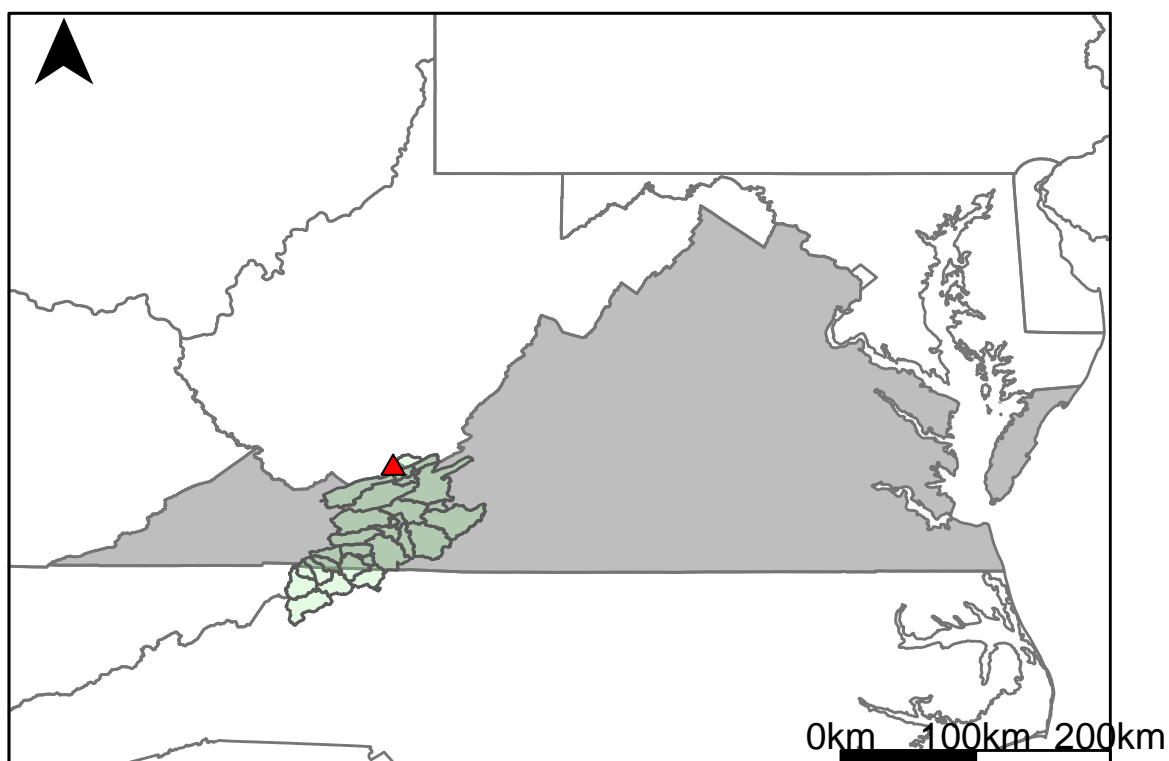


Appendix F.8: USGS Gage 03176500 vs. NR6_8051_8000



This river segment follows part of the flow of the New River. The gage is located in Giles County, VA (Lat 37°22'22", Long 80°51'39") approximately 23 miles northwest of Radford, VA. Drainage area is 3783 sq. miles. This gage started taking data in 1927 and is still taking data. The Claytor dam and American Electric Power Company Power Plant is 55 miles upstream which causes a diversion of water. The water is withdrawn upstream and discharged into the East River just above its confluence with the New River. The average daily discharge error between the model and gage data for the 20 year timespan was -0.6%, with 36.7% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	1190	1310	-10.1
Feb. Low Flow	1310	1420	-8.4
Mar. Low Flow	1500	2740	-82.7
Apr. Low Flow	1710	3170	-85.4
May Low Flow	2050	4790	-134
Jun. Low Flow	2920	5060	-73.3
Jul. Low Flow	2440	2890	-18.4
Aug. Low Flow	2990	2170	27.4
Sep. Low Flow	2280	2630	-15.4
Oct. Low Flow	1520	3860	-154
Nov. Low Flow	1310	2540	-93.9
Dec. Low Flow	1250	1600	-28

