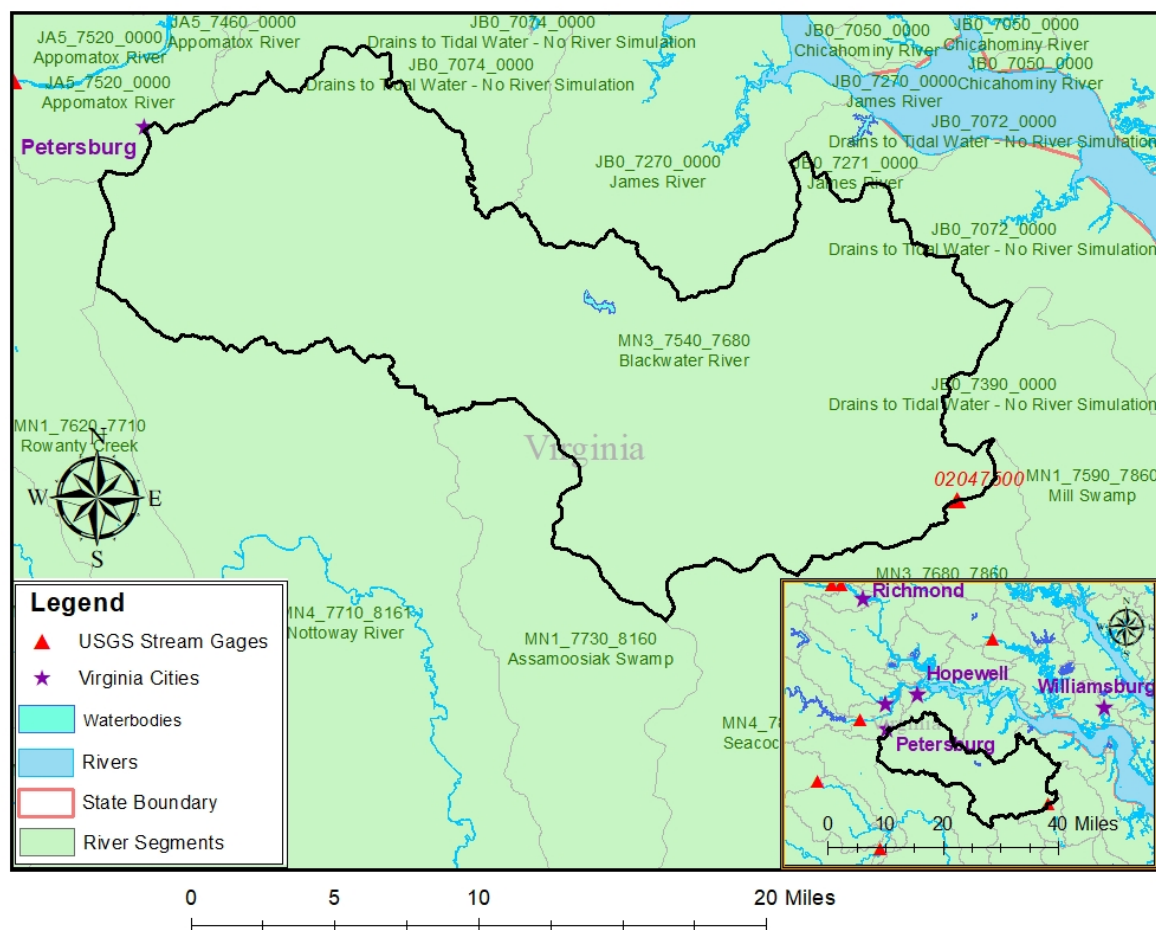


# 02047500 vs. MN3\_7540\_7680

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This river segment follows part of the flow of the Blackwater River, a tributary of the Meherrin River. The gage is located in Surry County, VA (Lat 37°01'30", Long 76°52'30") approximately 32 miles southeast of Petersburg, VA. Drainage area is 290 sq. miles. This gage started taking data in 1941 and is still taking data but there is a gap from 1987-01-09 to 1988-07-27. The average daily discharge error between the model and gage data for the 20 year timespan was 0.64%, with 57.5% of its rolling three month time spans above 20% error.

