

RECLAMATION

Managing Water in the West

Fontenelle Working Group Meeting

April 21, 2009



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U.S. Department of the Interior
Bureau of Reclamation

Fontenelle Reservoir Current Status

As of 4/20/09

Storage

Live Capacity	345,000 AF
Capacity on 4/20/09	<u>119,000 AF</u> (34% full)

Pool Elevation

Top of reservoir	6506.0 ft
Elevation on 4/20/09	<u>6470.0 ft</u>
Elevation below top	36.0 ft

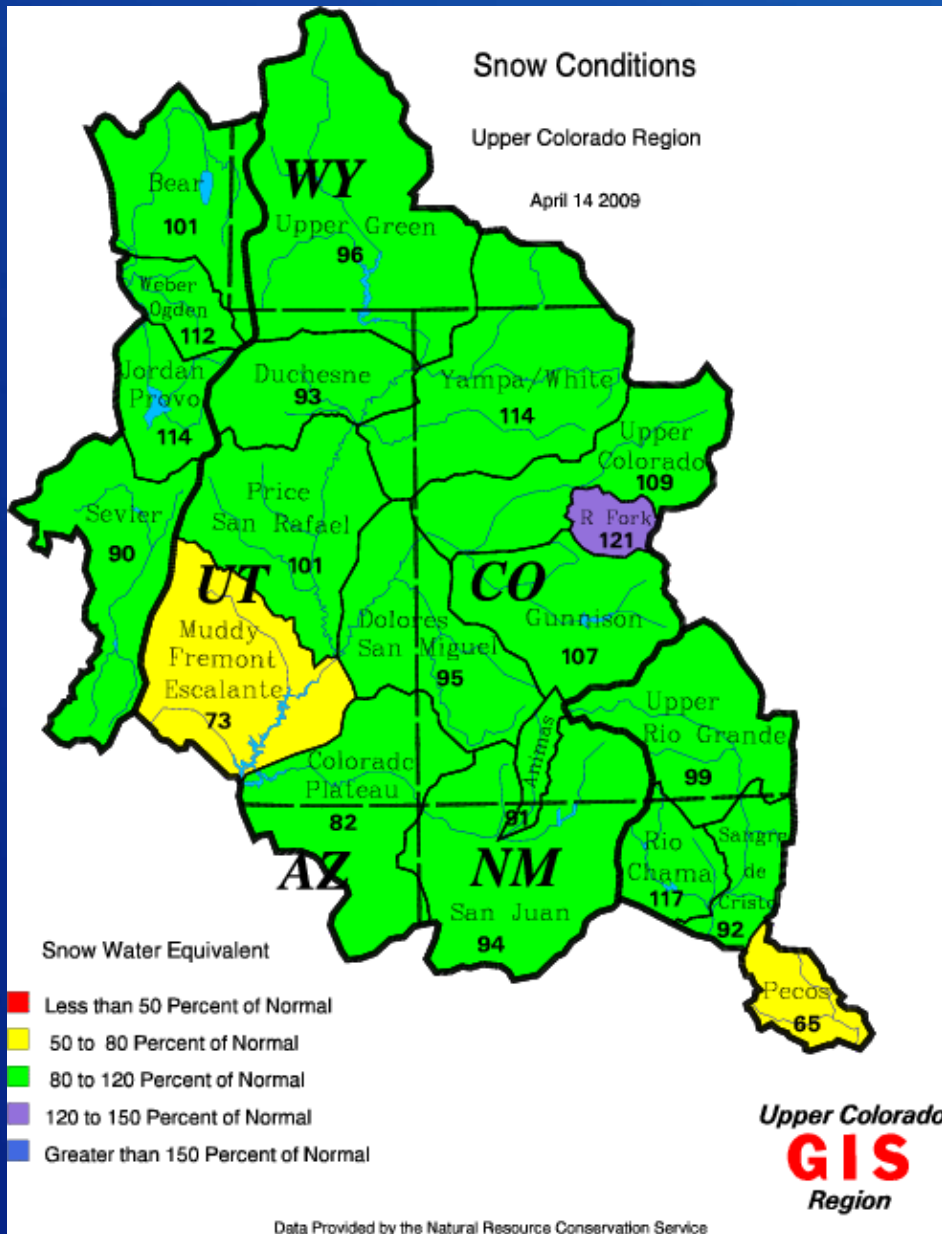
Inflow and Release

5 Day Average Inflow	1870 cfs
Current Release on 4/21/09	950 cfs

Expect to ramp up to powerplant capacity (~1200 cfs) within a week

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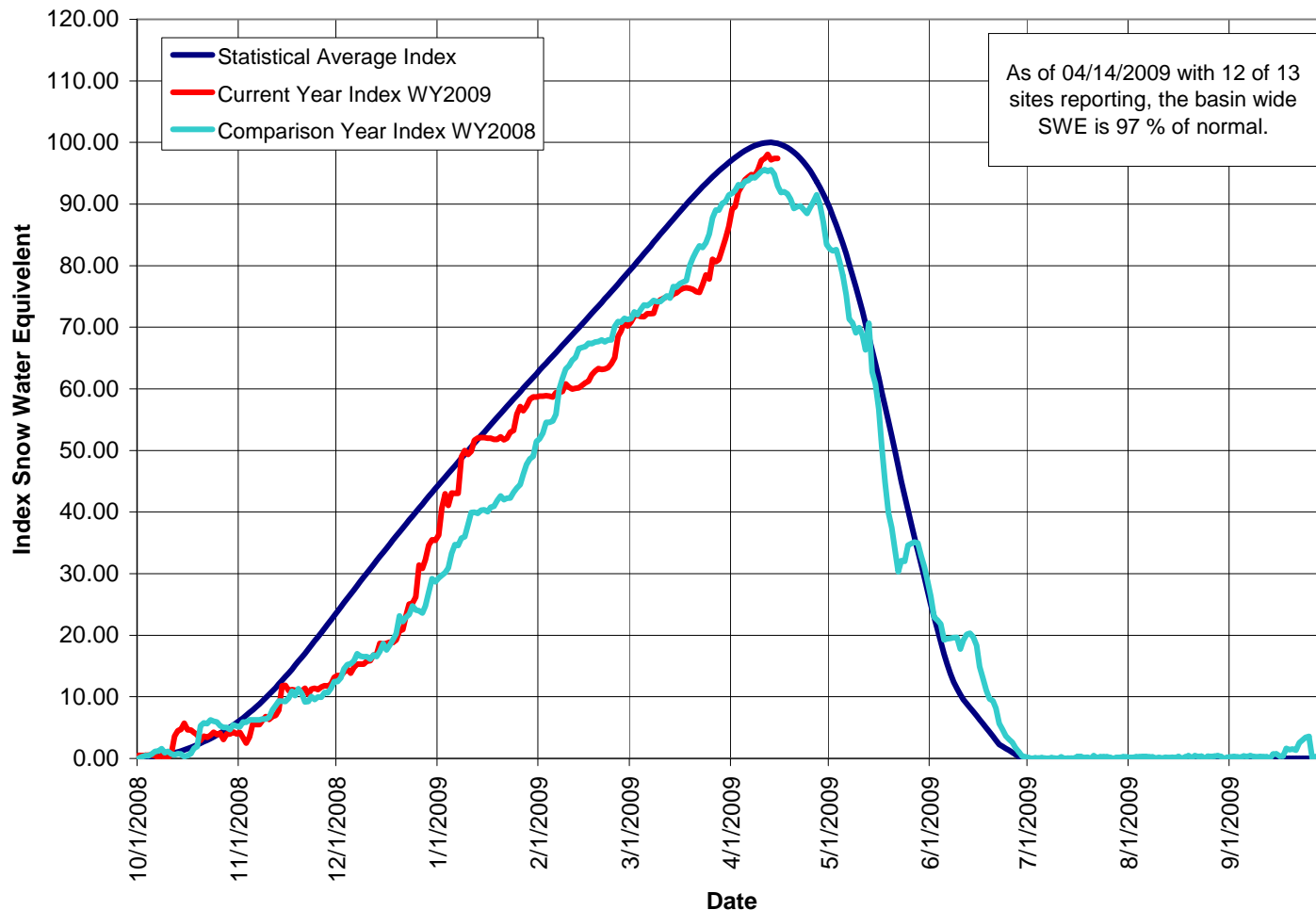
Snow Water Equivalent (SWE) Current Conditions