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	4980	5010	-0.6
Jan. Mean Flow	6110	5880	3.76
Feb. Mean Flow	7230	7130	1.38
Mar. Mean Flow	8050	7850	2.48
Apr. Mean Flow	7280	6240	14.3
May Mean Flow	5980	4540	24.1
Jun. Mean Flow	4710	4800	-1.91
Jul. Mean Flow	3230	4740	-46.7
Aug. Mean Flow	2960	4040	-36.5
Sep. Mean Flow	3110	3430	-10.3
Oct. Mean Flow	2900	3470	-19.7
Nov. Mean Flow	4010	3760	6.23
Dec. Mean Flow	4440	4400	0.9

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	4800	2690	44
Feb. High Flow	7460	3140	57.9
Mar. High Flow	8320	5750	30.9
Apr. High Flow	13000	12300	5.38
May High Flow	13700	10300	24.8
Jun. High Flow	17600	11800	33
Jul. High Flow	14600	8750	40.1
Aug. High Flow	12400	9540	23.1
Sep. High Flow	7530	6590	12.5
Oct. High Flow	5620	5510	1.96
Nov. High Flow	5500	4950	10
Dec. High Flow	4630	3310	28.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	557	896	-60.9
Med. 1 Day Min	1130	1060	6.19
Min. 3 Day Min	618	896	-45
Med. 3 Day Min	1180	1070	9.32
Min. 7 Day Min	646	898	-39
Med. 7 Day Min	1250	1130	9.6
Min. 30 Day Min	947	918	3.06
Med. 30 Day Min	1540	1360	11.7
Min. 90 Day Min	1280	1150	10.2
Med. 90 Day Min	2240	2370	-5.8
7Q10	852	926	-8.69
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	2510	5010	-99.6
Mean Baseflow	2560	3900	-52.3

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	89400	41300	53.8
Med. 1 Day Max	40000	23300	41.8
Max. 3 Day Max	58600	34800	40.6
Med. 3 Day Max	29500	20400	30.8
Max. 7 Day Max	39100	27100	30.7
Med. 7 Day Max	20100	16900	15.9
Max. 30 Day Max	21100	19200	9
Med. 30 Day Max	11300	11800	-4.42
Max. 90 Day Max	14300	14200	0.7
Med. 90 Day Max	8850	8200	7.34

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	954	976	-2.31
5% Non-Exceedance	1210	1210	0
50% Non-Exceedance	3480	3930	-12.9
95% Non-Exceedance	13200	12900	2.27
99% Non-Exceedance	25200	19600	22.2
Sept. 10% Non-Exceedance	1250	1250	0