**Table 1: Monthly Low Flows**

	USGS Gage	Model	Pct. Error
Jan. Low Flow	8.98	13.2	-47
Feb. Low Flow	44	75.4	-71.4
Mar. Low Flow	90.5	90.4	0.11
Apr. Low Flow	150	166	-10.7
May Low Flow	191	217	-13.6
Jun. Low Flow	202	201	0.5
Jul. Low Flow	150	103	31.3
Aug. Low Flow	49	48.2	1.63
Sep. Low Flow	8.43	14.5	-72
Oct. Low Flow	0.66	14.7	-2110
Nov. Low Flow	2.33	17	-630
Dec. Low Flow	0.02	13.4	-66900

**Table 2: Monthly Average Flows**

	USGS Gage	Model	Pct. Error
Overall Mean Flow	314	312	0.64
Jan. Mean Flow	421	419	0.48
Feb. Mean Flow	523	511	2.29
Mar. Mean Flow	630	591	6.19
Apr. Mean Flow	498	420	15.7
May Mean Flow	242	239	1.24
Jun. Mean Flow	122	143	-17.2
Jul. Mean Flow	114	117	-2.63
Aug. Mean Flow	207	238	-15
Sep. Mean Flow	391	390	0.26
Oct. Mean Flow	162	186	-14.8
Nov. Mean Flow	198	210	-6.06
Dec. Mean Flow	301	303	-0.66

**Table 3: Monthly High Flows**

	USGS Gage	Model	Pct. Error
Jan. High Flow	110	201	-82.7
Feb. High Flow	266	425	-59.8
Mar. High Flow	546	469	14.1
Apr. High Flow	672	892	-32.7
May High Flow	899	890	1
Jun. High Flow	960	980	-2.08
Jul. High Flow	1040	986	5.19
Aug. High Flow	549	489	10.9
Sep. High Flow	344	222	35.5
Oct. High Flow	337	149	55.8
Nov. High Flow	331	300	9.37
Dec. High Flow	110	243	-121

**Table 4: Period Low Flows**

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	0.00	2.70e-01	-Inf
Med. 1 Day Min	0.00	3.41	-Inf
Min. 3 Day Min	0.00	3.10e-01	1.73e+16
Med. 3 Day Min	0.00	3.75	-8.10e+18
Min. 7 Day Min	0.00	4.30e-01	2.85e+15
Med. 7 Day Min	0.00	4.02	-1.86e+17
Min. 30 Day Min	0.00	2.83	8.87e+15
Med. 30 Day Min	1.74	1.04e+01	-4.98e+02
Min. 90 Day Min	1.07	1.40e+01	-1.21e+03
Med. 90 Day Min	4.02e+01	5.58e+01	-3.88e+01
7Q10	0.00	1.35	-2.80e+16
Year of 90-Day Min. Flow	2.00e+03	1.99e+03	1.00e+02
Drought Year Mean	5.51e+01	1.02e+02	-8.51e+01
Mean Baseflow	1.42e+02	1.44e+02	-1.41

**Table 5: Period High Flows**

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	11400	13900	-21.9
Med. 1 Day Max	2350	2450	-4.26
Max. 3 Day Max	10700	12500	-16.8
Med. 3 Day Max	2210	2080	5.88
Max. 7 Day Max	7710	9130	-18.4
Med. 7 Day Max	1930	1640	15
Max. 30 Day Max	2350	2740	-16.6
Med. 30 Day Max	823	724	12
Max. 90 Day Max	1410	1230	12.8
Med. 90 Day Max	582	507	12.9

**Table 6: Non-Exceedance Flows**

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	0	3.03	-Inf
5% Non-Exceedance	0	6.85	-Inf
50% Non-Exceedance	154	180	-16.9
95% Non-Exceedance	1150	1030	10.4
99% Non-Exceedance	2150	2020	6.05
Sept. 10% Non-Exceedance	6.88	0	100

