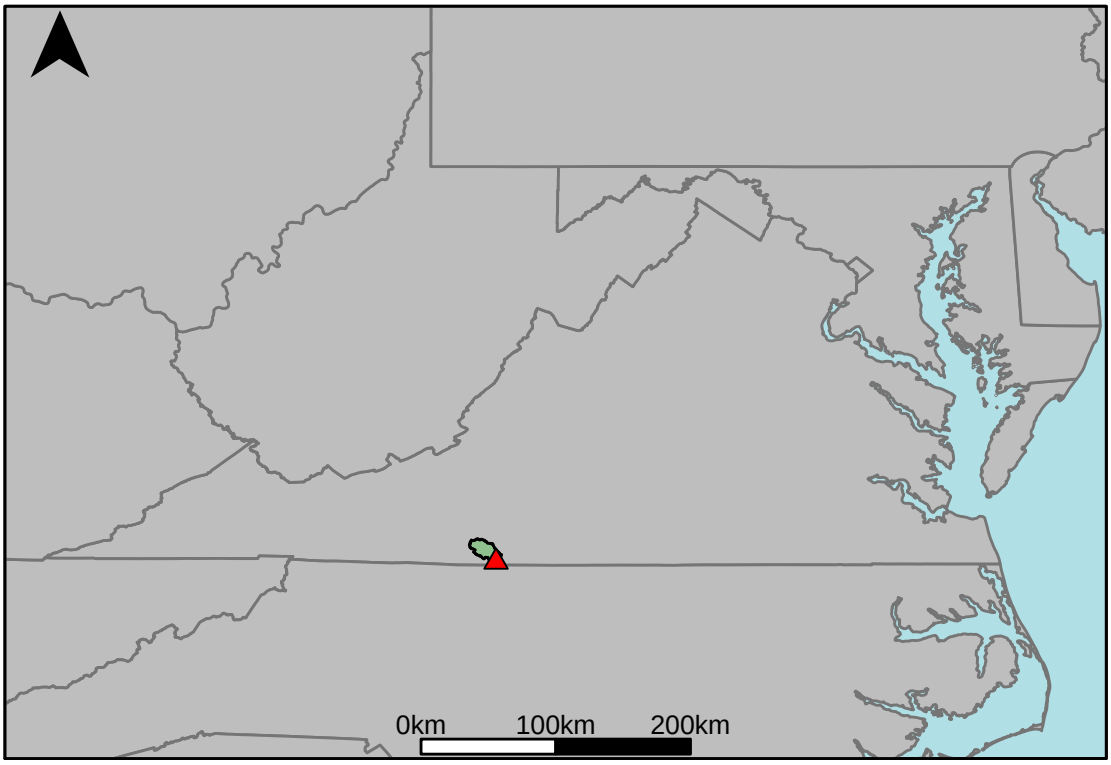
Appendix C.3: USGS Gage 02070000 vs. OD3_8850_8931



This river segment follows part of the flow of the North Mayo River, a tributary of the Dan River. The gage is located in Henry County, VA (Lat 3634'05", Long 7959'15") approximately 10 miles southwest of Martinsville, VA. Drainage area is 108 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 -4.41%, with 57.5% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	61	30.3	-50.3
Feb. Low Flow	71	42	-40.8
Mar. Low Flow	80	65.9	-17.6
Apr. Low Flow	85	70.5	-17.1
May Low Flow	97	117	20.6
Jun. Low Flow	97	117	20.6
Jul. Low Flow	94.4	85.3	-9.64
Aug. Low Flow	83.2	65.4	-21.4
Sep. Low Flow	73.5	53.2	-27.6
Oct. Low Flow	71	39	-45.1
Nov. Low Flow	63	34.4	-45.4
Dec. Low Flow	54	34.2	-36.7

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	136	142	4.41
Jan. Mean Flow	149	173	16.1
Feb. Mean Flow	153	200	30.7
Mar. Mean Flow	199	256	28.6
Apr. Mean Flow	167	198	18.6
May Mean Flow	134	138	2.99
Jun. Mean Flow	140	126	-10
Jul. Mean Flow	126	79.1	-37.2
Aug. Mean Flow	112	88.5	-21
Sep. Mean Flow	123	113	-8.13
Oct. Mean Flow	99.4	91	-8.45
Nov. Mean Flow	116	107	-7.76
Dec. Mean Flow	120	133	10.8