Fig. 1: Hydrograph

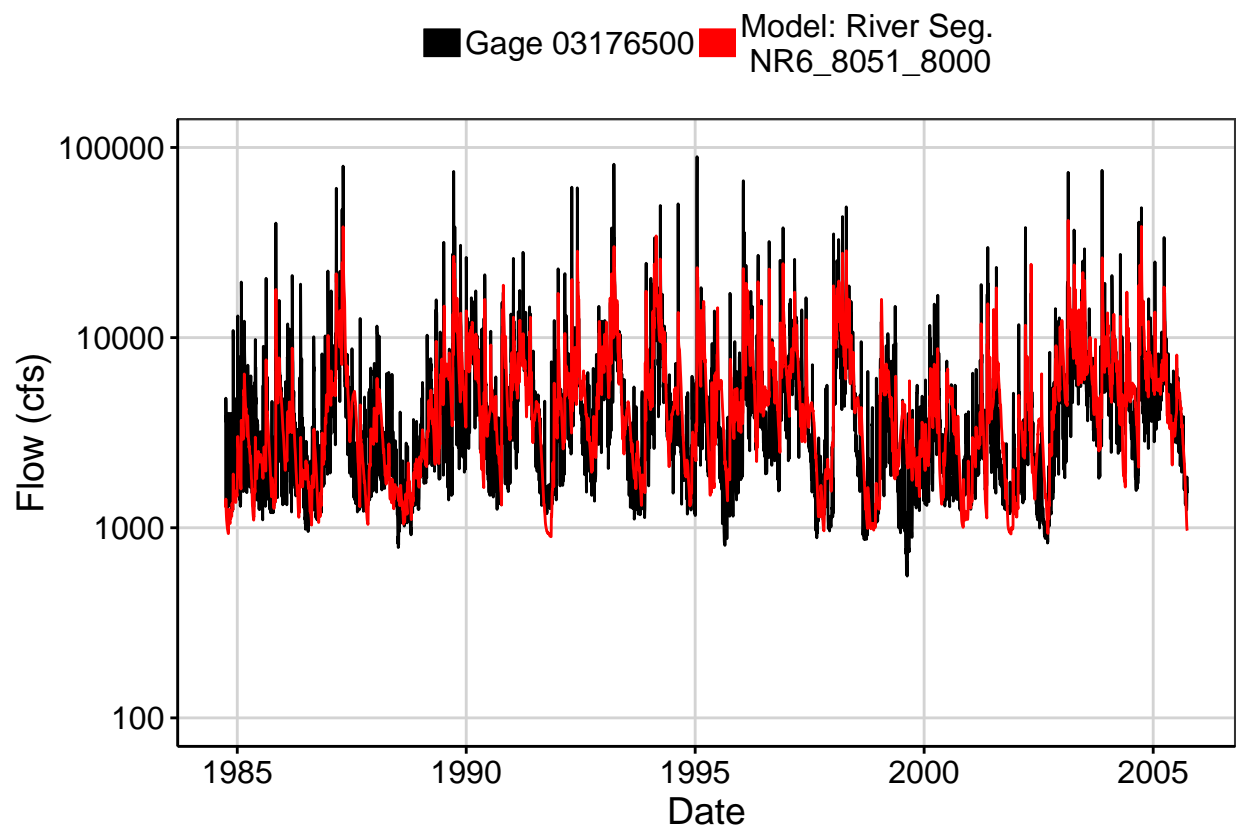


Fig. 2: Zoomed Hydrograph

