03473000 vs. TU3_9040_9180+TU2_9200_9180

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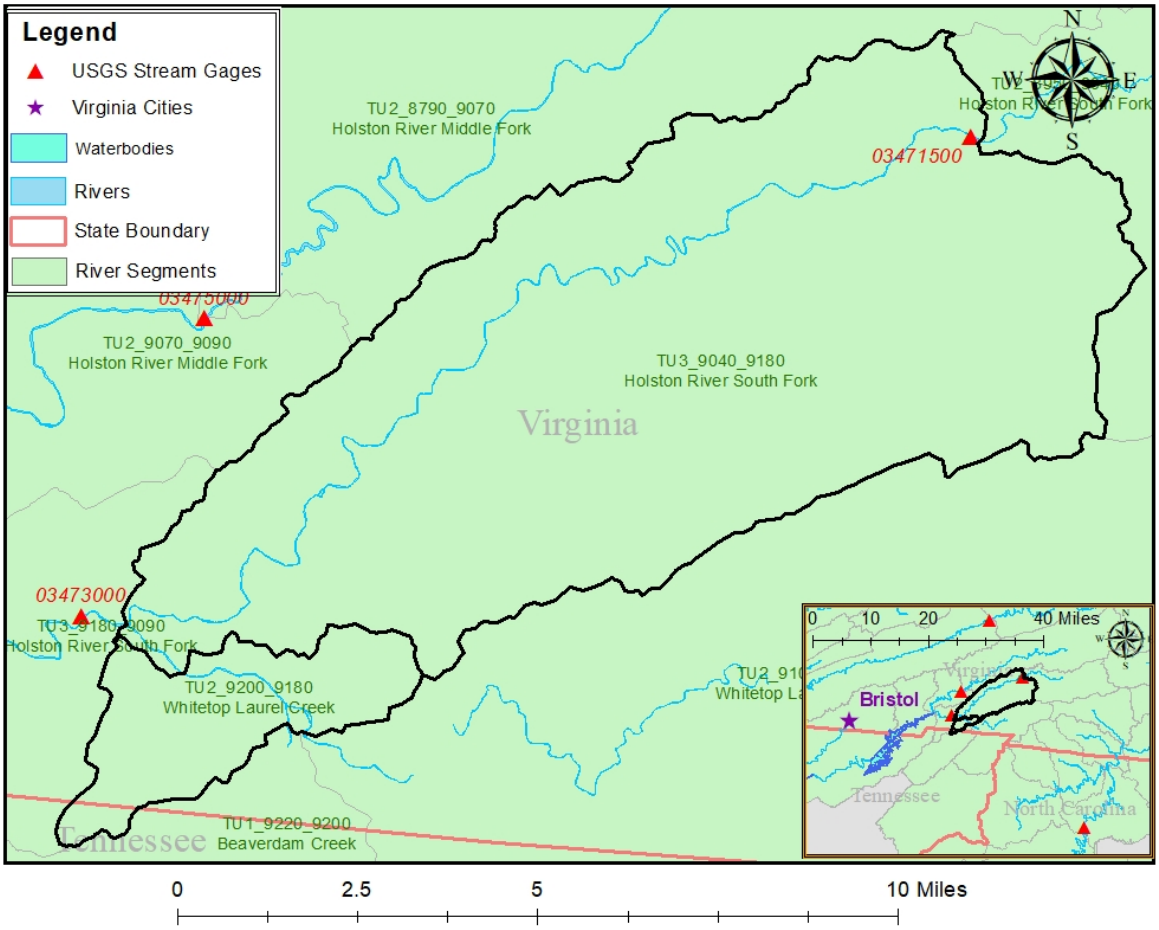
July 11, 2018



This river segment follows part of the flow of the South Fork of the Holston River, a tributary of the Tennessee River. The gage is located in Washington County, VA (Lat 3639'06", Long 8150'39") approximately 20 miles northeast of Bristol, VA. Drainage area is 303 sq. miles. This gage started taking data in 1931 and is still taking data. There may be some diurnal fluctuations during low flows due to a number of small dams upstream, as years have gone on many dams have been removed but the total number is unknown. The average daily discharge error between the model and gage data for the 20 year timespan was 0.85%, 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	97	88.4	8.87
Feb. Low Flow	111	152	-36.9
Mar. Low Flow	183	196	-7.1
Apr. Low Flow	210	270	-28.6
May Low Flow	339	297	12.4
Jun. Low Flow	373	407	-9.12
Jul. Low Flow	378	294	22.2
Aug. Low Flow	289	204	29.4
Sep. Low Flow	182	181	0.55
Oct. Low Flow	131	119	9.16
Nov. Low Flow	122	117	4.1
Dec. Low Flow	100	92	8