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	148	99.1	-33
Feb. High Flow	267	330	23.6
Mar. High Flow	299	281	-6.02
Apr. High Flow	520	475	-8.65
May High Flow	412	368	-10.7
Jun. High Flow	730	955	30.8
Jul. High Flow	284	377	32.7
Aug. High Flow	339	285	-15.9
Sep. High Flow	336	160	-52.4
Oct. High Flow	245	101	-58.8
Nov. High Flow	222	79.3	-64.3
Dec. High Flow	211	96.5	-54.3

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	5.92	7.17	21.1
Med. 1 Day Min	44	21.9	-50.2
Min. 3 Day Min	5.97	7.35	23.1
Med. 3 Day Min	45	22.8	-49.3
Min. 7 Day Min	6.39	7.68	20.2
Med. 7 Day Min	47.1	24.3	-48.4
Min. 30 Day Min	11.7	9.63	-17.7
Med. 30 Day Min	57.6	30.9	-46.4
Min. 90 Day Min	16.9	20	18.3
Med. 90 Day Min	74.2	45.8	-38.3
7Q10	22.3	12.3	-44.8
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	43.5	46.3	6.44
Mean Baseflow	86.5	84.1	-2.77

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	7460	4110	-44.9
Med. 1 Day Max	2070	2060	-0.48
Max. 3 Day Max	3390	2270	-33
Med. 3 Day Max	1180	1190	0.85
Max. 7 Day Max	1600	1200	-25
Med. 7 Day Max	684	813	18.9
Max. 30 Day Max	539	644	19.5
Med. 30 Day Max	330	361	9.39
Max. 90 Day Max	379	454	19.8
Med. 90 Day Max	214	252	17.8

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	19.8	15.1	-23.7
5% Non-Exceedance	39	23.6	-39.5
50% Non-Exceedance	97	91.1	-6.08
95% Non-Exceedance	308	373	21.1
99% Non-Exceedance	925	990	7.03
Sept. 10% Non-Exceedance	26.8	42.9	60.1

