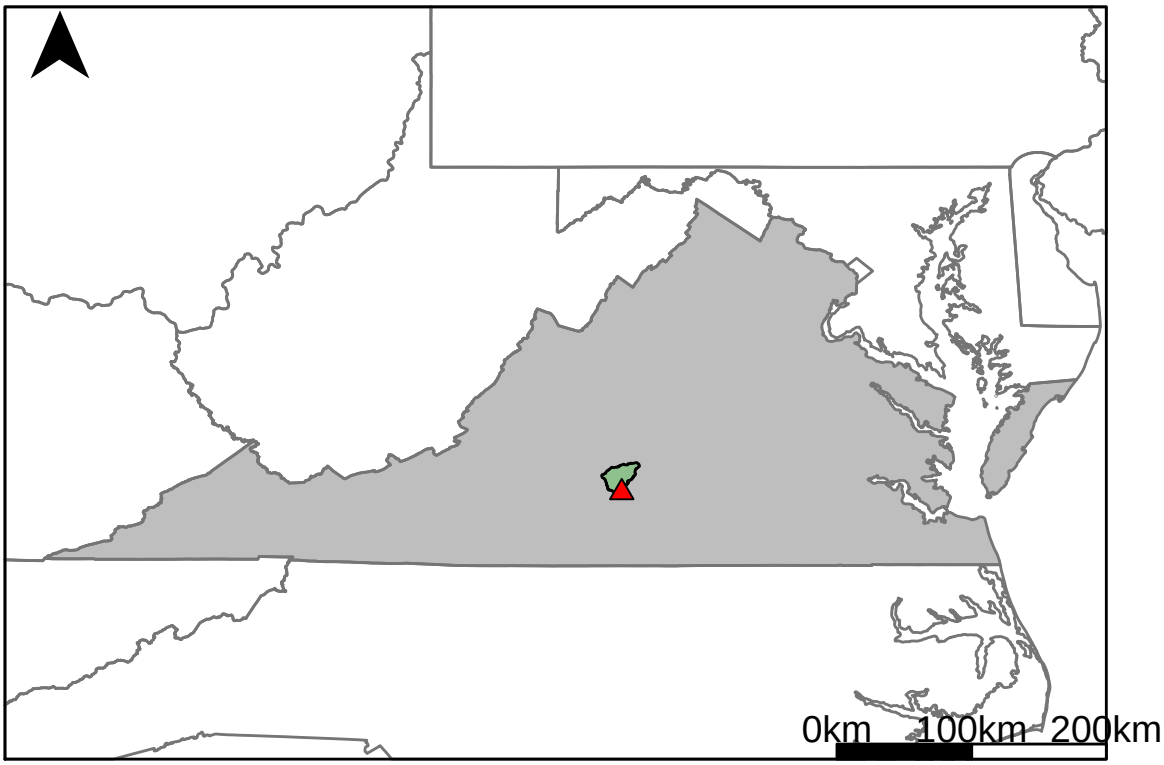
02064000 vs. OR2_7670_7840



This river segment follows part of the flow of the Falling River, a tributary of the Roanoke River. The gage is located in Campbell County, VA (Lat 3707'36", Long 7857'36") approximately 22 miles southeast of Lynchburg, VA. Drainage area is 165 sq. miles. This gage started taking data in 1929 and is still taking data. Prior to 1958 there was diurnal fluctuation caused by gristmill upstream at Spring Mills, but there should not be any recent alterations or problems with flow. The average daily discharge error between the model and gage data for the 20 year timespan was 0.59%, with 50.8% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	46	19.4	57.8
Feb. Low Flow	57	38.6	32.3
Mar. Low Flow	79	75.1	4.94
Apr. Low Flow	90	92.7	-3
May Low Flow	106	131	-23.6
Jun. Low Flow	101	128	-26.7
Jul. Low Flow	96	86.2	10.2
Aug. Low Flow	78	62.7	19.6
Sep. Low Flow	60.6	39.4	35
Oct. Low Flow	38	23.6	37.9
Nov. Low Flow	37	19.8	46.5
Dec. Low Flow	37	17.5	52.7

