

Hydrological Data and Modeling

ACF Basin Status, Trends and Forecasts

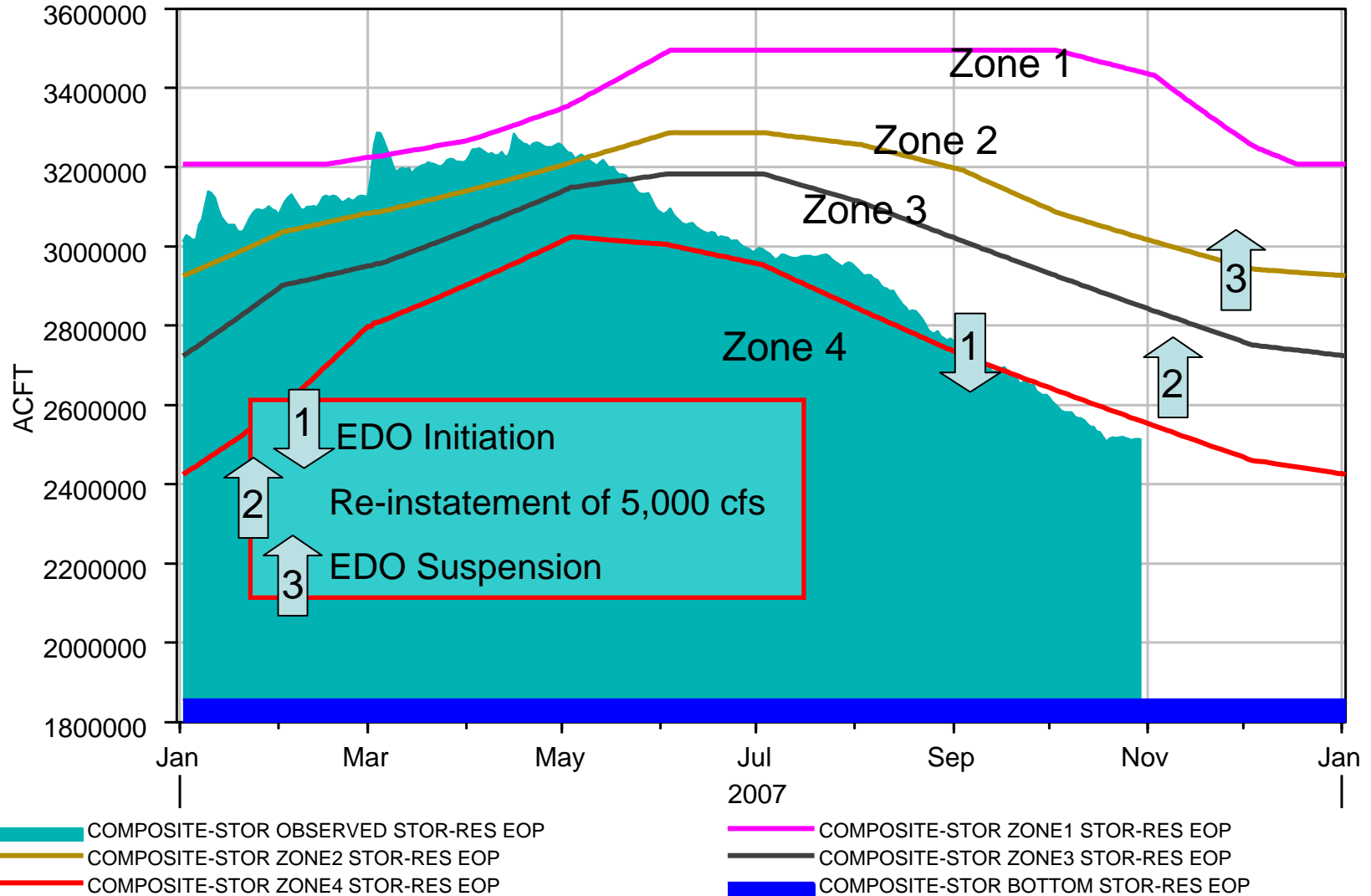
EDO Trigger For Reduction of Flows to 4,500 cfs

EDO Trigger Ideas

- Parameters
 - Composite Storage
 - Zone 4 activate
 - Zone 2 suspend
 - Basin Inflow
 - Total
 - Above WFG
 - Jun-Aug Average
 - Buford Elevation
 - 1067 refill,
 - Composite Zone 3 minimum
 - Flint River
 - Newton Monthly flow
 - Climatic Forecast LaNina/ElNino