Fig. 1: Hydrograph

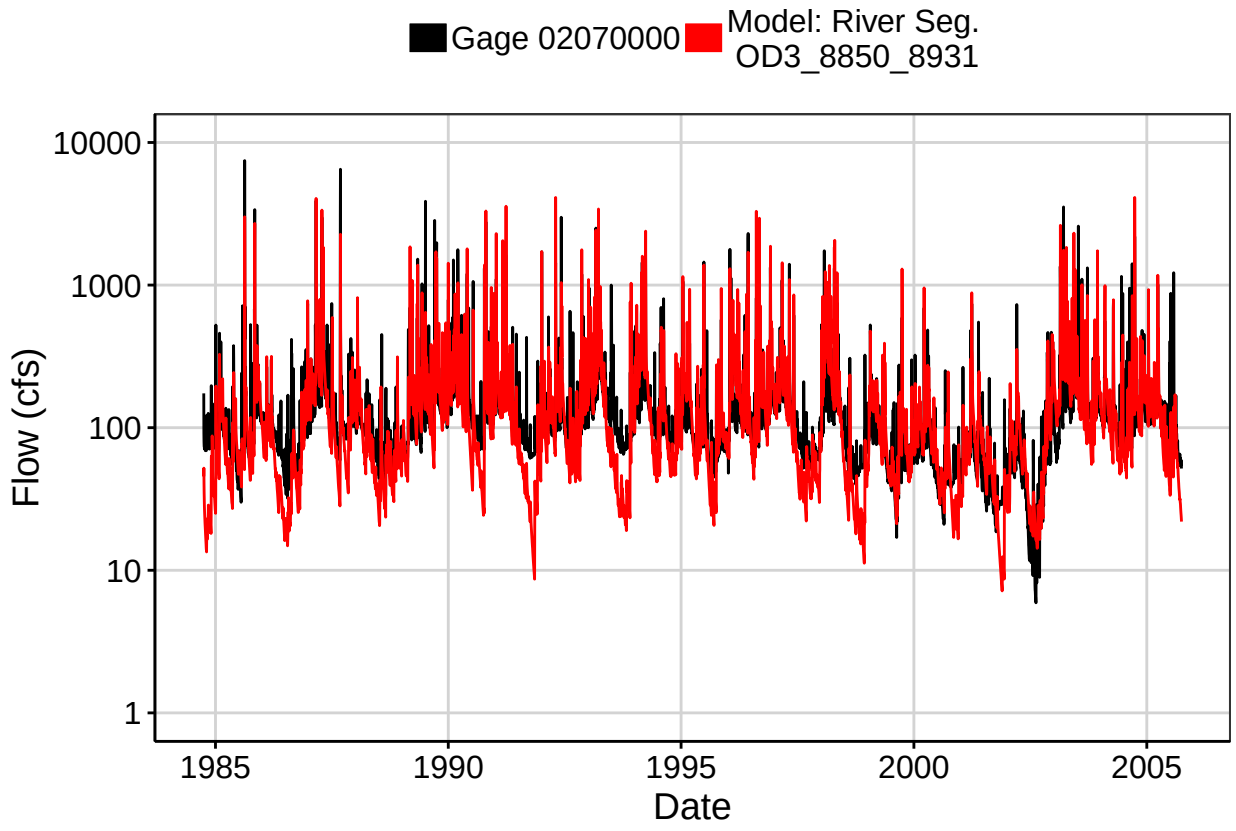


Fig. 2: Zoomed Hydrograph

