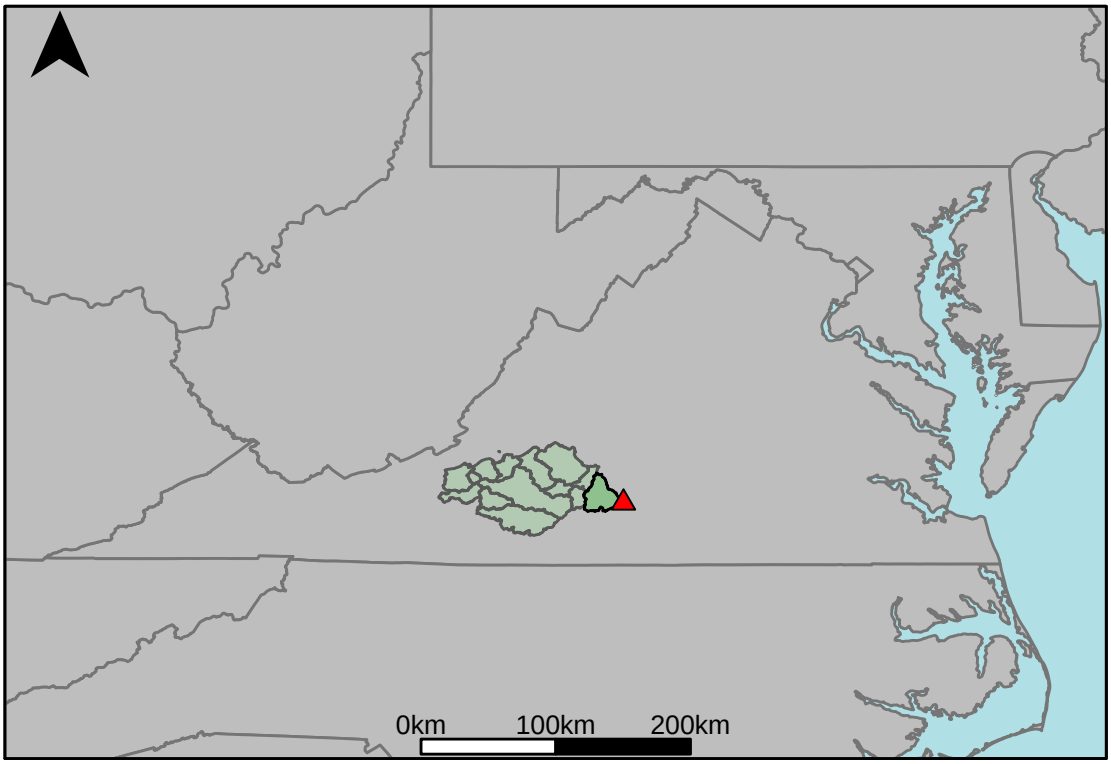
Appendix H.10: USGS Gage 02062500 vs. OR5_7890_7970



This river segment follows part of the flow of the Roanoke River. The gage is located in Campbell County, VA (Lat 3702'22.0", Long 7856'44.6") approximately 28 miles southeast of Lynchburg, VA. Drainage area is 2404 sq. miles. This gage started taking data in 1923 and is still taking data. The Smith Mountain and Leesville Dams are located in this area and may affect the flow. The average daily discharge error between the model and gage data for the 20 year timespan was -1.61%, with 39.6% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	962	541	-43.8
Feb. Low Flow	971	625	-35.6
Mar. Low Flow	1030	1220	18.4
Apr. Low Flow	1140	1490	30.7
May Low Flow	1340	2110	57.5
Jun. Low Flow	1460	2160	47.9
Jul. Low Flow	1370	1310	-4.38
Aug. Low Flow	1540	1040	-32.5
Sep. Low Flow	1170	935	-20.1
Oct. Low Flow	1010	647	-35.9
Nov. Low Flow	972	608	-37.4
Dec. Low Flow	911	580	-36.3

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	2490	2530	1.61
Jan. Mean Flow	2850	3160	10.9
Feb. Mean Flow	3270	3800	16.2
Mar. Mean Flow	3900	4560	16.9
Apr. Mean Flow	3730	3820	2.41
May Mean Flow	2750	2620	-4.73
Jun. Mean Flow	2330	2200	-5.58
Jul. Mean Flow	1660	1360	-18.1
Aug. Mean Flow	1570	1190	-24.2
Sep. Mean Flow	2170	2000	-7.83
Oct. Mean Flow	1630	1600	-1.84
Nov. Mean Flow	1970	1910	-3.05
Dec. Mean Flow	2160	2230	3.24