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	169	168	0.59
Jan. Mean Flow	211	216	-2.37
Feb. Mean Flow	233	268	-15
Mar. Mean Flow	276	325	-17.8
Apr. Mean Flow	215	223	-3.72
May Mean Flow	169	171	-1.18
Jun. Mean Flow	130	120	7.69
Jul. Mean Flow	95.9	72.3	24.6
Aug. Mean Flow	89.8	61.5	31.5
Sep. Mean Flow	188	159	15.4
Oct. Mean Flow	104	103	0.96
Nov. Mean Flow	157	141	10.2
Dec. Mean Flow	167	160	4.19

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	203	116	42.9
Feb. High Flow	553	417	24.6
Mar. High Flow	584	497	14.9
Apr. High Flow	630	603	4.29
May High Flow	657	620	5.63
Jun. High Flow	906	1330	-46.8
Jul. High Flow	460	580	-26.1
Aug. High Flow	332	201	39.5
Sep. High Flow	271	163	39.9
Oct. High Flow	322	132	59
Nov. High Flow	195	92.8	52.4
Dec. High Flow	133	91.8	31

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	1	1.83	-83
Med. 1 Day Min	31	13	58.1
Min. 3 Day Min	1.12	1.88	-67.9
Med. 3 Day Min	32.7	13.2	59.6
Min. 7 Day Min	1.41	2.03	-44
Med. 7 Day Min	33.4	14.3	57.2
Min. 30 Day Min	5.02	3.77	24.9
Med. 30 Day Min	43.2	19.7	54.4
Min. 90 Day Min	10.7	13.8	-29
Med. 90 Day Min	63.4	34.6	45.4
7Q10	9.41	4.25	54.8
Year of 90-Day Min. Flow	2002	1986	100
Drought Year Mean	42.7	168	-293
Mean Baseflow	87.1	86.5	0.69

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	20000	11000	45
Med. 1 Day Max	3140	3170	-0.96
Max. 3 Day Max	11400	6090	46.6
Med. 3 Day Max	1680	1570	6.55
Max. 7 Day Max	5550	3120	43.8
Med. 7 Day Max	887	904	-1.92
Max. 30 Day Max	1480	979	33.9
Med. 30 Day Max	494	501	-1.42
Max. 90 Day Max	584	705	-20.7
Med. 90 Day Max	292	328	-12.3

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	10.6	5.75	45.8
5% Non-Exceedance	27.3	13.8	49.5
50% Non-Exceedance	97.6	90.9	6.86
95% Non-Exceedance	457	502	-9.85
99% Non-Exceedance	1330	1530	-15
Sept. 10% Non-Exceedance	13.6	13.4	1.47