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	469	465	0.85
Jan. Mean Flow	616	613	0.49
Feb. Mean Flow	826	834	-0.97
Mar. Mean Flow	806	854	-5.96
Apr. Mean Flow	730	641	12.2
May Mean Flow	599	461	23
Jun. Mean Flow	407	369	9.34
Jul. Mean Flow	300	270	10
Aug. Mean Flow	225	265	-17.8
Sep. Mean Flow	202	231	-14.4
Oct. Mean Flow	176	242	-37.5
Nov. Mean Flow	306	348	-13.7
Dec. Mean Flow	459	476	-3.7

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	205	239	-16.6
Feb. High Flow	526	597	-13.5
Mar. High Flow	1450	957	34
Apr. High Flow	1650	1950	-18.2
May High Flow	2640	2130	19.3
Jun. High Flow	2080	2670	-28.4
Jul. High Flow	1420	1180	16.9
Aug. High Flow	1530	1070	30.1
Sep. High Flow	802	589	26.6
Oct. High Flow	596	468	21.5
Nov. High Flow	362	308	14.9
Dec. High Flow	285	323	-13.3

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	65	14.2	78.2
Med. 1 Day Min	83	50.4	39.3
Min. 3 Day Min	65	14.6	77.5
Med. 3 Day Min	84	53.6	36.2
Min. 7 Day Min	66.9	16.2	75.8
Med. 7 Day Min	88.6	59.7	32.6
Min. 30 Day Min	86.3	33.8	60.8
Med. 30 Day Min	101	71	29.7
Min. 90 Day Min	96.2	96.8	-0.62
Med. 90 Day Min	174	156	10.3
7Q10	71.5	25.4	64.5
Year of 90-Day Min. Flow	1988	1988	0
Drought Year Mean	245	223	8.98
Mean Baseflow	266	277	-4.14

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	10400	8880	14.6
Med. 1 Day Max	4840	3780	21.9
Max. 3 Day Max	6920	6440	6.94
Med. 3 Day Max	3430	2770	19.2
Max. 7 Day Max	4480	3840	14.3
Med. 7 Day Max	2200	1810	17.7
Max. 30 Day Max	2000	2300	-15
Med. 30 Day Max	1160	1140	1.72
Max. 90 Day Max	1330	1530	-15
Med. 90 Day Max	891	830	6.85

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	79	39.3	50.3
5% Non-Exceedance	93	72.2	22.4
50% Non-Exceedance	312	315	-0.96
95% Non-Exceedance	1310	1270	3.05
99% Non-Exceedance	2670	2590	3
Sept. 10% Non-Exceedance	64.4	83	-28.9