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	1440	1120	-22.2
Feb. High Flow	4520	3910	-13.5
Mar. High Flow	3390	3790	11.8
Apr. High Flow	8660	7030	-18.8
May High Flow	7710	5430	-29.6
Jun. High Flow	10800	11100	2.78
Jul. High Flow	9690	8800	-9.18
Aug. High Flow	5310	4980	-6.21
Sep. High Flow	3060	2540	-17
Oct. High Flow	2560	1640	-35.9
Nov. High Flow	2380	1170	-50.8
Dec. High Flow	1860	1070	-42.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	229	93.3	-59.3
Med. 1 Day Min	637	338	-46.9
Min. 3 Day Min	276	94	-65.9
Med. 3 Day Min	831	347	-58.2
Min. 7 Day Min	350	95.8	-72.6
Med. 7 Day Min	888	374	-57.9
Min. 30 Day Min	401	117	-70.8
Med. 30 Day Min	932	498	-46.6
Min. 90 Day Min	468	202	-56.8
Med. 90 Day Min	1180	738	-37.5
7Q10	497	140	-71.8
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	741	570	-23.1
Mean Baseflow	1360	1470	8.09

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	65600	81800	24.7
Med. 1 Day Max	29200	31200	6.85
Max. 3 Day Max	48800	51200	4.92
Med. 3 Day Max	25200	24300	-3.57
Max. 7 Day Max	30100	29300	-2.66
Med. 7 Day Max	15100	14400	-4.64
Max. 30 Day Max	14600	14400	-1.37
Med. 30 Day Max	6810	6510	-4.41
Max. 90 Day Max	8240	9610	16.6
Med. 90 Day Max	4320	4630	7.18

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	389	145	-62.7
5% Non-Exceedance	619	353	-43
50% Non-Exceedance	1480	1450	-2.03
95% Non-Exceedance	7070	7490	5.94
99% Non-Exceedance	18800	18200	-3.19
Sept. 10% Non-Exceedance	361	646	78.9

