02053800 vs. OR1_8280_8020

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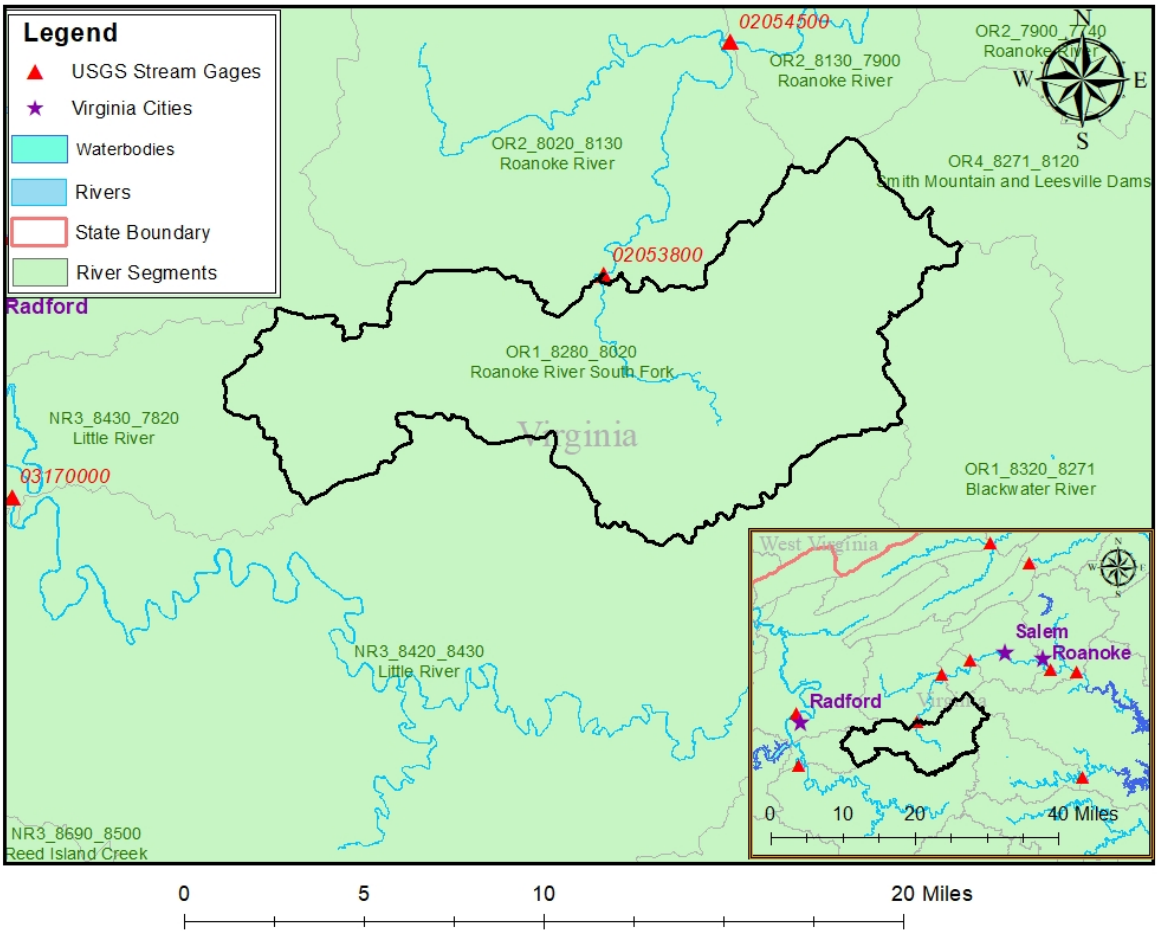

This river segment follows part of the flow of the South Fork of the Roanoke River. The gage is located in Montgomery County, VA (Lat 3708'24", Long 8016'00") approximately 17 miles east of Radford, VA. Drainage area is 109 sq. miles. This gage started taking data in 1960 and is still taking data. There are no known anthropogenic alterations in this area that would affect the flow conditions. The average daily discharge error between the model and gage data for the 20 year timespan was 3.36%, with 37.5% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	29	22.7	21.7
Feb. Low Flow	38	23.4	38.4
Mar. Low Flow	44	51.3	-16.6
Apr. Low Flow	45	54.3	-20.7
May Low Flow	66	97.4	-47.6
Jun. Low Flow	91	110	-20.9
Jul. Low Flow	76	83.8	-10.3
Aug. Low Flow	68	69.4	-2.06
Sep. Low Flow	51	54.1	-6.08
Oct. Low Flow	39	33.3	14.6
Nov. Low Flow	31	25.5	17.7
Dec. Low Flow	28	22.5	19.6

