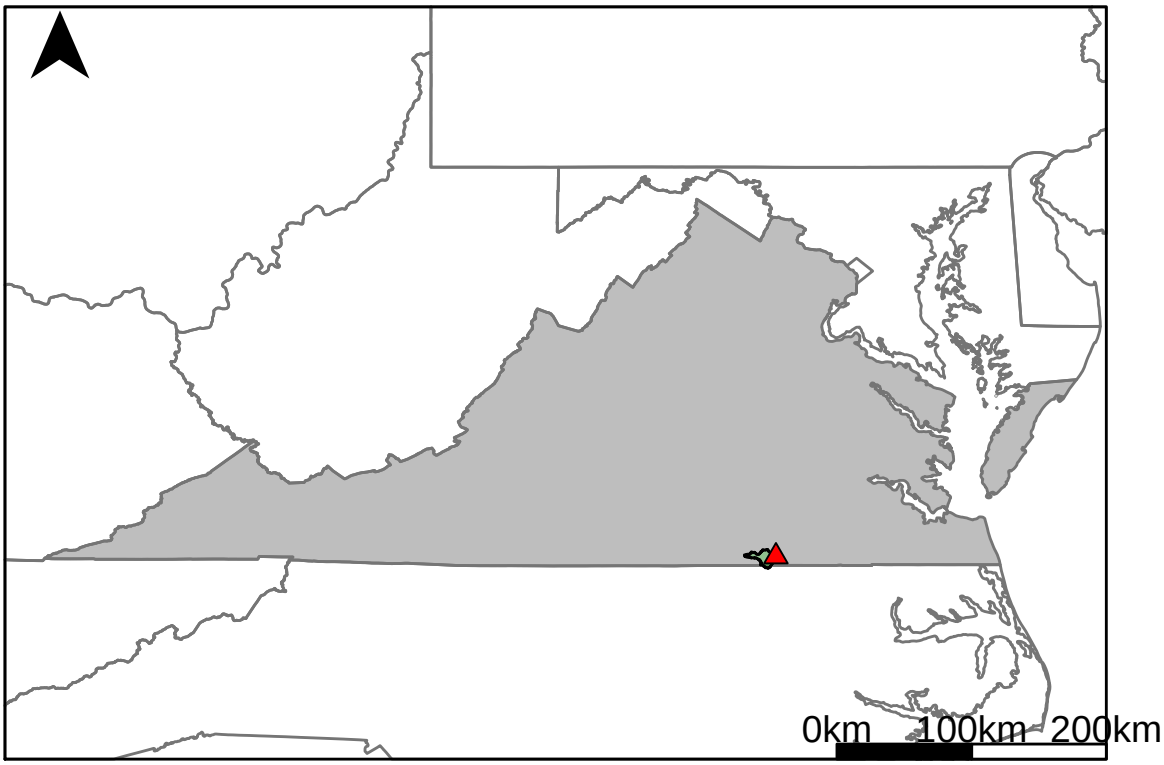
02052500 vs. MN2_8530_8510



This river segment follows part of the flow of the Fountains Creek, a tributary of the Meherrin River. The gage is located in Greensville County, VA (Lat 3636'55", Long 7742'00") approximately 10 miles southeast of Emporia, VA. Drainage area is 68.7 sq. miles. This gage started taking data in 1953 and was decommissioned in 1997. For this reason the analysis was run from 1984-10-01 to 1996-09-30. There are no known anthropogenic alterations that would affect the flow of this area. The average daily discharge error between the model and gage data for the 20 year timespan was -14.2%, with 47.7% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	1.35	3.25	-141
Feb. Low Flow	4.1	12.9	-215
Mar. Low Flow	10.5	18.5	-76.2
Apr. Low Flow	27.5	29.3	-6.55
May Low Flow	42	43.4	-3.33
Jun. Low Flow	36	30.3	15.8
Jul. Low Flow	22.5	19.7	12.4
Aug. Low Flow	11.5	9.82	14.6
Sep. Low Flow	3.3	6.41	-94.2
Oct. Low Flow	1.07	3.97	-271
Nov. Low Flow	1.55	3.55	-129
Dec. Low Flow	1.6	2.98	-86.2

