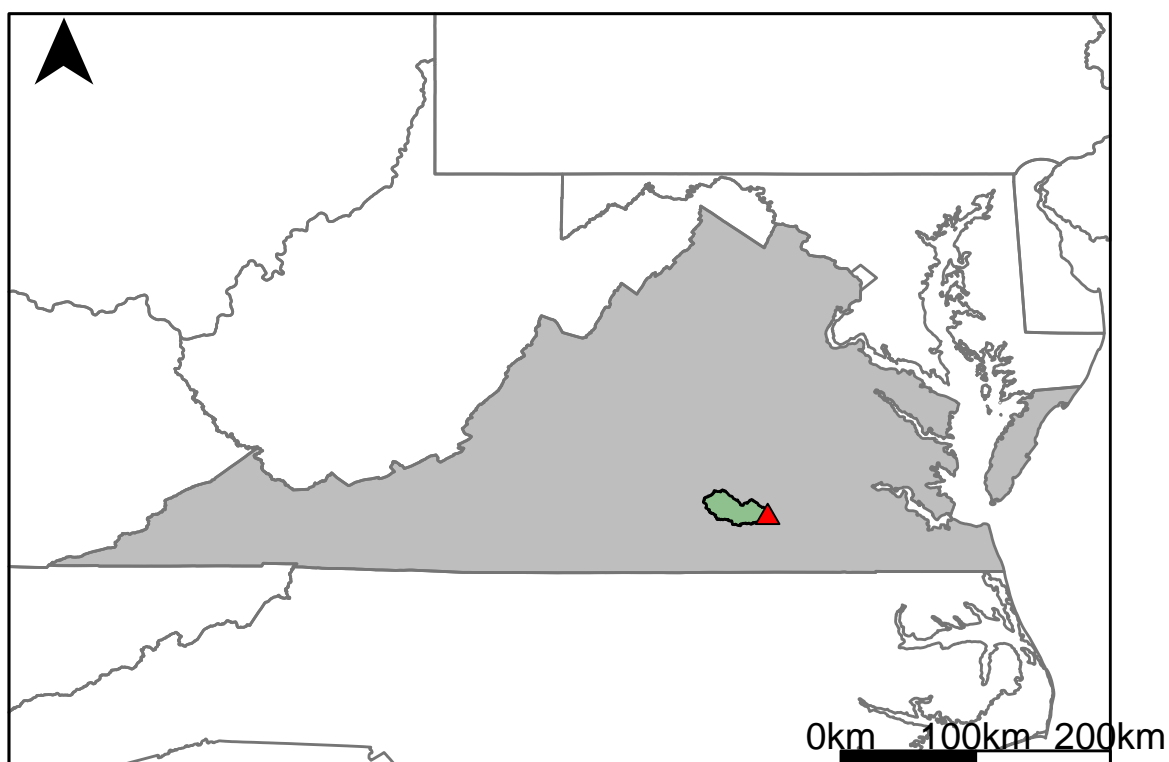# Appendix G: Nottoway River Gages
Appendix G.1: USGS Gage 02044500 vs. MN3_7770_7930

This river segment follows part of the flow of the Nottoway River, a tributary of the Meherrin River. The gage is located in Brunswick County, VA (Lat 3659'00", Long 7748'00") approximately 25 miles northwest of Emporia, VA. Drainage area is 317 sq. miles. This gage started taking data in 1950 and is still taking data. There are no known anthropogenic alterations in this area that would affect the flow conditions. The average daily discharge error between the model and gage data for the 20 year timespan was 1.01%, with 45.4% of its rolling three month time spans above 20% error.

