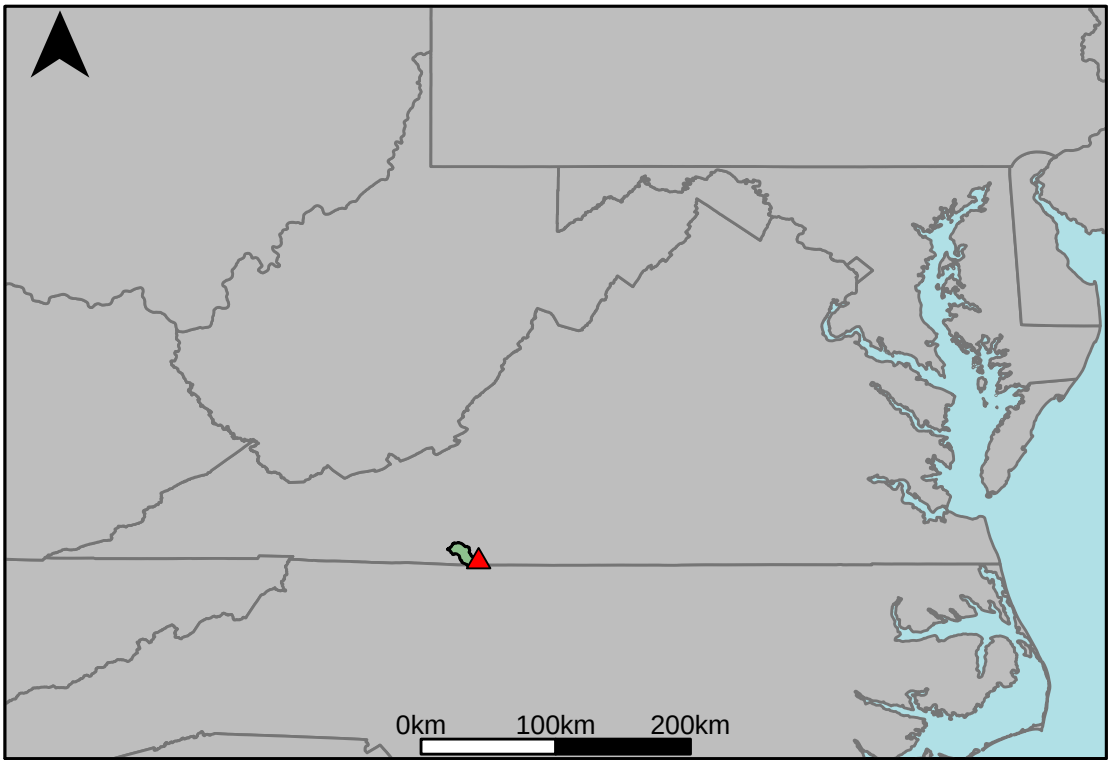
Appendix C.2: USGS Gage 02069700 vs. OD1_8910_8930



This river segment follows part of the flow of the South Mayo River, a tributary of the Dan River. The gage is located in Patrick County, VA (Lat 3634'15", Long 8007'47") approximately 17 miles southwest of Martinsville, VA. Drainage area is 85.5 sq. miles. This gage started taking data in 1962 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 3.91%, with 45.4% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	54	33.7	-37.6
Feb. Low Flow	60	43.3	-27.8
Mar. Low Flow	70	61.8	-11.7
Apr. Low Flow	75	78.6	4.8
May Low Flow	91	99.2	9.01
Jun. Low Flow	96	101	5.21
Jul. Low Flow	94	84.7	-9.89
Aug. Low Flow	97	71	-26.8
Sep. Low Flow	73	59.1	-19
Oct. Low Flow	67.7	44.8	-33.8
Nov. Low Flow	56	42.6	-23.9
Dec. Low Flow	50	36.7	-26.6

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	128	123	-3.91
Jan. Mean Flow	136	145	6.62
Feb. Mean Flow	143	158	10.5
Mar. Mean Flow	181	206	13.8
Apr. Mean Flow	173	169	-2.31
May Mean Flow	140	123	-12.1
Jun. Mean Flow	135	116	-14.1
Jul. Mean Flow	113	79.3	-29.8
Aug. Mean Flow	111	90.1	-18.8
Sep. Mean Flow	97.8	98.9	1.12
Oct. Mean Flow	90.2	80.6	-10.6
Nov. Mean Flow	105	96.3	-8.29
Dec. Mean Flow	113	112	-0.88

