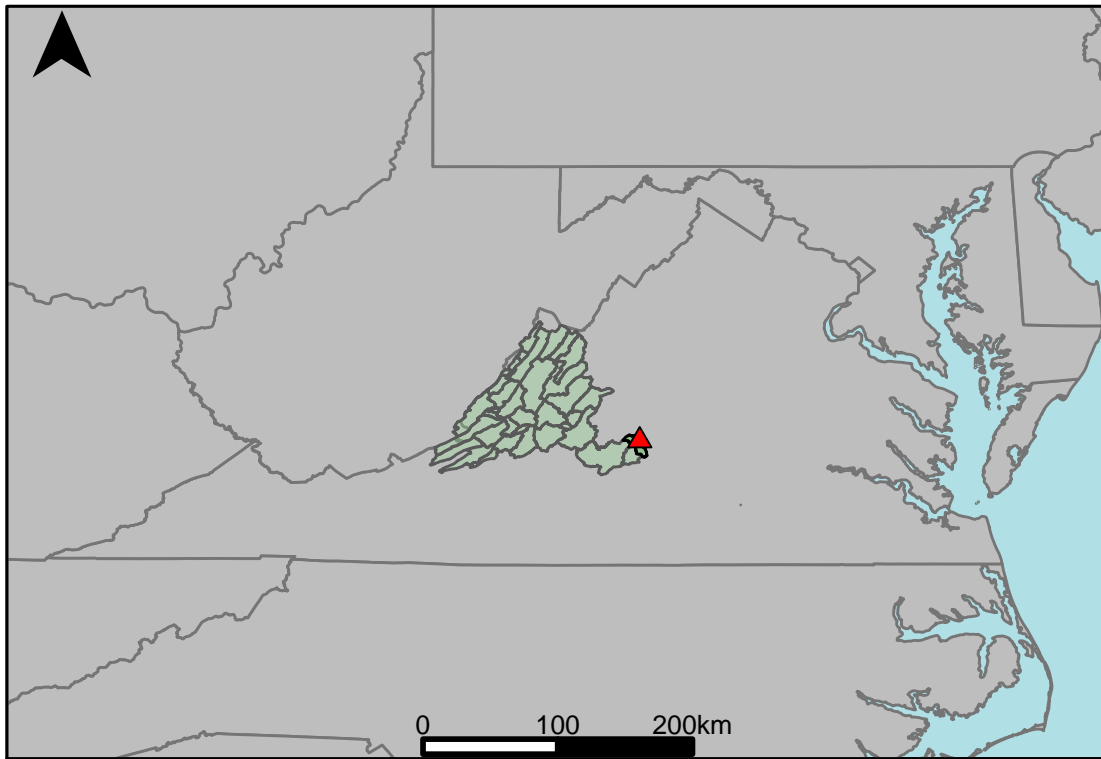


Appendix A.20: USGS Gage 02026000
vs. JL6_7430_7320
Lower James River



This river segment follows part of the flow of the James River, a tributary of the James. The gage is located in Nelson County (Lat. 37°32'10.5", Long. -78°49'46.1"), approximately 12 miles north of Appomattox, VA. Drainage area is 3649 sq. miles. This gage started taking data in 1925 and is still taking data. Large diurnal fluctuations are caused by powerplants upstream. Flow has been regulated since December 1979 by Lake Moomaw (station 02011795) 158.3 mi upstream; since October 1984 by Back Creek Lake 186.3 mi upstream; and since January 1985 by Little Back Creek Lake 189.4 mi upstream, amount unknown. The average daily discharge error between the model and gage data for the 20 year timespan was 0.71%, with 30.8% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	830	673	-18.9
Feb. Low Flow	1080	1090	0.93
Mar. Low Flow	1600	1940	21.2
Apr. Low Flow	1590	2220	39.6
May Low Flow	2450	3180	29.8
Jun. Low Flow	3160	3260	3.16
Jul. Low Flow	2490	2430	-2.41
Aug. Low Flow	2330	1900	-18.5
Sep. Low Flow	1390	1320	-5.04
Oct. Low Flow	1130	814	-28
Nov. Low Flow	1000	771	-22.9
Dec. Low Flow	786	608	-22.6