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Current Snowpack

Upper Green River Basin Snotel Tracking
Aggregate of 13 Snotel Sites above Fontenelle Reservoir



Drought Conditions

U.S. Drought Monitor West

April 14, 2009

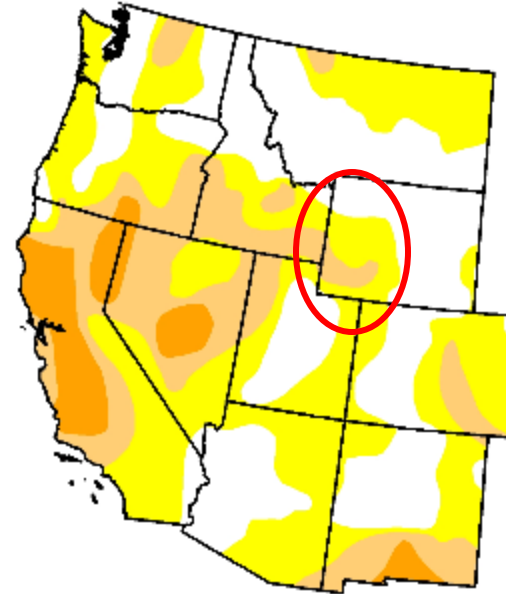
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.7	65.3	25.6	7.1	0.0	0.0
Last Week (04/07/2009 map)	36.5	63.5	26.3	7.1	0.0	0.0
3 Months Ago (01/20/2009 map)	43.2	56.8	28.2	9.8	1.7	0.0
Start of Calendar Year (01/06/2009 map)	37.4	62.6	28.9	8.8	0.4	0.0
Start of Water Year (10/07/2008 map)	41.3	58.7	28.6	10.4	0.1	0.0
One Year Ago (04/15/2008 map)	40.5	59.5	35.0	8.4	0.0	0.0

Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, April 16, 2009
Author: Richard Heim, NOAA/NESDIS/NCDC

30 Day Temperature Outlook

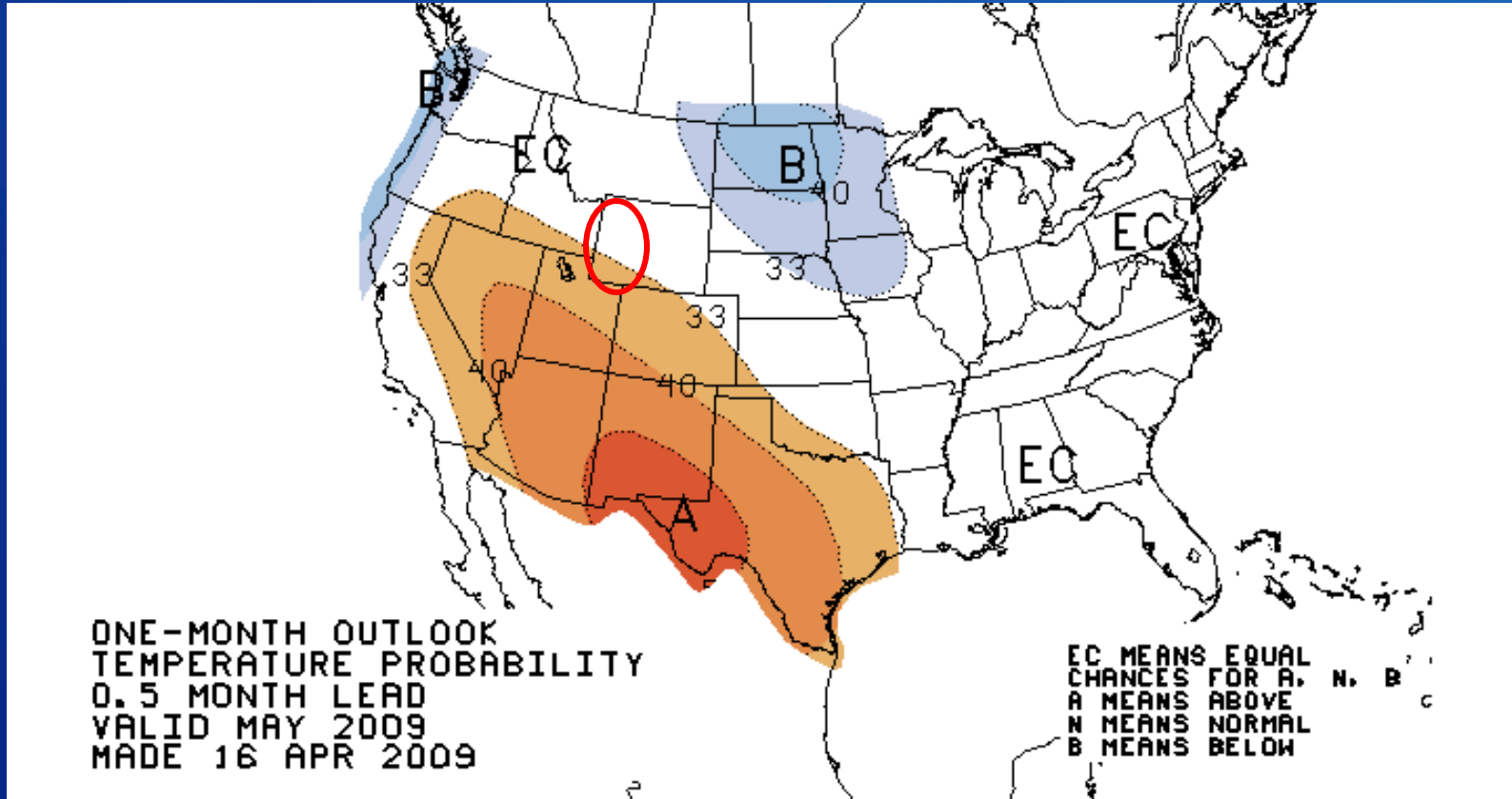


Image courtesy of National Weather Service Climate Prediction Center

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30 Day Precipitation Outlook