Table 1: Monthly Low Flows

	USGS Gage	Model	Pct. Error
Jan. Low Flow	32	15.3	52.2
Feb. Low Flow	93	50.4	45.8
Mar. Low Flow	104	65.3	37.2
Apr. Low Flow	139	118	15.1
May Low Flow	229	217	5.24
Jun. Low Flow	217	170	21.7
Jul. Low Flow	208	122	41.3
Aug. Low Flow	137	67.2	50.9
Sep. Low Flow	70	41.8	40.3
Oct. Low Flow	35	20.8	40.6
Nov. Low Flow	30	23.7	21
Dec. Low Flow	22	20.9	5

Table 2: Monthly Average Flows

	USGS Gage	Model	Pct. Error
Overall Mean Flow	297	294	1.01
Jan. Mean Flow	380	396	-4.21
Feb. Mean Flow	429	505	-17.7
Mar. Mean Flow	567	639	-12.7
Apr. Mean Flow	451	435	3.55
May Mean Flow	341	263	22.9
Jun. Mean Flow	208	158	24
Jul. Mean Flow	134	99.8	25.5
Aug. Mean Flow	151	144	4.64
Sep. Mean Flow	231	260	-12.6
Oct. Mean Flow	131	137	-4.58
Nov. Mean Flow	270	246	8.89
Dec. Mean Flow	286	268	6.29

Table 3: Monthly High Flows

	USGS Gage	Model	Pct. Error
Jan. High Flow	205	159	22.4
Feb. High Flow	747	595	20.3
Mar. High Flow	669	493	26.3
Apr. High Flow	1120	1170	-4.46
May High Flow	1150	1410	-22.6
Jun. High Flow	1780	2600	-46.1
Jul. High Flow	1470	1250	15
Aug. High Flow	830	688	17.1
Sep. High Flow	620	166	73.2
Oct. High Flow	311	236	24.1
Nov. High Flow	341	202	40.8
Dec. High Flow	189	156	17.5

Table 4: Period Low Flows

	USGS Gage	Model	Pct. Error
Min. 1 Day Min	0.58	0	100
Med. 1 Day Min	16	8.92	44.2
Min. 3 Day Min	0.59	0	100
Med. 3 Day Min	16.7	9.41	43.7
Min. 7 Day Min	0.68	0.01	97.9
Med. 7 Day Min	18.1	11.9	34.3
Min. 30 Day Min	2.12	1.85	12.7
Med. 30 Day Min	30.7	27.7	9.77
Min. 90 Day Min	10.8	14	-29.6
Med. 90 Day Min	81.5	52.7	35.3
7Q10	4.54	0.77	83.1
Year of 90-Day Min. Flow	2002	2002	0
Drought Year Mean	71.6	294	-311
Mean Baseflow	139	127	8.63

Table 5: Period High Flows

	USGS Gage	Model	Pct. Error
Max. 1 Day Max	17000	26800	-57.6
Med. 1 Day Max	4940	6350	-28.5
Max. 3 Day Max	12200	11200	8.2
Med. 3 Day Max	3420	3820	-11.7
Max. 7 Day Max	6100	6260	-2.62
Med. 7 Day Max	1810	2040	-12.7
Max. 30 Day Max	2150	1720	20
Med. 30 Day Max	783	914	-16.7
Max. 90 Day Max	1330	1270	4.51
Med. 90 Day Max	525	541	-3.05

Table 6: Non-Exceedance Flows

	USGS Gage	Model	Pct. Error
1% Non-Exceedance	7.48	3.97	46.9
5% Non-Exceedance	21.9	14.5	33.8
50% Non-Exceedance	168	139	17.3
95% Non-Exceedance	848	926	-9.2
99% Non-Exceedance	2570	2770	-7.78
Sept. 10% Non-Exceedance	14.1	14.6	-3.55

