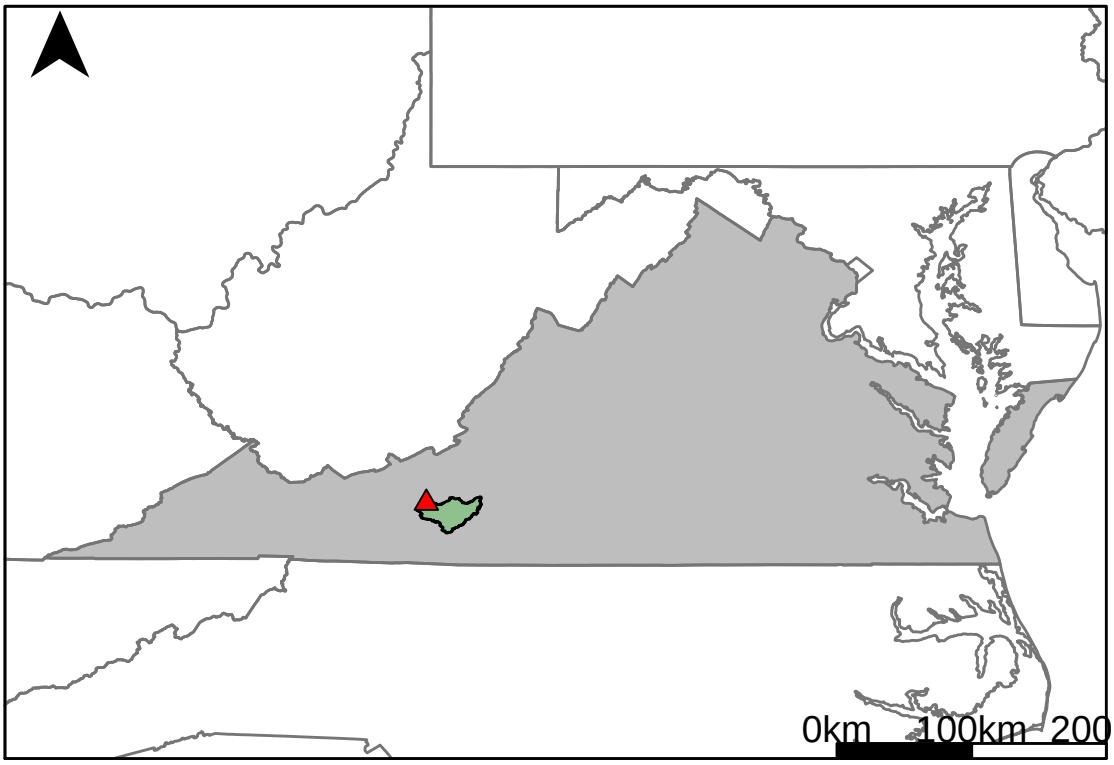
Appendix F.5: USGS Gage 03170000 vs. NR3_8420_8430



This river segment follows part of the flow of the Little River, a tributary of the New River. The gage is located in Pulaski County, VA (Lat 3702'15", Long 8033'25") approximately 6 miles south of Radford, VA. Drainage area is 309 sq. miles. This gage started taking data in 1928 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 -2.8%, with 39.2% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	133	80.2	39.7
Feb. Low Flow	150	114	24
Mar. Low Flow	178	189	-6.18
Apr. Low Flow	130	197	-51.5
May Low Flow	200	325	-62.5
Jun. Low Flow	276	355	-28.6
Jul. Low Flow	301	240	20.3
Aug. Low Flow	279	205	26.5
Sep. Low Flow	218	169	22.5
Oct. Low Flow	169	123	27.2
Nov. Low Flow	142	109	23.2
Dec. Low Flow	122	93.2	23.6

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	357	367	-2.8
Jan. Mean Flow	398	447	-12.3
Feb. Mean Flow	471	575	-22.1
Mar. Mean Flow	532	650	-22.2
Apr. Mean Flow	500	560	-12
May Mean Flow	399	378	5.26
Jun. Mean Flow	358	343	4.19
Jul. Mean Flow	257	216	16
Aug. Mean Flow	232	199	14.2
Sep. Mean Flow	280	250	10.7
Oct. Mean Flow	233	213	8.58
Nov. Mean Flow	318	286	10.1
Dec. Mean Flow	318	310	2.52

