03531500 vs. TU3_9230_9260

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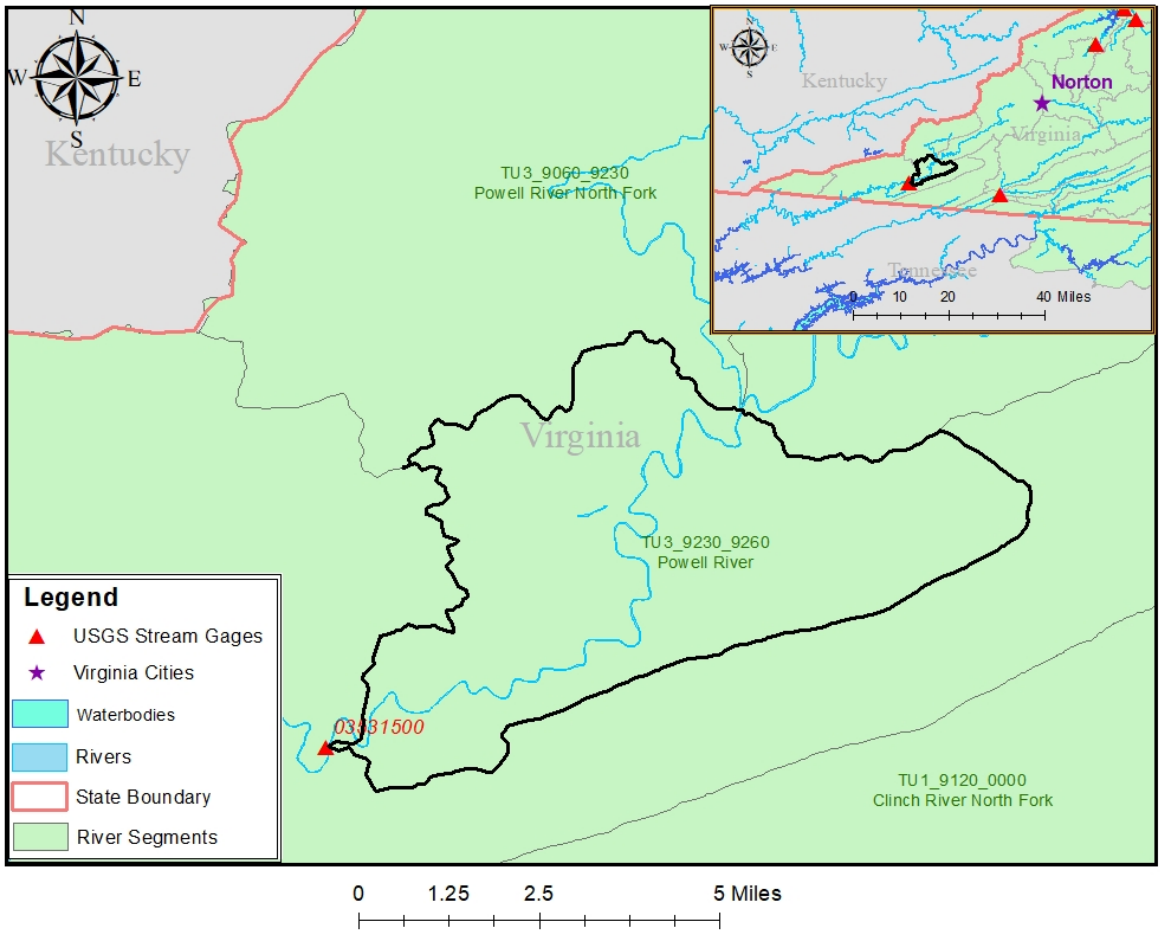

This river segment follows part of the flow of the Powell River, a tributary of the Tennessee River. The gage is located in Lee County, VA (Lat 3639'43", Long 8305'42") approximately 32 miles southwest of Norton, VA. Drainage area is 319 sq. miles. This gage started taking data in 1931 and is still taking 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 0.74%, with 45.8% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	59	77.2	-30.8
Feb. Low Flow	72	148	-106
Mar. Low Flow	169	198	-17.2
Apr. Low Flow	211	282	-33.6
May Low Flow	312	343	-9.94
Jun. Low Flow	327	301	7.95
Jul. Low Flow	303	214	29.4
Aug. Low Flow	208	156	25
Sep. Low Flow	124	120	3.23
Oct. Low Flow	88	85.7	2.61
Nov. Low Flow	66	84.1	-27.4
Dec. Low Flow	55	74	-34.5