Fig. 1: Hydrograph
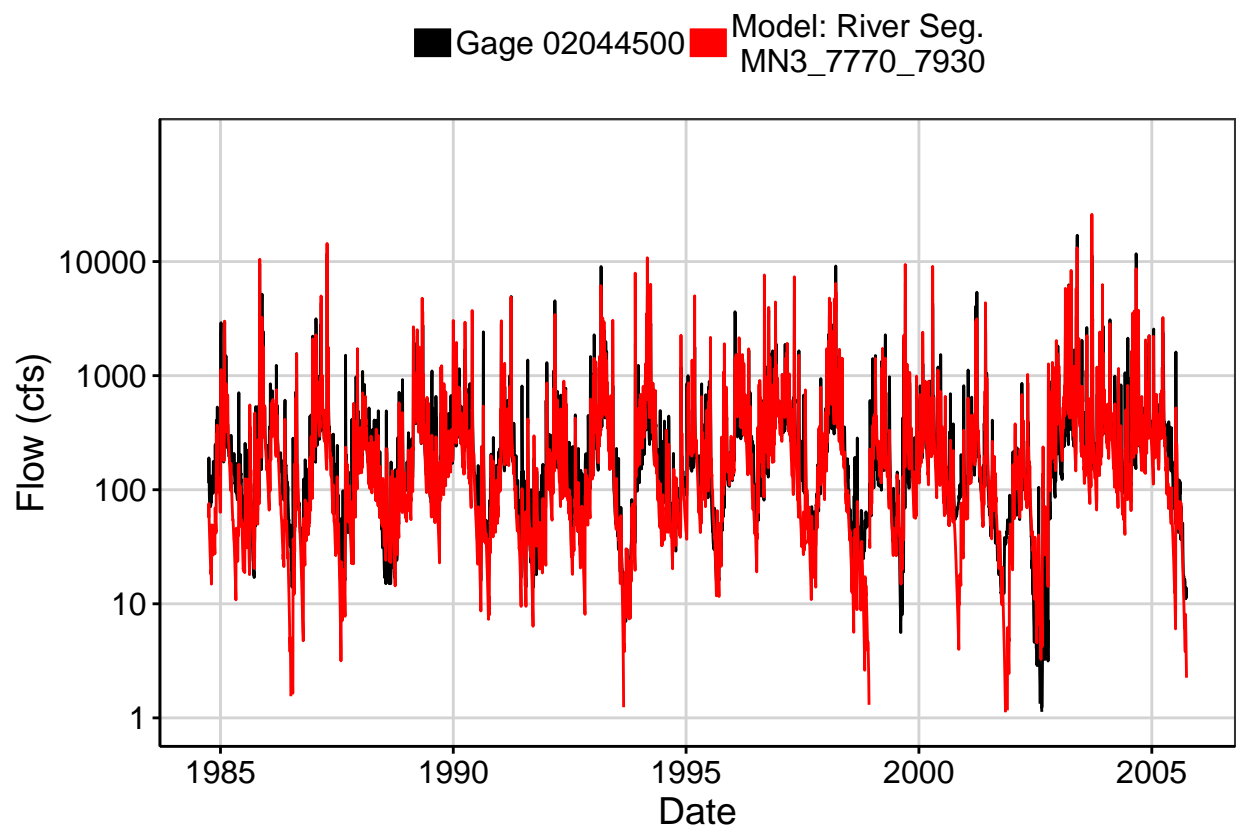
Fig. 2: