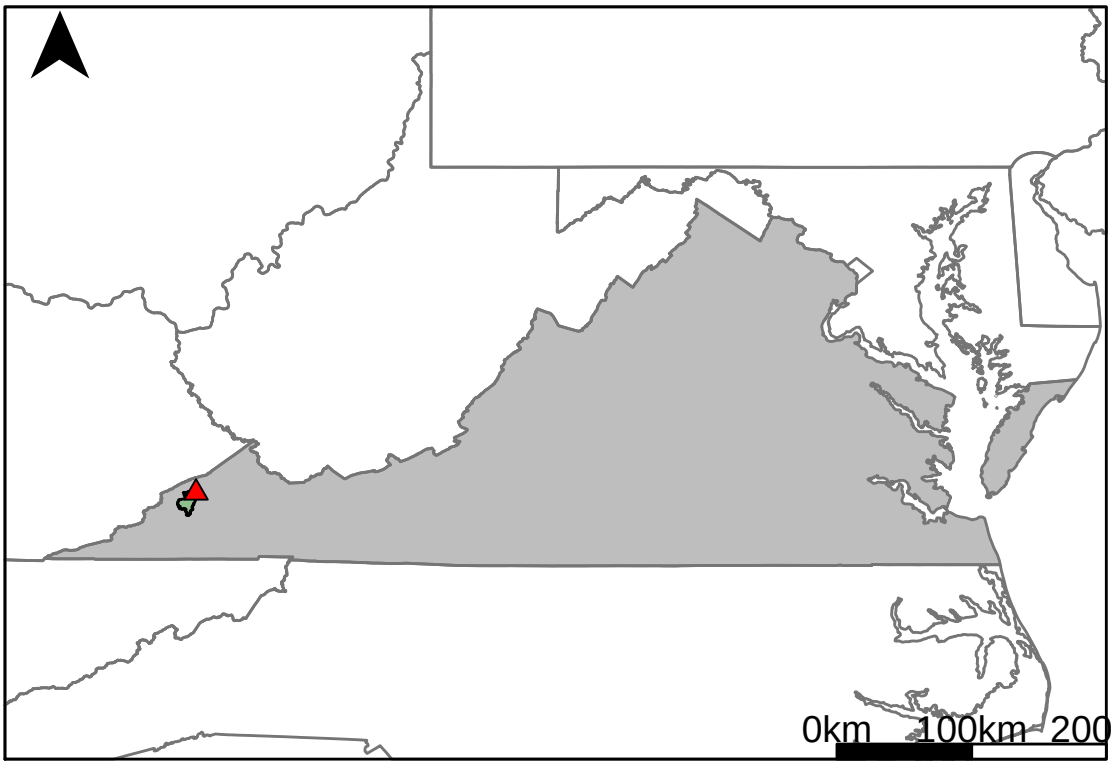
03208950 vs. BS1_8730_8540



This river segment follows part of the flow of the Cranes Nest River, a tributary of the Big Sandy River. The gage is located in Dickenson County, VA (Lat 3707'26", Long 8226'20") approximately 17 miles northeast of Norton, VA. Drainage area is 66.5 sq. miles. This gage started taking data in 1963 and is still taking data. This area is not regulated and should not have any man-made alterations that could affect flow conditions. The average daily discharge error between the model and gage data for the 20 year timespan was -7.35%, with 55.8% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	8.3	7.49	9.76
Feb. Low Flow	12	20.2	-68.3
Mar. Low Flow	16	24.8	-55
Apr. Low Flow	30	42.5	-41.7
May Low Flow	48	55.2	-15
Jun. Low Flow	54	50.6	6.3
Jul. Low Flow	54	36.7	32
Aug. Low Flow	32.6	23.3	28.5
Sep. Low Flow	19	13.8	27.4
Oct. Low Flow	14	11.4	18.6
Nov. Low Flow	11	13.8	-25.5
Dec. Low Flow	9.4	8.02	14.7

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	77.6	83.3	-7.35
Jan. Mean Flow	102	119	-16.7
Feb. Mean Flow	156	177	-13.5
Mar. Mean Flow	156	155	0.64
Apr. Mean Flow	134	112	16.4
May Mean Flow	90.1	81.2	9.88
Jun. Mean Flow	61.1	54.5	10.8
Jul. Mean Flow	39.5	36.6	7.34
Aug. Mean Flow	33.8	35.9	-6.21
Sep. Mean Flow	25.3	34.4	-36
Oct. Mean Flow	25	40.3	-61.2
Nov. Mean Flow	39.2	61	-55.6
Dec. Mean Flow	75	98.8	-31.7