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	59	67.4	-14.2
Jan. Mean Flow	108	97.9	9.35
Feb. Mean Flow	110	112	-1.82
Mar. Mean Flow	160	145	9.38
Apr. Mean Flow	87.5	95.2	-8.8
May Mean Flow	45.6	49.6	-8.77
Jun. Mean Flow	22.6	29.3	-29.6
Jul. Mean Flow	16.8	26.9	-60.1
Aug. Mean Flow	32.7	42.9	-31.2
Sep. Mean Flow	21.4	68.4	-220
Oct. Mean Flow	9.77	32.6	-234
Nov. Mean Flow	55.2	48.8	11.6
Dec. Mean Flow	41.6	63	-51.4

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	48	33.2	30.8
Feb. High Flow	96	120	-25
Mar. High Flow	123	121	1.63
Apr. High Flow	441	369	16.3
May High Flow	336	401	-19.3
Jun. High Flow	994	478	51.9
Jul. High Flow	174	273	-56.9
Aug. High Flow	112	126	-12.5
Sep. High Flow	71	57.2	19.4
Oct. High Flow	77	32.1	58.3
Nov. High Flow	78	93.7	-20.1
Dec. High Flow	30.5	39.8	-30.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	0	0.03	-Inf
Med. 1 Day Min	0.13	1.91	-1370
Min. 3 Day Min	0	0.03	-Inf
Med. 3 Day Min	0.16	2.02	-1190
Min. 7 Day Min	0	0.05	-Inf
Med. 7 Day Min	0.28	2.29	-730
Min. 30 Day Min	0.01	0.52	-8120
Med. 30 Day Min	1.5	3.34	-123
Min. 90 Day Min	1.7	2.32	-36.5
Med. 90 Day Min	9.36	9.88	-5.56
7Q10	0	0.21	-213000
Year of 90-Day Min. Flow	1987	2002	100
Drought Year Mean	97.2	67.4	30.7
Mean Baseflow	18.5	24.3	-31.4

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	3010	7860	-161
Med. 1 Day Max	1550	1670	-7.74
Max. 3 Day Max	1820	3310	-81.9
Med. 3 Day Max	847	873	-3.07
Max. 7 Day Max	948	1540	-62.4
Med. 7 Day Max	434	467	-7.6
Max. 30 Day Max	452	544	-20.4
Med. 30 Day Max	182	190	-4.4
Max. 90 Day Max	270	257	4.81
Med. 90 Day Max	133	144	-8.27

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	0	0.63	-Inf
5% Non-Exceedance	0.53	2.49	-369
50% Non-Exceedance	20	27.2	-36
95% Non-Exceedance	202	229	-13.4
99% Non-Exceedance	761	685	9.99
Sept. 10% Non-Exceedance	2.6	2.52	3.08