**Fig. 1: Hydrograph**

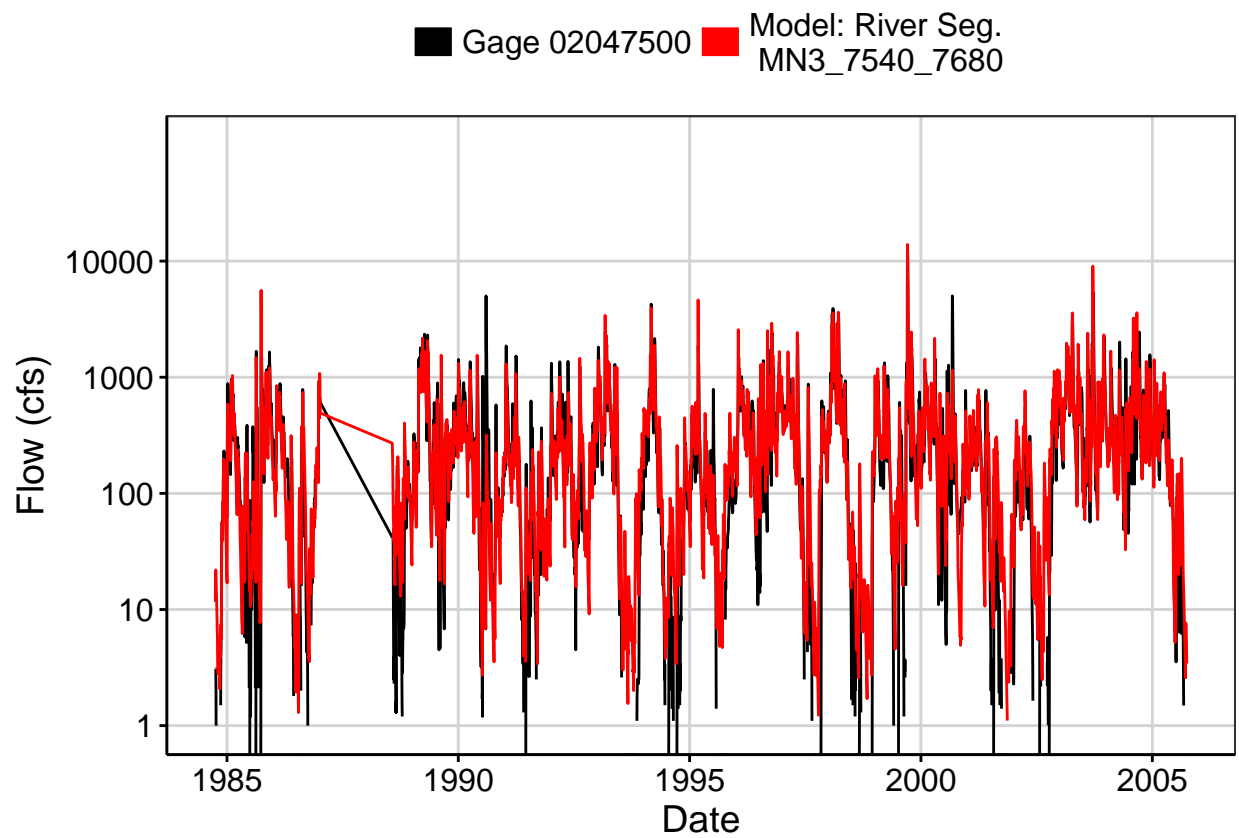


Fig. 2: Zoomed Hydrograph