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	119	115	3.36
Jan. Mean Flow	141	142	-0.71
Feb. Mean Flow	174	178	-2.3
Mar. Mean Flow	205	208	-1.46
Apr. Mean Flow	183	180	1.64
May Mean Flow	136	132	2.94
Jun. Mean Flow	107	112	-4.67
Jul. Mean Flow	71.1	69.7	1.97
Aug. Mean Flow	58.8	56.3	4.25
Sep. Mean Flow	93.4	75.3	19.4
Oct. Mean Flow	62.9	57.6	8.43
Nov. Mean Flow	97.7	85.8	12.2
Dec. Mean Flow	98.5	91.2	7.41

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	101	61.2	39.4
Feb. High Flow	222	209	5.86
Mar. High Flow	239	121	49.4
Apr. High Flow	378	476	-25.9
May High Flow	338	326	3.55
Jun. High Flow	631	716	-13.5
Jul. High Flow	341	366	-7.33
Aug. High Flow	301	284	5.65
Sep. High Flow	172	192	-11.6
Oct. High Flow	117	100	14.5
Nov. High Flow	80	72.3	9.63
Dec. High Flow	72	69.9	2.92

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	6.95	3.98	42.7
Med. 1 Day Min	22	14.2	35.5
Min. 3 Day Min	7.19	4	44.4
Med. 3 Day Min	22	14.5	34.1
Min. 7 Day Min	7.52	4.12	45.2
Med. 7 Day Min	23.3	15.2	34.8
Min. 30 Day Min	12.2	5.5	54.9
Med. 30 Day Min	29.9	20.4	31.8
Min. 90 Day Min	15.6	14.7	5.77
Med. 90 Day Min	42.4	32.2	24.1
7Q10	13.3	7.85	41
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	38.8	37.4	3.61
Mean Baseflow	64.9	71.6	-10.3

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	4270	4450	-4.22
Med. 1 Day Max	1920	1440	25
Max. 3 Day Max	2460	1910	22.4
Med. 3 Day Max	1300	981	24.5
Max. 7 Day Max	1340	1080	19.4
Med. 7 Day Max	757	607	19.8
Max. 30 Day Max	768	615	19.9
Med. 30 Day Max	327	309	5.5
Max. 90 Day Max	477	400	16.1
Med. 90 Day Max	205	209	-1.95

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	14.1	10.1	28.4
5% Non-Exceedance	22	16.7	24.1
50% Non-Exceedance	71	71.2	-0.28
95% Non-Exceedance	313	322	-2.88
99% Non-Exceedance	847	813	4.01
Sept. 10% Non-Exceedance	15.3	22	-43.8