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	394	200	49.2
Feb. High Flow	763	480	37.1
Mar. High Flow	695	468	32.7
Apr. High Flow	925	964	-4.22
May High Flow	1000	915	8.5
Jun. High Flow	1560	1580	-1.28
Jul. High Flow	895	1060	-18.4
Aug. High Flow	865	718	17
Sep. High Flow	594	442	25.6
Oct. High Flow	471	347	26.3
Nov. High Flow	399	222	44.4
Dec. High Flow	446	243	45.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	31	11	64.5
Med. 1 Day Min	95	51.7	45.6
Min. 3 Day Min	31.3	11.2	64.2
Med. 3 Day Min	98.5	53.2	46
Min. 7 Day Min	32	11.8	63.1
Med. 7 Day Min	105	57.6	45.1
Min. 30 Day Min	52.9	18.2	65.6
Med. 30 Day Min	133	78.5	41
Min. 90 Day Min	75.4	47.5	37
Med. 90 Day Min	189	126	33.3
7Q10	59.2	26.3	55.6
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	148	367	-148
Mean Baseflow	235	240	-2.13

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	9330	9680	-3.75
Med. 1 Day Max	3760	4150	-10.4
Max. 3 Day Max	4810	5630	-17
Med. 3 Day Max	2340	2830	-20.9
Max. 7 Day Max	2790	3560	-27.6
Med. 7 Day Max	1500	1780	-18.7
Max. 30 Day Max	1480	1920	-29.7
Med. 30 Day Max	785	937	-19.4
Max. 90 Day Max	1030	1340	-30.1
Med. 90 Day Max	587	644	-9.71

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	73	34	53.4
5% Non-Exceedance	104	63.9	38.6
50% Non-Exceedance	261	240	8.05
95% Non-Exceedance	804	994	-23.6
99% Non-Exceedance	1860	2210	-18.8
Sept. 10% Non-Exceedance	58.8	59.4	-1.02

