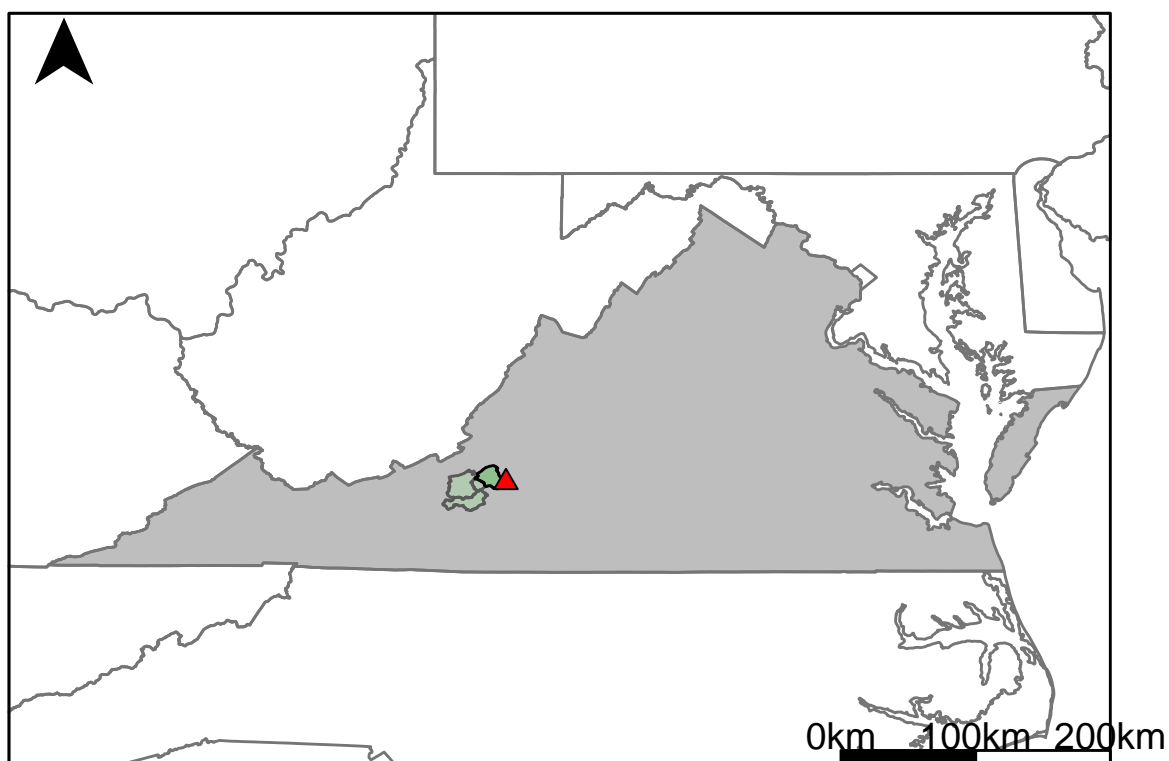


Appendix H.4: USGS Gage 02055000 vs. OR2_7900_7740



This river segment follows part of the flow of the Roanoke River. The gage is located in Roanoke County, VA (Lat 37°15'30", Long 79°56'20") approximately 1 mile southeast of Roanoke, VA. Drainage area is 384 sq. miles. This gage started taking data in 1899 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 -1.61%, with 35.4% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	69	62.3	9.71
Feb. Low Flow	84	71.7	14.6
Mar. Low Flow	120	151	-25.8
Apr. Low Flow	125	178	-42.4
May Low Flow	214	311	-45.3
Jun. Low Flow	249	281	-12.9
Jul. Low Flow	212	237	-11.8
Aug. Low Flow	163	198	-21.5
Sep. Low Flow	126	155	-23
Oct. Low Flow	83	89.3	-7.59
Nov. Low Flow	67	70.9	-5.82
Dec. Low Flow	59	55.9	5.25

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	372	378	-1.61
Jan. Mean Flow	460	479	-4.13
Feb. Mean Flow	580	582	-0.34
Mar. Mean Flow	650	658	-1.23
Apr. Mean Flow	604	572	5.3
May Mean Flow	434	440	-1.38
Jun. Mean Flow	337	361	-7.12
Jul. Mean Flow	204	233	-14.2
Aug. Mean Flow	173	181	-4.62
Sep. Mean Flow	263	266	-1.14
Oct. Mean Flow	170	187	-10
Nov. Mean Flow	291	297	-2.06
Dec. Mean Flow	313	304	2.88