Fig. 1: Hydrograph

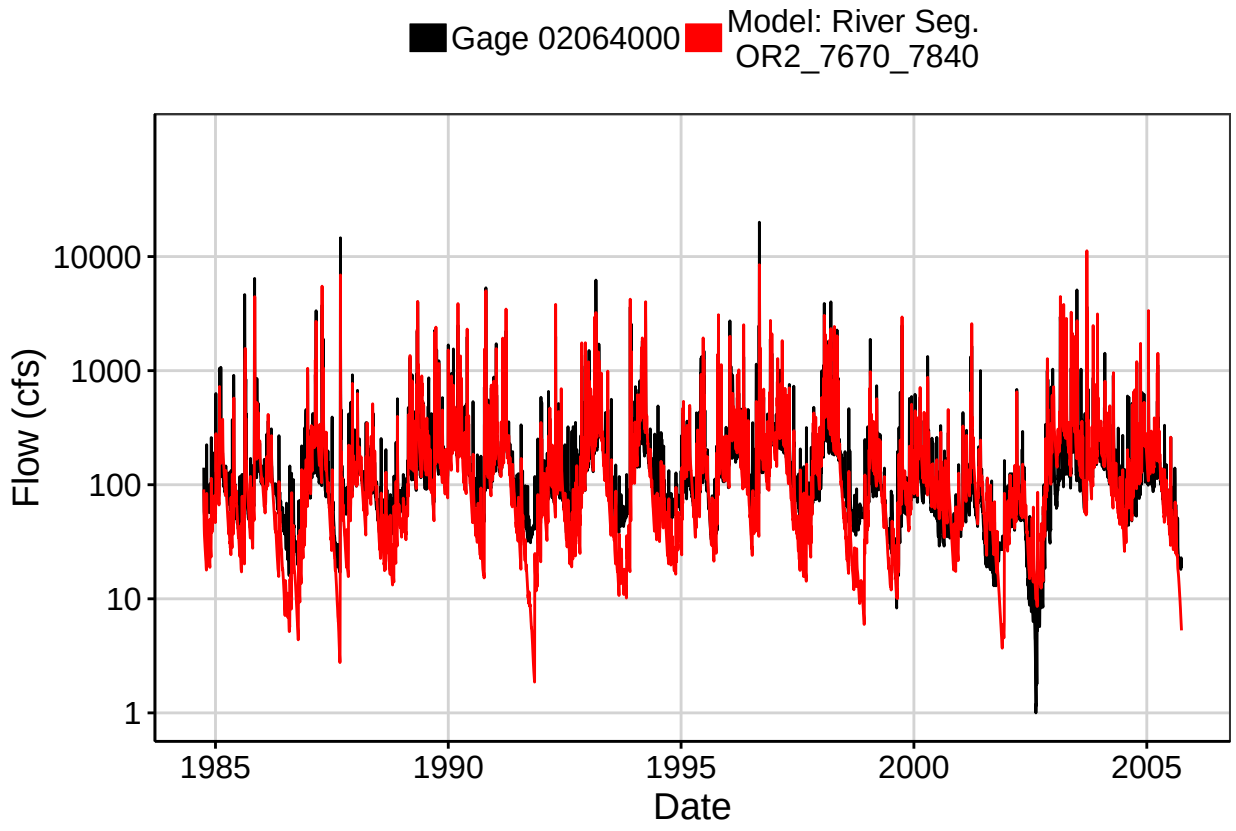


Fig. 2: Zoomed Hydrograph

