02068500 vs. OD2_8840_9020

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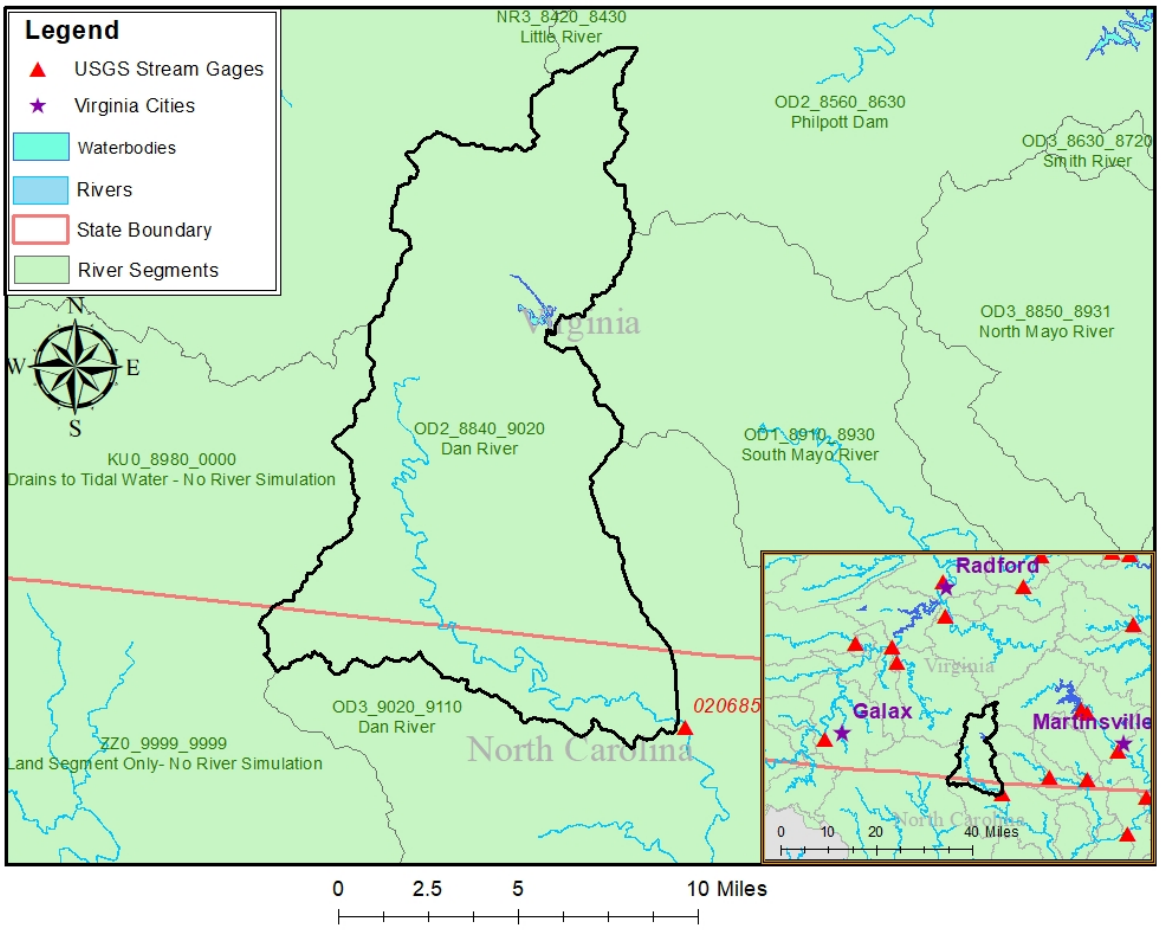

This river segment follows part of the flow of the Dan River. The gage is located in Stokes County, NC (Lat 3630'54", Long 8018'11") approximately 26 miles southwest of Martinsville, VA. Drainage area is 129 sq. miles. This gage started taking data in 1924 and is still taking data but there is a gap from 1987-10-13 to 1991-11-30. The Talbot and Townes reservoirs are located above the Pinnacles Hydroelectric Plant in Virginia 28 miles above the station. There are also several gristmills but they are not expected to affect the flow. The average daily discharge error between the model and gage data for the 20 year timespan was -6.74%, with 55.8% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	75	68.1	9.2
Feb. Low Flow	88.1	76.5	13.2
Mar. Low Flow	90.9	94.7	-4.18
Apr. Low Flow	106	117	-10.4
May Low Flow	133	162	-21.8
Jun. Low Flow	131	163	-24.4
Jul. Low Flow	134	129	3.73
Aug. Low Flow	120	98.8	17.7
Sep. Low Flow	108	79	26.9
Oct. Low Flow	97.1	65.7	32.3
Nov. Low Flow	84	56.4	32.9
Dec. Low Flow	76	63	17.1