Fig. 1: Hydrograph

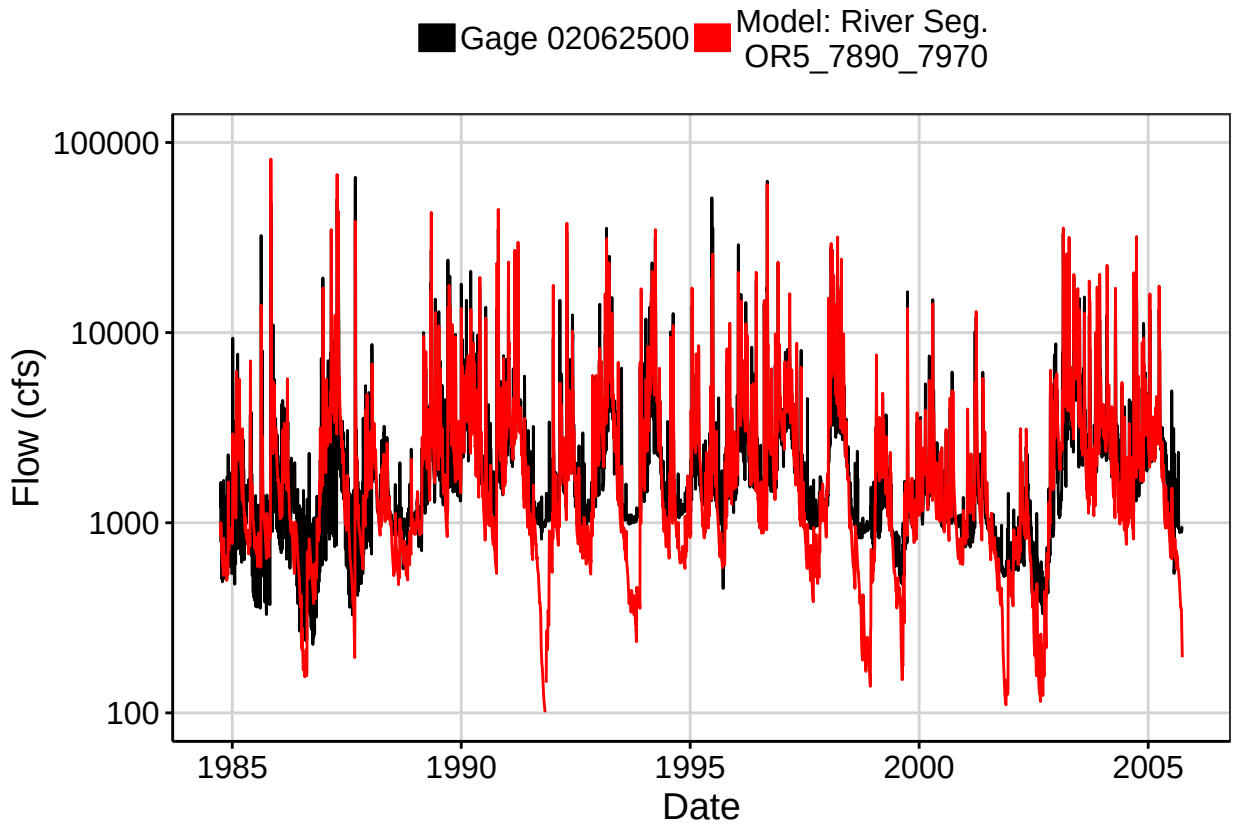


Fig. 2: Zoomed Hydrograph