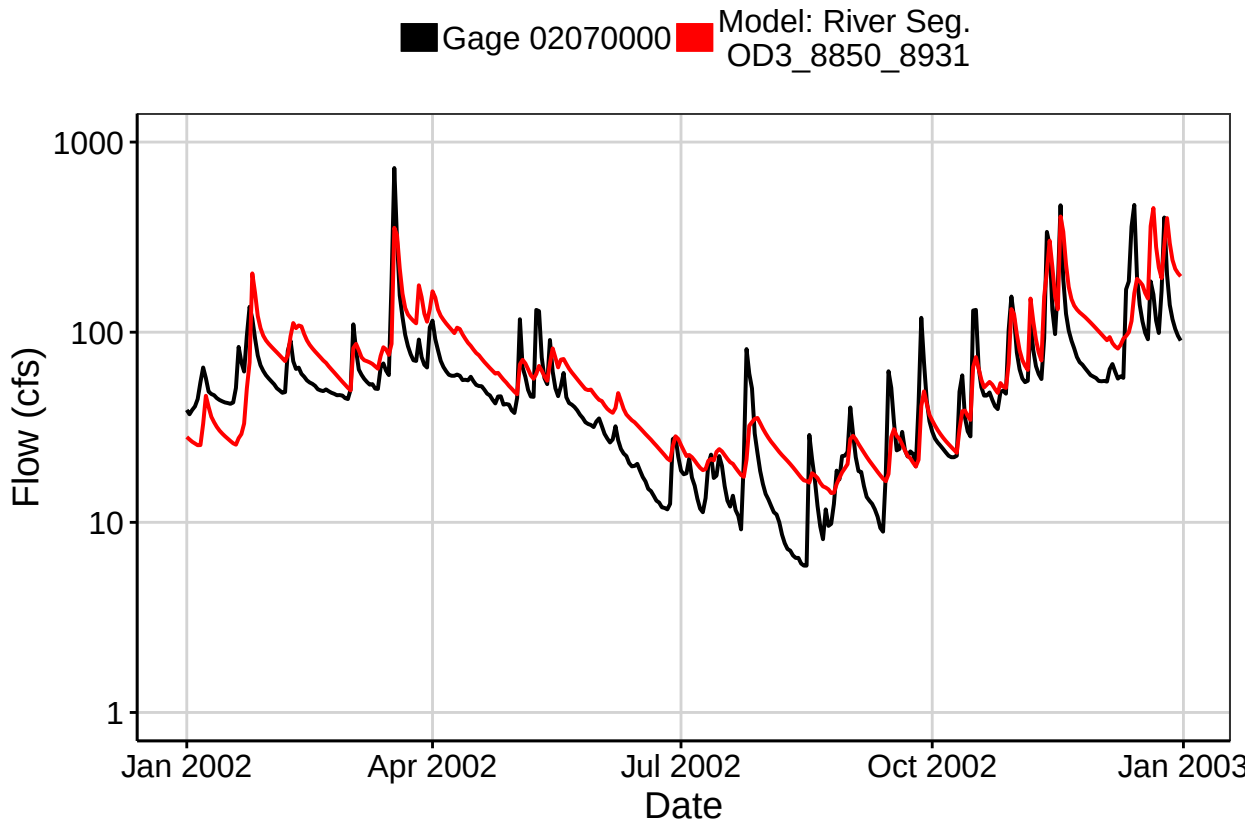


Fig. 3: Flow Exceedance

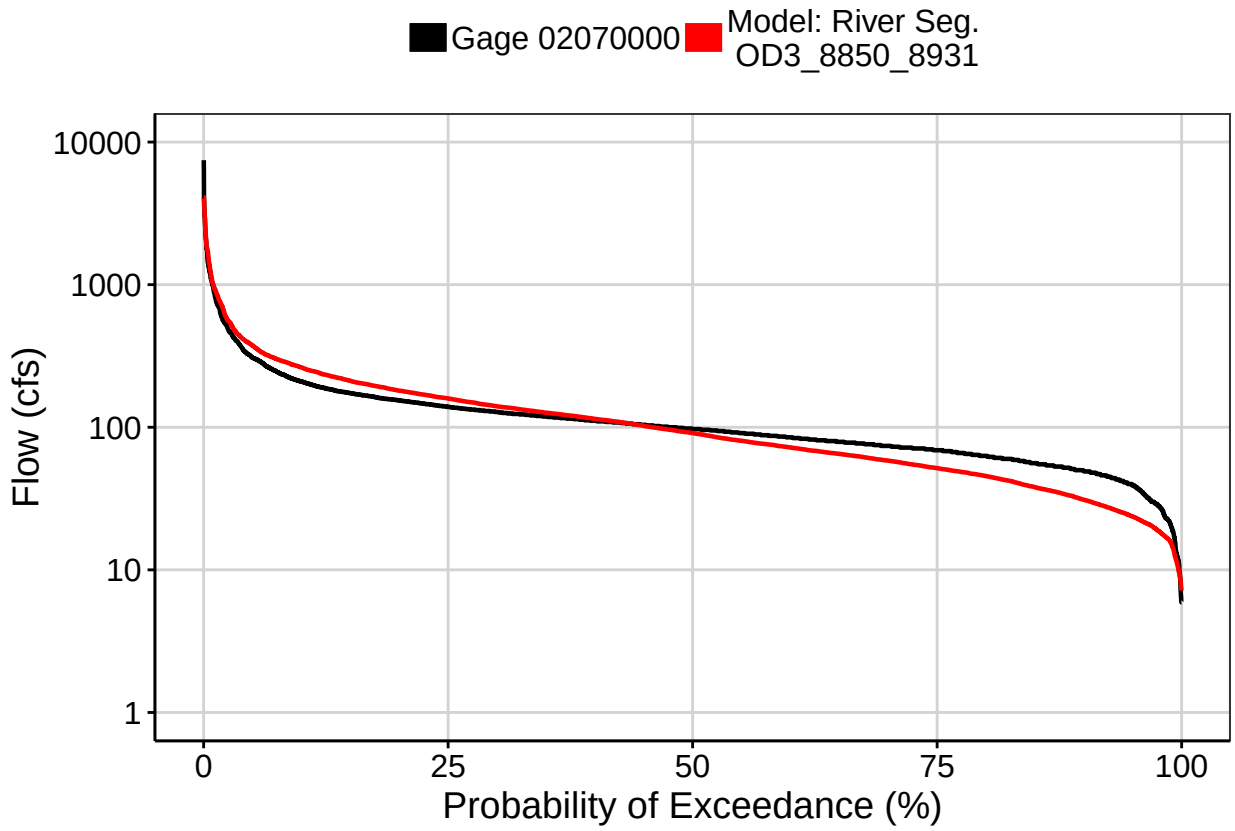