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	193	206	-6.74
Jan. Mean Flow	208	241	-15.9
Feb. Mean Flow	212	275	-29.7
Mar. Mean Flow	268	340	-26.9
Apr. Mean Flow	267	286	-7.12
May Mean Flow	197	194	1.52
Jun. Mean Flow	197	190	3.55
Jul. Mean Flow	161	119	26.1
Aug. Mean Flow	181	162	10.5
Sep. Mean Flow	160	171	-6.88
Oct. Mean Flow	123	121	1.63
Nov. Mean Flow	158	179	-13.3
Dec. Mean Flow	185	195	-5.41

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	174	163	6.32
Feb. High Flow	286	352	-23.1
Mar. High Flow	441	333	24.5
Apr. High Flow	420	454	-8.1
May High Flow	413	490	-18.6
Jun. High Flow	497	1010	-103
Jul. High Flow	465	751	-61.5
Aug. High Flow	371	478	-28.8
Sep. High Flow	311	230	26
Oct. High Flow	233	161	30.9
Nov. High Flow	261	252	3.45
Dec. High Flow	274	233	15

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	21	18.8	10.5
Med. 1 Day Min	60.5	38.8	35.9
Min. 3 Day Min	25.7	19.1	25.7
Med. 3 Day Min	63.7	39.5	38
Min. 7 Day Min	41	20.1	51
Med. 7 Day Min	71.1	41.3	41.9
Min. 30 Day Min	52.7	24.6	53.3
Med. 30 Day Min	87.2	54.3	37.7
Min. 90 Day Min	66.3	44.5	32.9
Med. 90 Day Min	117	75.4	35.6
7Q10	46.4	25.5	45
Year of 90-Day Min. Flow	2002	1986	100
Drought Year Mean	93.6	91.6	2.14
Mean Baseflow	130	128	1.54

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	6430	5820	9.49
Med. 1 Day Max	1820	2380	-30.8
Max. 3 Day Max	3010	3180	-5.65
Med. 3 Day Max	1000	1550	-55
Max. 7 Day Max	1540	1640	-6.49
Med. 7 Day Max	675	1020	-51.1
Max. 30 Day Max	768	787	-2.47
Med. 30 Day Max	403	533	-32.3
Max. 90 Day Max	551	597	-8.35
Med. 90 Day Max	276	309	-12

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	51	29.5	42.2
5% Non-Exceedance	65	44.6	31.4
50% Non-Exceedance	143	141	1.4
95% Non-Exceedance	446	557	-24.9
99% Non-Exceedance	929	1170	-25.9
Sept. 10% Non-Exceedance	45.8	62.9	-37.3