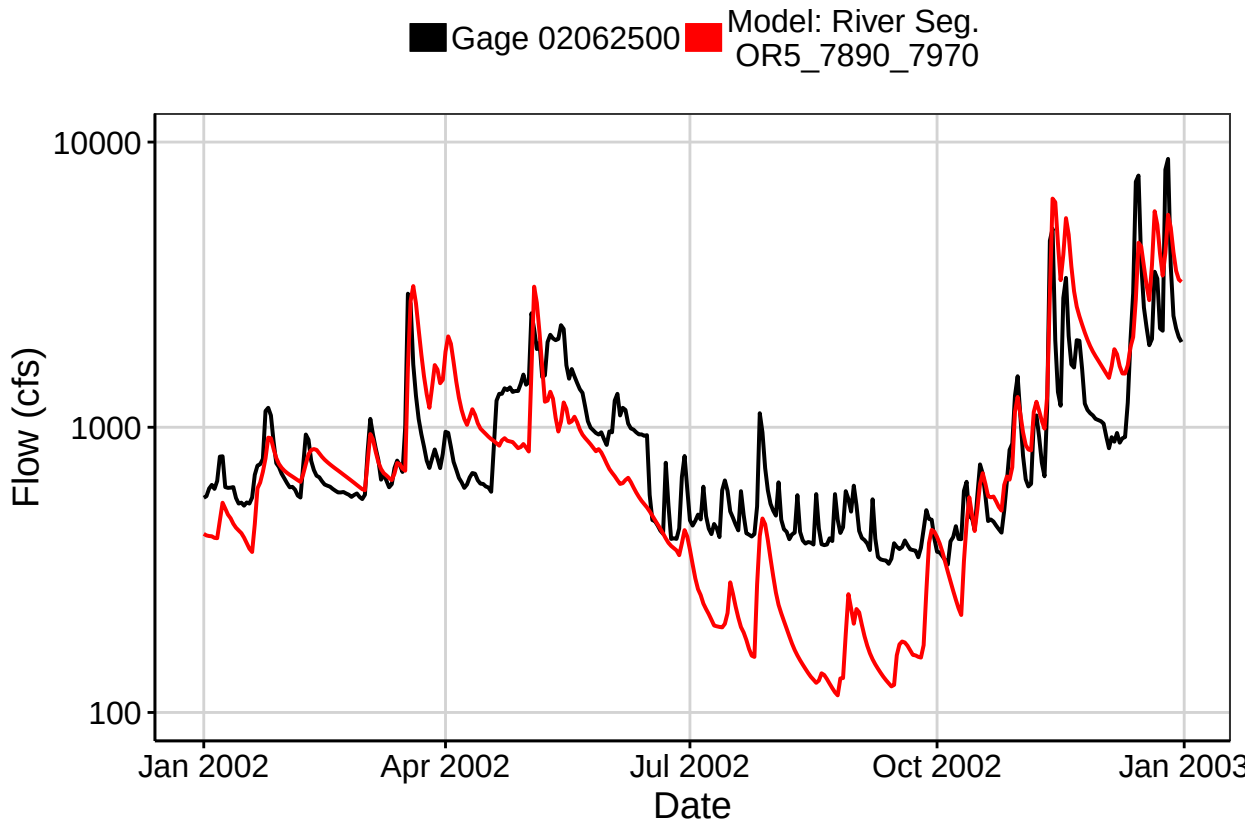


Fig. 3: Flow Exceedance

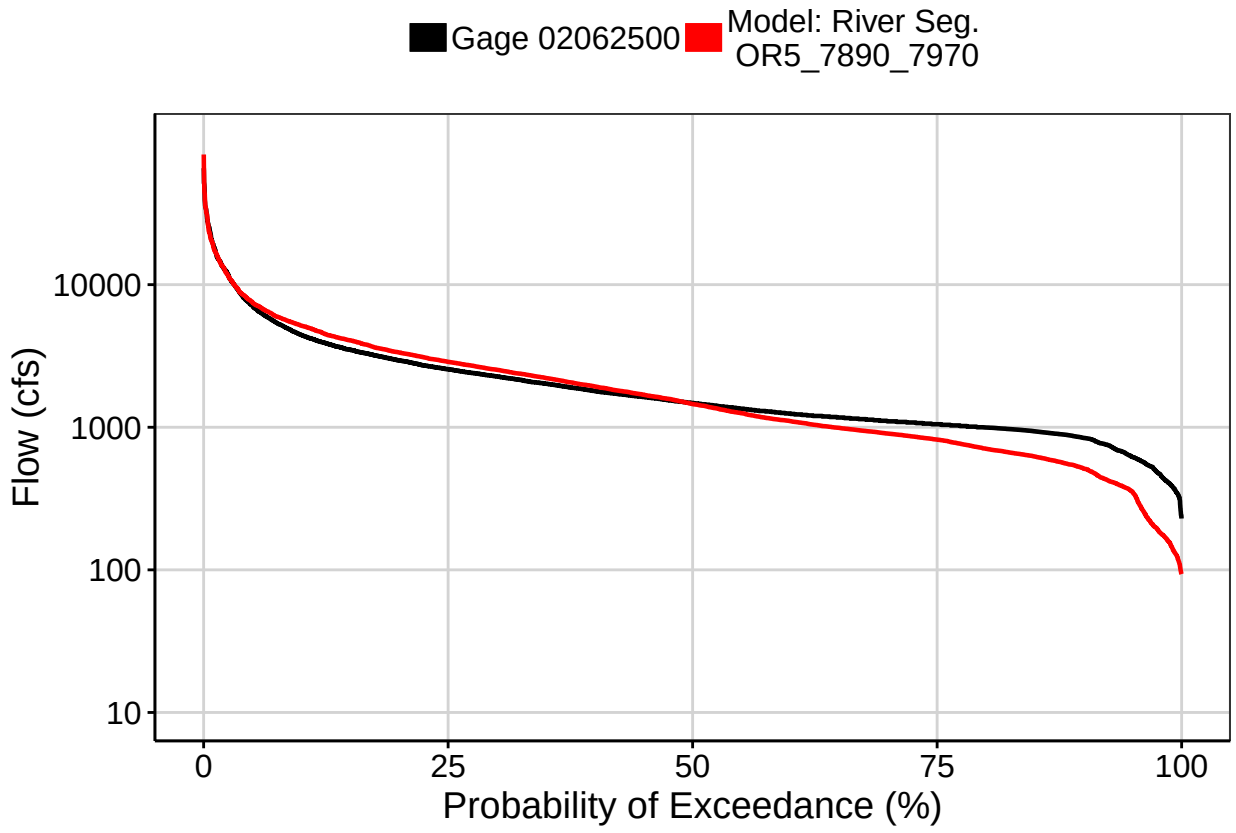