Fig. 4: Baseflow

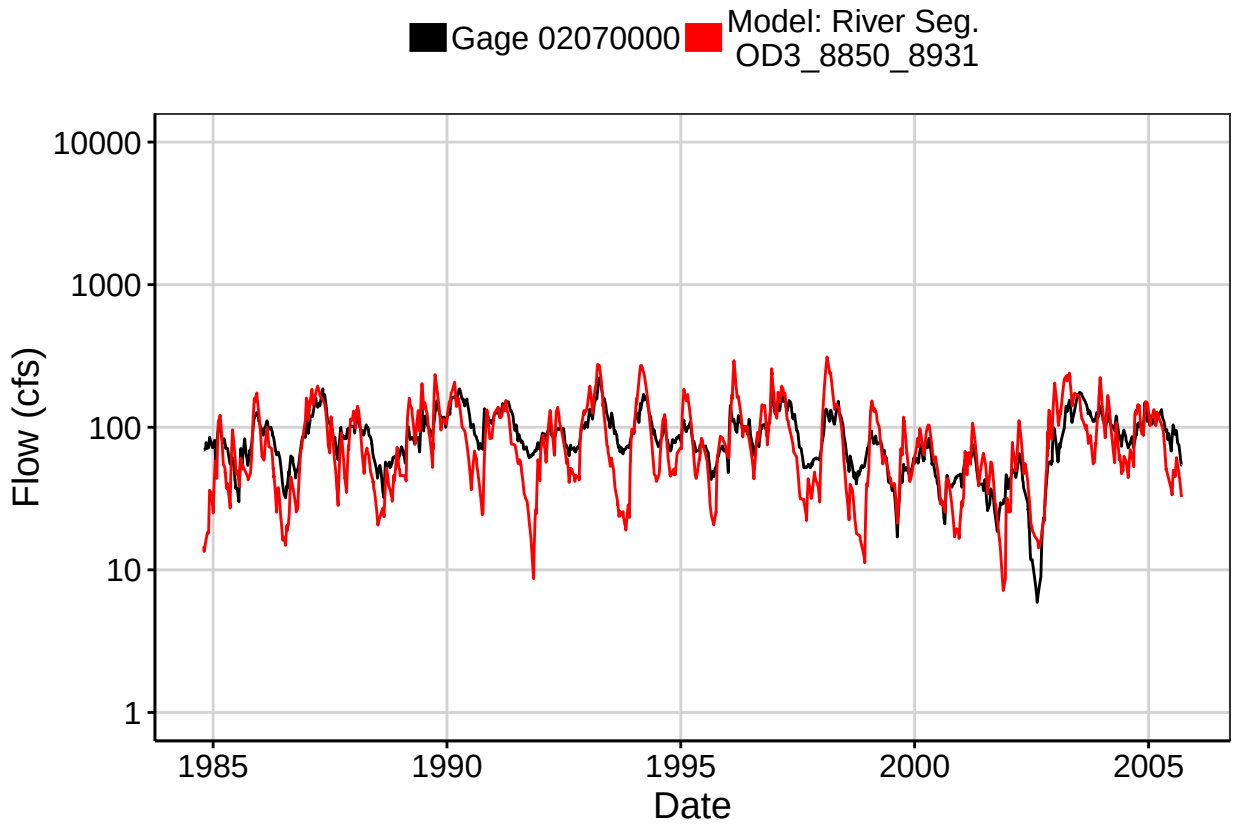


Fig. 5: Combined Baseflow

