03527000 vs. TU5_9000_9280+TU2_8970_9280

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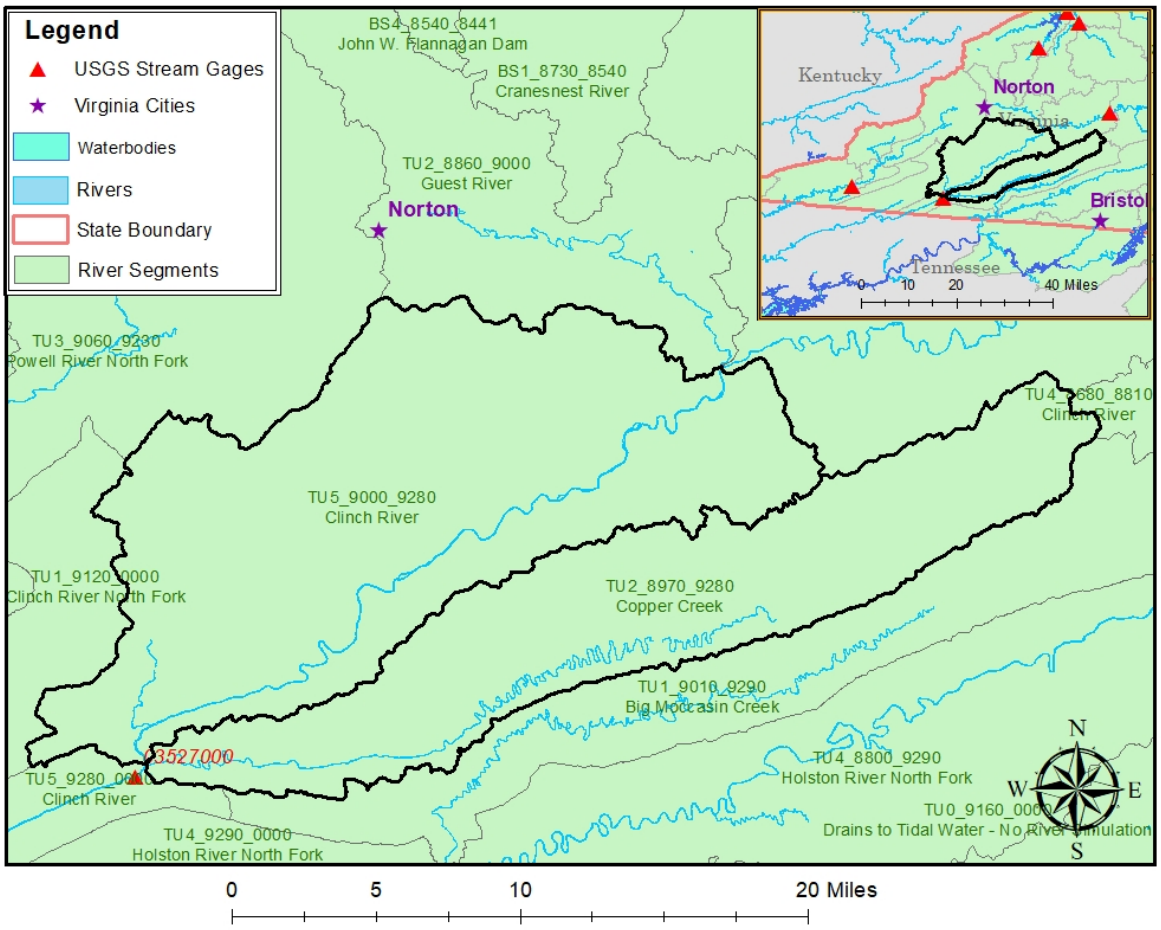
July 11, 2018



This river segment follows part of the flow of the Clinch River, a tributary of the Tennessee River. The gage is located in Scott County, VA (Lat 3638'55", Long 8245'02") approximately 21 miles southwest of Norton, VA. Drainage area is 1123 sq. miles. This gage started taking data in 1920, but there is a gap from 1976-10-13 to 1978-10-02 and another between 1981-09-30 to 2001-09-17. For this reason, analysis was done from 2001-10-01 to 2005-09-30. There are no known anthropogenic alterations that would affect flow in this area. The average daily discharge error between the model and gage data for the 20 year timespan was 2.23%, with 30.6% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	199	334	-67.8
Feb. Low Flow	368	753	-105
Mar. Low Flow	888	1510	-70
Apr. Low Flow	648	931	-43.7
May Low Flow	1160	1350	-16.4
Jun. Low Flow	846	954	-12.8
Jul. Low Flow	1180	1040	11.9
Aug. Low Flow	659	498	24.4
Sep. Low Flow	552	590	-6.88
Oct. Low Flow	413	370	10.4
Nov. Low Flow	296	289	2.36
Dec. Low Flow	200	174	13