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	4210	4180	-0.71
Jan. Mean Flow	5330	5260	-1.31
Feb. Mean Flow	5960	6660	11.7
Mar. Mean Flow	7460	7550	1.21
Apr. Mean Flow	6650	6160	-7.37
May Mean Flow	5230	4670	-10.7
Jun. Mean Flow	3700	3640	-1.62
Jul. Mean Flow	2100	1910	-9.05
Aug. Mean Flow	1770	1640	-7.34
Sep. Mean Flow	2790	3090	10.8
Oct. Mean Flow	2090	2360	12.9
Nov. Mean Flow	3530	3650	3.4
Dec. Mean Flow	4030	3830	-4.96

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	2110	1850	-12.3
Feb. High Flow	6570	6800	3.5
Mar. High Flow	10900	6510	-40.3
Apr. High Flow	14600	9620	-34.1
May High Flow	10800	9240	-14.4
Jun. High Flow	17300	21100	22
Jul. High Flow	17600	15200	-13.6
Aug. High Flow	9730	8510	-12.5
Sep. High Flow	4110	4860	18.2
Oct. High Flow	3740	3800	1.6
Nov. High Flow	2730	2260	-17.2
Dec. High Flow	2580	1970	-23.6

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	409	213	-47.9
Med. 1 Day Min	654	481	-26.5
Min. 3 Day Min	443	214	-51.7
Med. 3 Day Min	761	495	-35
Min. 7 Day Min	460	216	-53
Med. 7 Day Min	789	532	-32.6
Min. 30 Day Min	556	262	-52.9
Med. 30 Day Min	1020	707	-30.7
Min. 90 Day Min	713	554	-22.3
Med. 90 Day Min	1430	1300	-9.09
7Q10	588	303	-48.5
Year of 90-Day Min. Flow	2002	1999	100
Drought Year Mean	1560	1540	-1.28
Mean Baseflow	2310	2470	6.93

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	142000	144000	1.41
Med. 1 Day Max	45000	41600	-7.56
Max. 3 Day Max	96400	105000	8.92
Med. 3 Day Max	34100	32800	-3.81
Max. 7 Day Max	54100	54900	1.48
Med. 7 Day Max	22900	20800	-9.17
Max. 30 Day Max	24100	19700	-18.3
Med. 30 Day Max	12400	10900	-12.1
Max. 90 Day Max	13900	15000	7.91
Med. 90 Day Max	7490	7860	4.94

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	623	349	-44
5% Non-Exceedance	848	507	-40.2
50% Non-Exceedance	2500	2600	4
95% Non-Exceedance	13000	12900	-0.77
99% Non-Exceedance	26900	28100	4.46
Sept. 10% Non-Exceedance	783	468	-40.2

