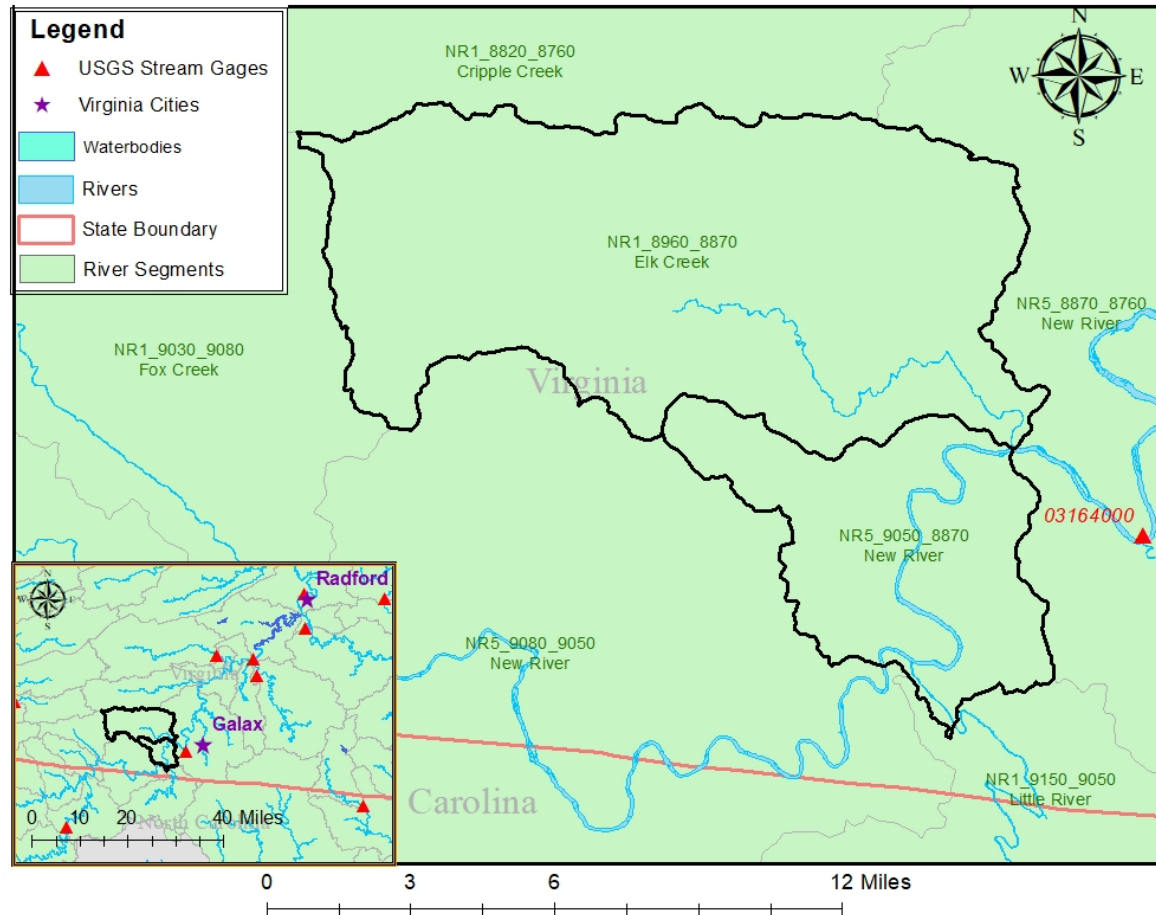


# 03164000 vs. NR5\_9050\_8870+NR1\_8960\_8870

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This river segment follows part of the flow of the New River. The gage is located in Grayson County, VA (Lat 3638'50", Long 8058'45") approximately 3 miles east of Galax, VA. Drainage area is 1141 sq. miles. This gage started taking data in 1929 and is still taking data. There is a privately owned low concrete dam with a small generator for electricity 36.4 miles upstream of the station near the Mouth of Wilson, VA. Almost all of the water flows over the dam because it has very little storage capacity but it can cause problems for extremely low flows. The average daily discharge error between the model and gage data for the 20 year timespan was -3.72%, with 28.7% of its rolling three month time spans above 20% error.