Fig. 1: Hydrograph

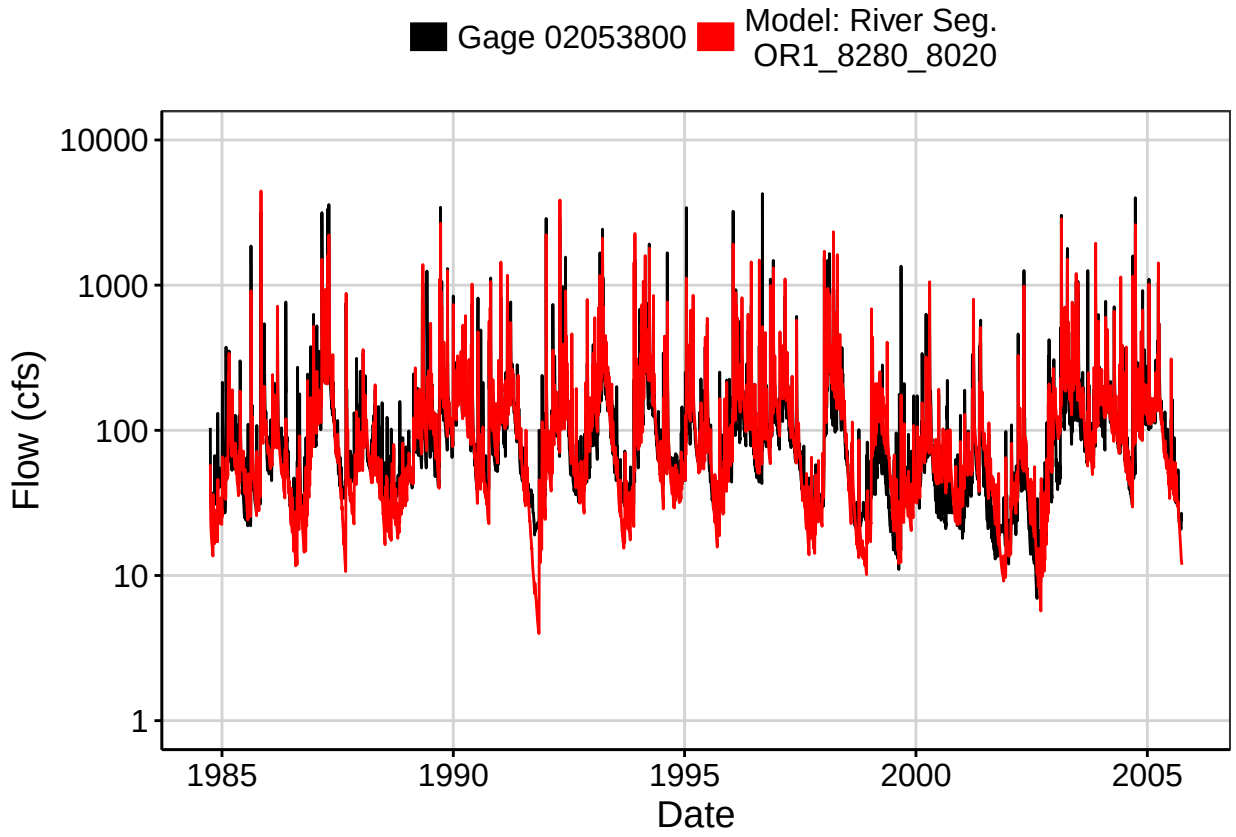

Fig. 2: Zoomed Hydrograph