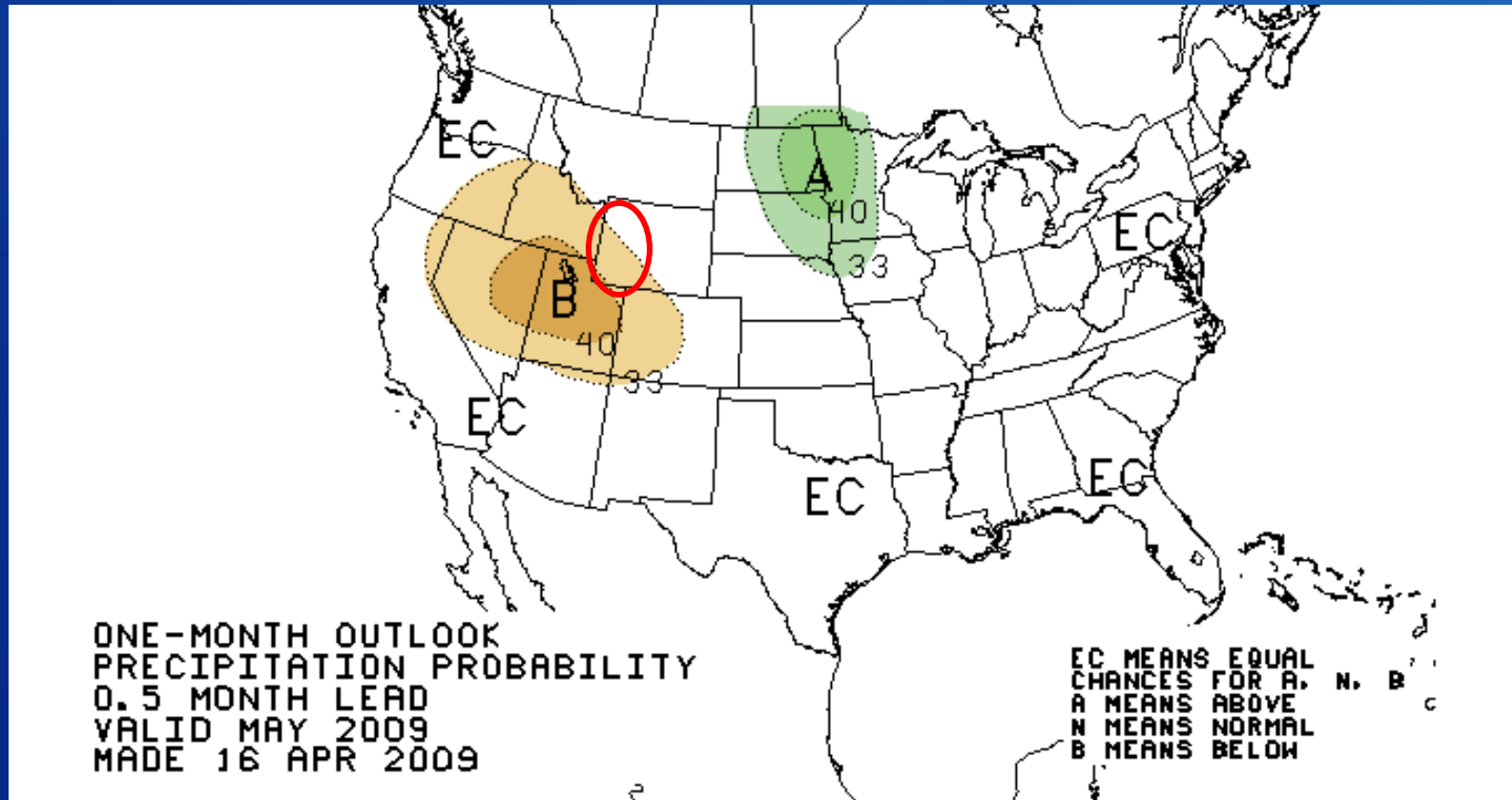
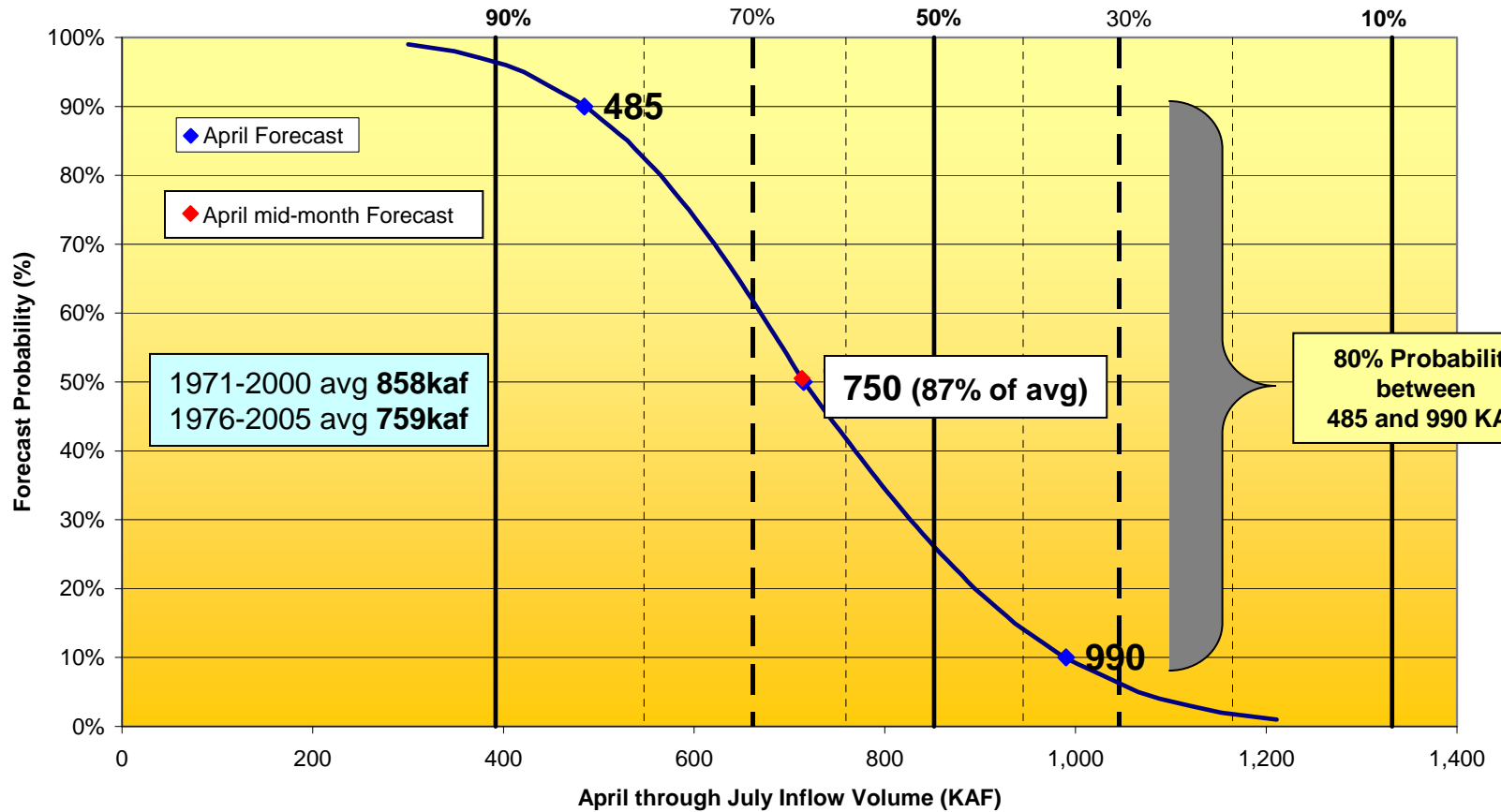