Fig. 1: Hydrograph

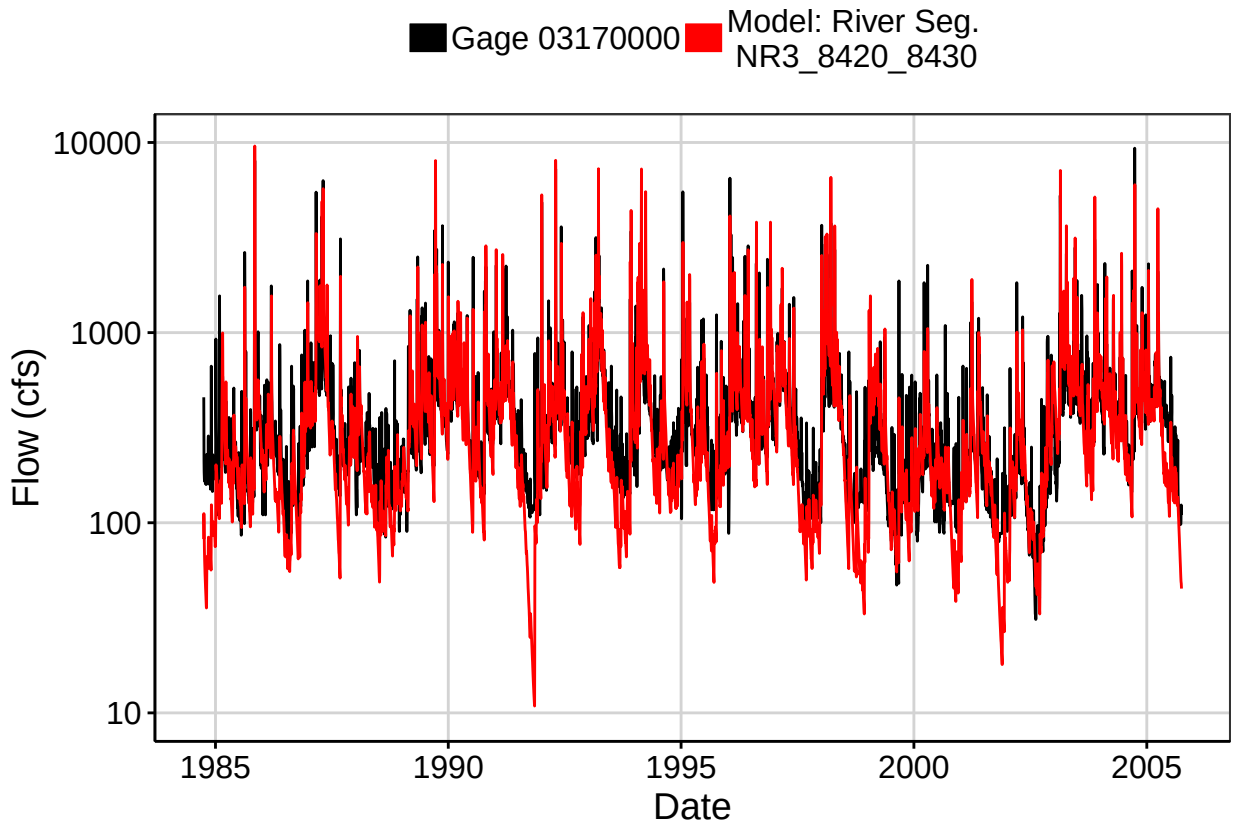


Fig. 2: Zoomed Hydrograph