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	36	70.3	-95.3
Feb. High Flow	163	200	-22.7
Mar. High Flow	231	239	-3.46
Apr. High Flow	380	309	18.7
May High Flow	596	561	5.87
Jun. High Flow	411	400	2.68
Jul. High Flow	255	266	-4.31
Aug. High Flow	243	332	-36.6
Sep. High Flow	97	77.3	20.3
Oct. High Flow	118	74.7	36.7
Nov. High Flow	79	72.4	8.35
Dec. High Flow	55	53.2	3.27

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	3	0	100
Med. 1 Day Min	7.4	4.75	35.8
Min. 3 Day Min	3.33	0.01	99.6
Med. 3 Day Min	7.53	5.23	30.5
Min. 7 Day Min	4.41	0.33	92.5
Med. 7 Day Min	7.84	6.25	20.3
Min. 30 Day Min	5.1	4.15	18.6
Med. 30 Day Min	11.2	12.4	-10.7
Min. 90 Day Min	8.91	8.69	2.47
Med. 90 Day Min	18.7	23.9	-27.8
7Q10	5.15	1.35	73.8
Year of 90-Day Min. Flow	1999	1988	100
Drought Year Mean	46.3	83.3	-79.9
Mean Baseflow	35.5	39.2	-10.4

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	3750	3090	17.6
Med. 1 Day Max	1020	1290	-26.5
Max. 3 Day Max	1710	1800	-5.26
Med. 3 Day Max	755	681	9.8
Max. 7 Day Max	873	1130	-29.4
Med. 7 Day Max	477	463	2.94
Max. 30 Day Max	451	528	-17.1
Med. 30 Day Max	247	254	-2.83
Max. 90 Day Max	320	391	-22.2
Med. 90 Day Max	162	171	-5.56

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	5.7	3.32	41.8
5% Non-Exceedance	8.3	7.88	5.06
50% Non-Exceedance	39.9	47.1	-18
95% Non-Exceedance	247	253	-2.43
99% Non-Exceedance	607	668	-10
Sept. 10% Non-Exceedance	5.95	5.65	5.04