Image courtesy of National Weather
Service Climate Prediction Center

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April Official Forecast

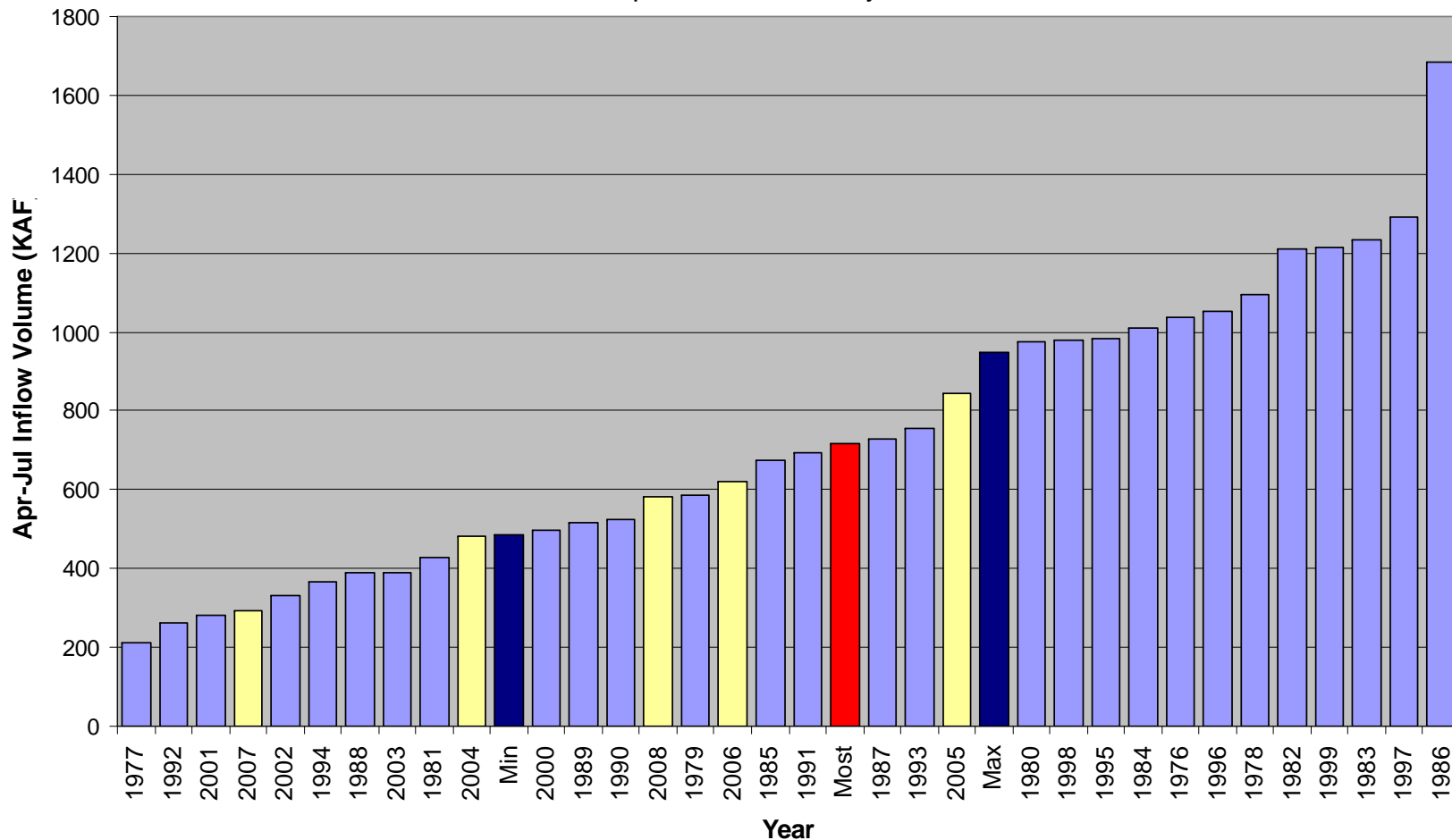
Fontenelle Reservoir
April - July Forecasted Inflow
Related to Exceedance Percentages for Historic Period (1971-2000)



