

RECLAMATION

Managing Water in the West

Fontenelle Working Group Meeting

April 21, 2011



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Hydraulic Engineer



U.S. Department of the Interior
Bureau of Reclamation

Fontenelle Reservoir Current Status

As of 4/20/11

Storage

Live Capacity	345,000 AF
Capacity on 4/26/10	<u>141,640 AF</u> (41% full)

Pool Elevation

Top of reservoir	6506.0 ft
Elevation on 4/20/09	<u>6475.0 ft</u>
Elevation below top	31.0 ft

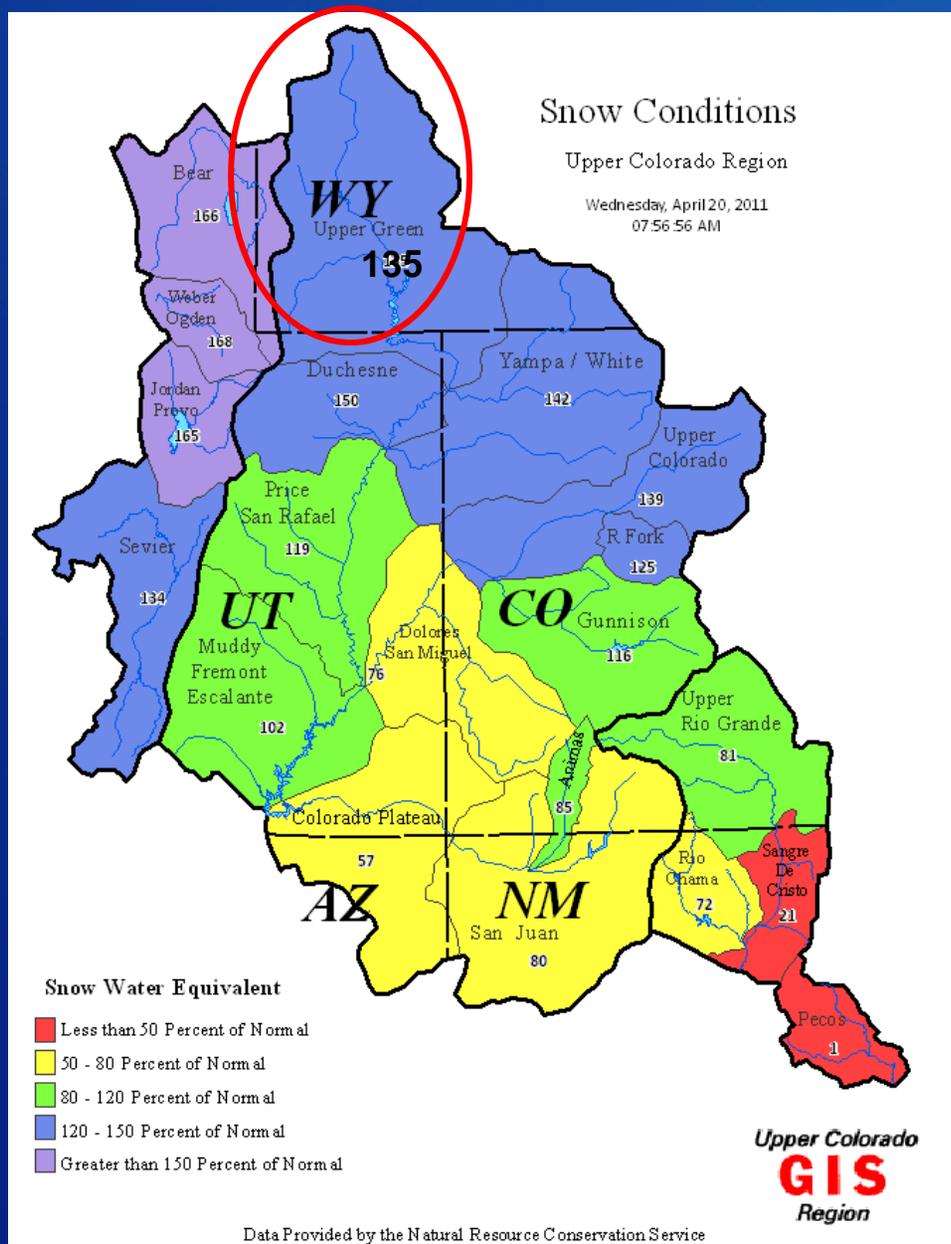
Inflow and Release

5 Day Average Inflow	1700 cfs
Current Release on 4/21/10	2200 cfs

** Expect increased releases early May and later in the season*

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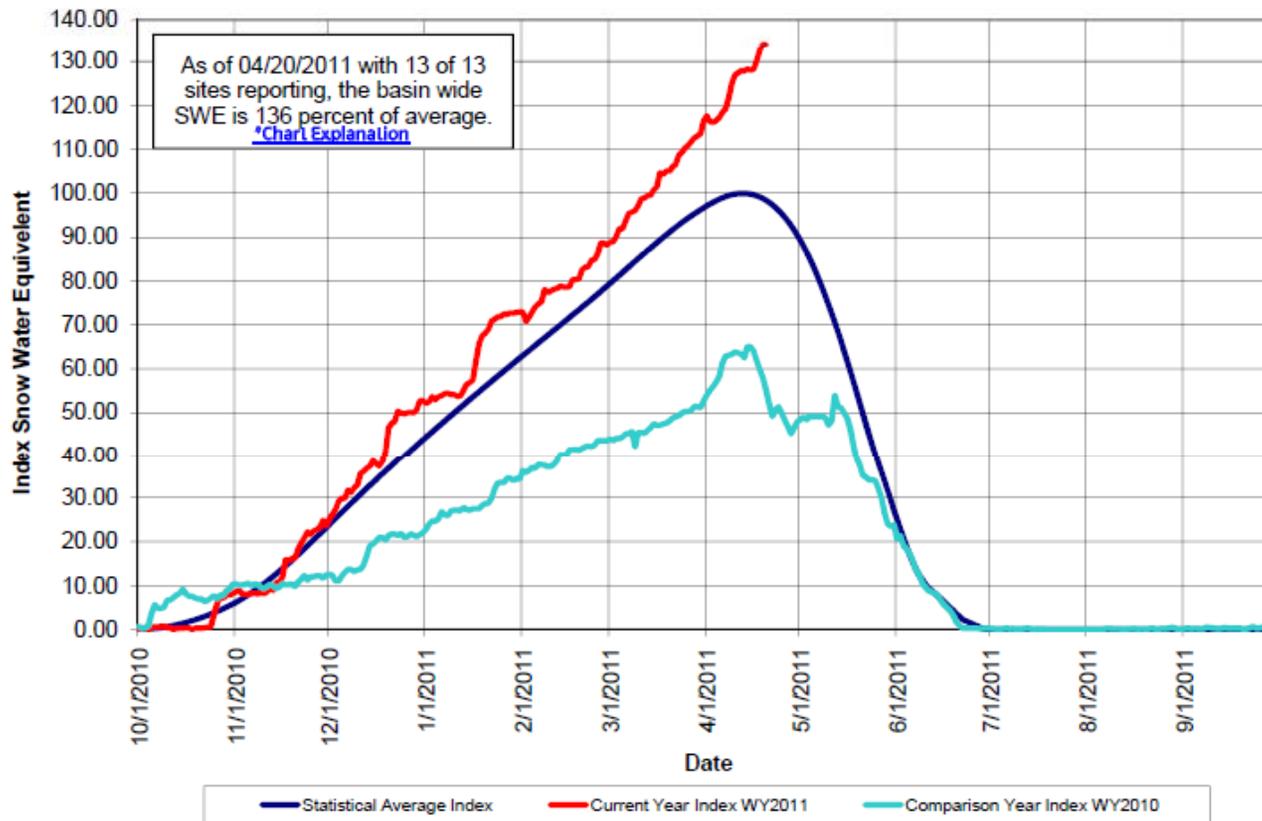
Snow Water Equivalent (SWE) Current Conditions