Fig. 1: Hydrograph

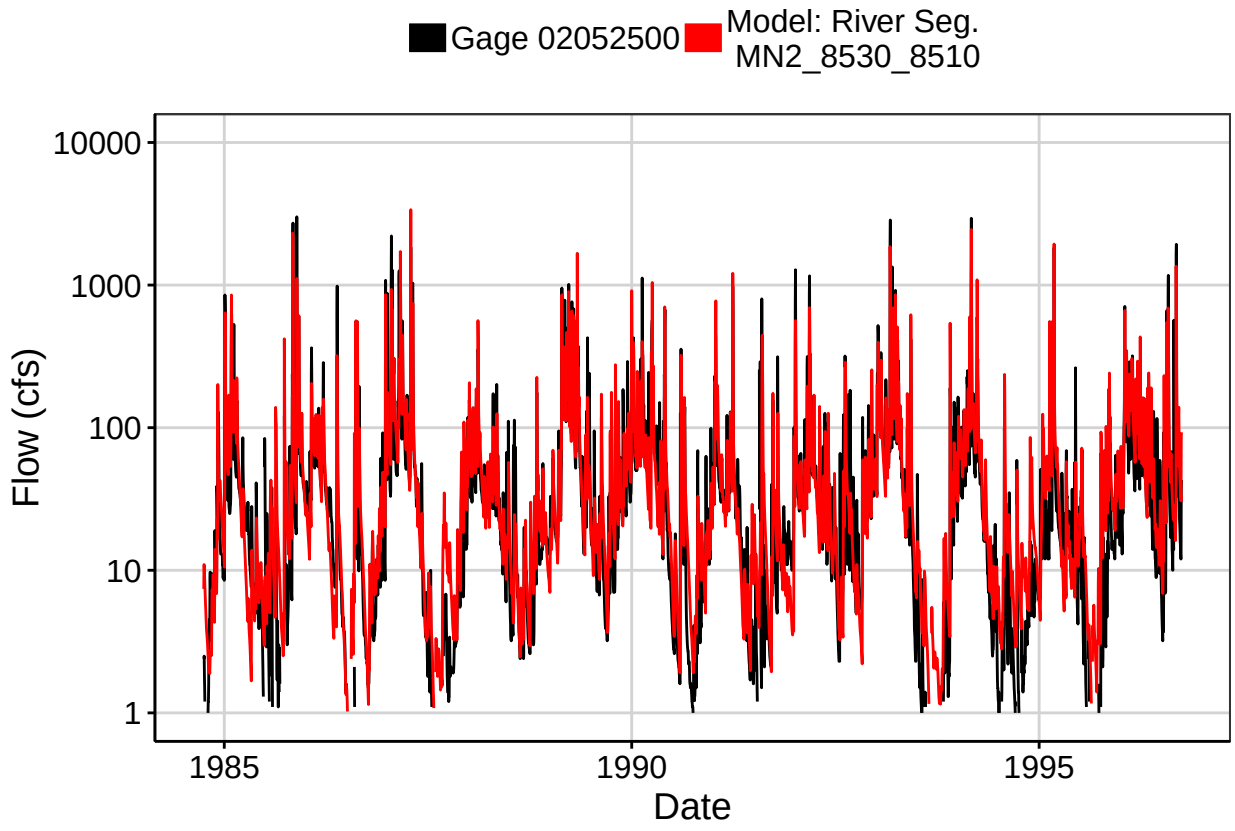


Fig. 2: Zoomed Hydrograph