Fig. 1: Hydrograph

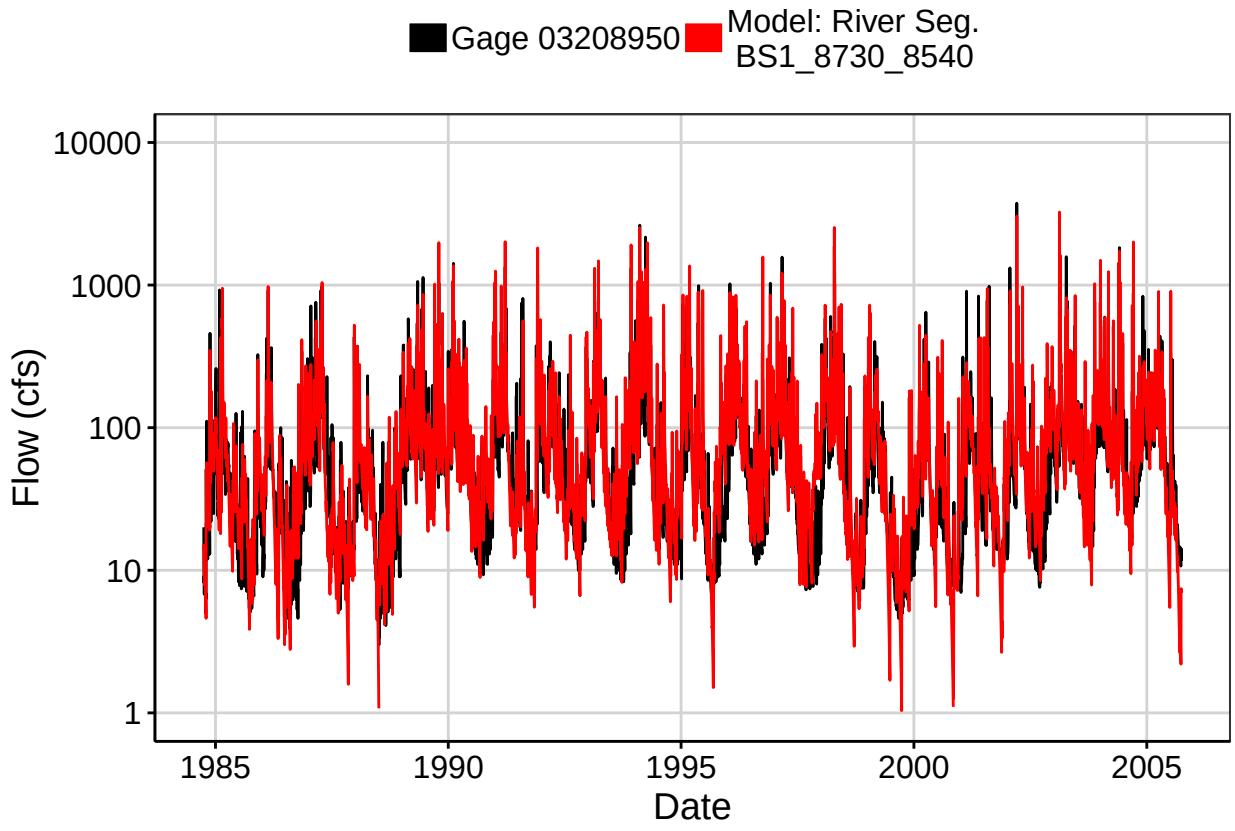


Fig. 2: Zoomed Hydrograph