Fig. 1: Hydrograph

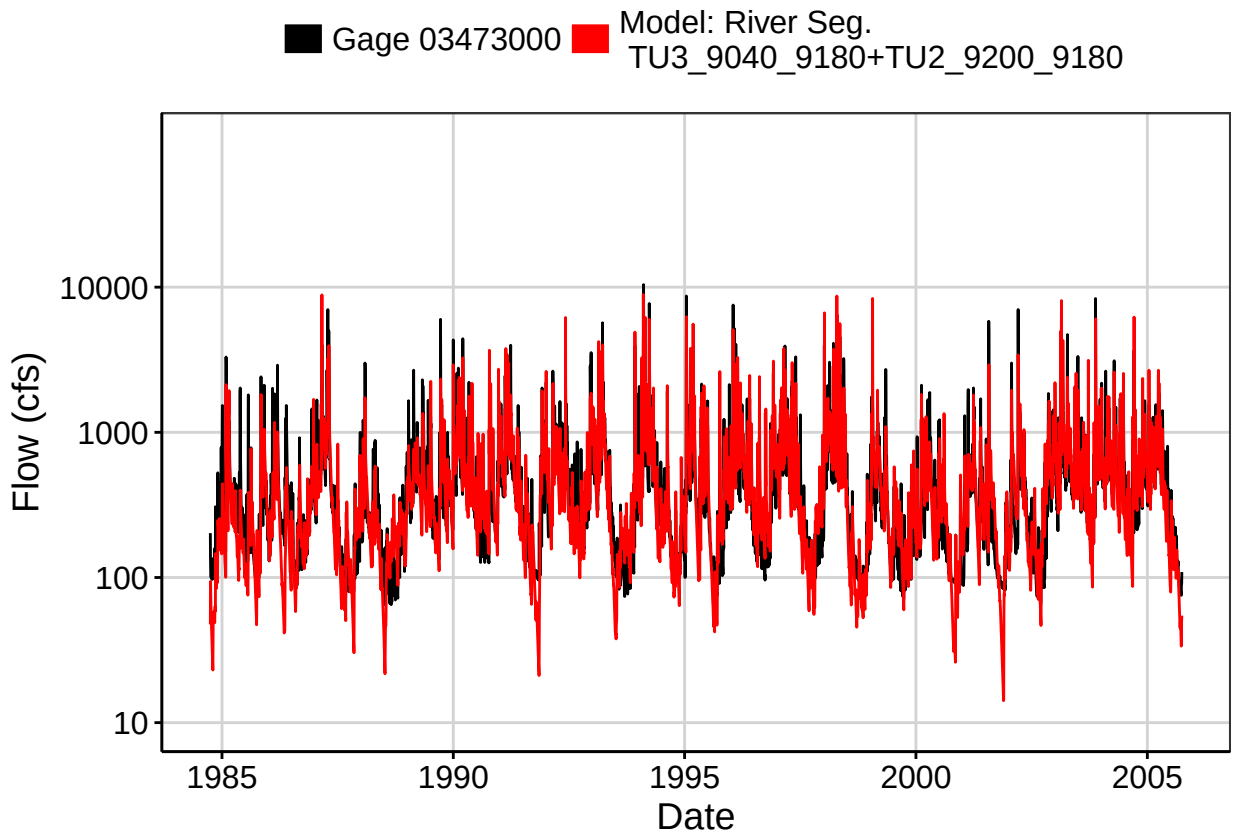


Fig. 2: Zoomed Hydrograph