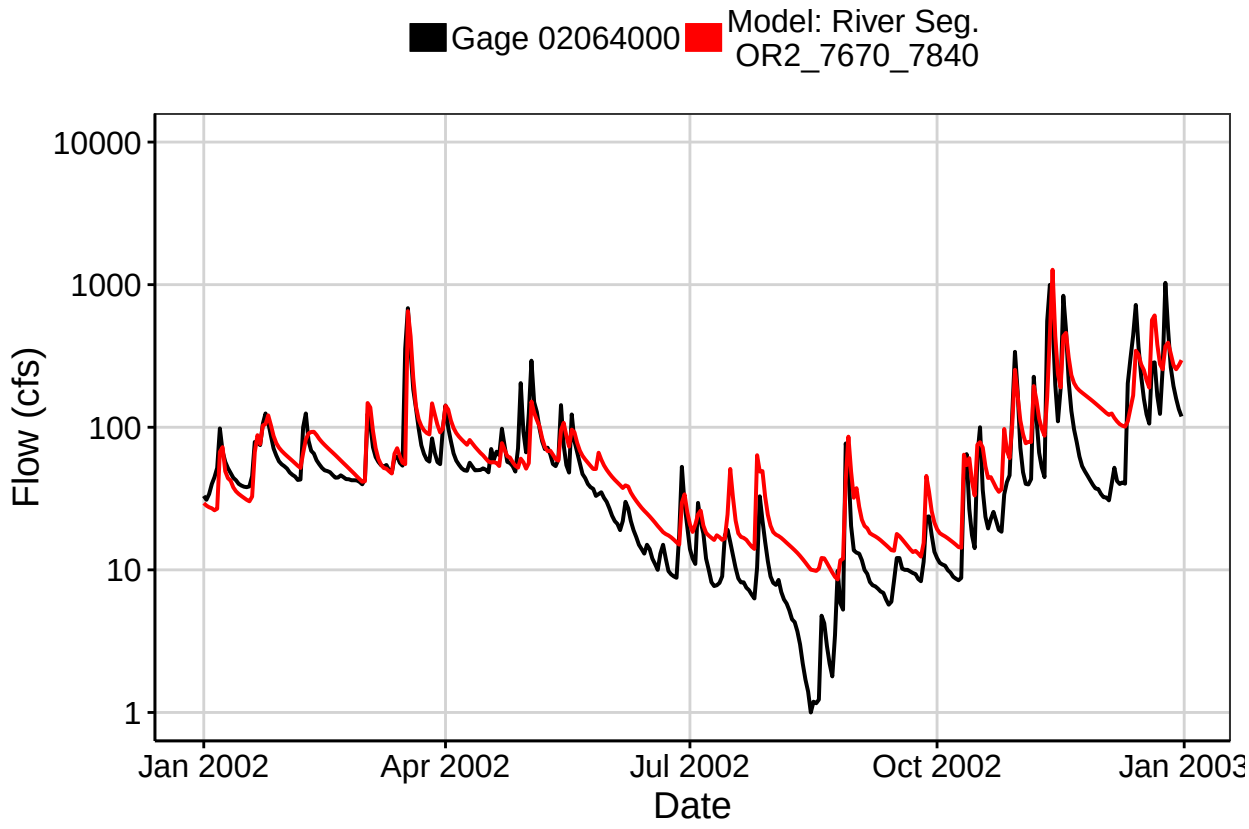


Fig. 3: Flow Exceedance

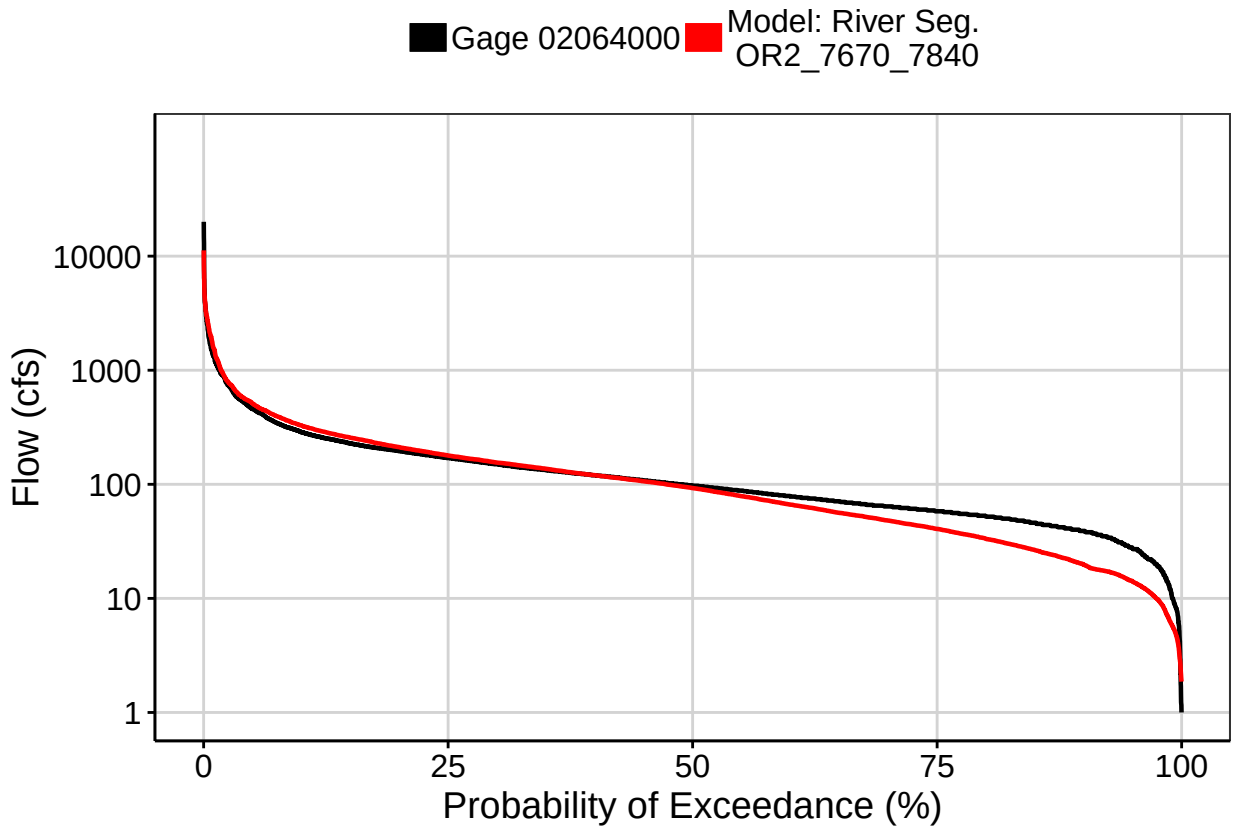