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	541	537	0.74
Jan. Mean Flow	804	758	5.72
Feb. Mean Flow	1090	1060	2.75
Mar. Mean Flow	993	923	7.05
Apr. Mean Flow	834	696	16.5
May Mean Flow	643	517	19.6
Jun. Mean Flow	428	345	19.4
Jul. Mean Flow	224	246	-9.82
Aug. Mean Flow	186	235	-26.3
Sep. Mean Flow	146	265	-81.5
Oct. Mean Flow	137	259	-89.1
Nov. Mean Flow	353	477	-35.1
Dec. Mean Flow	686	699	-1.9

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	211	593	-181
Feb. High Flow	1930	1830	5.18
Mar. High Flow	2500	1930	22.8
Apr. High Flow	3170	2530	20.2
May High Flow	3760	3340	11.2
Jun. High Flow	3030	2790	7.92
Jul. High Flow	1920	1500	21.9
Aug. High Flow	2040	1450	28.9
Sep. High Flow	559	665	-19
Oct. High Flow	700	549	21.6
Nov. High Flow	499	983	-97
Dec. High Flow	422	533	-26.3

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	34	4.89	85.6
Med. 1 Day Min	44	44.2	-0.46
Min. 3 Day Min	34.7	5.82	83.2
Med. 3 Day Min	46	46.2	-0.44
Min. 7 Day Min	35.1	8.54	75.7
Med. 7 Day Min	46.4	51.5	-11
Min. 30 Day Min	39.6	26.7	32.6
Med. 30 Day Min	62.2	78.4	-26
Min. 90 Day Min	72.7	81.6	-12.2
Med. 90 Day Min	136	160	-17.6
7Q10	38.2	13.7	64.1
Year of 90-Day Min. Flow	1995	1999	100
Drought Year Mean	500	460	8
Mean Baseflow	234	244	-4.27

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	21400	16000	25.2
Med. 1 Day Max	6610	6580	0.45
Max. 3 Day Max	10900	9010	17.3
Med. 3 Day Max	4600	4300	6.52
Max. 7 Day Max	6310	5420	14.1
Med. 7 Day Max	3030	2830	6.6
Max. 30 Day Max	3010	2850	5.32
Med. 30 Day Max	1620	1400	13.6
Max. 90 Day Max	2180	2150	1.38
Med. 90 Day Max	1150	1030	10.4

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	42	30.7	26.9
5% Non-Exceedance	51	61.4	-20.4
50% Non-Exceedance	277	322	-16.2
95% Non-Exceedance	1830	1640	10.4
99% Non-Exceedance	4150	3860	6.99
Sept. 10% Non-Exceedance	44.5	45	-1.12

