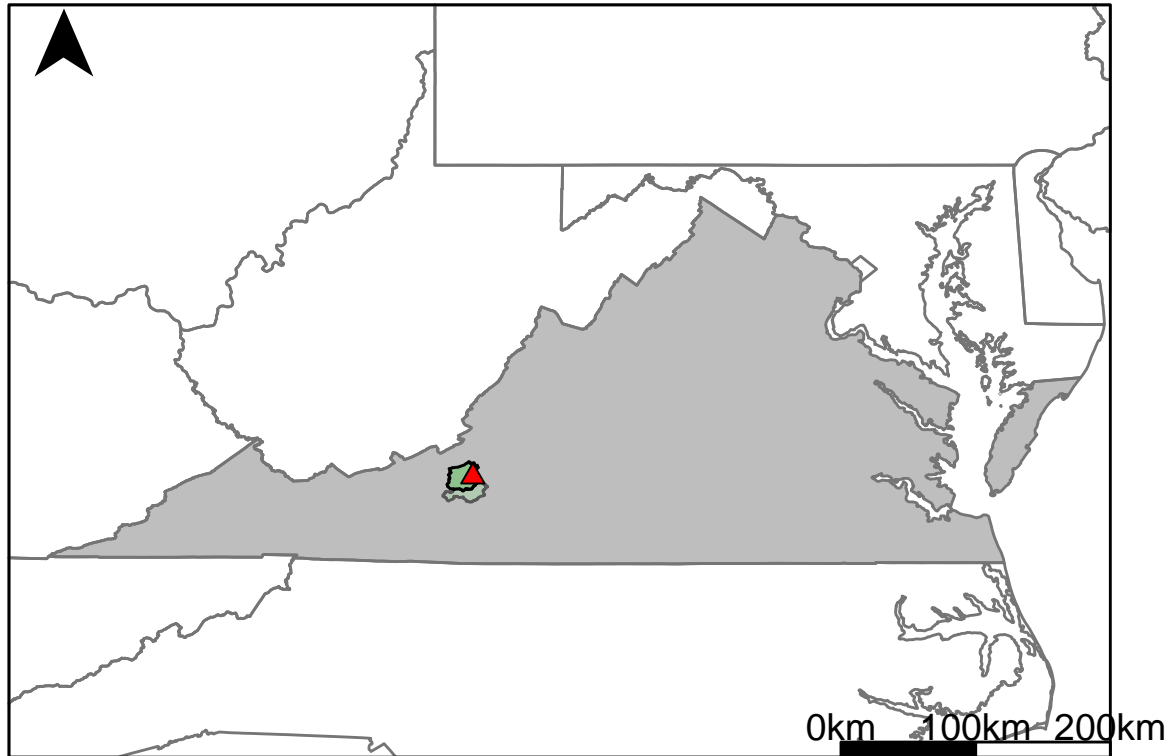


02054500 vs. OR2_8020_8130



This river segment follows part of the flow of the Roanoke River. The gage is located in Montgomery County, VA (Lat 37°14'11", Long 80°12'34") approximately 21 miles northeast of Radford, VA. Drainage area is 254 sq. miles. This gage started taking data in 1943 and is still taking data. There is a possibility for slight diurnal fluctuations caused by a meat-processing plant upstream. The average daily discharge error between the model and gage data for the 20 year timespan was -5.31%, with 35.8% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	48	47.7	0.62
Feb. Low Flow	60	46.2	23
Mar. Low Flow	79.7	92	-15.4
Apr. Low Flow	79	123	-55.7
May Low Flow	118	218	-84.7
Jun. Low Flow	197	227	-15.2
Jul. Low Flow	143	199	-39.2
Aug. Low Flow	129	161	-24.8
Sep. Low Flow	93	123	-32.3
Oct. Low Flow	65	74.7	-14.9
Nov. Low Flow	45	55.8	-24
Dec. Low Flow	46	43.2	6.09

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	245	258	-5.31
Jan. Mean Flow	303	320	-5.61
Feb. Mean Flow	392	397	-1.28
Mar. Mean Flow	444	462	-4.05
Apr. Mean Flow	406	404	0.49
May Mean Flow	290	307	-5.86
Jun. Mean Flow	218	257	-17.9
Jul. Mean Flow	131	158	-20.6
Aug. Mean Flow	112	124	-10.7
Sep. Mean Flow	160	164	-2.5
Oct. Mean Flow	108	122	-13
Nov. Mean Flow	181	189	-4.42
Dec. Mean Flow	213	200	6.1