Fig. 4: Baseflow

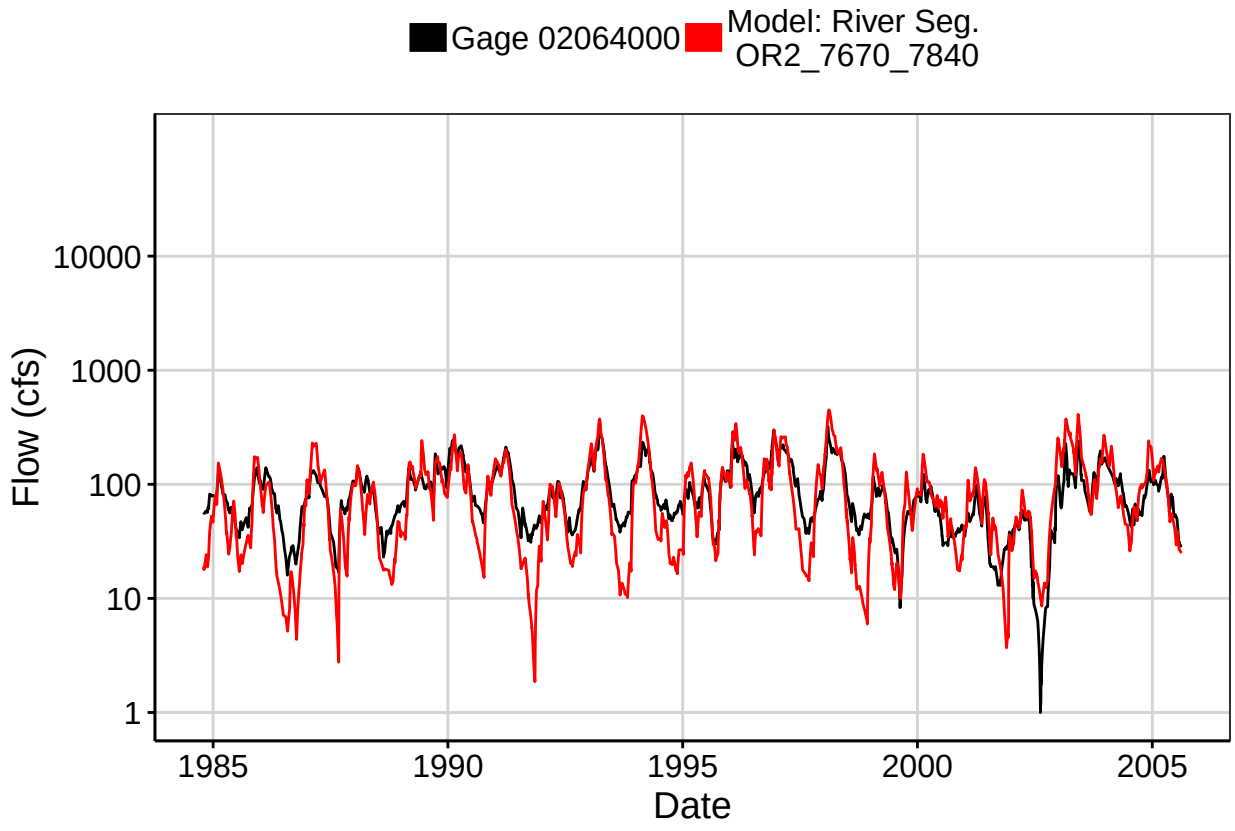


Fig. 5: Combined Baseflow