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	159	97.1	-38.9
Feb. High Flow	226	224	-0.88
Mar. High Flow	237	210	-11.4
Apr. High Flow	328	378	15.2
May High Flow	334	251	-24.9
Jun. High Flow	467	773	65.5
Jul. High Flow	330	330	0
Aug. High Flow	343	280	-18.4
Sep. High Flow	275	159	-42.2
Oct. High Flow	178	107	-39.9
Nov. High Flow	250	96.9	-61.2
Dec. High Flow	175	110	-37.1

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	8.67	11.1	28
Med. 1 Day Min	39	25.6	-34.4
Min. 3 Day Min	9.2	11.3	22.8
Med. 3 Day Min	40	26.3	-34.2
Min. 7 Day Min	10.1	11.8	16.8
Med. 7 Day Min	43.7	28.2	-35.5
Min. 30 Day Min	16.6	13.6	-18.1
Med. 30 Day Min	50.6	33.5	-33.8
Min. 90 Day Min	21.3	23.8	11.7
Med. 90 Day Min	67.4	45.8	-32
7Q10	20.6	14.6	-29.1
Year of 90-Day Min. Flow	2002	1985	100
Drought Year Mean	44.9	50.3	12
Mean Baseflow	87.1	82	-5.86

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	6580	3780	-42.6
Med. 1 Day Max	1270	1390	9.45
Max. 3 Day Max	2660	2200	-17.3
Med. 3 Day Max	870	953	9.54
Max. 7 Day Max	1420	1010	-28.9
Med. 7 Day Max	516	633	22.7
Max. 30 Day Max	514	500	-2.72
Med. 30 Day Max	264	283	7.2
Max. 90 Day Max	362	373	3.04
Med. 90 Day Max	193	202	4.66

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	23.2	17.1	-26.3
5% Non-Exceedance	36	27.2	-24.4
50% Non-Exceedance	97	86	-11.3
95% Non-Exceedance	298	303	1.68
99% Non-Exceedance	682	735	7.77
Sept. 10% Non-Exceedance	30	36.9	23