**Table 1: Monthly Low Flows**

	USGS Gage	Model	Pct. Error
Jan. Low Flow	610	548	10.2
Feb. Low Flow	754	658	12.7
Mar. Low Flow	943	1070	-13.5
Apr. Low Flow	781	1050	-34.4
May Low Flow	1300	1420	-9.23
Jun. Low Flow	1540	1750	-13.6
Jul. Low Flow	1540	1430	7.14
Aug. Low Flow	1400	1160	17.1
Sep. Low Flow	1110	1040	6.31
Oct. Low Flow	857	783	8.63
Nov. Low Flow	685	694	-1.31
Dec. Low Flow	587	617	-5.11

**Table 2: Monthly Average Flows**

	USGS Gage	Model	Pct. Error
Overall Mean Flow	1880	1950	-3.72
Jan. Mean Flow	2210	2350	-6.33
Feb. Mean Flow	2490	2830	-13.7
Mar. Mean Flow	2810	3230	-14.9
Apr. Mean Flow	2620	2680	-2.29
May Mean Flow	2100	1970	6.19
Jun. Mean Flow	1860	1760	5.38
Jul. Mean Flow	1390	1270	8.63
Aug. Mean Flow	1250	1340	-7.2
Sep. Mean Flow	1340	1410	-5.22
Oct. Mean Flow	1200	1340	-11.7
Nov. Mean Flow	1640	1630	0.61
Dec. Mean Flow	1710	1660	2.92

**Table 3: Monthly High Flows**

	USGS Gage	Model	Pct. Error
Jan. High Flow	1440	1260	12.5
Feb. High Flow	4140	2640	36.2
Mar. High Flow	3850	2720	29.4
Apr. High Flow	4740	5770	-21.7
May High Flow	6070	5280	13
Jun. High Flow	8060	7820	2.98
Jul. High Flow	5500	5250	4.55
Aug. High Flow	3890	4380	-12.6
Sep. High Flow	2430	2330	4.12
Oct. High Flow	2320	1850	20.3
Nov. High Flow	2200	1410	35.9
Dec. High Flow	1930	1520	21.2

**Table 4: Period Low Flows**

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	283	200	29.3
Med. 1 Day Min	486	455	6.38
Min. 3 Day Min	298	204	31.5
Med. 3 Day Min	505	463	8.32
Min. 7 Day Min	317	213	32.8
Med. 7 Day Min	524	489	6.68
Min. 30 Day Min	398	264	33.7
Med. 30 Day Min	654	625	4.43
Min. 90 Day Min	524	523	0.19
Med. 90 Day Min	1000	845	15.5
7Q10	362	288	20.4
Year of 90-Day Min. Flow	1988	1988	0
Drought Year Mean	1030	924	10.3
Mean Baseflow	1210	1300	-7.44

**Table 5: Period High Flows**

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	57800	48000	17
Med. 1 Day Max	18300	18800	-2.73
Max. 3 Day Max	31000	33100	-6.77
Med. 3 Day Max	11900	15700	-31.9
Max. 7 Day Max	17100	18300	-7.02
Med. 7 Day Max	7810	10200	-30.6
Max. 30 Day Max	6560	7090	-8.08
Med. 30 Day Max	4050	4700	-16
Max. 90 Day Max	4750	5990	-26.1
Med. 90 Day Max	3150	3310	-5.08

**Table 6: Non-Exceedance Flows**

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	397	360	9.32
5% Non-Exceedance	532	506	4.89
50% Non-Exceedance	1390	1370	1.44
95% Non-Exceedance	4540	4950	-9.03
99% Non-Exceedance	9300	11000	-18.3
Sept. 10% Non-Exceedance	558	510	8.6