Fig. 1: Hydrograph

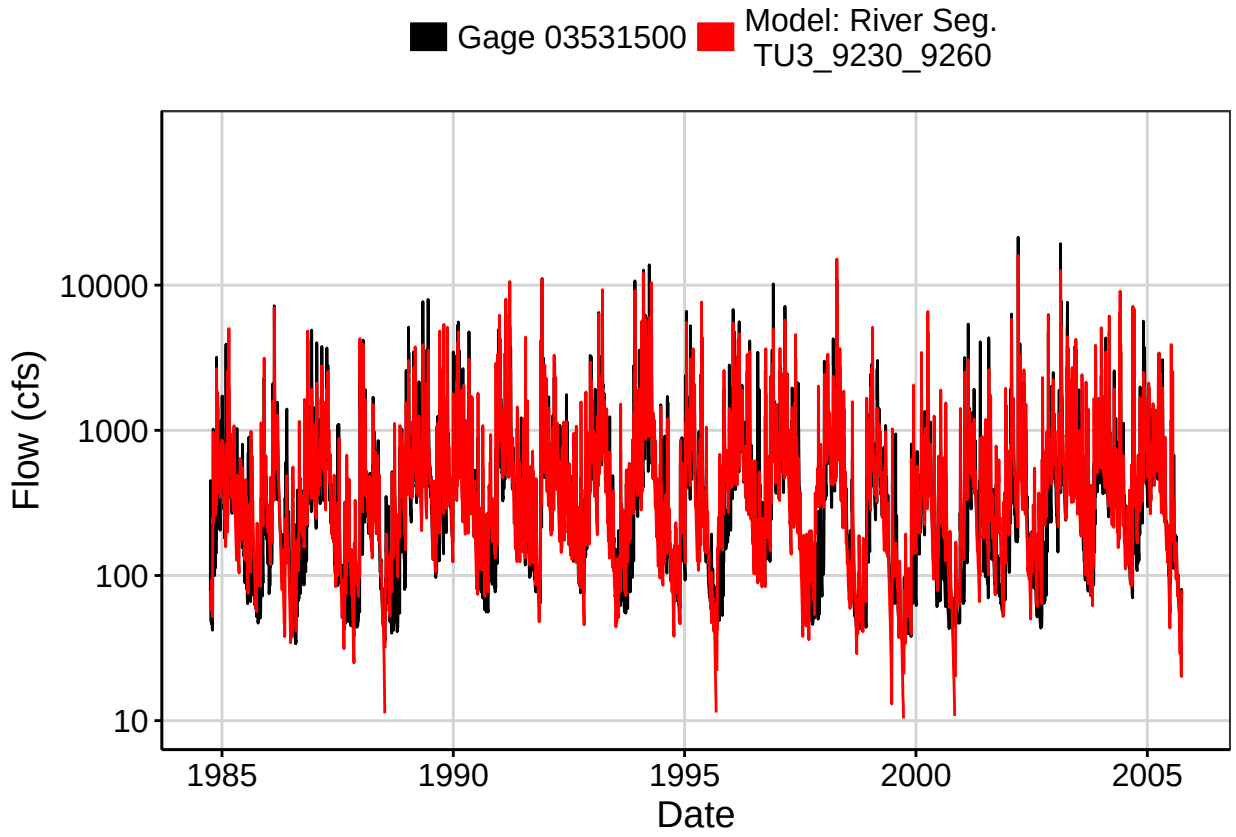

Fig. 2: Zoomed Hydrograph