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	1790	1750	2.23
Jan. Mean Flow	2200	2340	-6.36
Feb. Mean Flow	2890	3350	-15.9
Mar. Mean Flow	2780	2680	3.6
Apr. Mean Flow	3270	2560	21.7
May Mean Flow	1800	1620	10
Jun. Mean Flow	1860	1540	17.2
Jul. Mean Flow	999	884	11.5
Aug. Mean Flow	722	664	8.03
Sep. Mean Flow	543	948	-74.6
Oct. Mean Flow	422	740	-75.4
Nov. Mean Flow	1690	1790	-5.92
Dec. Mean Flow	2430	2070	14.8

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	746	1420	-90.3
Feb. High Flow	6450	4390	31.9
Mar. High Flow	5180	4740	8.49
Apr. High Flow	9170	8860	3.38
May High Flow	6580	5620	14.6
Jun. High Flow	7040	7450	-5.82
Jul. High Flow	11800	9080	23.1
Aug. High Flow	7580	9590	-26.5
Sep. High Flow	3360	4470	-33
Oct. High Flow	2960	2040	31.1
Nov. High Flow	1060	663	37.5
Dec. High Flow	1440	2420	-68.1

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	88	47	46.6
Med. 1 Day Min	133	147	-10.5
Min. 3 Day Min	88.7	48.4	45.4
Med. 3 Day Min	137	158	-15.3
Min. 7 Day Min	90.7	53.7	40.8
Med. 7 Day Min	142	187	-31.7
Min. 30 Day Min	142	101	28.9
Med. 30 Day Min	235	283	-20.4
Min. 90 Day Min	282	330	-17
Med. 90 Day Min	694	678	2.31
7Q10	95	50.5	46.8
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	1170	1120	4.27
Mean Baseflow	846	957	-13.1

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	43600	37000	15.1
Med. 1 Day Max	22000	22200	-0.91
Max. 3 Day Max	30700	23100	24.8
Med. 3 Day Max	15600	17700	-13.5
Max. 7 Day Max	16200	14400	11.1
Med. 7 Day Max	9880	9620	2.63
Max. 30 Day Max	6180	7790	-26.1
Med. 30 Day Max	5270	4120	21.8
Max. 90 Day Max	3890	4390	-12.9
Med. 90 Day Max	3140	3070	2.23

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	125	89.6	28.3
5% Non-Exceedance	173	192	-11
50% Non-Exceedance	1120	1230	-9.82
95% Non-Exceedance	5350	4770	10.8
99% Non-Exceedance	11800	12600	-6.78
Sept. 10% Non-Exceedance	121	120	0.83