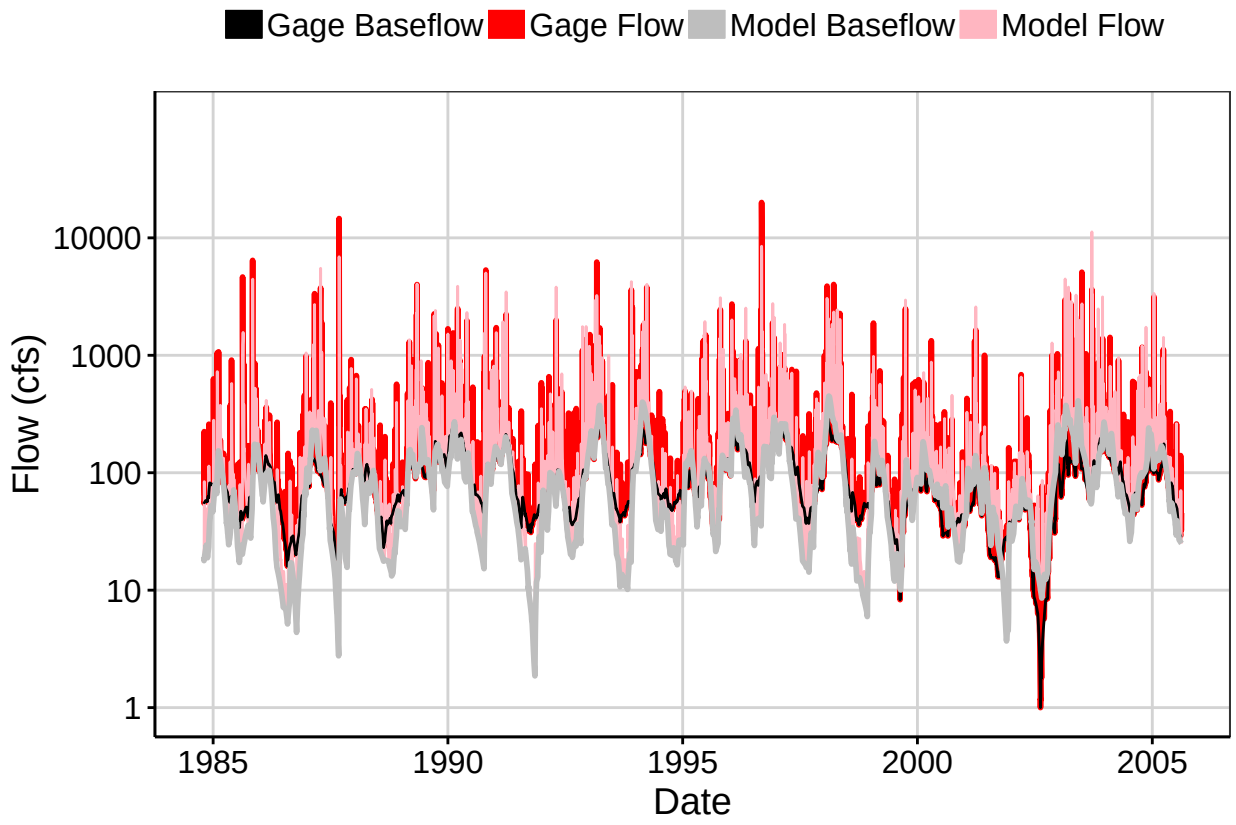


Fig. 6: Largest Error Segment

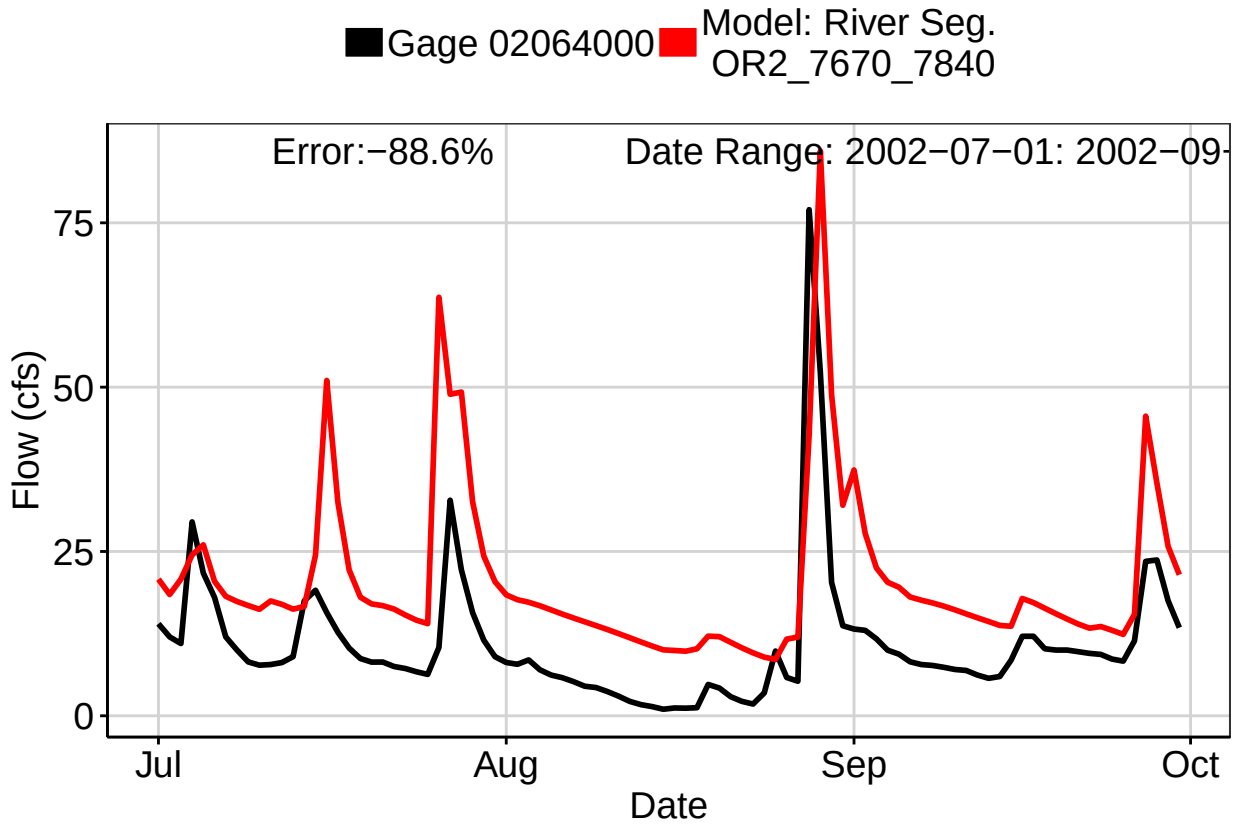


