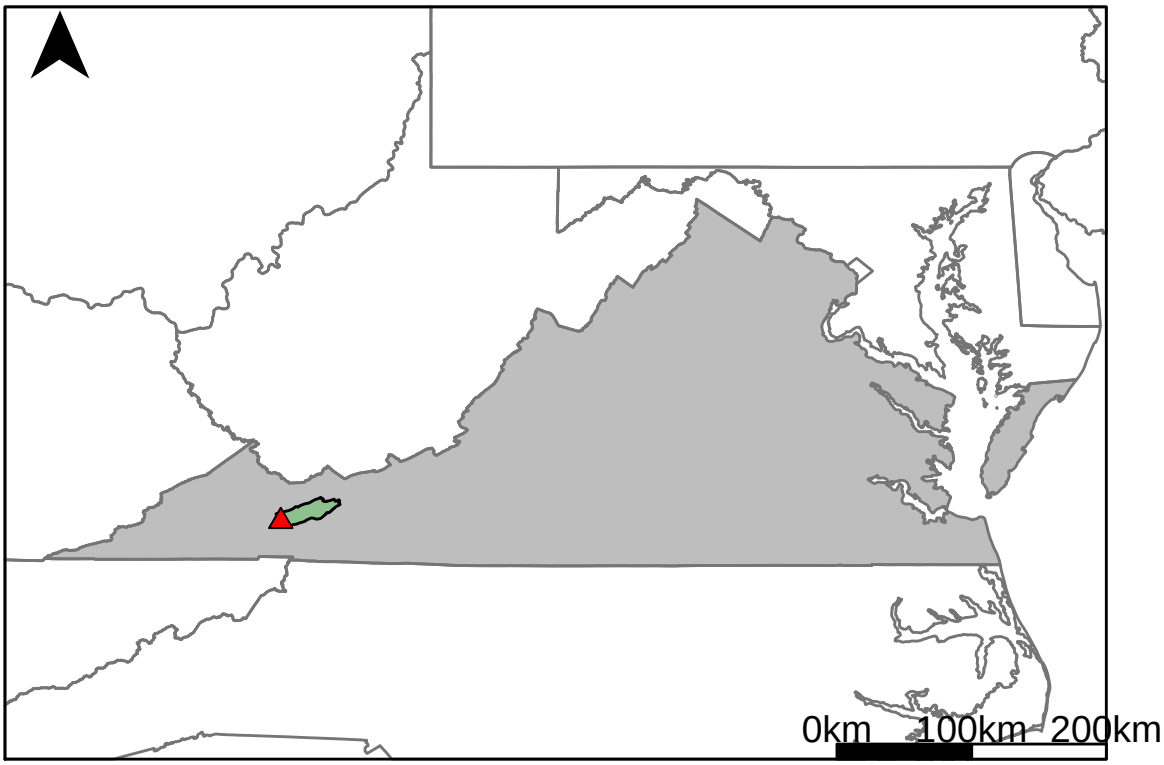
03488000 vs. TU3_8650_8800



This river segment follows part of the flow of the North Fork of the Holston River, a tributary of the Tennessee River. The gage is located in Smyth County, VA (Lat 3653'48", Long 8144'47") approximately 32 miles northeast of Bristol, VA. Drainage area is 221 sq. miles. This gage started taking data in 1907 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 1.36%, with 42.9% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	35	36	-2.86
Feb. Low Flow	39	75.9	-94.6
Mar. Low Flow	72	94.1	-30.7
Apr. Low Flow	118	148	-25.4
May Low Flow	173	213	-23.1
Jun. Low Flow	207	242	-16.9
Jul. Low Flow	206	172	16.5
Aug. Low Flow	121	117	3.31
Sep. Low Flow	78.7	65.7	16.5
Oct. Low Flow	55	37.3	32.2
Nov. Low Flow	44	46.5	-5.68
Dec. Low Flow	37	37.1	-0.27

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	294	290	1.36
Jan. Mean Flow	427	409	4.22
Feb. Mean Flow	562	561	0.18
Mar. Mean Flow	566	545	3.71
Apr. Mean Flow	449	401	10.7
May Mean Flow	372	292	21.5
Jun. Mean Flow	230	223	3.04
Jul. Mean Flow	152	144	5.26
Aug. Mean Flow	115	137	-19.1
Sep. Mean Flow	89.2	138	-54.7
Oct. Mean Flow	92.2	149	-61.6
Nov. Mean Flow	184	201	-9.24
Dec. Mean Flow	304	296	2.63