Fig. 1: Hydrograph

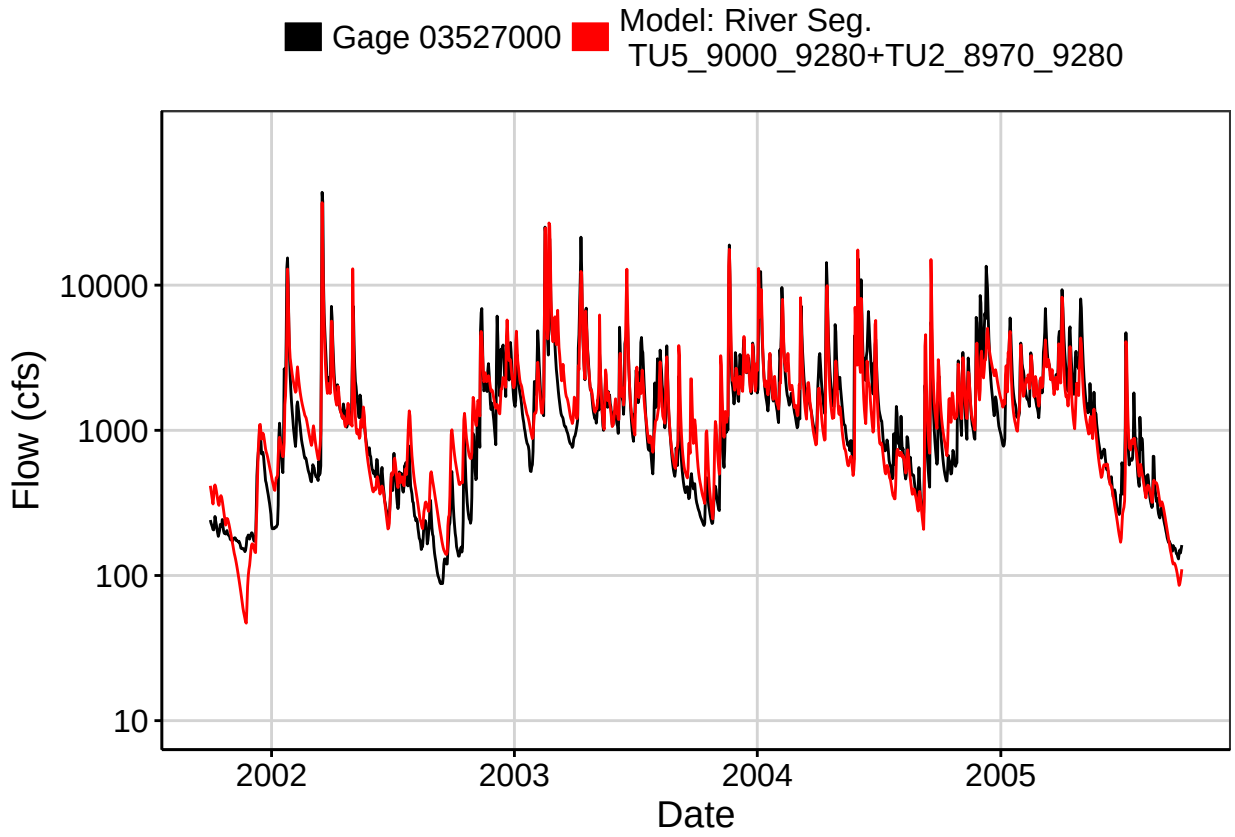


Fig. 2: Zoomed Hydrograph