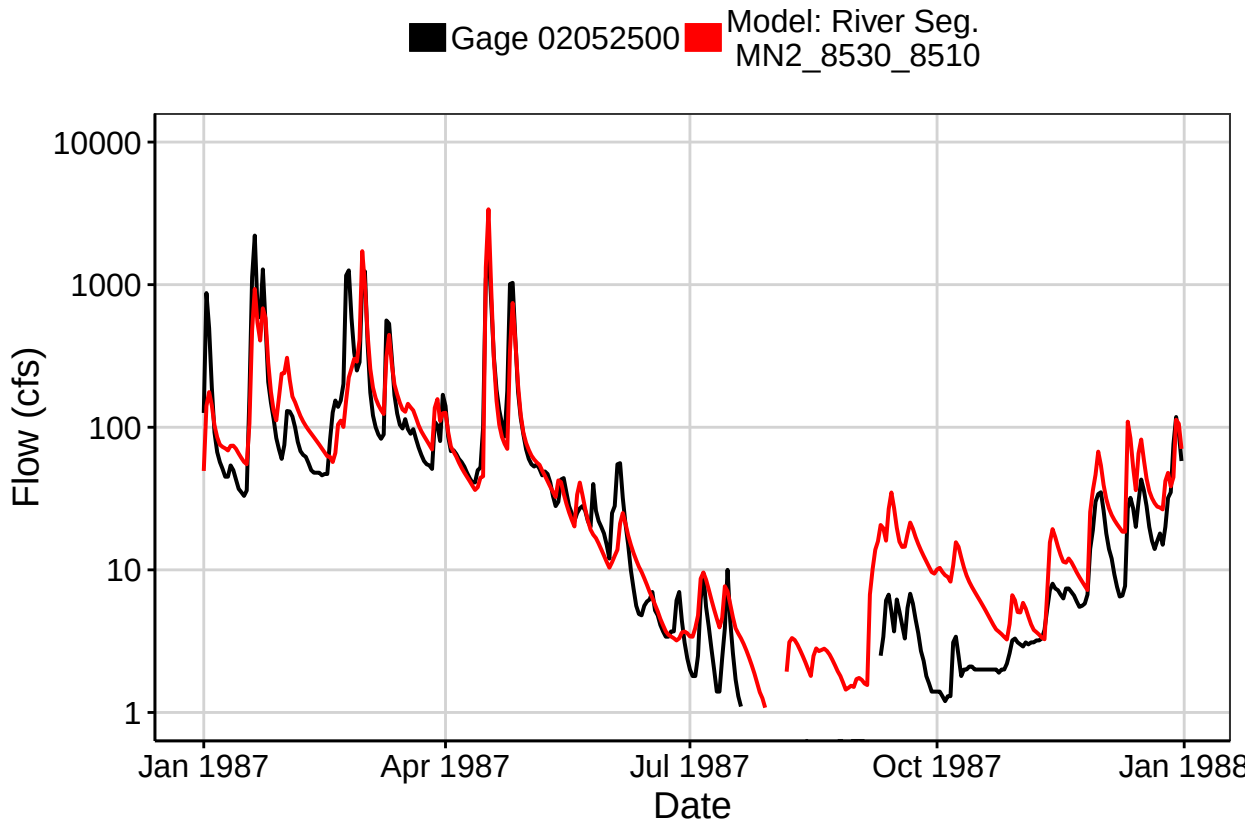


Fig. 3: Flow Exceedance

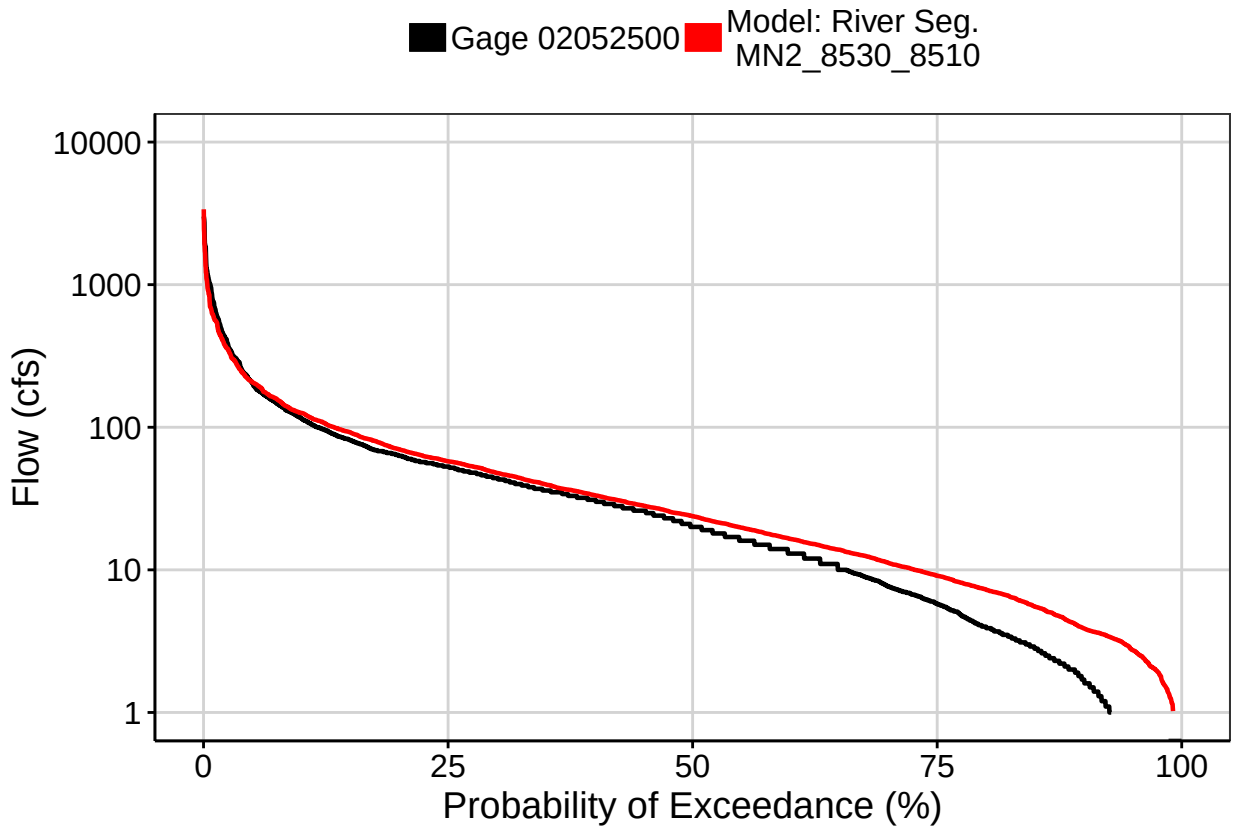