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	94	128	-36.2
Feb. High Flow	319	359	-12.5
Mar. High Flow	1210	435	64
Apr. High Flow	1560	1330	14.7
May High Flow	1870	1320	29.4
Jun. High Flow	1580	1630	-3.16
Jul. High Flow	928	848	8.62
Aug. High Flow	1210	633	47.7
Sep. High Flow	410	435	-6.1
Oct. High Flow	274	197	28.1
Nov. High Flow	226	211	6.64
Dec. High Flow	129	155	-20.2

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	17	5.07	70.2
Med. 1 Day Min	26	16.3	37.3
Min. 3 Day Min	18	5.41	69.9
Med. 3 Day Min	27	18	33.3
Min. 7 Day Min	21	6.17	70.6
Med. 7 Day Min	27.7	20.4	26.4
Min. 30 Day Min	25.1	14.2	43.4
Med. 30 Day Min	35.3	36.6	-3.68
Min. 90 Day Min	31.5	31.7	-0.64
Med. 90 Day Min	62.8	76.2	-21.3
7Q10	22.5	8.61	61.7
Year of 90-Day Min. Flow	1988	1988	0
Drought Year Mean	135	290	-115
Mean Baseflow	134	160	-19.4

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	12700	5950	53.1
Med. 1 Day Max	4370	3130	28.4
Max. 3 Day Max	5840	4550	22.1
Med. 3 Day Max	2760	2160	21.7
Max. 7 Day Max	3040	2470	18.8
Med. 7 Day Max	1830	1370	25.1
Max. 30 Day Max	1330	1590	-19.5
Med. 30 Day Max	880	729	17.2
Max. 90 Day Max	951	1030	-8.31
Med. 90 Day Max	572	574	-0.35

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	26	13.2	49.2
5% Non-Exceedance	32	27.2	15
50% Non-Exceedance	156	181	-16
95% Non-Exceedance	945	850	10.1
99% Non-Exceedance	2240	1970	12.1
Sept. 10% Non-Exceedance	21.2	21.2	0