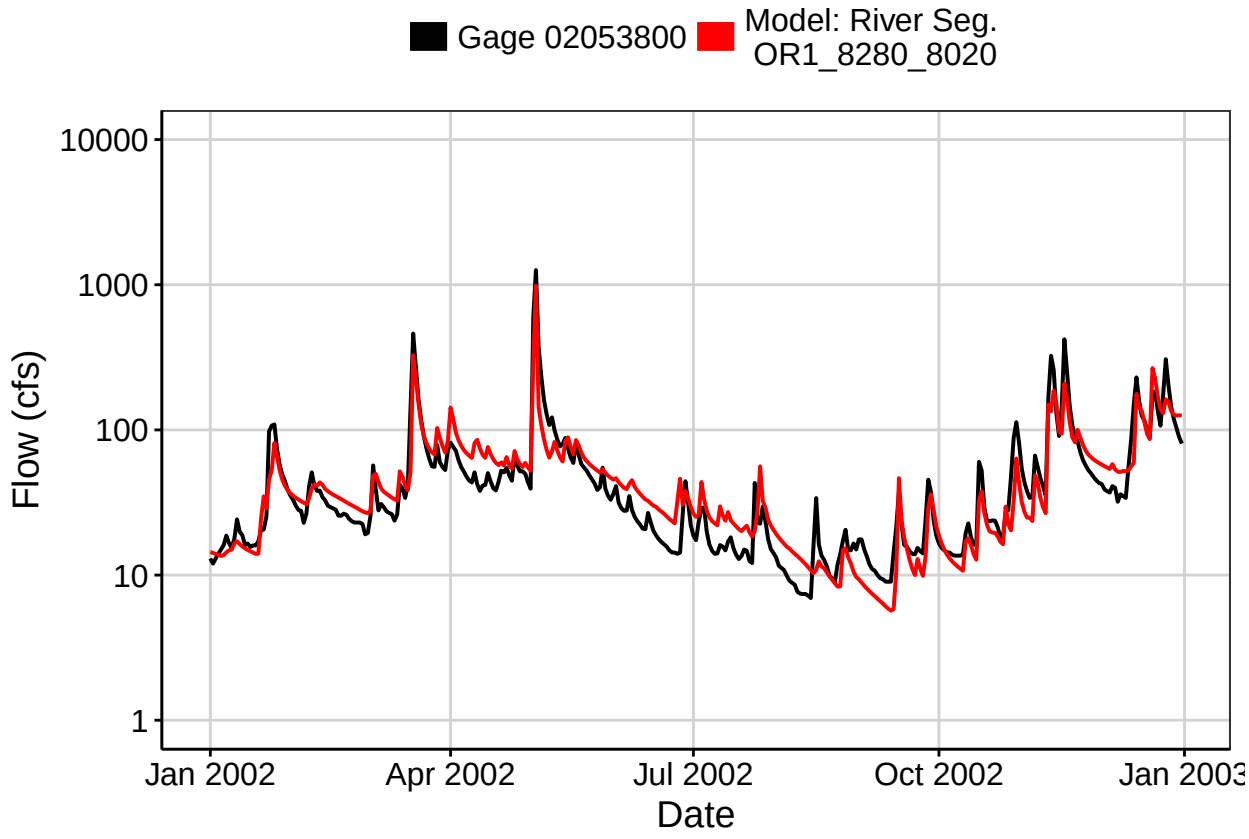

Fig. 3: Flow Exceedance

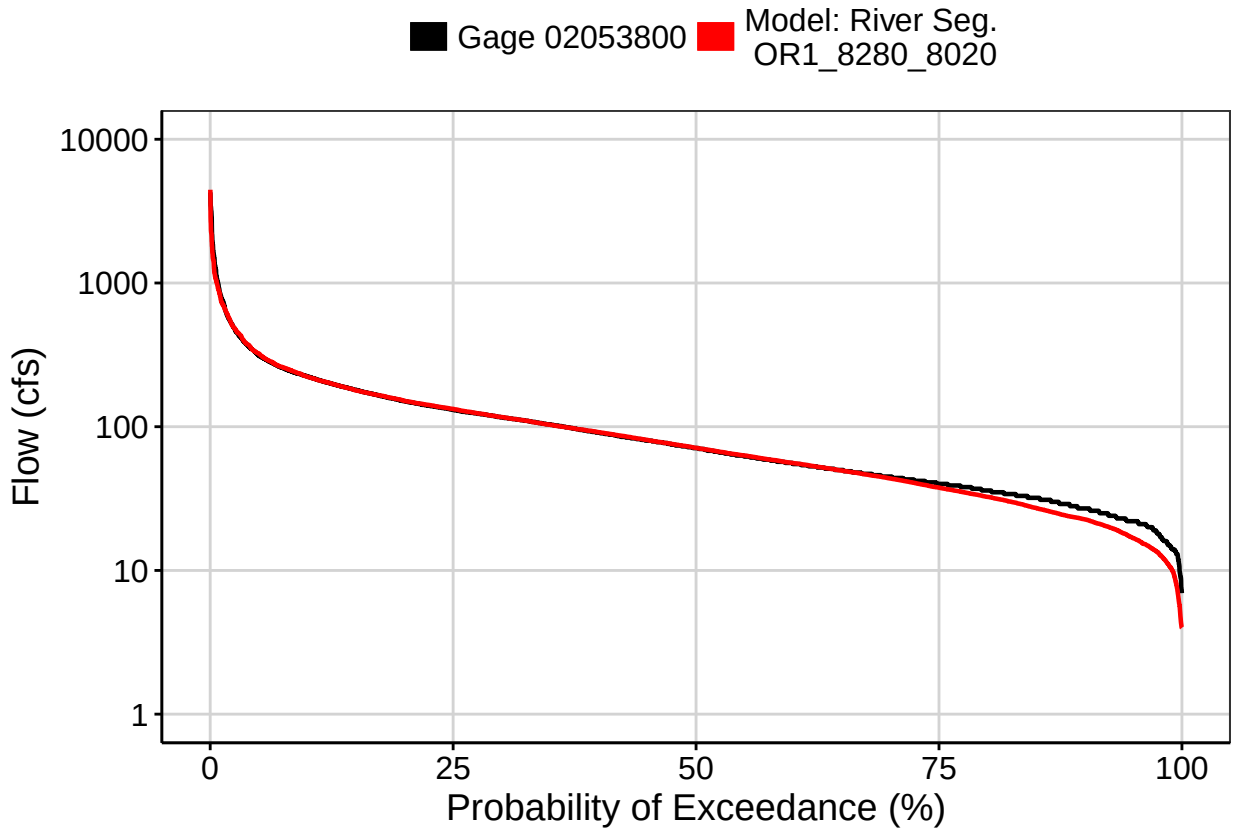