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	213	349	-63.8
Feb. High Flow	455	748	-64.4
Mar. High Flow	829	569	31.4
Apr. High Flow	1400	1490	-6.43
May High Flow	1290	1070	17.1
Jun. High Flow	2180	2000	8.26
Jul. High Flow	1390	1130	18.7
Aug. High Flow	1020	1170	-14.7
Sep. High Flow	498	710	-42.6
Oct. High Flow	413	444	-7.51
Nov. High Flow	262	383	-46.2
Dec. High Flow	208	334	-60.6

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	16.3	0	100
Med. 1 Day Min	50	38.2	23.6
Min. 3 Day Min	16.8	0.86	94.9
Med. 3 Day Min	51.7	40.7	21.3
Min. 7 Day Min	18.5	4.58	75.2
Med. 7 Day Min	55.6	42.7	23.2
Min. 30 Day Min	33.8	13.3	60.7
Med. 30 Day Min	66.8	62.6	6.29
Min. 90 Day Min	50.2	24.7	50.8
Med. 90 Day Min	111	113	-1.8
7Q10	33.9	10.8	68.1
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	110	378	-244
Mean Baseflow	184	207	-12.5

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	15000	17400	-16
Med. 1 Day Max	5700	5730	-0.53
Max. 3 Day Max	9480	7810	17.6
Med. 3 Day Max	3680	3350	8.97
Max. 7 Day Max	5250	3900	25.7
Med. 7 Day Max	2310	2090	9.52
Max. 30 Day Max	2590	2120	18.1
Med. 30 Day Max	992	1070	-7.86
Max. 90 Day Max	1500	1320	12
Med. 90 Day Max	655	669	-2.14

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	42.8	11.9	72.2
5% Non-Exceedance	59.5	36.3	39
50% Non-Exceedance	191	222	-16.2
95% Non-Exceedance	1120	1100	1.79
99% Non-Exceedance	2900	3030	-4.48
Sept. 10% Non-Exceedance	30.9	30.4	1.62