Fig. 1: Hydrograph

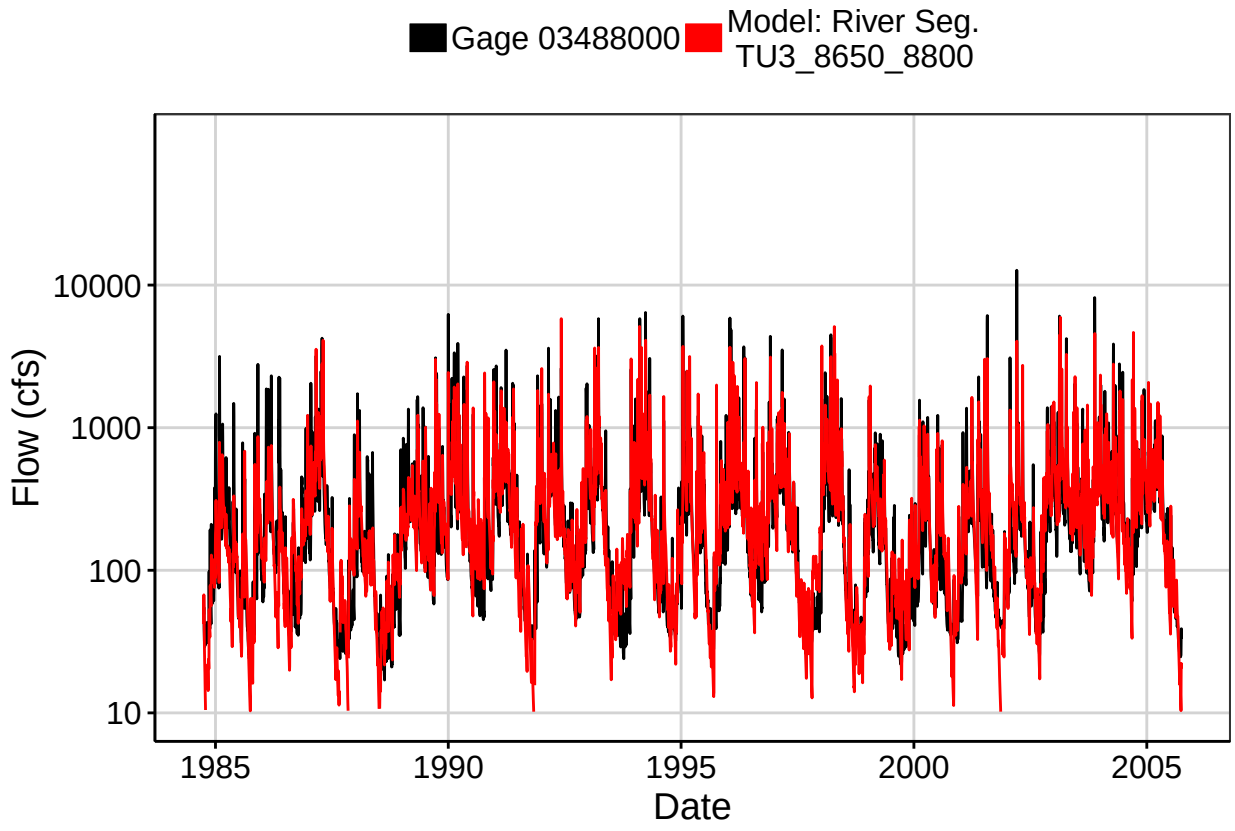


Fig. 2: Zoomed Hydrograph