2009 Forecast

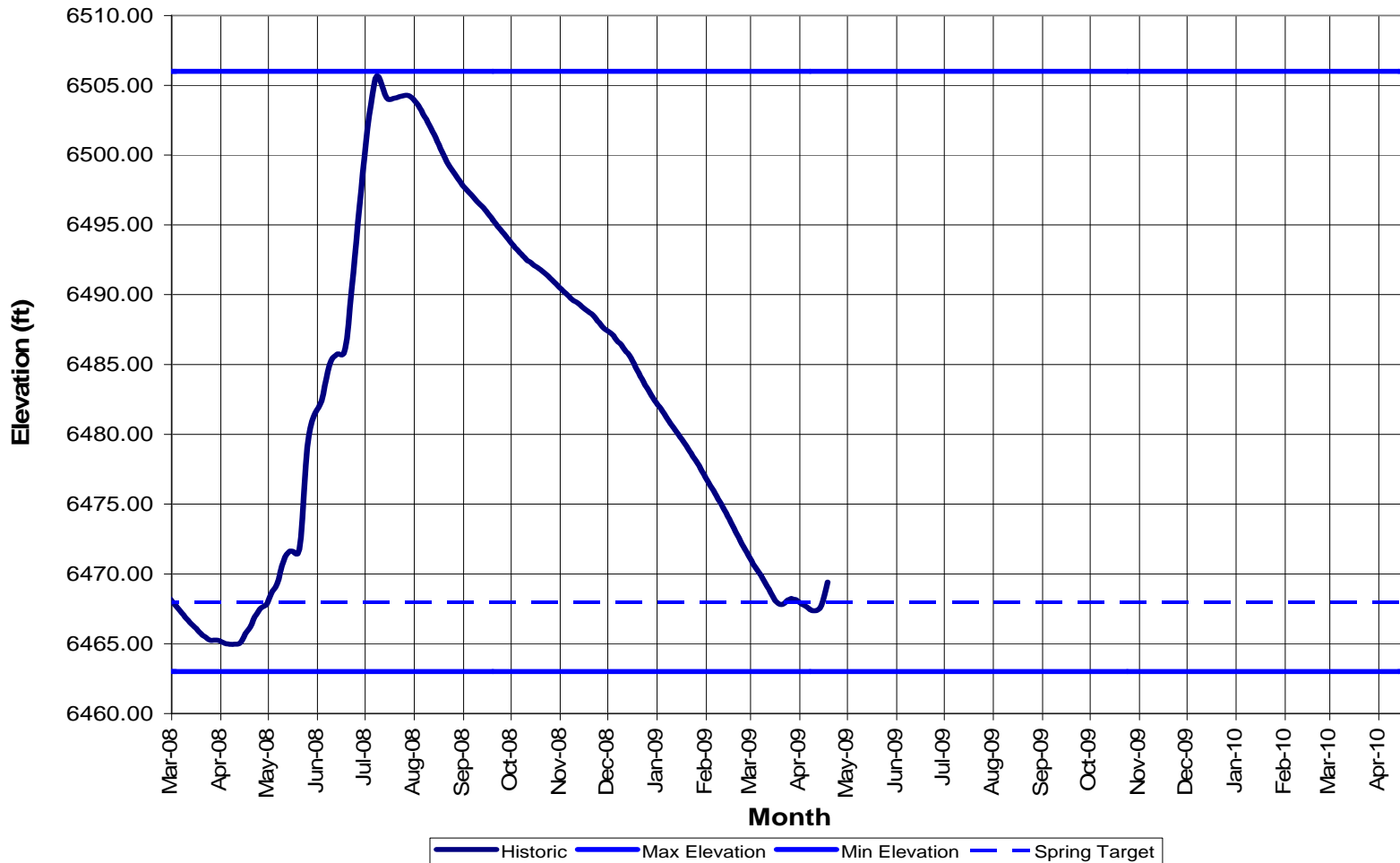
Fontenelle Forecast 2009

Comparison with History



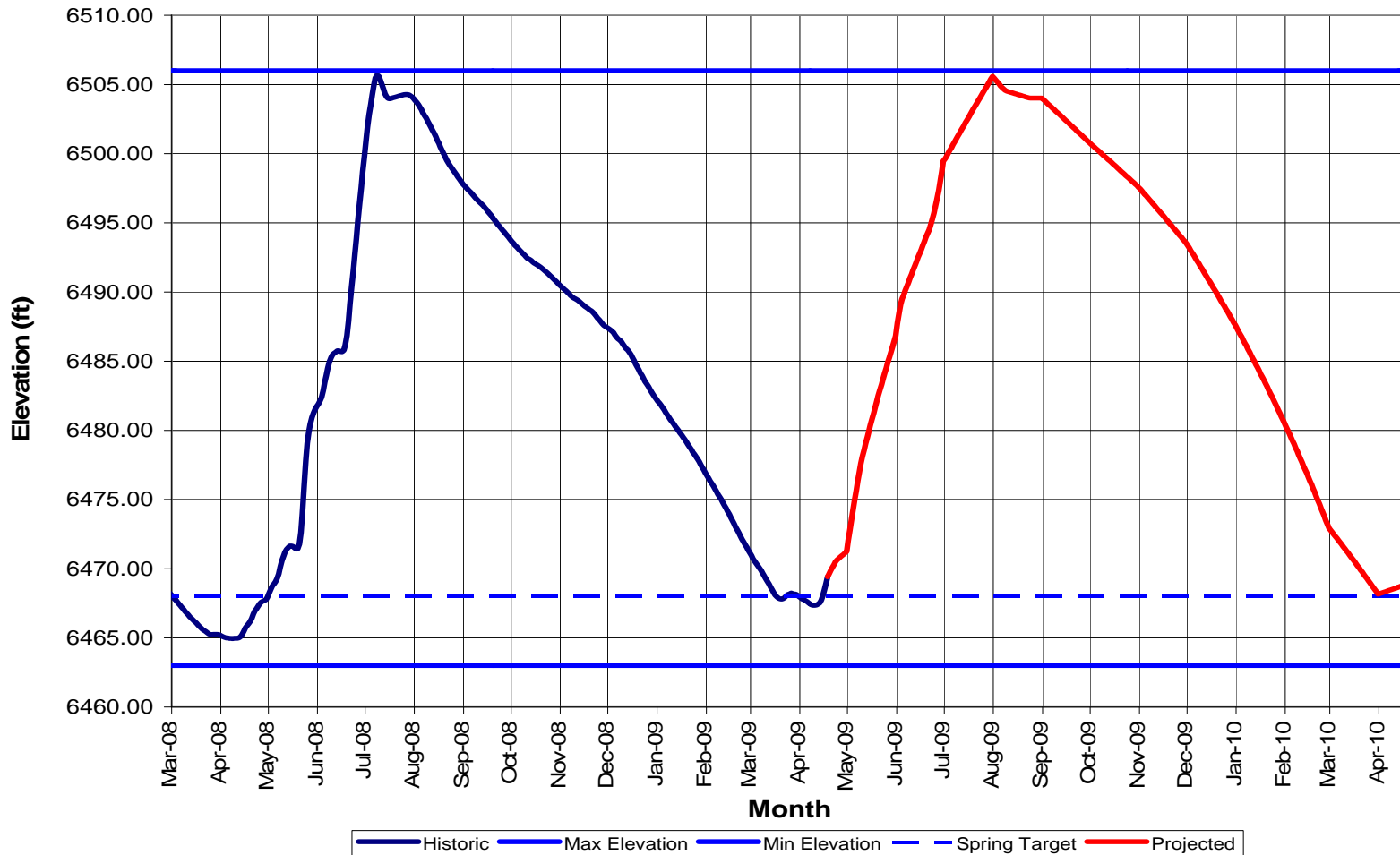
Observed Reservoir Elevation

Fontenelle Operations WY2009
Most Probable Operations Apr 2009



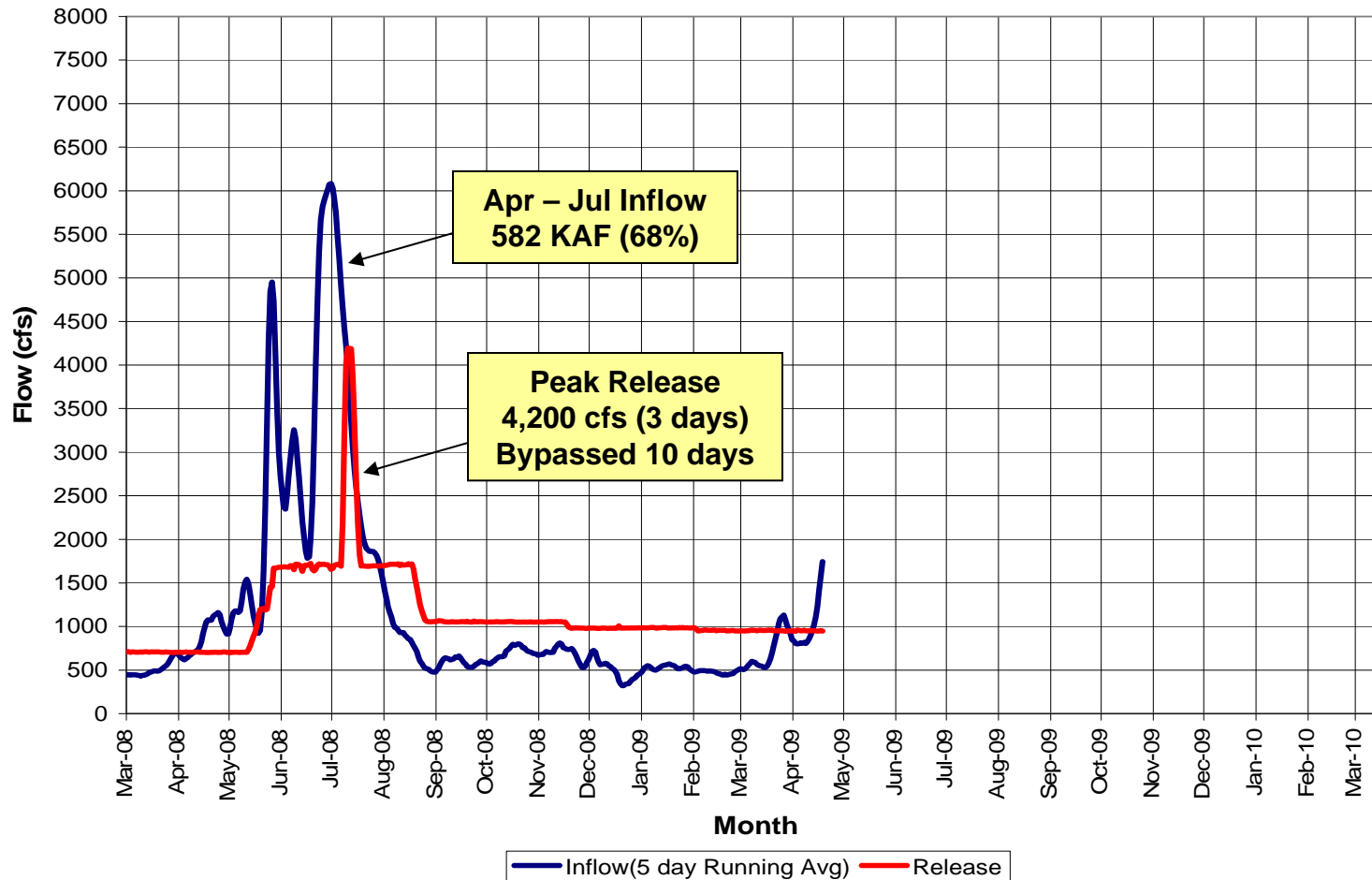
Projected Reservoir Elevation