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Current Snowpack

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



Data Provided by the Natural Resource Conservation Service

Drought Conditions

U.S. Drought Monitor

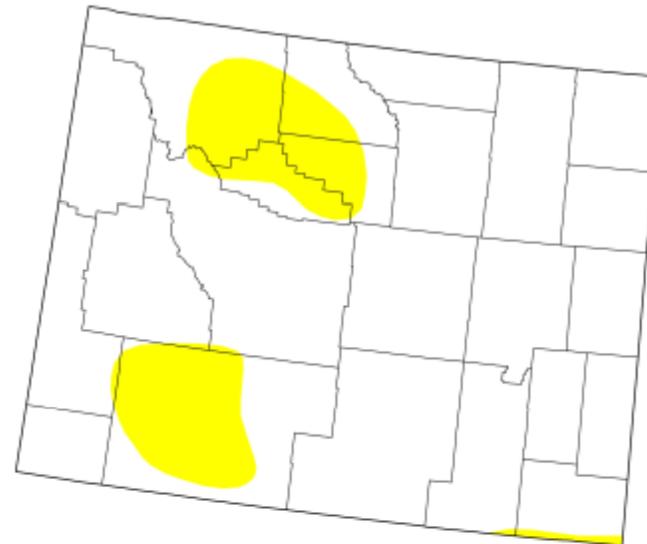
April 12, 2011

Valid 7 a.m. EST

Wyoming

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	86.72	13.28	0.00	0.00	0.00	0.00
Last Week (04/05/2011 map)	87.48	12.52	0.00	0.00	0.00	0.00
3 Months Ago (01/11/2011 map)	65.72	34.28	1.02	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	63.16	36.84	4.40	0.00	0.00	0.00
Start of Water Year (09/28/2010 map)	32.23	67.77	8.06	0.00	0.00	0.00
One Year Ago (04/06/2010 map)	22.32	77.68	38.47	13.94	0.00	0.00



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>

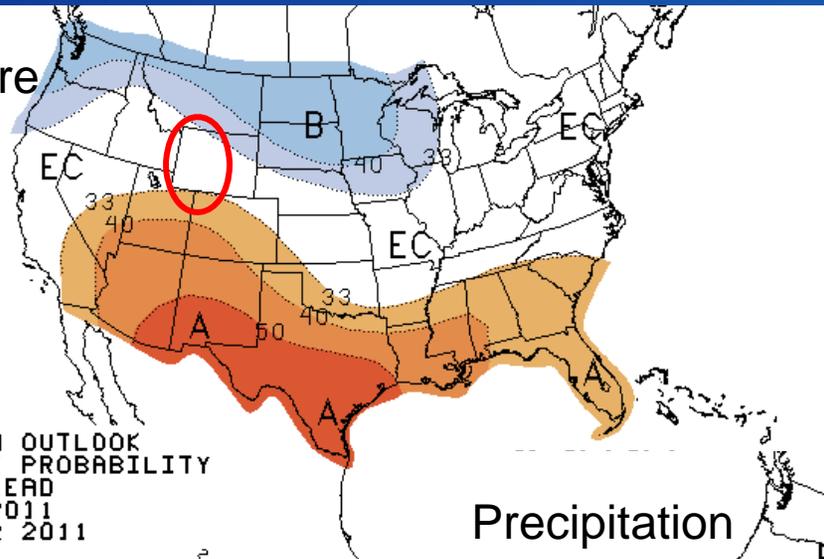


Released Thursday, April 14, 2011
Anthony Artusa, NOAA/NWS/NCEP/CPC

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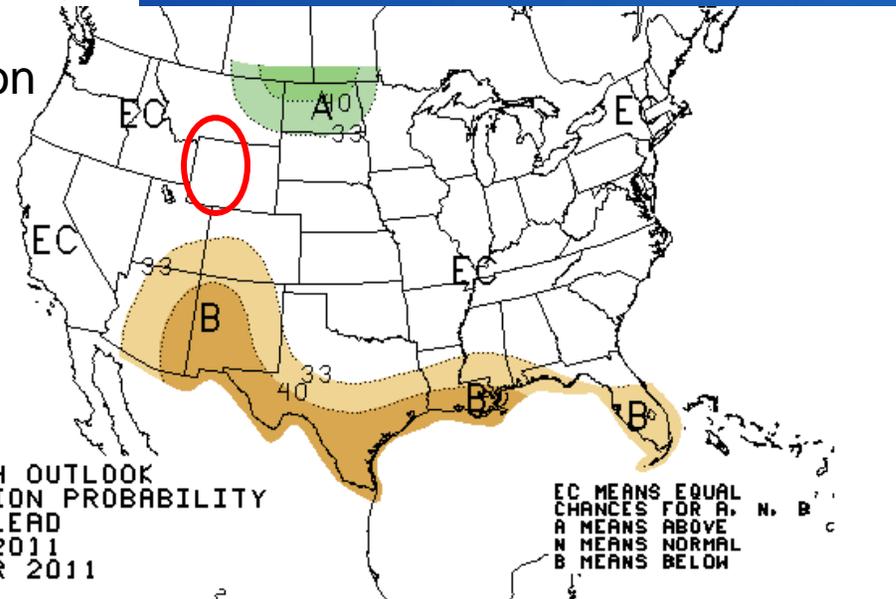
3-Month Climate Outlook