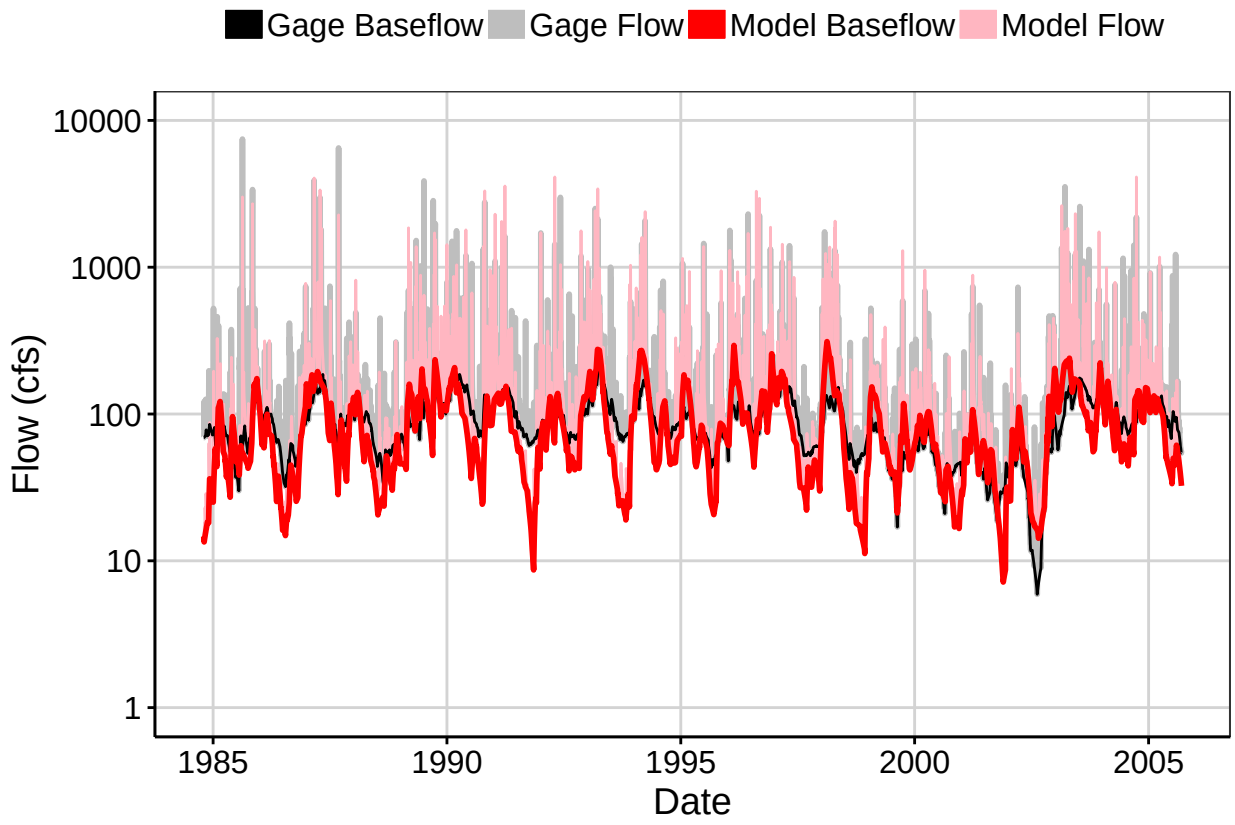


Fig. 6: Largest Error Segment

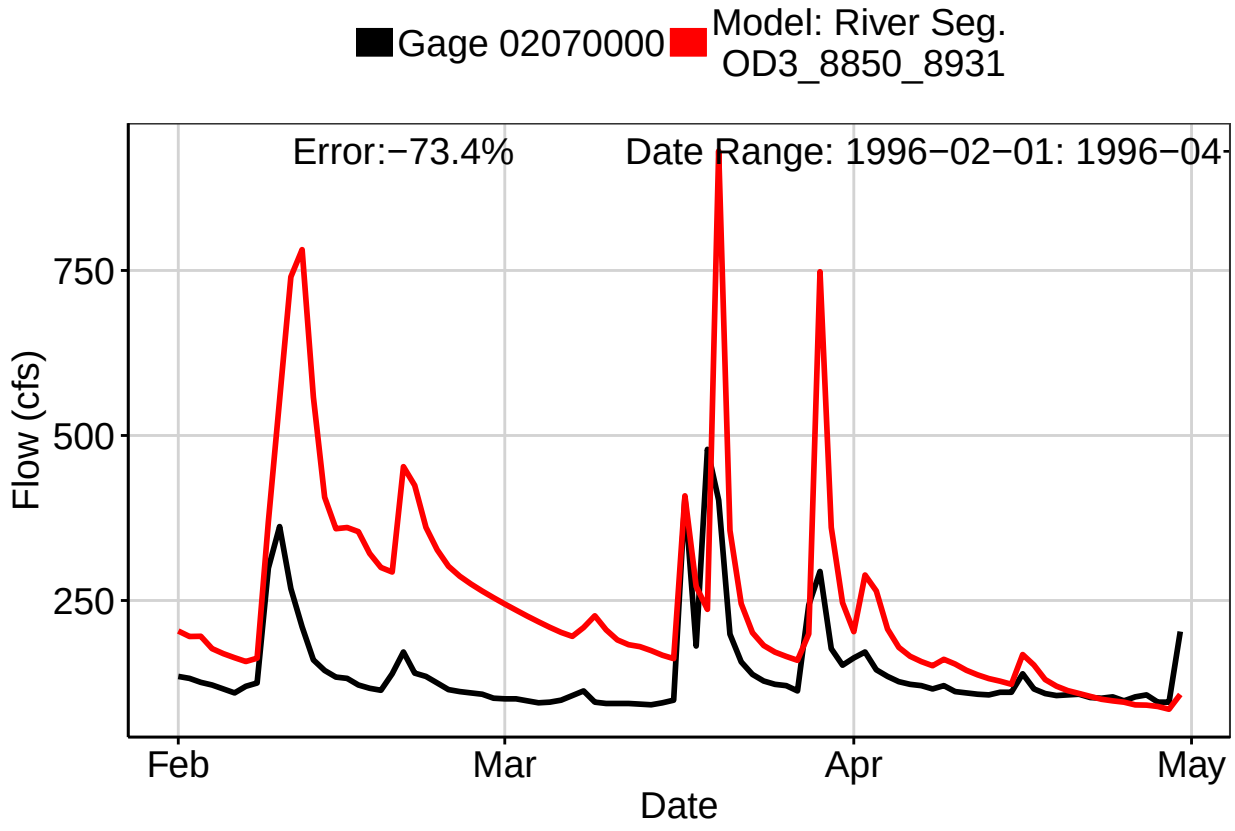