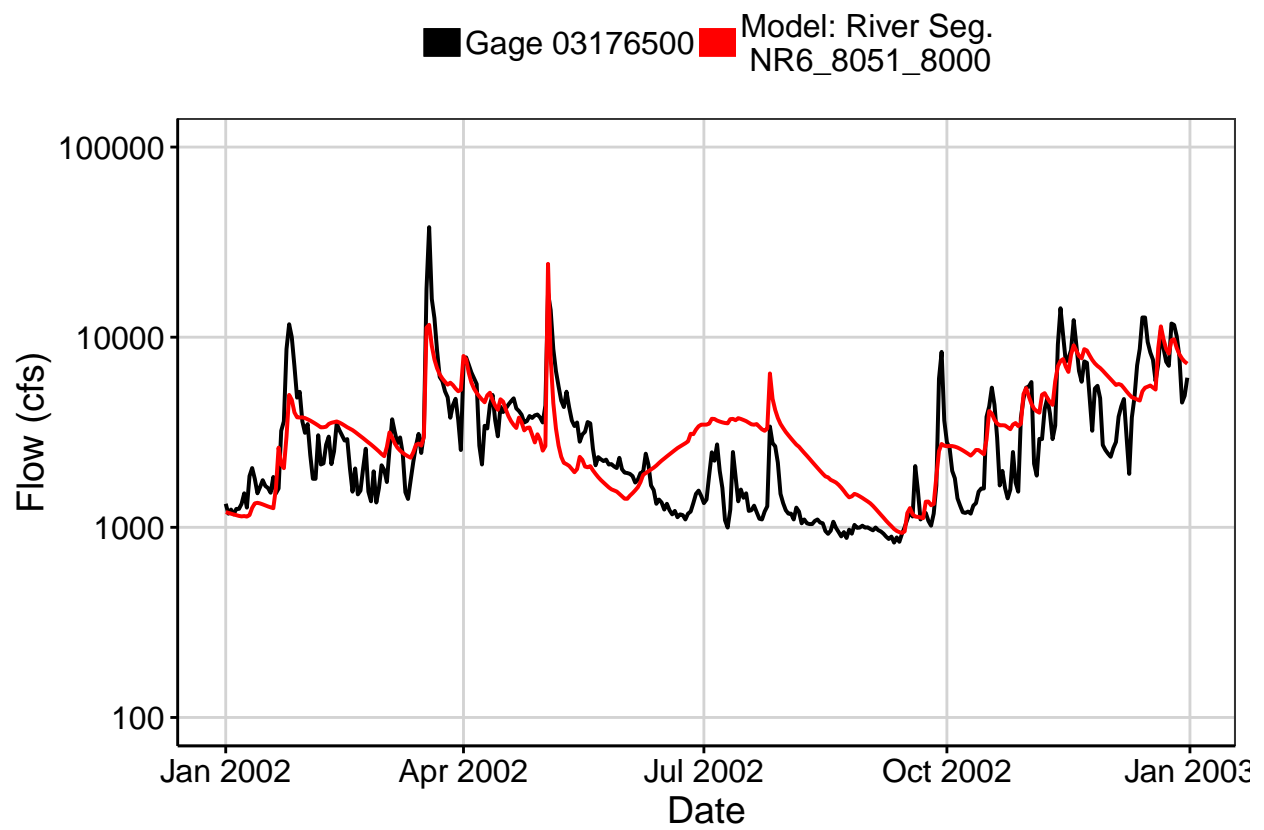


Fig. 3: Flow Exceedance

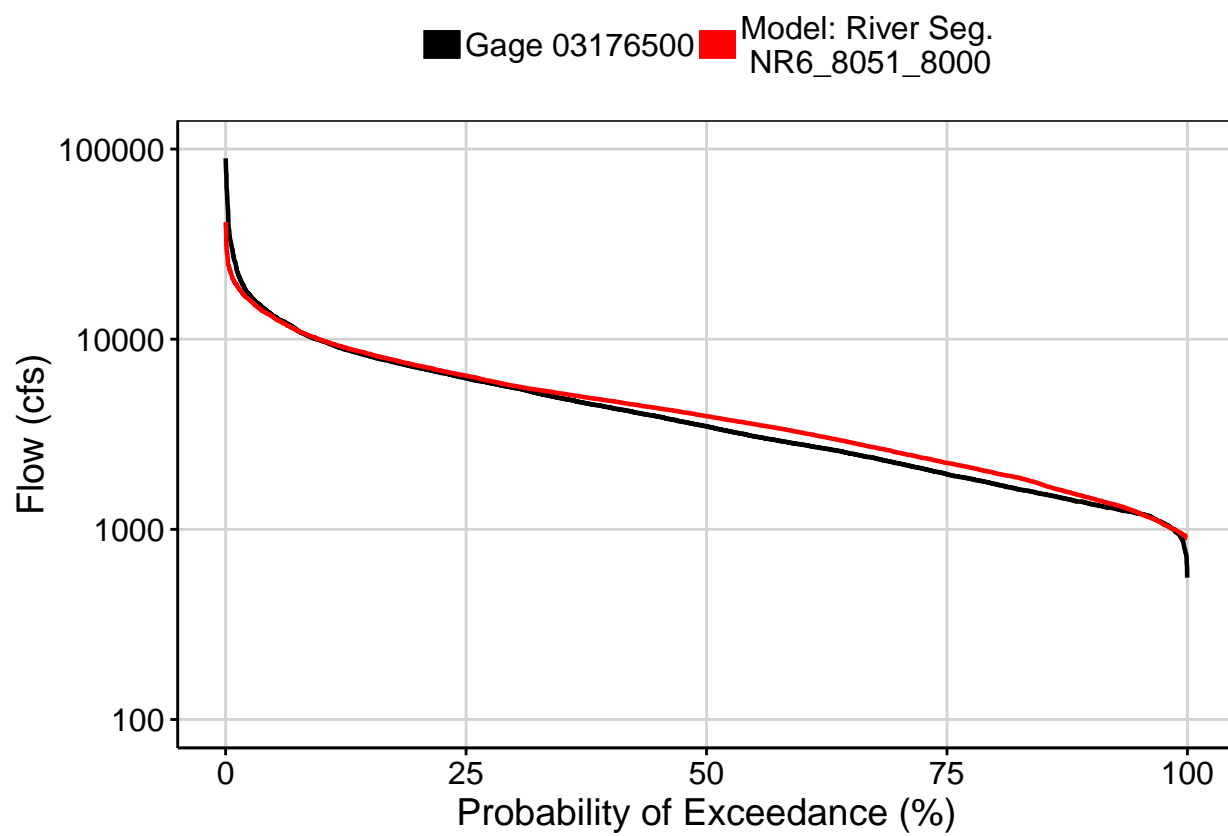