Fig. 1: Hydrograph

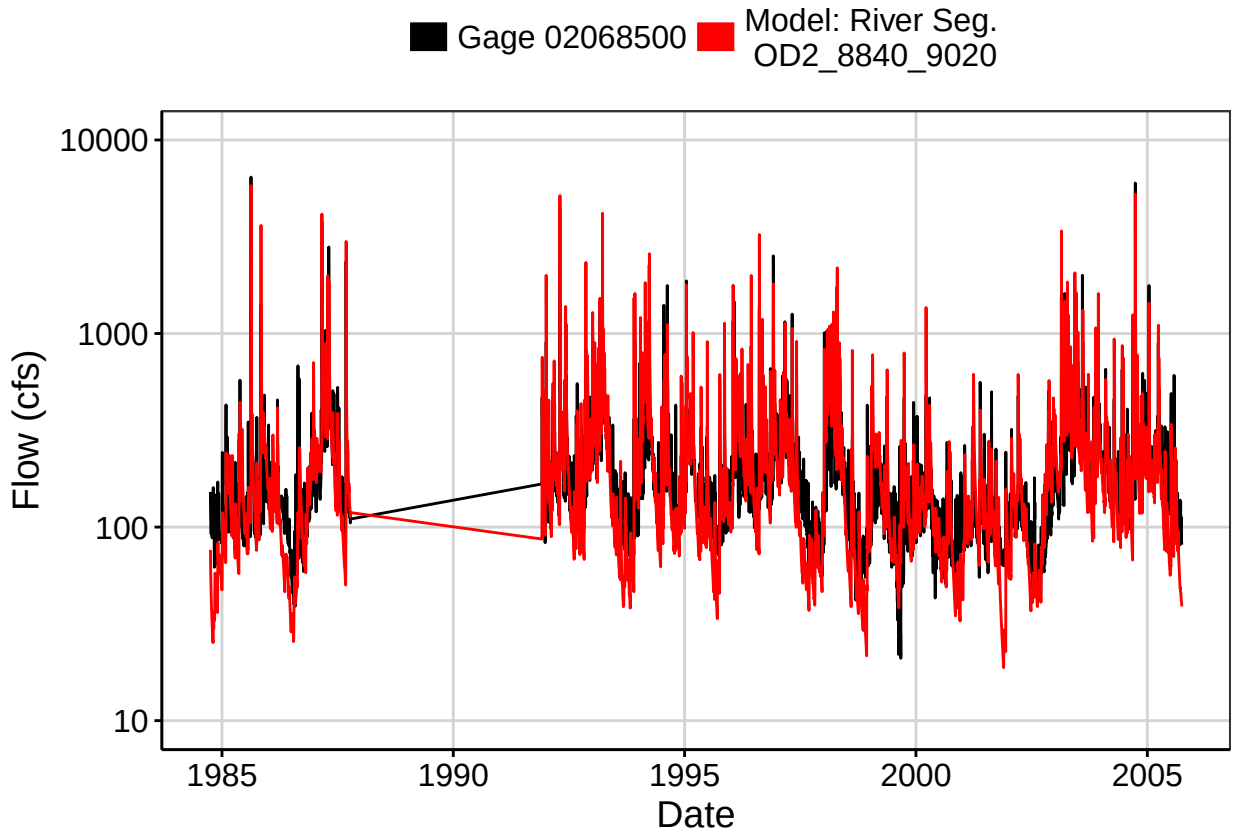

Fig. 2: Zoomed Hydrograph