**Fig. 1: Hydrograph**

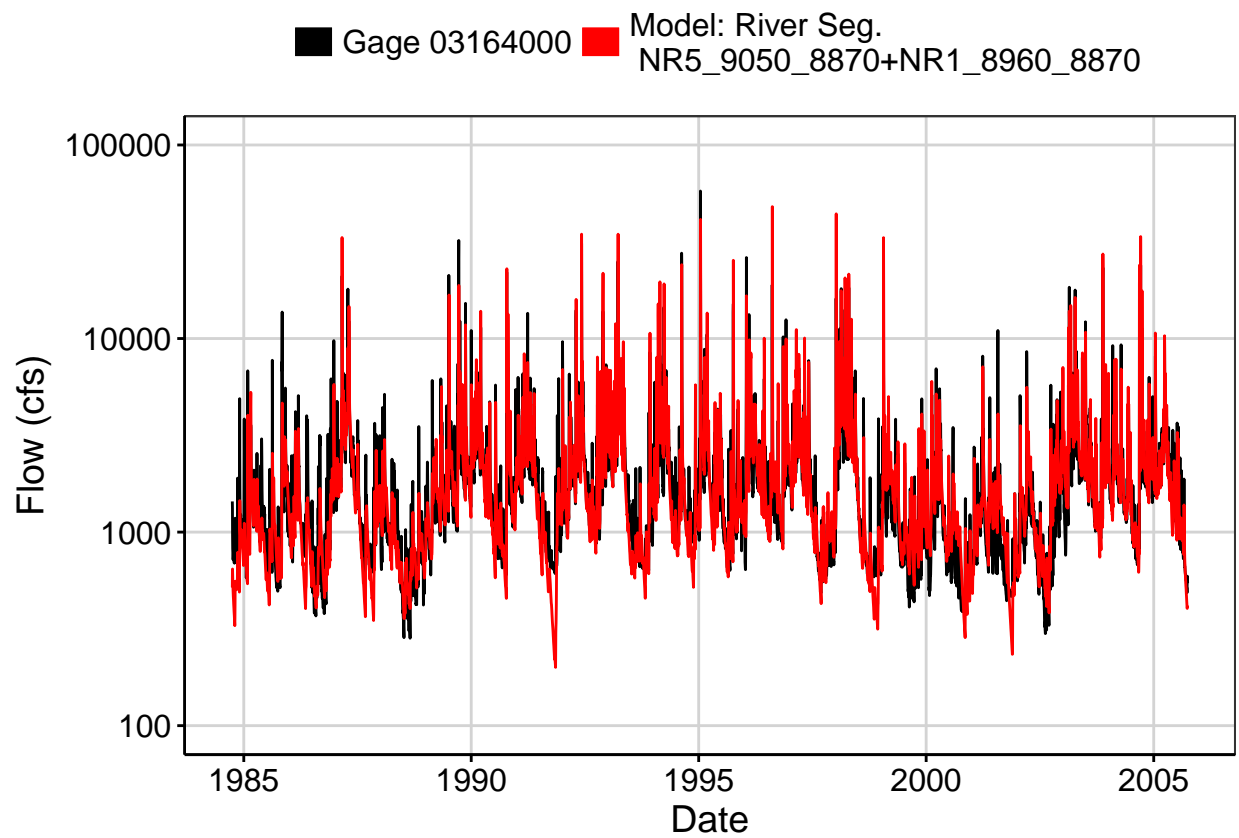


Fig. 2: Zoomed Hydrograph