Fig. 7: Second Largest Error Segment

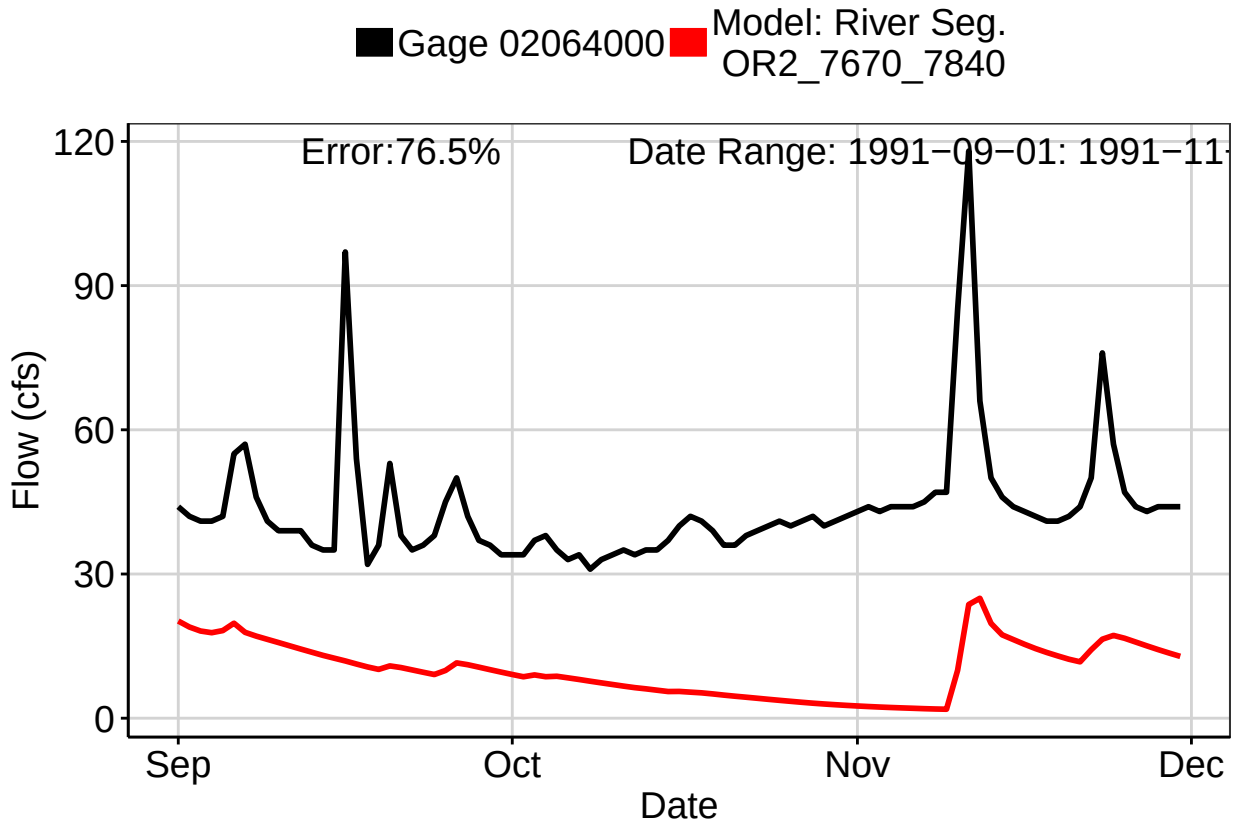