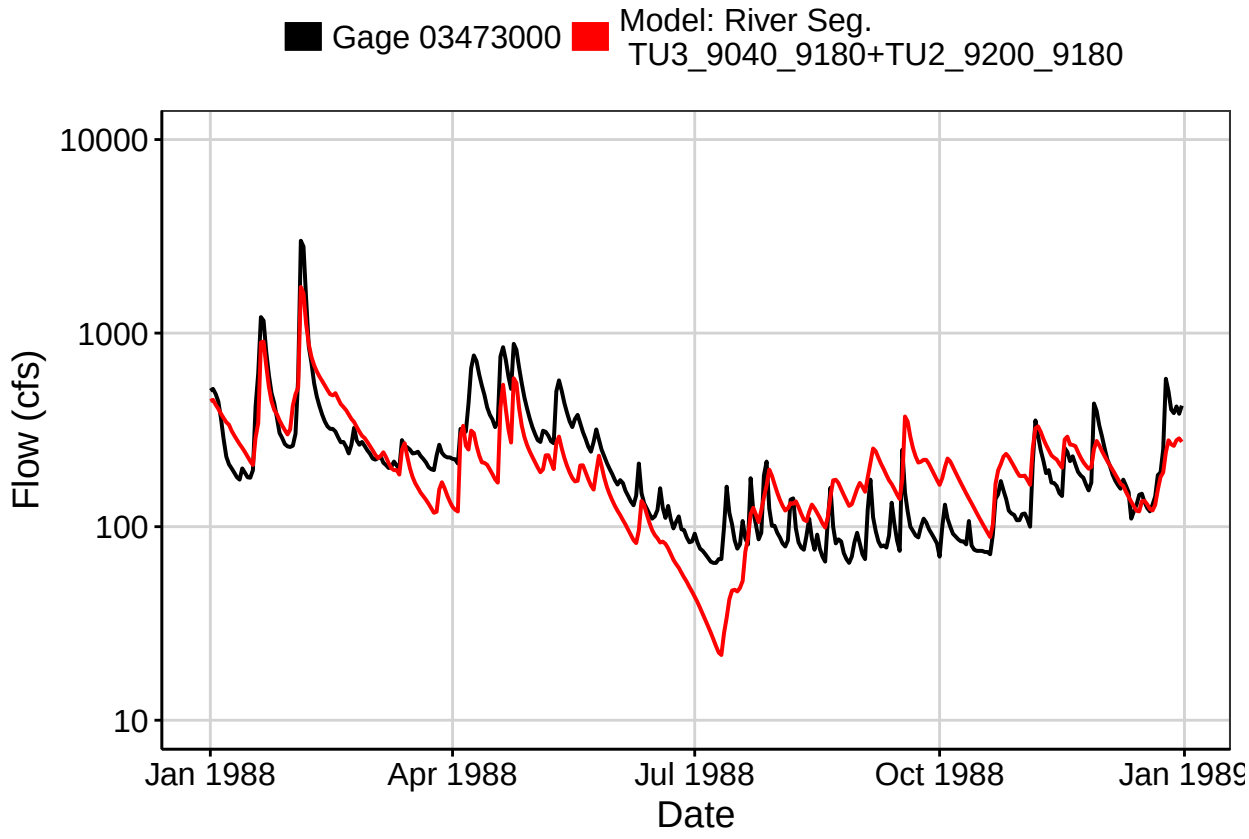


Fig. 3: Flow Exceedance

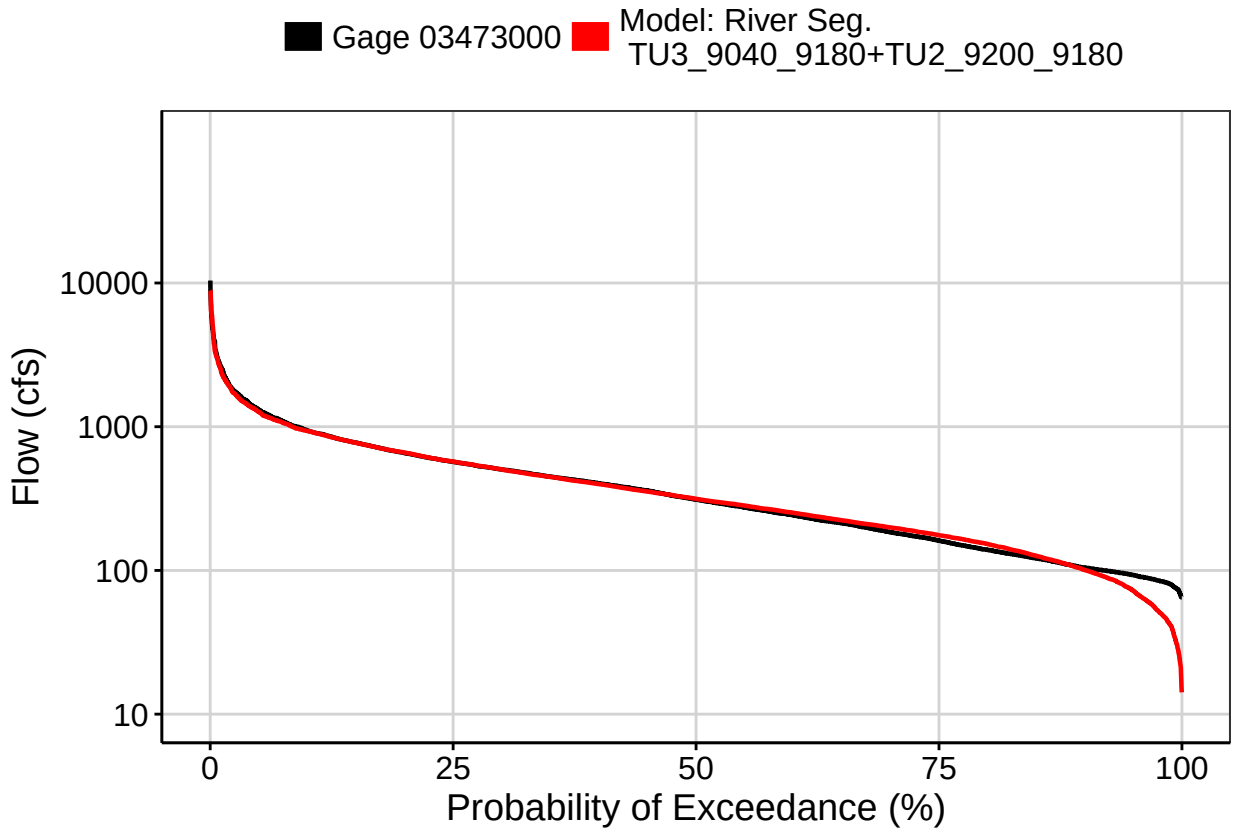