Fig. 1: Hydrograph

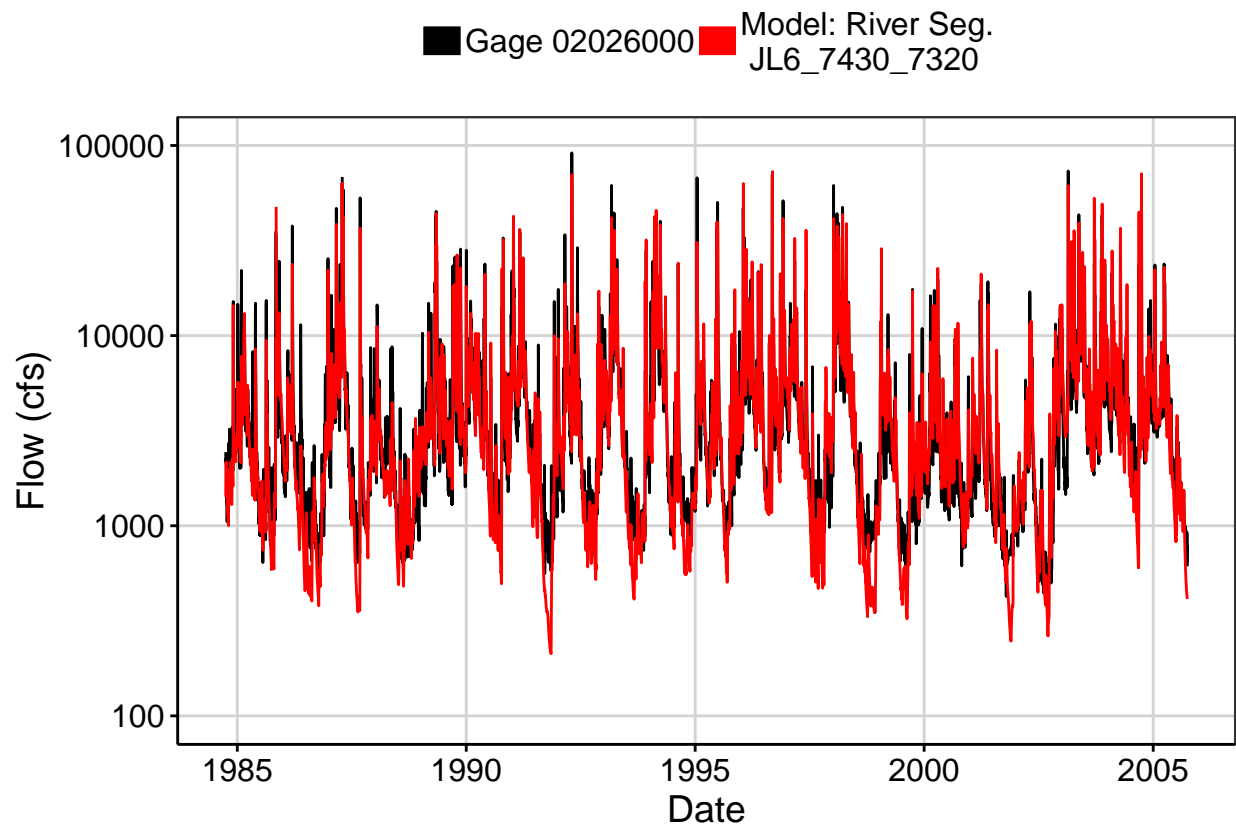


Fig. 2: Zoomed Hydrograph