Fig. 4: Baseflow

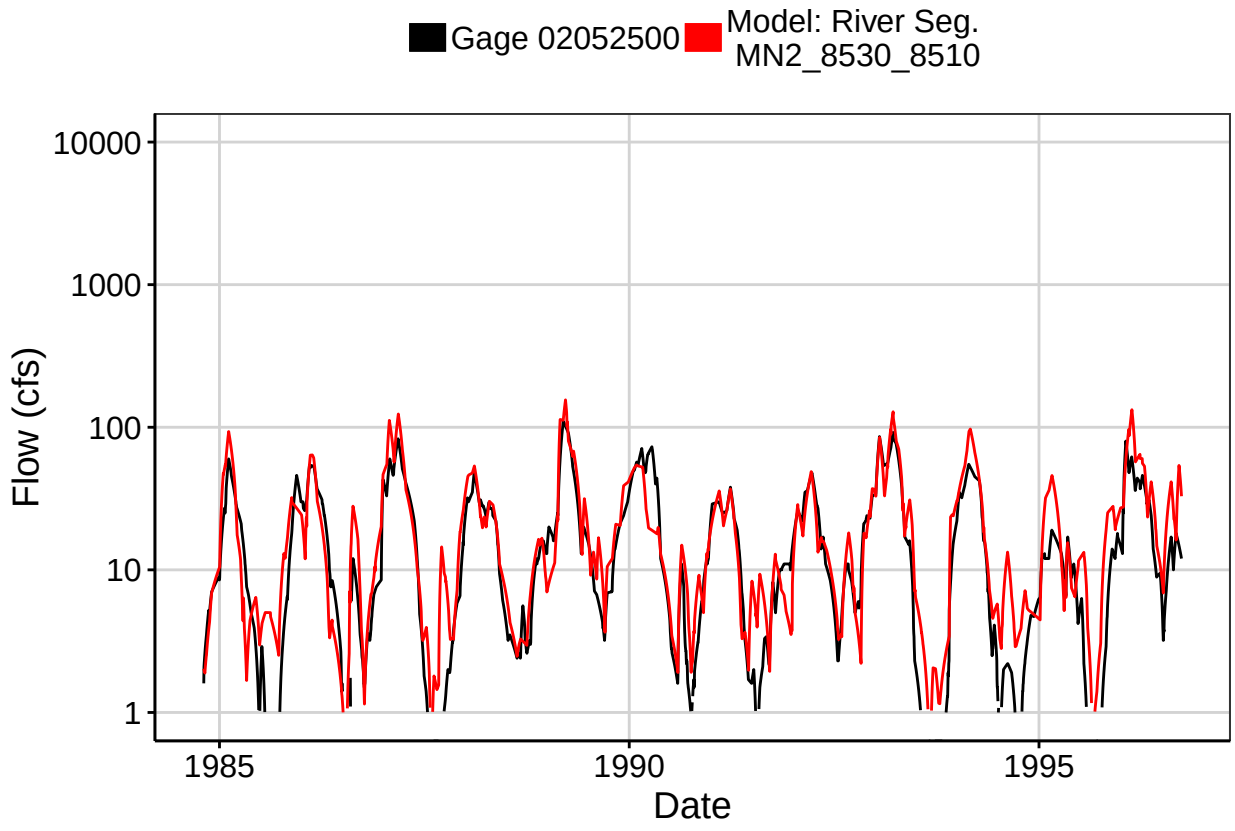


Fig. 5: Combined Baseflow