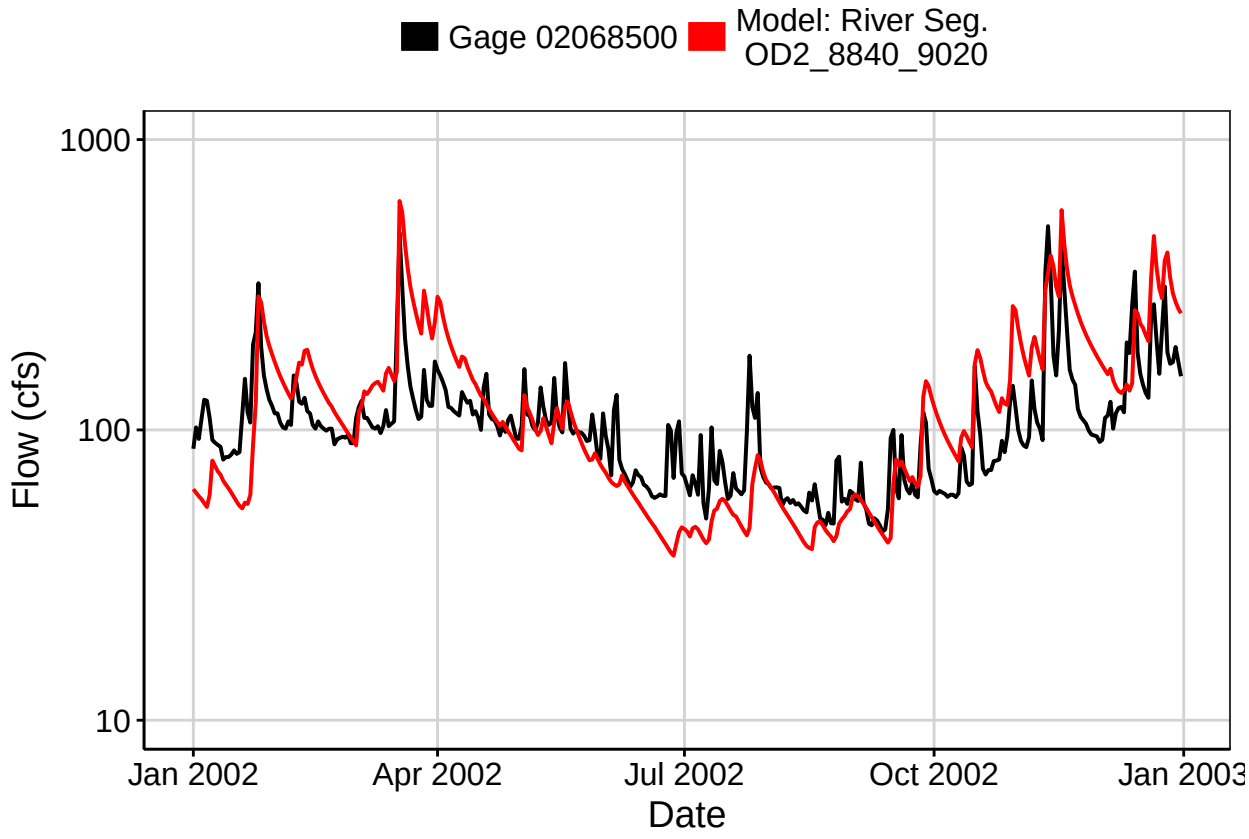

Fig. 3: Flow Exceedance

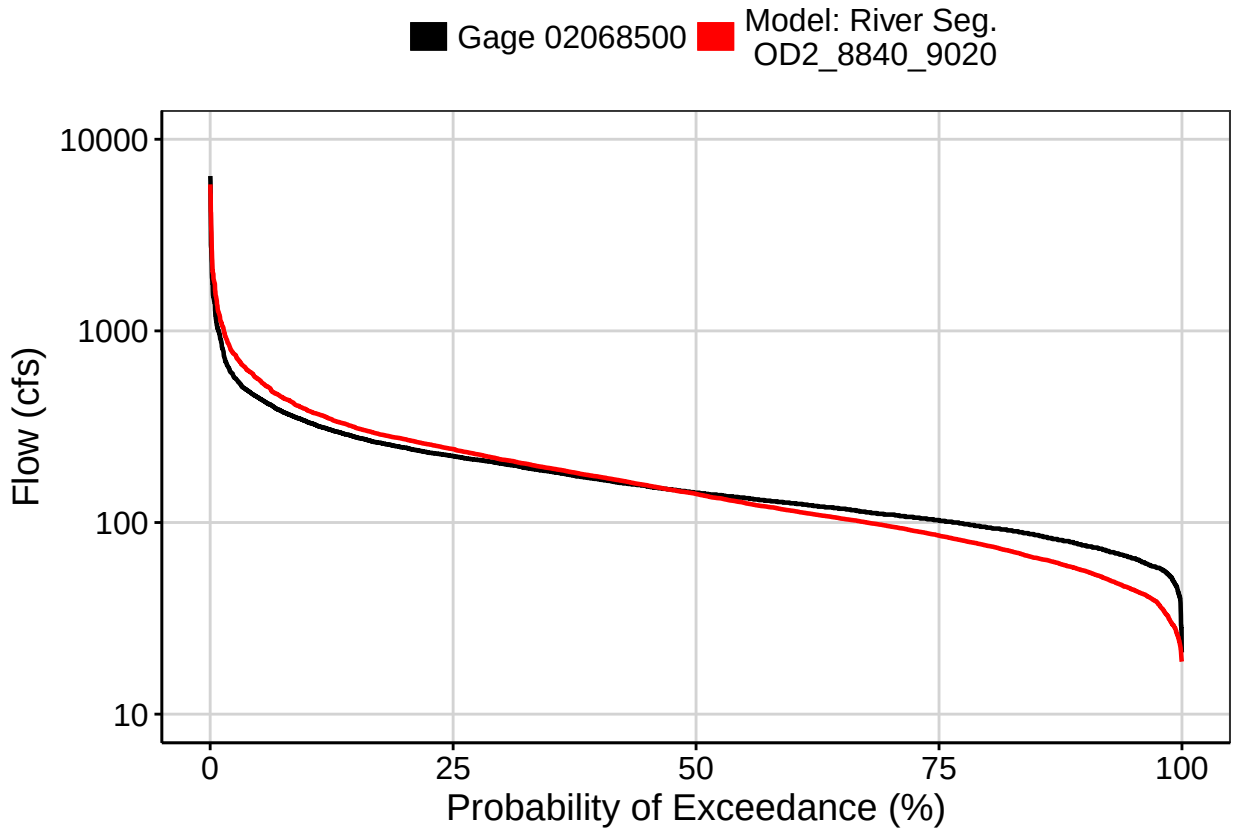