Fig. 4: Baseflow

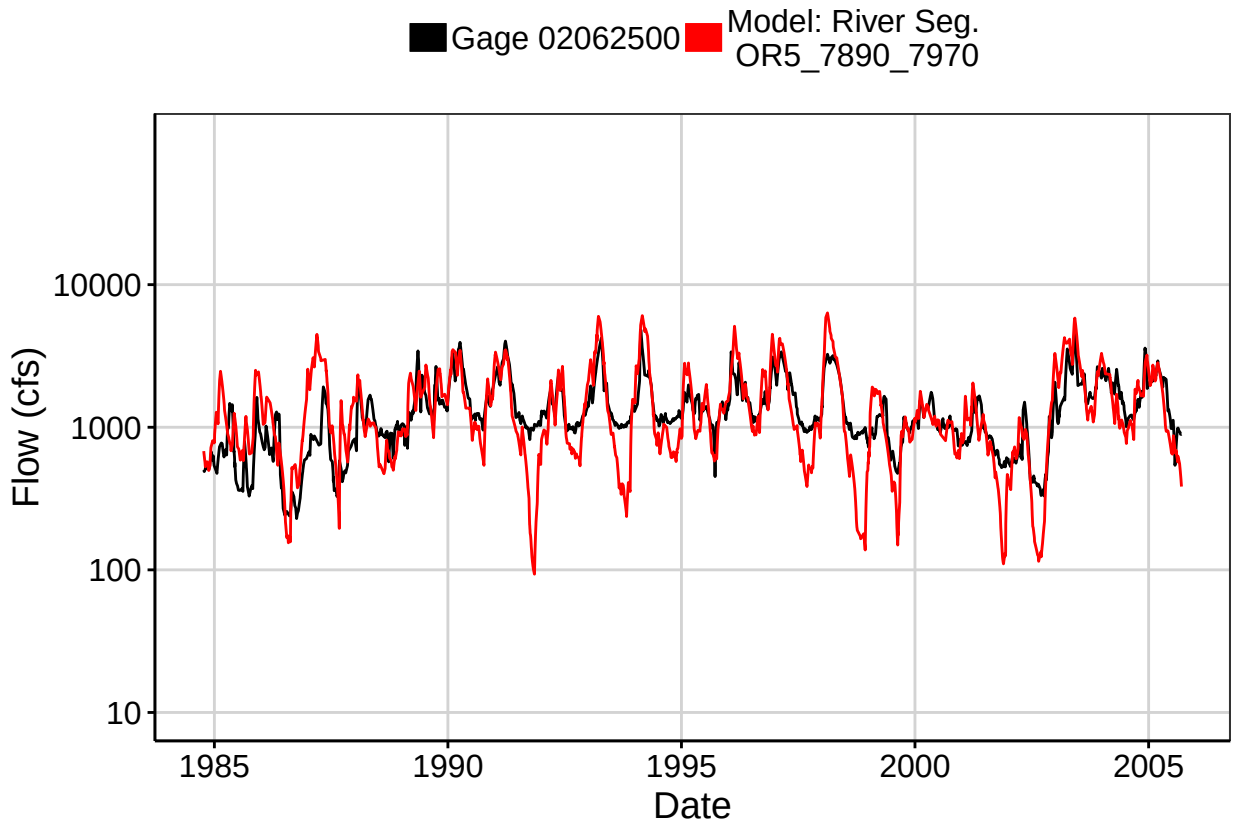


Fig. 5: Combined Baseflow