Fig. 4: Baseflow

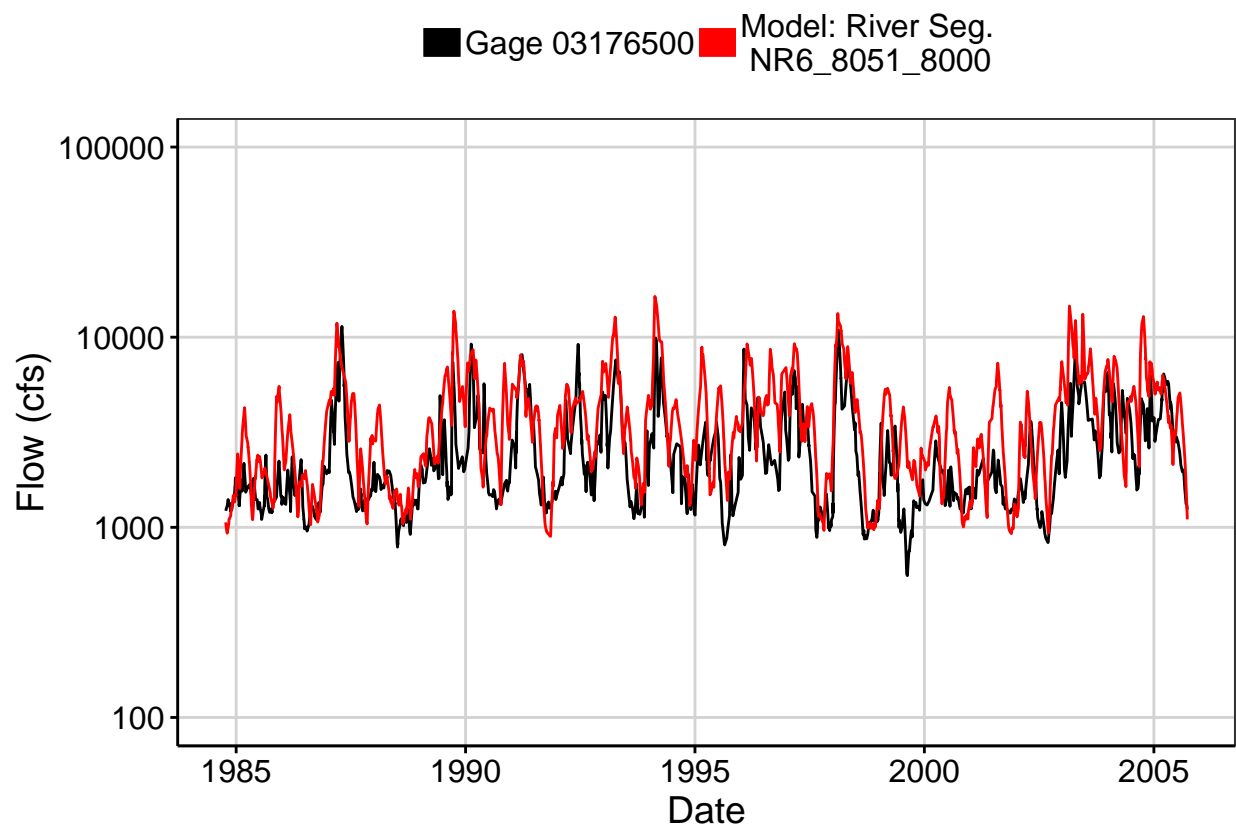


Fig. 5: Combined Baseflow