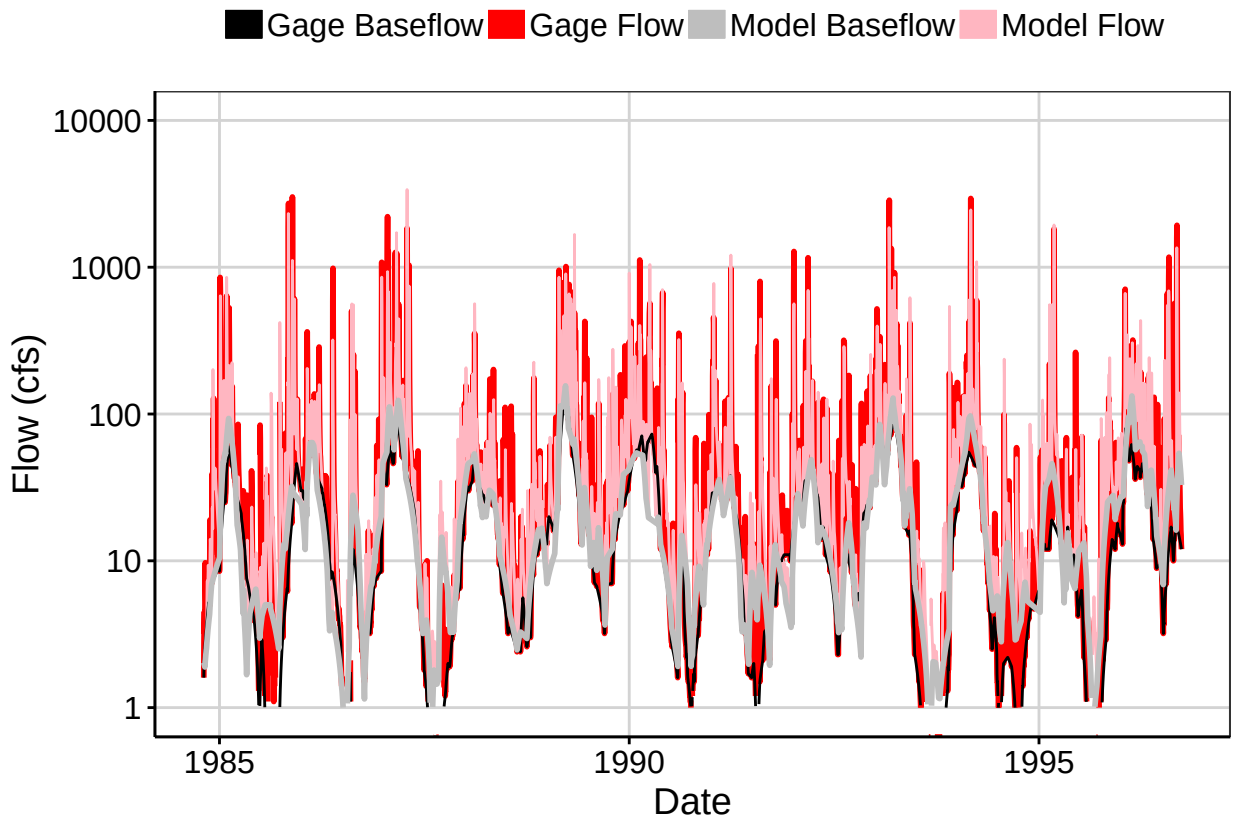


Fig. 6: Largest Error Segment

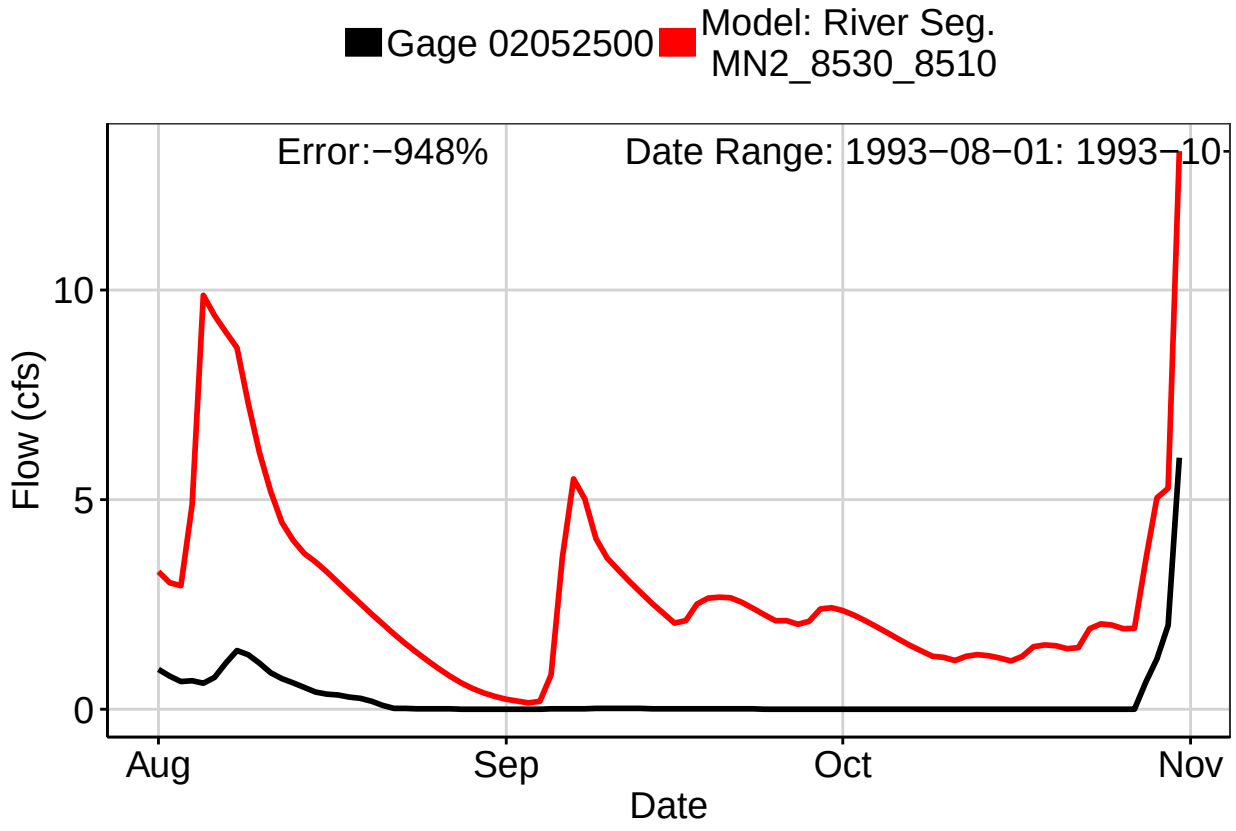