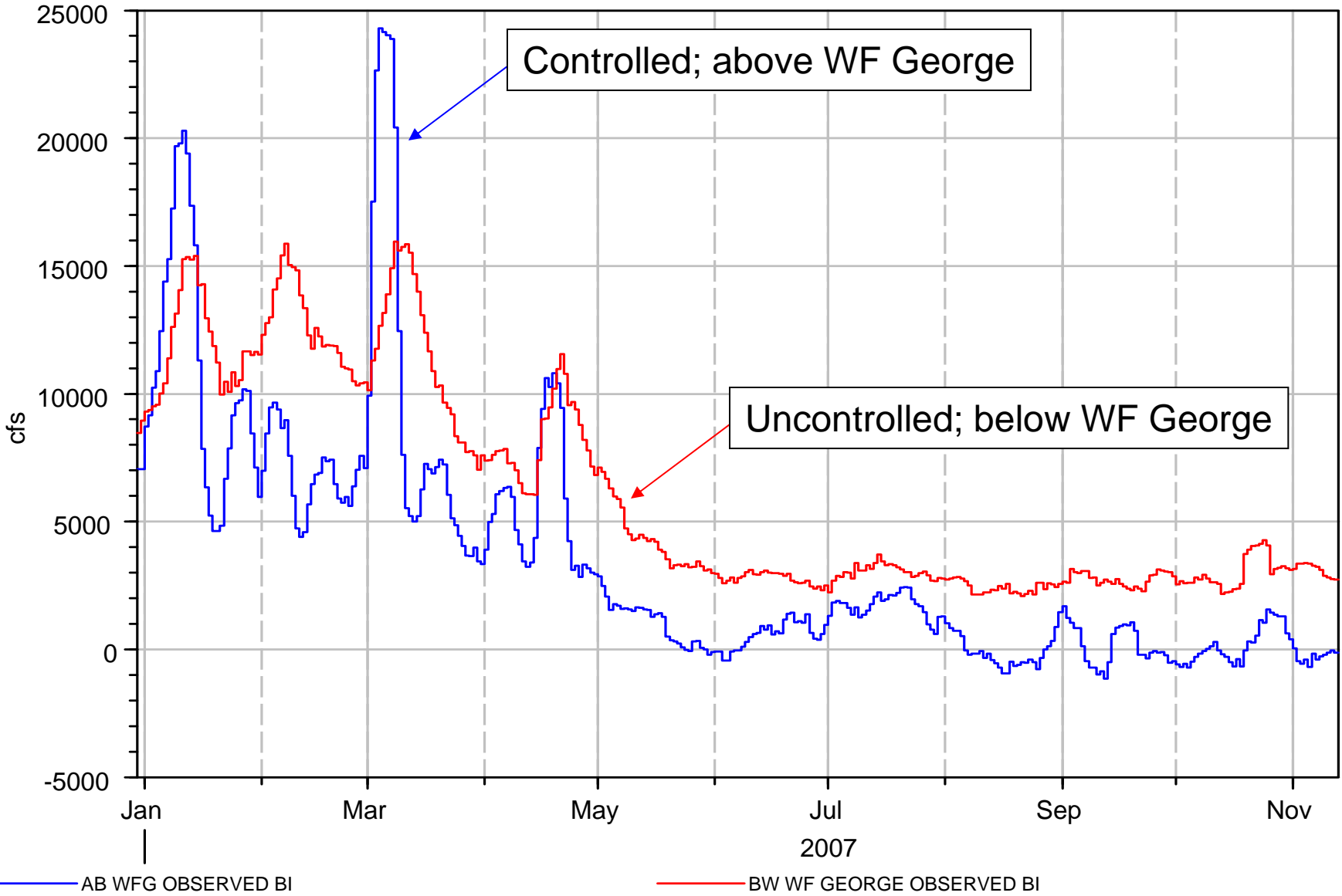
Composite Storage

Composite Storage Zones



Basin Inflow Above WF George

2007 Basin Inflow

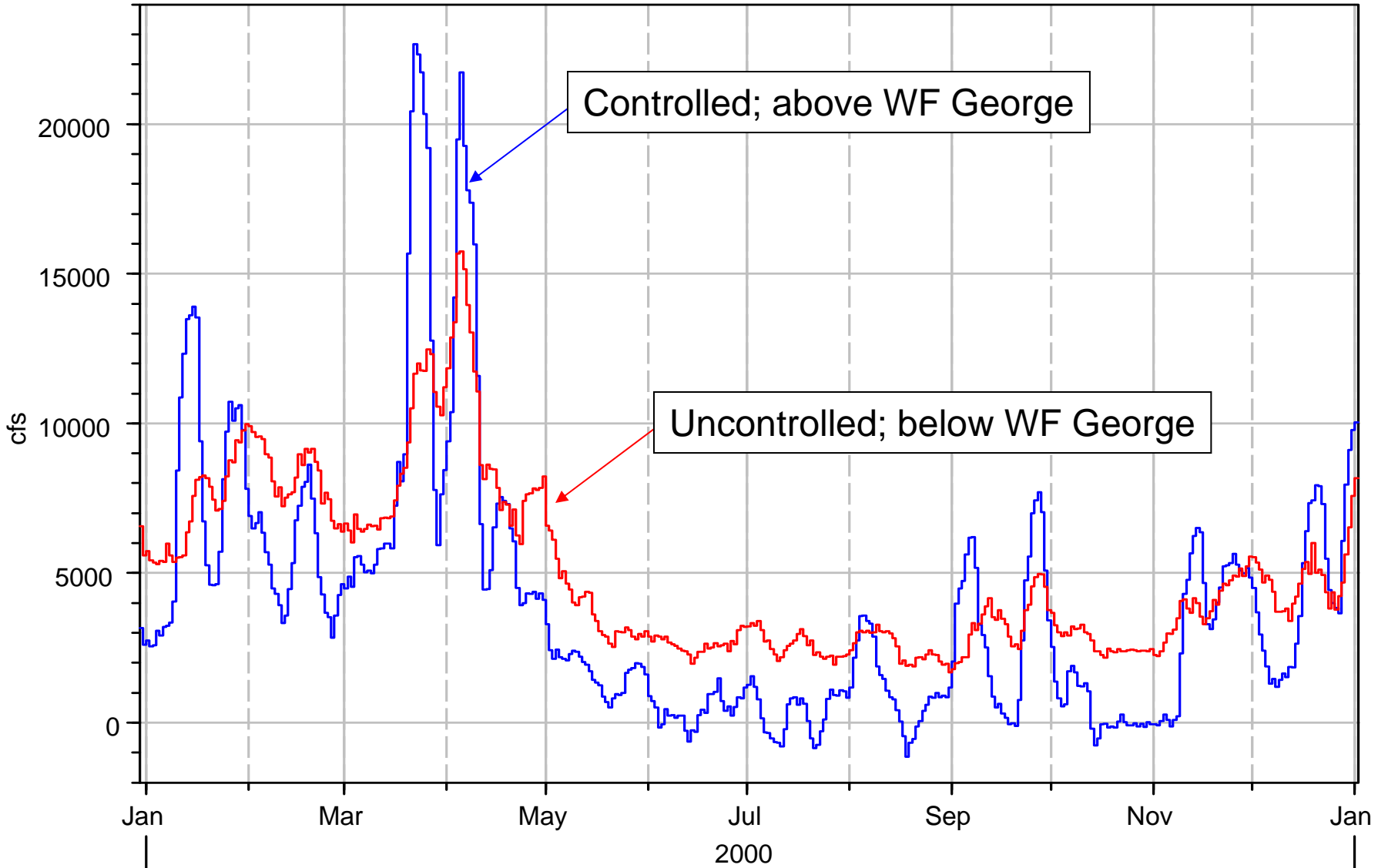


AB WFG OBSERVED BI

BW WF GEORGE OBSERVED BI

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2000 Basin Inflow

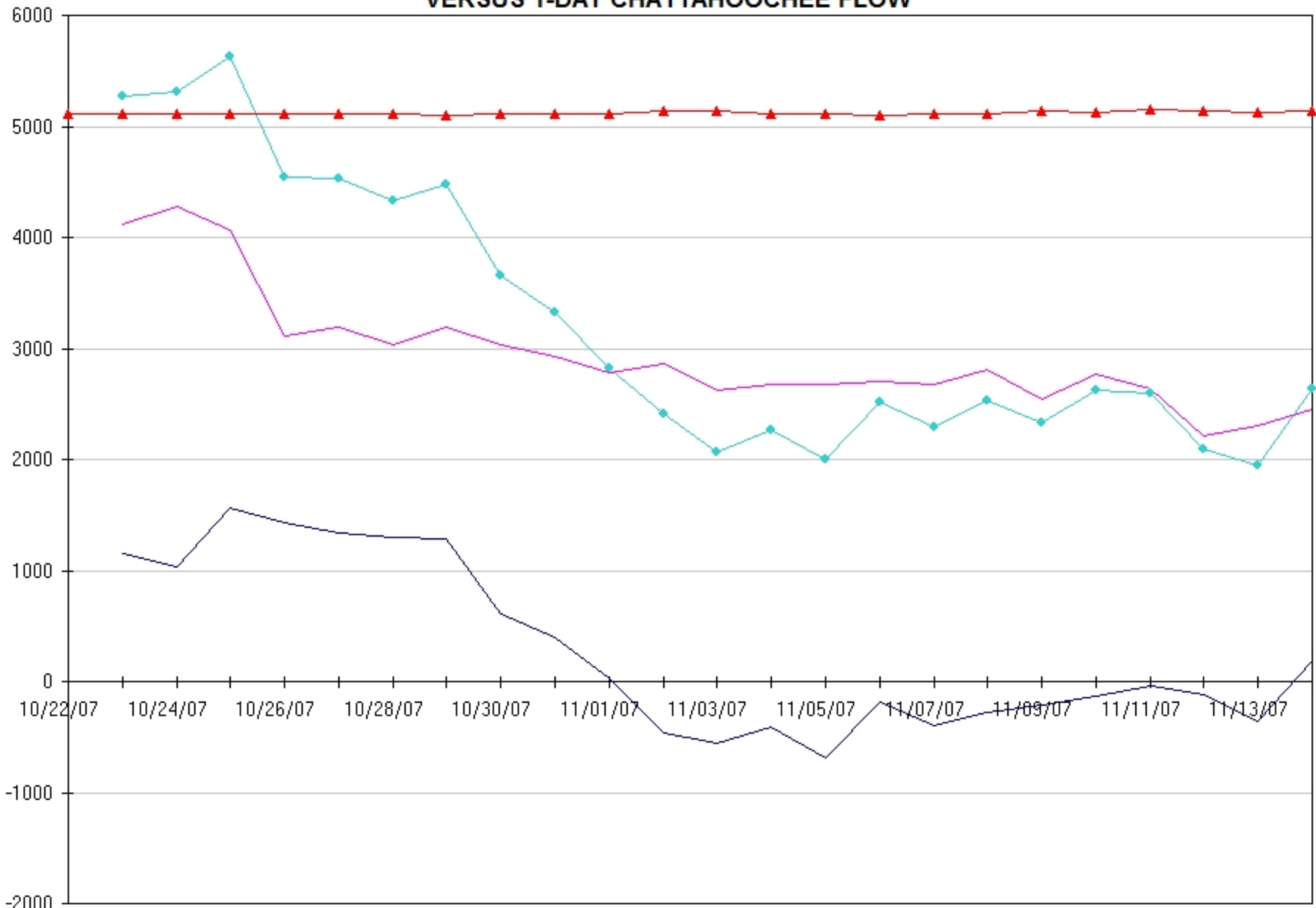


— AB WFG OBSERVED BI

— BW WF GEORGE OBSERVED BI

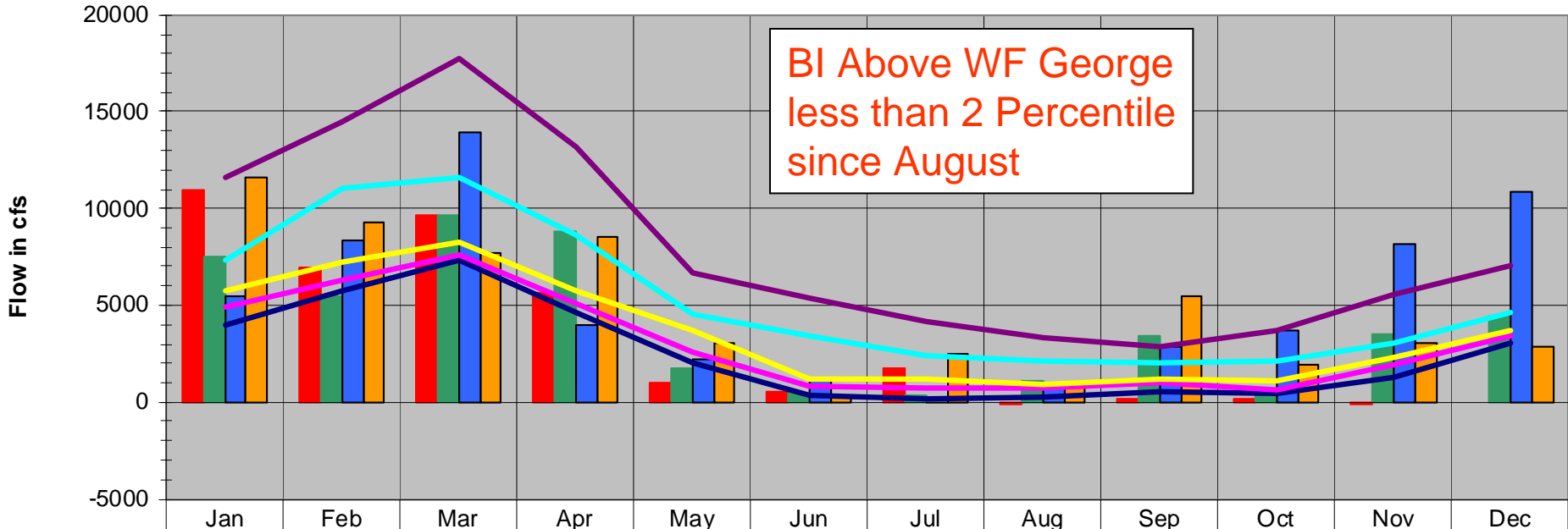
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7-DAY MOVING AVERAGE INFLOW VERSUS 1-DAY CHATTAHOOCHEE FLOW



ENTIRE BASIN INFLOW
BASIN INFLOW ABV GEORGE
CHATTAHOOCHEE FLOW
BASIN INFLOW BLW GEORGE

Monthly Basin Inflow Above WFG Percentile 1976-2006



BI Above WF George
less than 2 Percentile
since August

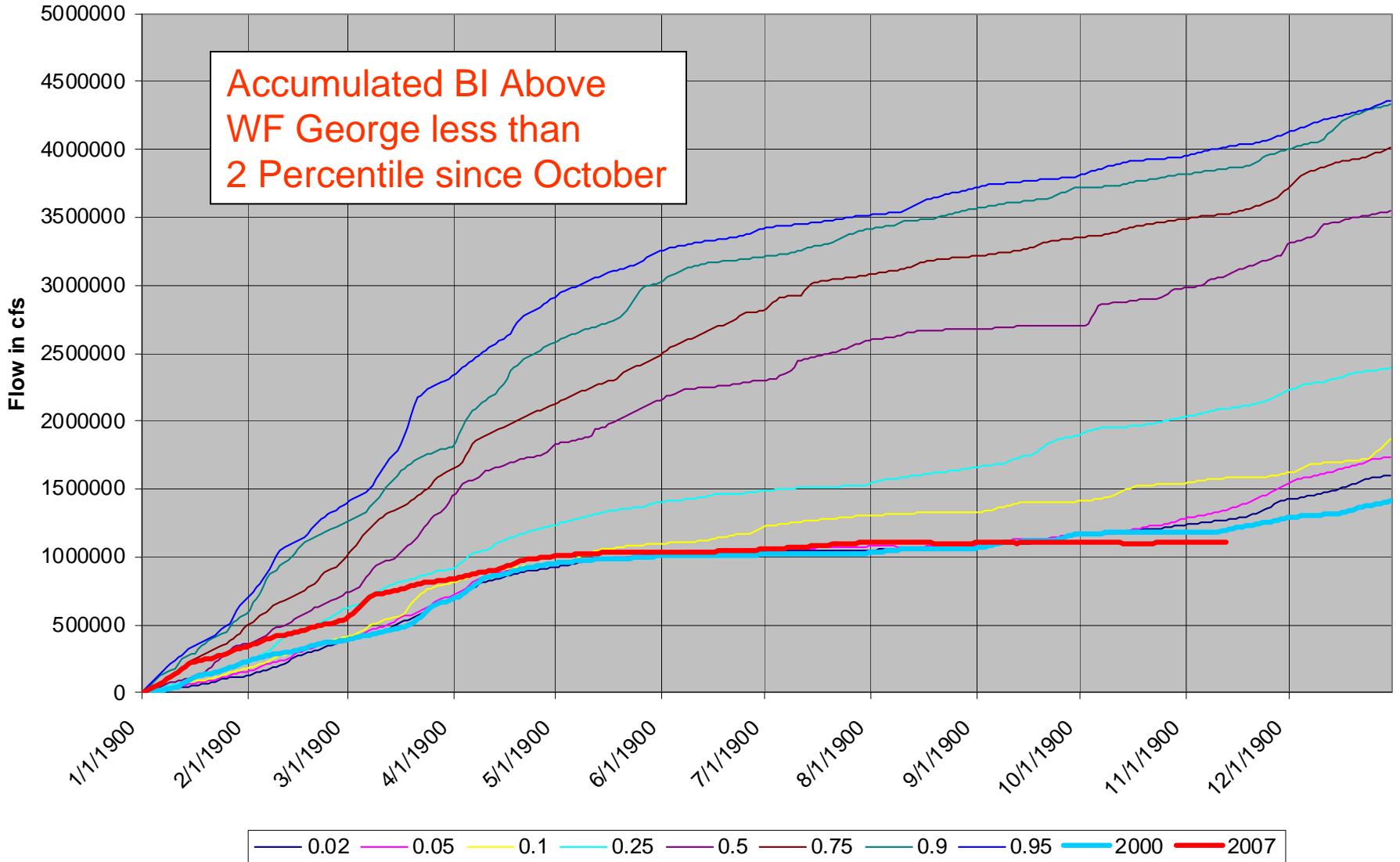
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
■	10980	6956	9668	5628	1035	565	1701	-95	132	170	-78	
■	7489	5443	9612	8816	1743	419	326	1144	3413	439	3548	4445
■	5450	8393	13973	3957	2204	1204	17	731	2907	3741	8195	10852
■	11639	9291	7699	8579	3023	365	2477	895	5472	1902	3091	2882
—	3976	5739	7302	4602	2019	397	202	295	528	413	1269	3030
—	4946	6320	7619	5055	2613	773	726	691	962	662	1900	3389
—	5757	7249	8298	5738	3701	1204	1203	895	1214	1126	2349	3664
—	7368	11025	11647	8676	4502	3437	2438	2083	2051	2092	3014	4651
—	11639	14491	17784	13208	6697	5355	4195	3311	2907	3741	5565	7039



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Accumulated Basin Inflow AB WFG Percentile 1976-2006

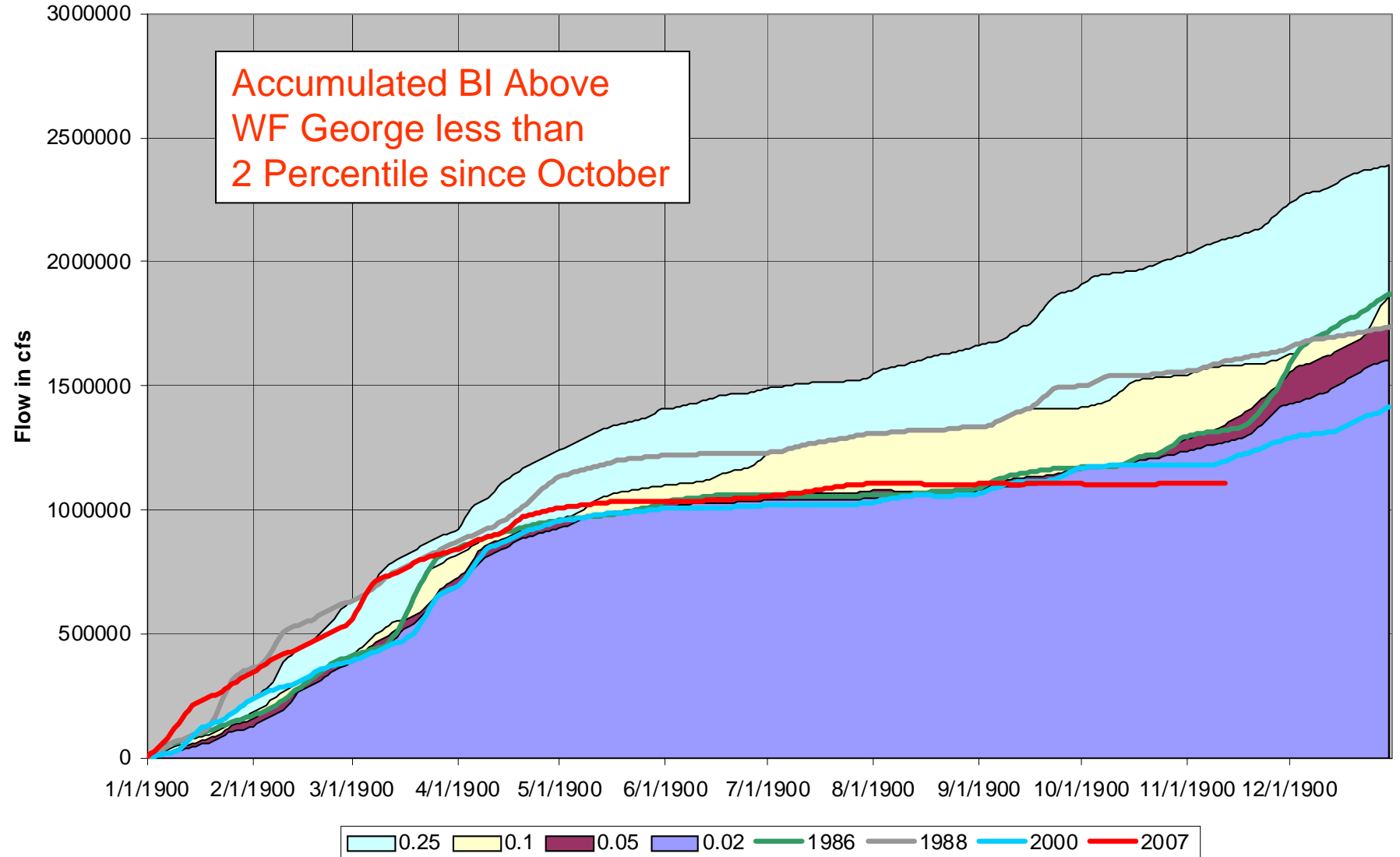
Accumulated BI Above
WF George less than
2 Percentile since October



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BI_HISTORIC : Cht_Acc_Percentile AB WFG

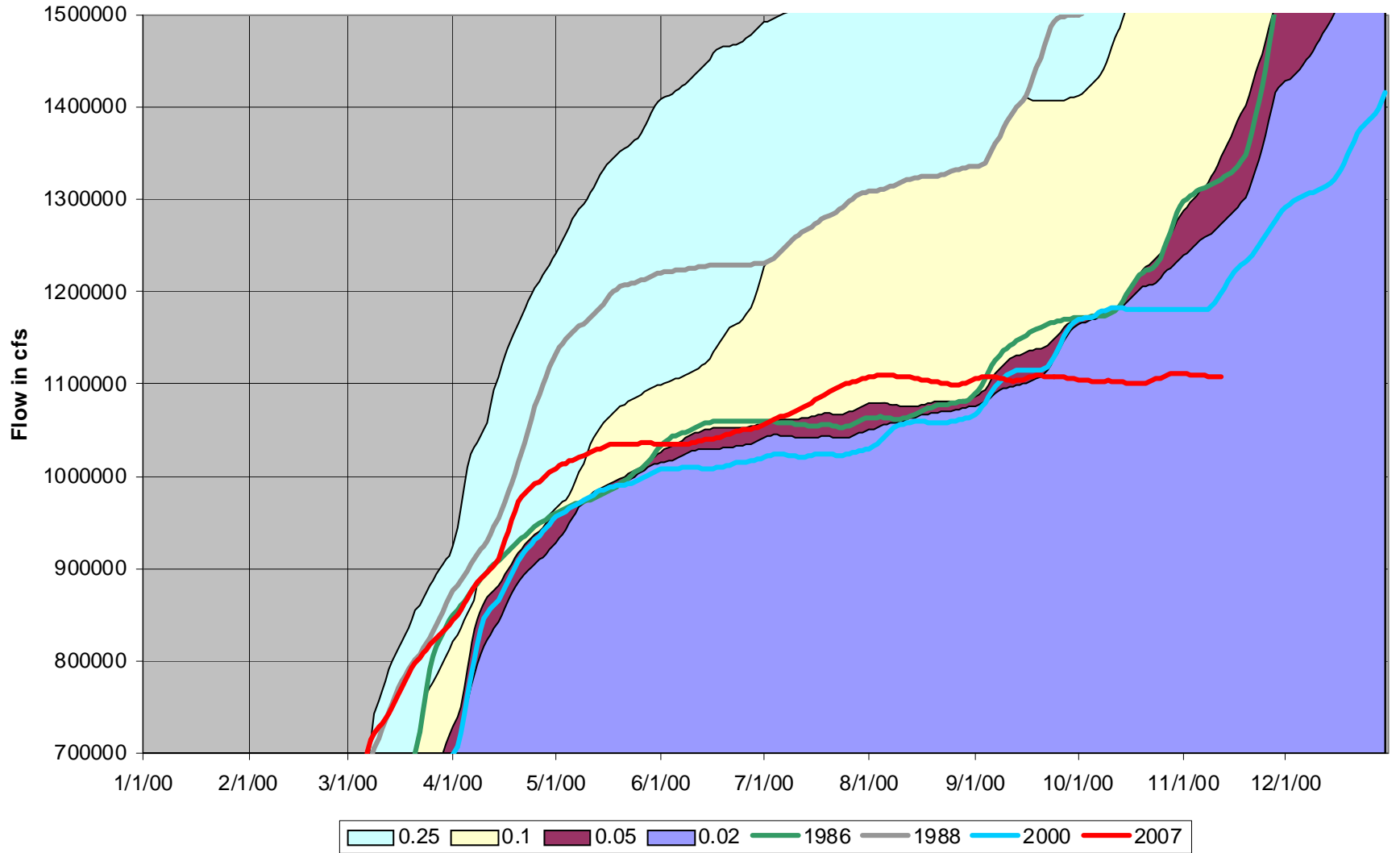
Accumulated Basin Inflow AB WFG Percentile 1976-2006