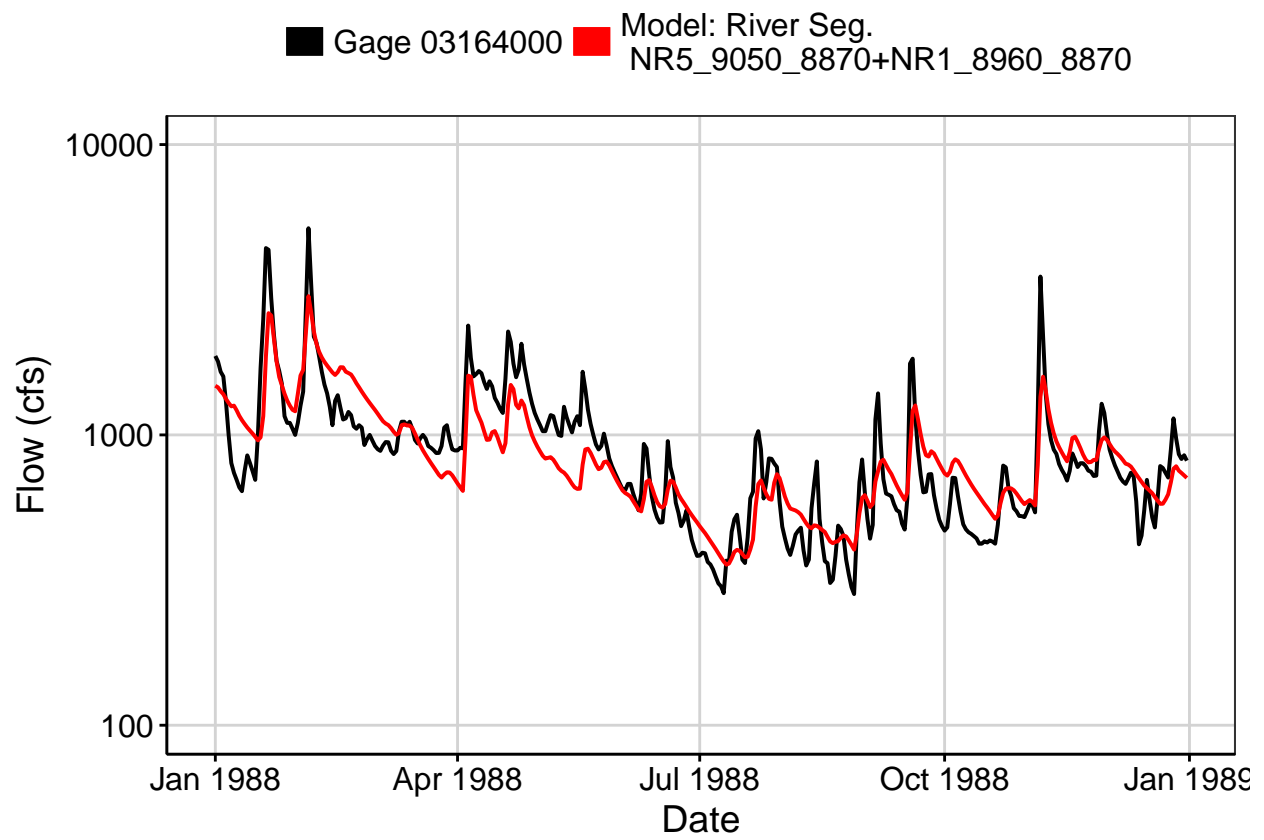


Fig. 3: Flow Exceedance

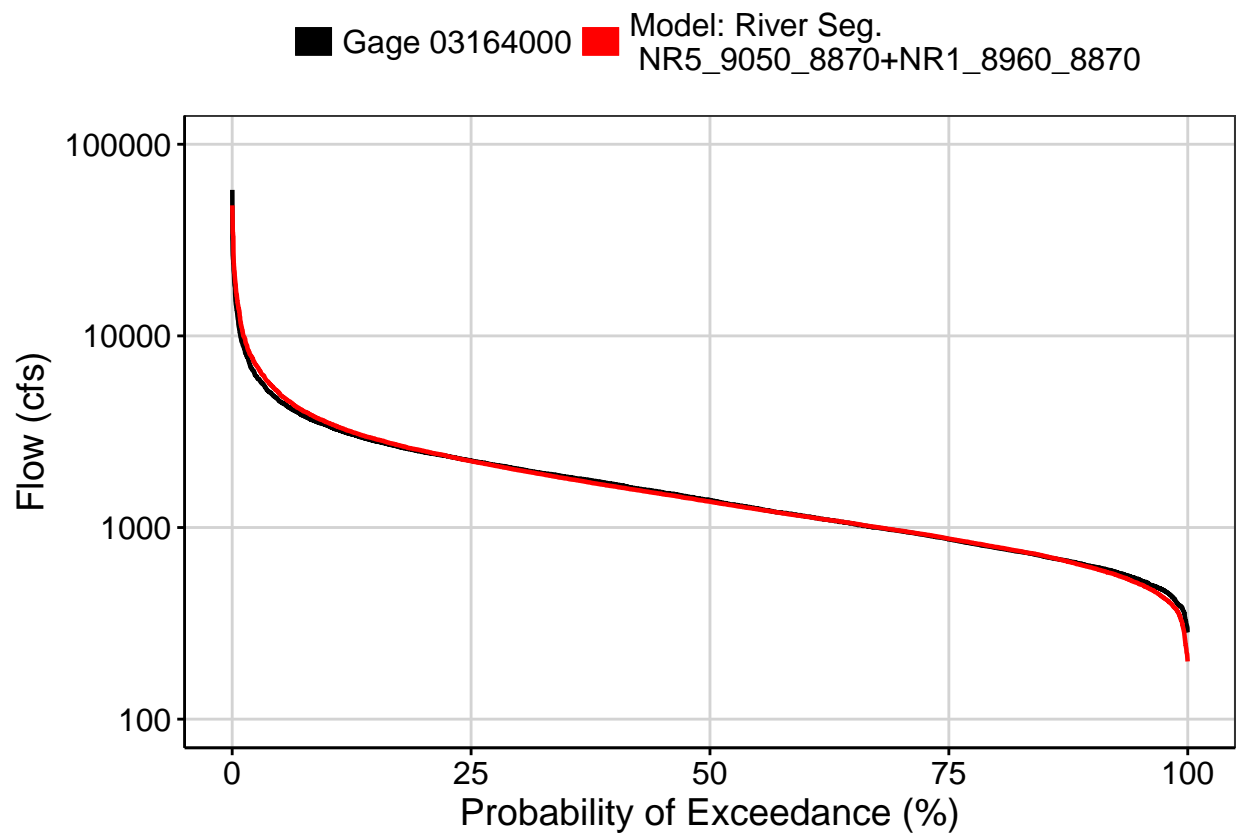