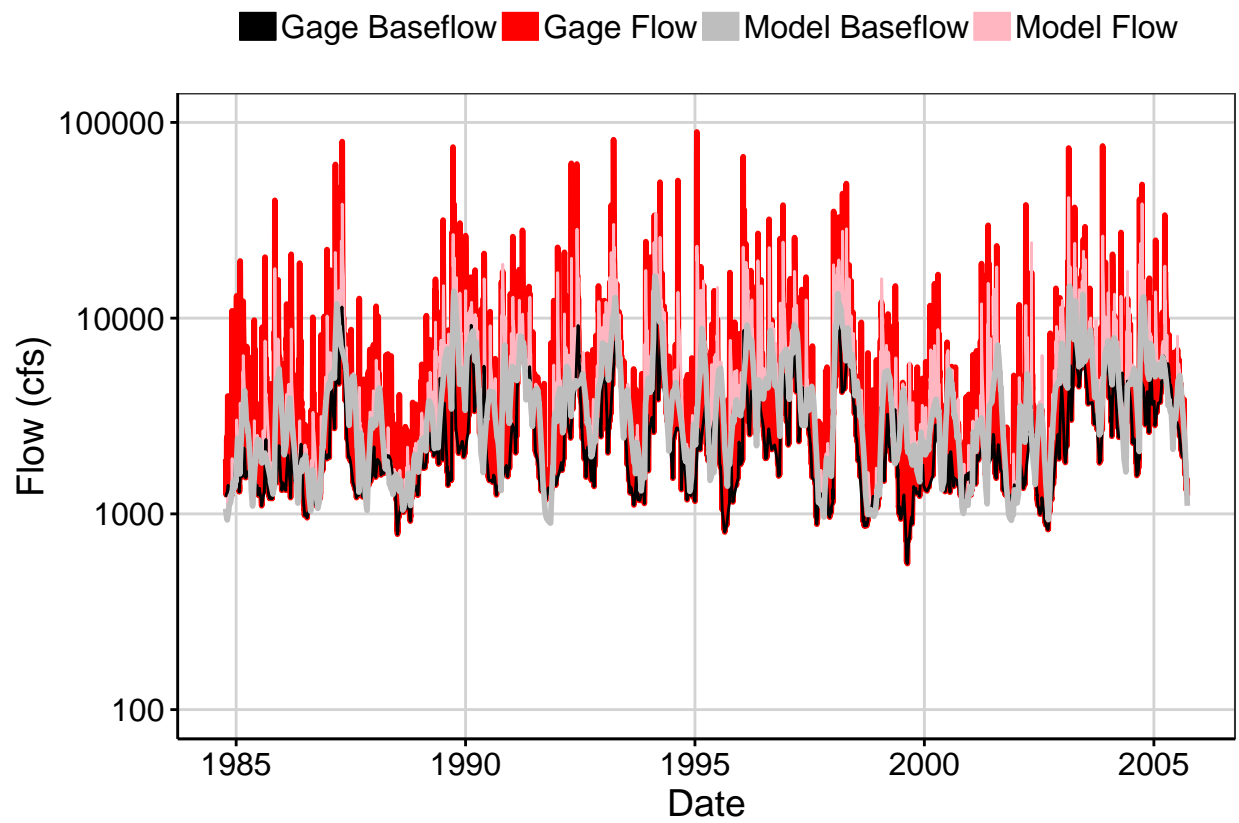


Fig. 6: Largest Error Segment

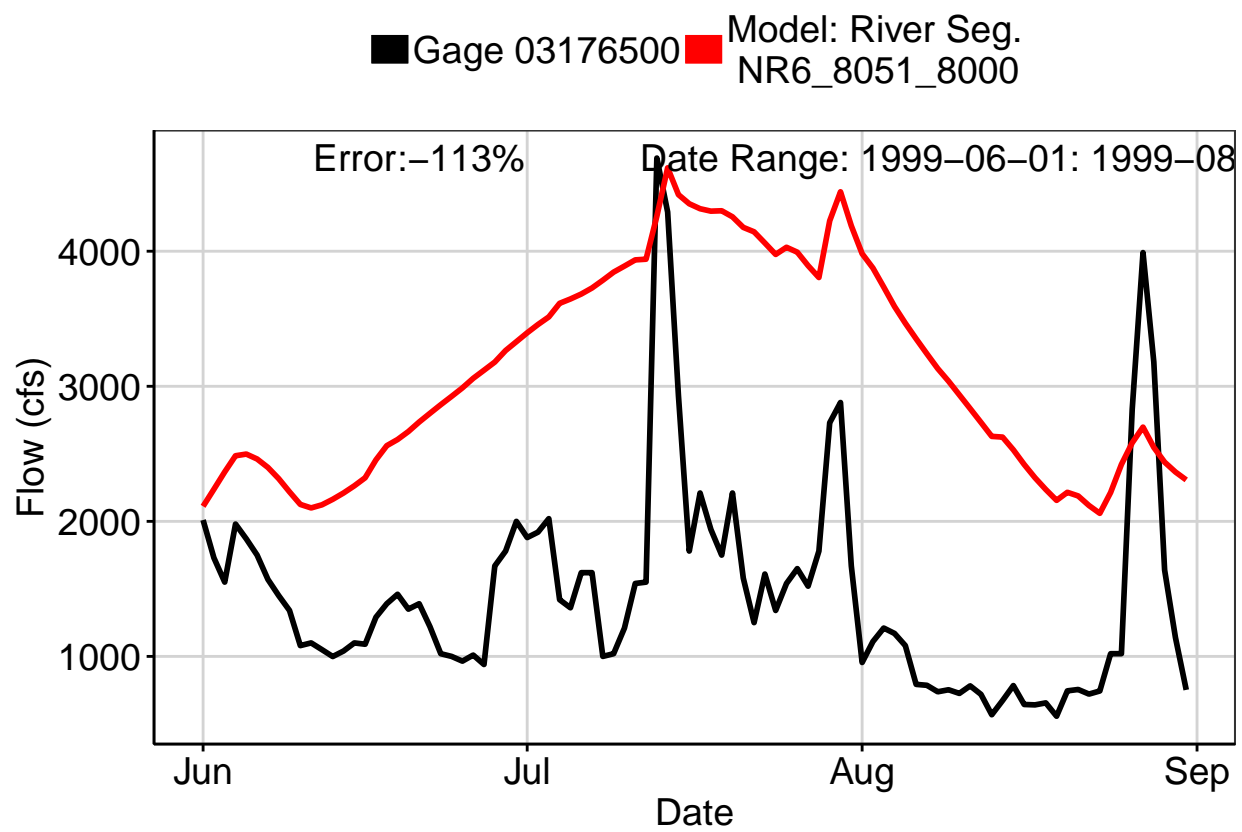


