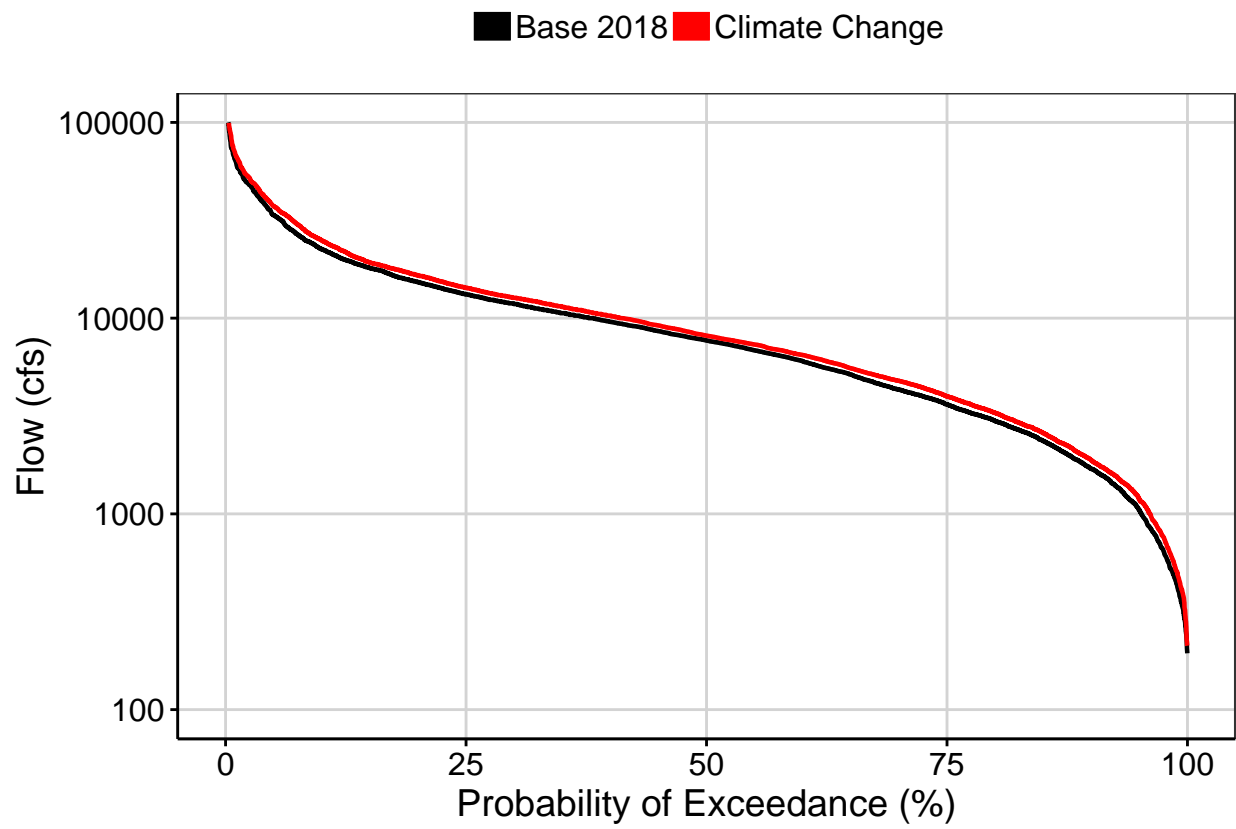
Fig. 4: Baseflow

Fig. 5: Combined Baseflow

■ Base 2018 Baseflow ■ Base 2018 Flow ■ Climate Change Baseflow ■ Climate Ch