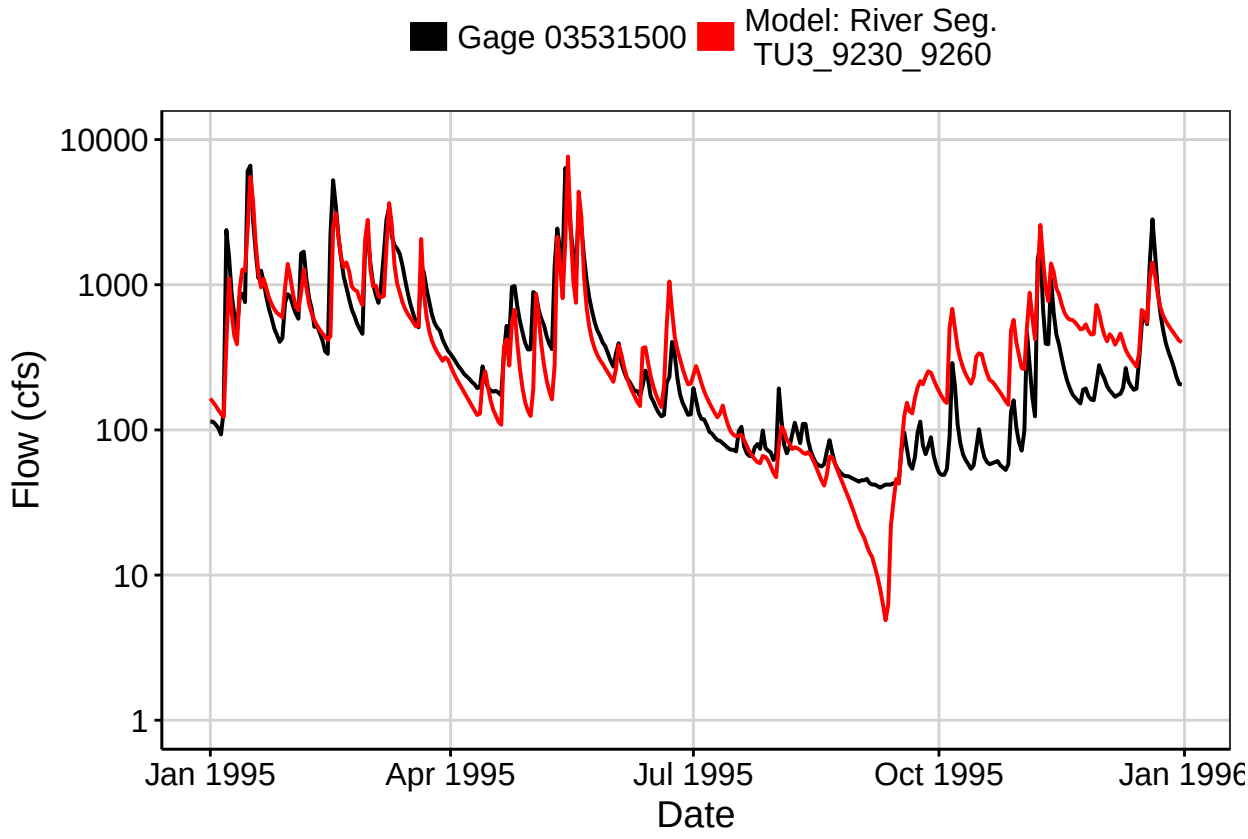

Fig. 3: Flow Exceedance

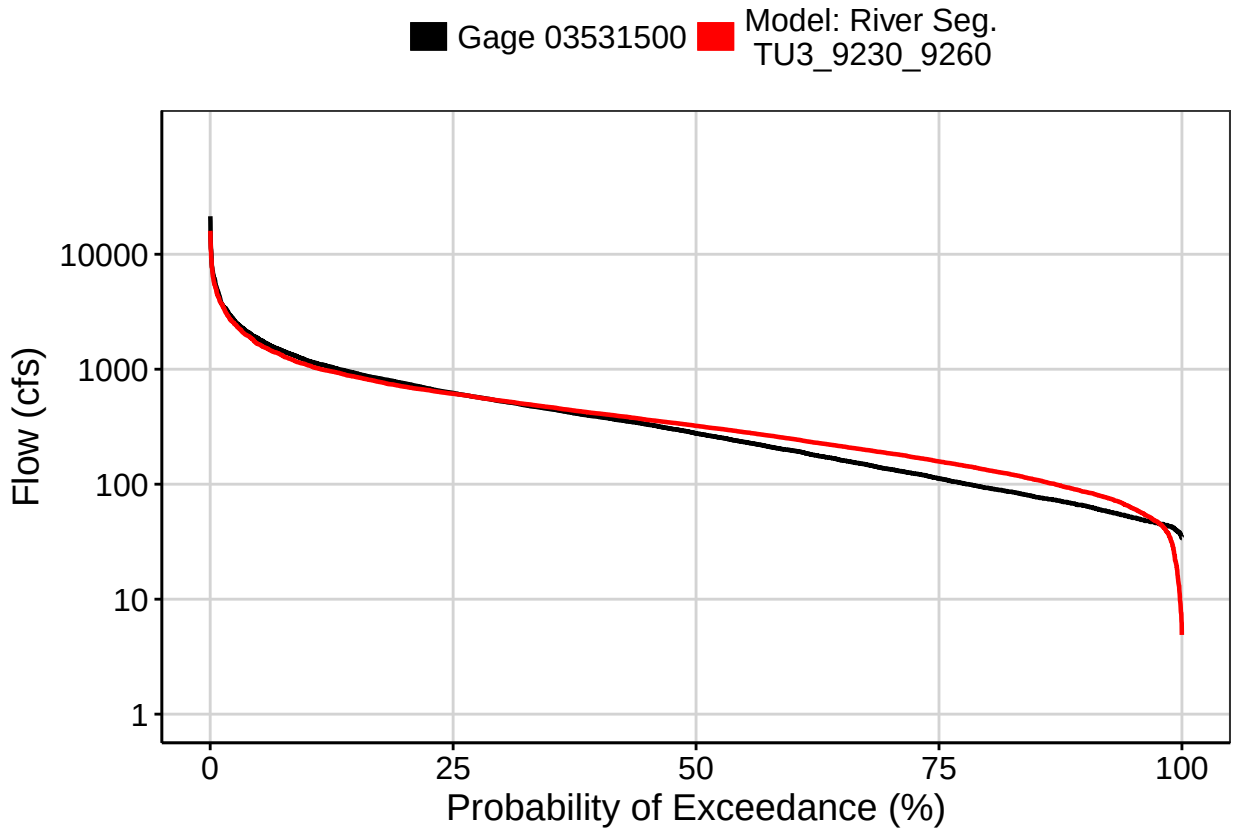