Temperature



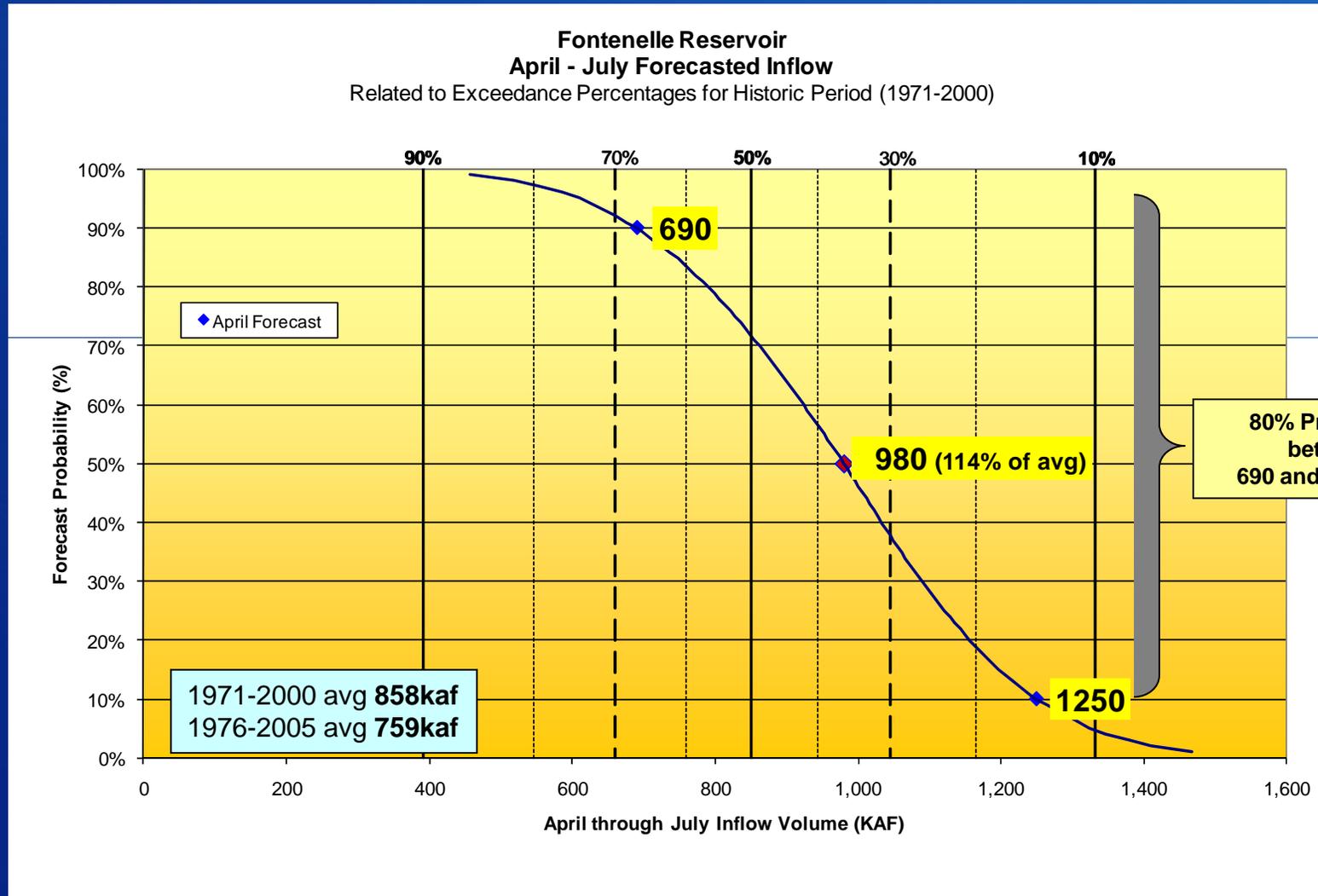
Images courtesy of National Weather Service Climate Prediction Center