Fig. 1: Hydrograph

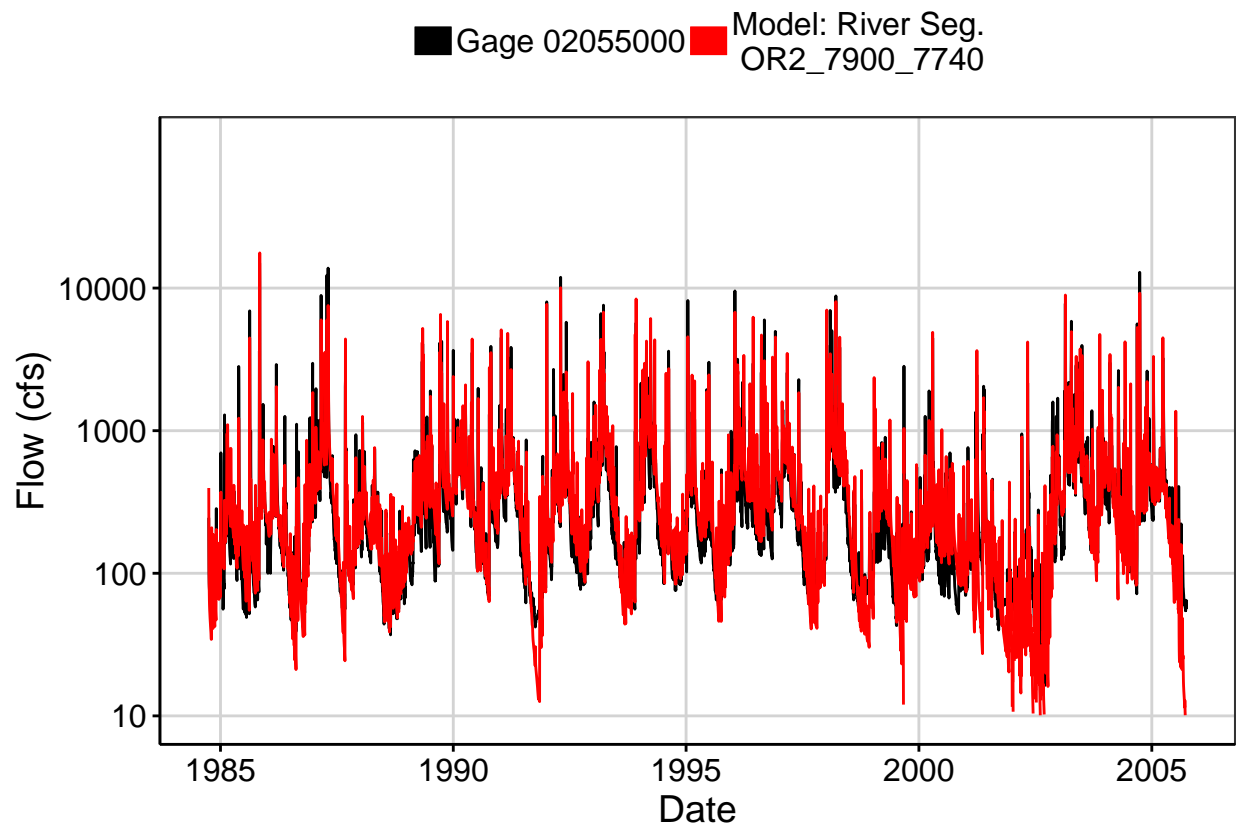


Fig. 2: Zoomed Hydrograph