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	159	176	-10.7
Feb. High Flow	344	491	-42.7
Mar. High Flow	509	286	43.8
Apr. High Flow	1040	1290	-24
May High Flow	913	703	23
Jun. High Flow	1160	1900	-63.8
Jul. High Flow	837	850	-1.55
Aug. High Flow	677	755	-11.5
Sep. High Flow	362	477	-31.8
Oct. High Flow	279	244	12.5
Nov. High Flow	165	158	4.24
Dec. High Flow	147	176	-19.7

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	14	9.61	31.4
Med. 1 Day Min	36.9	28.8	22
Min. 3 Day Min	14.3	9.66	32.4
Med. 3 Day Min	38	29.6	22.1
Min. 7 Day Min	15.2	9.87	35.1
Med. 7 Day Min	39.4	31.4	20.3
Min. 30 Day Min	22.1	12.3	44.3
Med. 30 Day Min	49.5	42.7	13.7
Min. 90 Day Min	31.9	34.8	-9.09
Med. 90 Day Min	75.6	73.3	3.04
7Q10	26.4	16.6	37.1
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	73.8	258	-250
Mean Baseflow	126	155	-23

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	7480	9990	-33.6
Med. 1 Day Max	4510	3620	19.7
Max. 3 Day Max	5090	4590	9.82
Med. 3 Day Max	2630	2350	10.6
Max. 7 Day Max	2870	2410	16
Med. 7 Day Max	1570	1430	8.92
Max. 30 Day Max	1510	1340	11.3
Med. 30 Day Max	684	690	-0.88
Max. 90 Day Max	920	891	3.15
Med. 90 Day Max	465	463	0.43

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	29.9	22.3	25.4
5% Non-Exceedance	40	34.8	13
50% Non-Exceedance	130	156	-20
95% Non-Exceedance	731	723	1.09
99% Non-Exceedance	1920	1920	0
Sept. 10% Non-Exceedance	32.2	32.2	0