Precipitation



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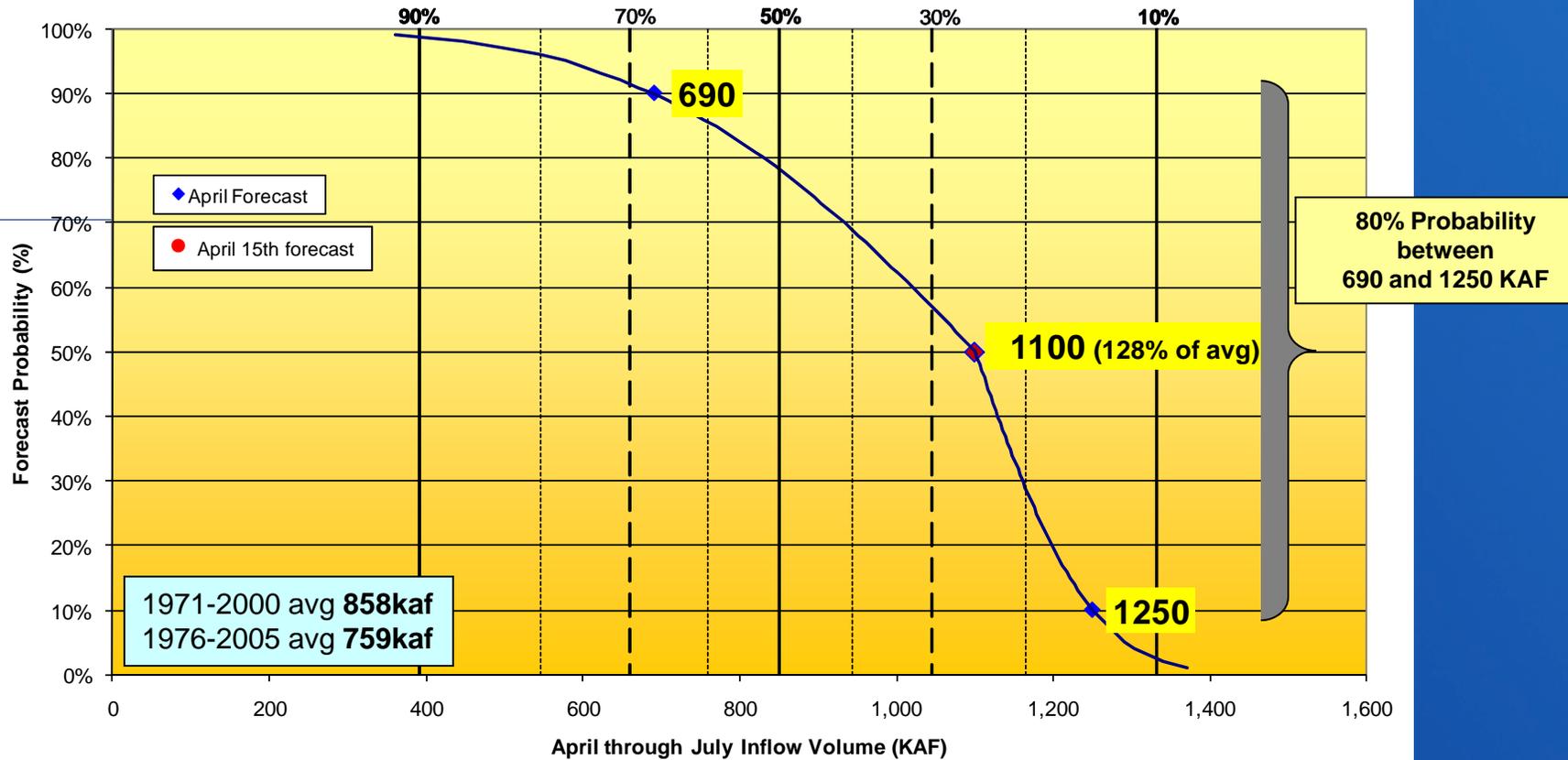
April Official Forecast