Fig. 4: Baseflow

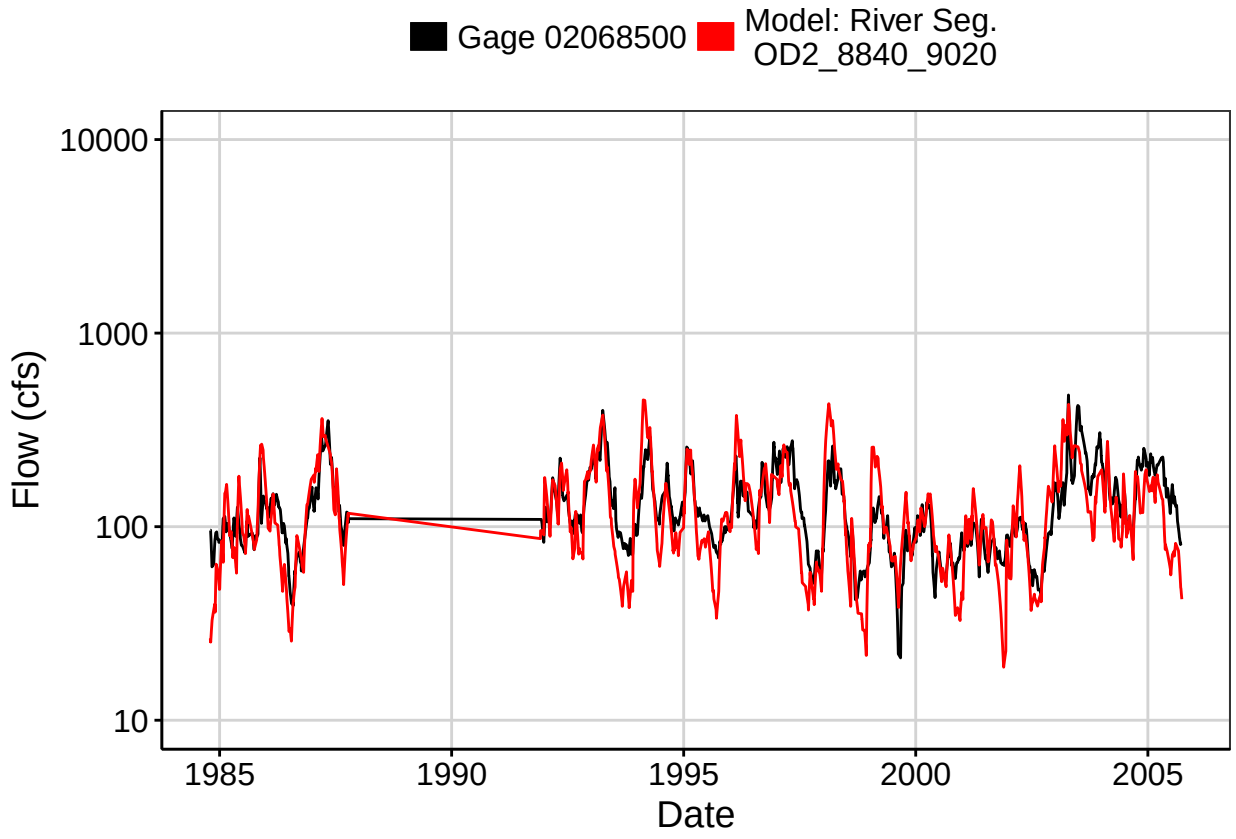

Fig. 5: Combined Baseflow