Fig. 1: Hydrograph

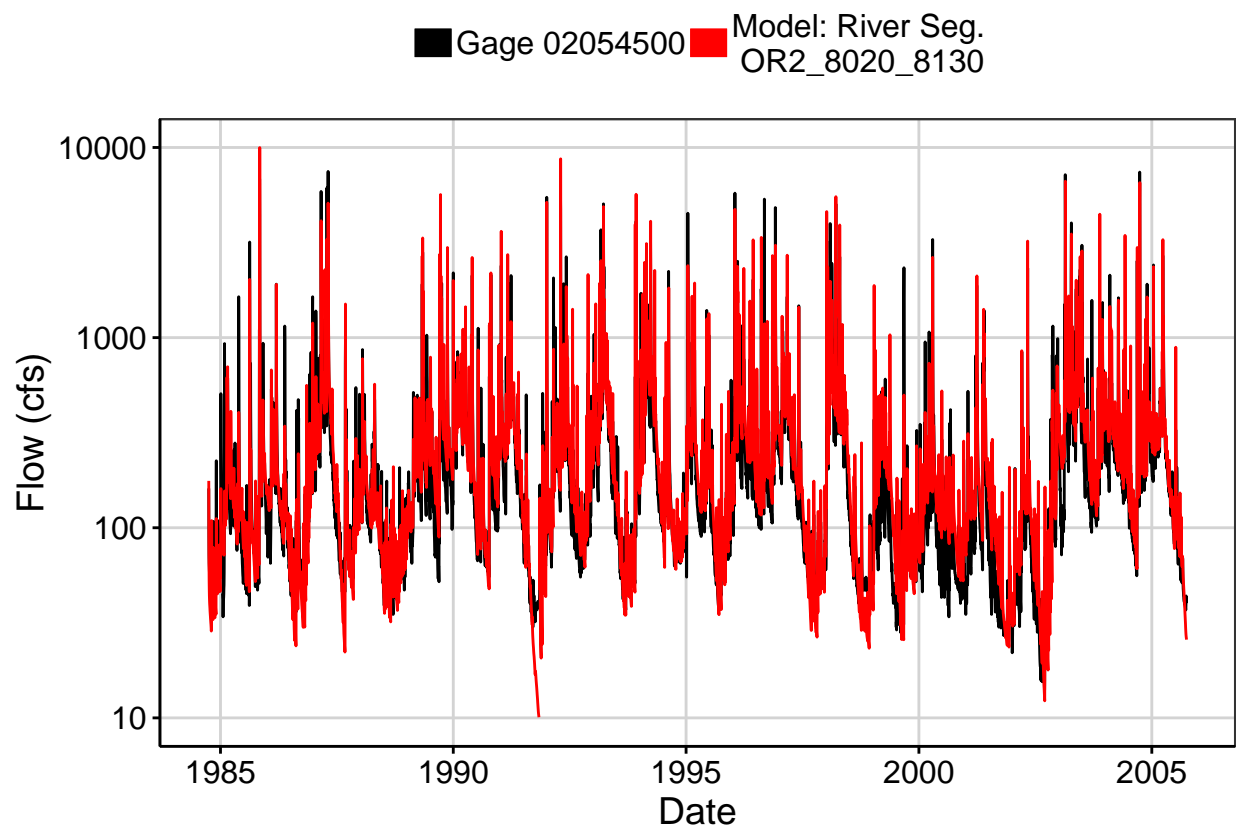


Fig. 2: Zoomed Hydrograph