30 November 2007

BI_HISTORIC : Cht_Acc_Percentile AB WFG (2)

Accumulated Basin Inflow AB WFG Percentile 1976-2006

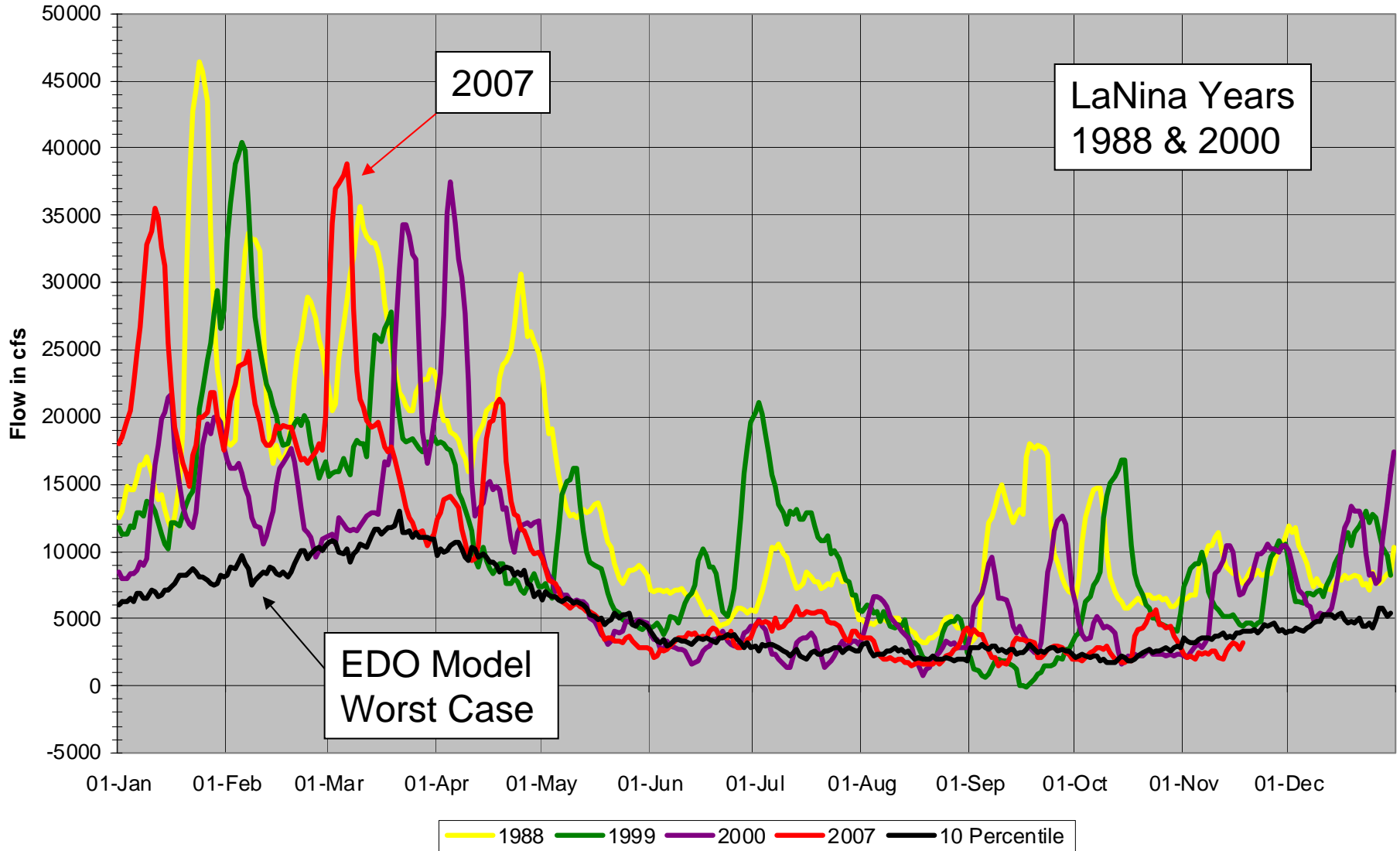


30 November 2007

BI_HISTORIC : Cht_Acc_Percentile AB WFG (2)

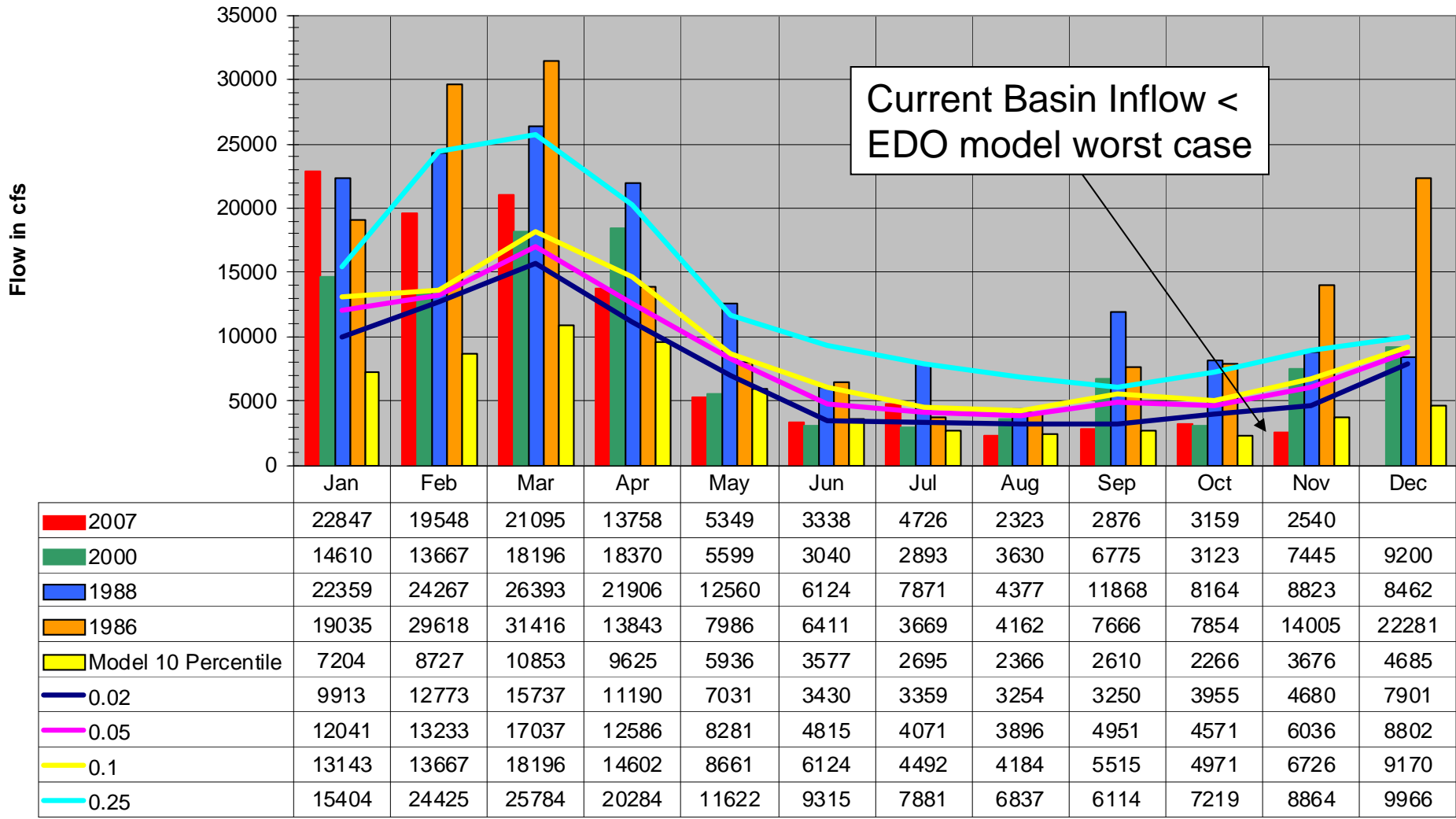
Basin Inflow

7-Day Basin Inflow Percentile Observed 1976-2006



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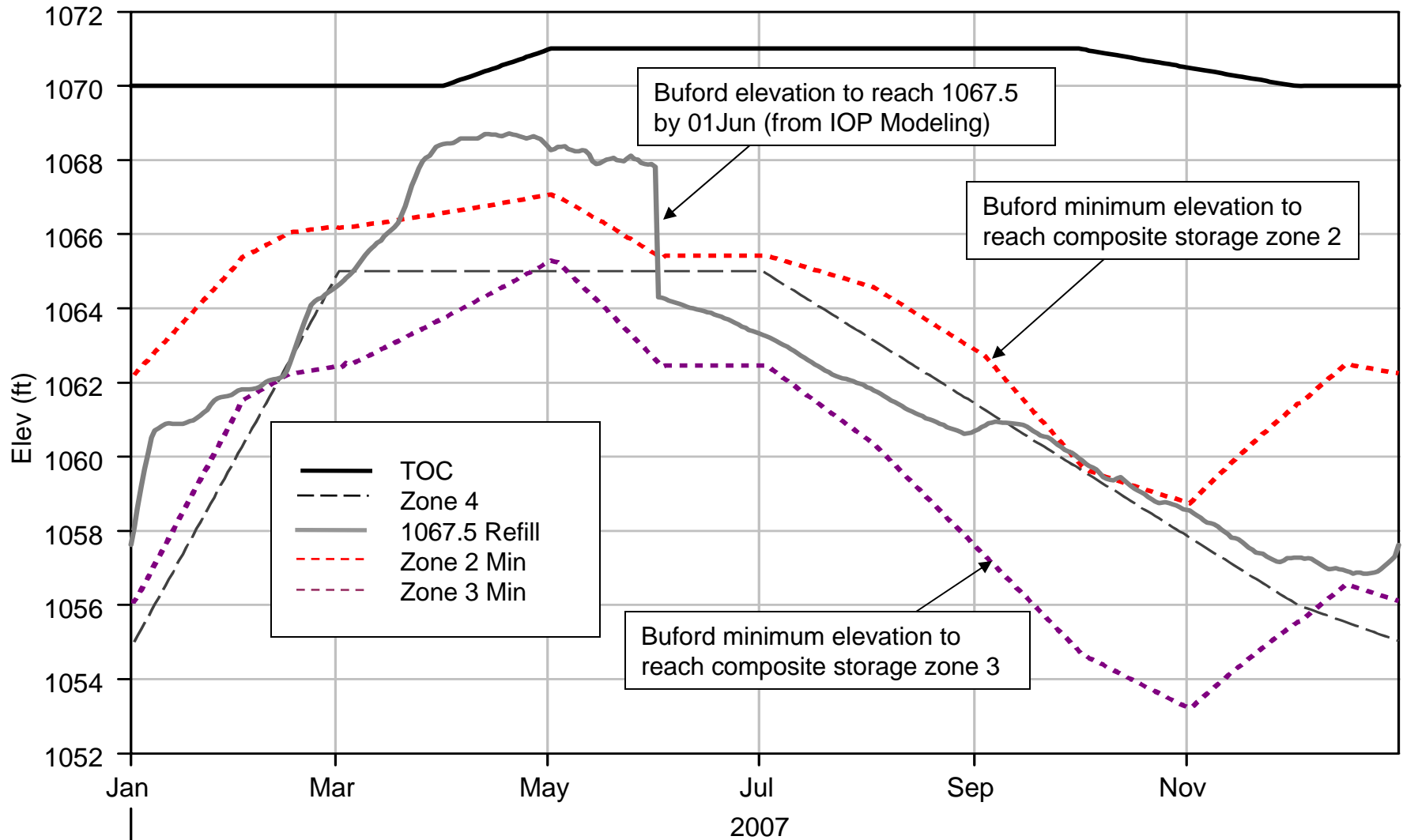
Monthly Basin Inflow Percentile 1976-2006



■ 2007
 ■ 2000
 ■ 1988
 ■ 1986
 ■ Model 10 Percentile
 — 0.02
 — 0.05
 — 0.1
 — 0.25