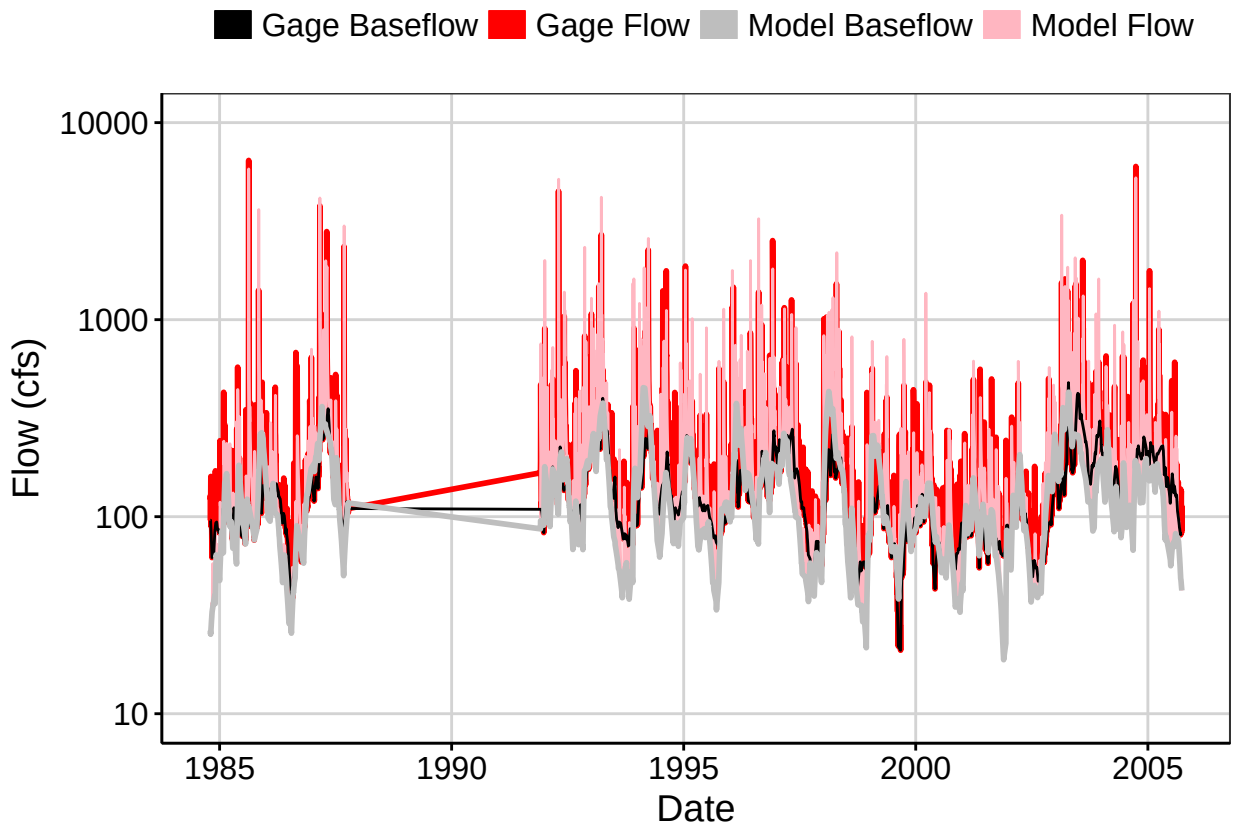

Fig. 6: Largest Error Segment

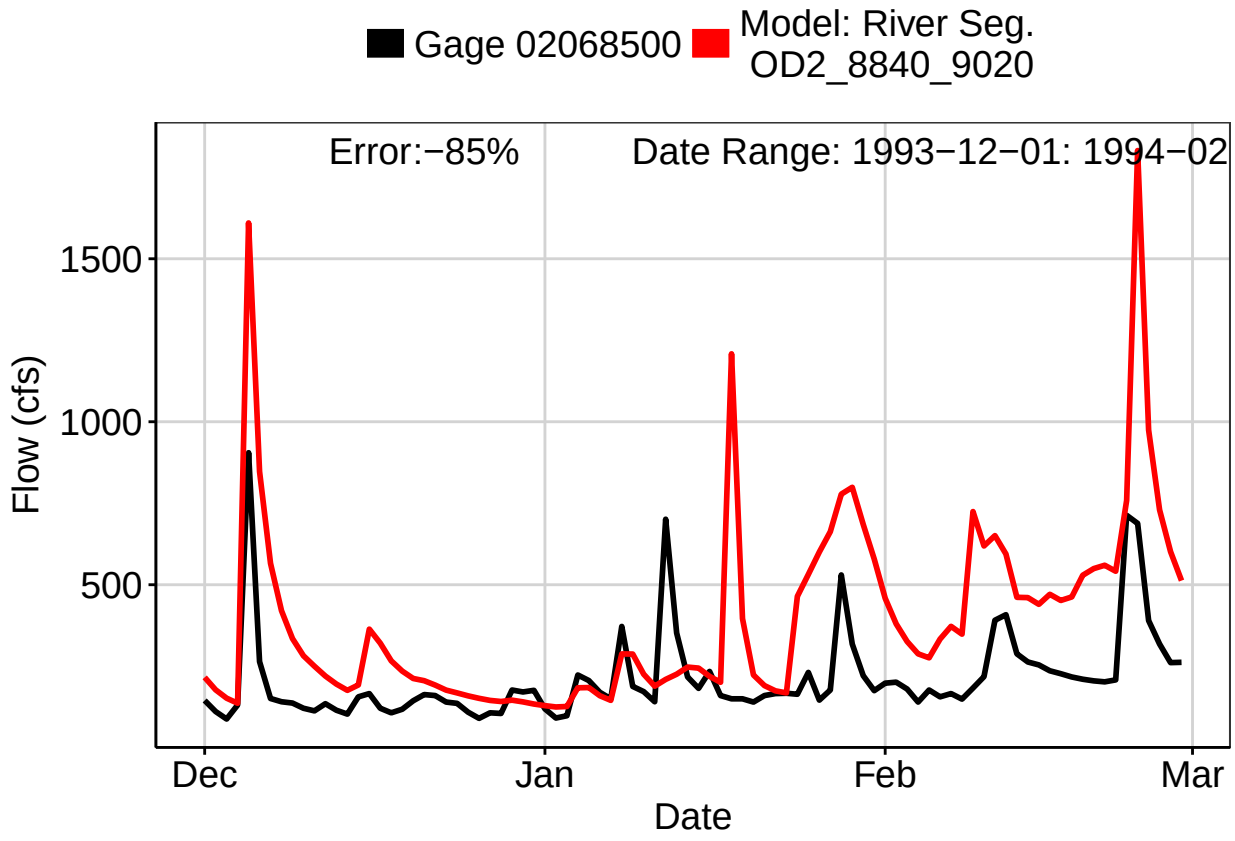