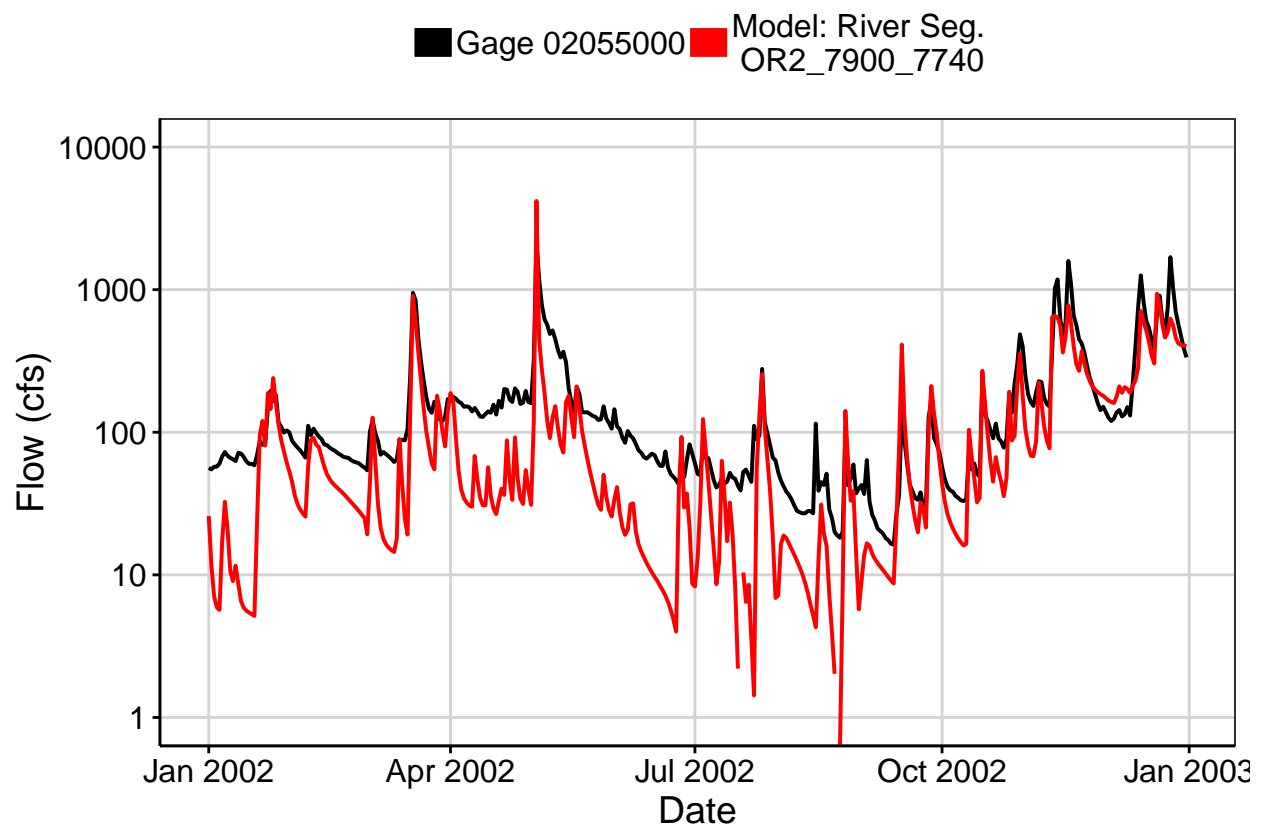


Fig. 3: Flow Exceedance

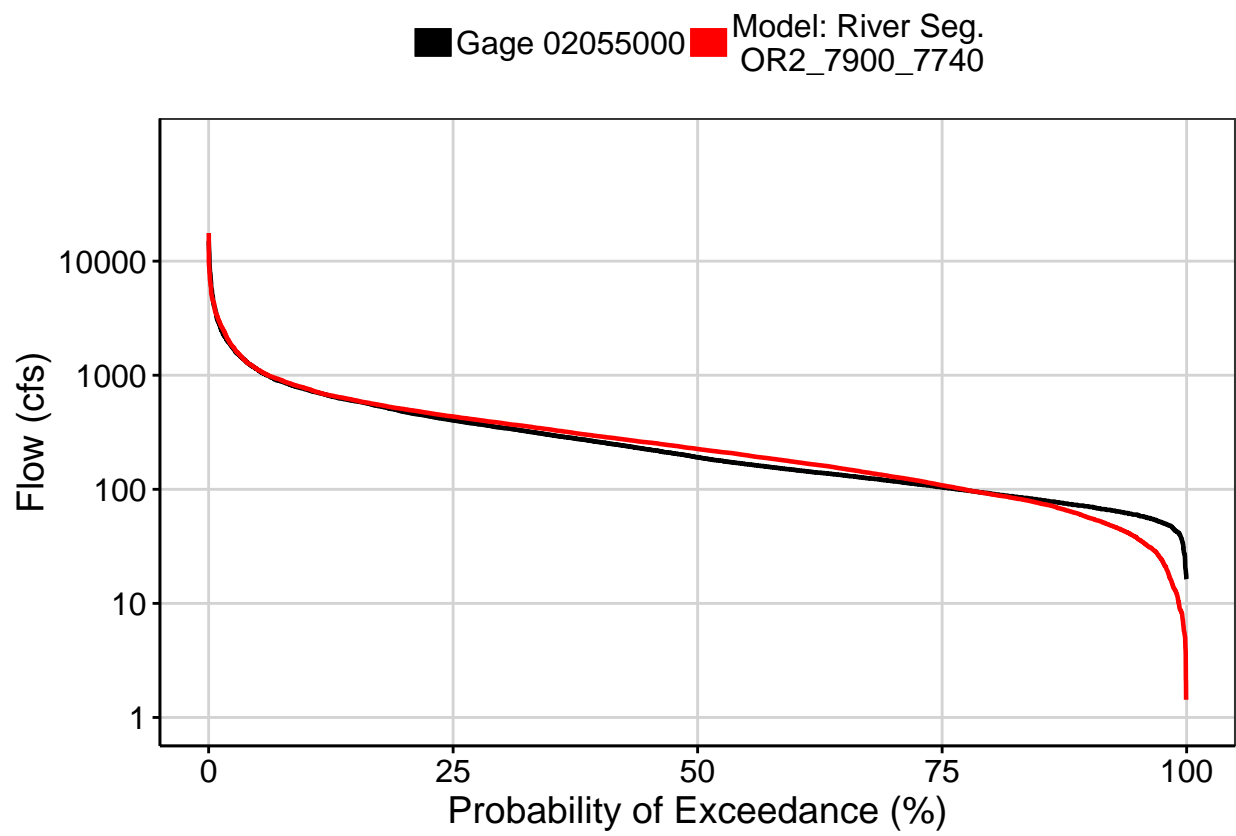