Fig. 4: Baseflow

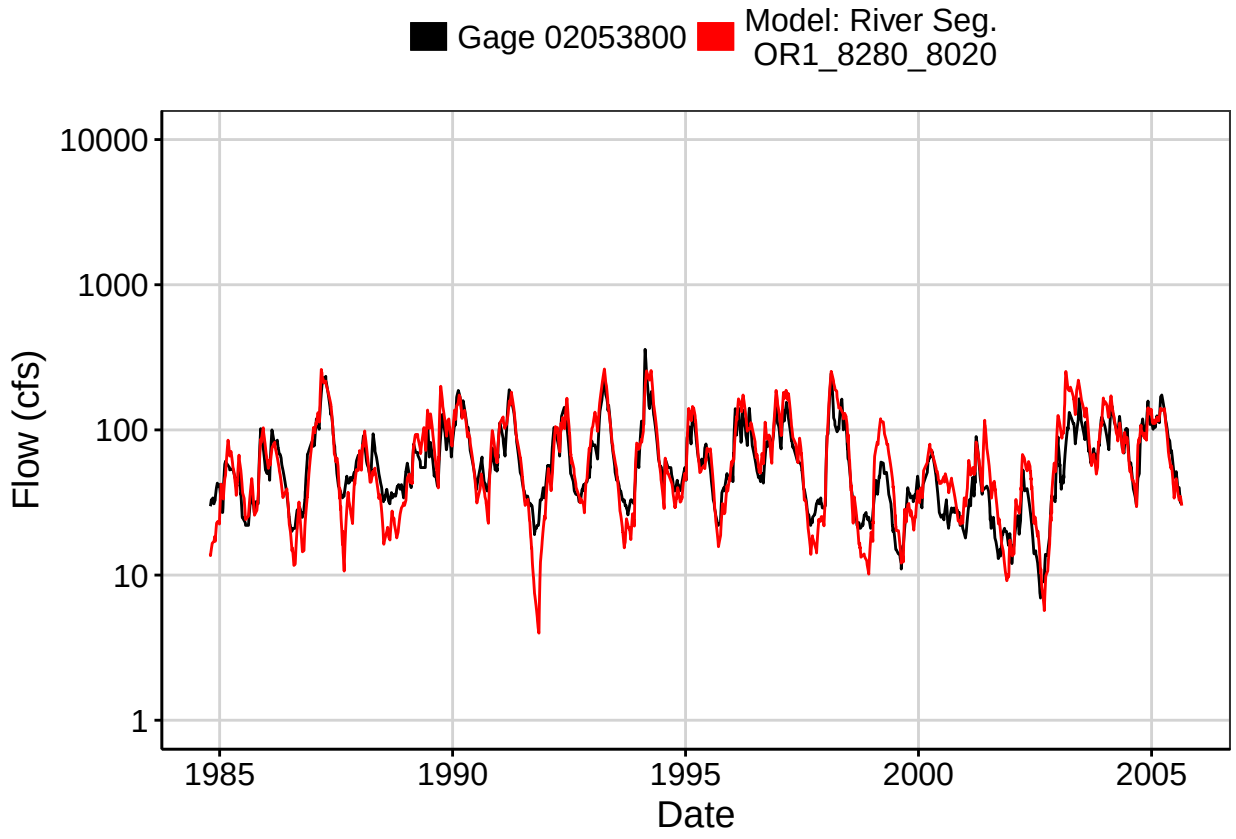

Fig. 5: Combined Baseflow