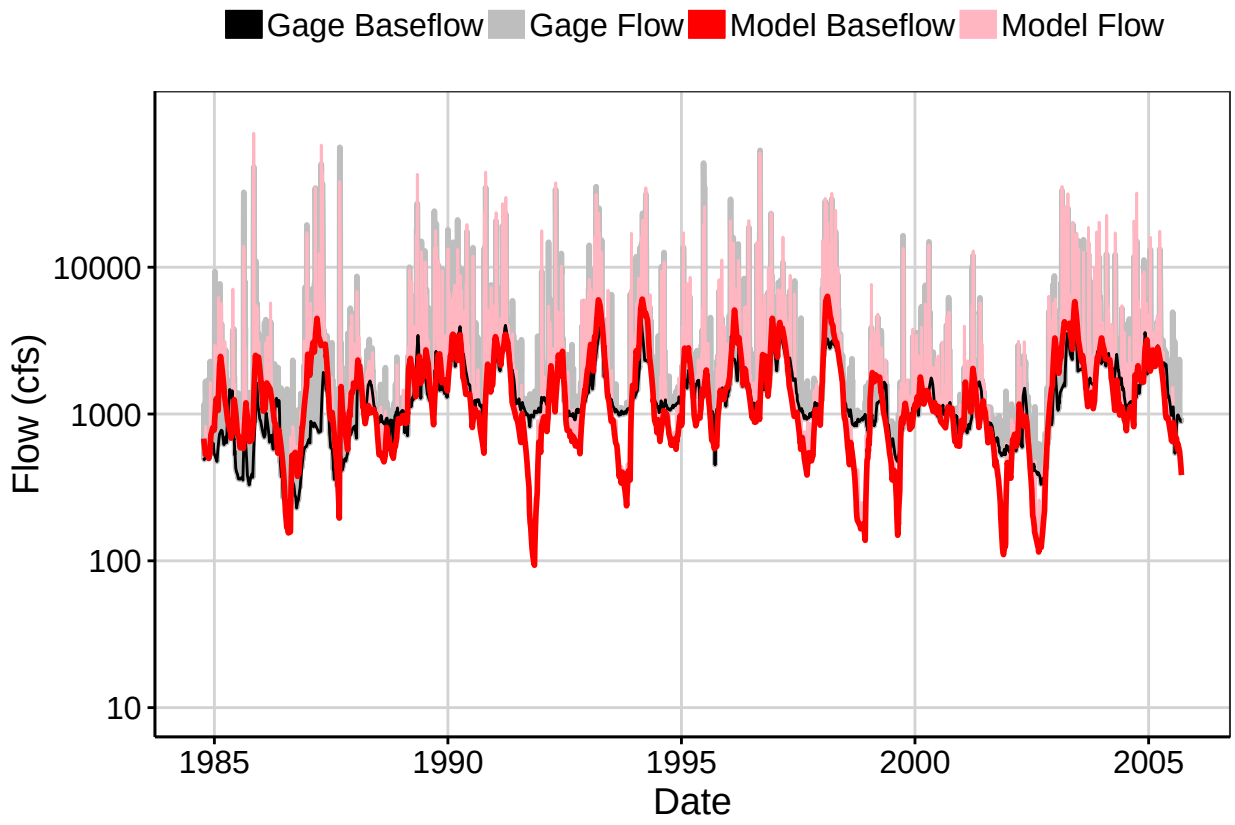


Fig. 6: Largest Error Segment

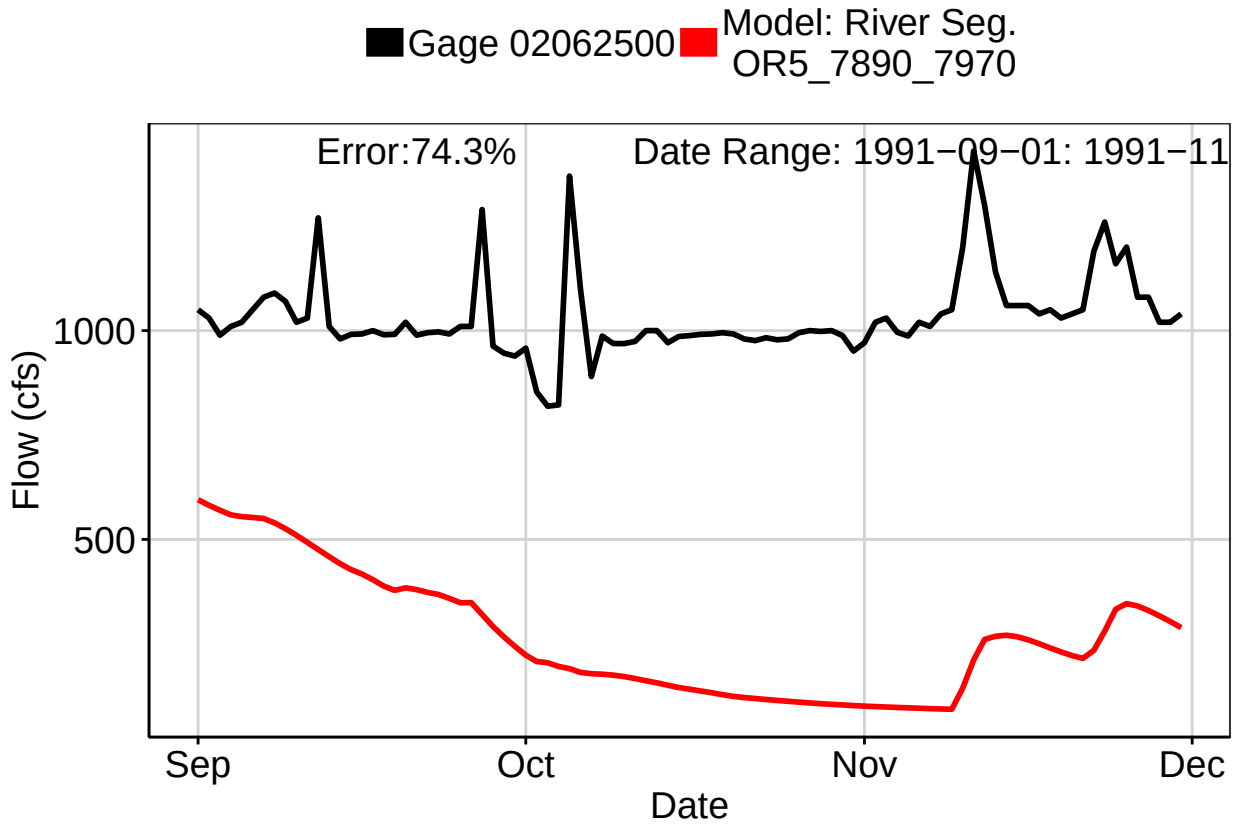