Fontenelle Operations WY2009
Most Probable Operations Apr 2009



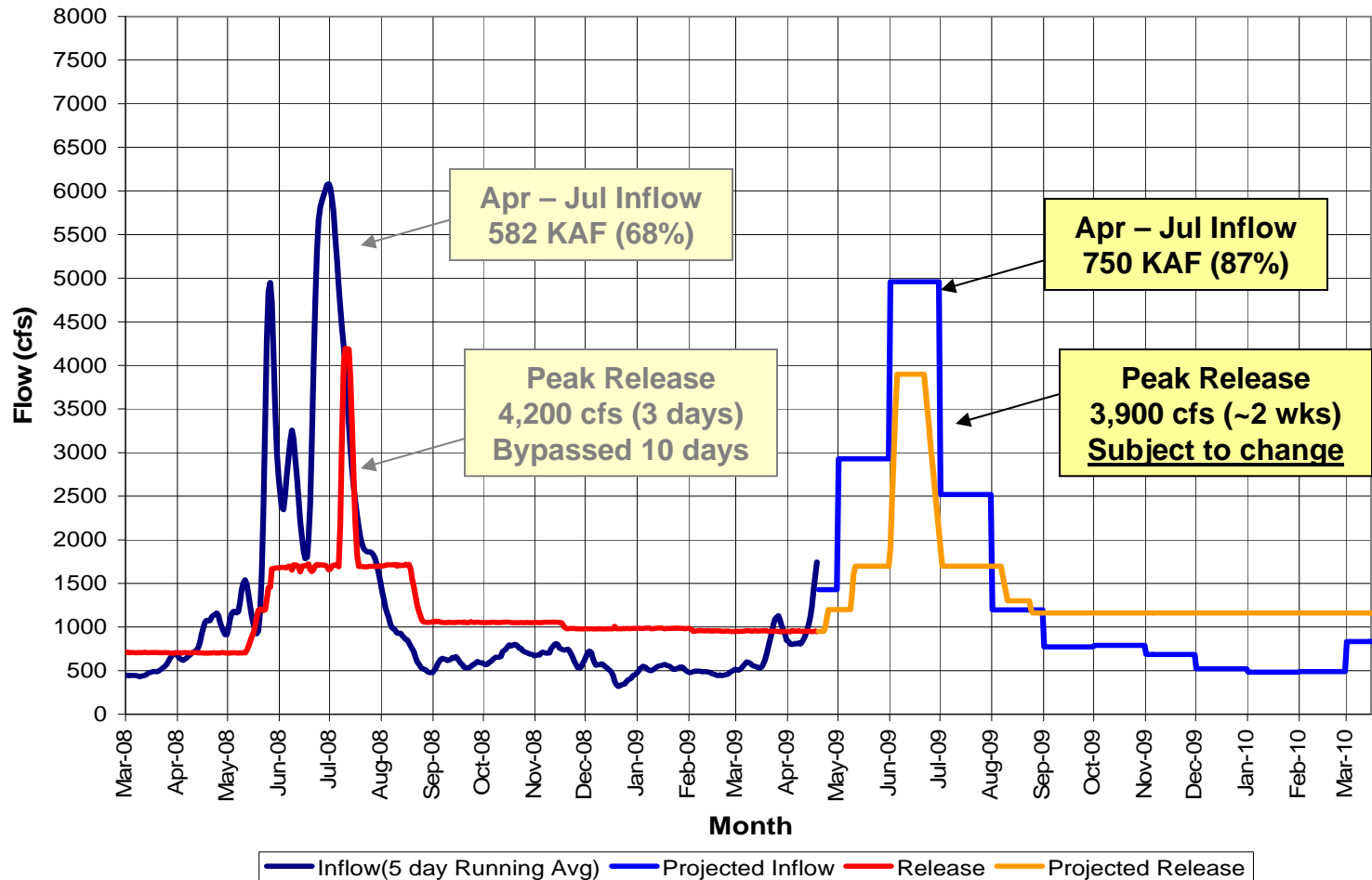
Observed Inflow and Release

Fontenelle Operations 2009
Most Probable Operations Apr 2009



Projected Inflow and Release

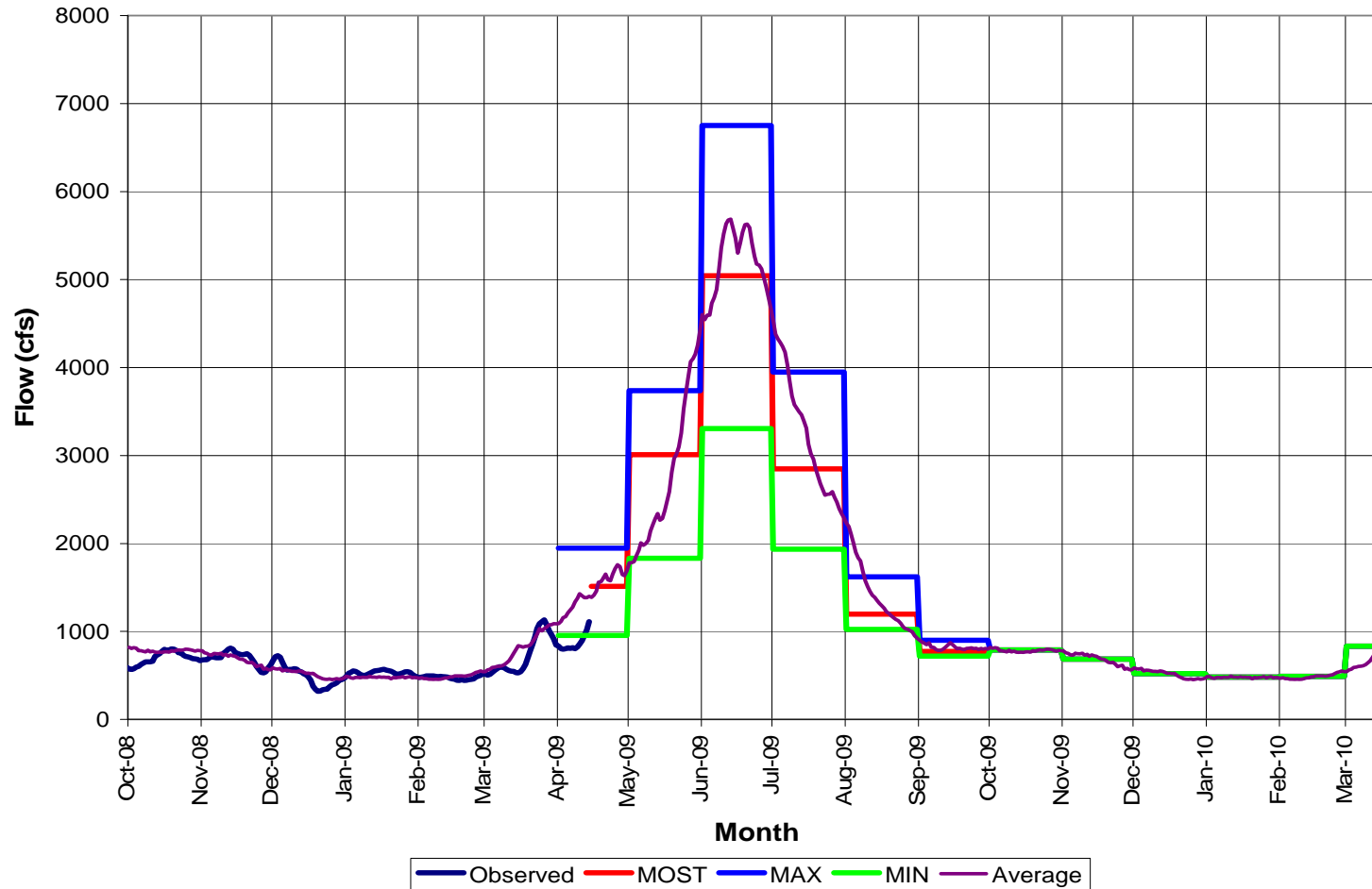
Fontenelle Operations 2009
Most Probable Operations Apr 2009