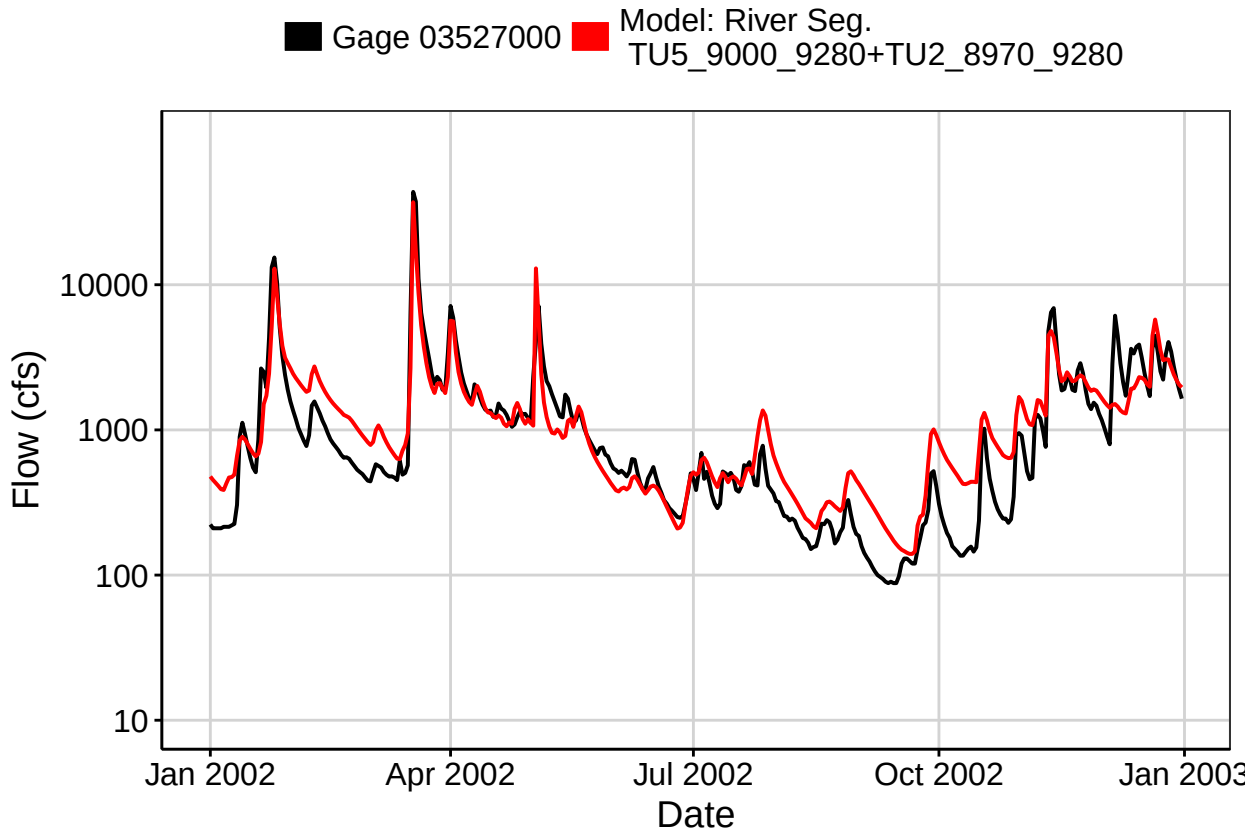


Fig. 3: Flow Exceedance

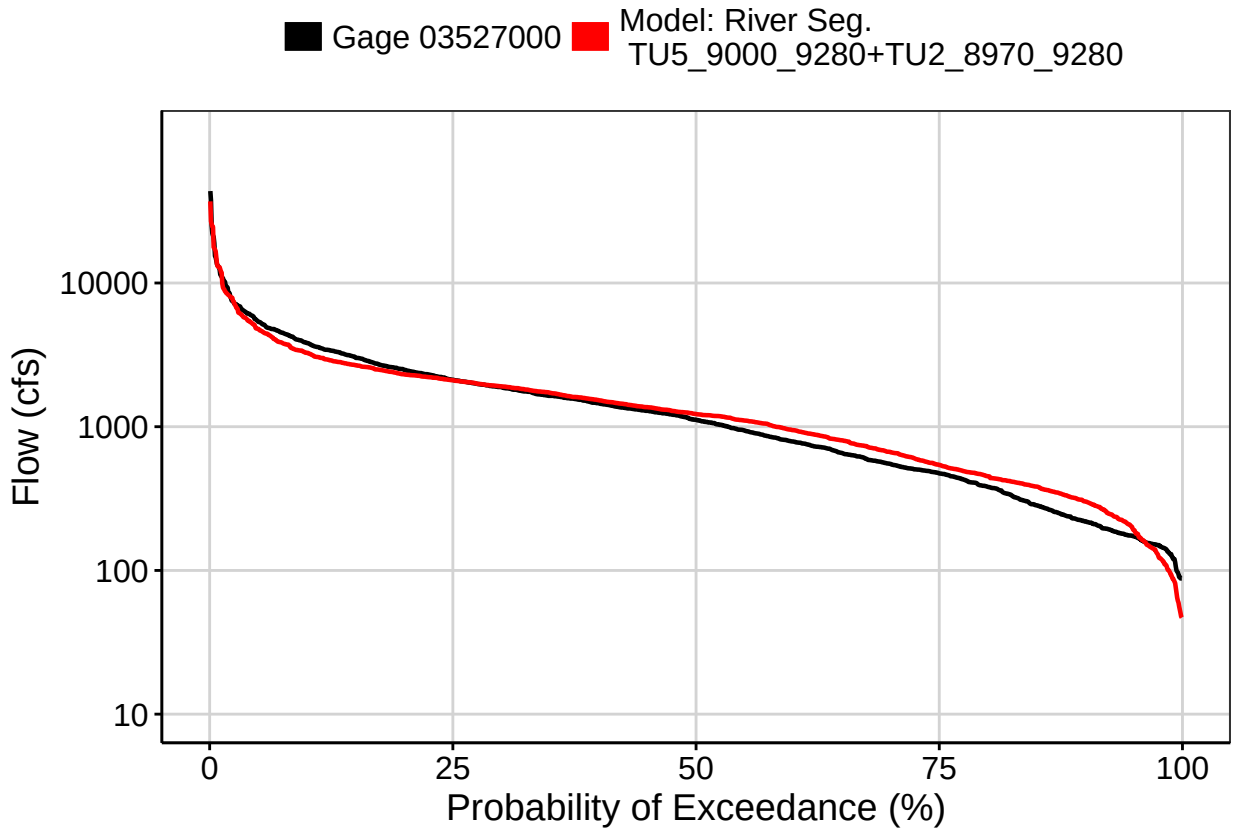