Fig. 6: Largest Difference Segment

■ Base 2018 ■ Climate Change

Difference: −43.7%   Date Range: 1991−09−01: 1991−11−30
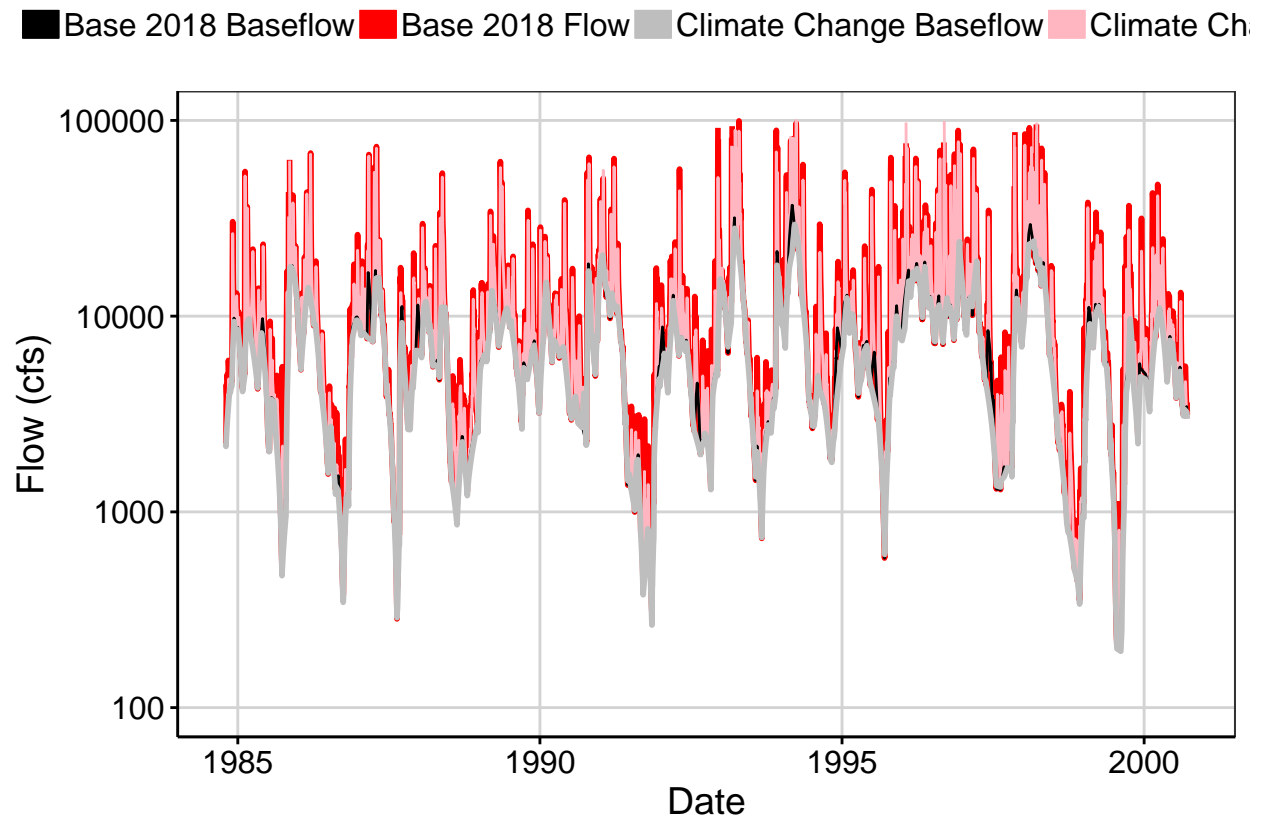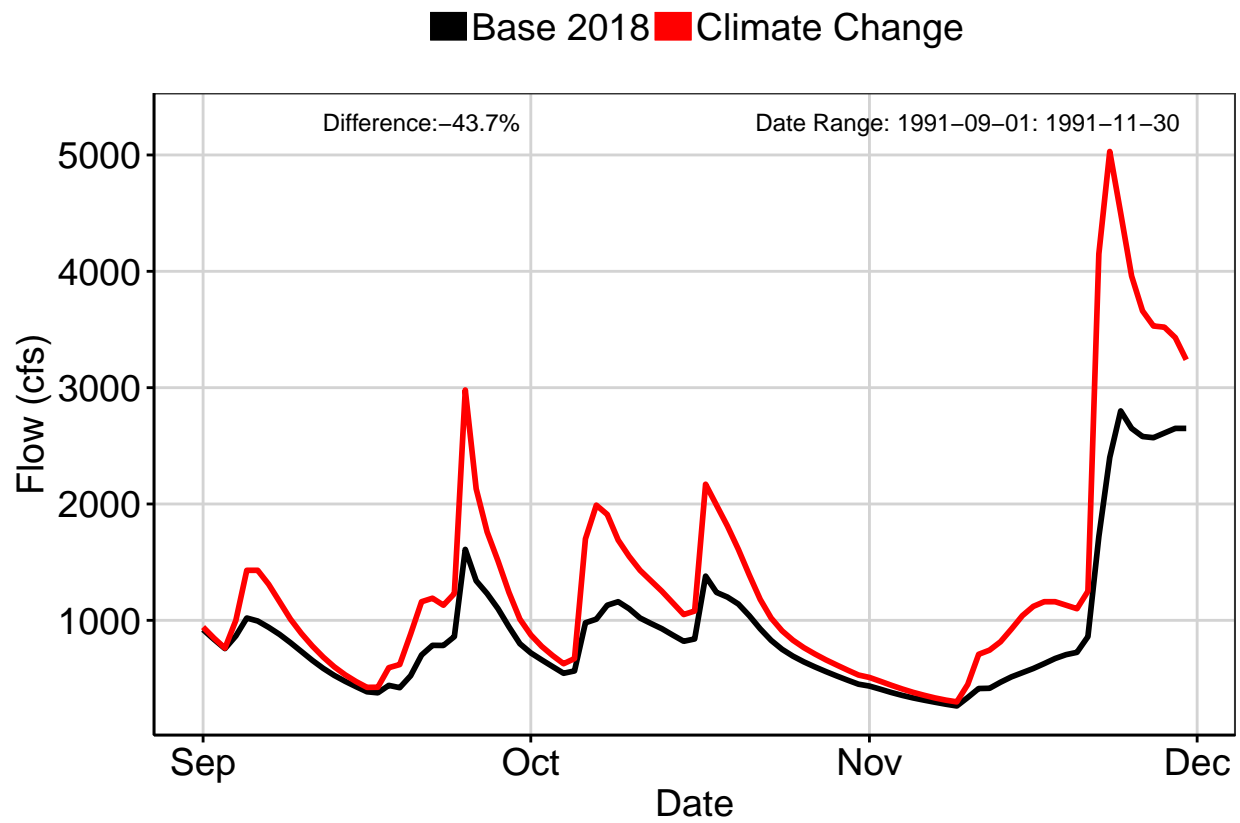