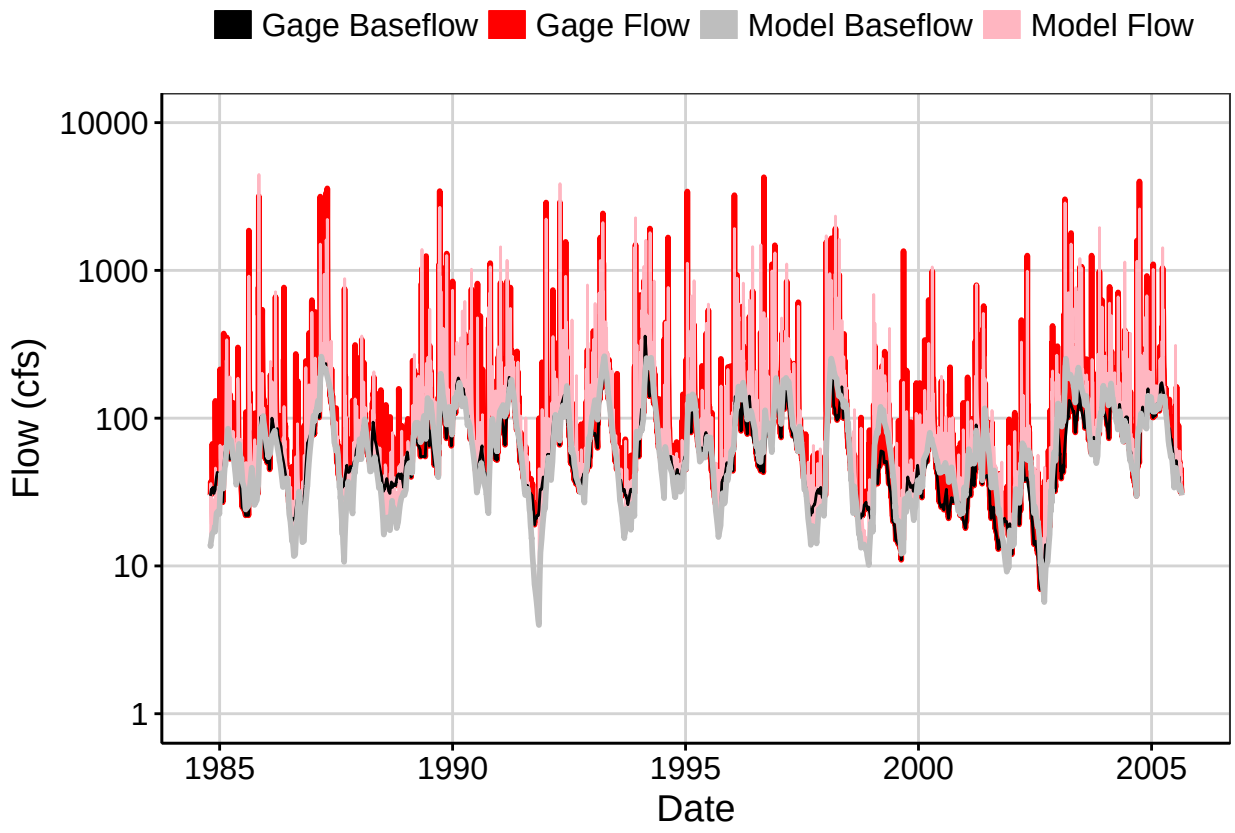

Fig. 6: Largest Error Segment

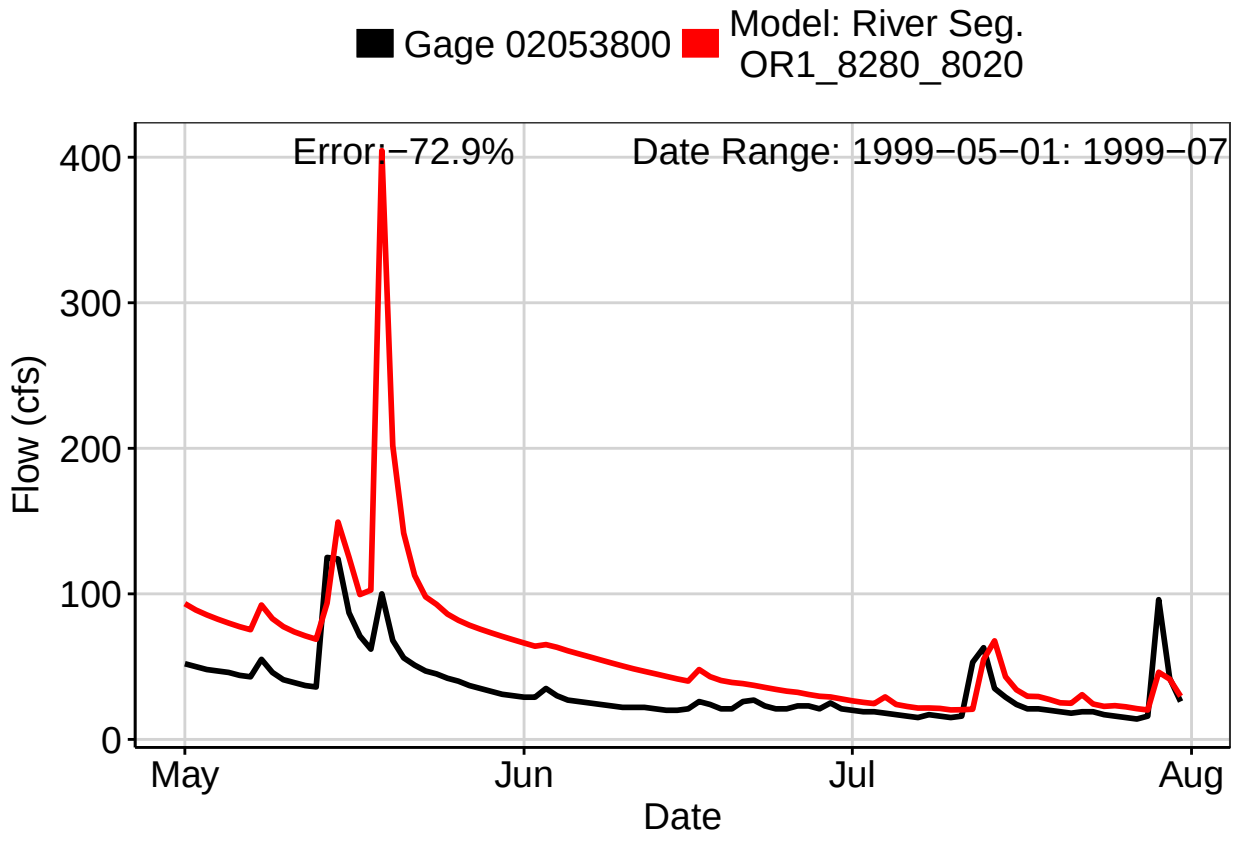