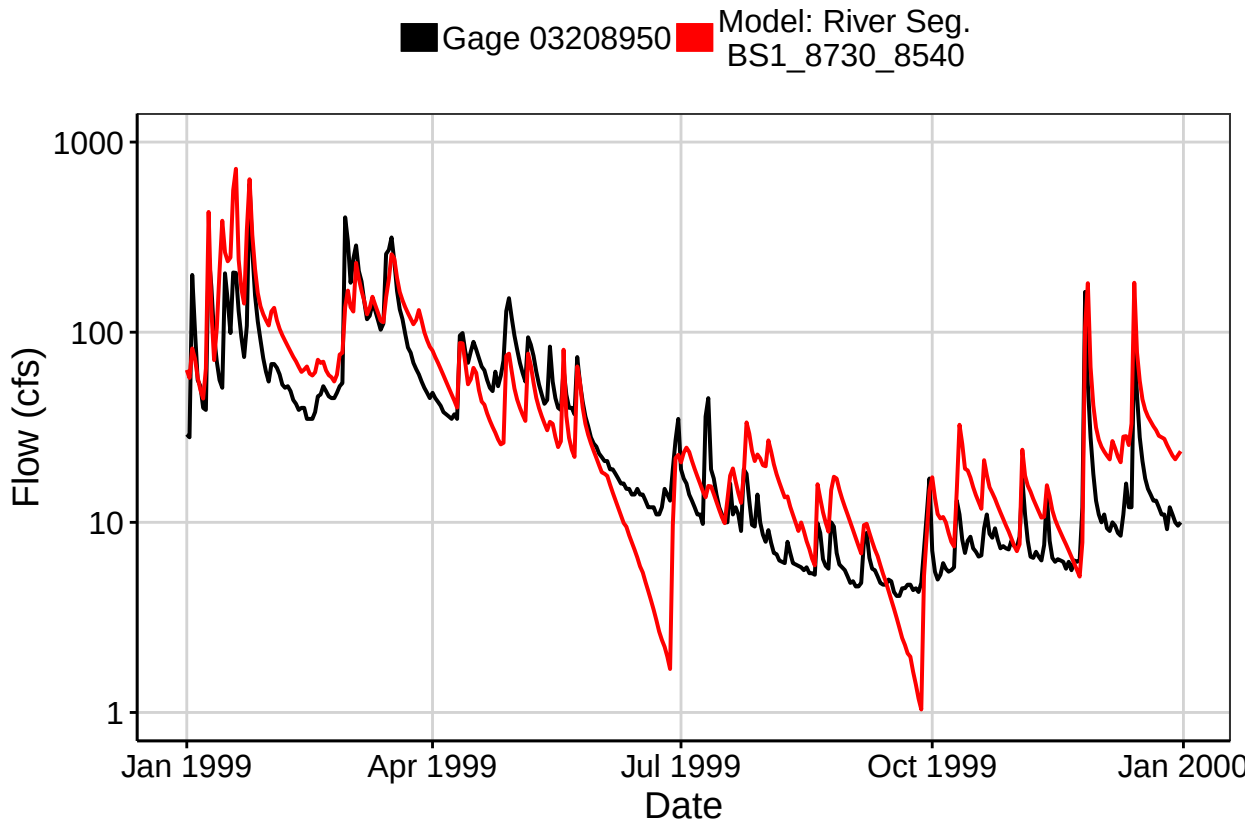


Fig. 3: Flow Exceedance

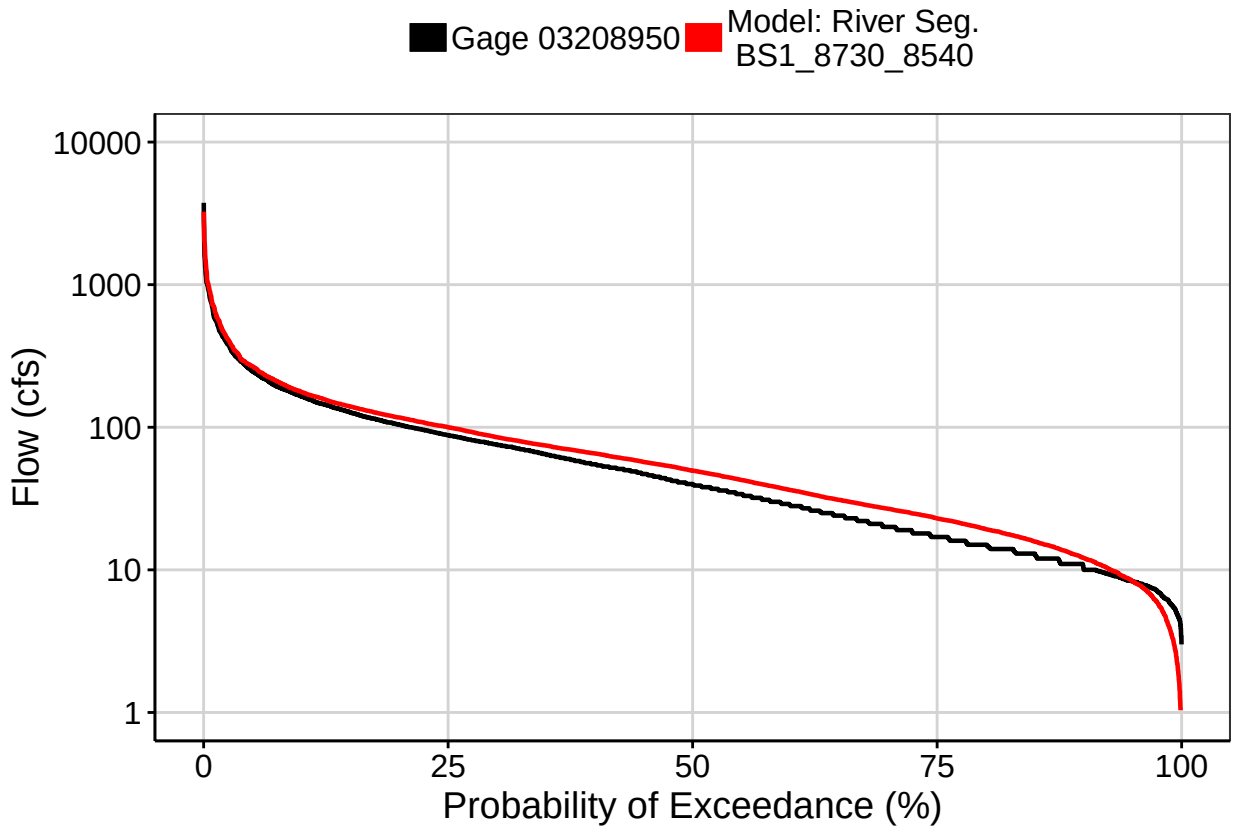