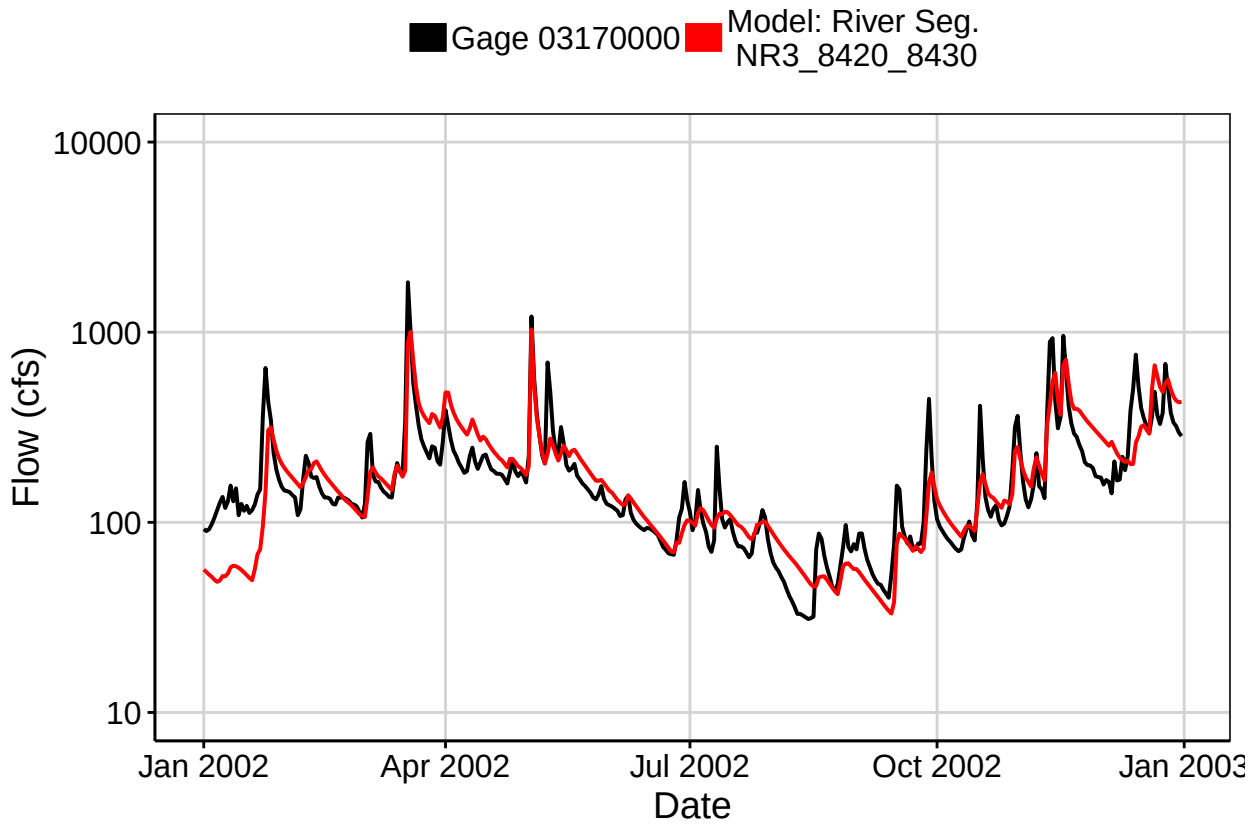


Fig. 3: Flow Exceedance

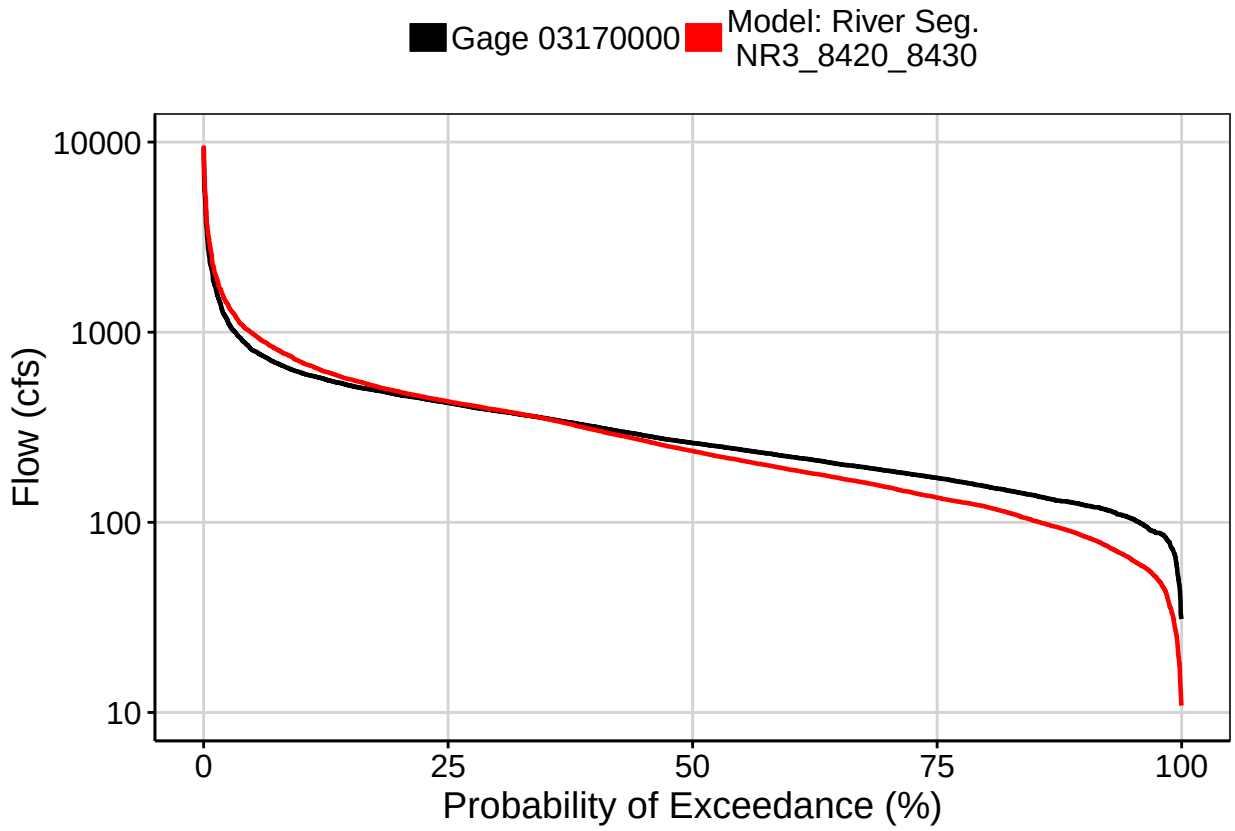