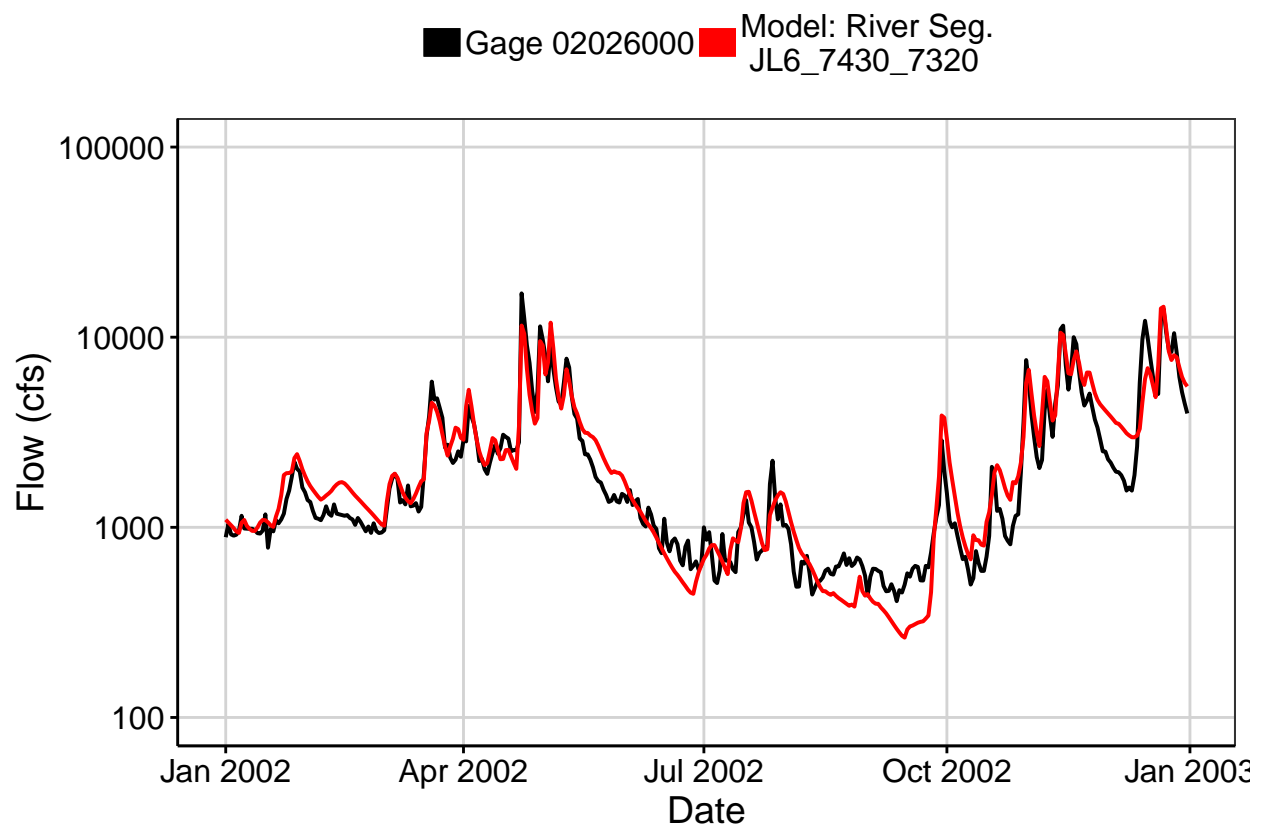


Fig. 3: Flow Exceedance

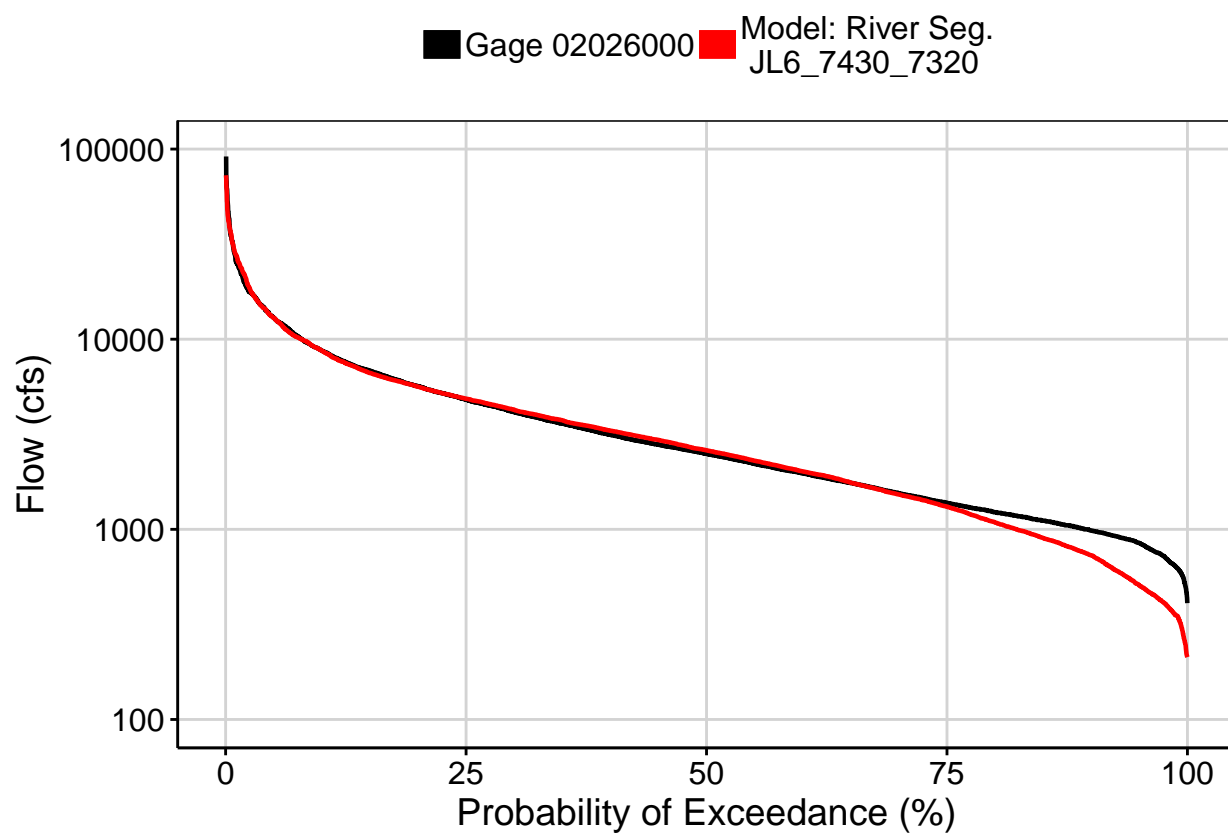