Fig. 7: Second Largest Error Segment

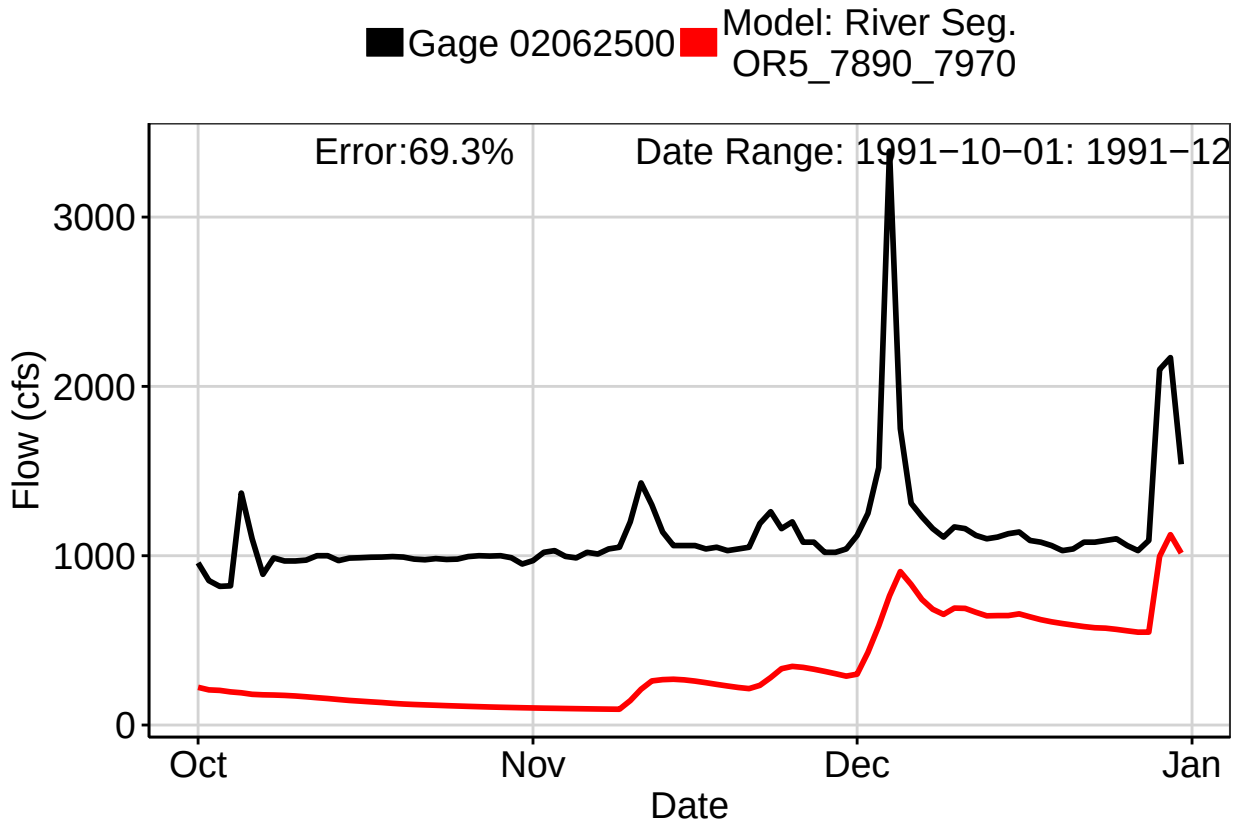