Fig. 4: Baseflow

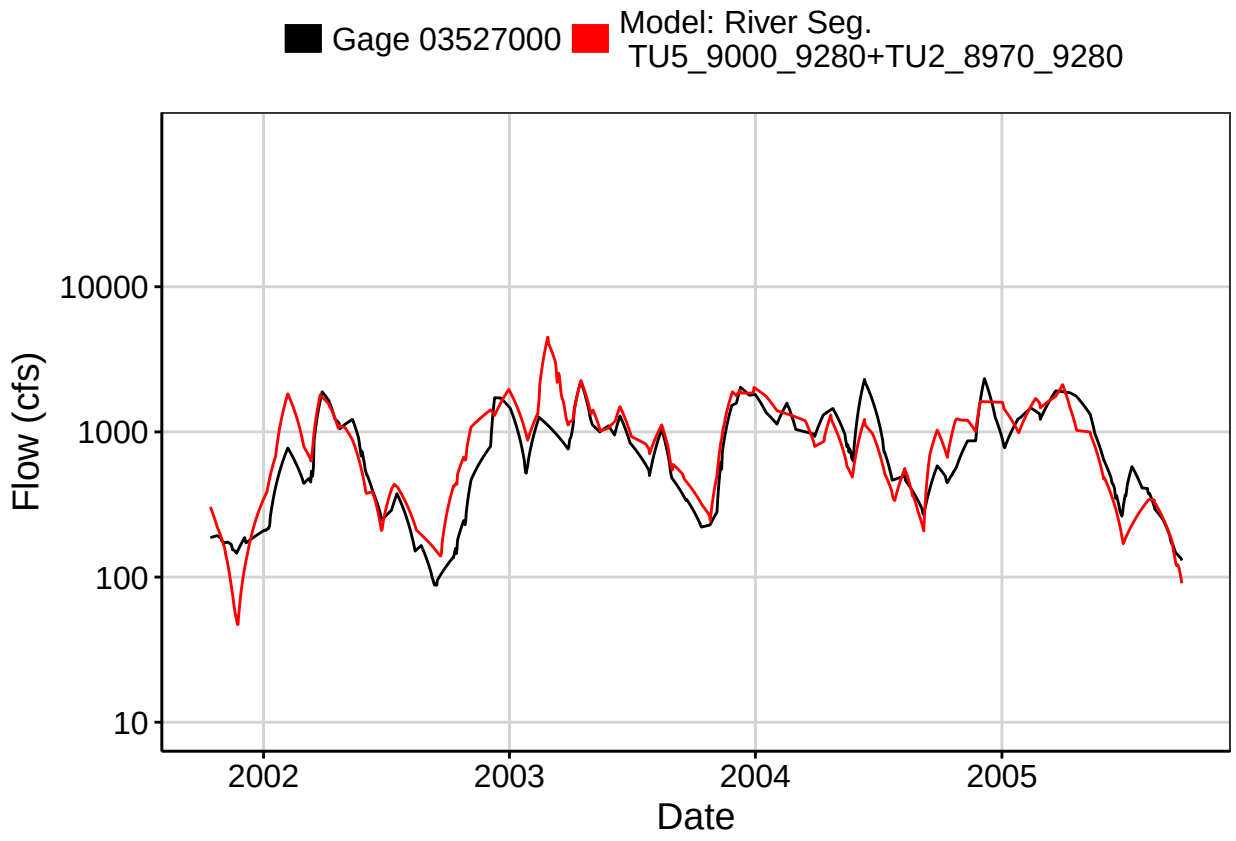


Fig. 5: Combined Baseflow