Fig. 7: Second Largest Error Segment

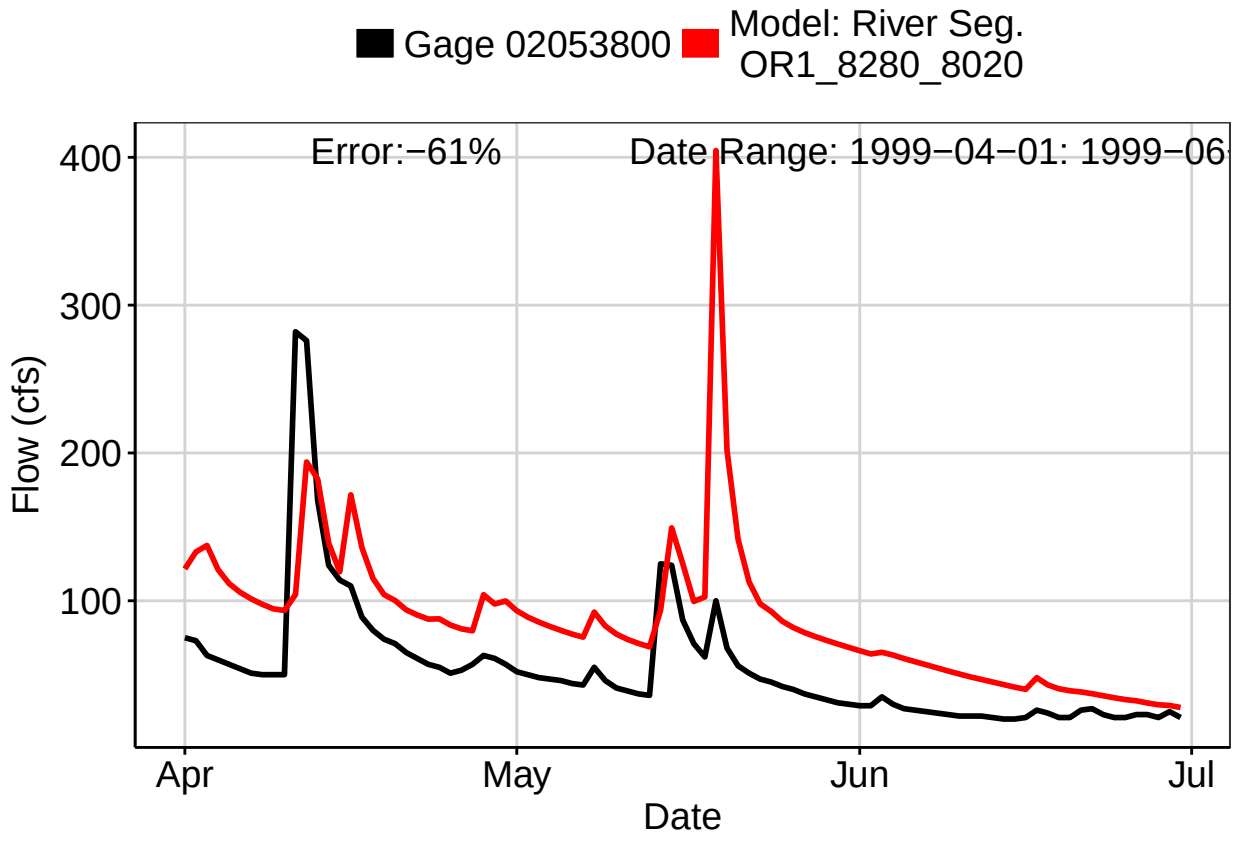