Lake Lanier Elevation

Lanier Relief Trigger



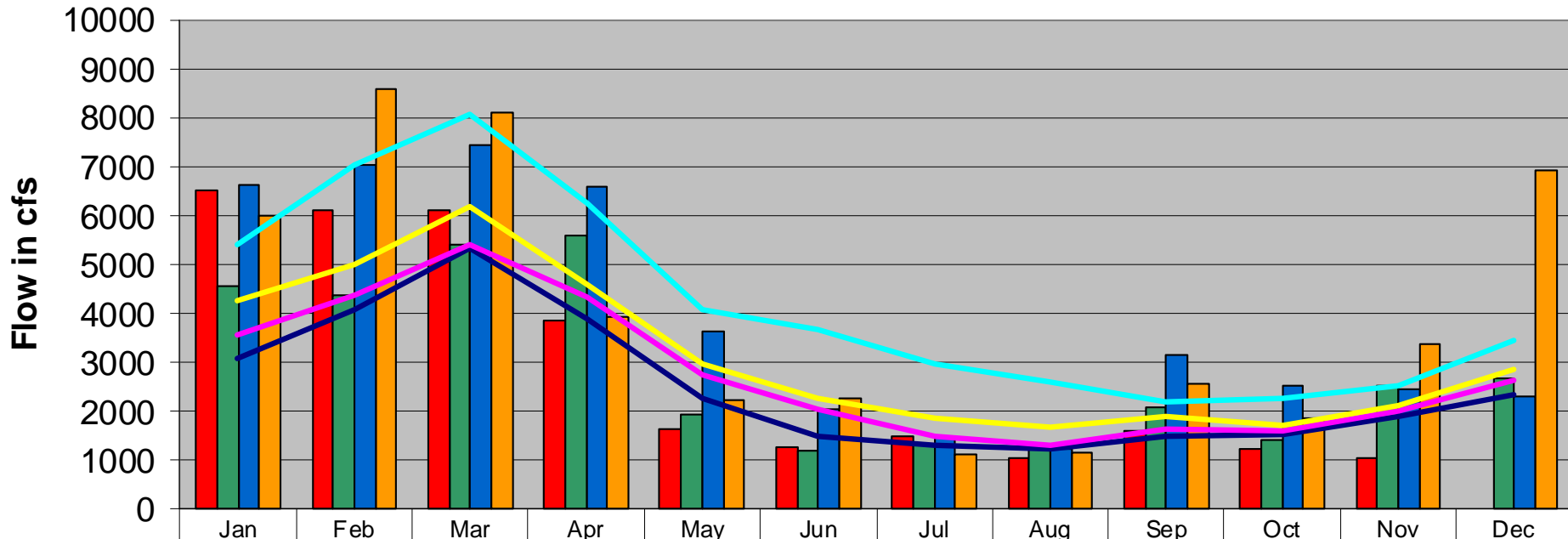
— BUFORD DAM RULE CURVE ELEV
 - - - BUFORD DAM ZONE2_MINIMUM ELEV
 — 1067.5 REFILL ELEV
 - - - BUFORD DAM ZONE4 ELEV

- - - BUFORD DAM ZONE4 ELEV
 - - - BUFORD DAM ZONE3_MINIMUM ELEV

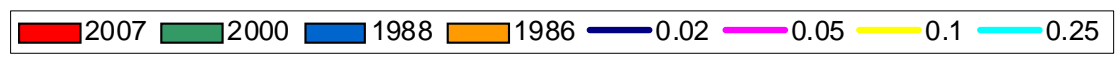
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Flint River at Newton, Ga

Flint River at Newton, GA Monthly Percentile



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2007	6515	6107	6115	3872	1649	1268	1511	1072	1597	1246	1064	
2000	4575	4392	5409	5590	1934	1211	1298	1277	2095	1419	2537	2671
1988	6624	7053	7468	6602	3652	2064	1489	1241	3157	2534	2445	2317
1986	5997	8591	8105	3943	2222	2268	1144	1173	2556	1852	3396	6925
0.02	3092	4098	5328	3882	2293	1492	1307	1248	1512	1544	1898	2342
0.05	3578	4385	5406	4328	2740	2048	1482	1309	1639	1604	2015	2651
0.1	4252	5023	6203	4612	2970	2262	1867	1693	1902	1736	2138	2861
0.25	5428	7052	8068	6272	4082	3661	2974	2601	2184	2288	2519	3475

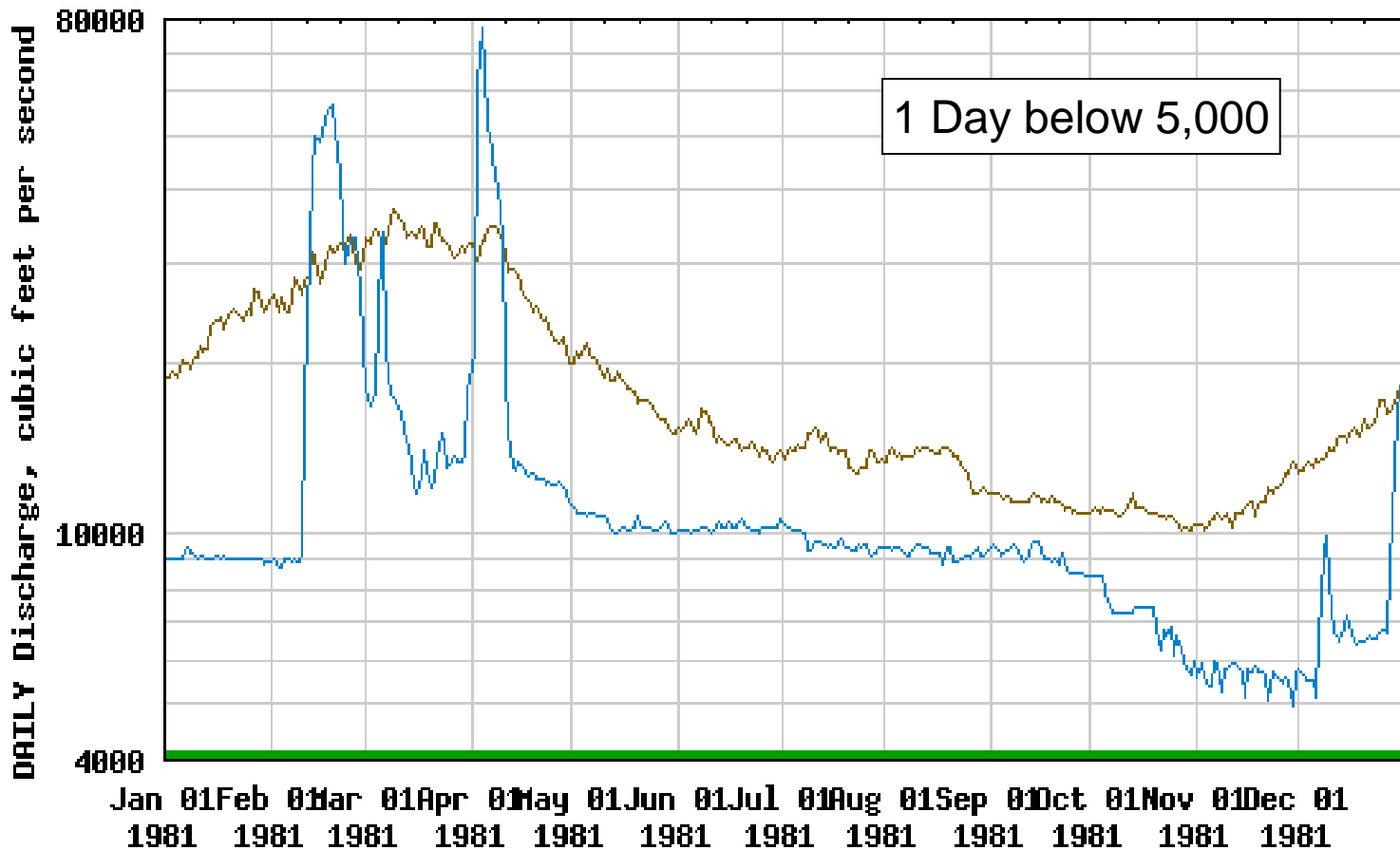


Historic Releases Below 5,000 cfs

1981 Chat Flow < 5,000



USGS 02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE FLA

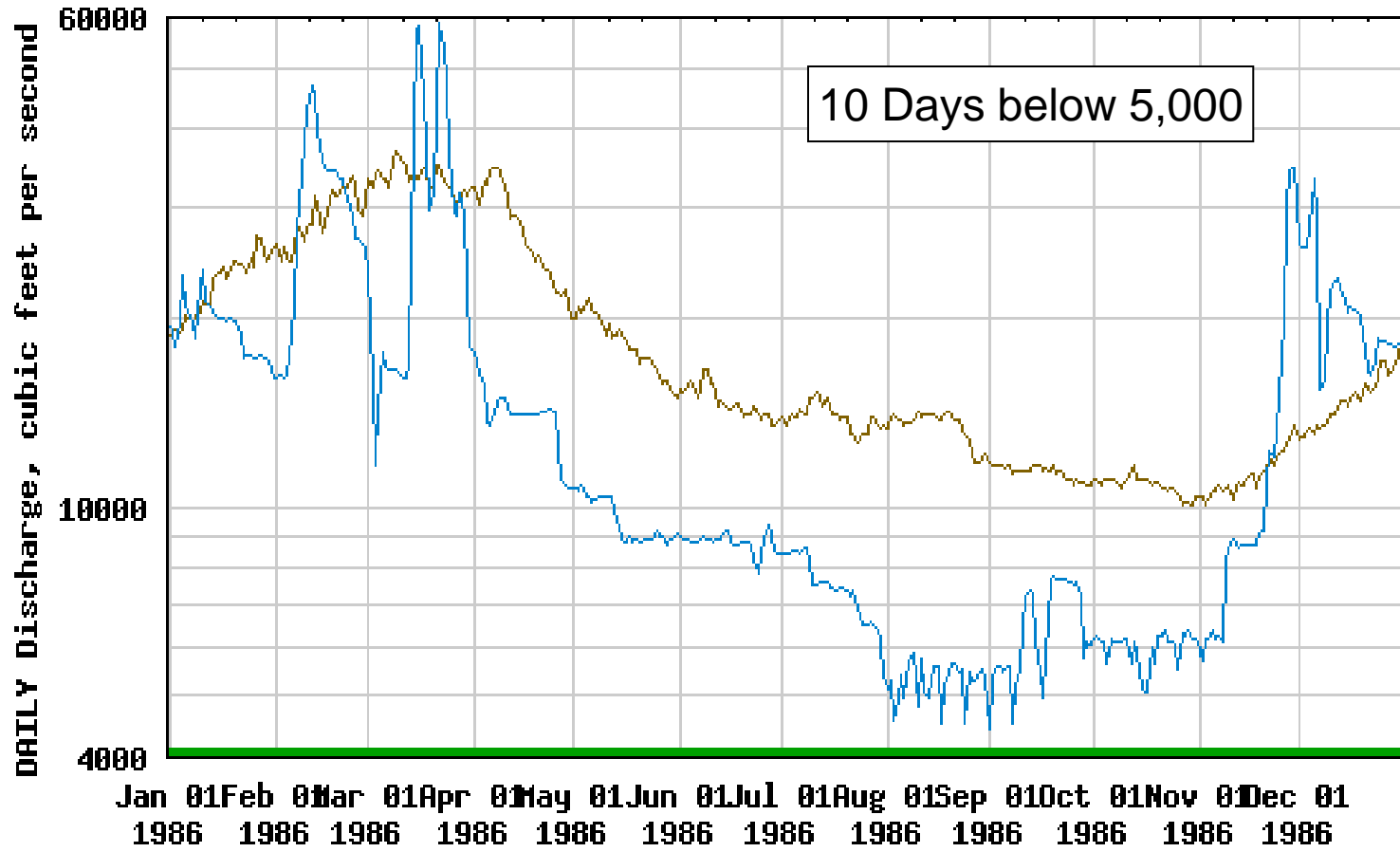


— Median daily statistic (78 years) — Period of approved data
— Daily mean discharge

1986 Chat Flow < 5,000



USGS 02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE FLA

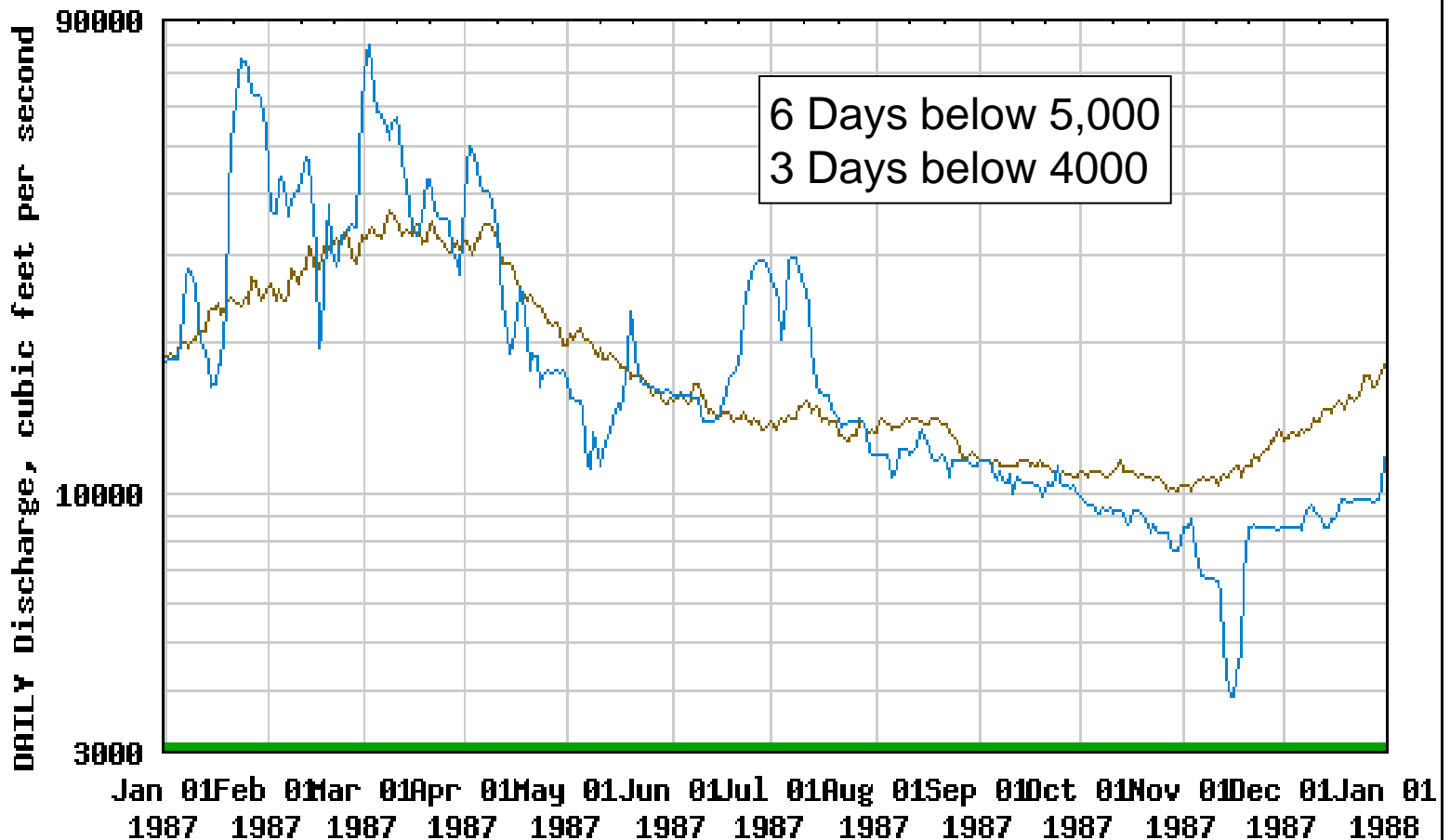


— Median daily statistic (78 years) — Period of approved data
— Daily mean discharge