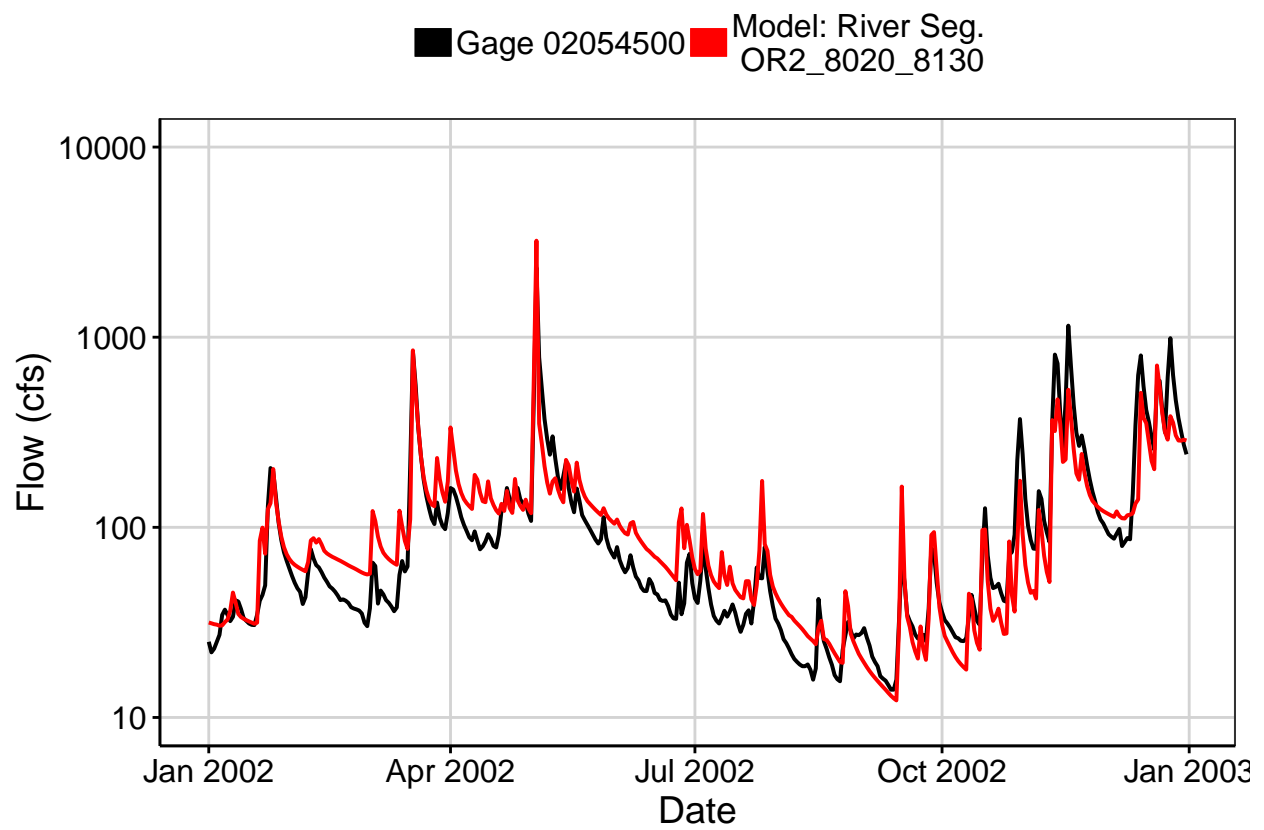


Fig. 3: Flow Exceedance

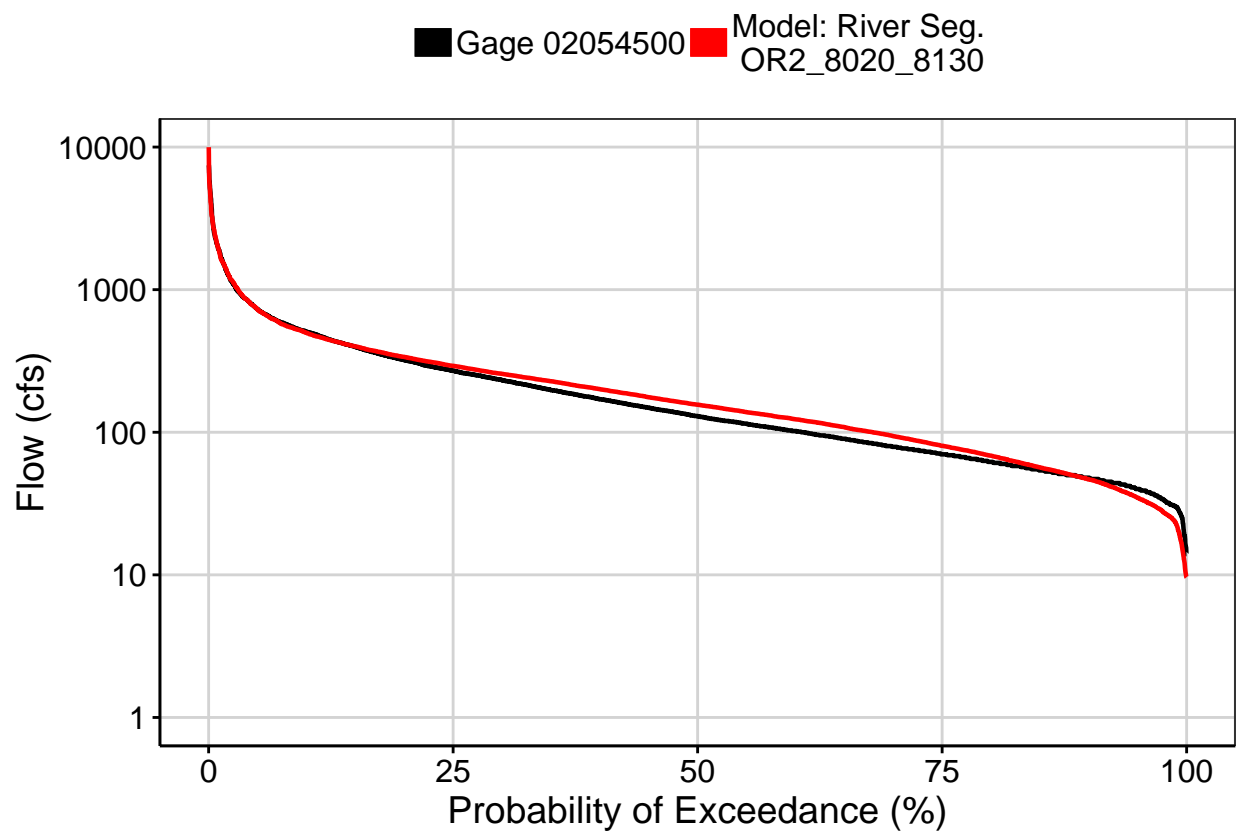