Fig. 4: Baseflow

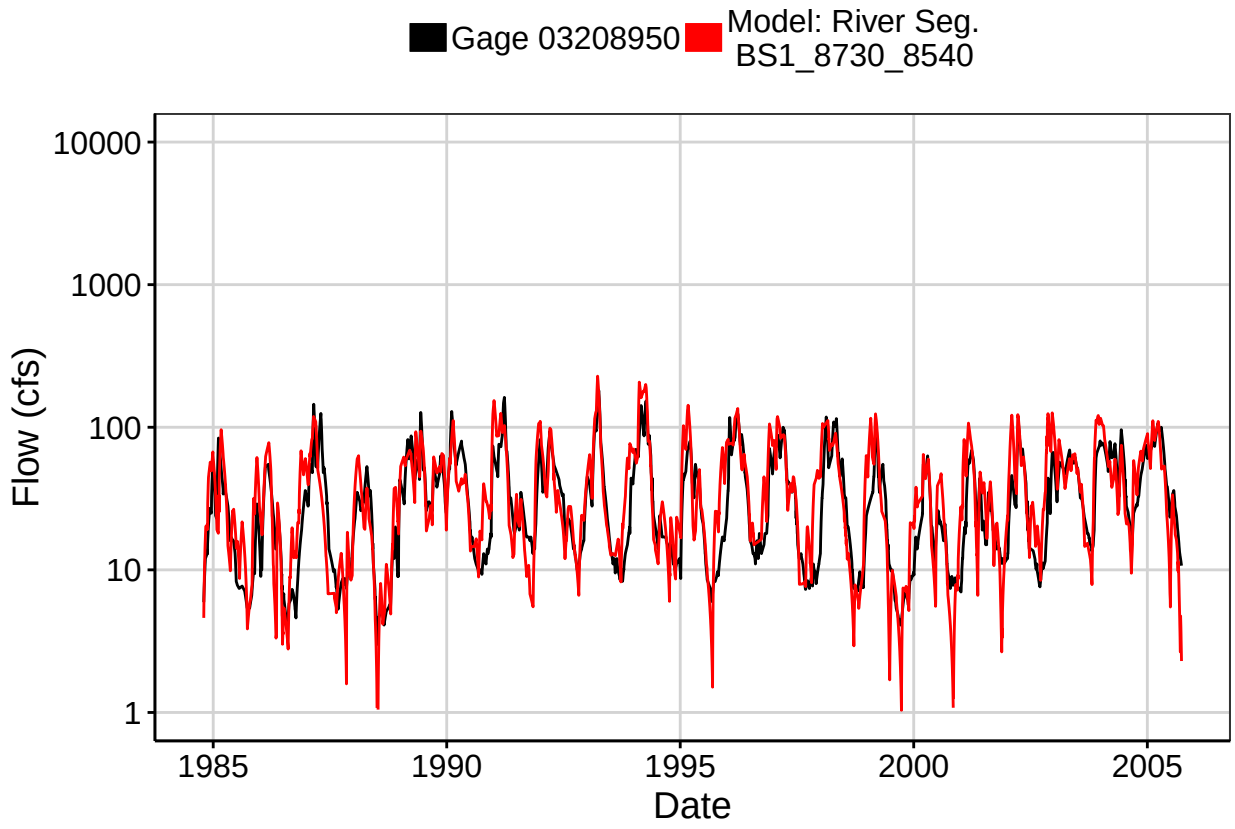


Fig. 5: Combined Baseflow