Fig. 1: Hydrograph

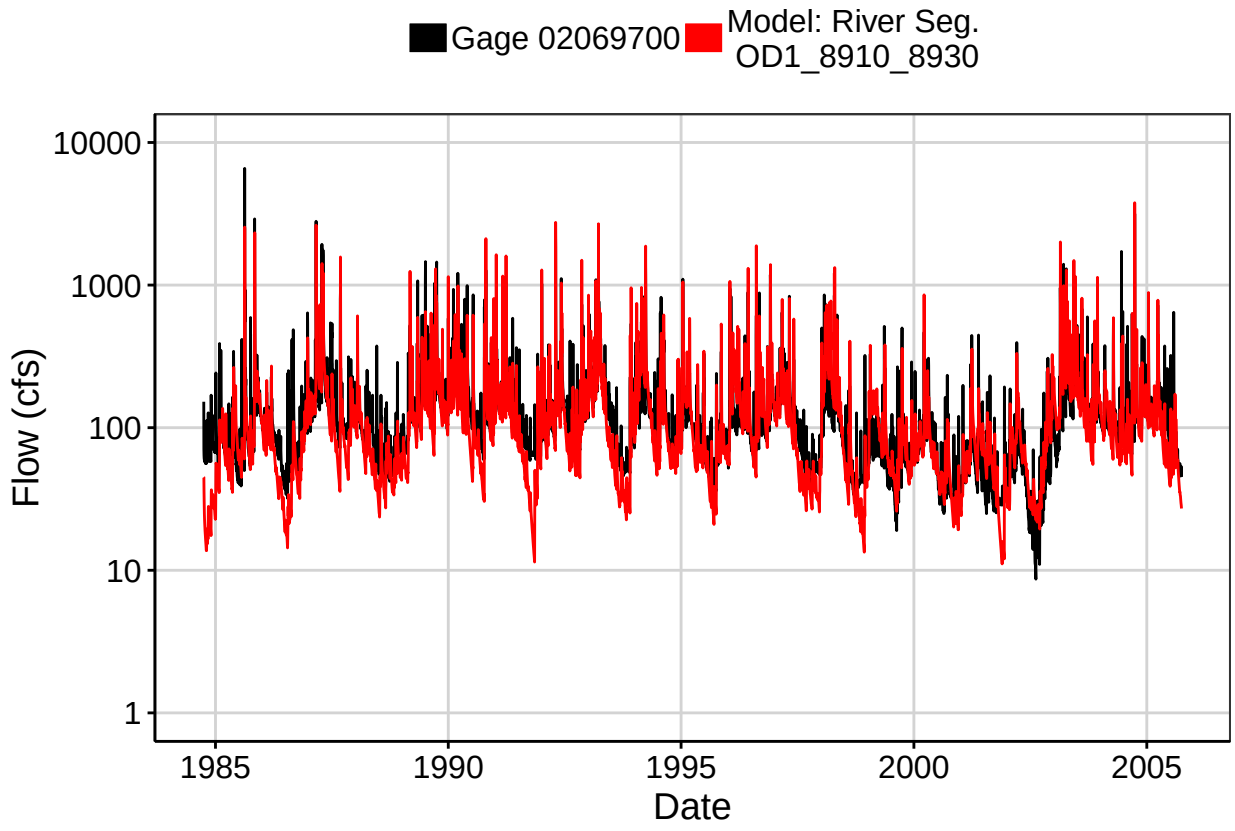


Fig. 2: Zoomed Hydrograph