Zoomed Hydrograph
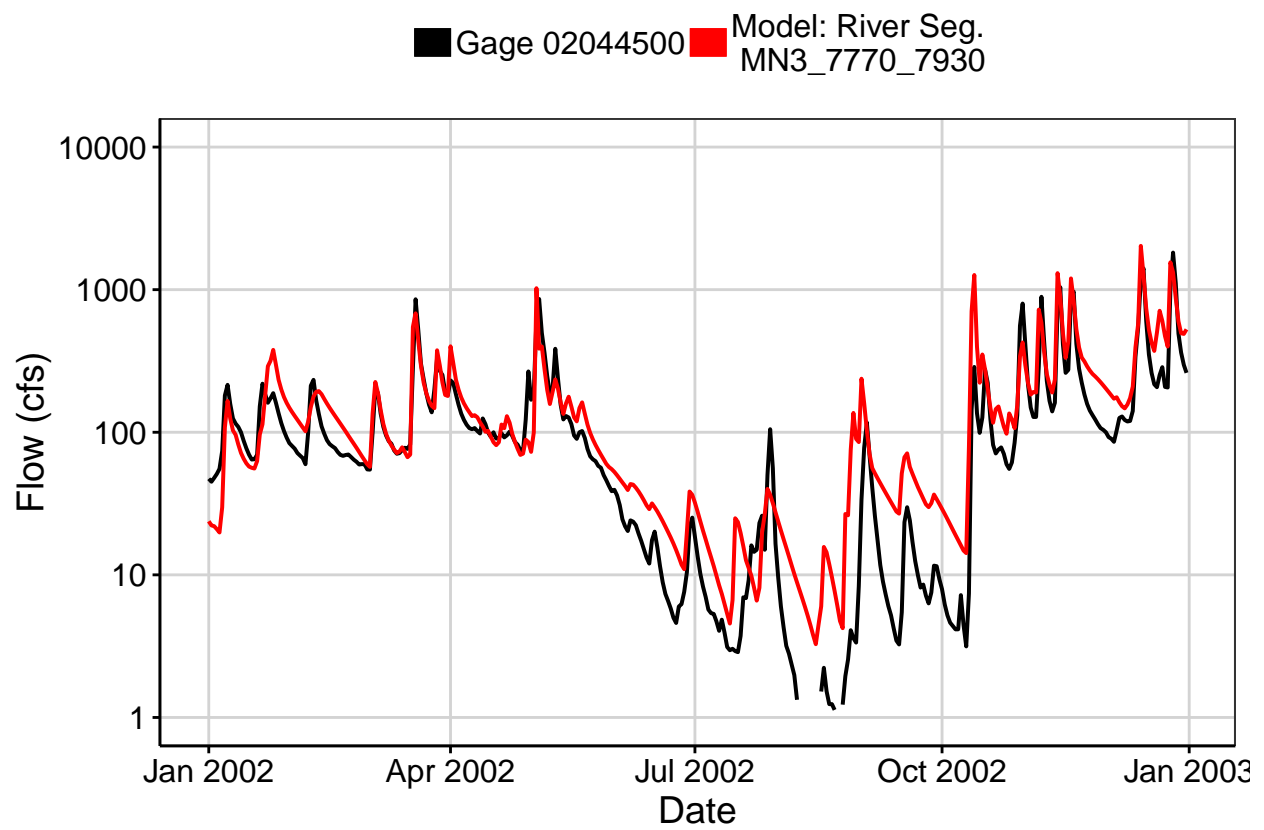