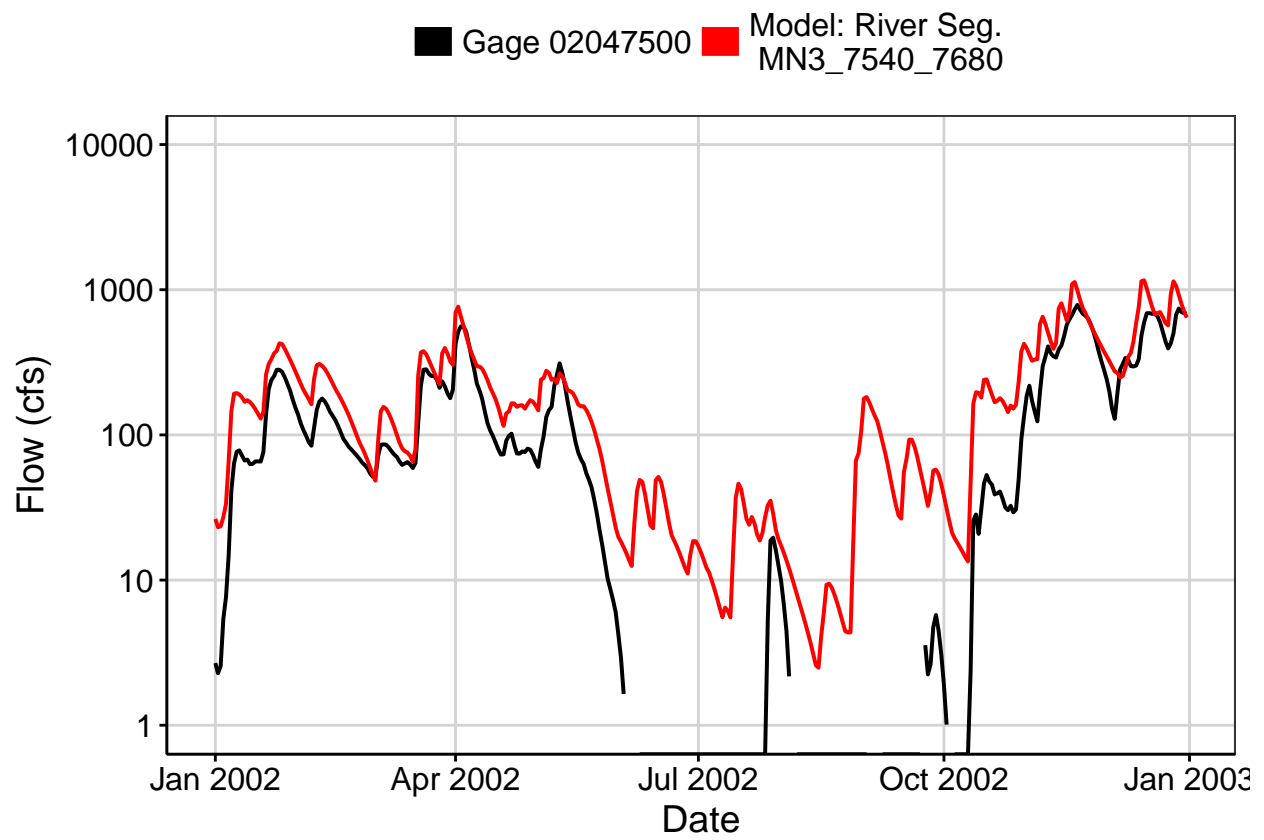


Fig. 3: Flow Exceedance

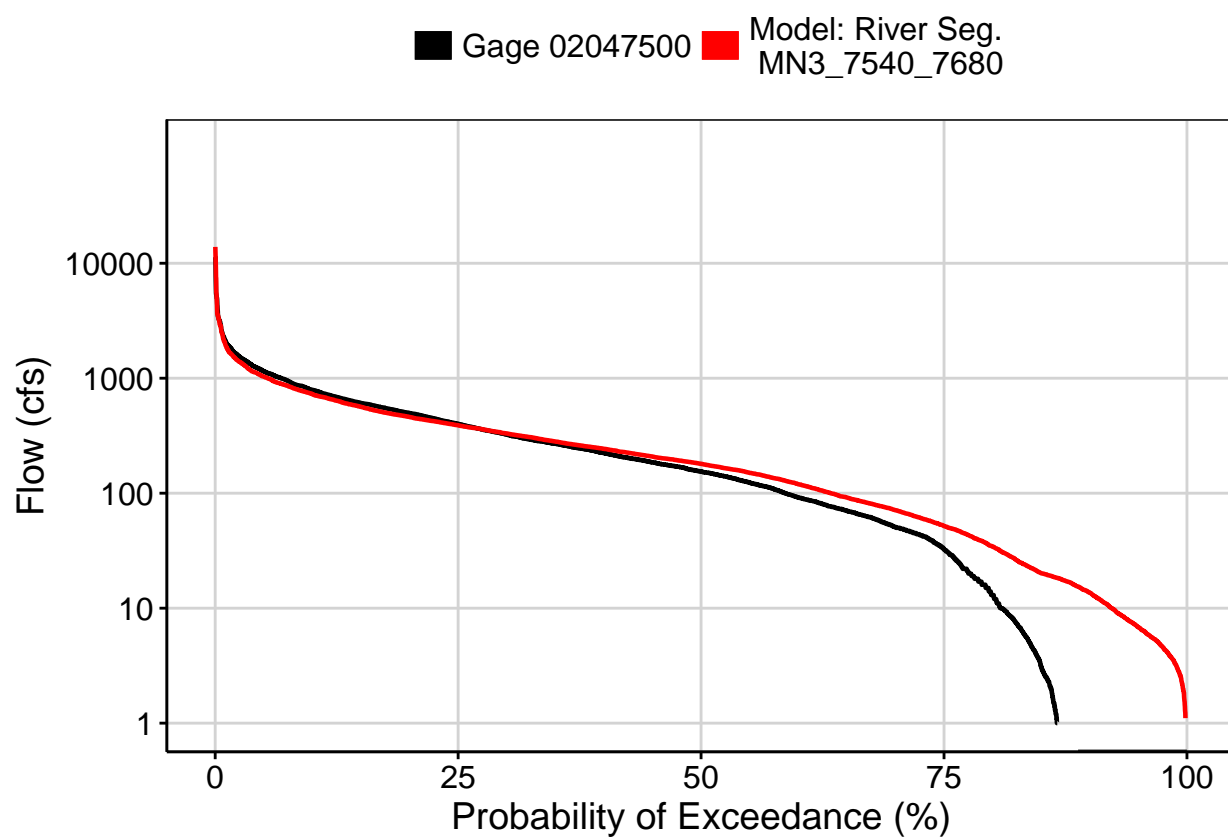