Inflow Scenarios

Fontenelle Inflow Scenarios

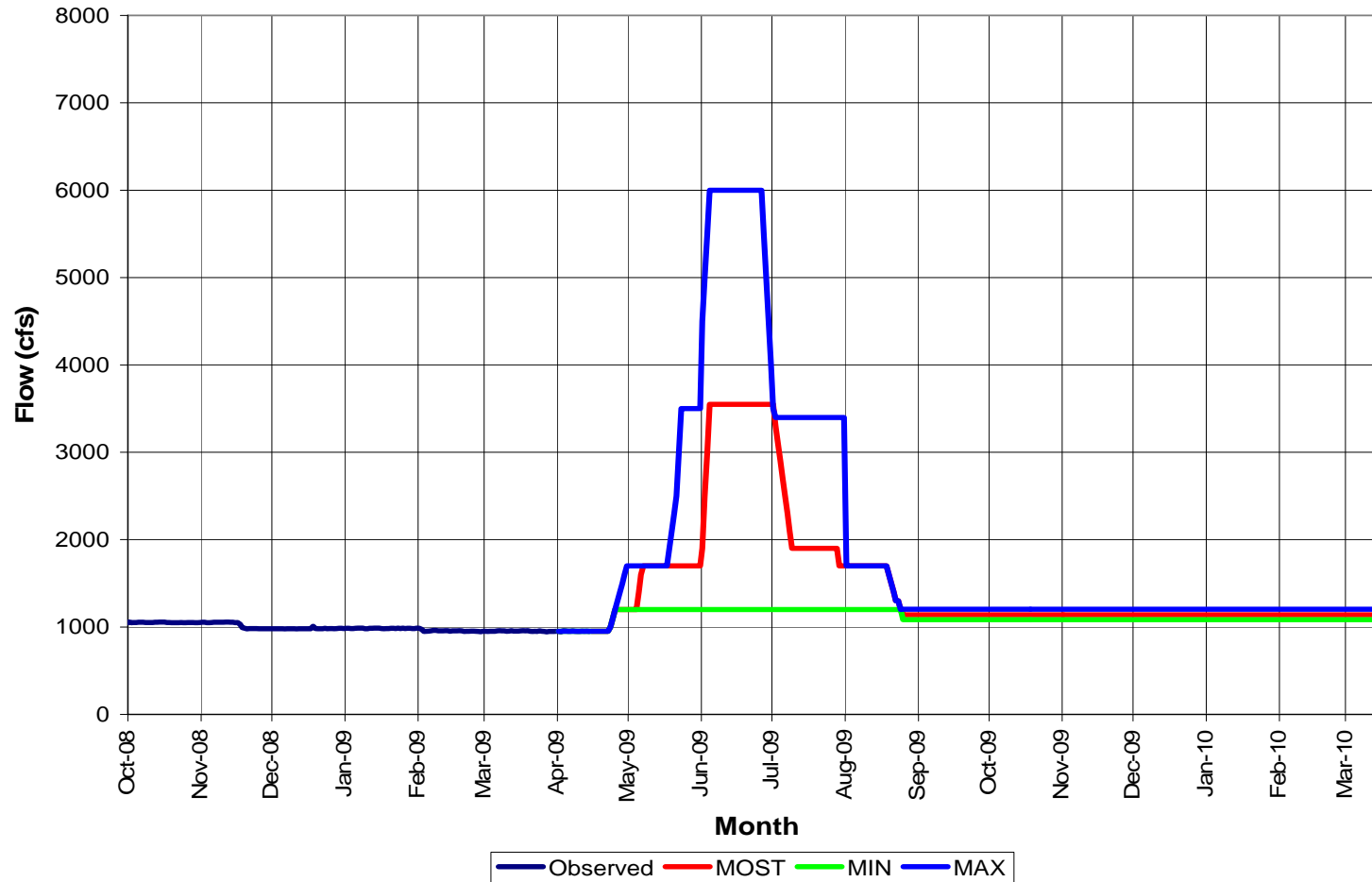
Based on April Inflow Forecasts



Release Scenarios

Fontenelle Release Scenarios

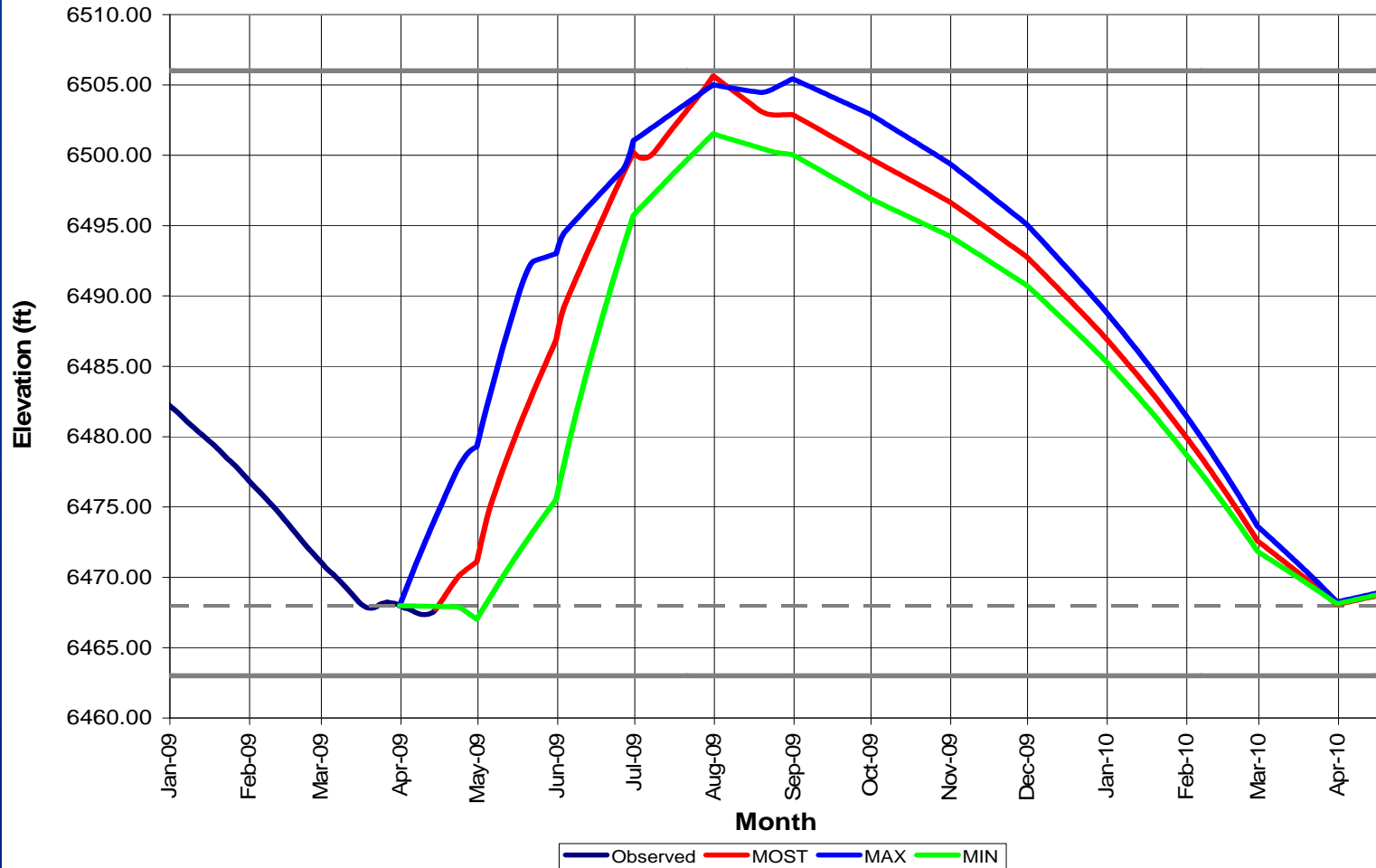
Based on April Inflow Forecasts



Elevation Scenarios

Fontenelle Elevation Scenarios

Based on April Inflow Forecasts



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Fontenelle Working Group Meeting April 2009



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Historic Inflow Statistics

Period of Record 1971-2000

ANNUALIZED MONTHLY INFLOW VOLUME(THOUSAND-ACRE-FEET)

Month	95%	90%	80%	70%	60%	50%	40%	30%	20%	10%	5%	Average
OCT	36	37	39	41	44	47	51	55	61	70	79	51
NOV	33	36	39	41	43	44	45	47	48	50	52	43
DEC	29	30	31	32	33	33	34	35	36	37	38	33
JAN	26	27	29	30	31	32	32	33	34	35	36	31
FEB	24	26	27	28	29	30	30	31	32	32	33	29
MAR	42	43	45	47	49	51	53	55	58	63	67	52
APR	59	64	72	79	85	92	98	106	115	129	141	93
MAY	69	105	143	169	189	207	223	239	257	280	296	196
JUN	98	148	213	261	304	346	388	435	492	573	642	356
JUL	38	75	119	152	181	208	235	265	301	351	393	213
AUG	35	48	63	74	84	92	100	108	118	130	139	92
SEP	29	34	41	46	50	54	58	61	65	70	75	53
WY	518	673	863	1,002	1,121	1,234	1,348	1,471	1,616	1,820	1,991	1,242
APR-JUL	265	392	547	661	759	852	945	1,046	1,165	1,332	1,472	858

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Historic Inflow Statistics

Period of Record 1976-2005