Fig. 4: Baseflow

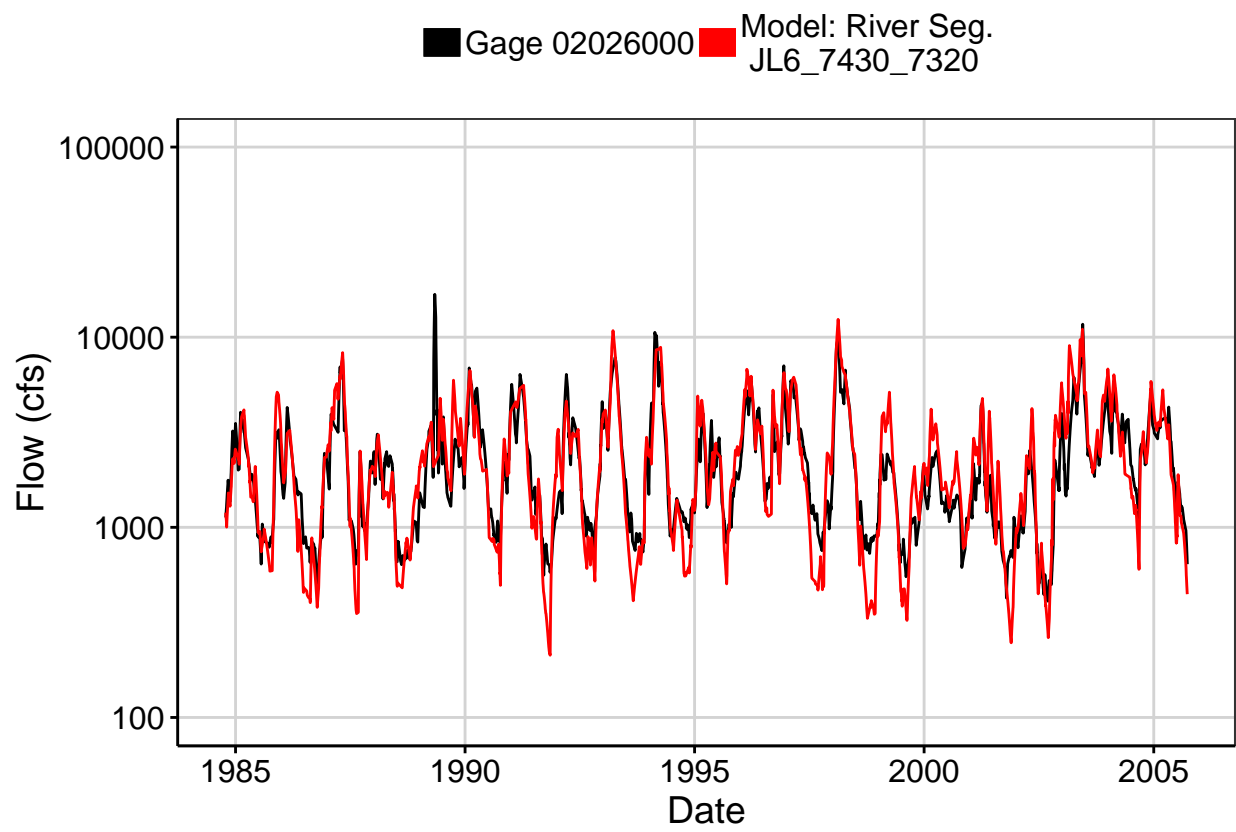


Fig. 5: Combined Baseflow