Fig. 8: Third Largest Error Segment

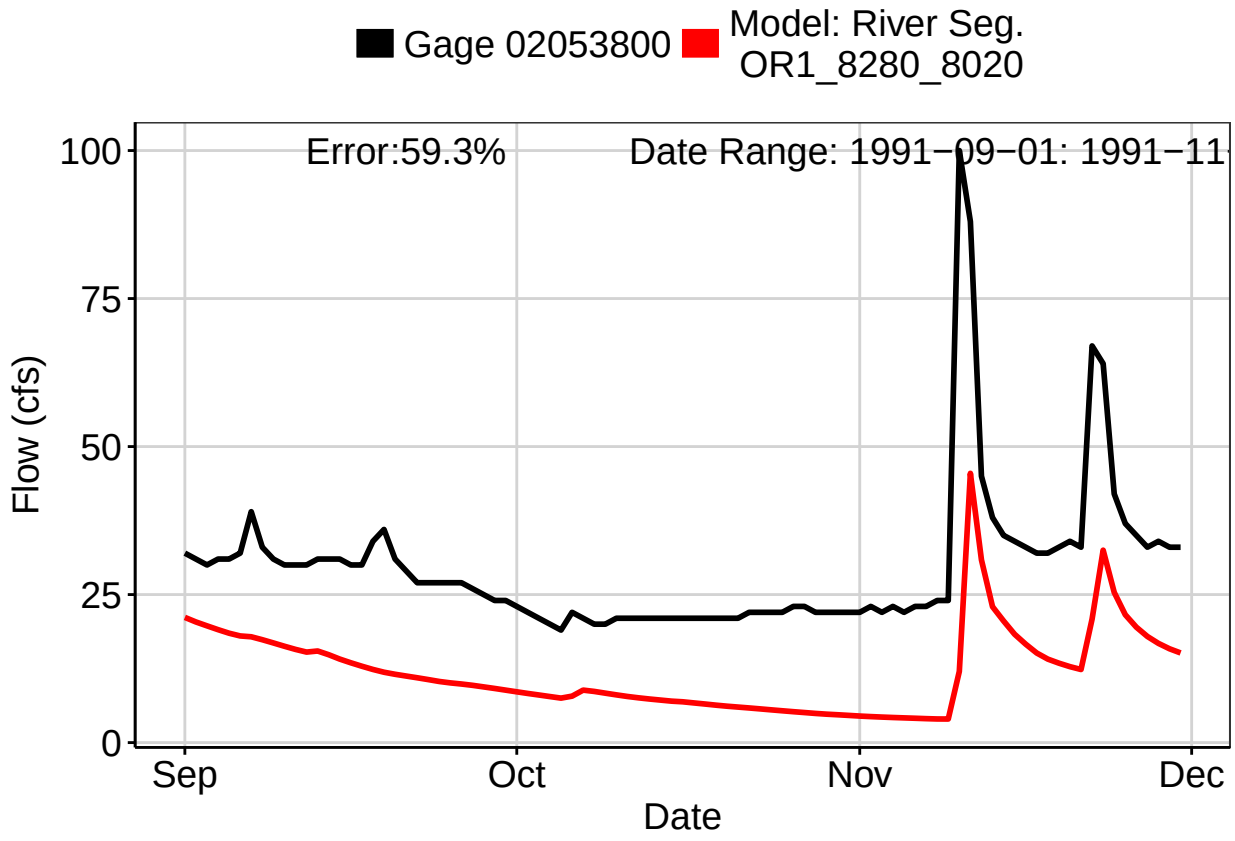

Fig. 9: Residuals Plot