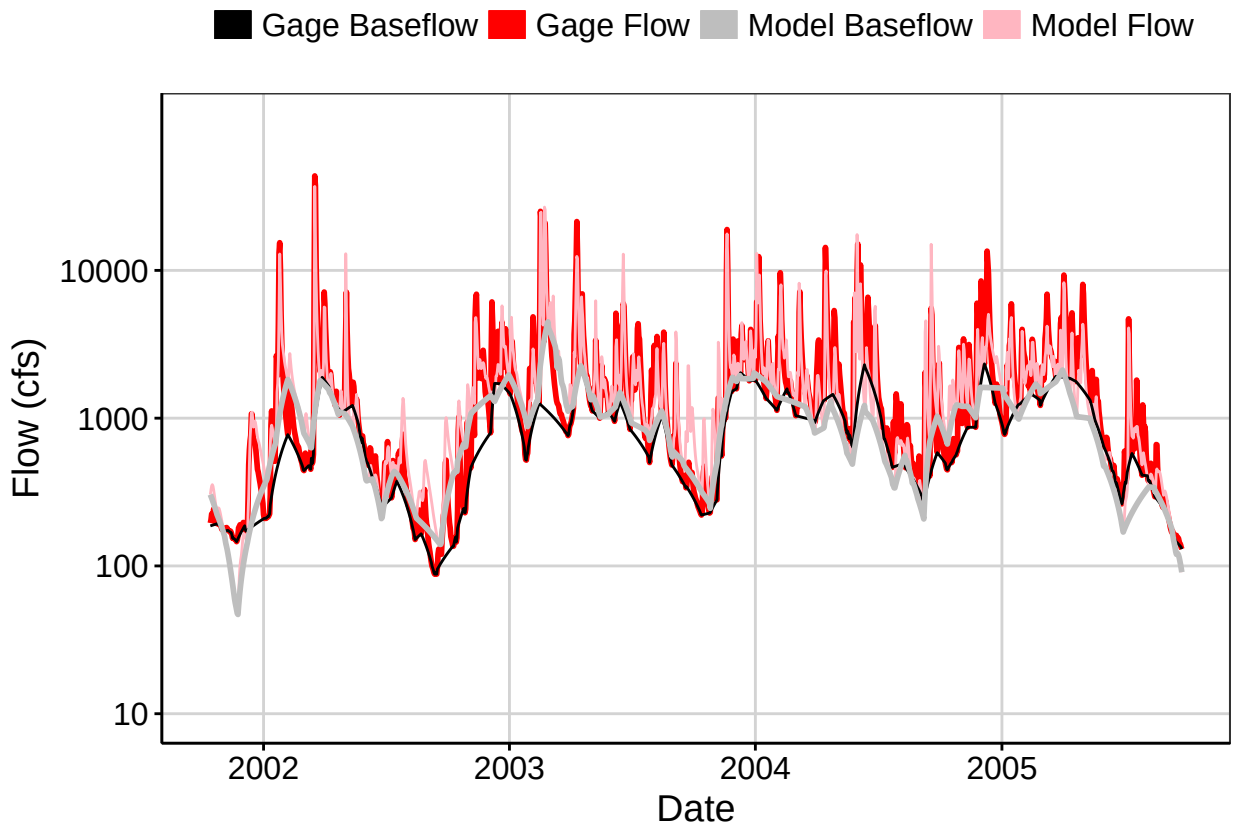


Fig. 6: Largest Error Segment

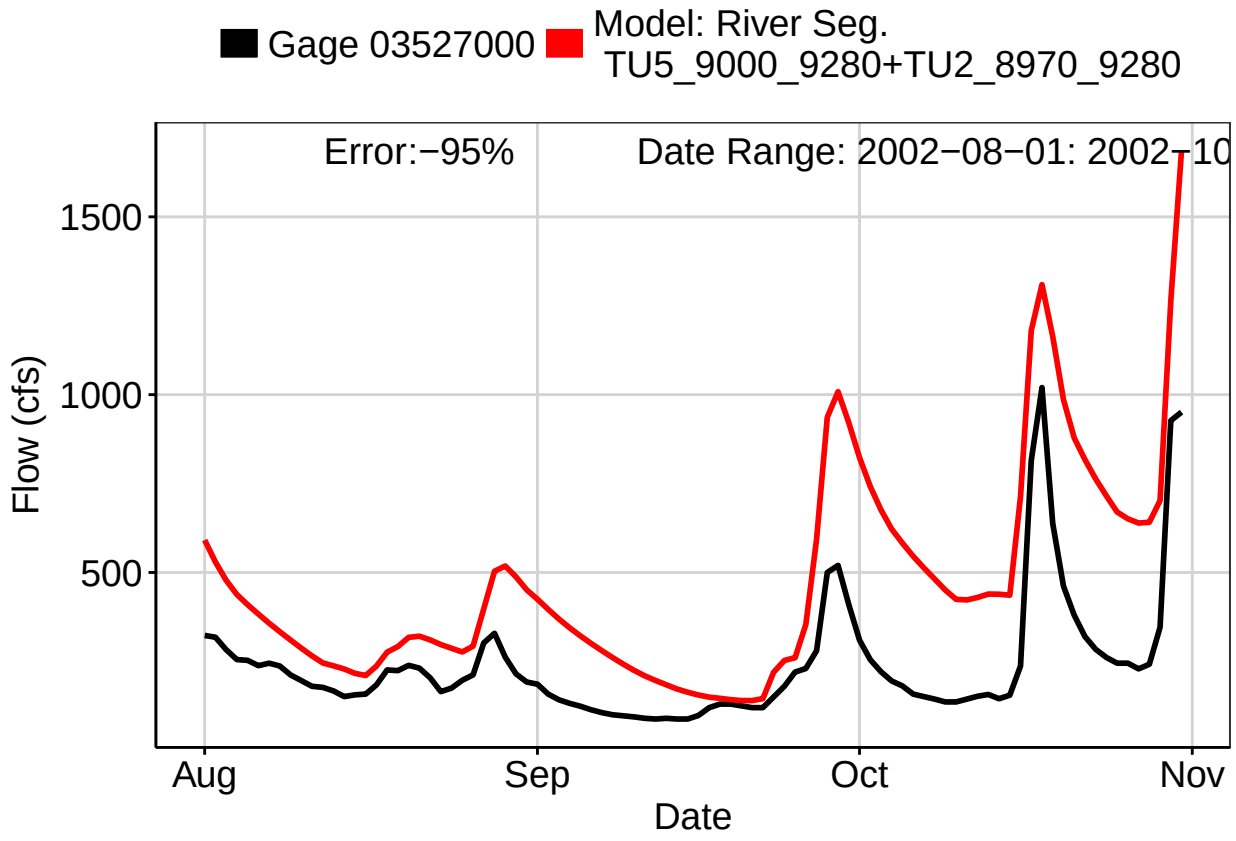