Fig. 4: Baseflow

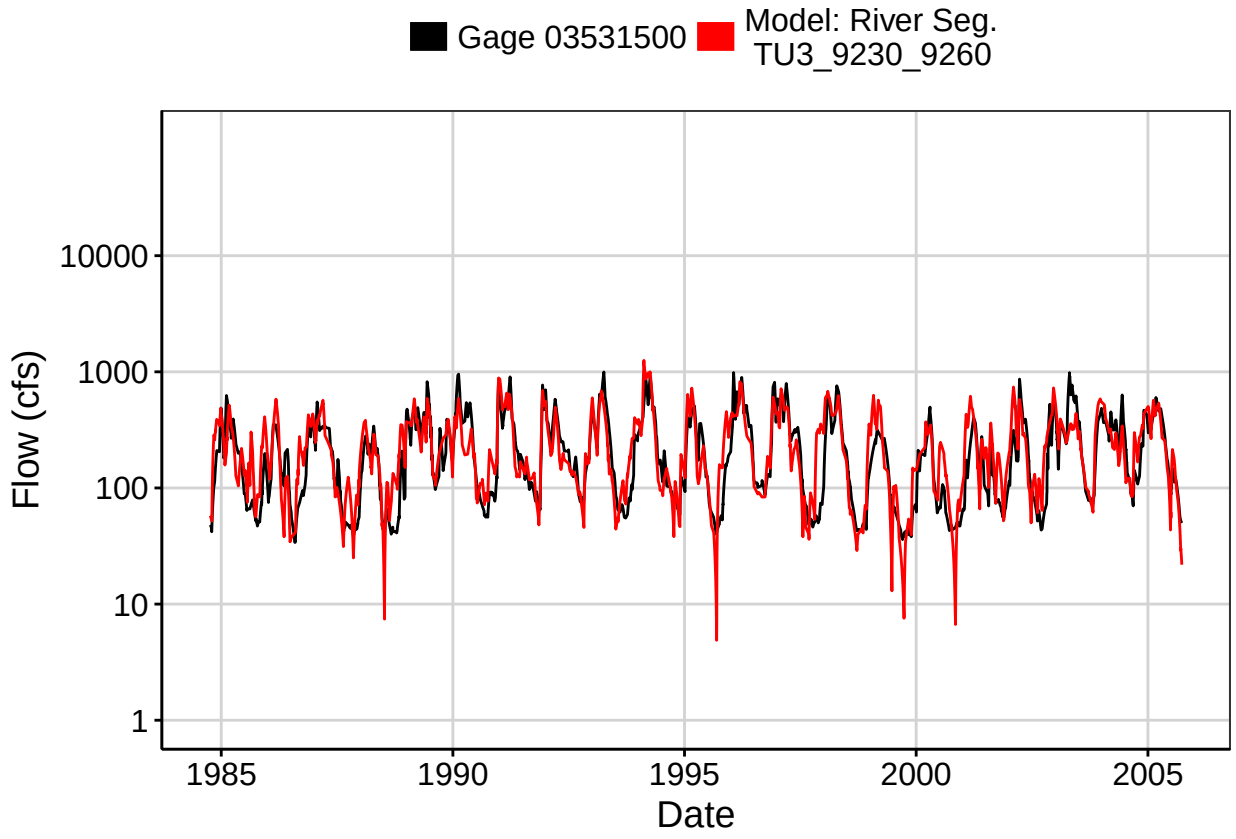

Fig. 5: Combined Baseflow