Fig. 4: Baseflow

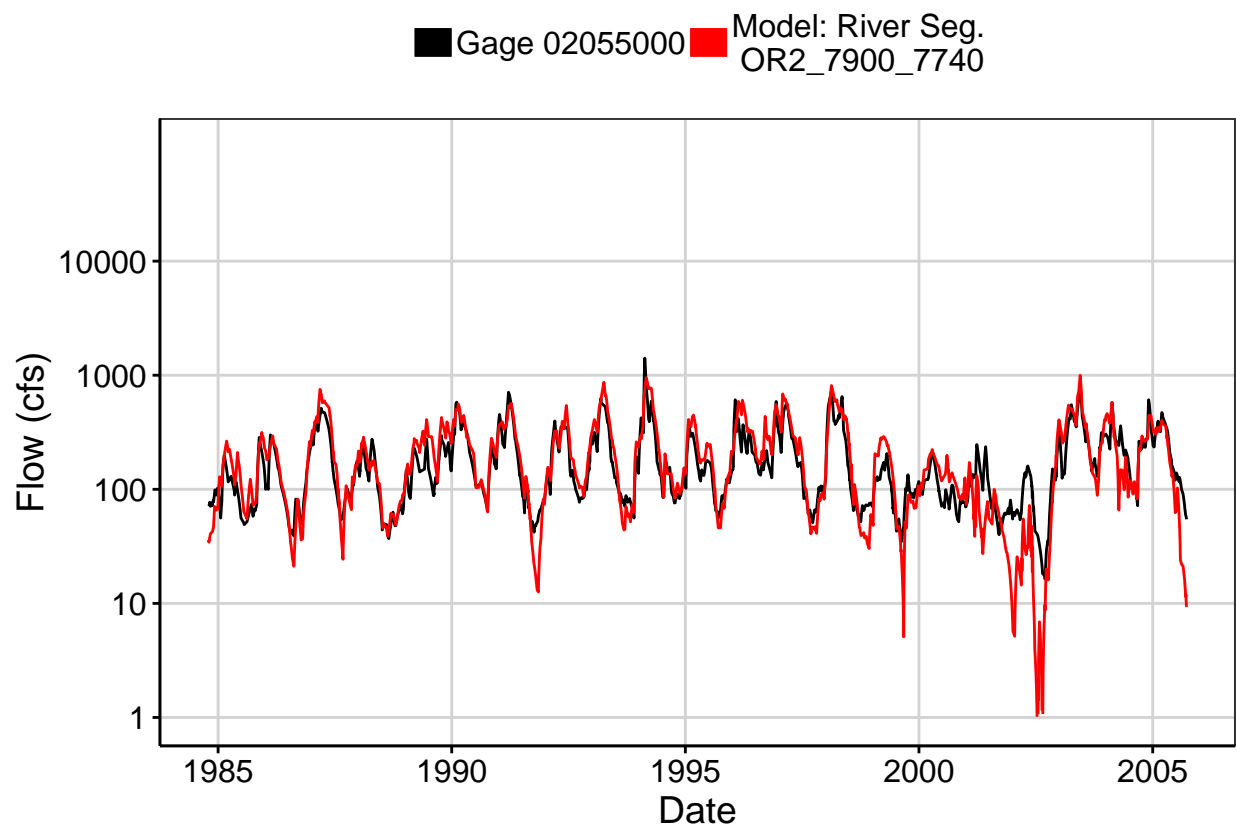


Fig. 5: Combined Baseflow