Fig. 4: Baseflow

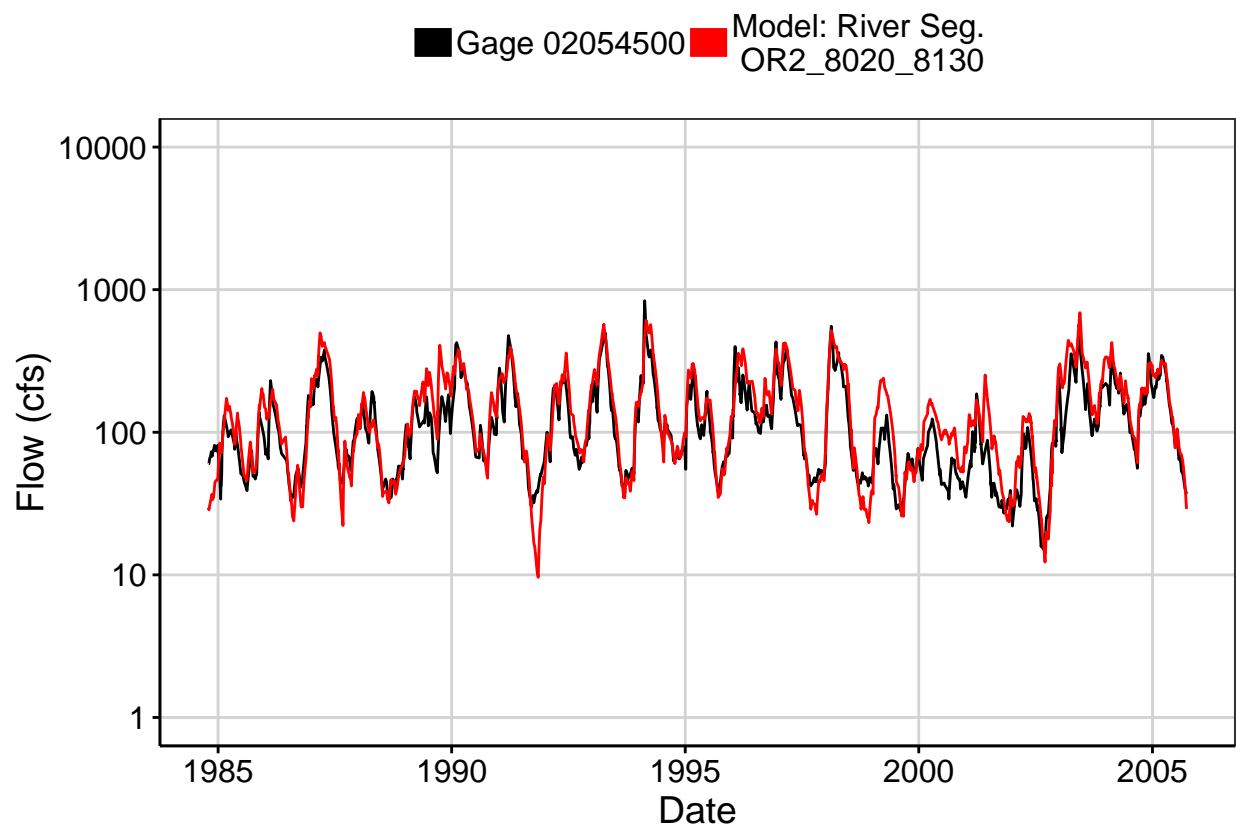


Fig. 5: Combined Baseflow