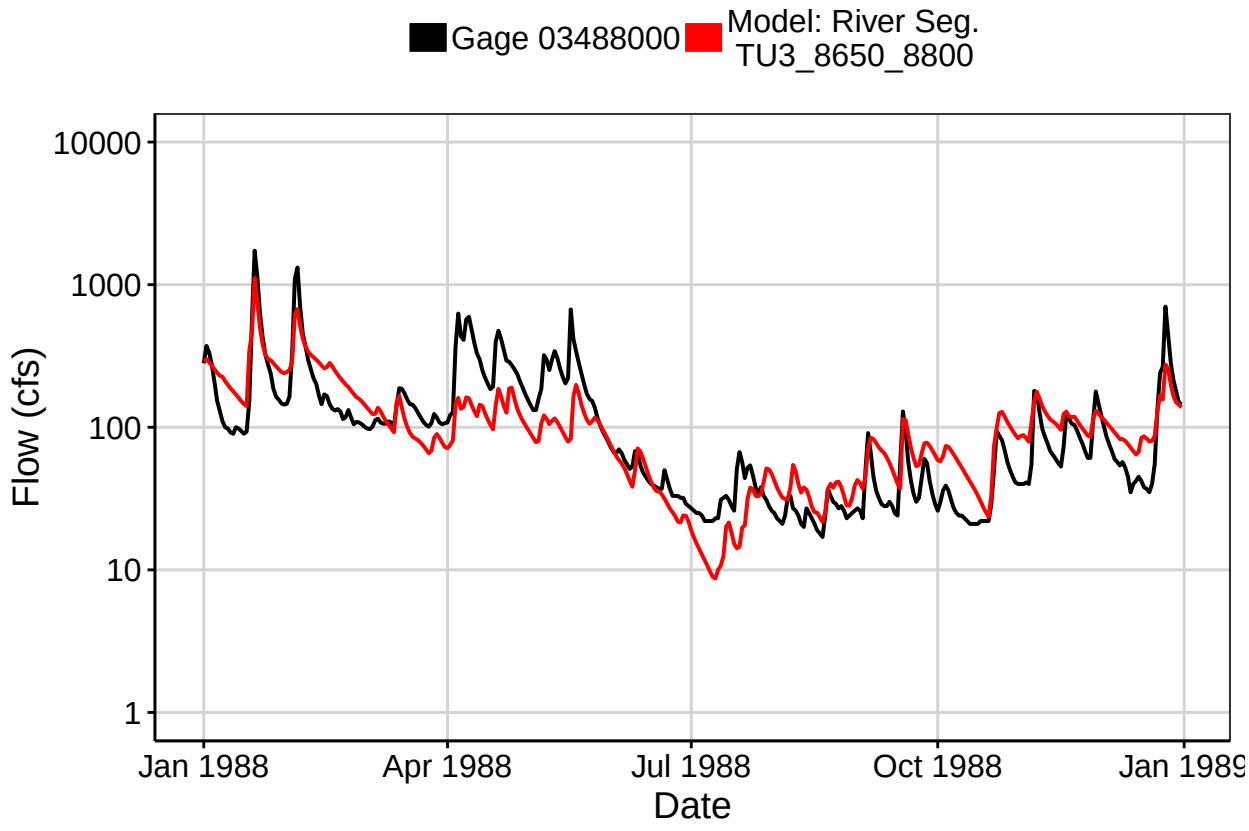


Fig. 3: Flow Exceedance

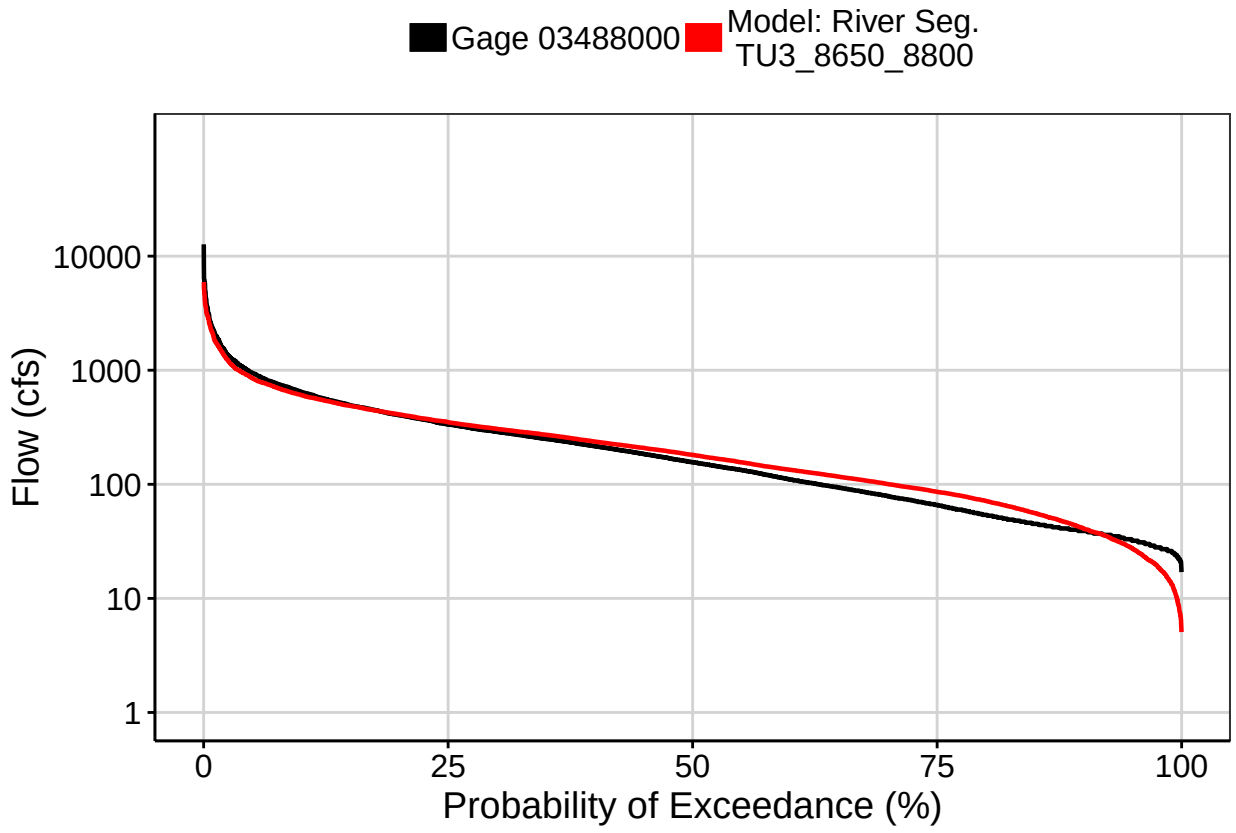