Fig. 4: Baseflow

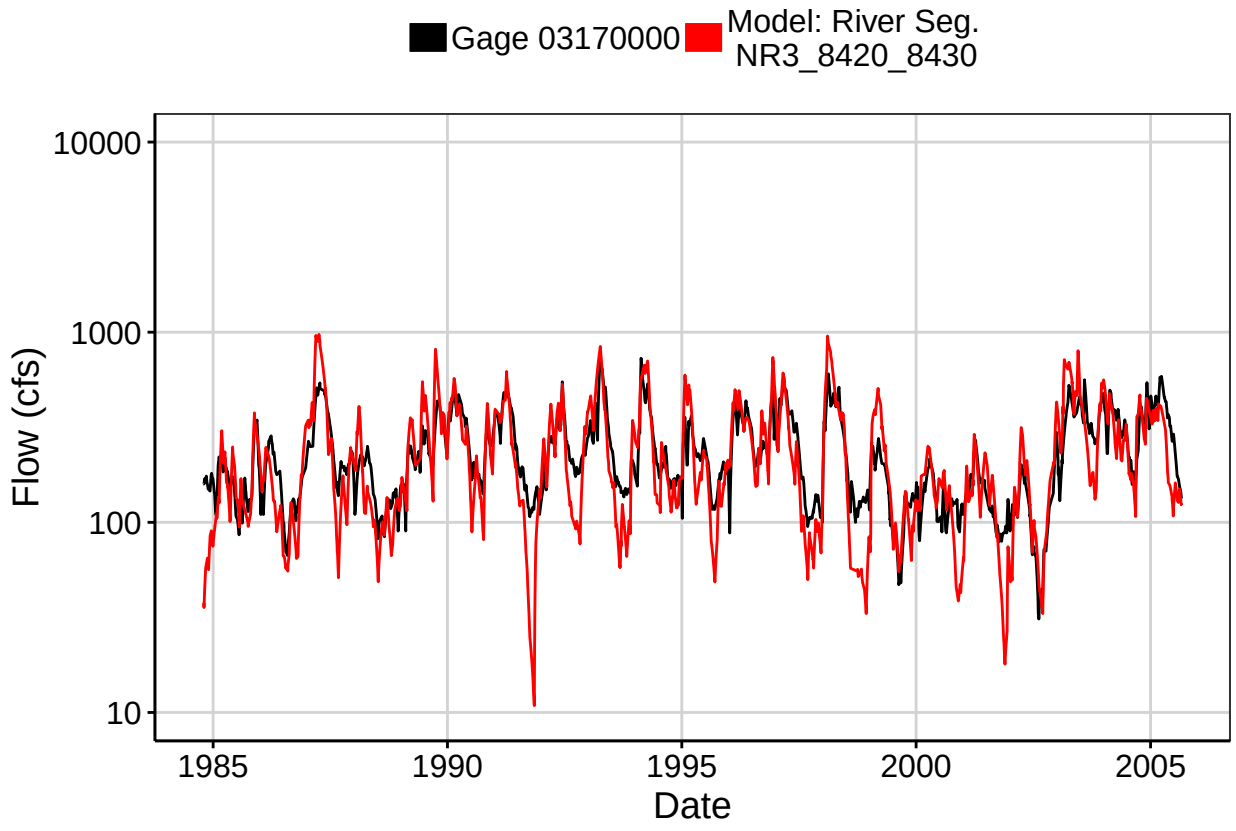


Fig. 5: Combined Baseflow