1987 Chat Flow < 5,000



USGS 02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE FLA

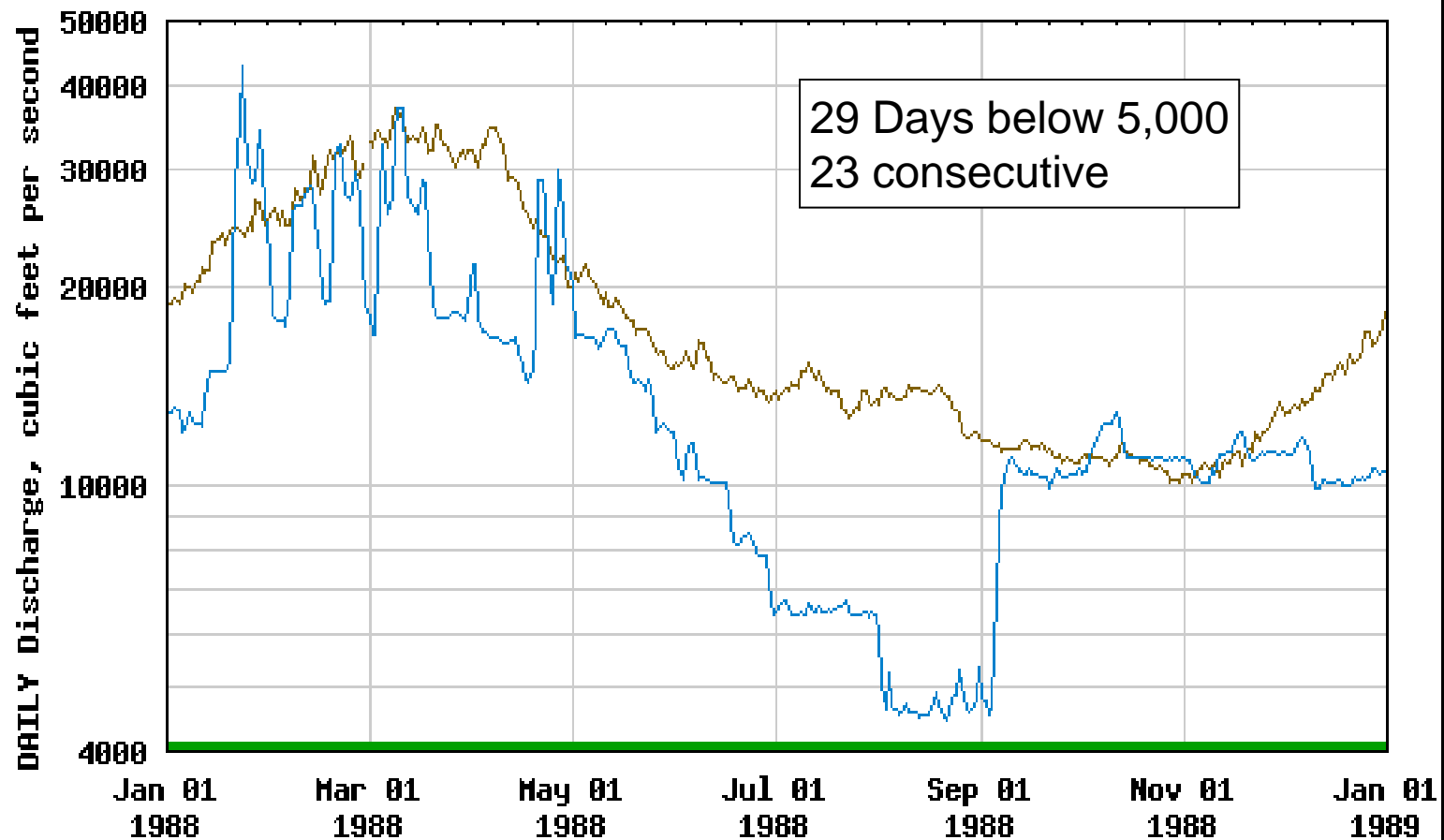


— Median daily statistic (78 years) — Period of approved data
— Daily mean discharge

1988 Chat Flow < 5,000



USGS 02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE FLA

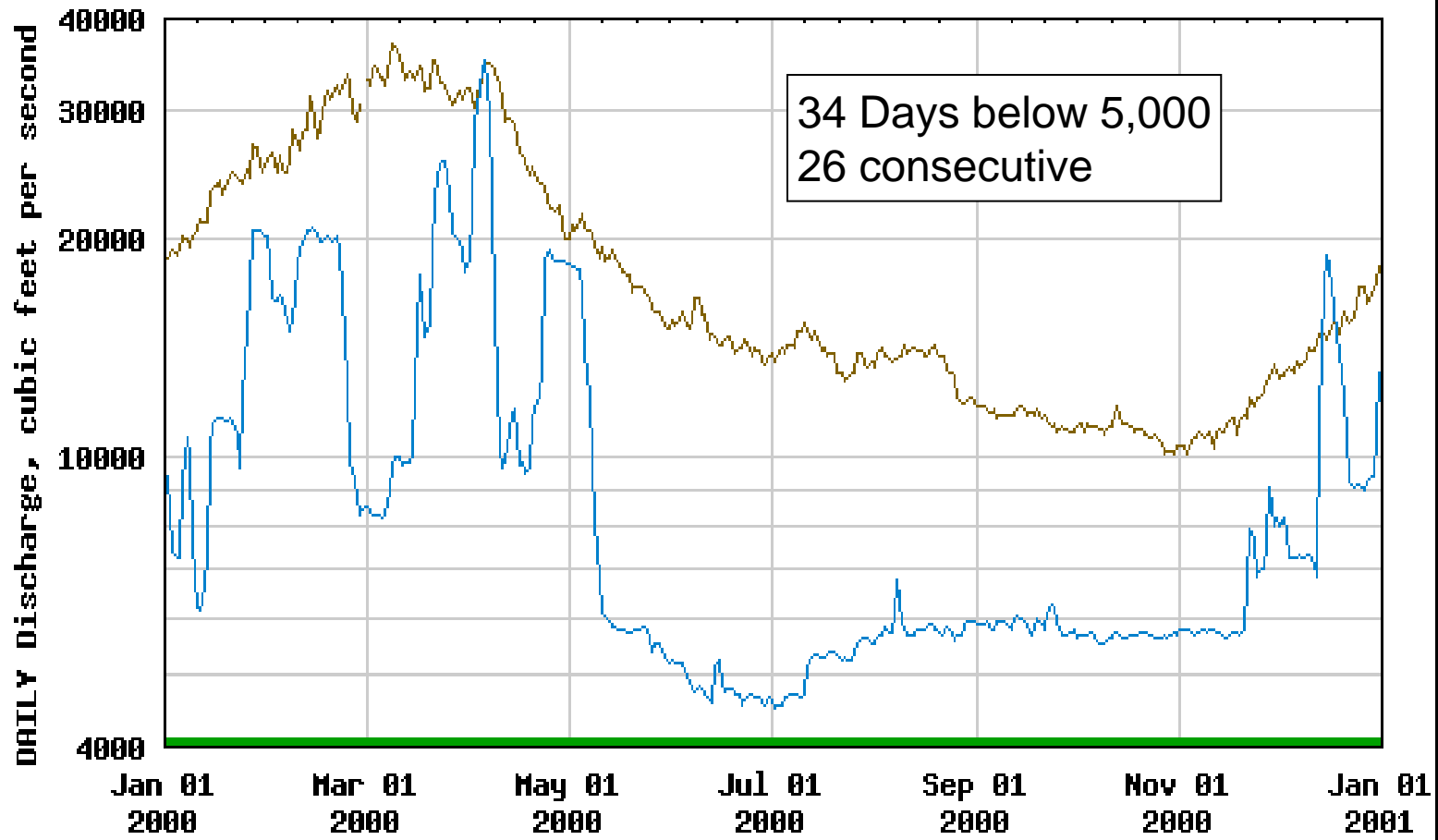


— Median daily statistic (78 years) — Period of approved data
— Daily mean discharge

2000 Chat Flow < 5,000



USGS 02358000 APALACHICOLA RIVER AT CHATTAHOOCHEE FLA



— Median daily statistic (78 years) — Period of approved data
— Daily mean discharge

Parameter Analysis

- Basin Condition during historic releases below 5,000 cfs

Conditions of historic releases less than 5,000 cfs

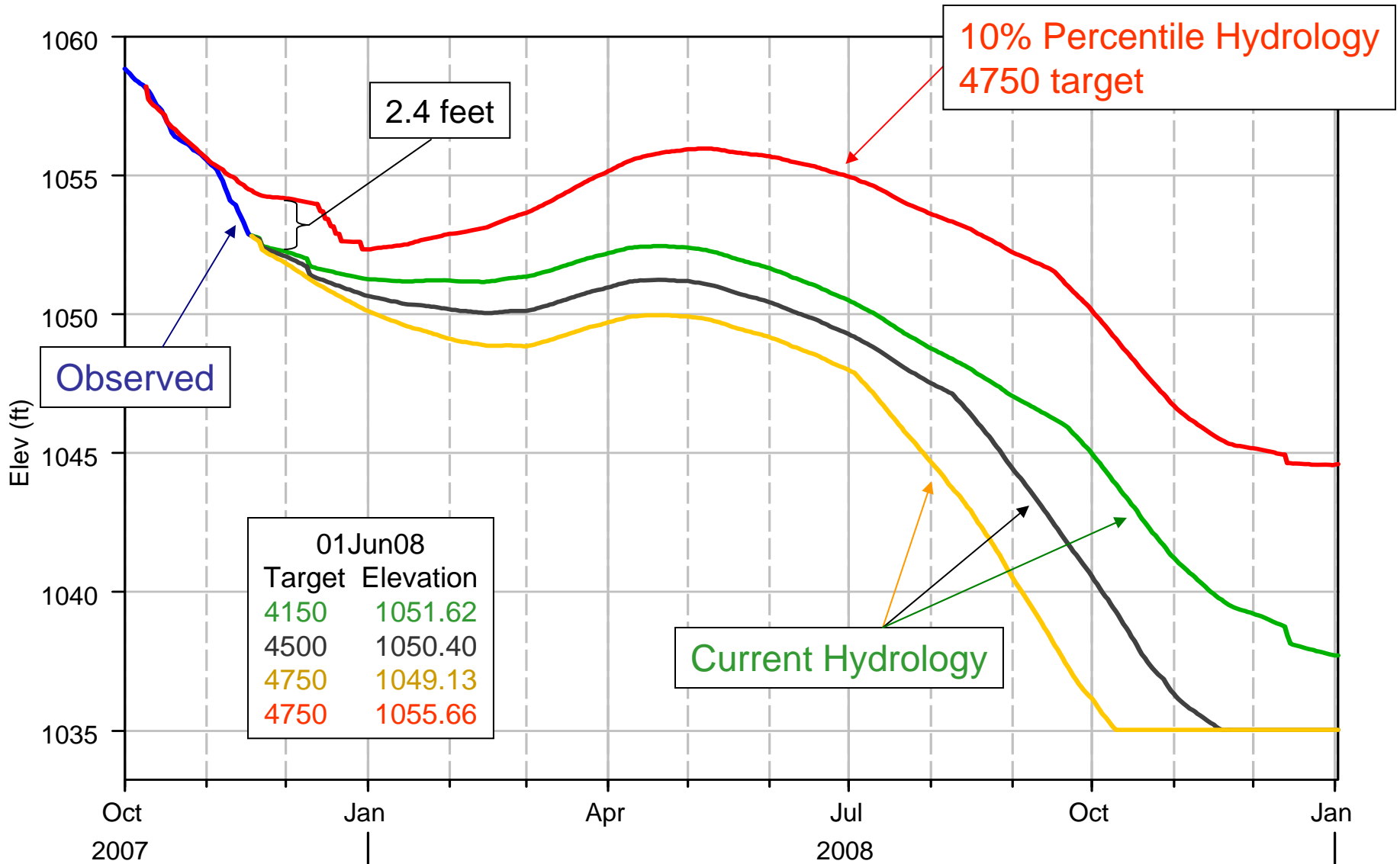
Year	Month < 5000	Composite Zone	Basin Inflow AB WFG			Newton Average Monthly Flow			Accumulated BI AB WFG			< 10 Percentile Modeled Flow		
			Current Month	Previous Month	2 Previous Months	Current Month	Previous Month	2 Previous Months	Current Month	Previous Month	2 Previous Months	Current Month	Previous Month	2 Previous Months
1986	Sep	4		<10%	< 2%		< 2%	< 2%	<5%	<5%	<5%			
1988	Aug/Sep	4		<10%	< 2%	< 2%	< 10%	< 10%	< 10%	< 10%				
2000	Jun/Jul	4	< 5%	< 5%	< 2%	< 2%	< 2%		< 2%	<5%		Yes	Yes	
2007	Nov	4	< 2%	< 2%	< 2%		< 2%	< 2%	< 2%	< 2%	<5%	Yes		

Possible Triggers for 4500

Flow Target					
Parameter	4750		4500		4150
Composite Storage Zone	4		4		4
BI AB WFG Previous Month			< 5%		< 5%
BI AB WFG Previous 2 Month					< 5%
Newton Ave Flow Previous Month			< 5%		< 5%
Newton Ave Flow 2 Previous Month					< 5%
Acc BI AB WFG Previous Month					< 5%
BI < 10 Percentile Model Flow Previous Month					