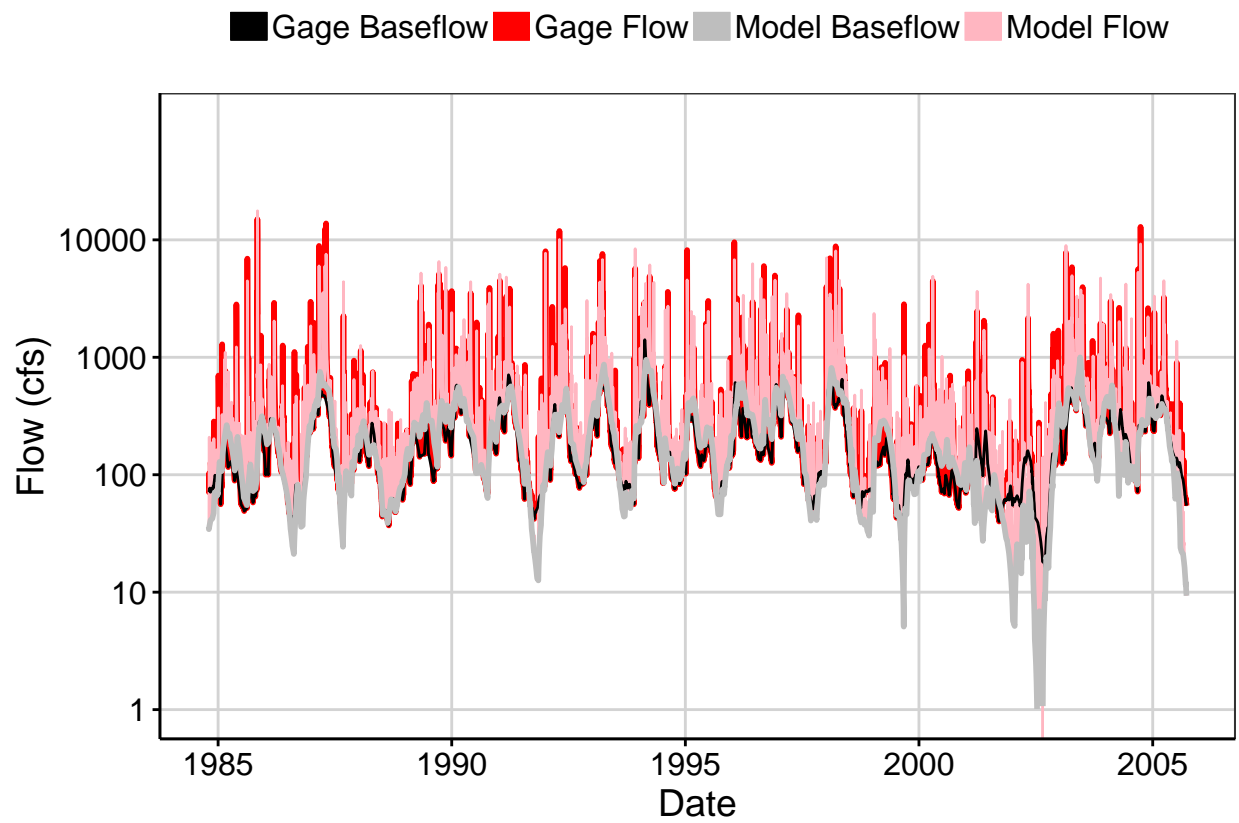


Fig. 6: Largest Error Segment

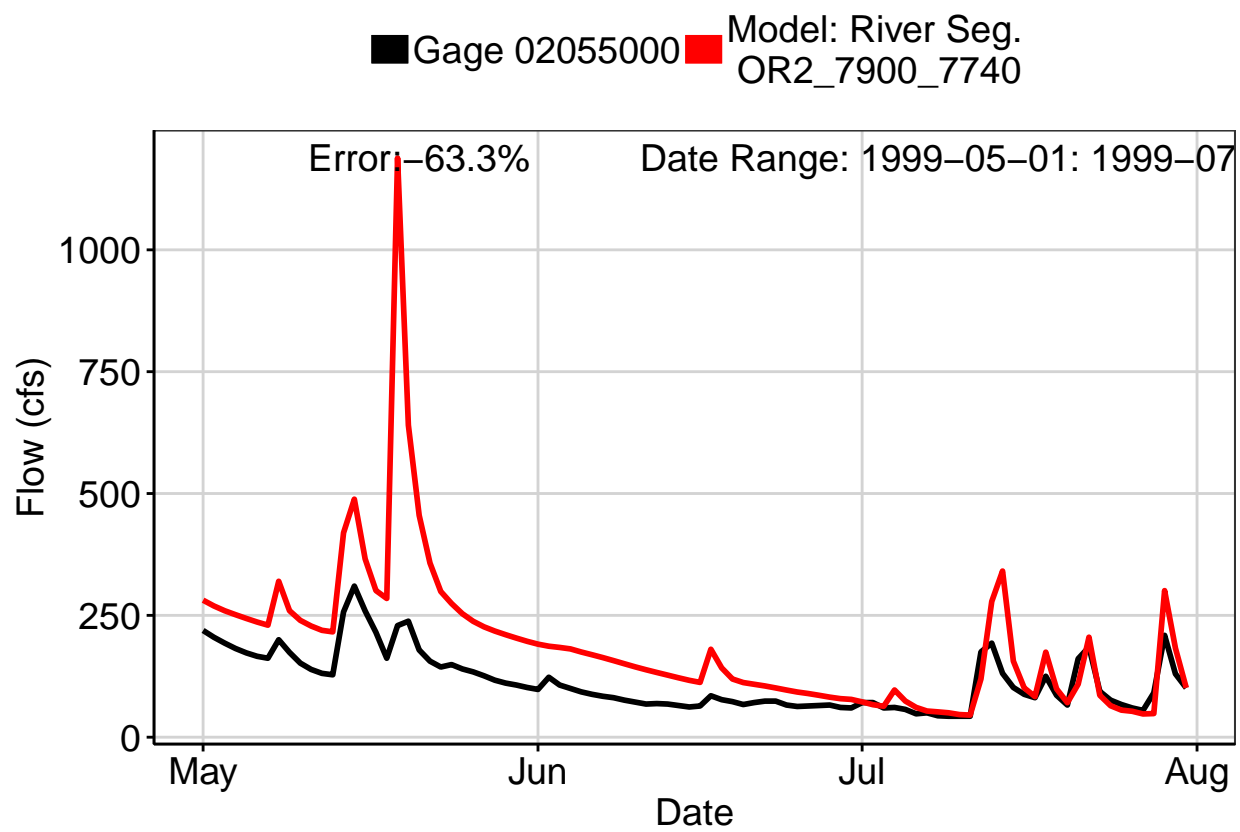