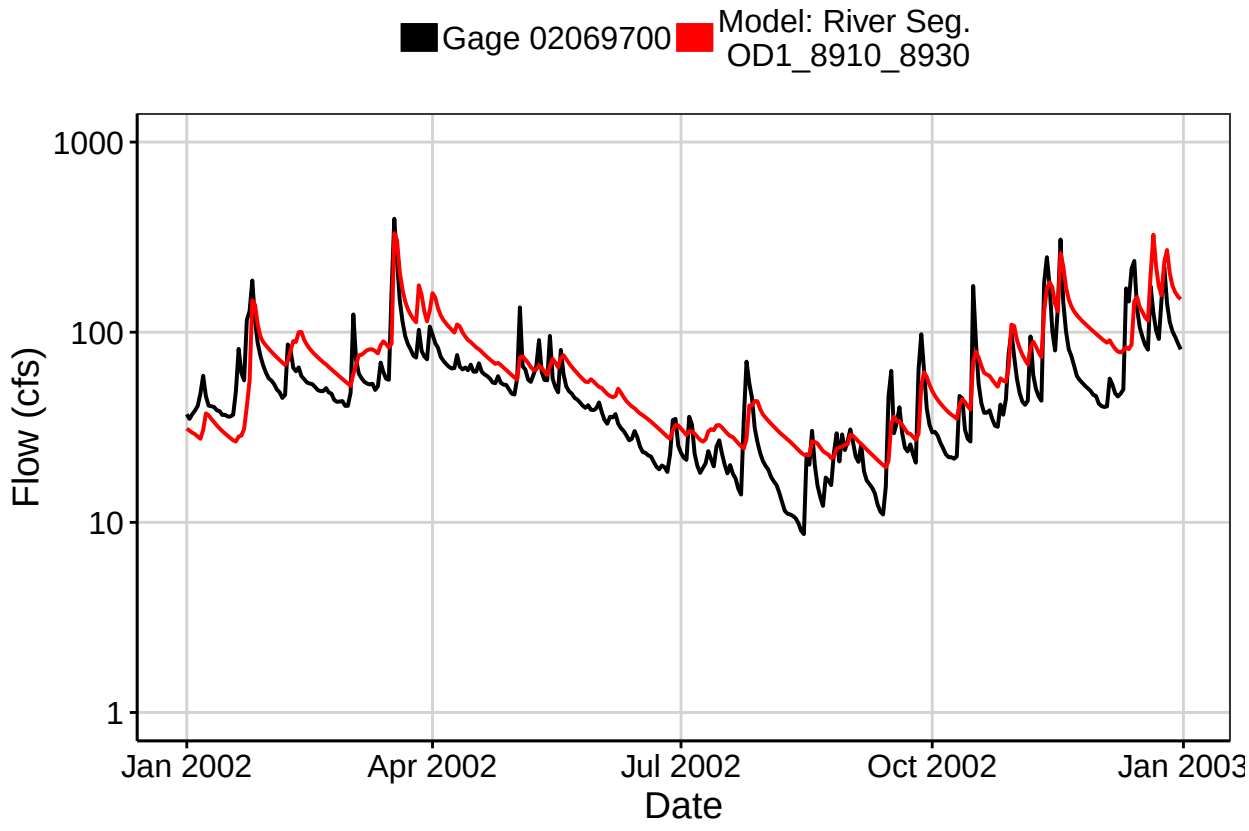


Fig. 3: Flow Exceedance

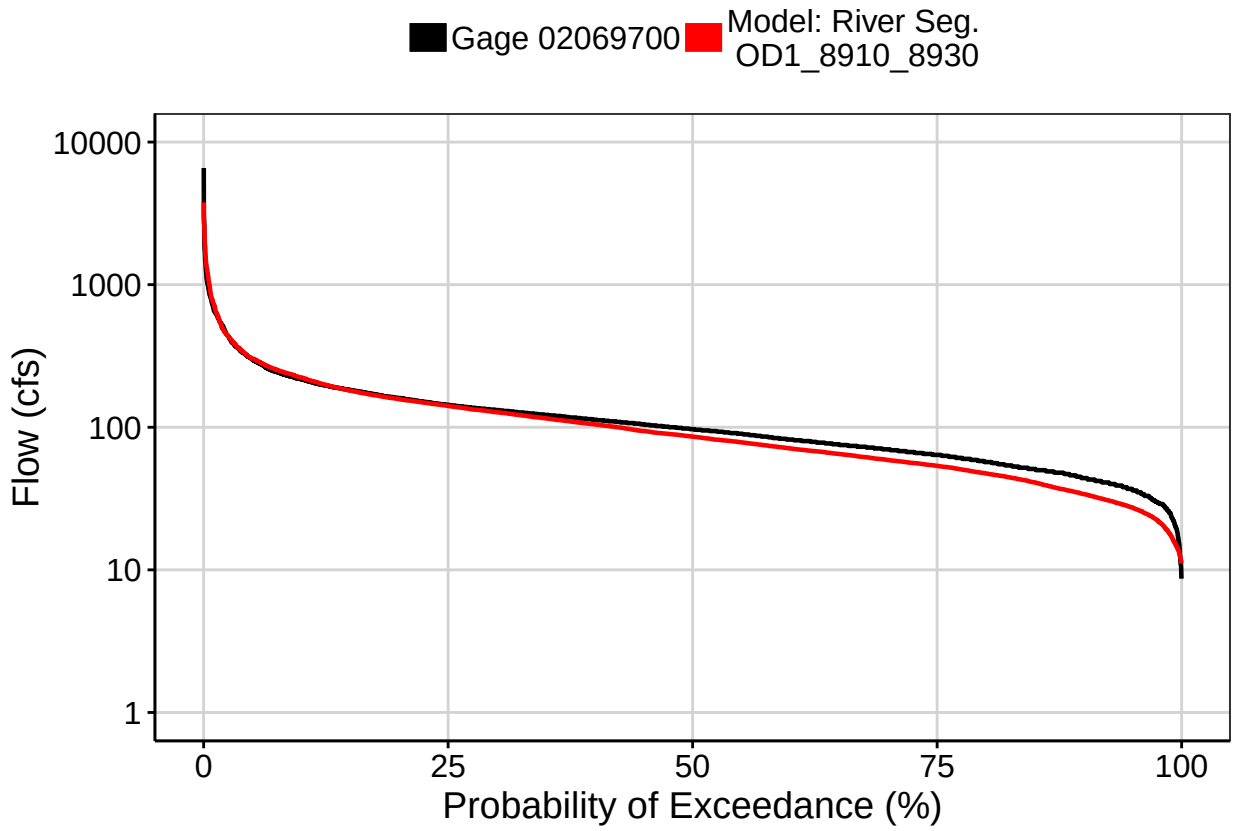