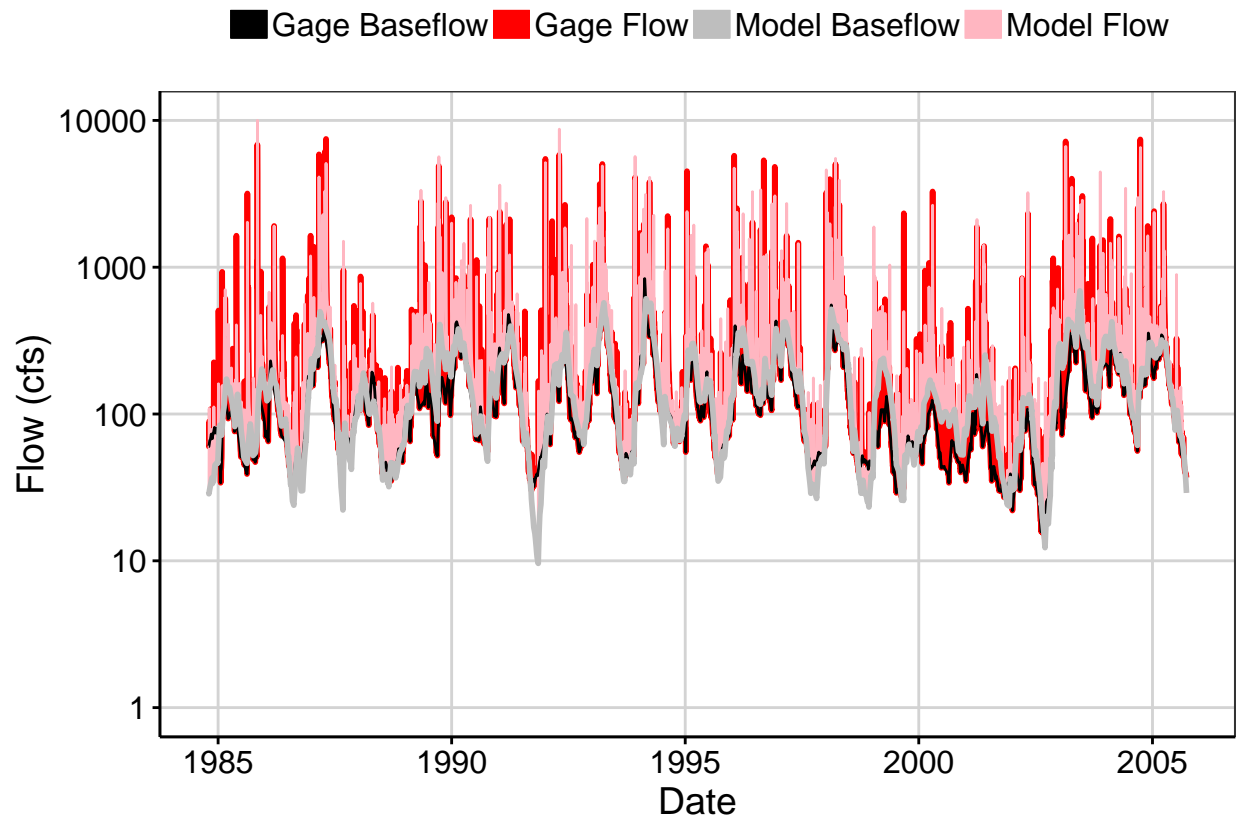


Fig. 6: Largest Error Segment

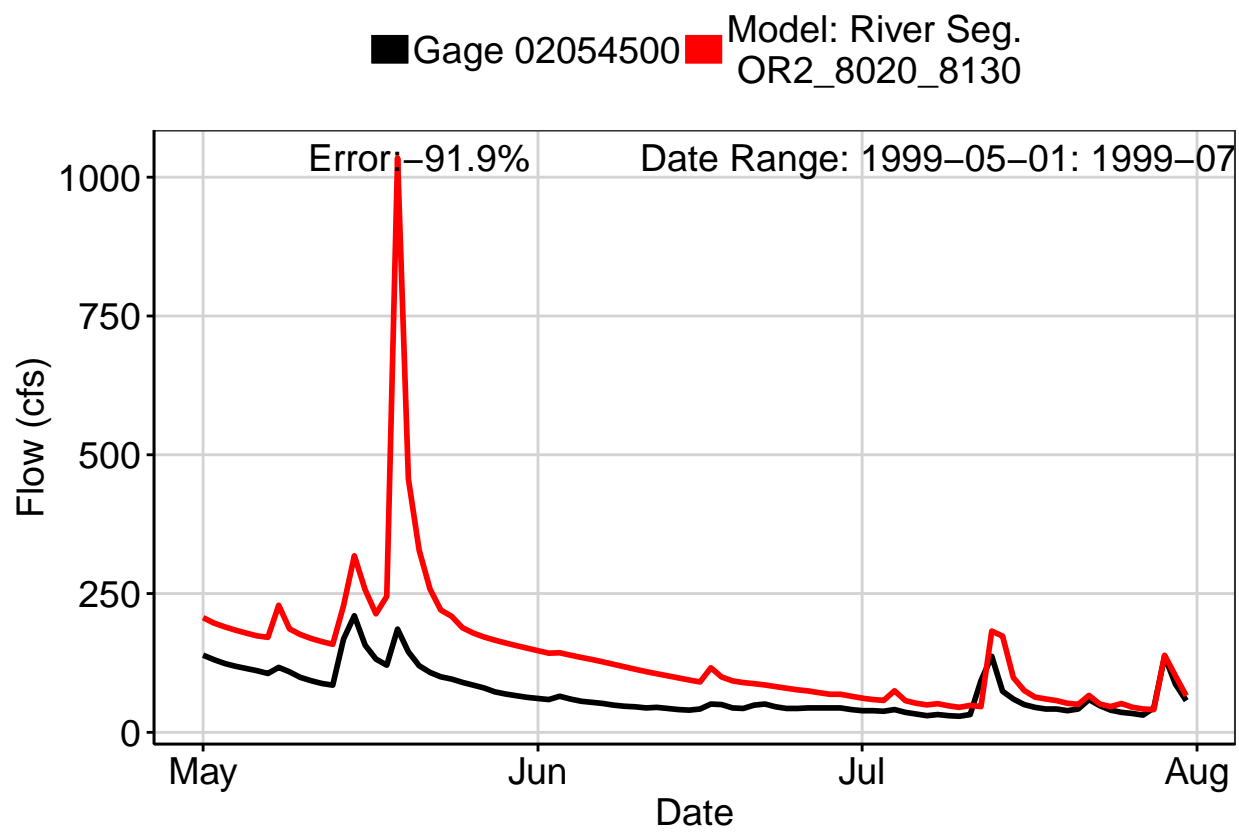