Fig. 7: Second Largest Error Segment

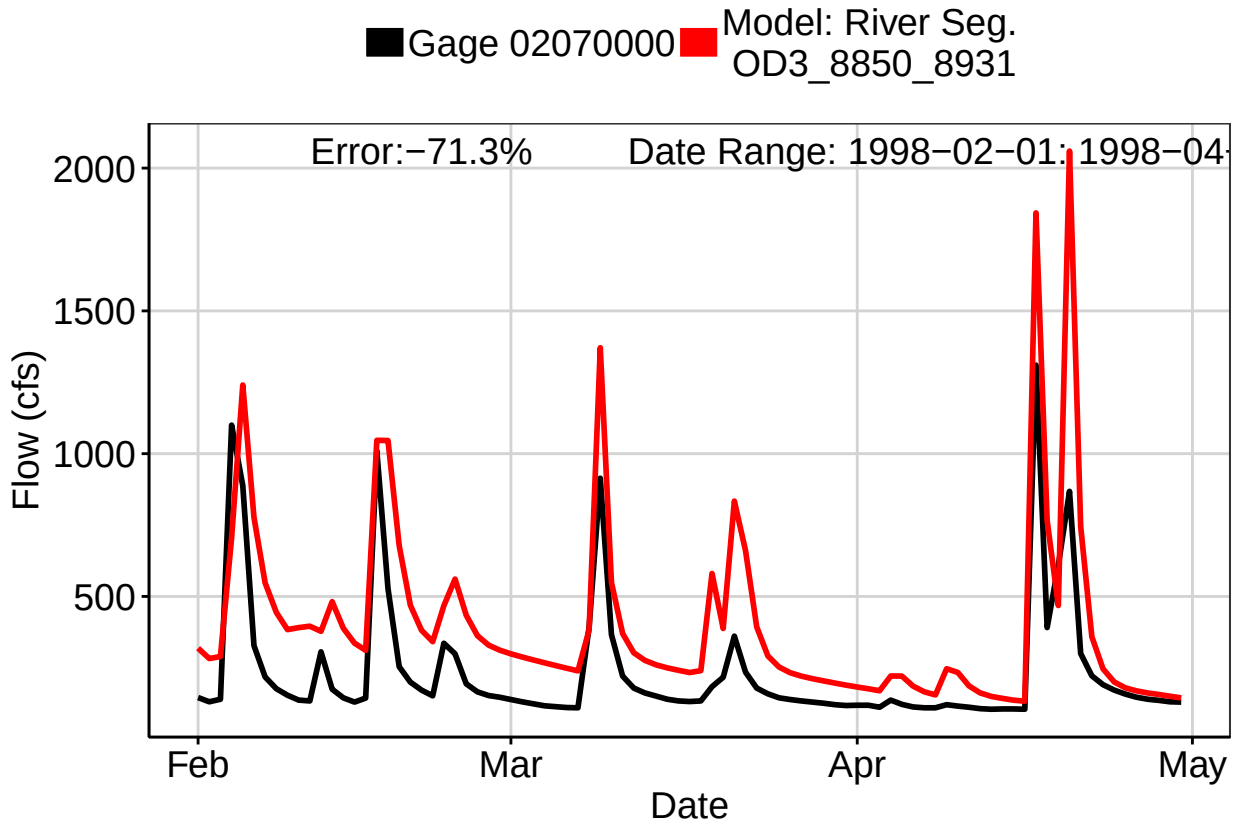