Fig. 4: Baseflow

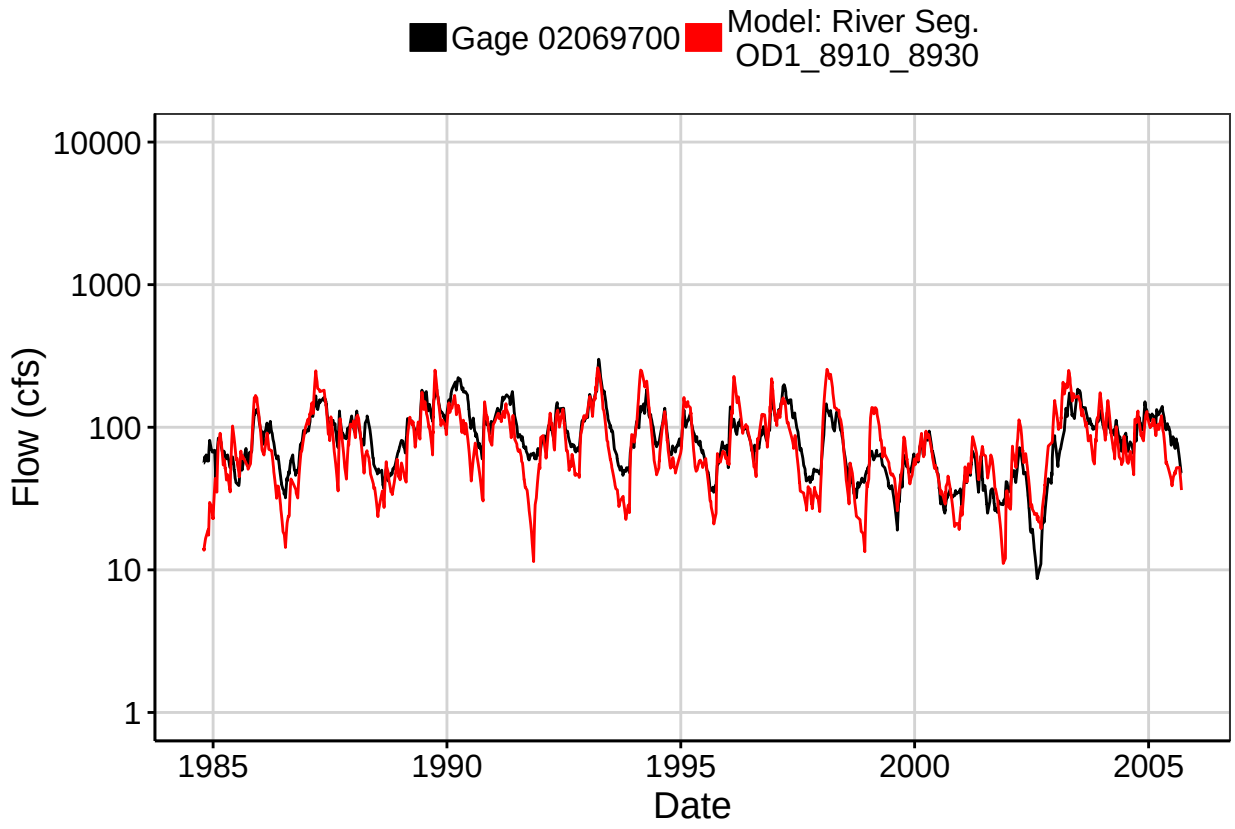


Fig. 5: Combined Baseflow