Fig. 4: Baseflow

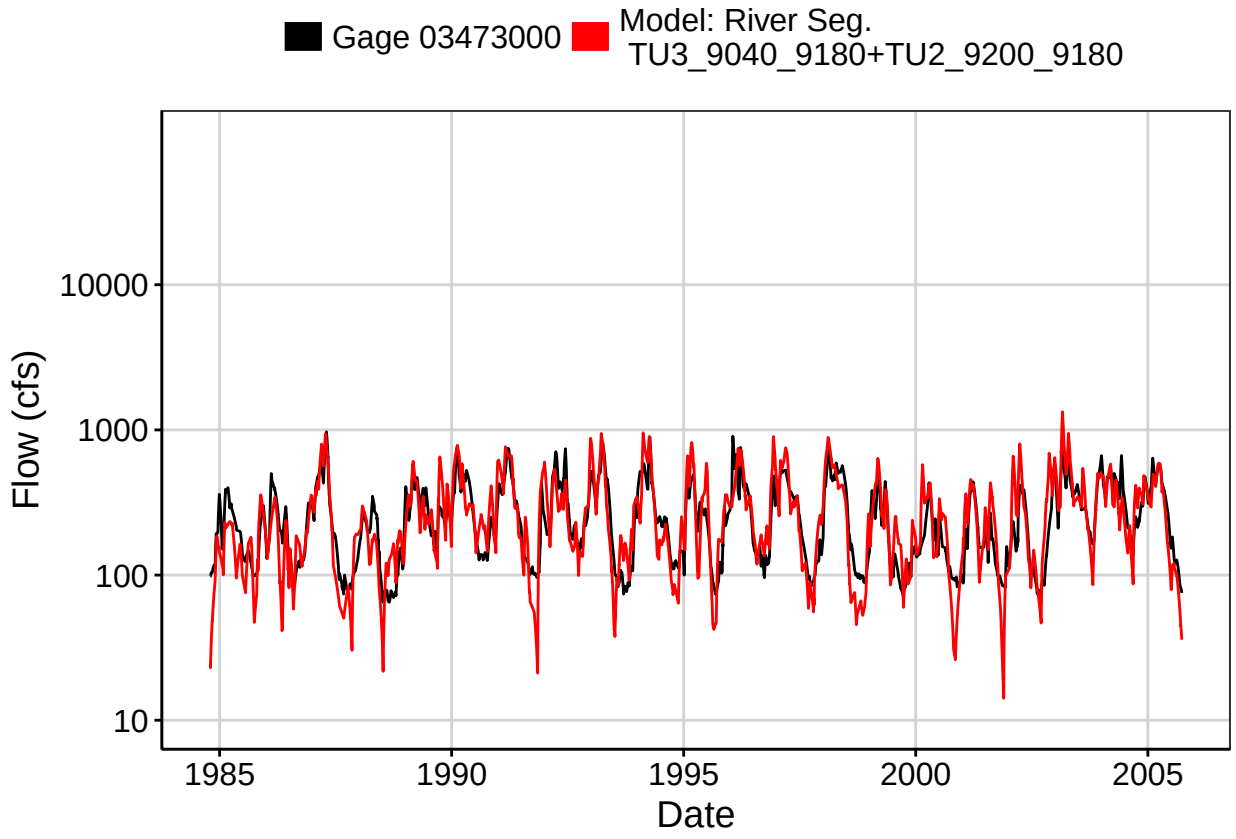


Fig. 5: Combined Baseflow