Fig. 7: Second Largest Error Segment

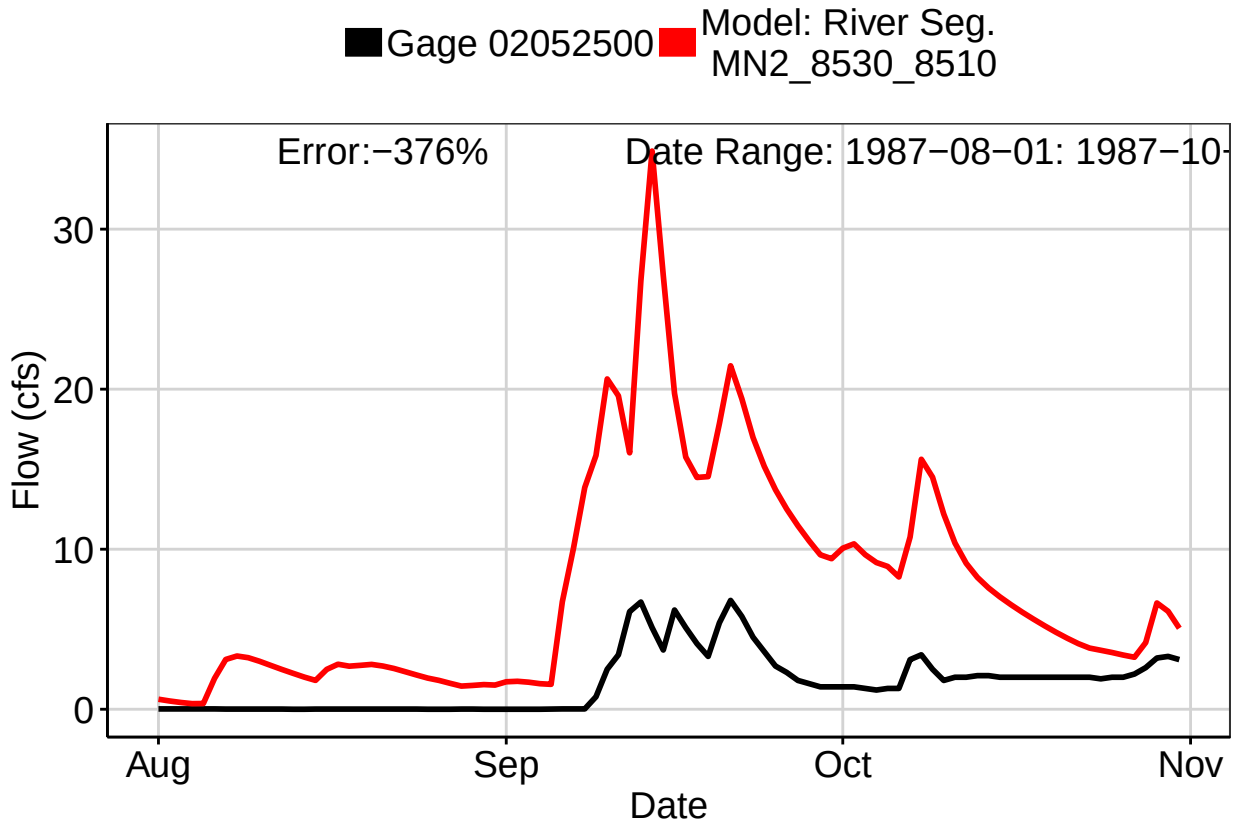