Fig. 7: Second Largest Error Segment

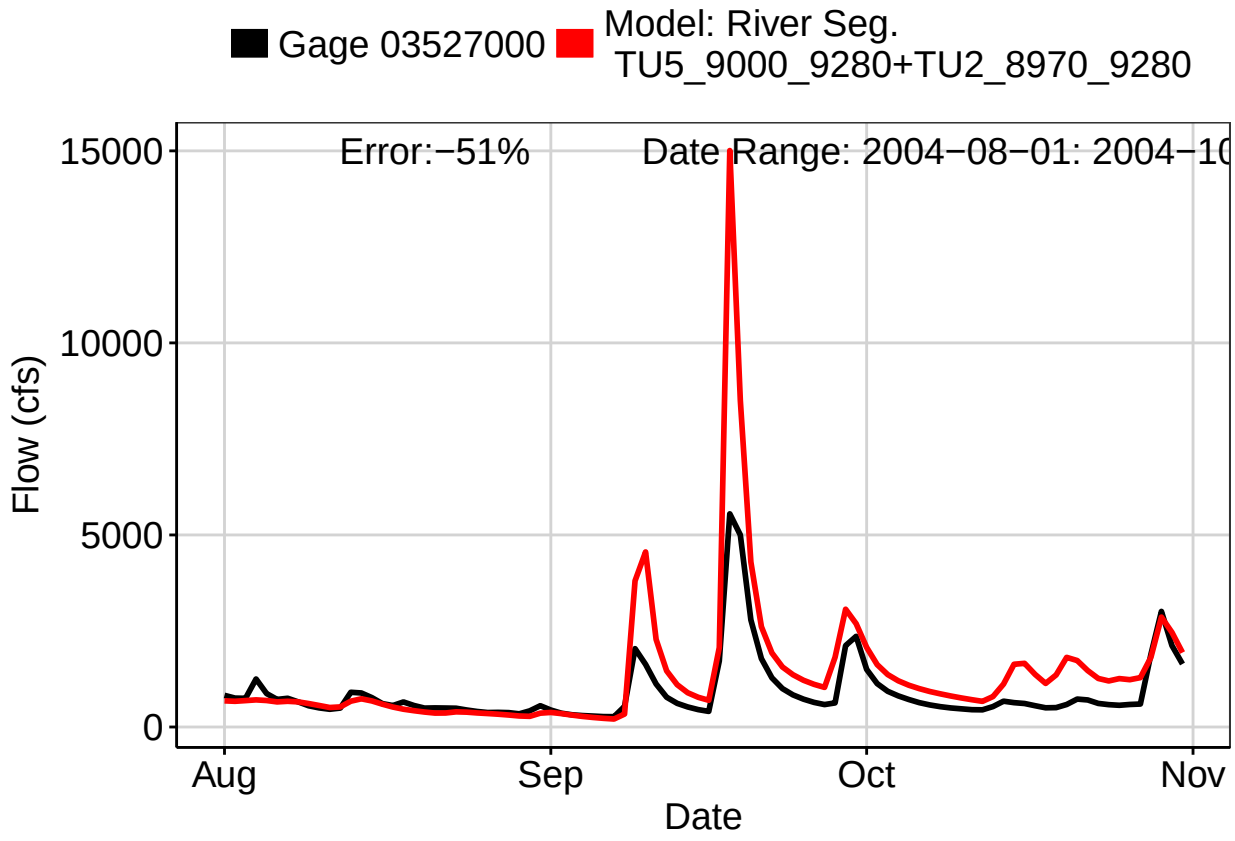