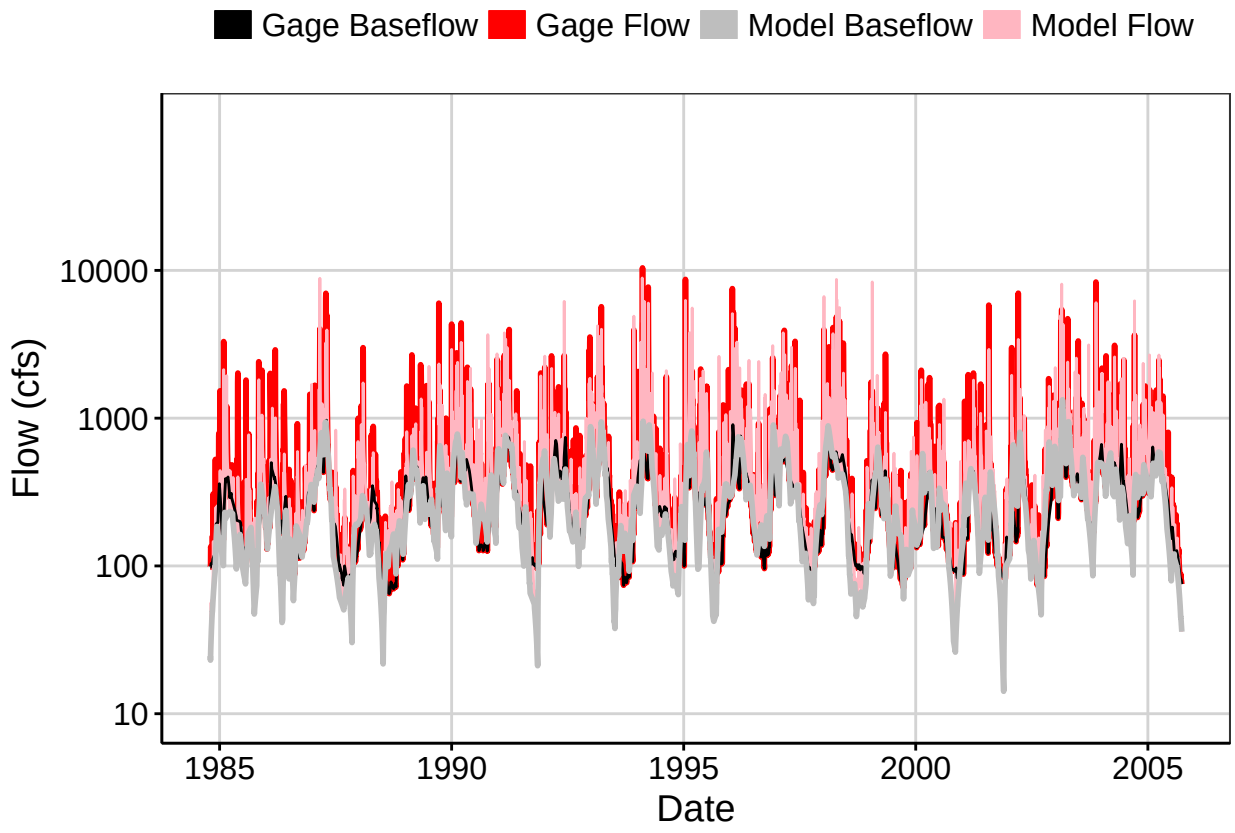


Fig. 6: Largest Error Segment

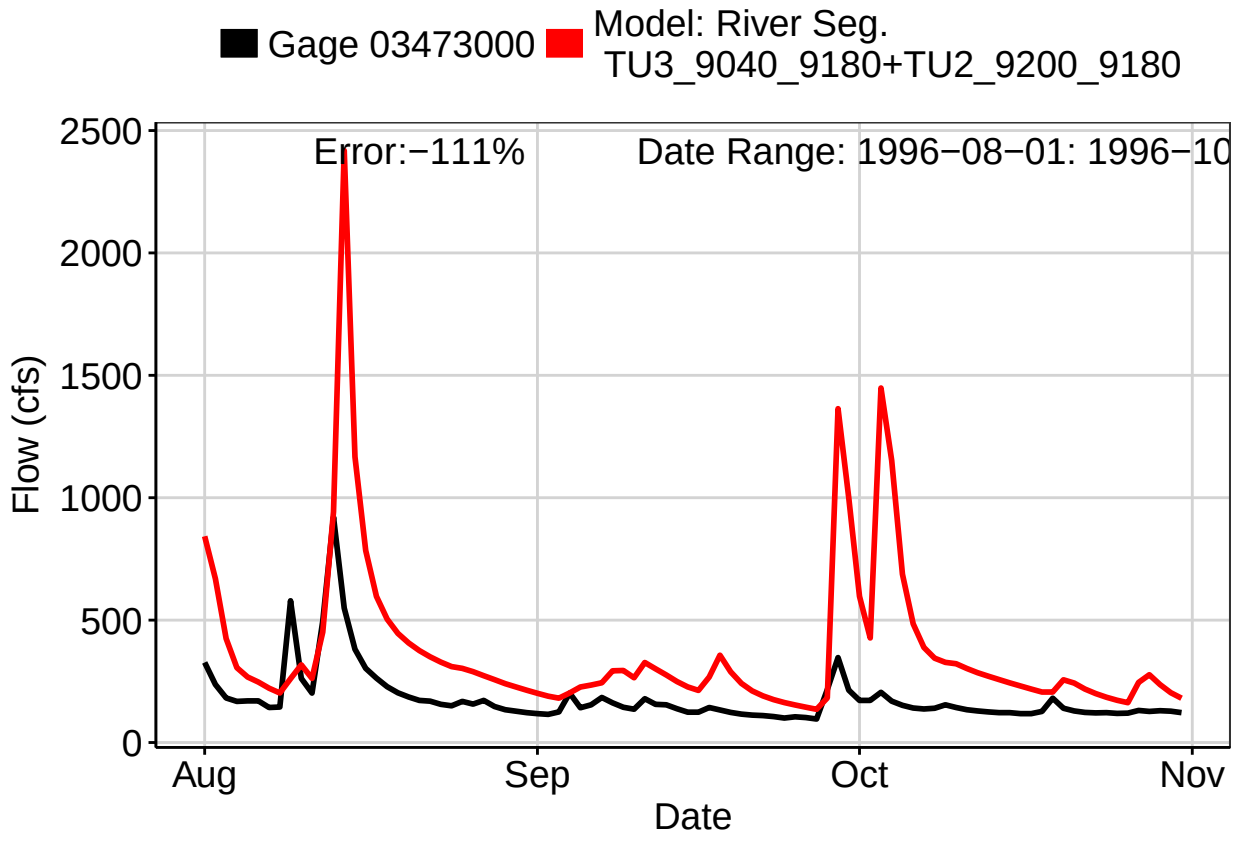