Fig. 4: Baseflow

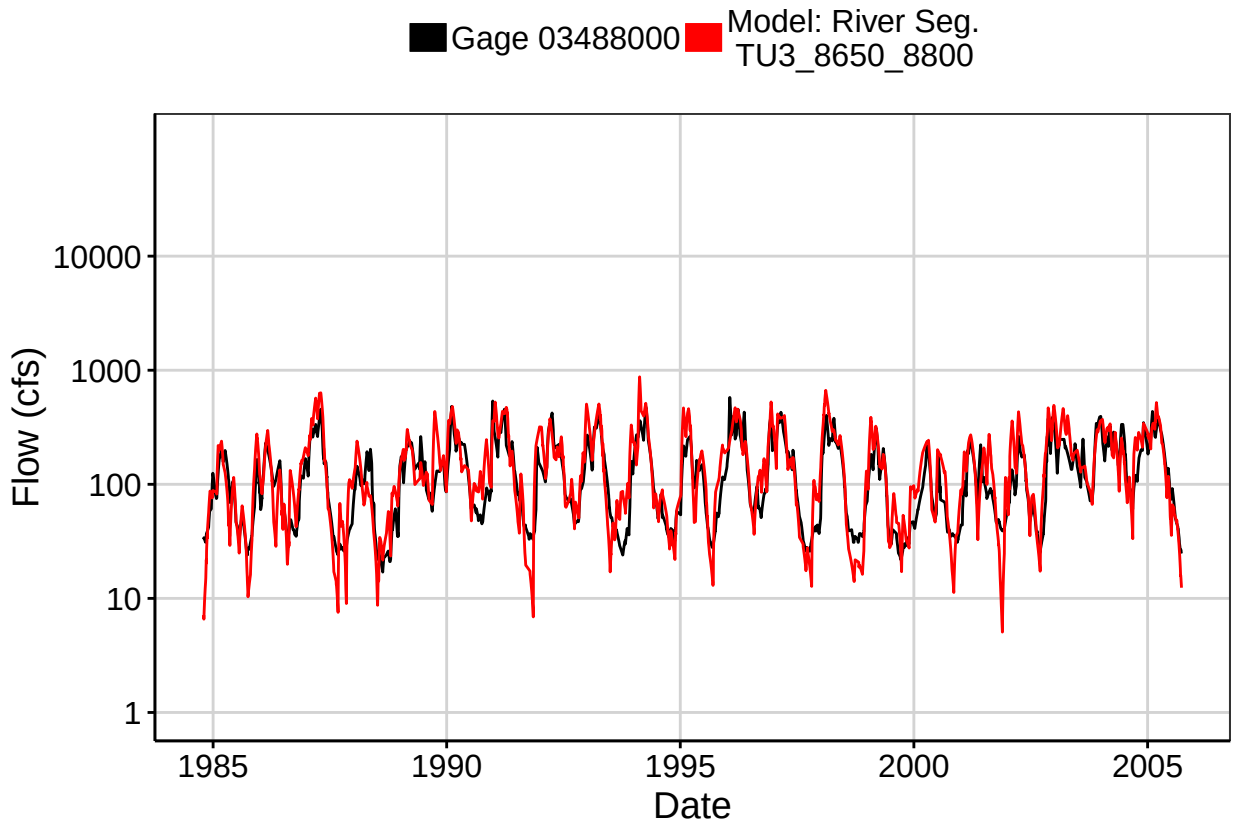


Fig. 5: Combined Baseflow