Fig. 4: Baseflow

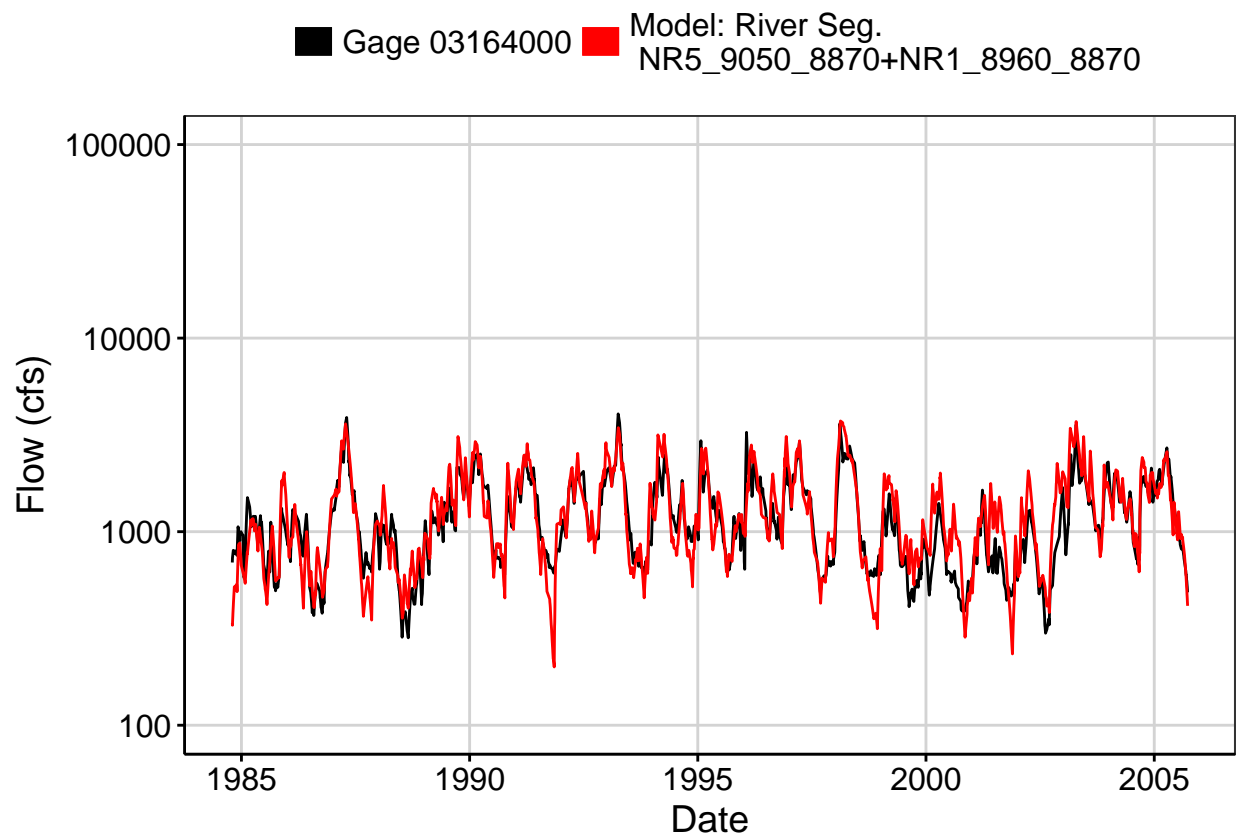


Fig. 5: Combined Baseflow