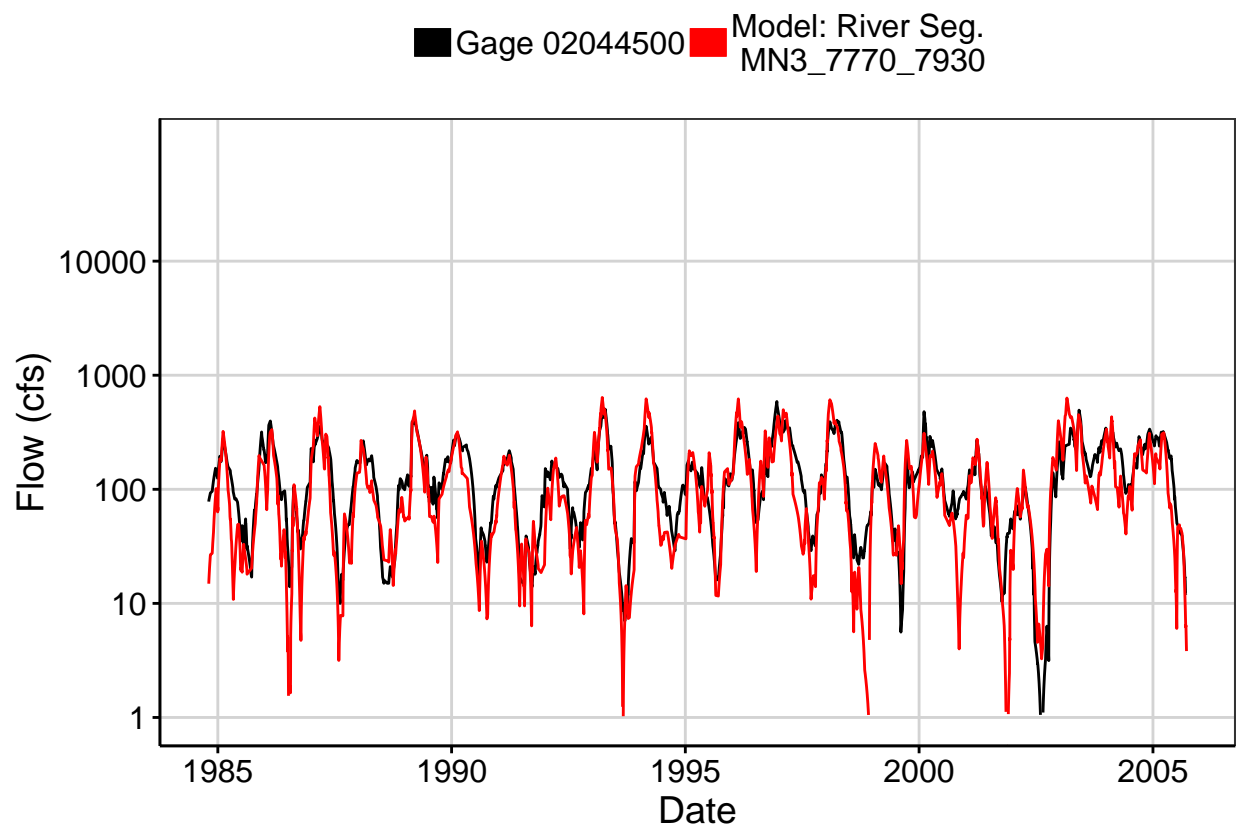
Fig. 3: Flow Exceedance
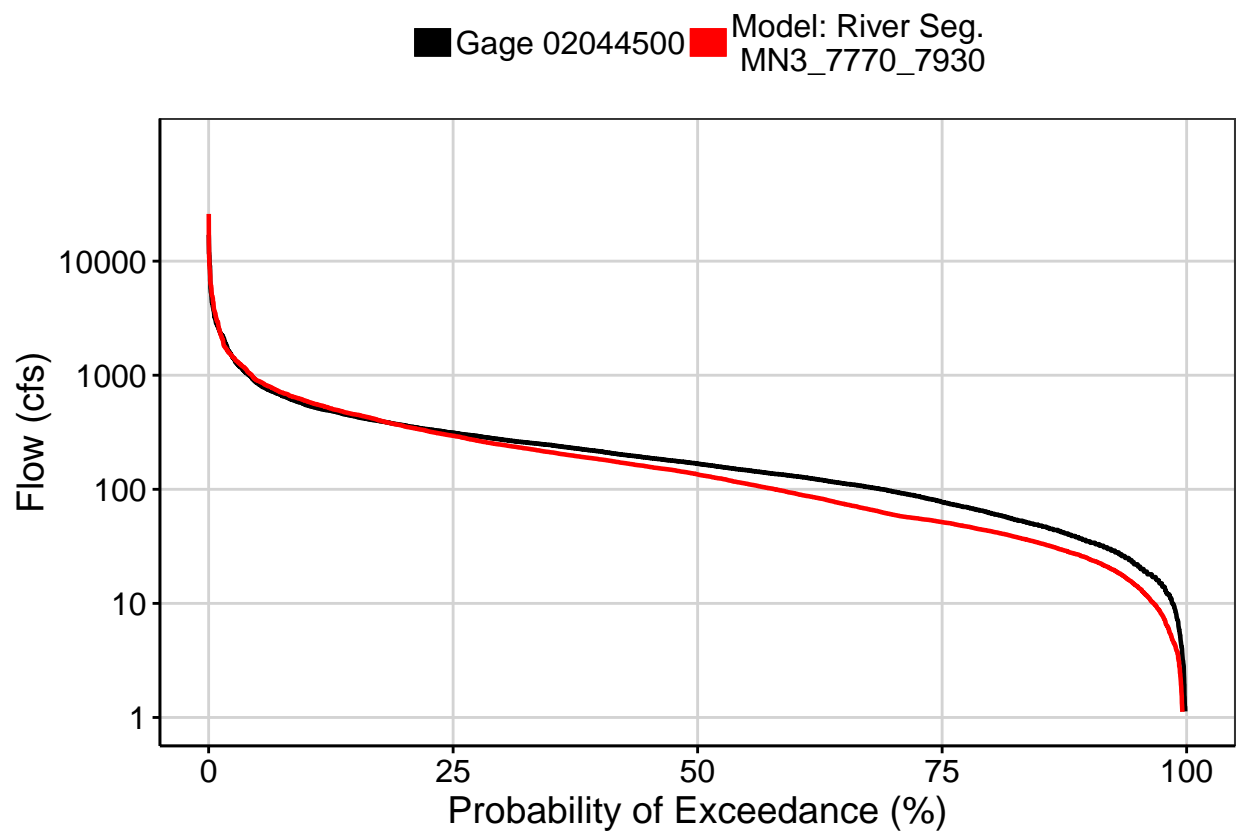