Fig. 8: Third Largest Error Segment

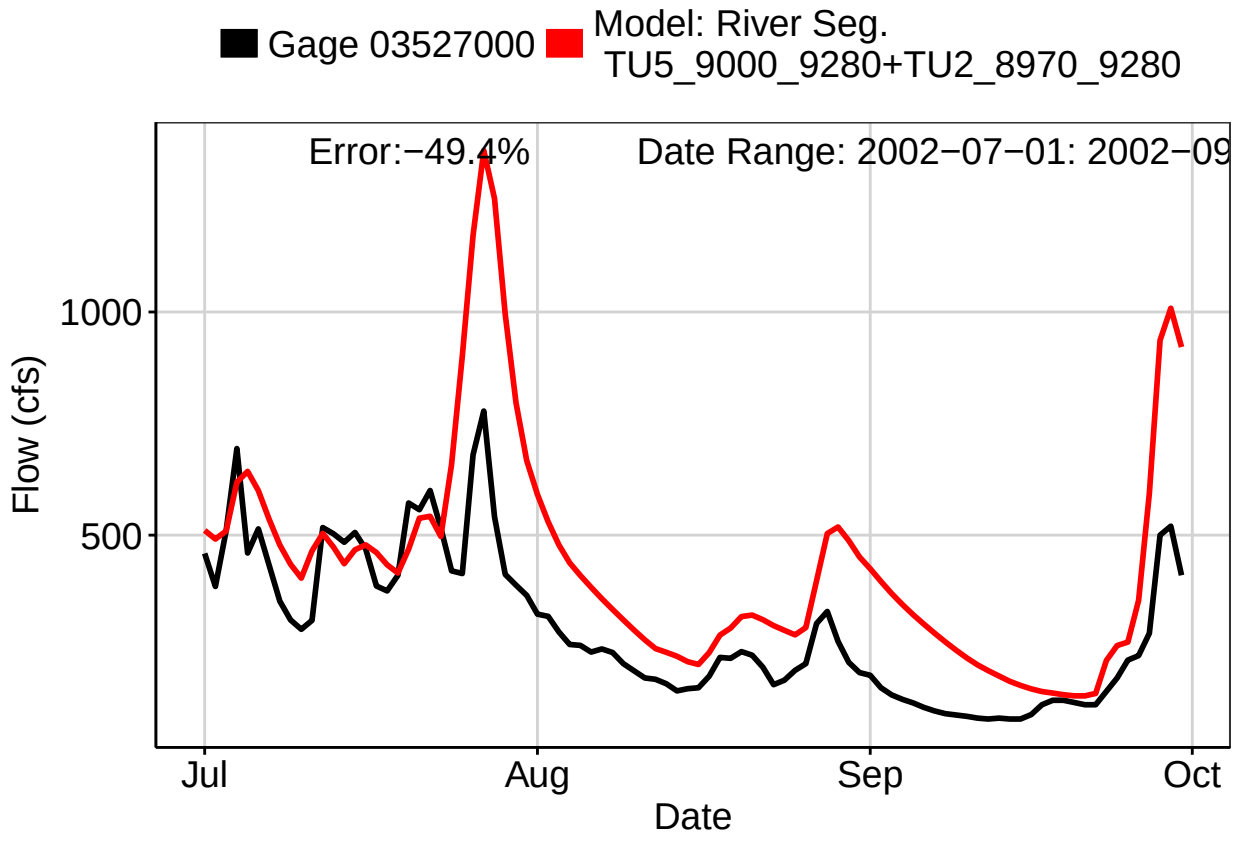


Fig. 9: Residuals Plot