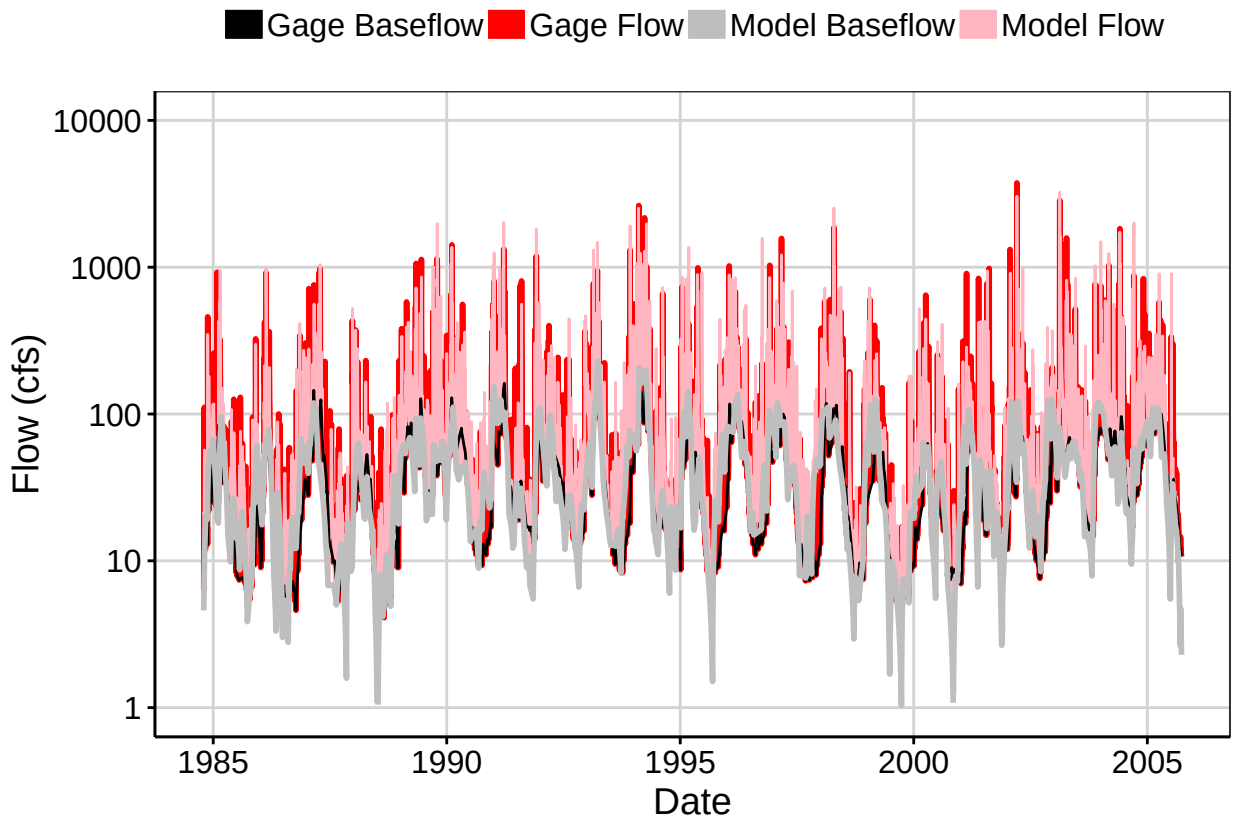


Fig. 6: Largest Error Segment

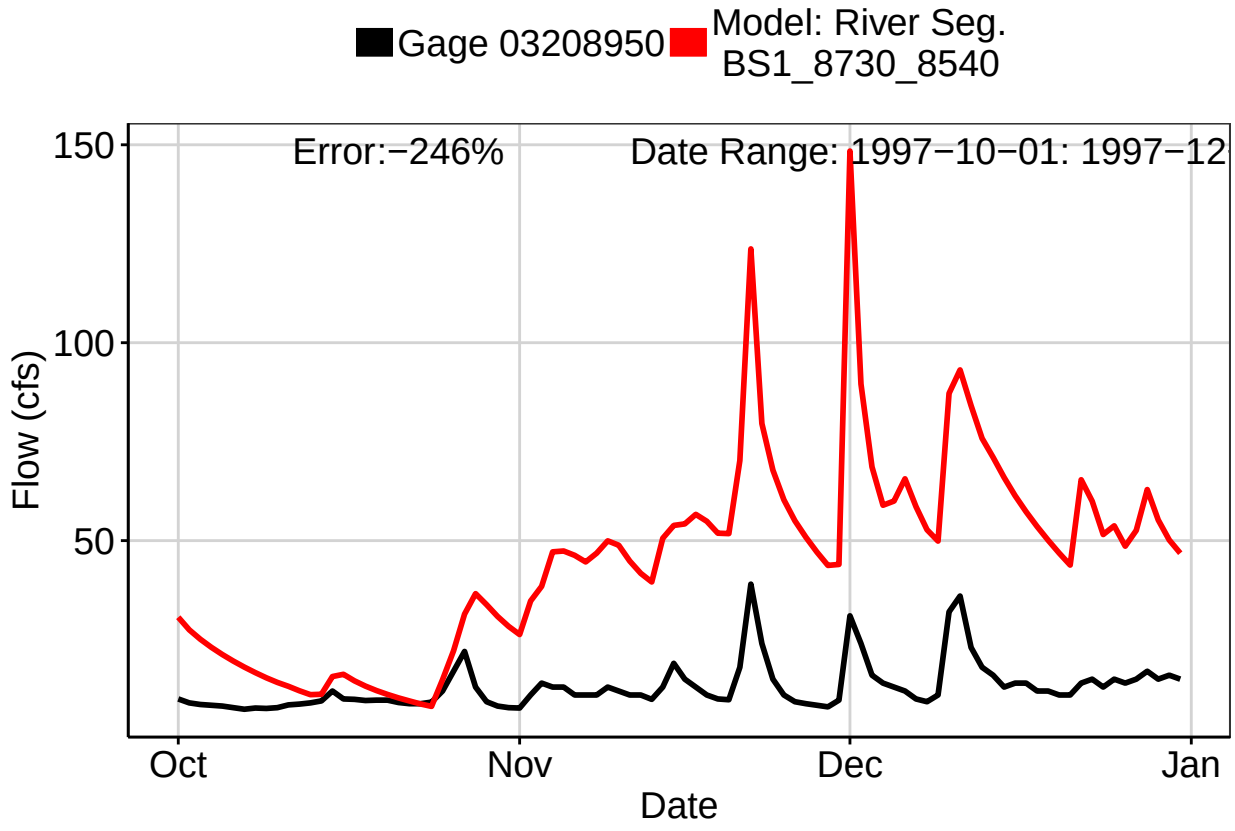