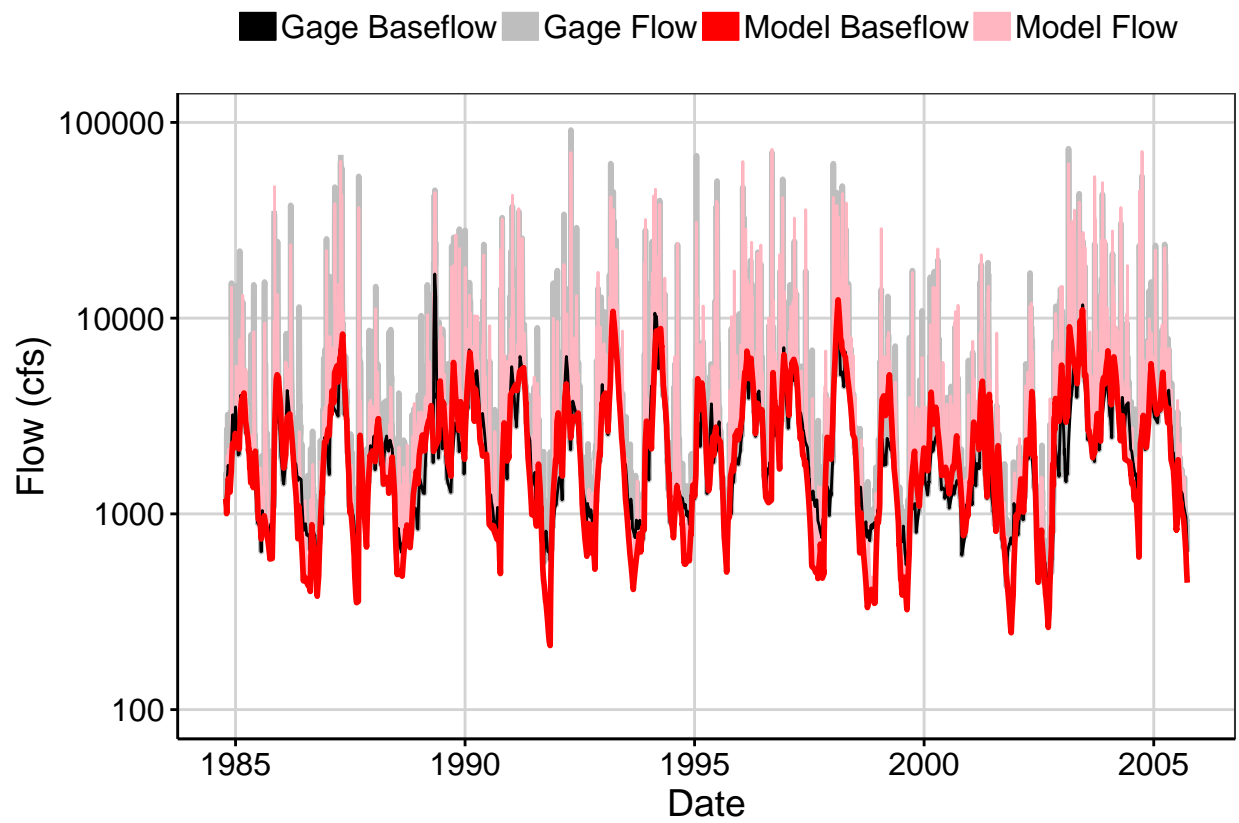


Fig. 6: Largest Error Segment

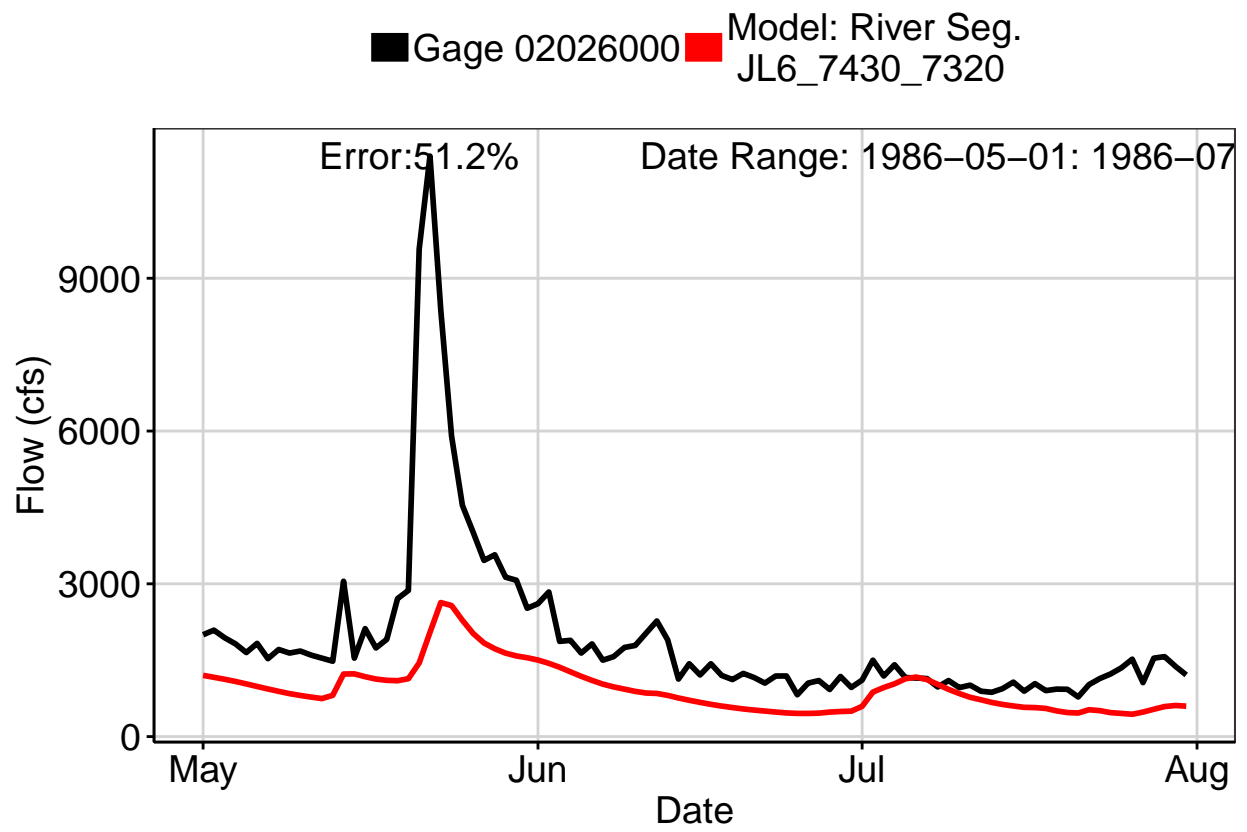