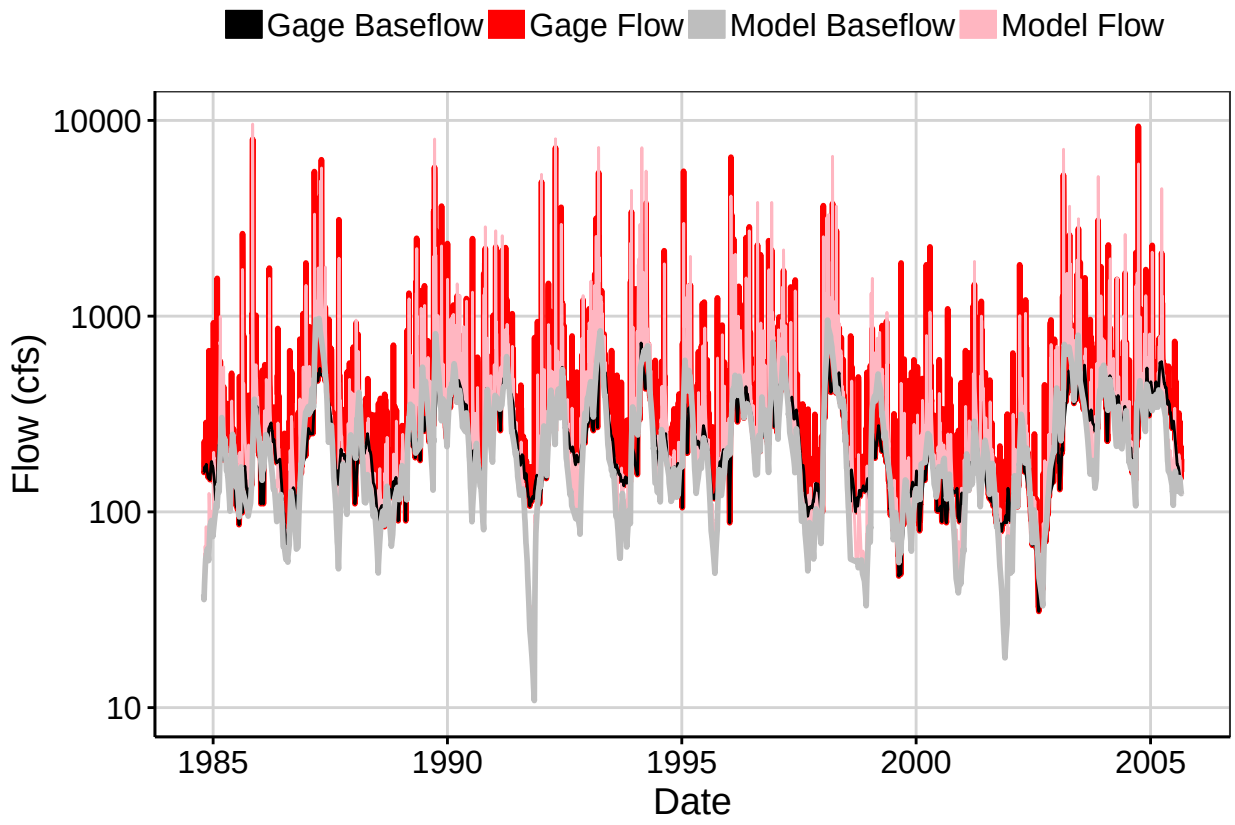


Fig. 6: Largest Error Segment

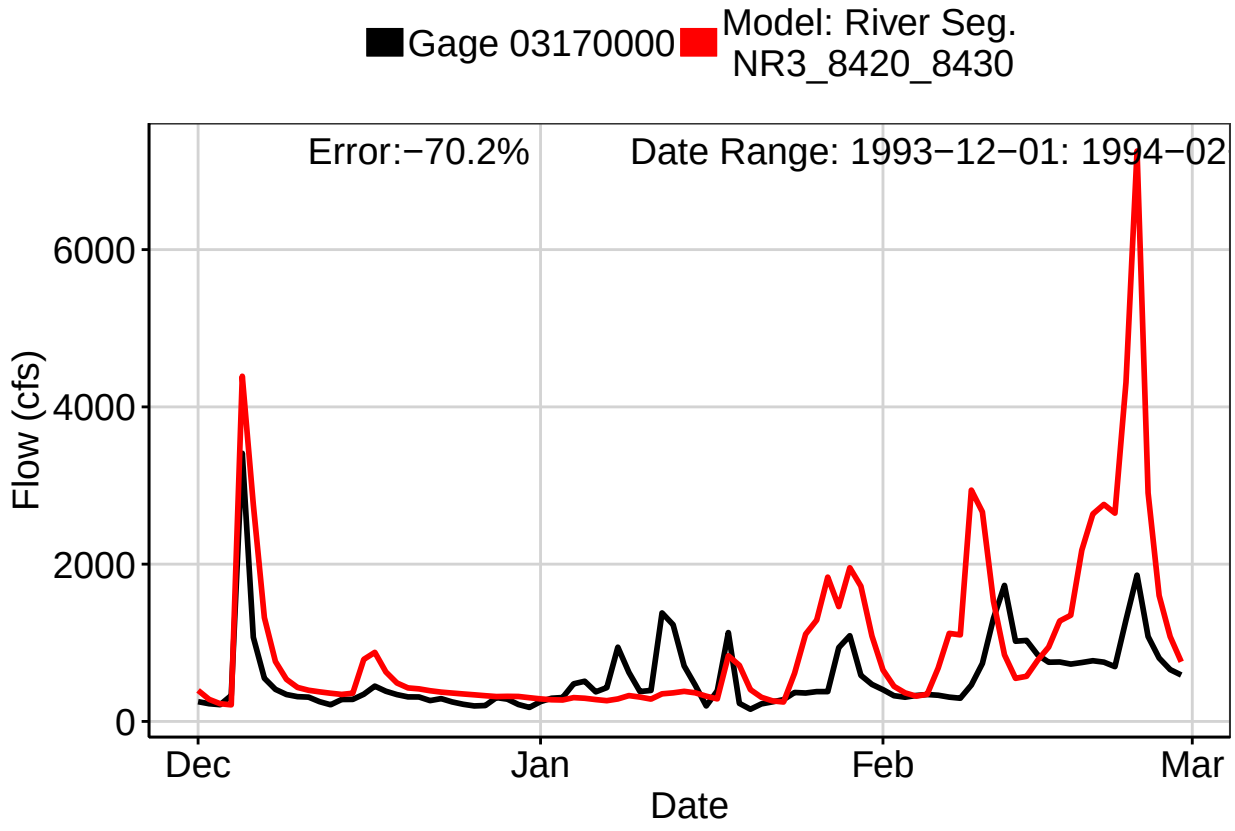