Fig. 8: Third Largest Error Segment

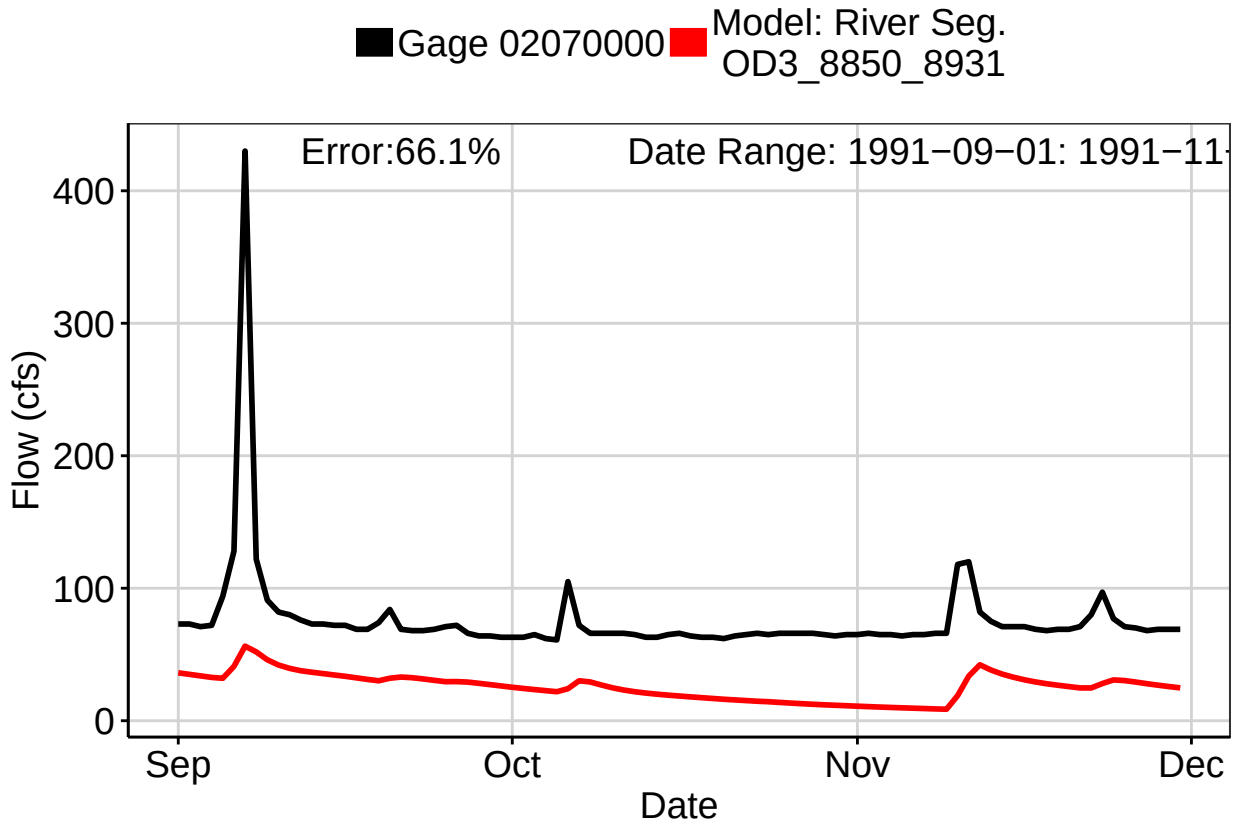


Fig. 9: Residuals Plot