Fig. 7: Second Largest Error Segment

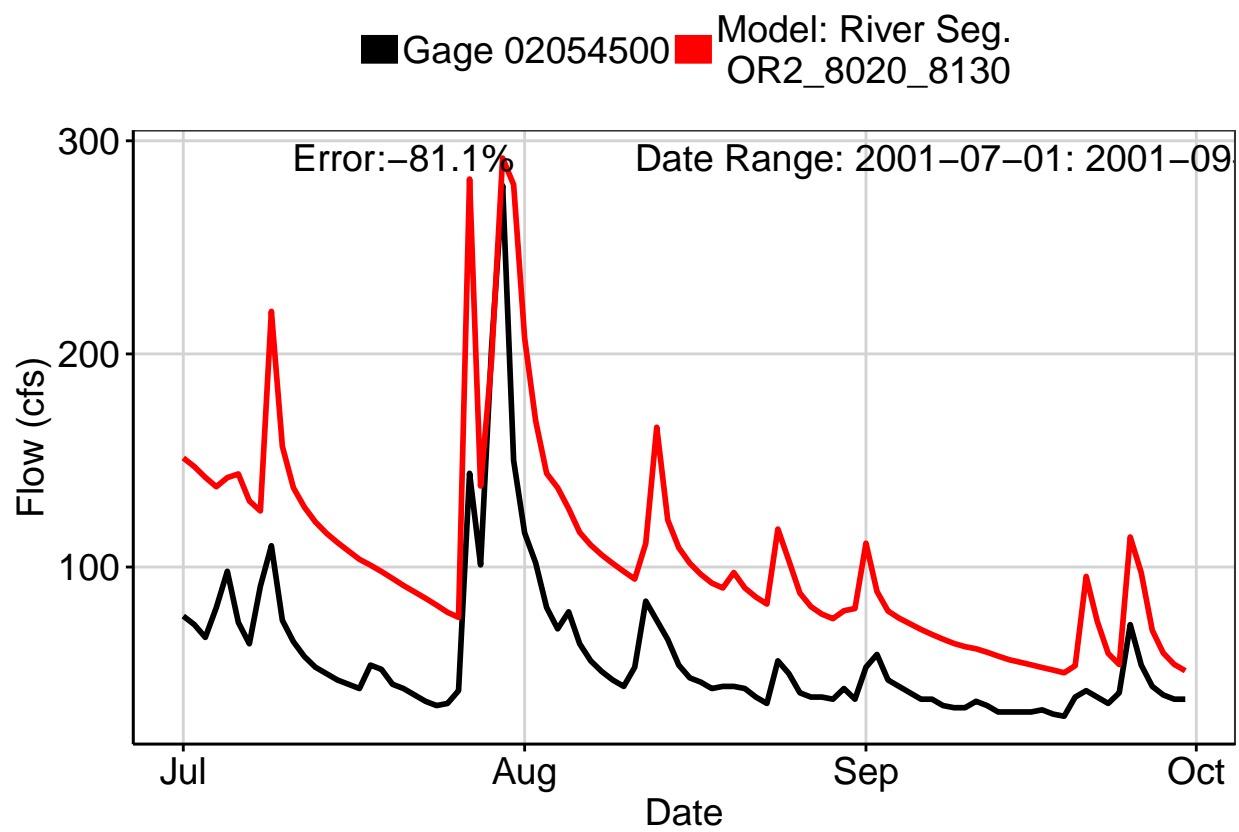