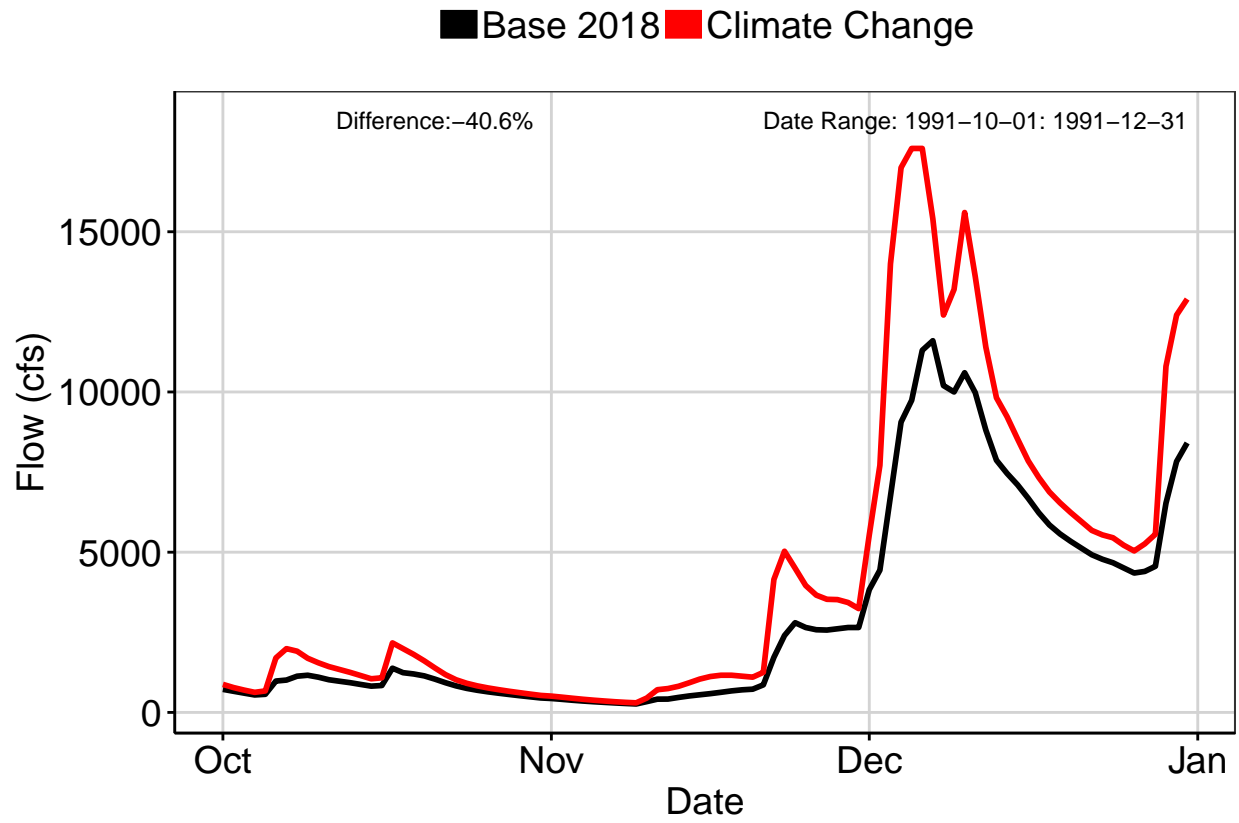# Fig. 7: Second Largest Difference Segment

Fig. 8: Third Largest Difference Segment

Fig. 9: Residuals Plot