Fig. 4: Baseflow

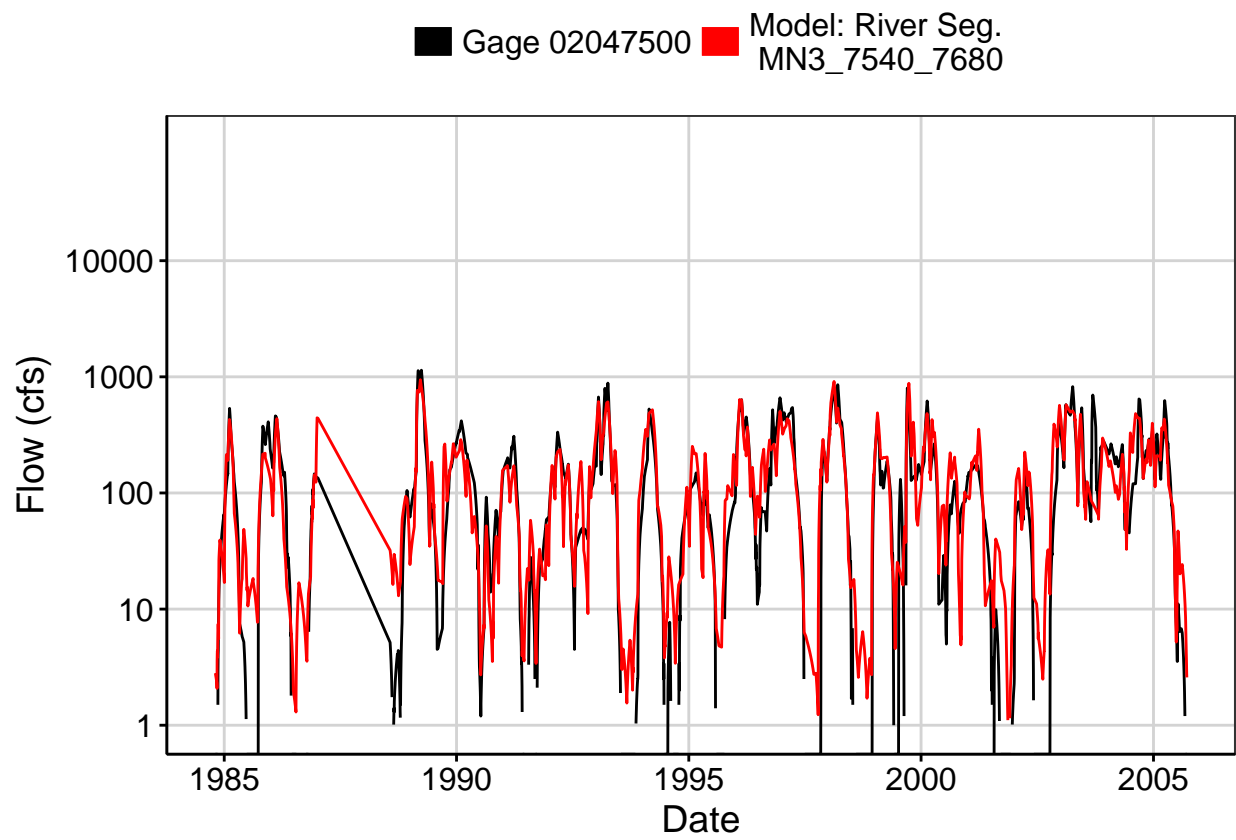


Fig. 5: Combined Baseflow