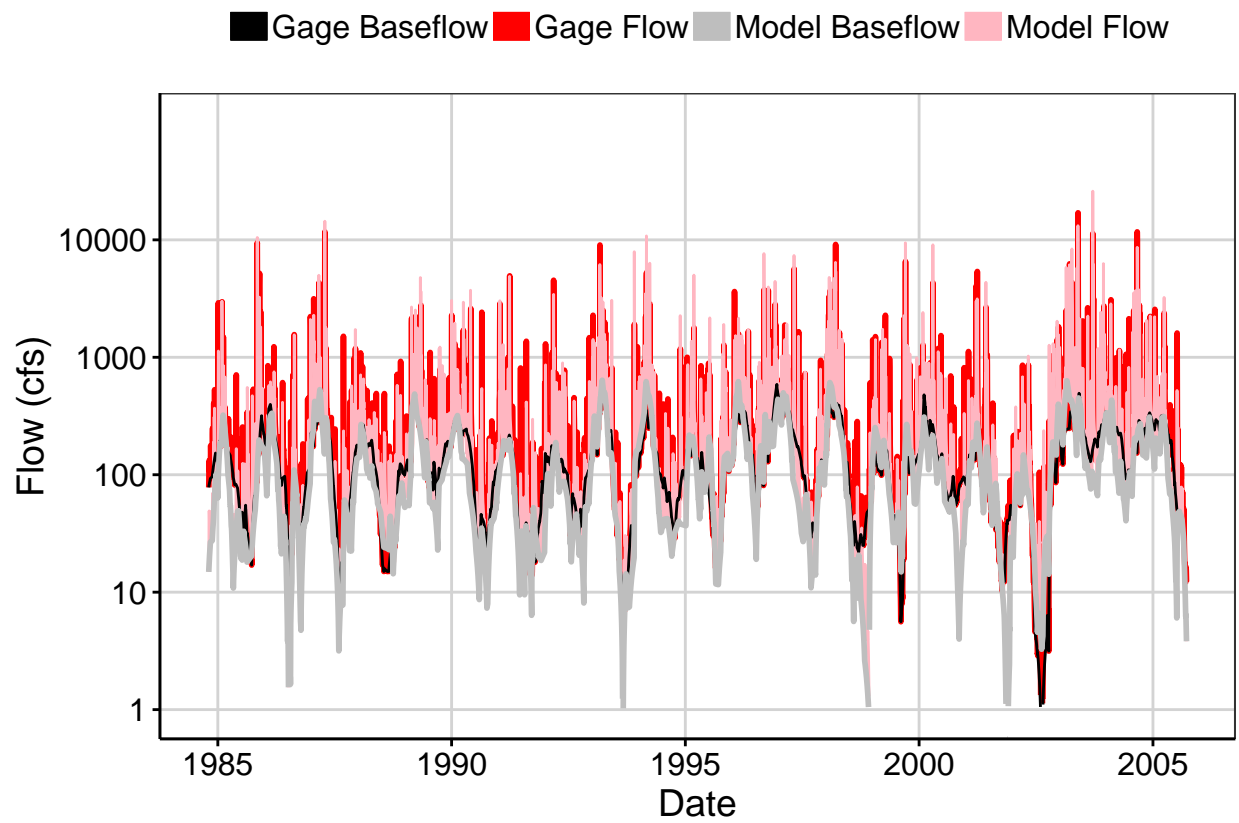
Fig. 4: Baseflow