Fig. 8: Third Largest Error Segment

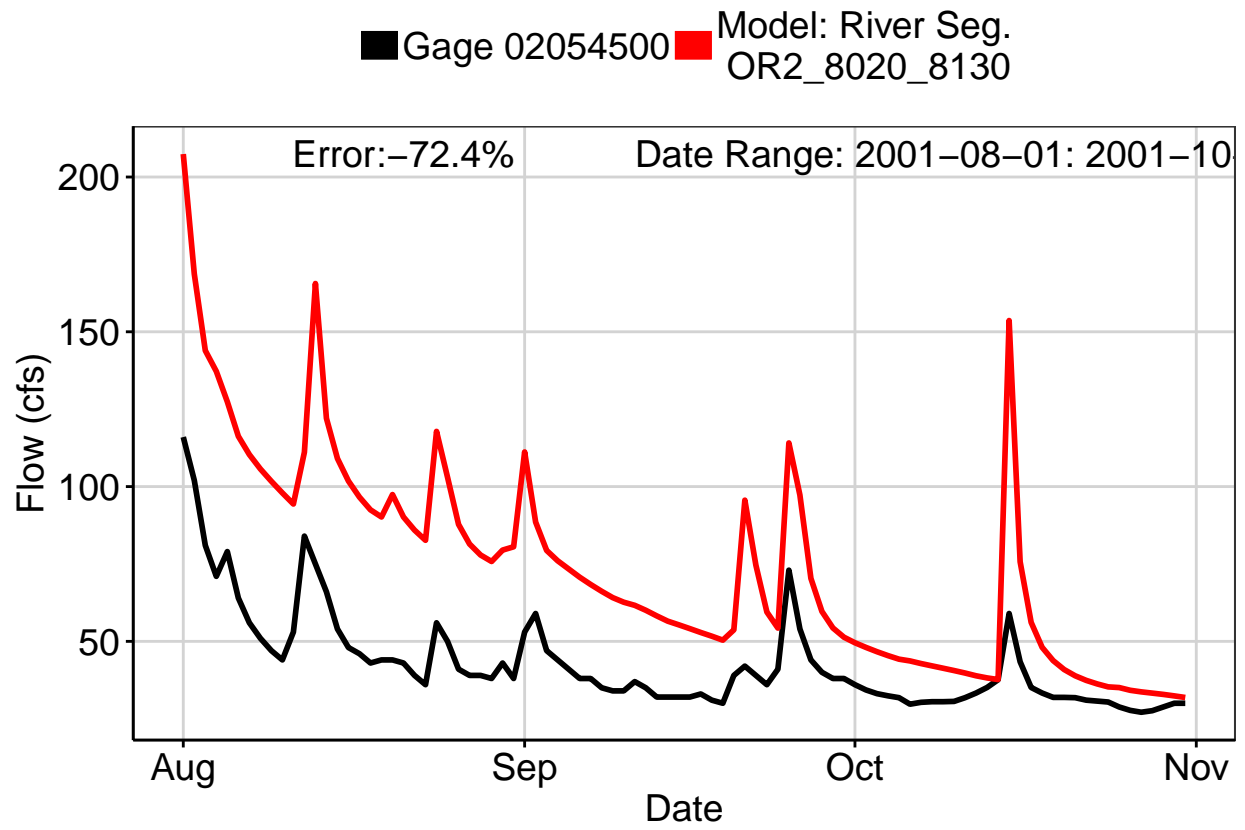


Fig. 9: Residuals Plot