Fig. 7: Second Largest Error Segment

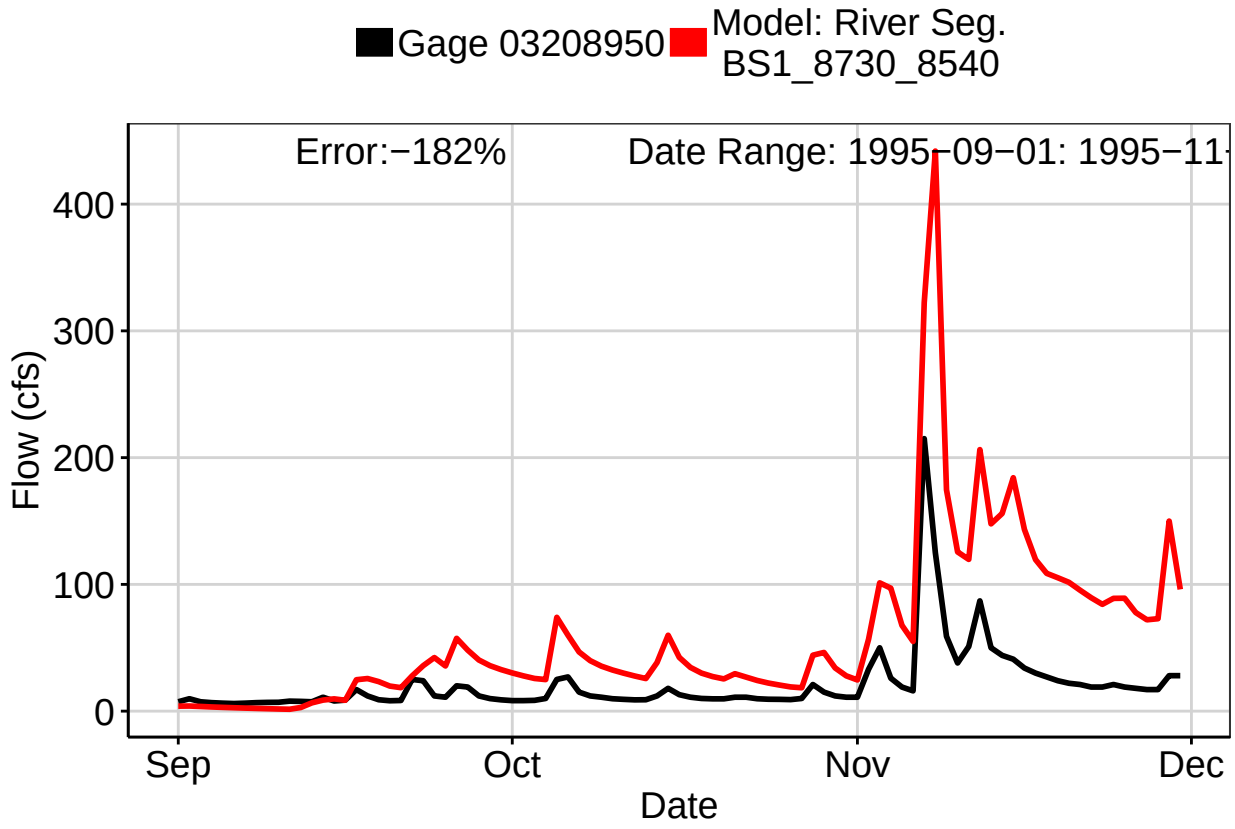