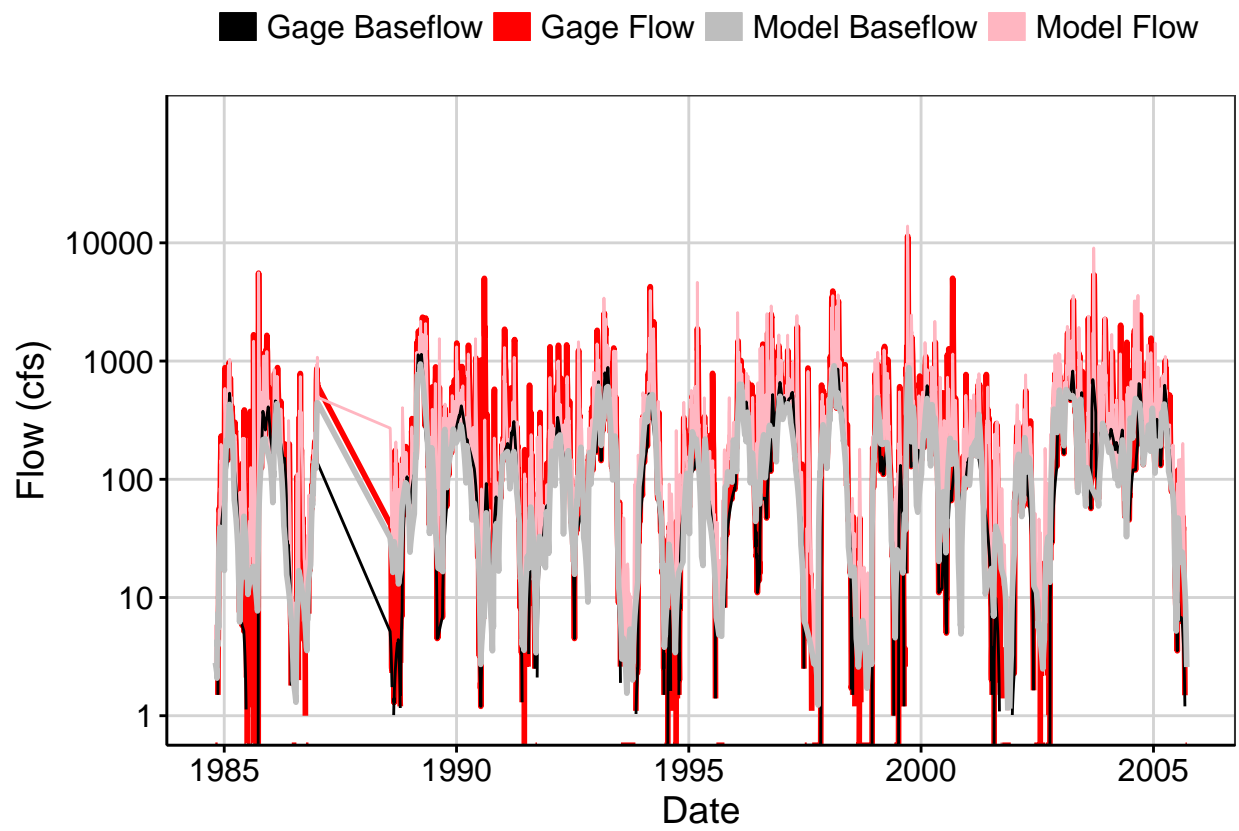




Fig. 6: Largest Error Segment

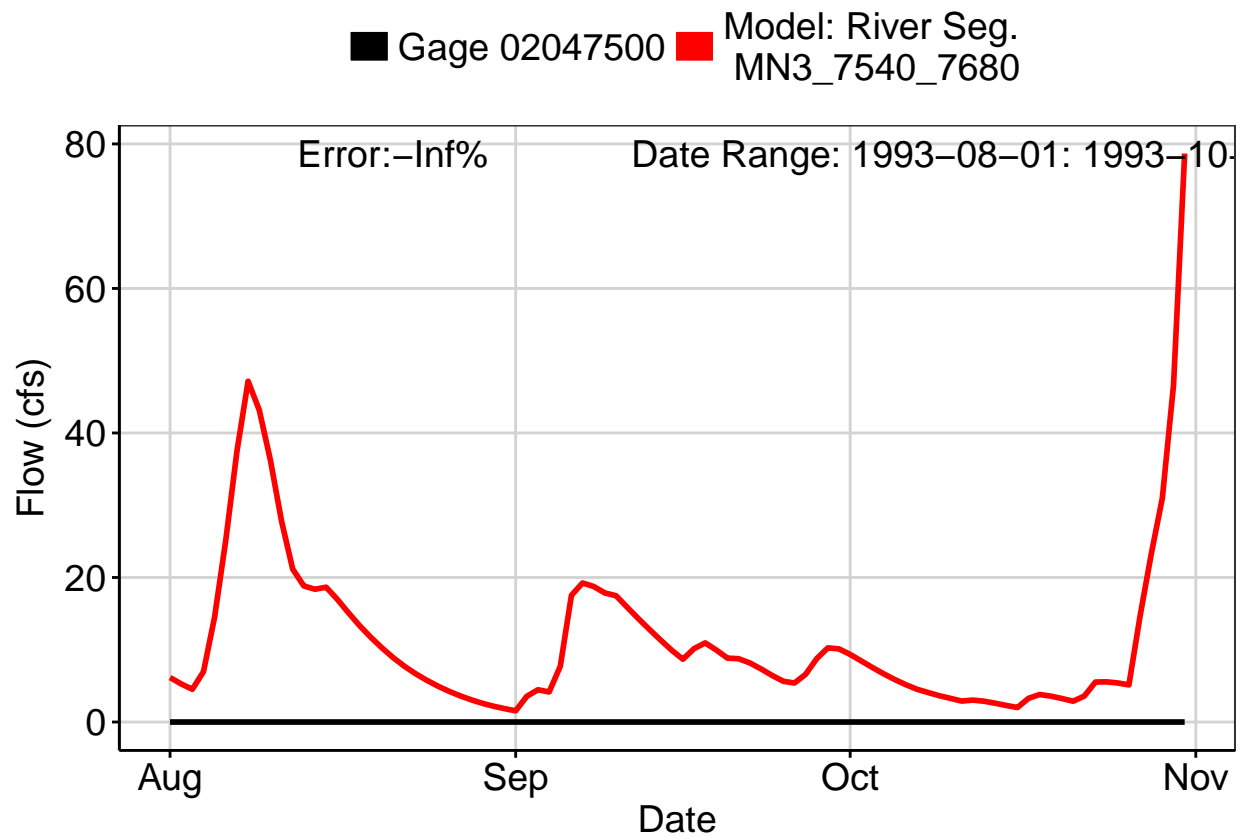