Fig. 7: Second Largest Error Segment

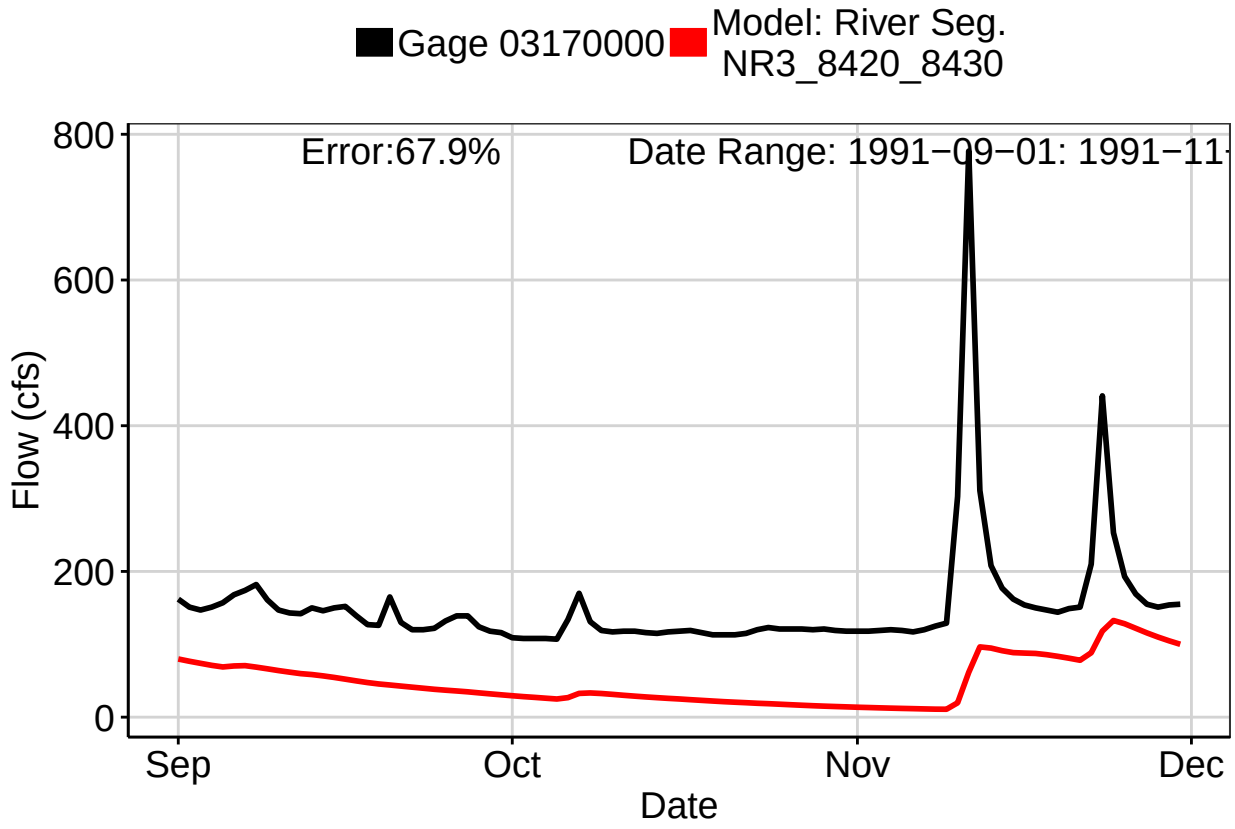