Updated Modeling

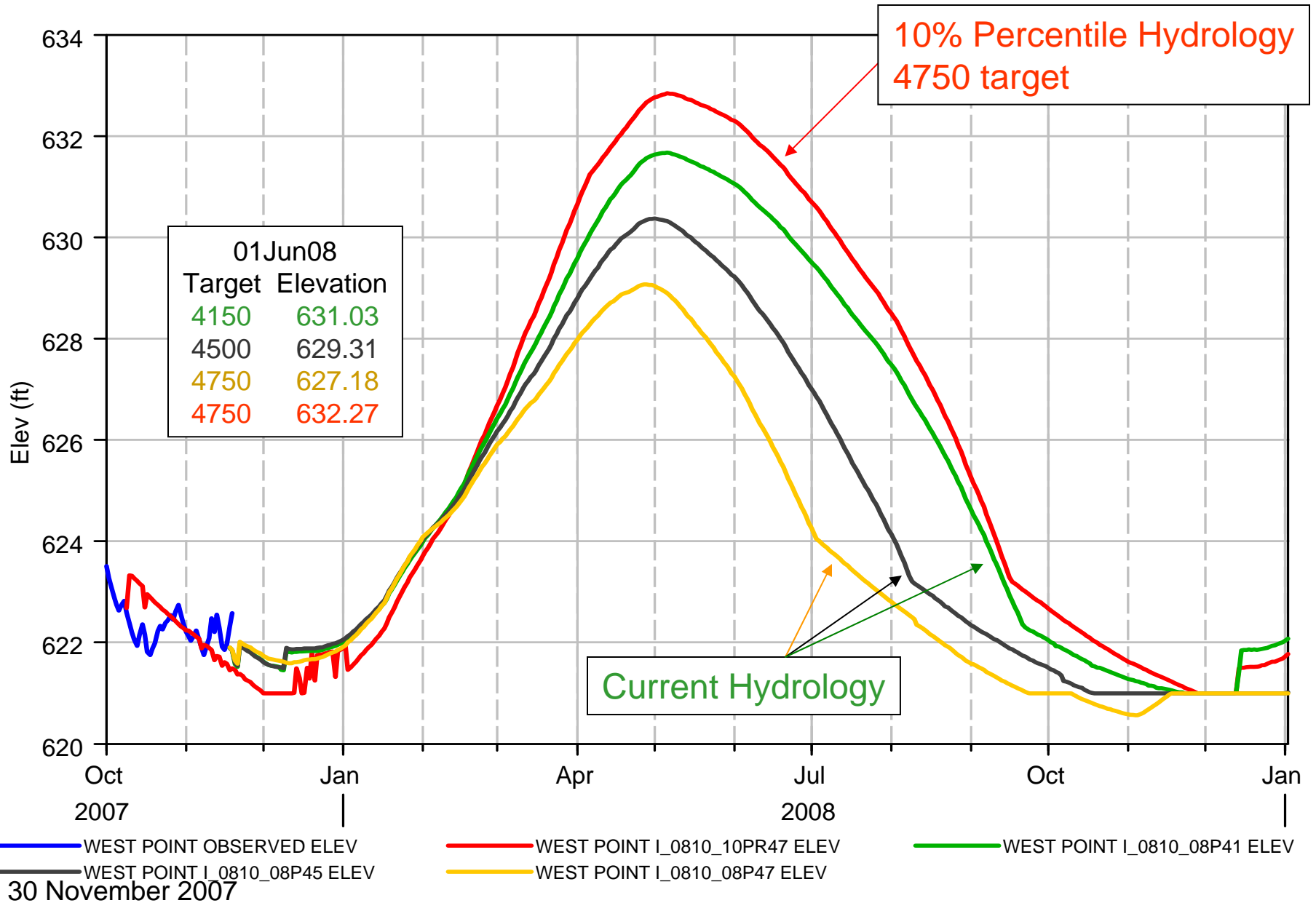
Buford Updated Forecast 18Nov07



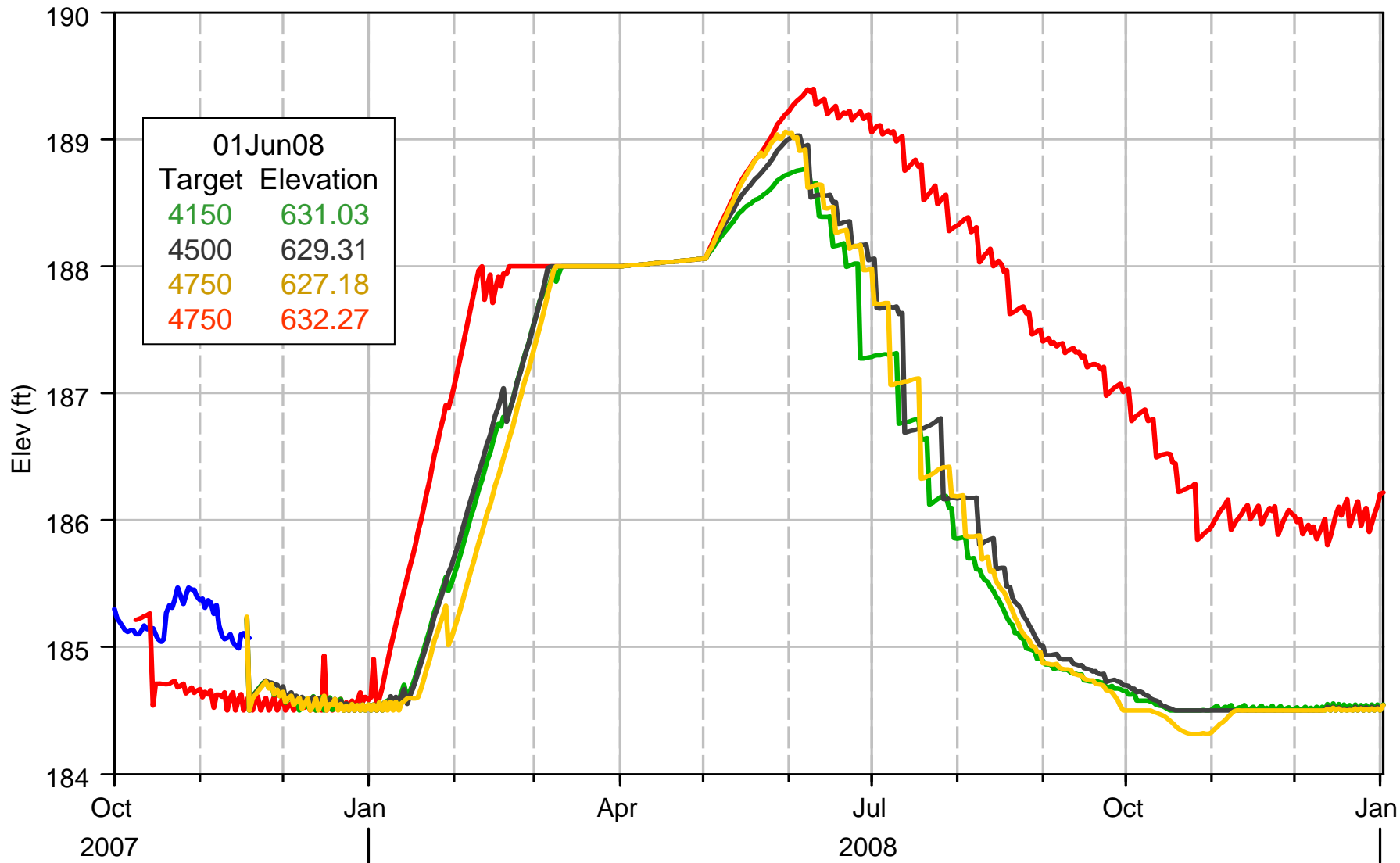
— BUFORD DAM OBSERVED ELEV
 — BUFORD DAM I_0810_10PR47 ELEV
 — BUFORD DAM I_0810_08P41 ELEV
— BUFORD DAM I_0810_08P45 ELEV
 — BUFORD DAM I_0810_08P47 ELEV

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West Point Updated Forecast 18Nov07



WF George Updated Forecast 18Nov07



— W.F. GEORGE OBSERVED ELEV

— W.F. GEORGE I_0810_10PR47 ELEV

— W.F. GEORGE I_0810_08P41 ELEV

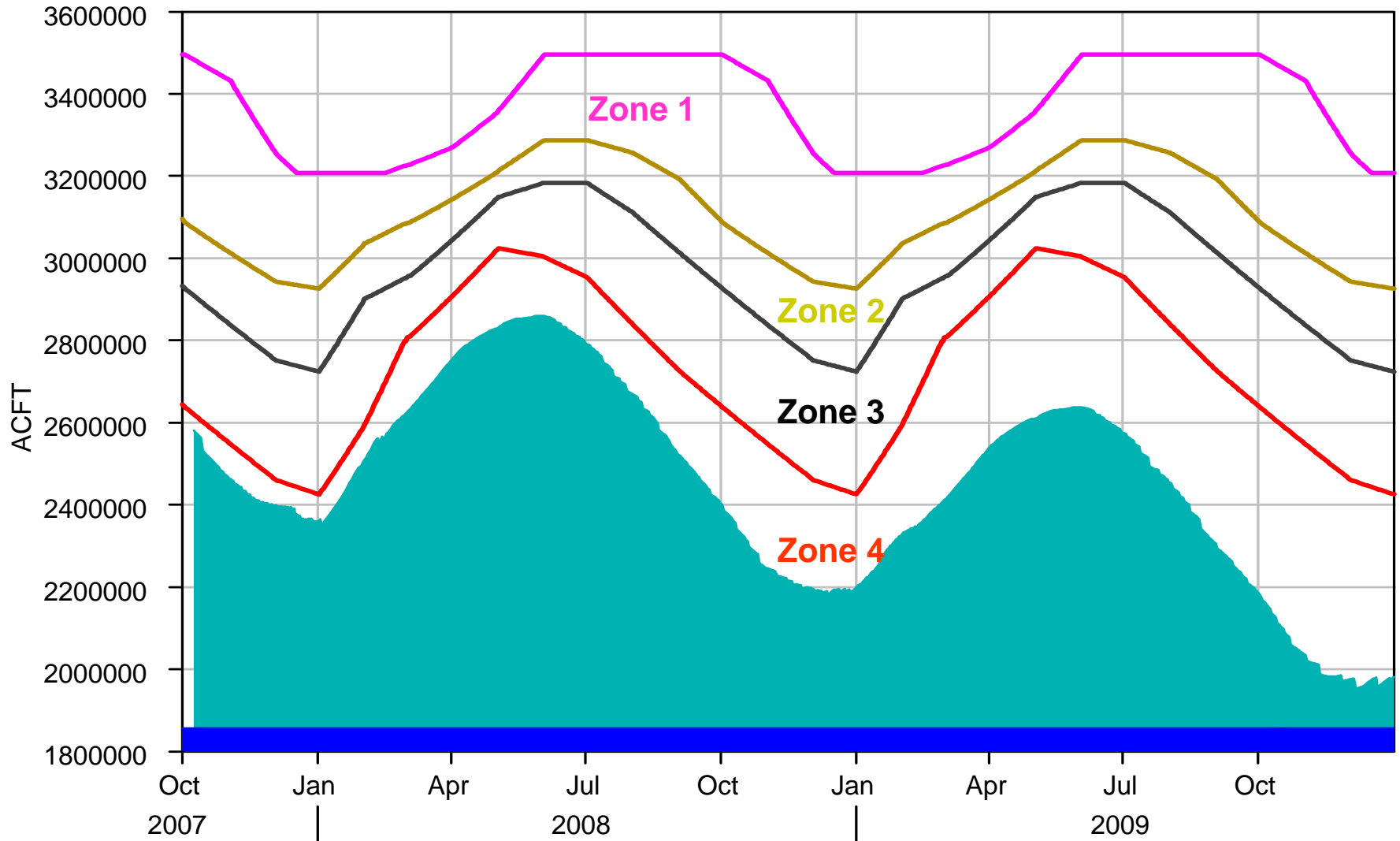
— W.F. GEORGE I_0810_08P45 ELEV

— W.F. GEORGE I_0810_08P47 ELEV

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Composite Storage Forecast

10 Percentile Hydrology, Minimum flow = 4750



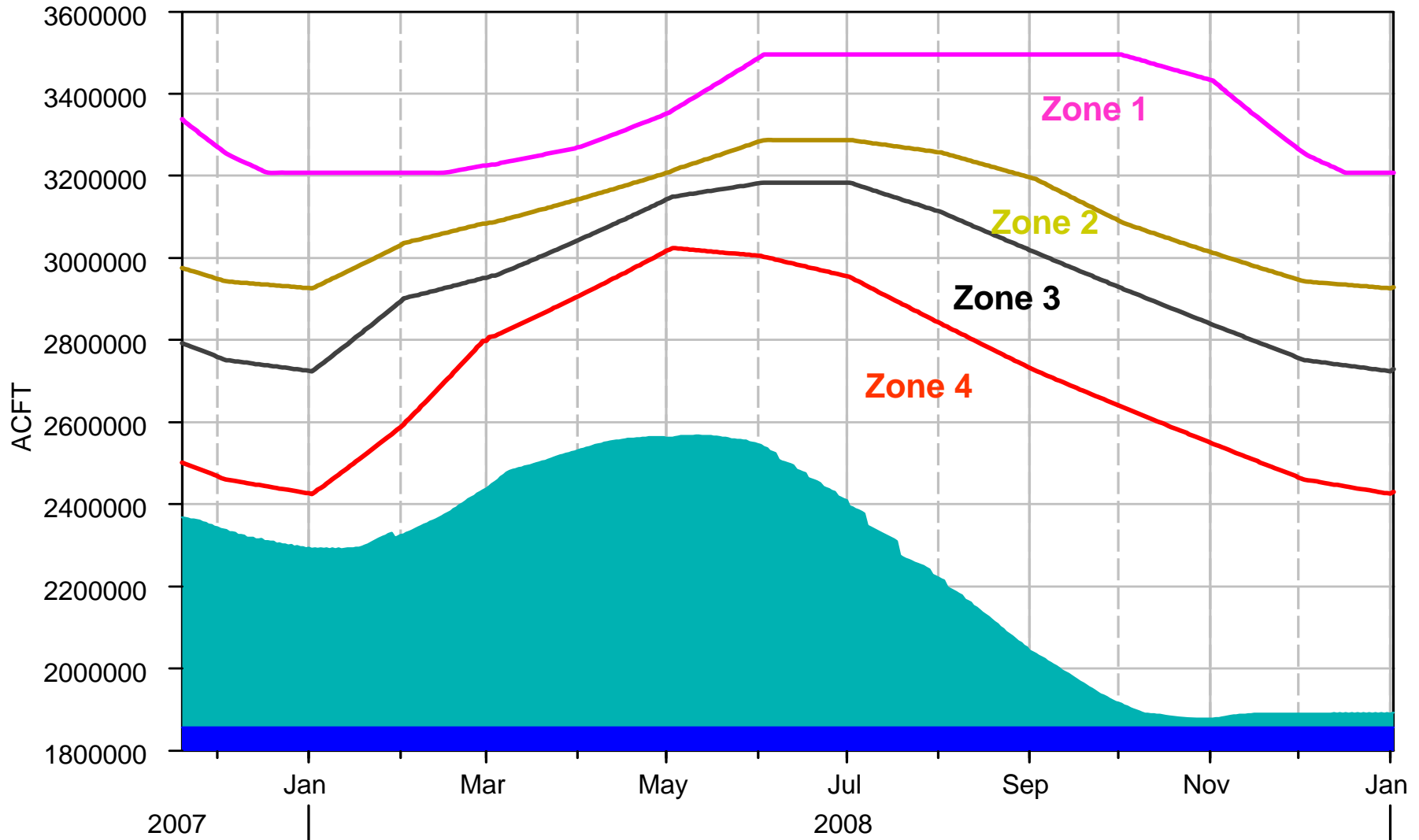
■ COMPOSITE-STOR I_0810_10P47 STOR-RES EOP
■ COMPOSITE-STOR ZONE2 STOR-RES EOP
■ COMPOSITE-STOR ZONE4 STOR-RES EOP