Fig. 7: Second Largest Error Segment

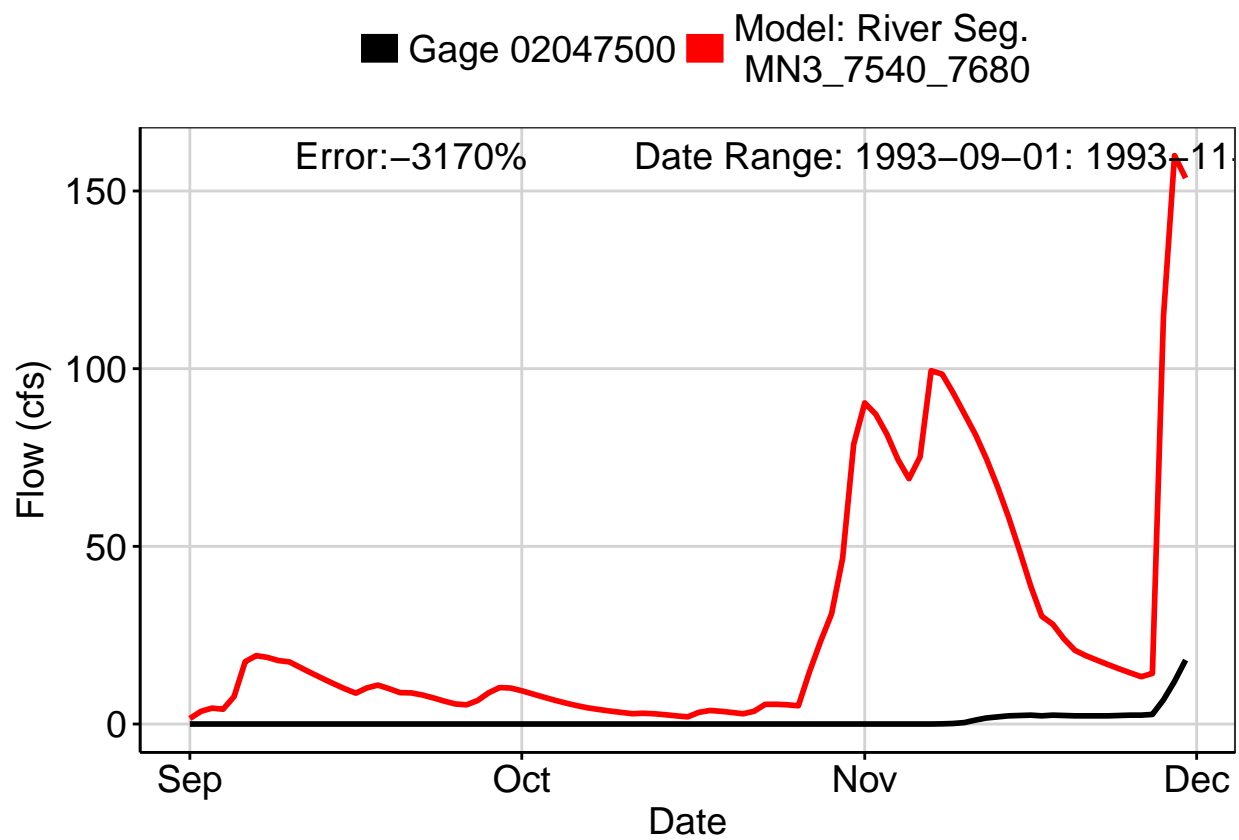