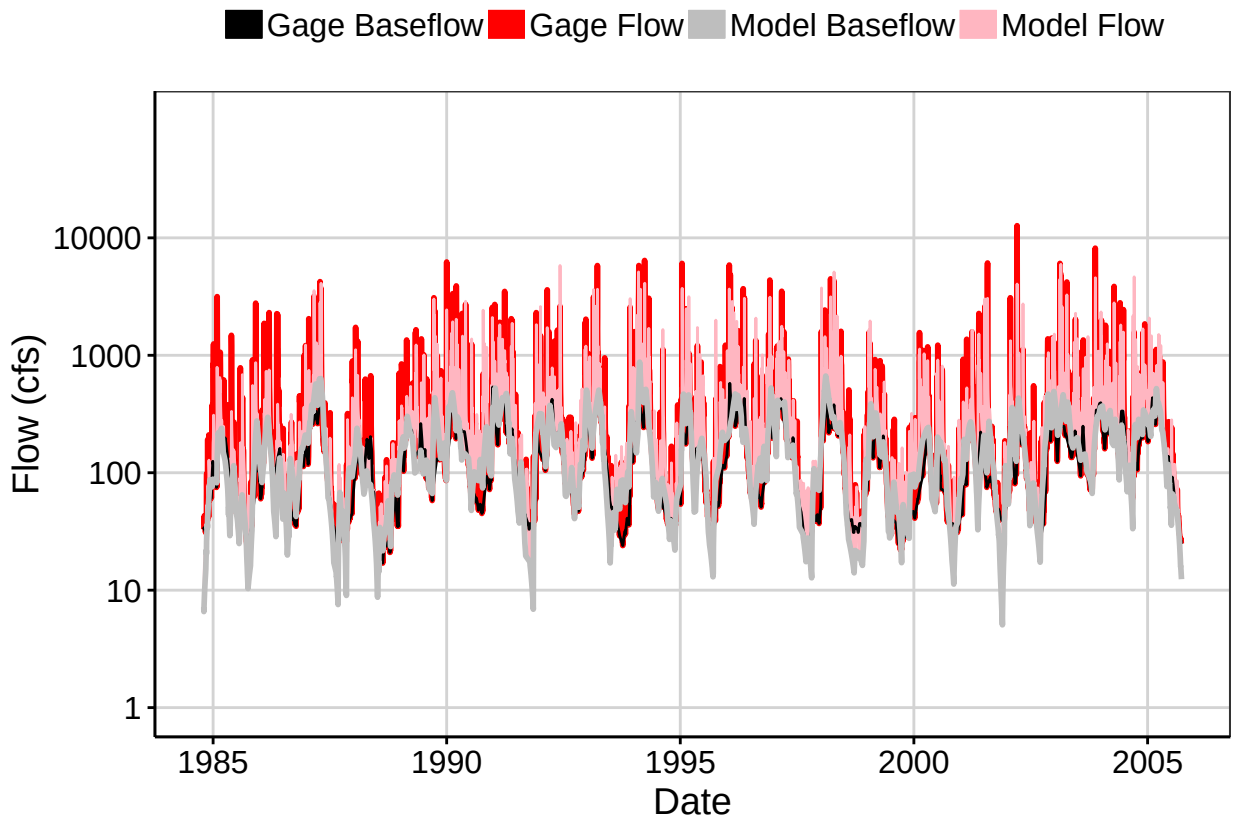


Fig. 6: Largest Error Segment

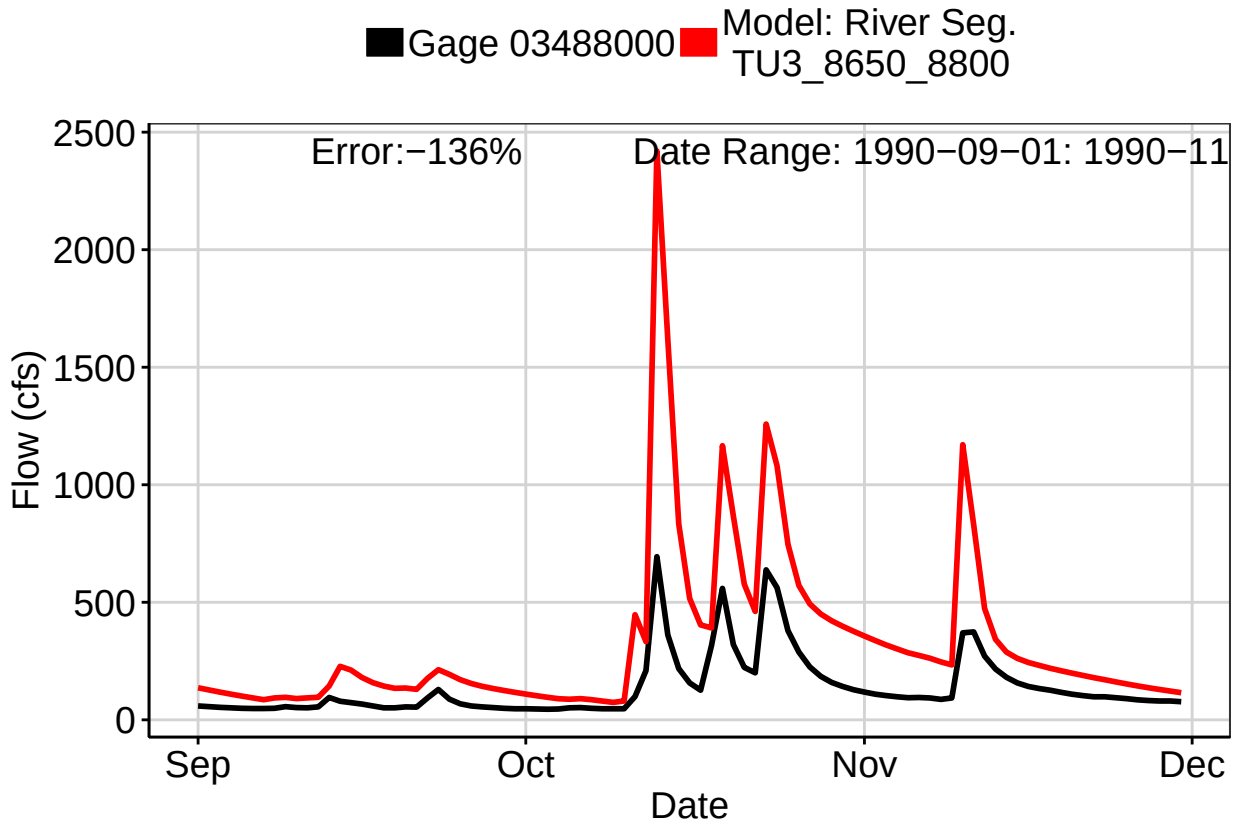