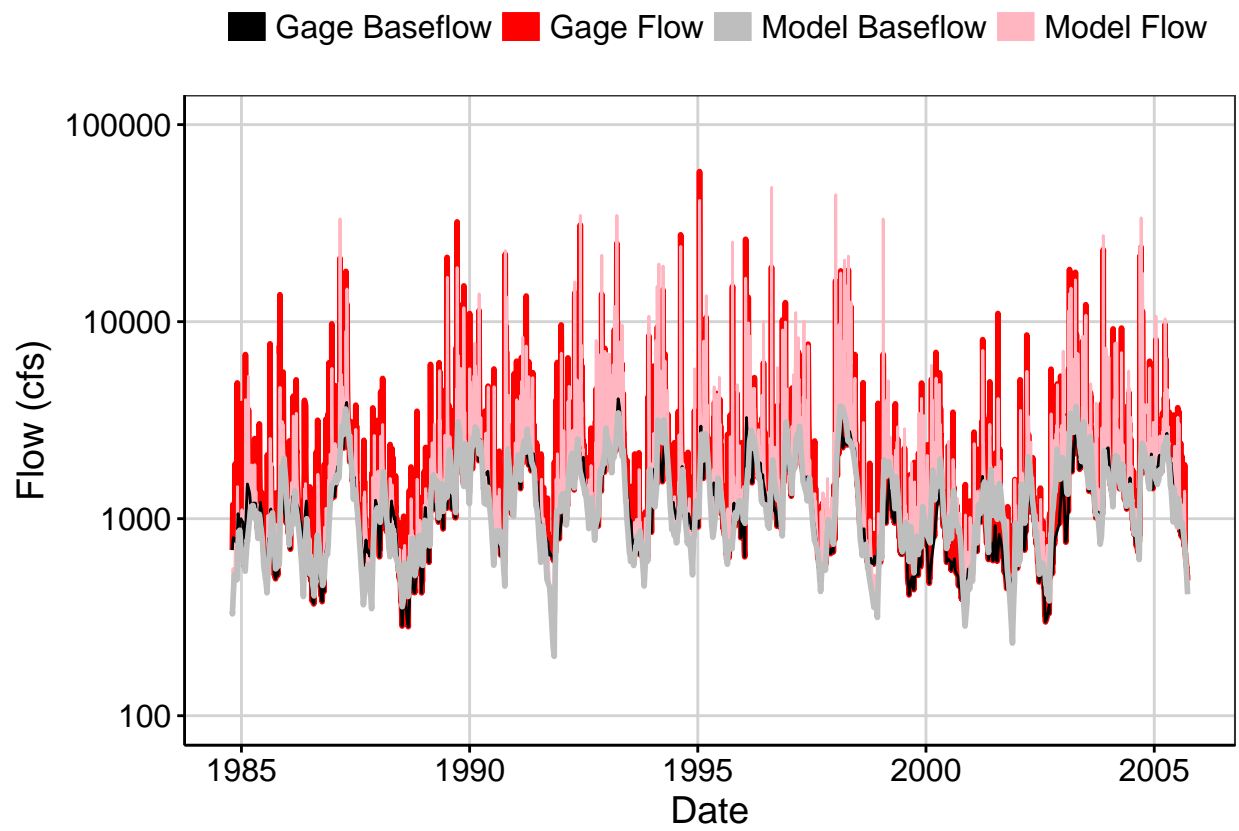




Fig. 6: Largest Error Segment

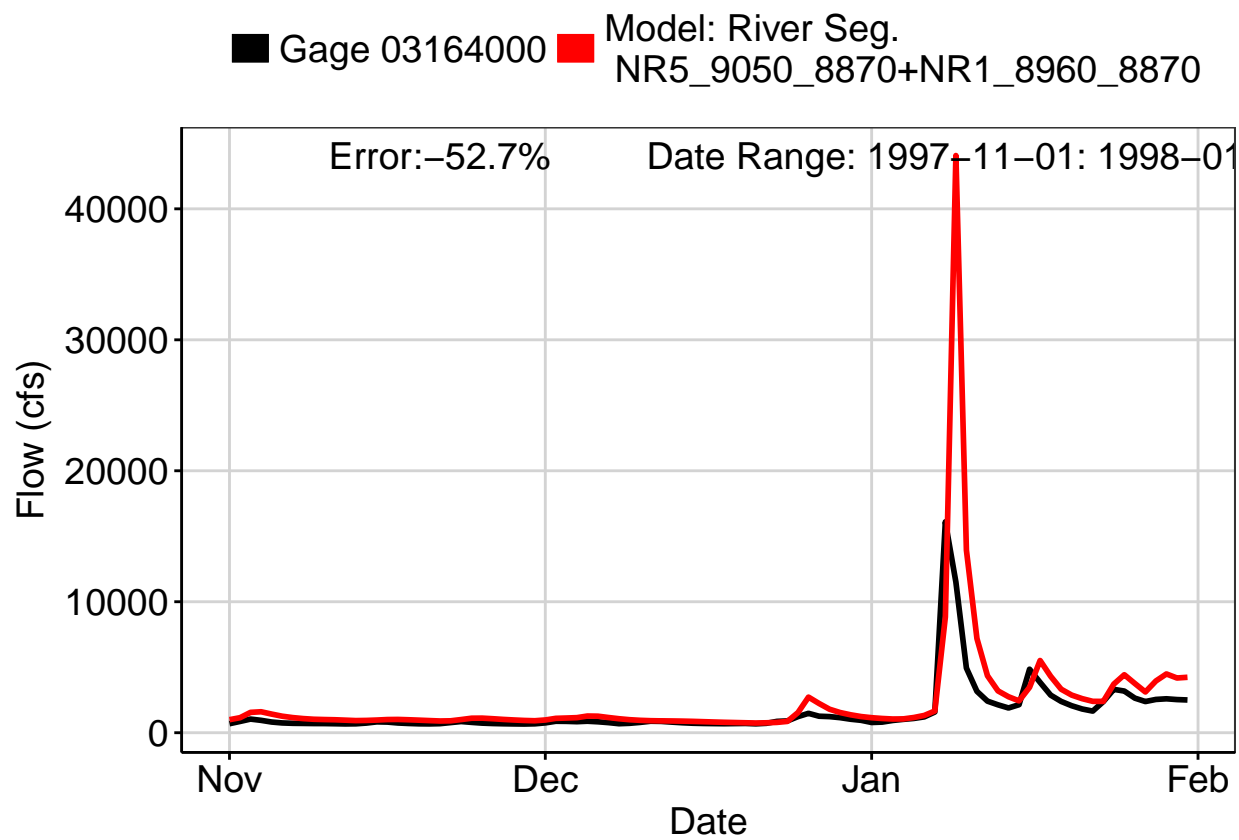