Fig. 7: Second Largest Error Segment

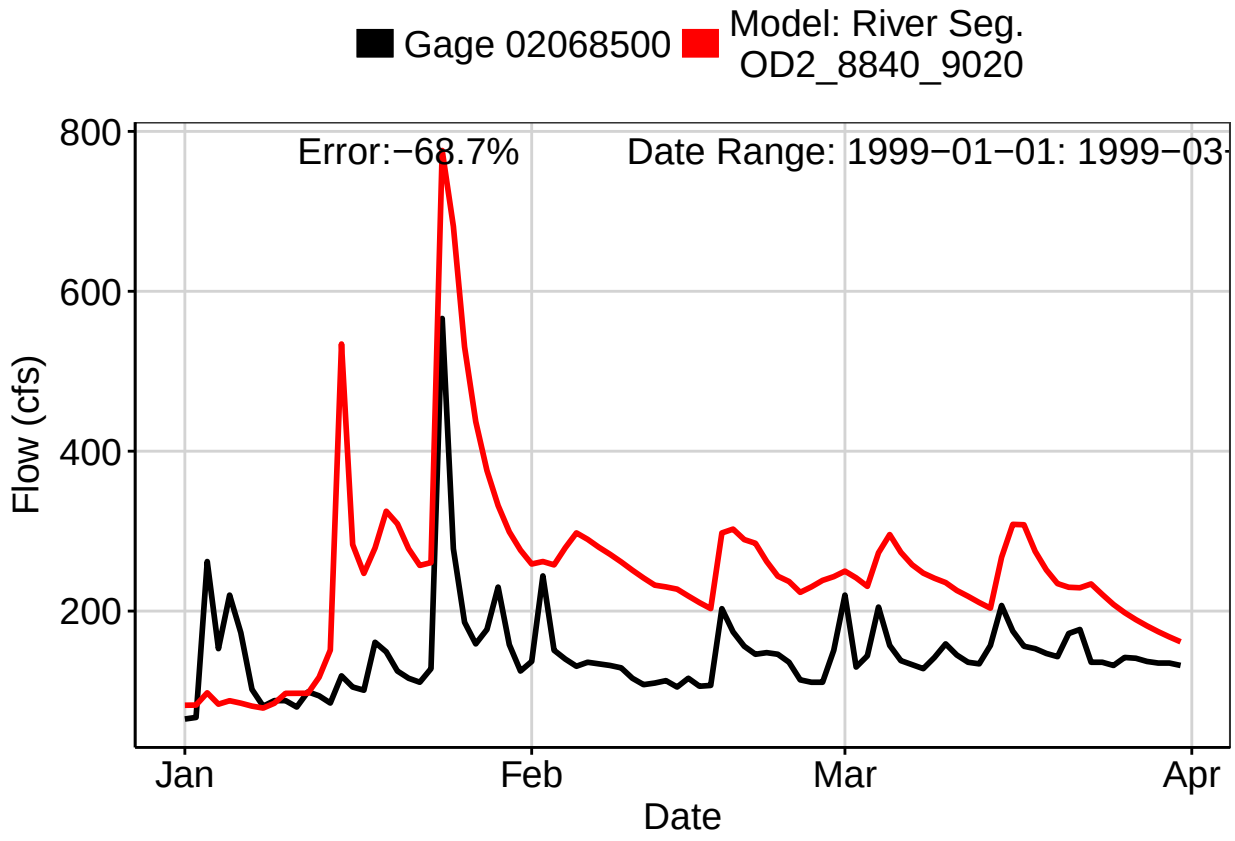