Fig. 7: Second Largest Error Segment

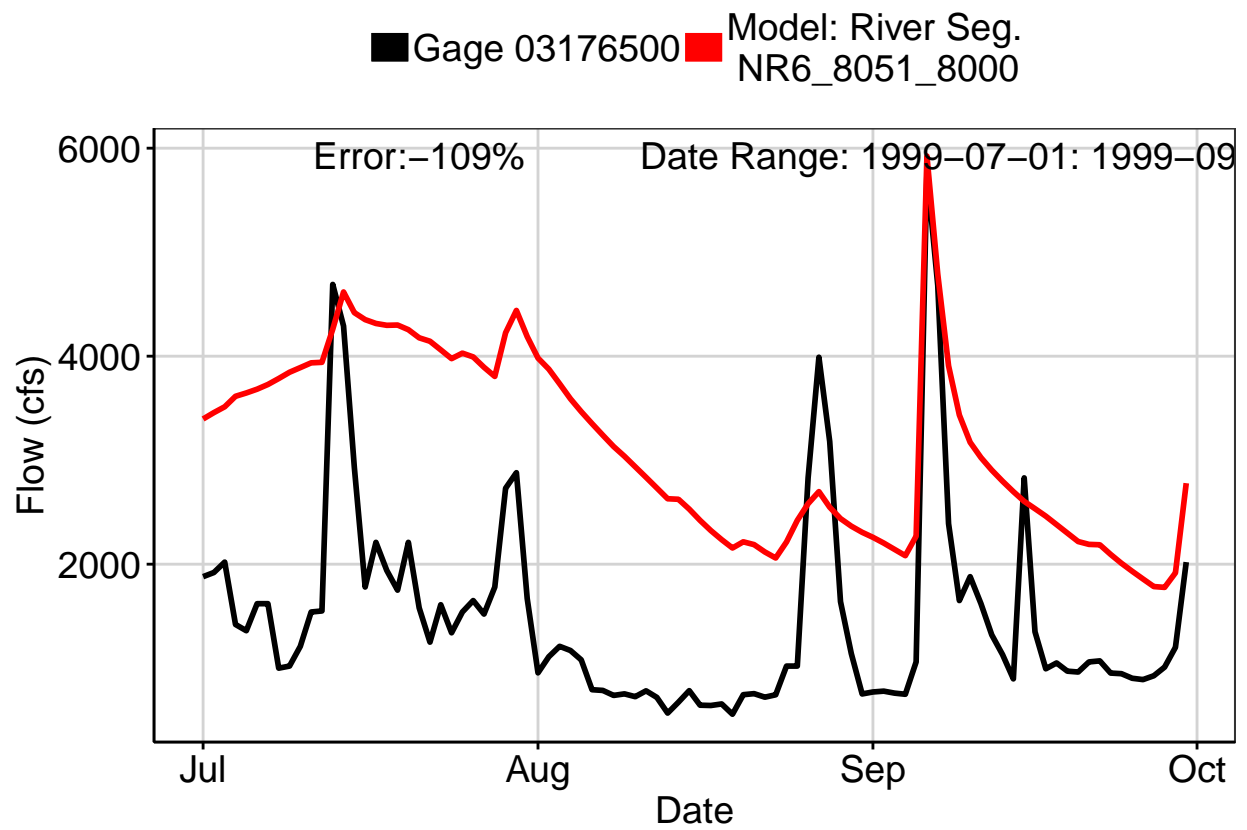