Fig. 7: Second Largest Error Segment

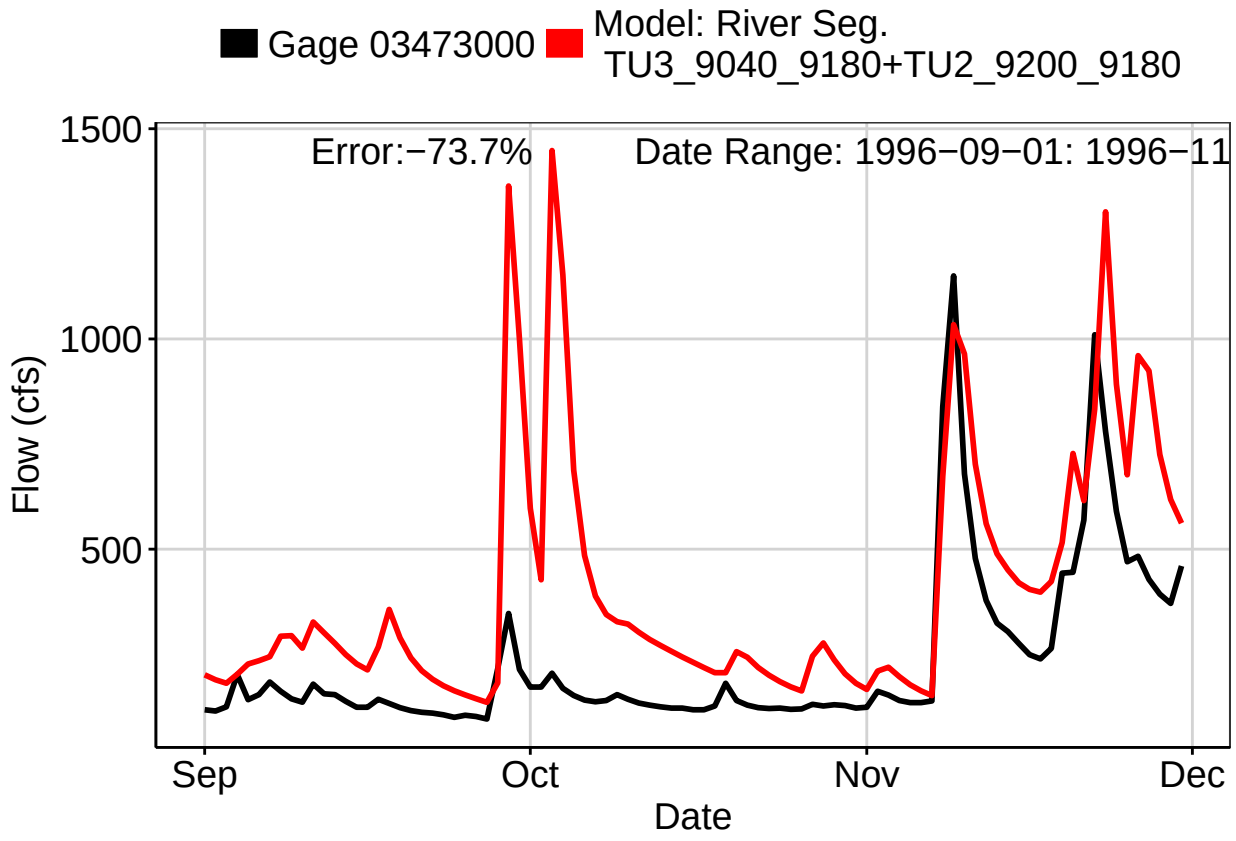