Fig. 8: Third Largest Error Segment

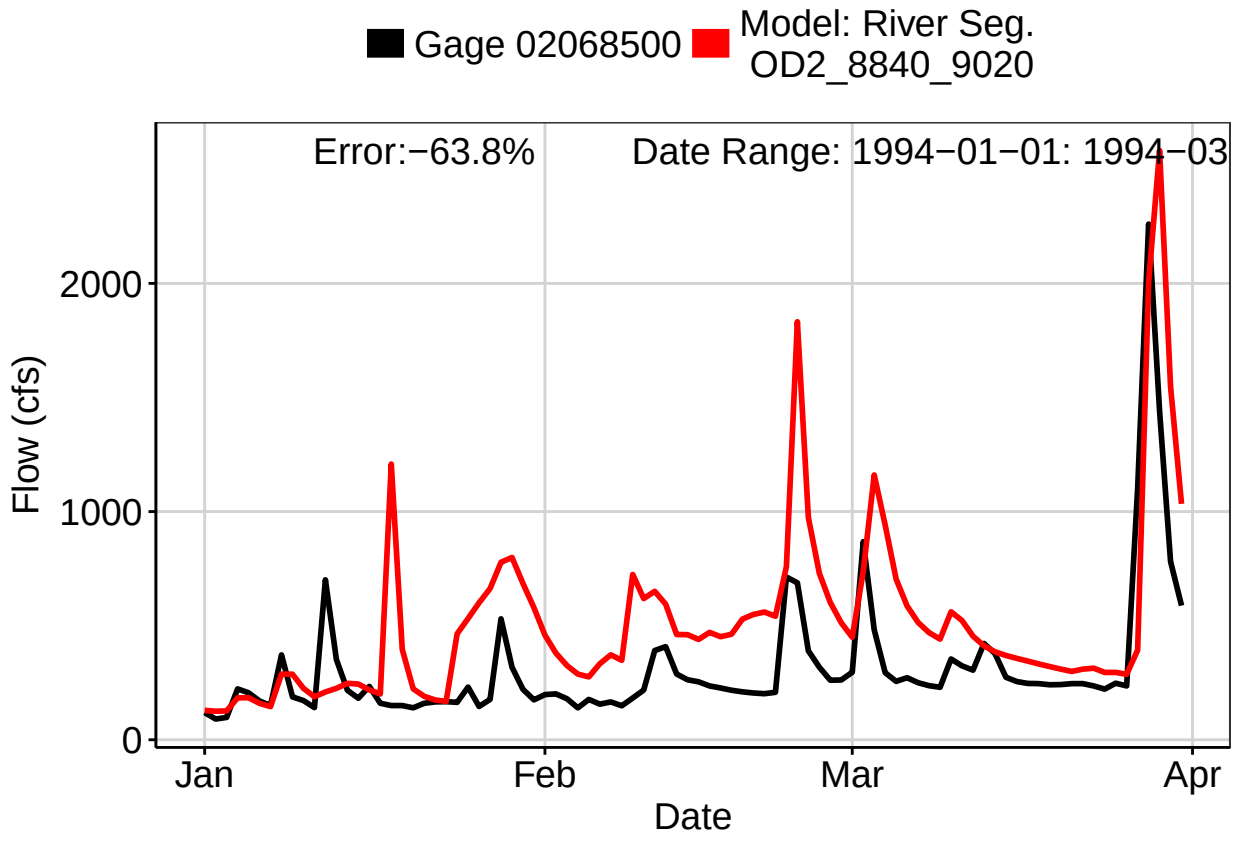

Fig. 9: Residuals Plot