Fig. 7: Second Largest Error Segment

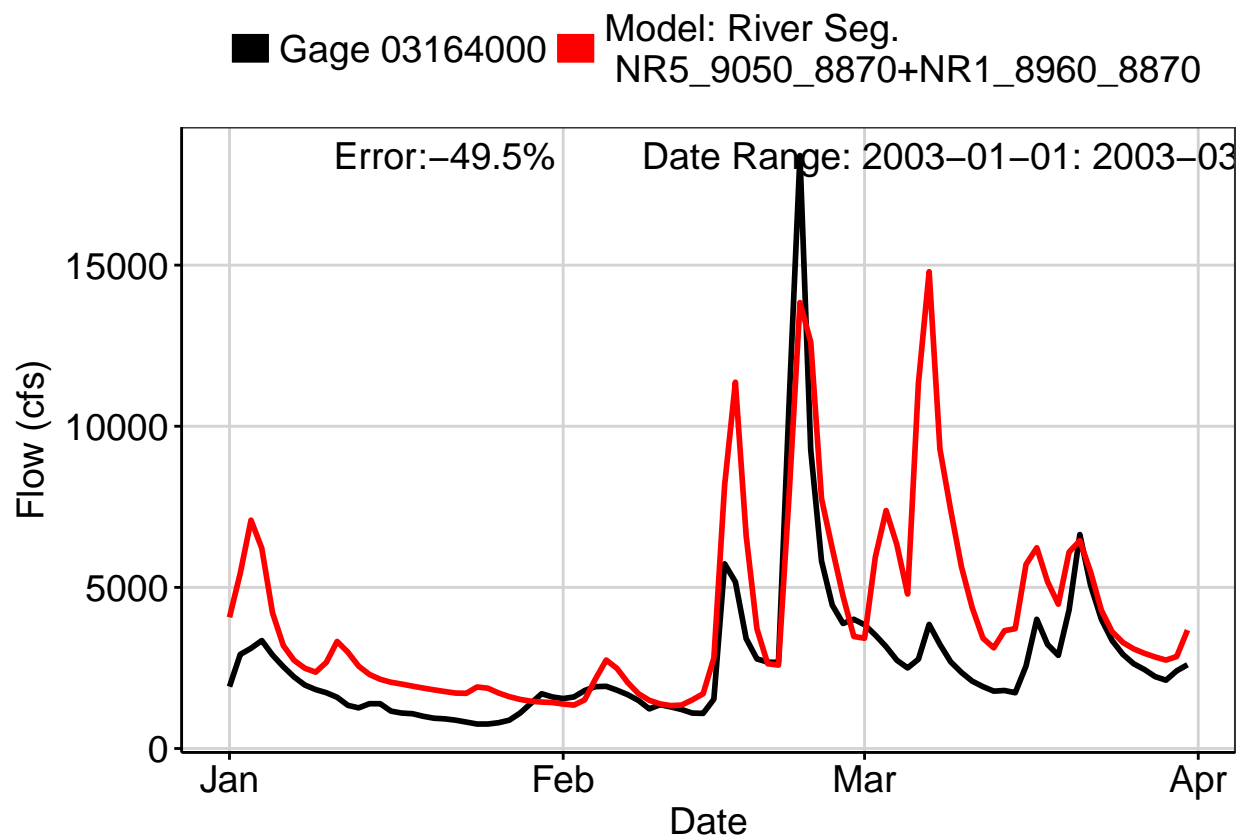