Fig. 7: Second Largest Error Segment

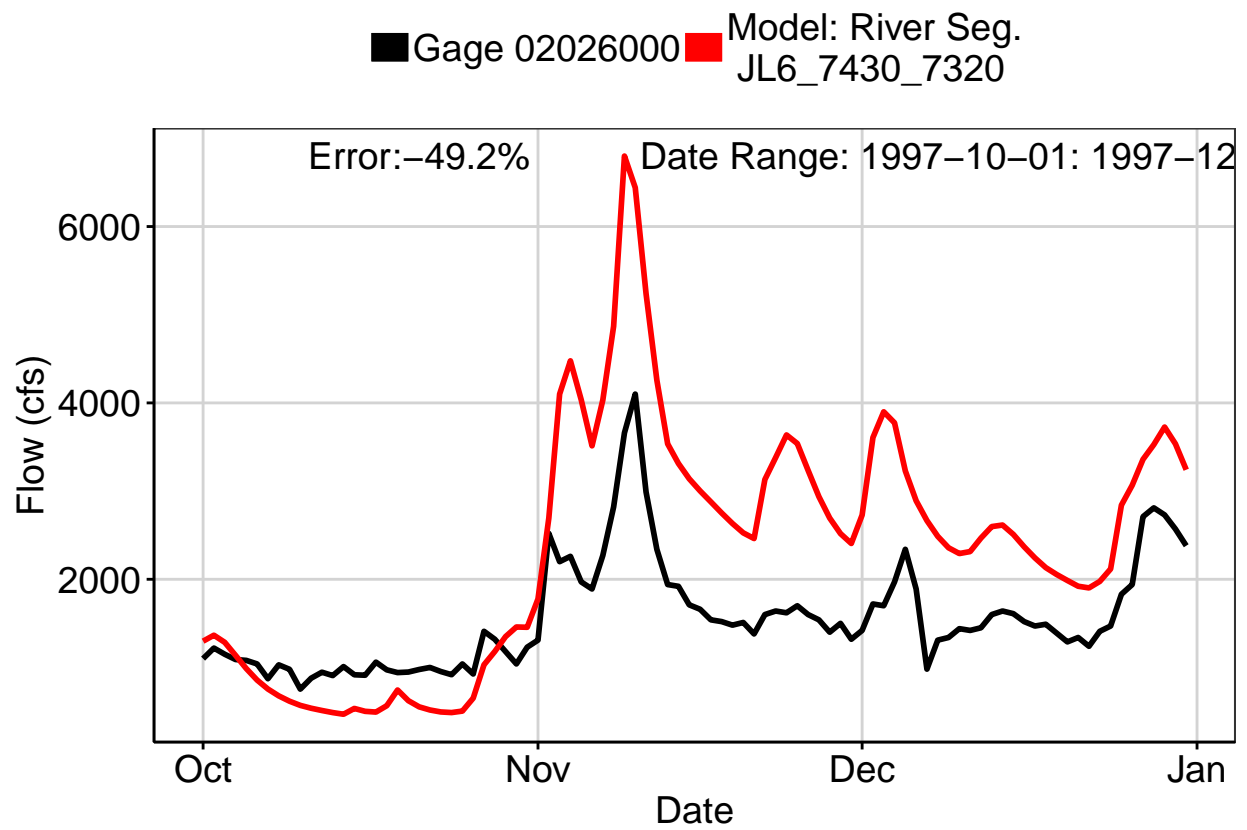