■ COMPOSITE-STOR ZONE1 STOR-RES EOP
■ COMPOSITE-STOR ZONE3 STOR-RES EOP
■ COMPOSITE-STOR BOTTOM STOR-RES EOP

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Composite Storage Forecast

Current Hydrology, Minimum flow = 4750

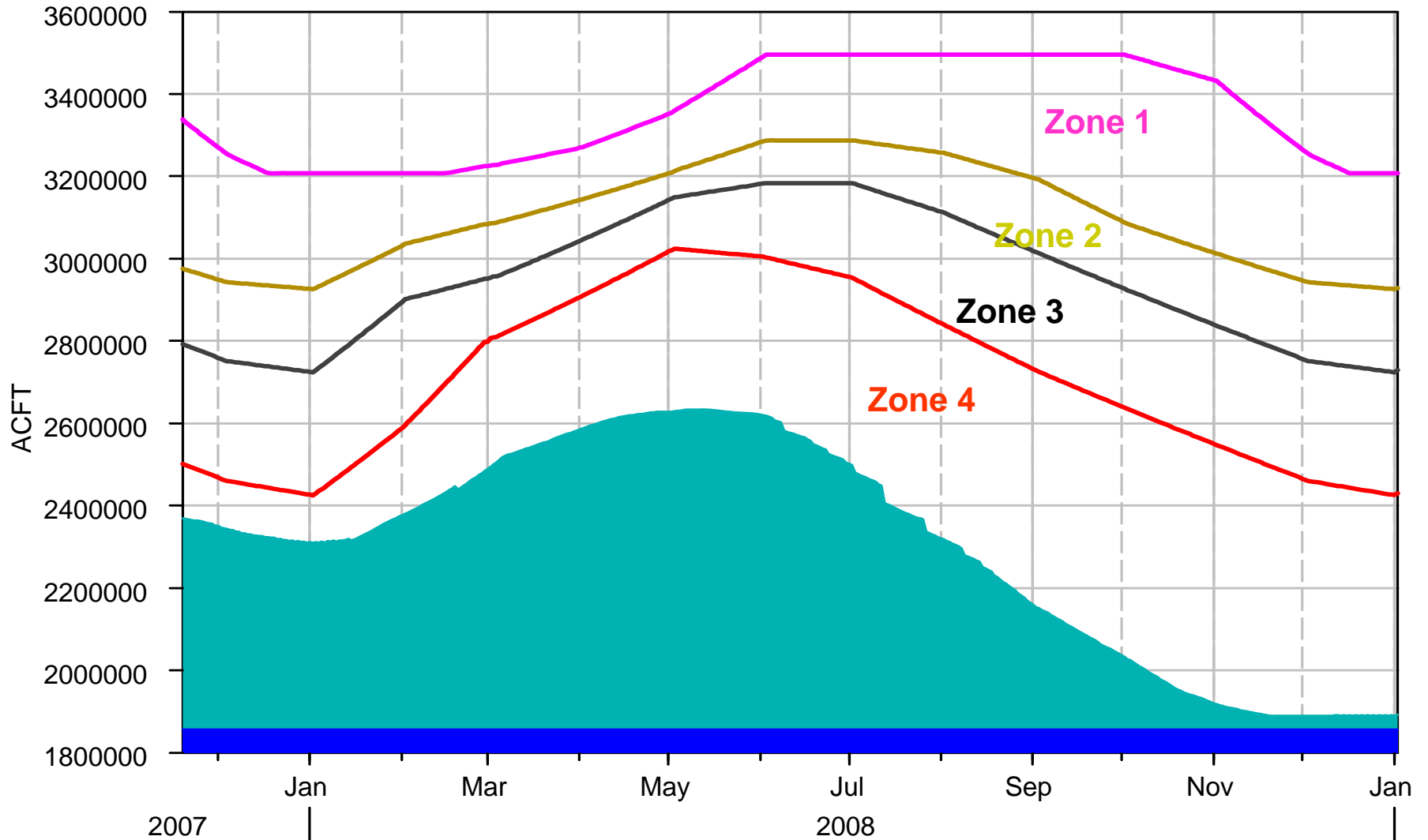


■ COMPOSITE-STOR I_0810_08P47 STOR-RES EOP
■ COMPOSITE-STOR ZONE2 STOR-RES EOP
■ COMPOSITE-STOR ZONE4 STOR-RES EOP
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■ COMPOSITE-STOR ZONE1 STOR-RES EOP
■ COMPOSITE-STOR ZONE3 STOR-RES EOP
■ COMPOSITE-STOR BOTTOM STOR-RES EOP

Composite Storage Forecast

Current Hydrology, Minimum flow = 4500



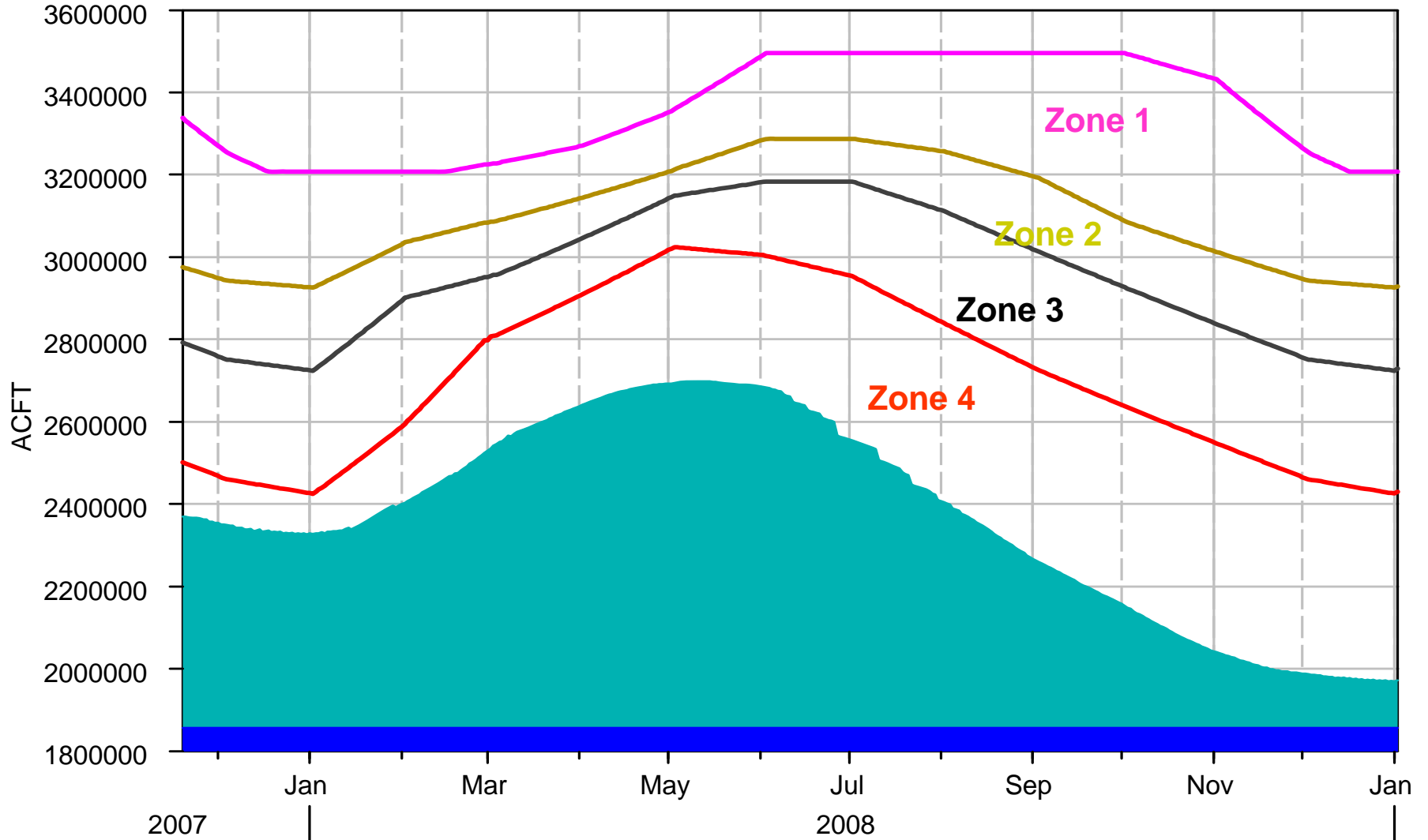
■ COMPOSITE-STOR I_0810_08P45 STOR-RES EOP
■ COMPOSITE-STOR ZONE2 STOR-RES EOP
■ COMPOSITE-STOR ZONE4 STOR-RES EOP

■ COMPOSITE-STOR ZONE1 STOR-RES EOP
■ COMPOSITE-STOR ZONE3 STOR-RES EOP
■ COMPOSITE-STOR BOTTOM STOR-RES EOP

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Composite Storage Forecast

Current Hydrology, Minimum flow = 4150

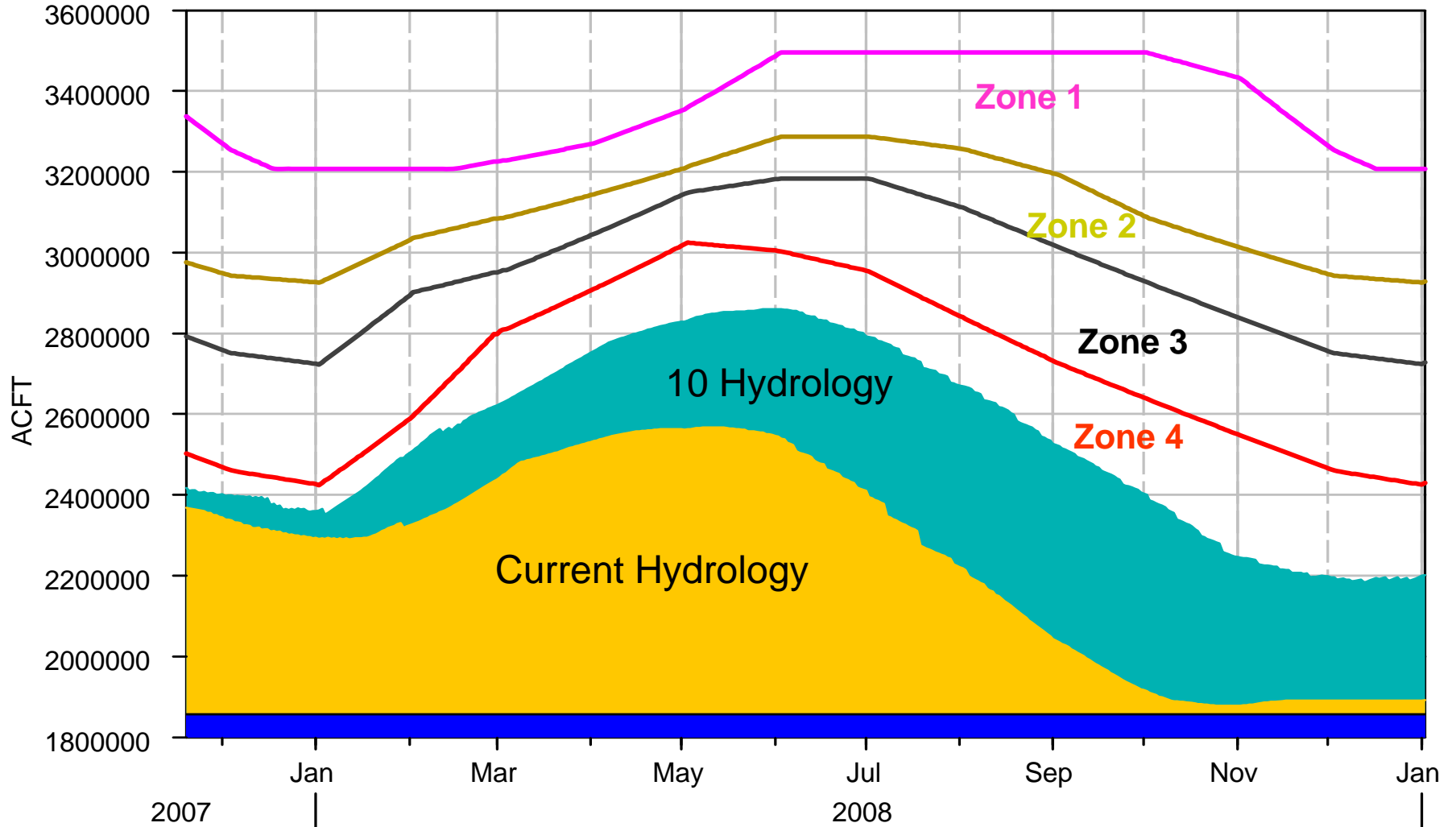


COMPOSITE-STOR I_0810_08P41 STOR-RES EOP
COMPOSITE-STOR ZONE2 STOR-RES EOP
COMPOSITE-STOR ZONE4 STOR-RES EOP

COMPOSITE-STOR ZONE1 STOR-RES EOP
COMPOSITE-STOR ZONE3 STOR-RES EOP
COMPOSITE-STOR BOTTOM STOR-RES EOP

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Composite Storage Forecast, Minimum flow = 4750

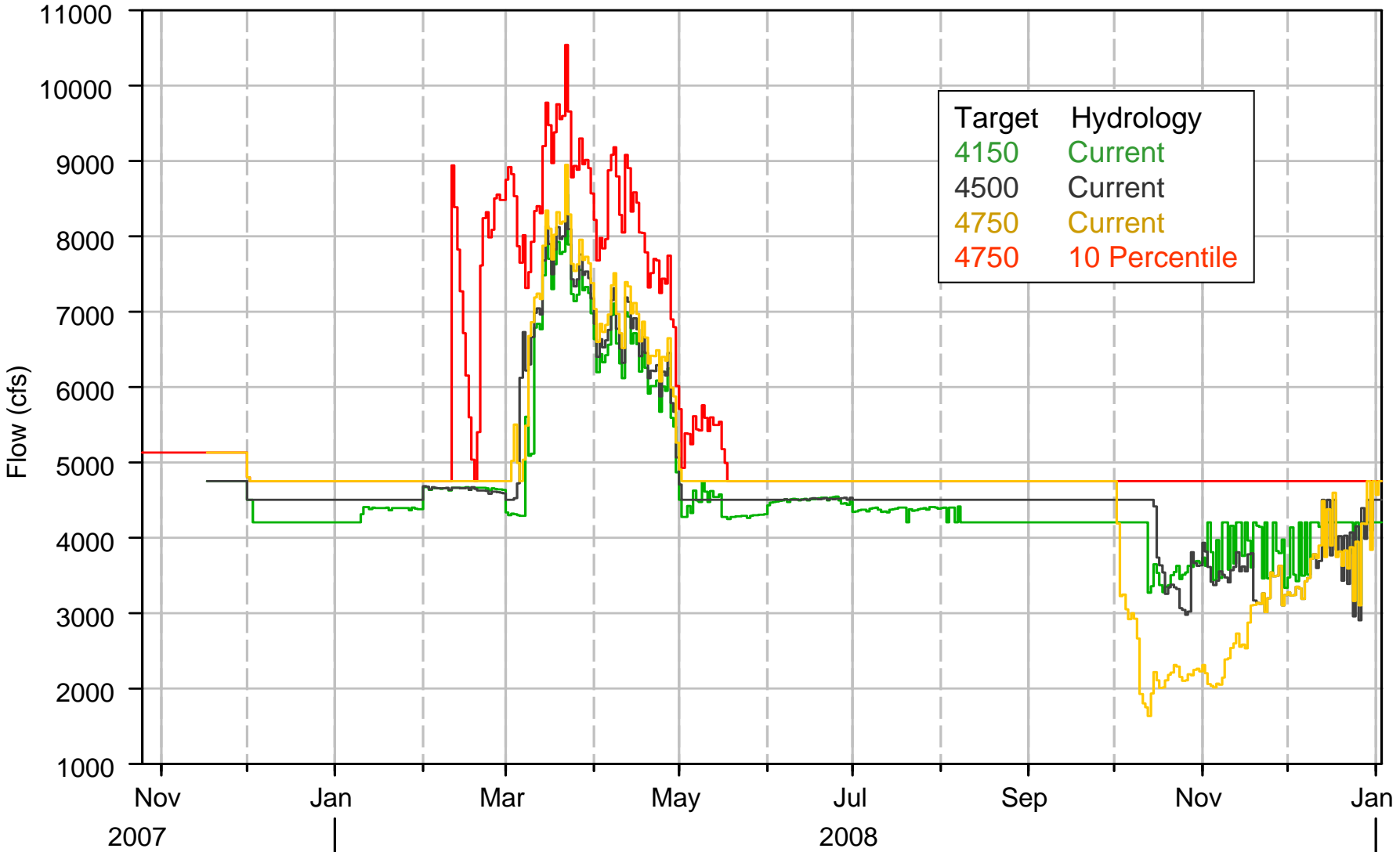


■ COMPOSITE-STOR I_0810_10P47 STOR-RES EOP
■ COMPOSITE-STOR ZONE2 STOR-RES EOP
■ COMPOSITE-STOR ZONE4 STOR-RES EOP
■ COMPOSITE-STOR BOTTOM STOR-RES EOP