Fig. 8: Third Largest Error Segment

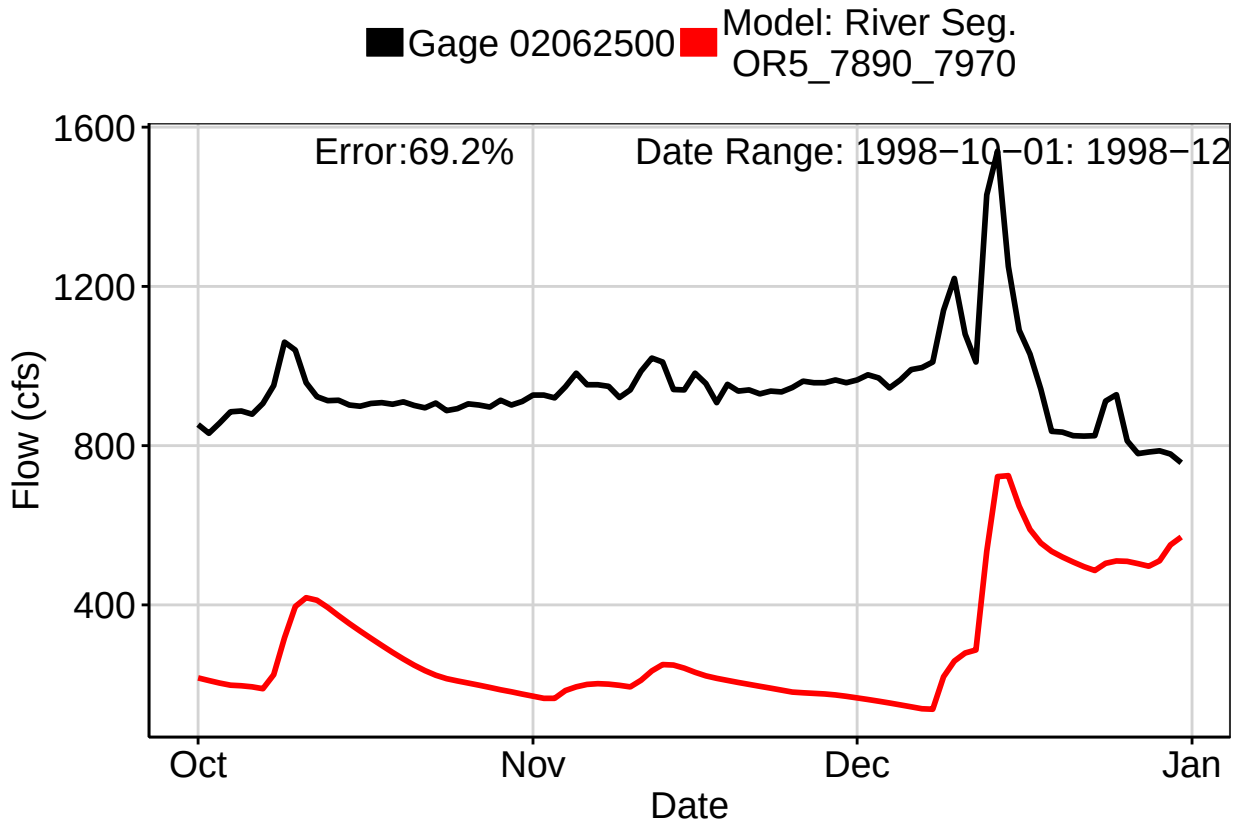


Fig. 9: Residuals Plot