Fig. 8: Third Largest Error Segment

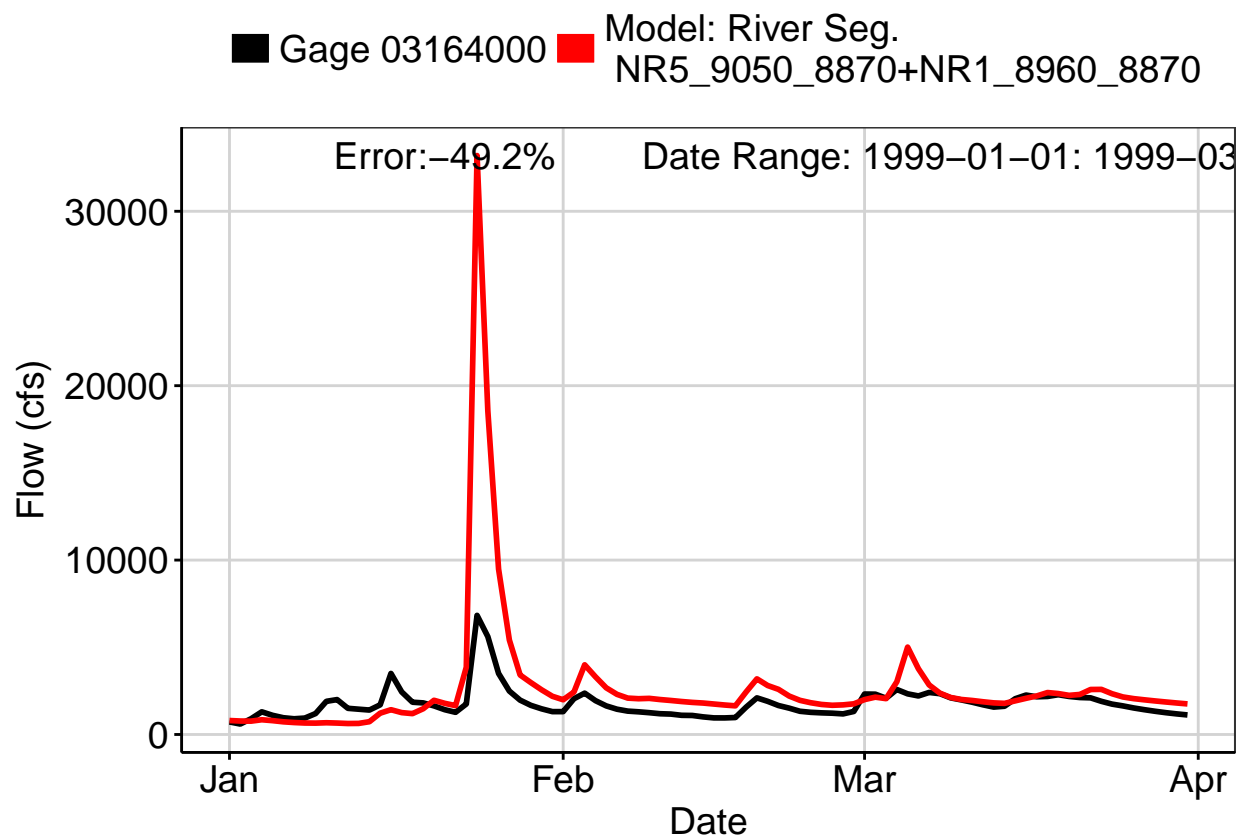


Fig. 9: Residuals Plot