Fig. 7: Second Largest Error Segment

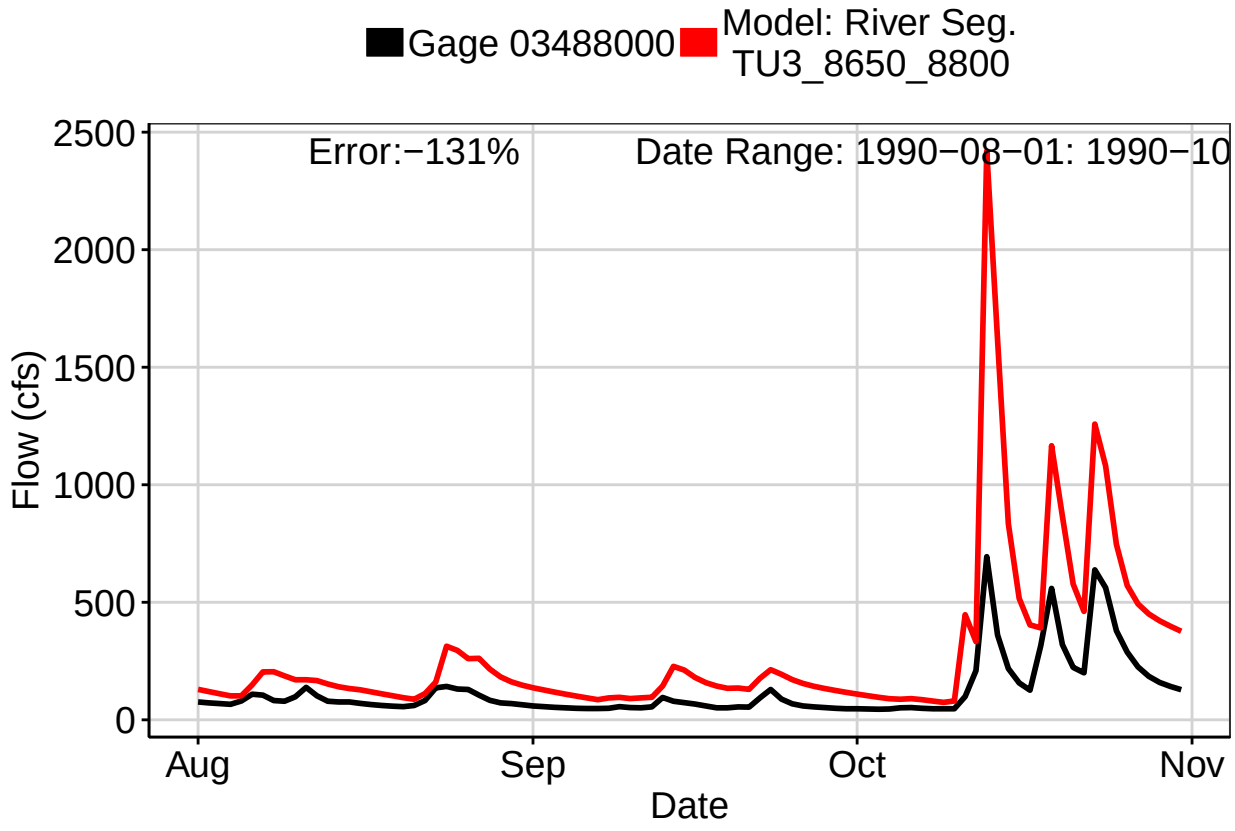