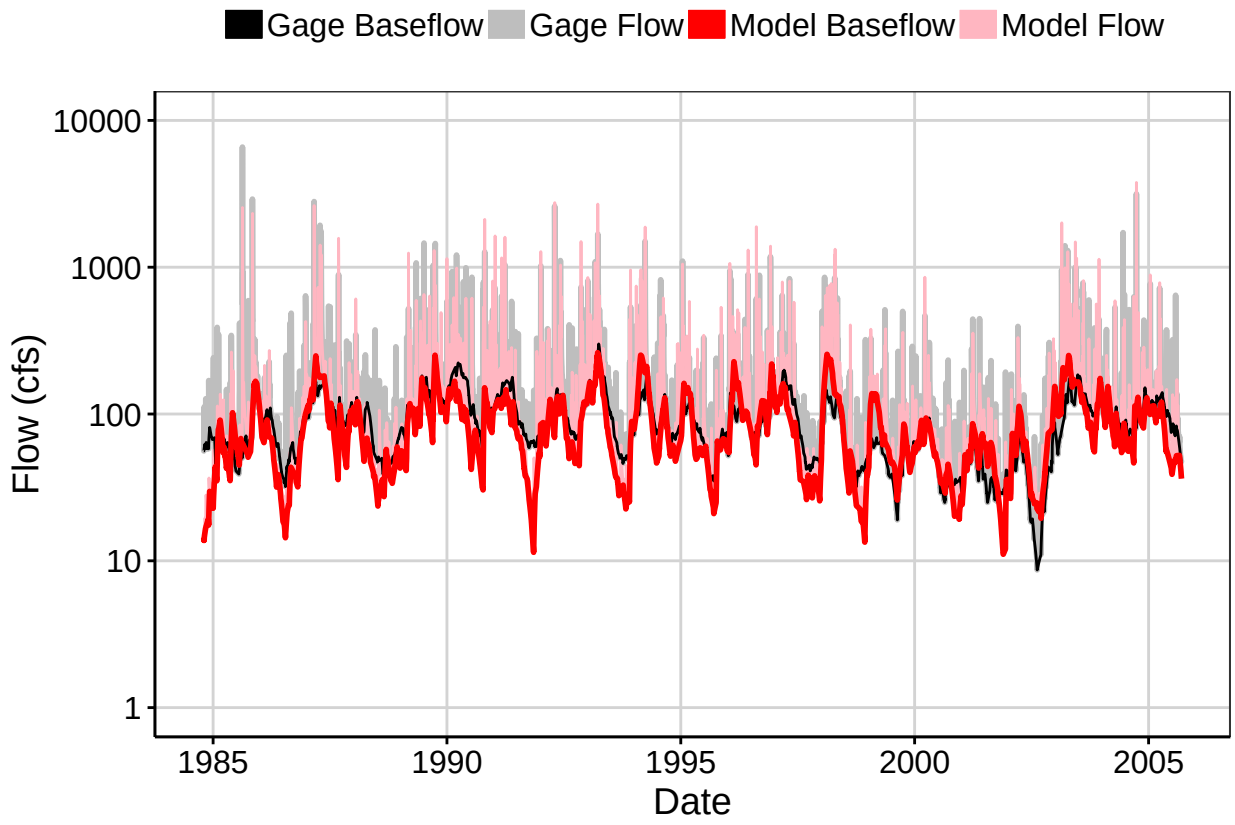


Fig. 6: Largest Error Segment

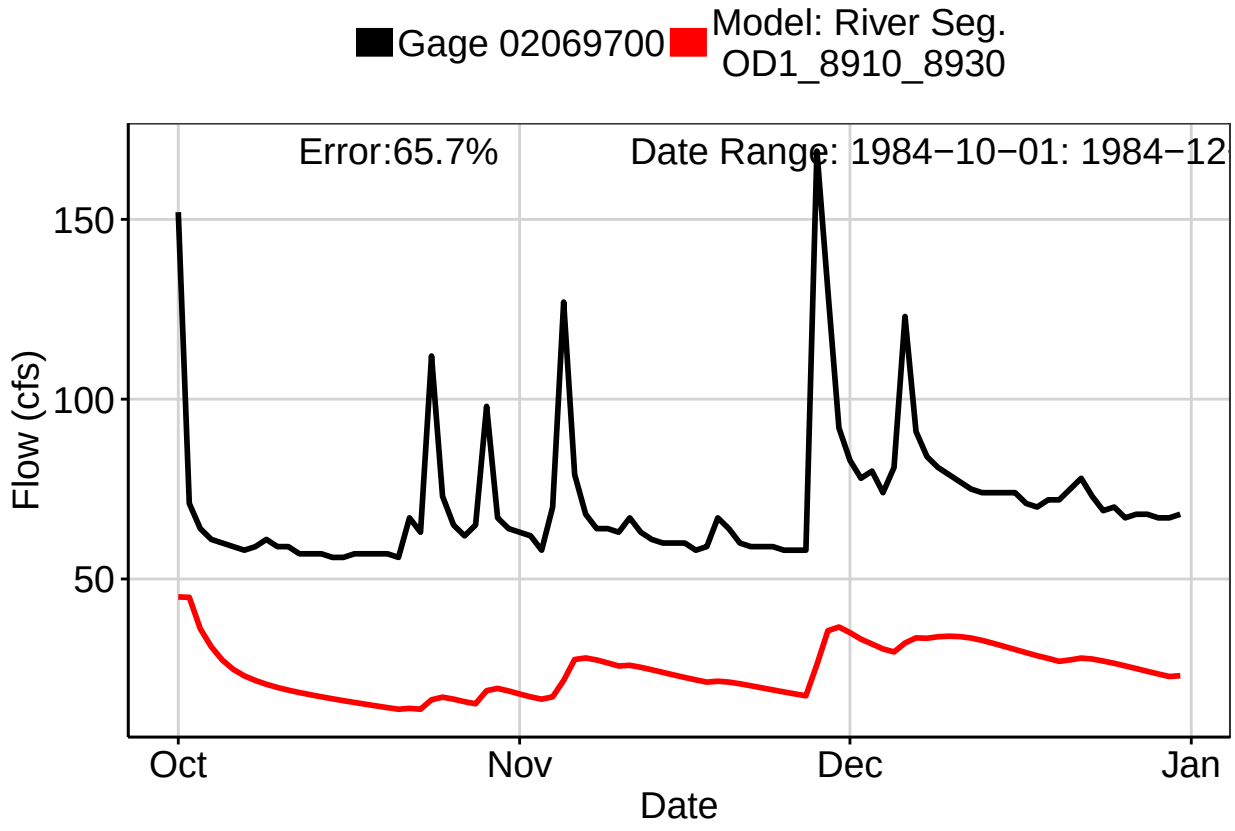