Fig. 8: Third Largest Error Segment

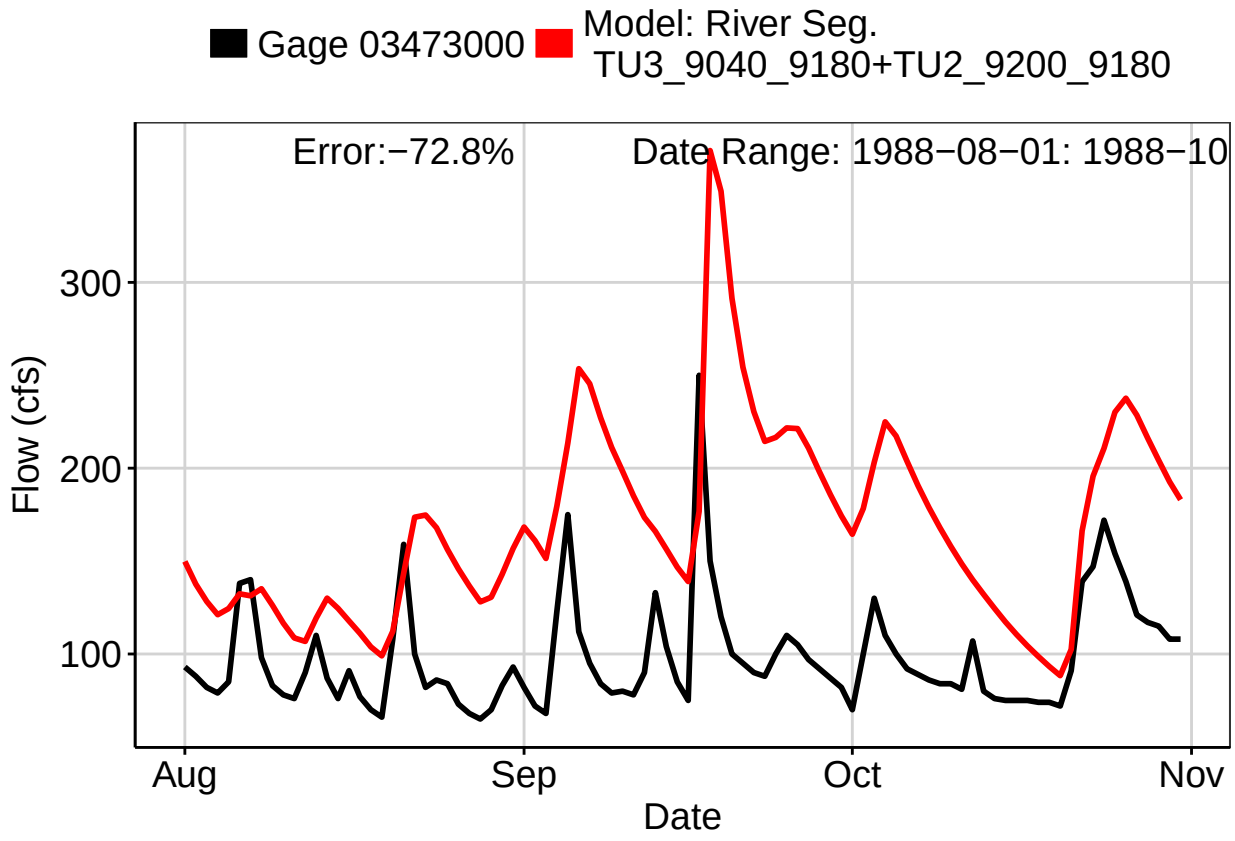


Fig. 9: Residuals Plot