Fig. 8: Third Largest Error Segment

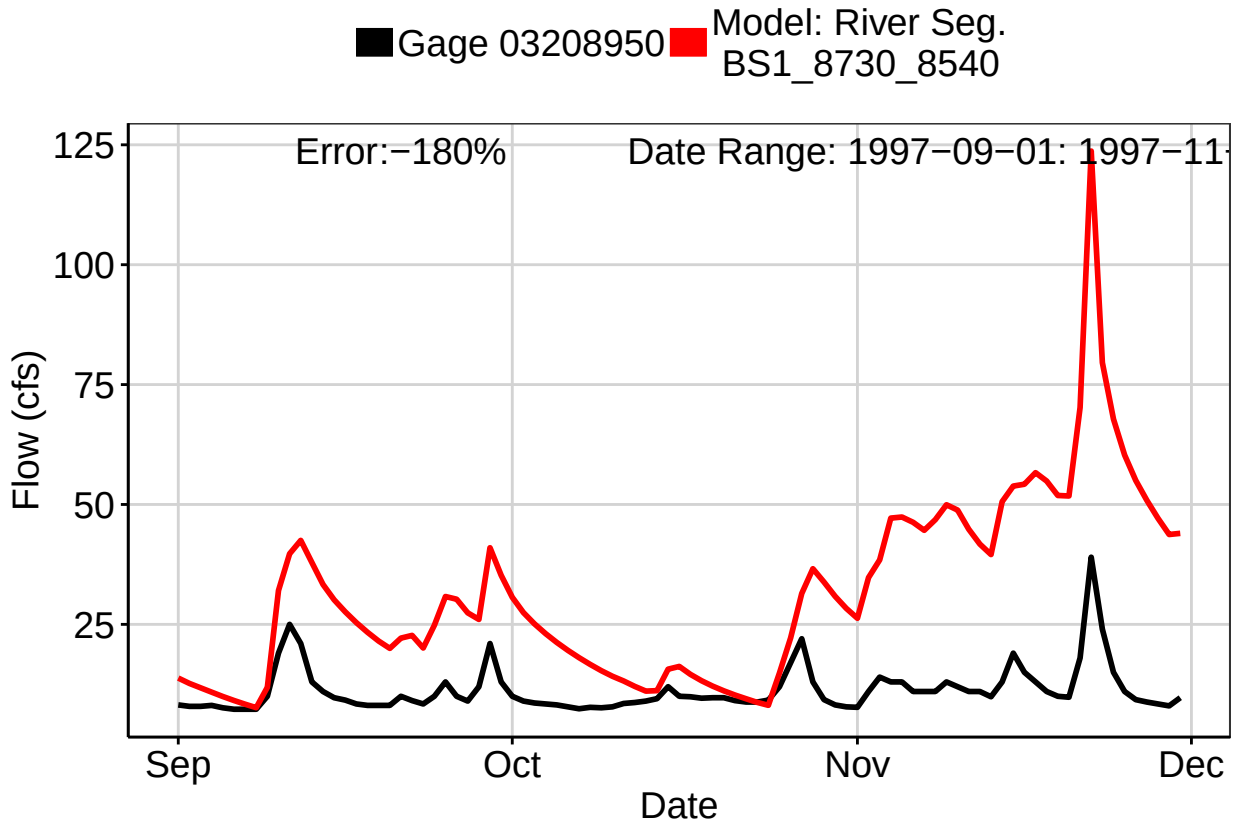


Fig. 9: Residuals Plot