Fig. 7: Second Largest Error Segment

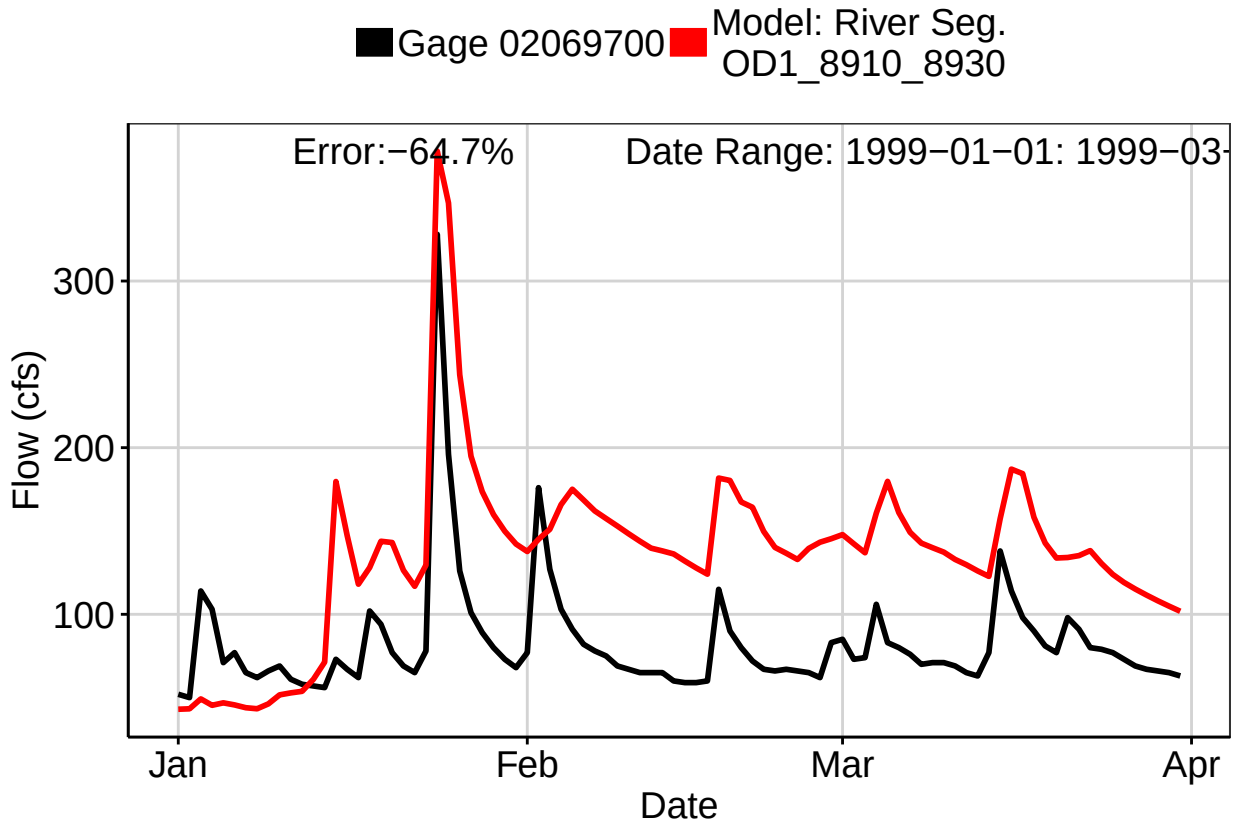