Fig. 8: Third Largest Error Segment

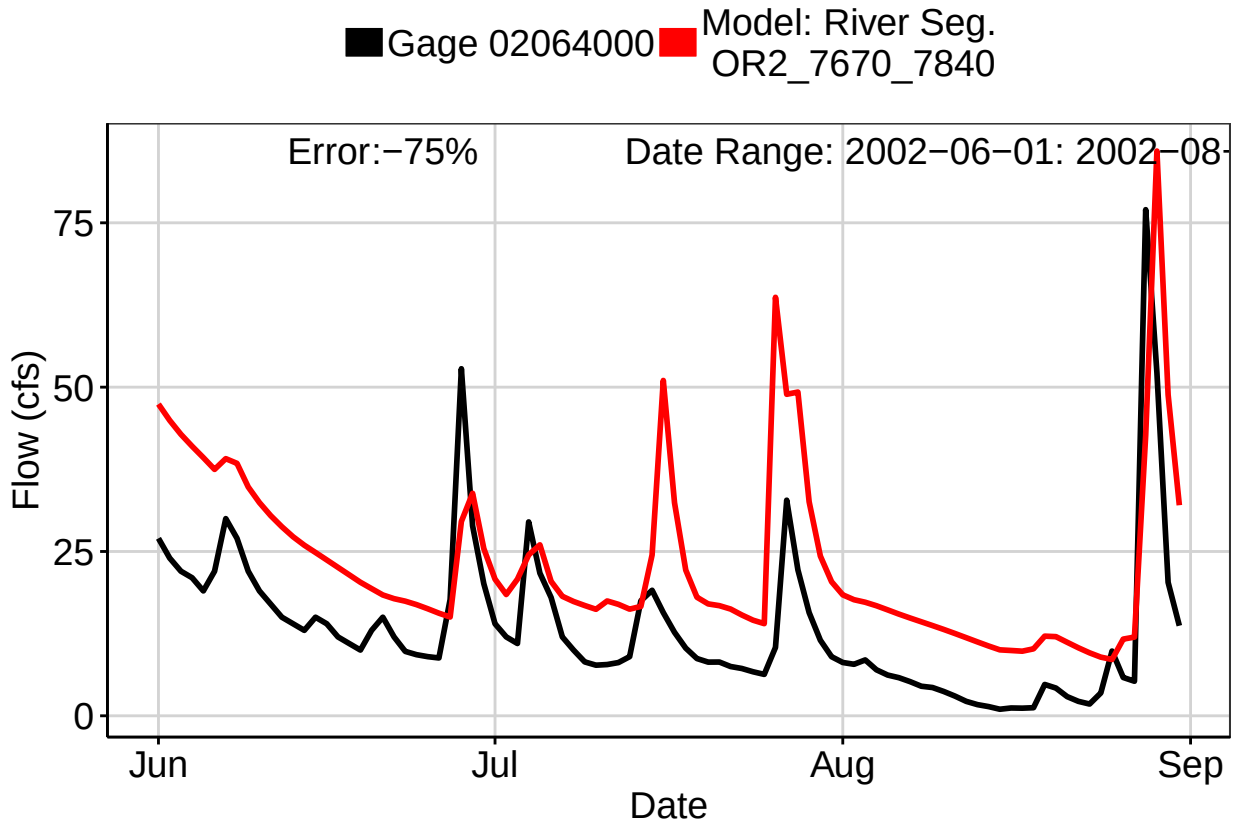


Fig. 9: Residuals Plot