Fig. 8: Third Largest Error Segment

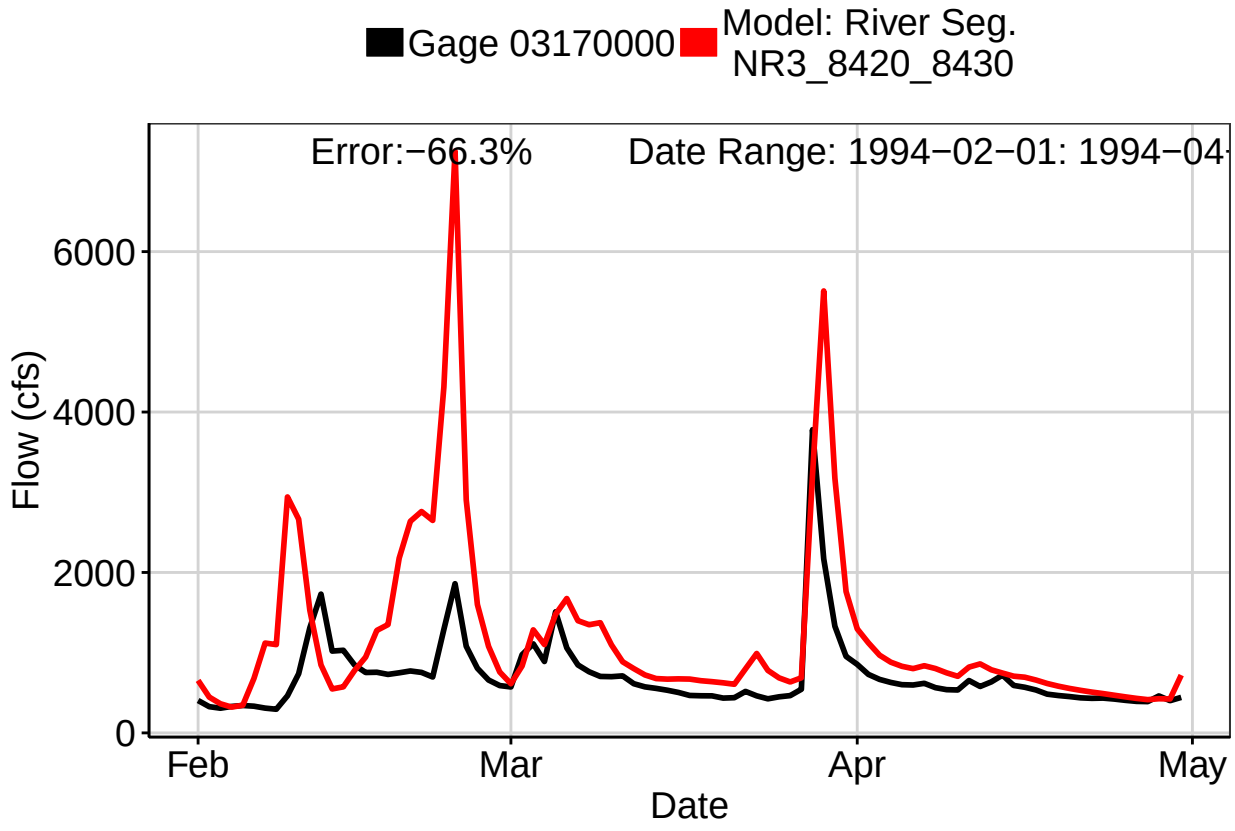


Fig. 9: Residuals Plot