Fig. 8: Third Largest Error Segment

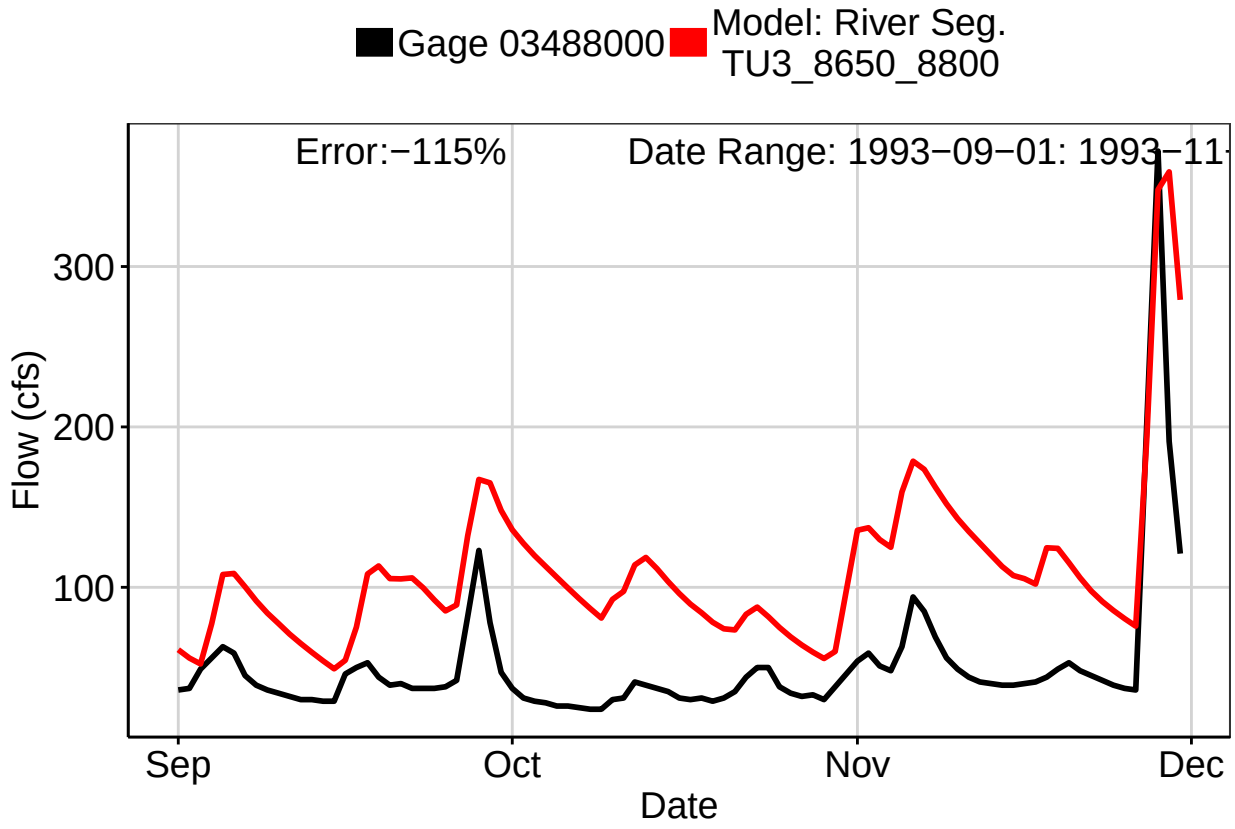


Fig. 9: Residuals Plot