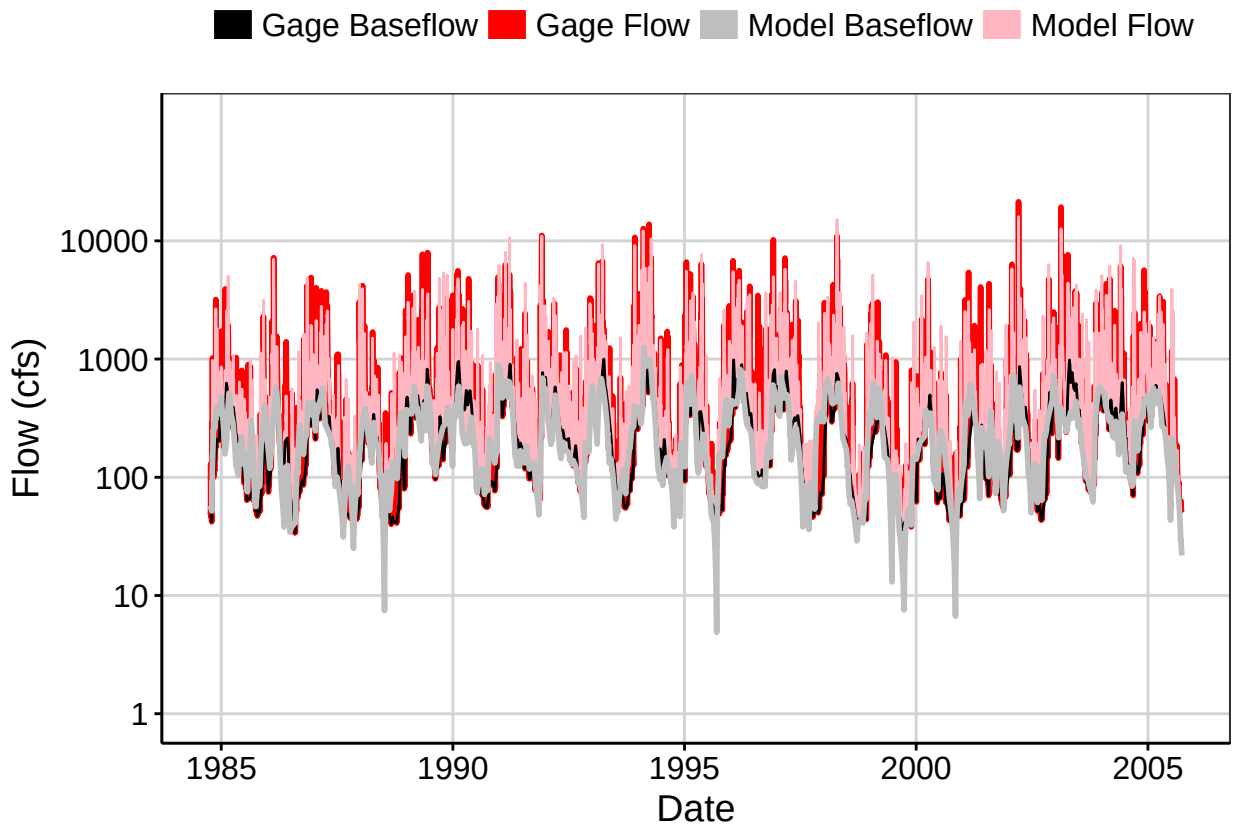

Fig. 6: Largest Error Segment

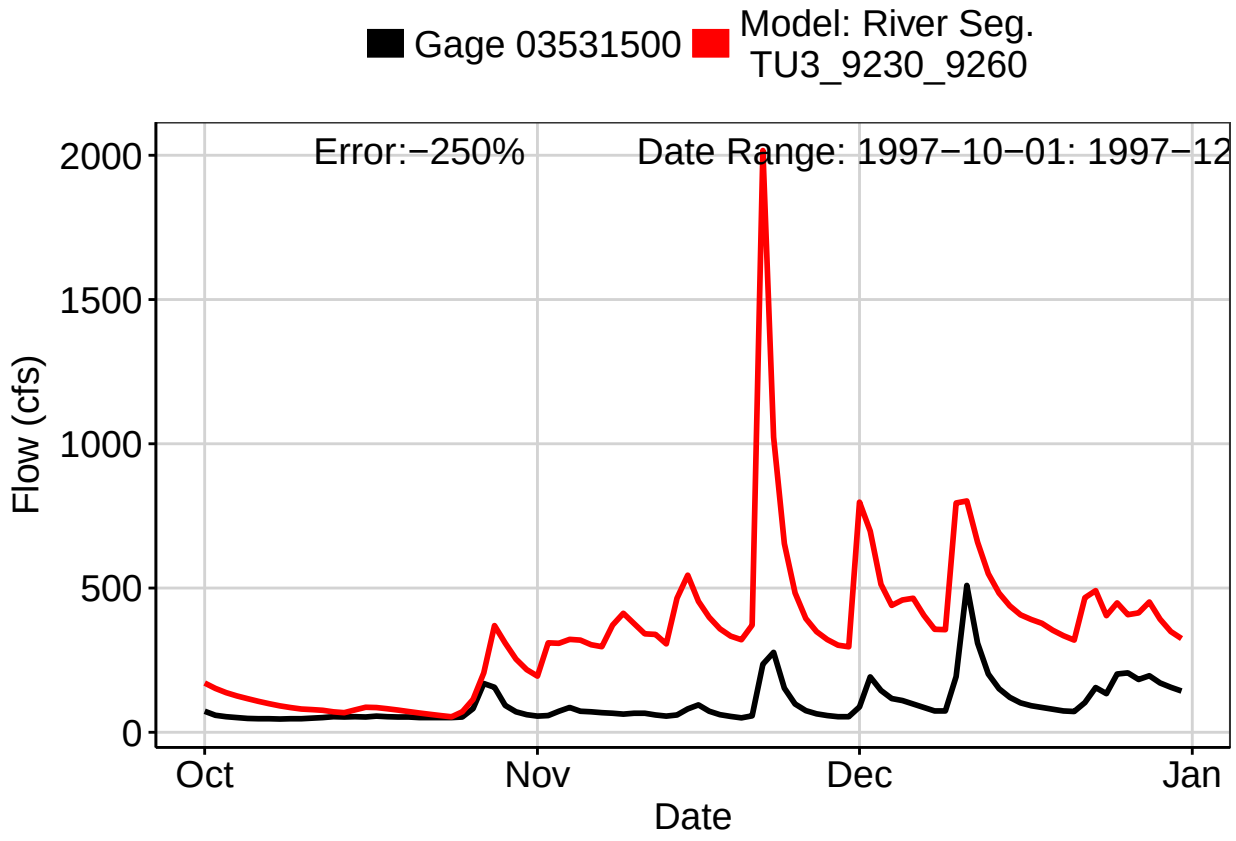