Fig. 8: Third Largest Error Segment

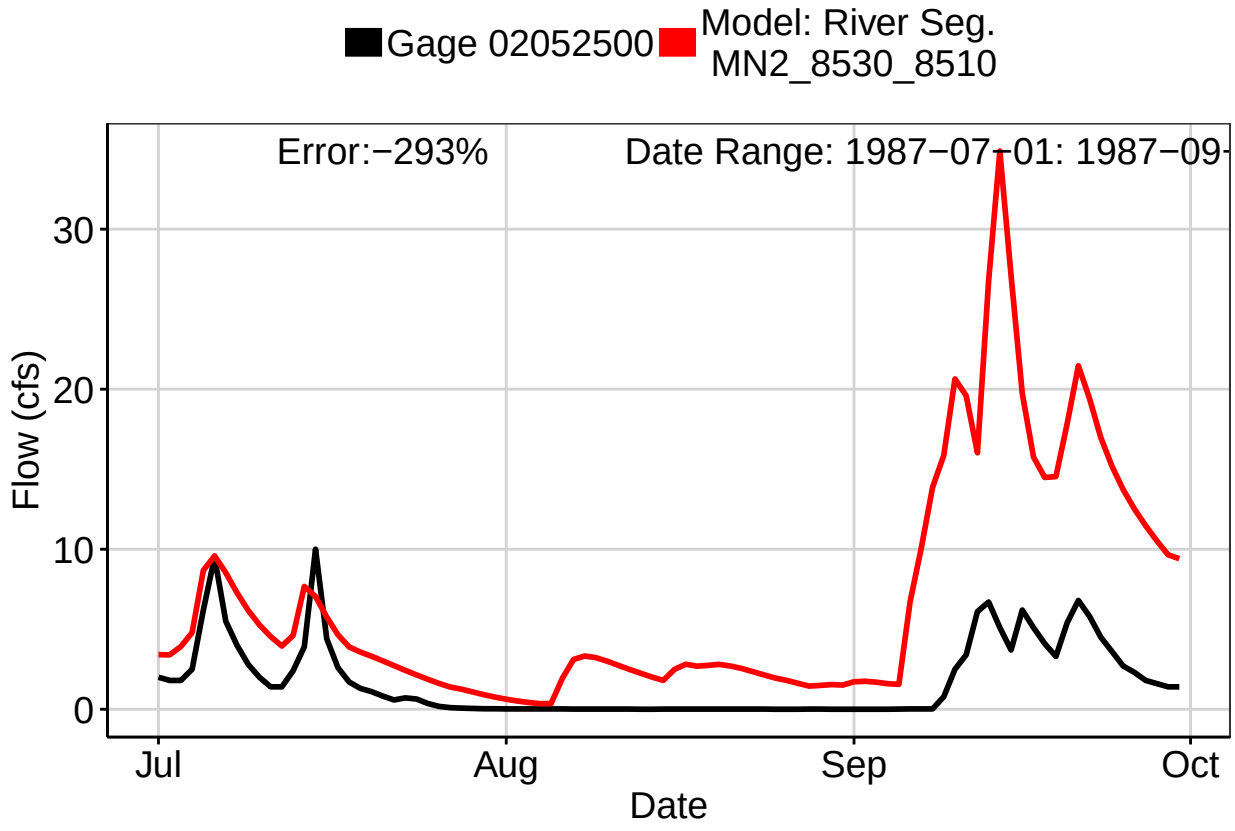


Fig. 9: Residuals Plot