Fig. 8: Third Largest Error Segment

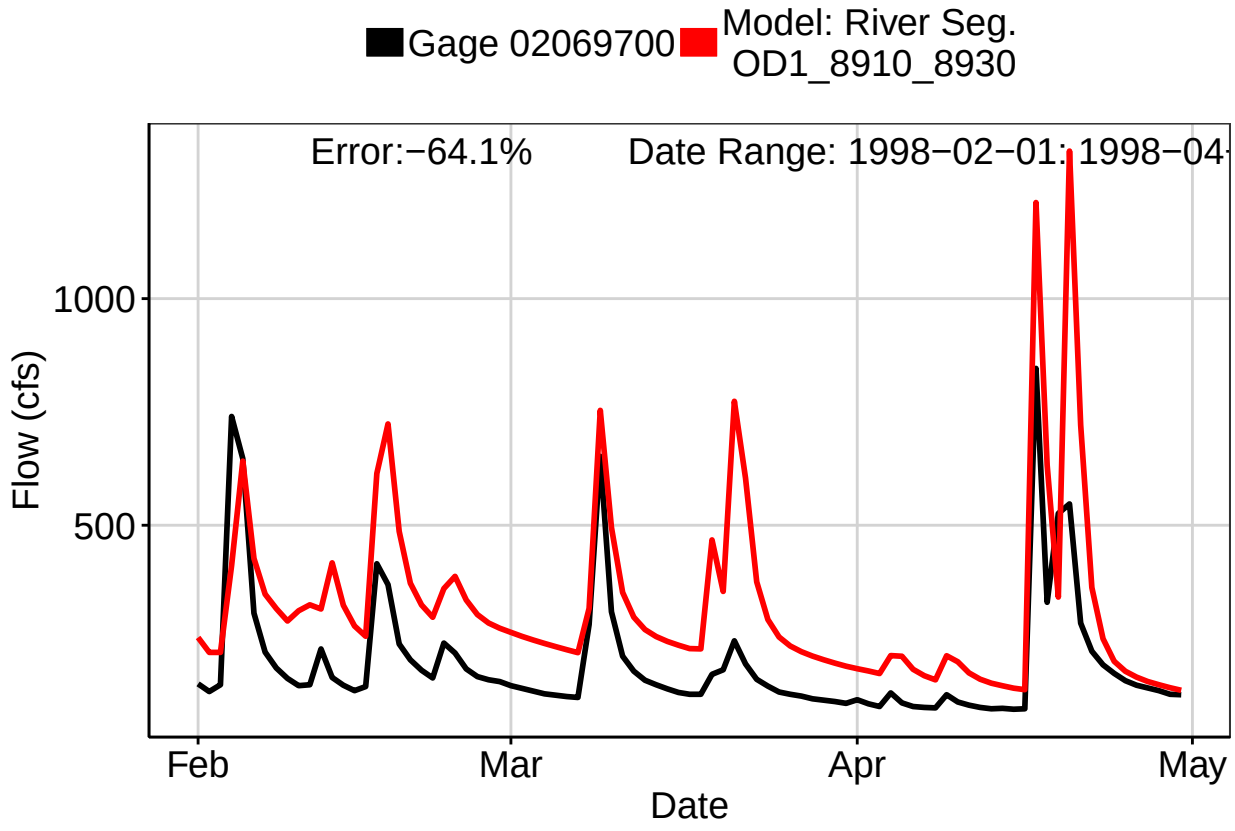


Fig. 9: Residuals Plot