Fig. 7: Second Largest Error Segment

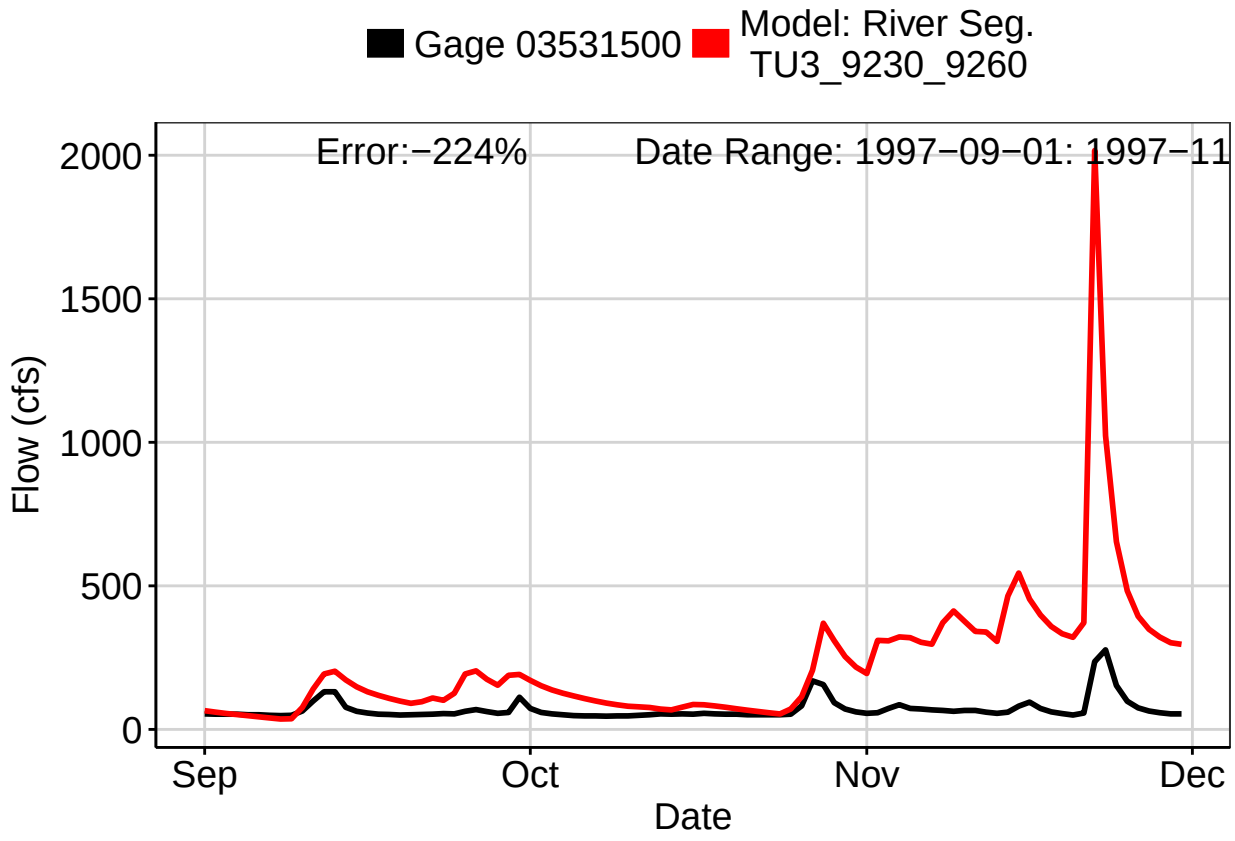