Fig. 8: Third Largest Error Segment

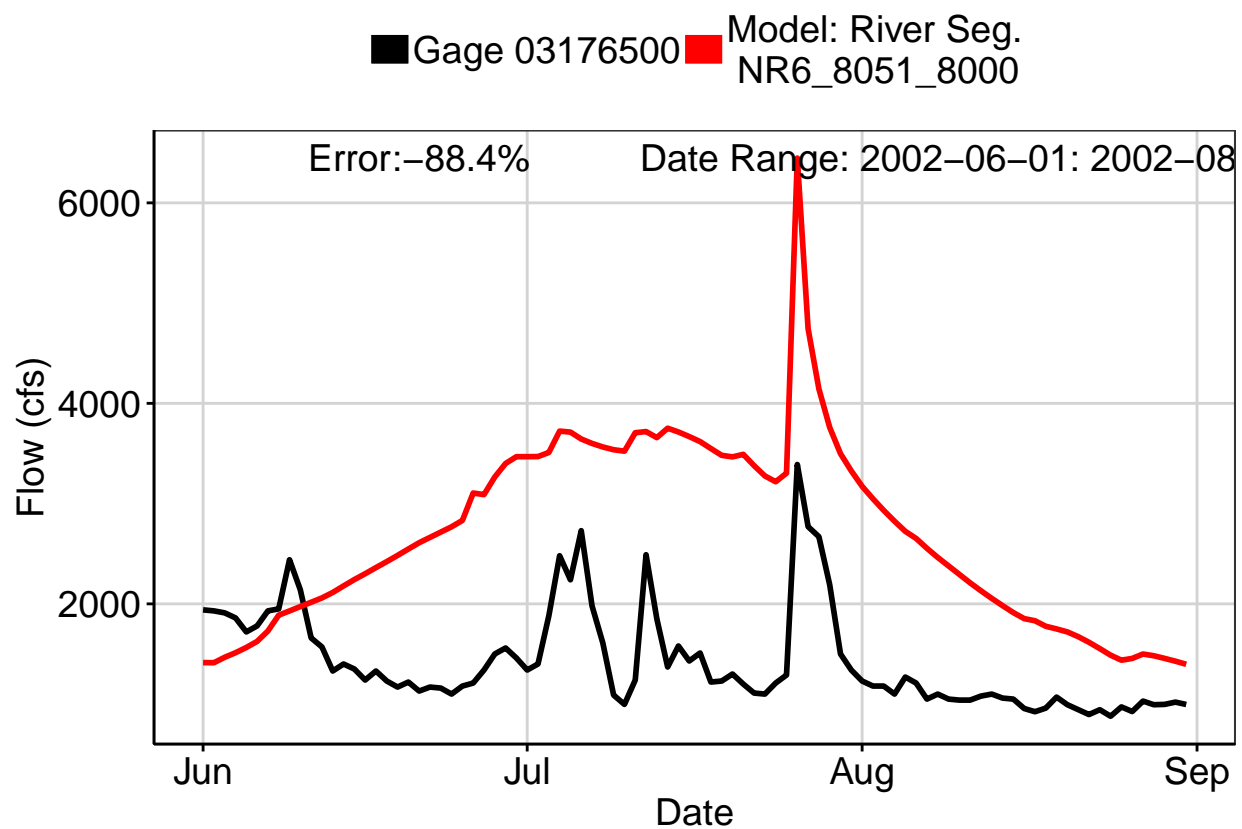


Fig. 9: Residuals Plot