Fig. 8: Third Largest Error Segment

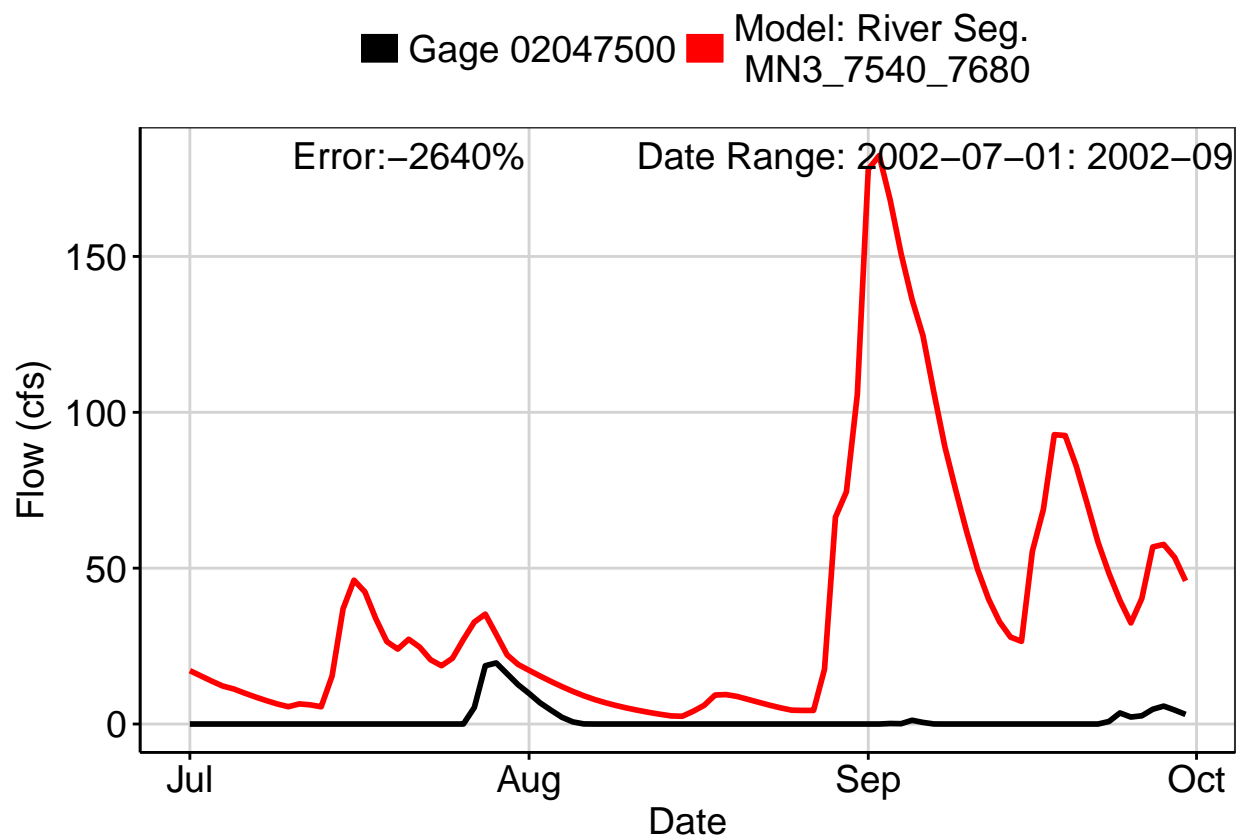


Fig. 9: Residuals Plot