Fig. 8: Third Largest Error Segment

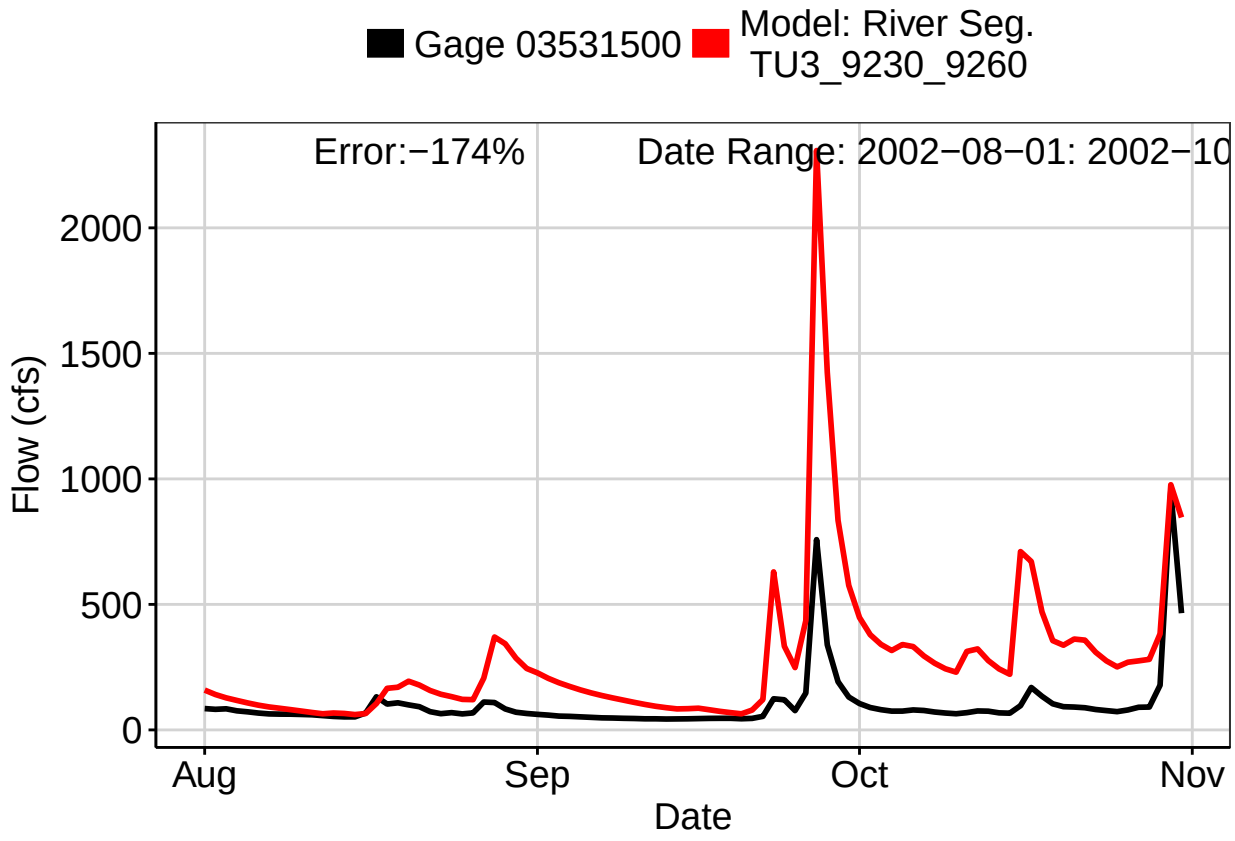

Fig. 9: Residuals Plot