Fig. 8: Third Largest Error Segment

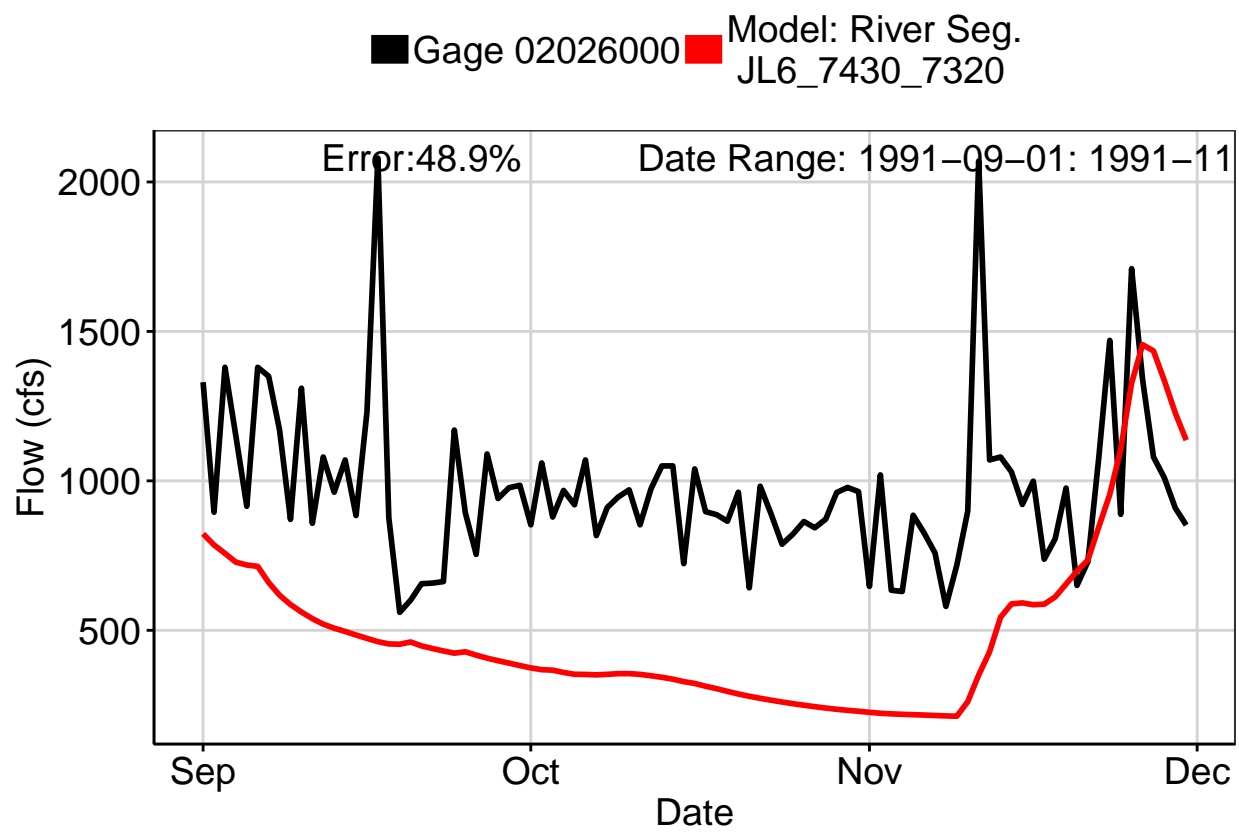


Fig. 9: Residuals Plot