Fig. 7: Second Largest Error Segment

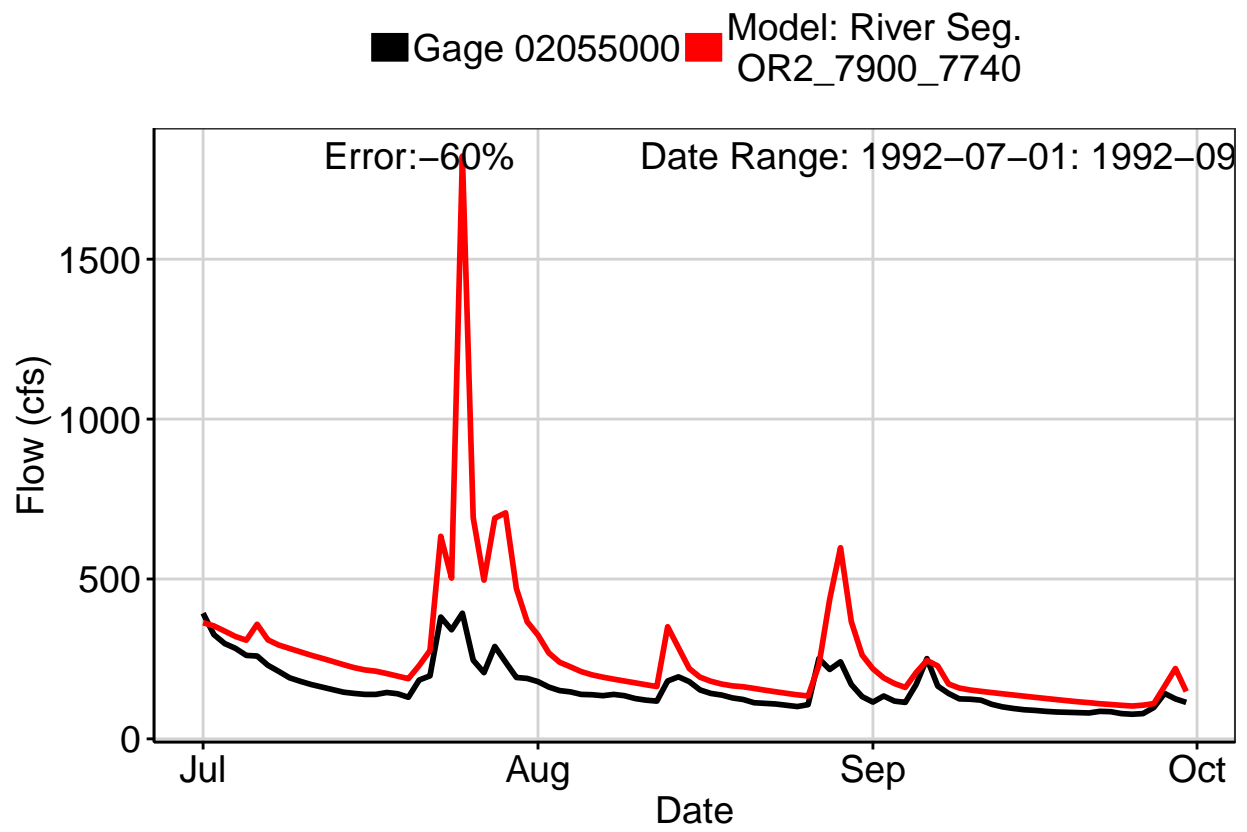