ANNUALIZED MONTHLY INFLOW VOLUME(THOUSAND-ACRE-FEET)

Month	95%	90%	80%	70%	60%	50%	40%	30%	20%	10%	5%	Average
OCT	31	32	35	37	40	44	48	53	59	70	80	49
NOV	30	32	36	38	40	42	43	45	47	50	52	41
DEC	28	29	30	31	31	32	33	34	35	37	39	32
JAN	25	26	27	28	29	30	31	32	33	34	36	30
FEB	23	24	26	27	27	28	29	29	30	31	32	27
MAR	41	43	45	47	49	51	53	55	58	62	66	51
APR	52	57	65	73	79	86	94	102	113	129	143	89
MAY	37	72	112	139	162	182	201	221	244	275	299	176
JUN	81	118	170	212	250	289	330	377	434	521	597	308
JUL	19	51	91	122	150	177	205	236	273	328	375	186
AUG	20	33	49	61	71	81	90	101	113	129	142	83
SEP	24	29	35	40	44	48	52	56	61	69	75	49
WY	409	546	721	855	974	1,089	1,208	1,340	1,501	1,734	1,936	1,120
APR-JUL	188	298	439	546	641	734	830	936	1,065	1,252	1,414	759

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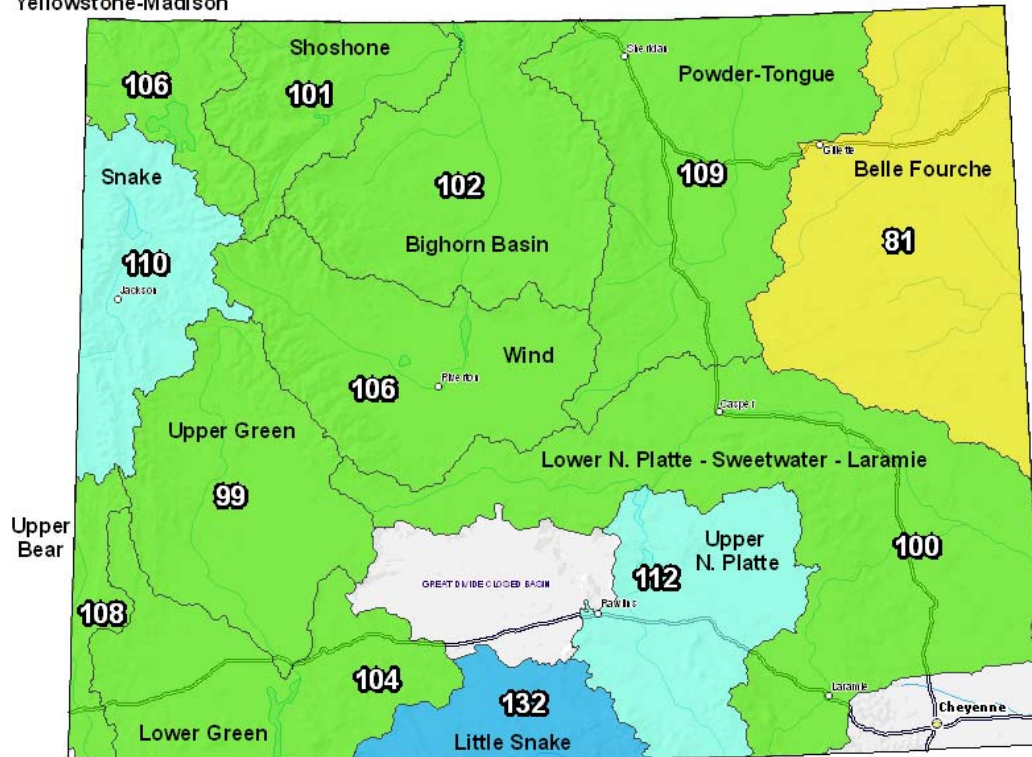
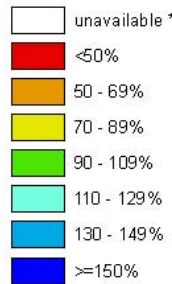
Current SWE

Wyoming SNOTEL Current Snow Water Equivalent (SWE) % of Normal

Upper
Yellowstone-Madison

Apr 20, 2009

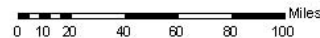
Current Snow Water
Equivalent (SWE)
Basin-wide Percent
of 1971-2000 Normal



Provisional Data
Subject to Revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).



Prepared by the USDA NRCS National Water and Climate Center
Portland, Oregon <http://www.wcc.nrcs.usda.gov/gis/>
Based on data from <http://www.wcc.nrcs.usda.gov/reports/>
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