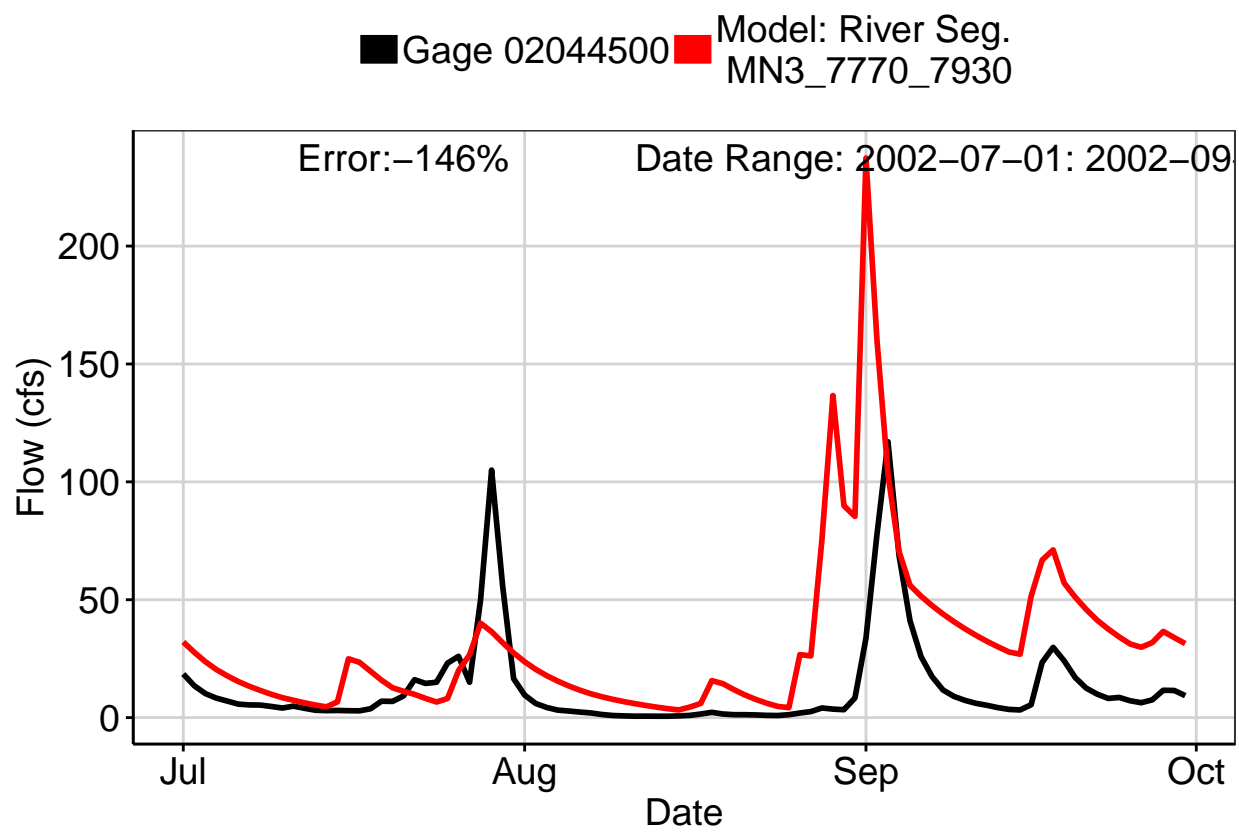
Fig. 5: Combined Baseflow