Fig. 8: Third Largest Error Segment

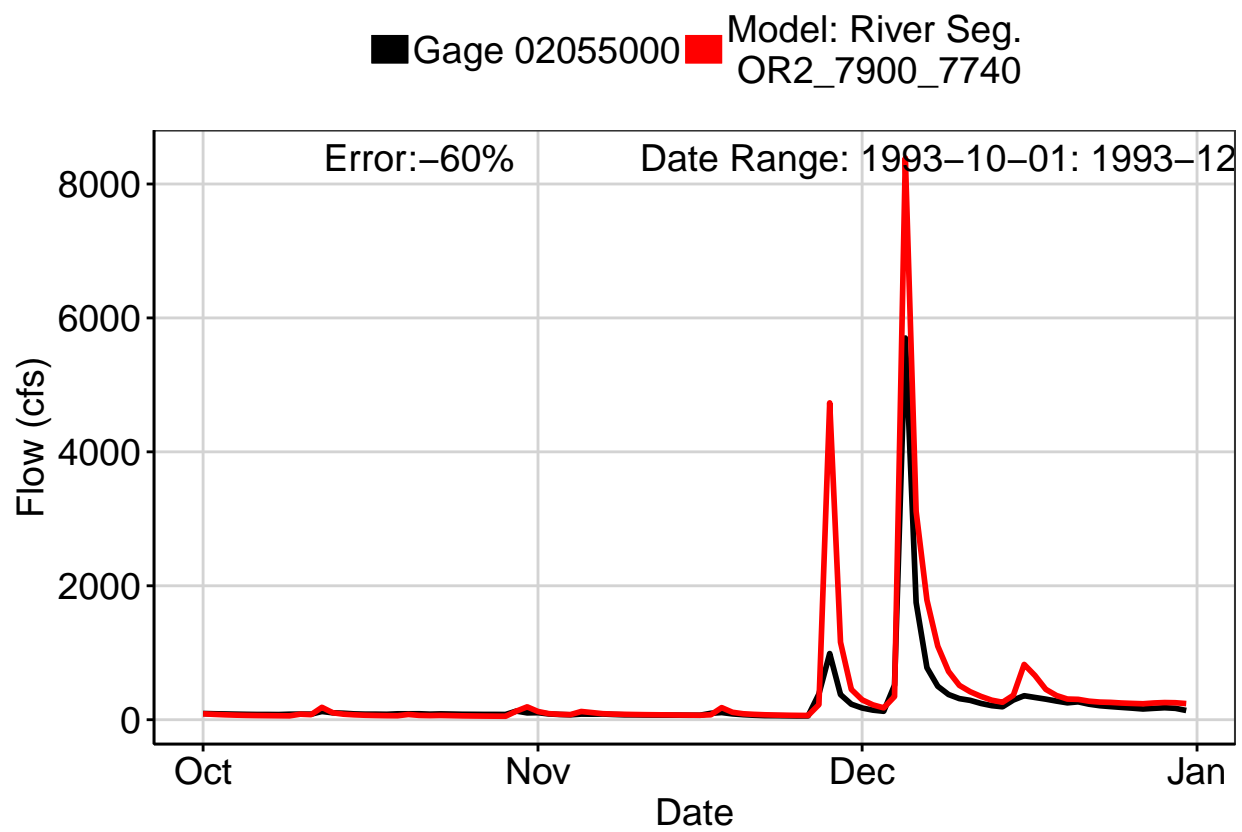


Fig. 9: Residuals Plot