■ COMPOSITE-STOR ZONE1 STOR-RES EOP
■ COMPOSITE-STOR ZONE3 STOR-RES EOP
■ COMPOSITE-STOR I_0810_08P47 STOR-RES EOP

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Chattahoochee Updated Forecast 18Nov07

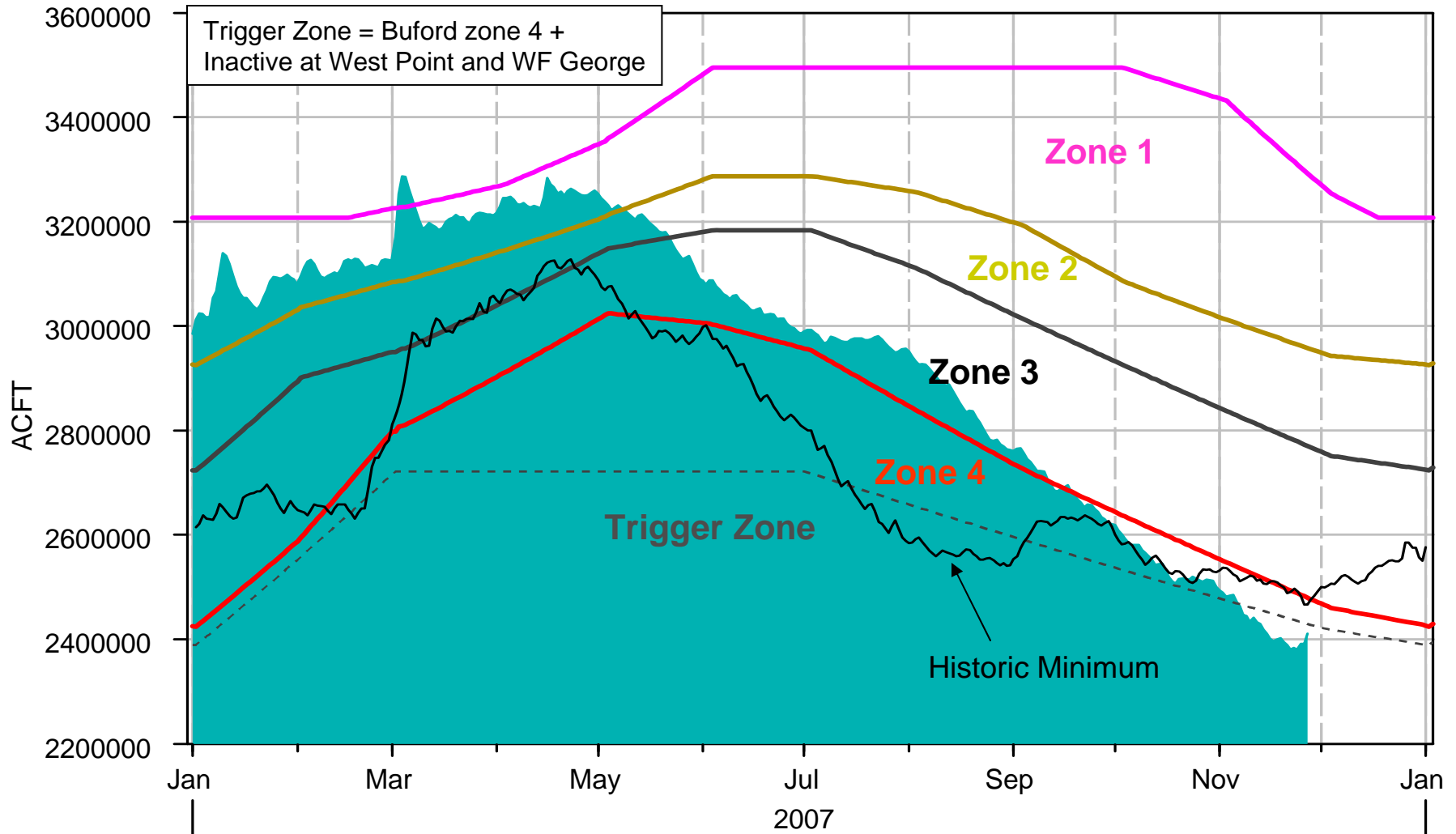


CHATTAHOOCHEE I_0810_10PR47 FLOW-REG
 CHATTAHOOCHEE I_0810_08P45 FLOW-REG

CHATTAHOOCHEE I_0810_08P41 FLOW-REG
 CHATTAHOOCHEE I_0810_08P47 FLOW-REG

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Composite Storage Trigger



COMPOSITE-STOR OBSERVED STOR-RES EOP

COMPOSITE-STOR ZONE2 STOR-RES EOP

COMPOSITE-STOR ZONE4 STOR-RES EOP

COMPOSITE-STOR OBS 75-2006 STOR-RES EOP-MIN

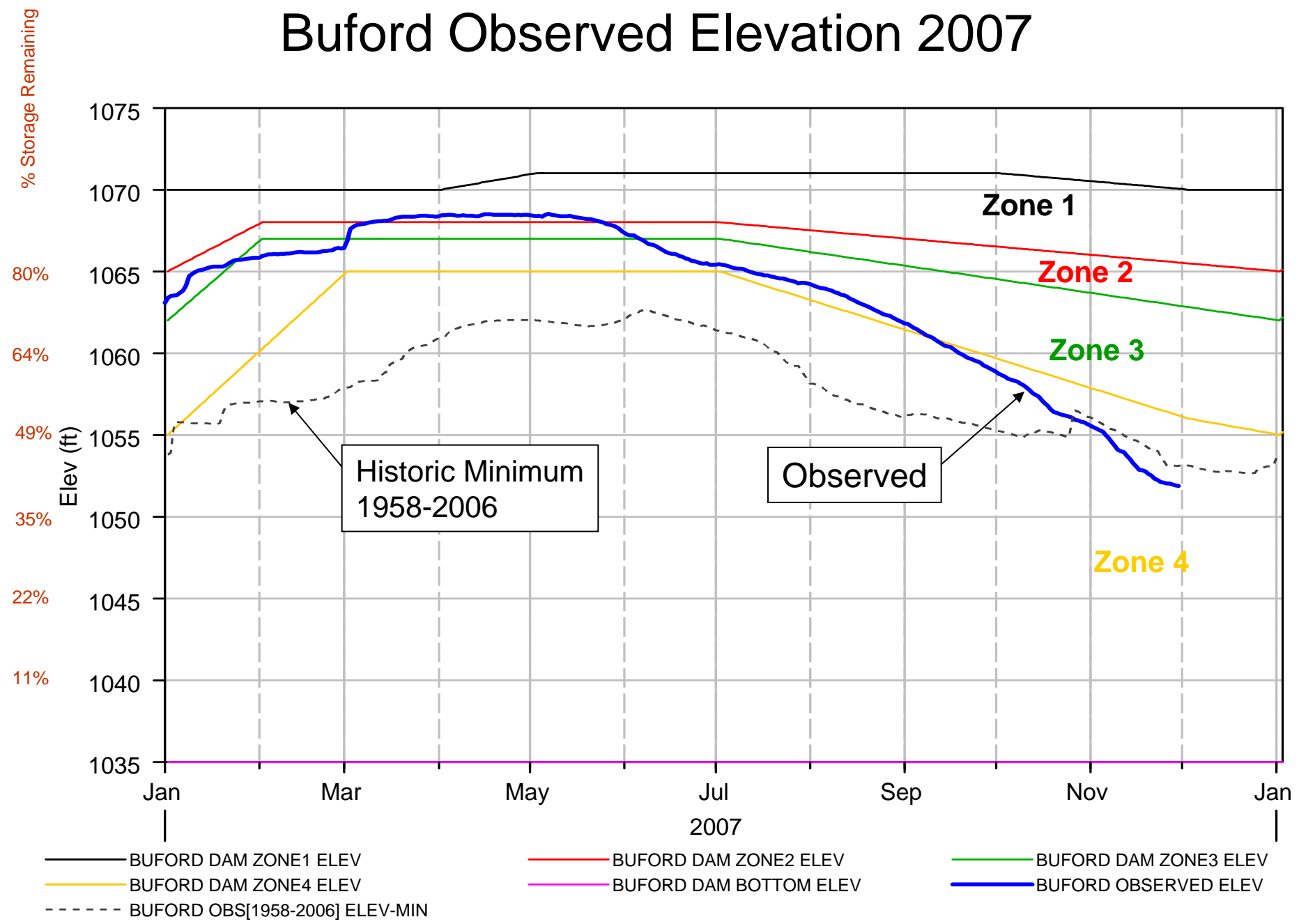
COMPOSITE-STOR ZONE1 STOR-RES EOP

COMPOSITE-STOR ZONE3 STOR-RES EOP

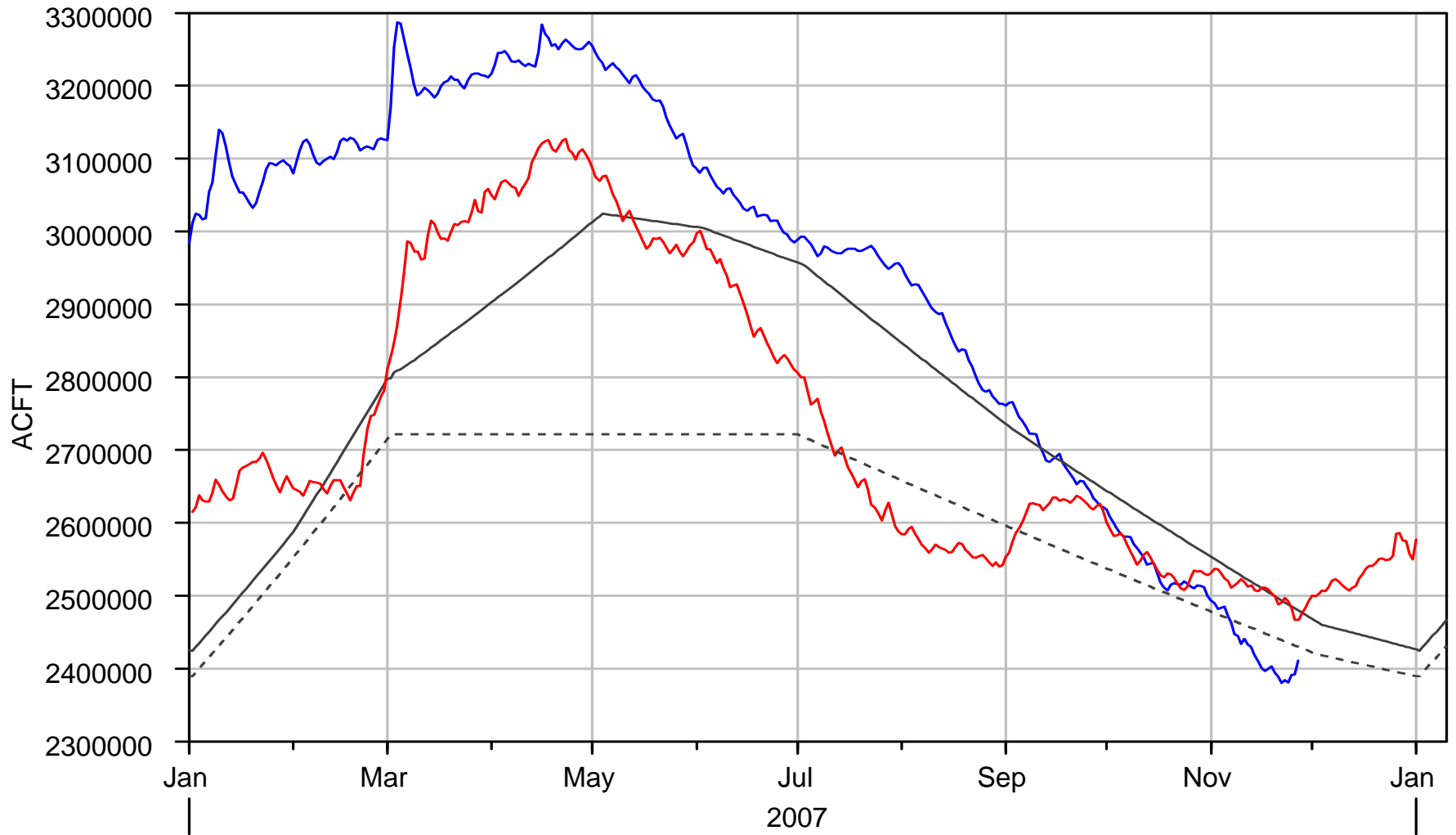
BUFORD DAM ZONE4+INACTIVE STOR-RES EOP

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Buford Observed Elevation 2007



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- COMPOSITE-STOR OBSERVED STOR-RES EOP
- COMPOSITE-STOR ZONE4 STOR-RES EOP
- COMPOSITE-STOR OBSERVED[09MAY1975-31DEC2006] STOR-RES EOP-MIN
- - - - BUFORD DAM ZONE4+INACTIVE STORAGE

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