Fig. 6: Largest Error Segment

Legend: Gage 02044500 — Model: River Seg. MN3_7770_7930

Error:−146%   Date Range: 2002−07−01: 2002−09

Flow (cfs) vs Date

Fig. 7: Second Largest Error Segment

Legend: Gage 02044500 | Model: River Seg. MN3_7770_7930

Error:−110%   Date Range: 1993−09−01: 1993−11
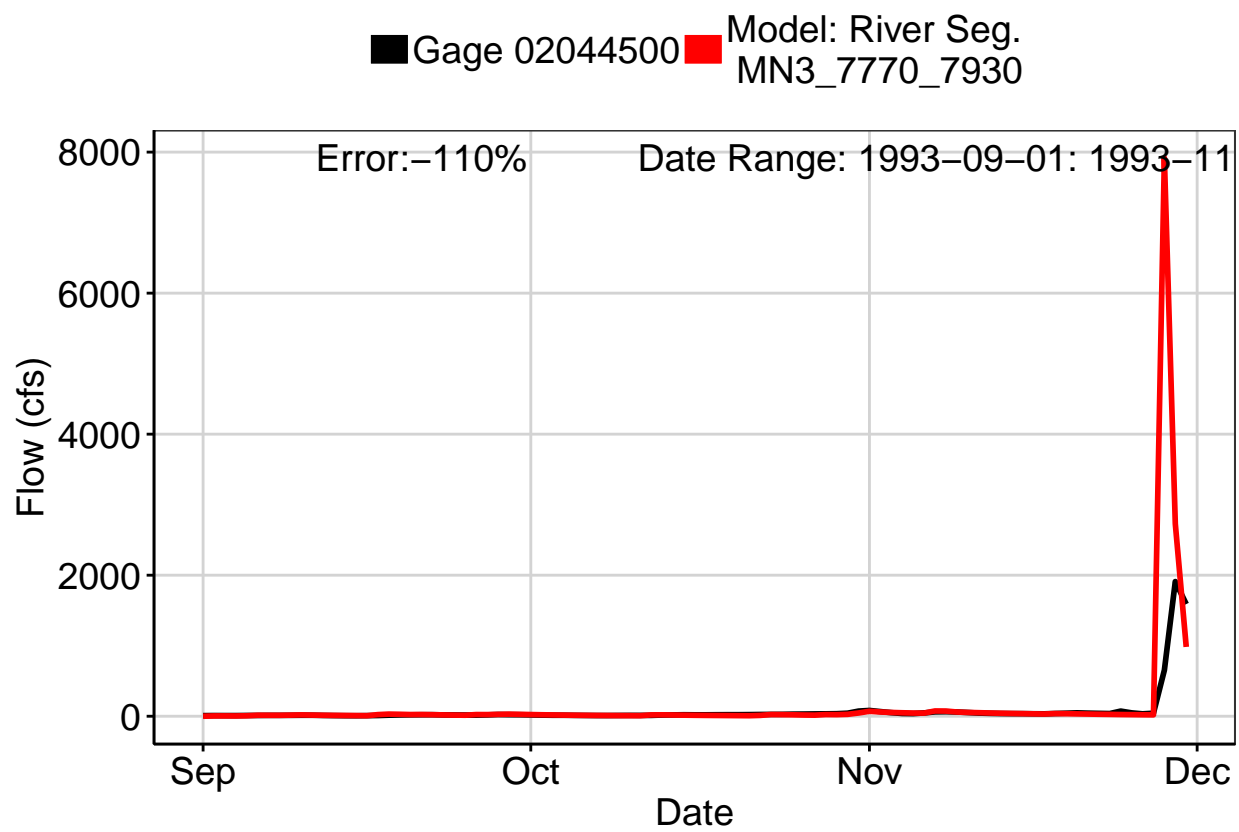
Fig. 8: Third Largest Error Segment

■Gage 02044500■Model: River Seg.
MN3_7770_7930

Error:−106%   Date Range: 2002−06−01: 2002−08

Fig. 9: Residuals Plot

Legend: Gage 02044500 — Model: River Seg. MN3_7770_7930