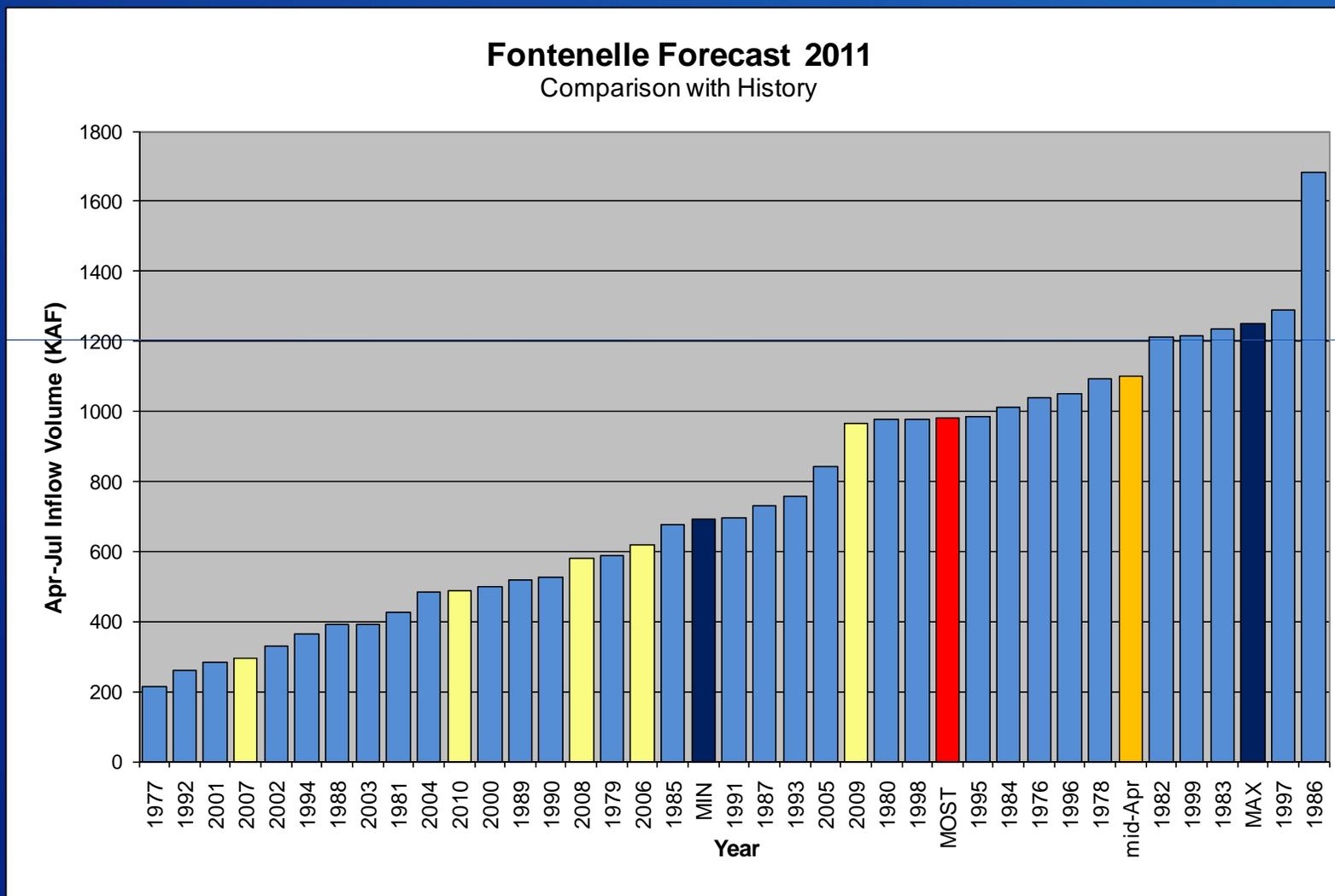
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April 15th Forecast

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

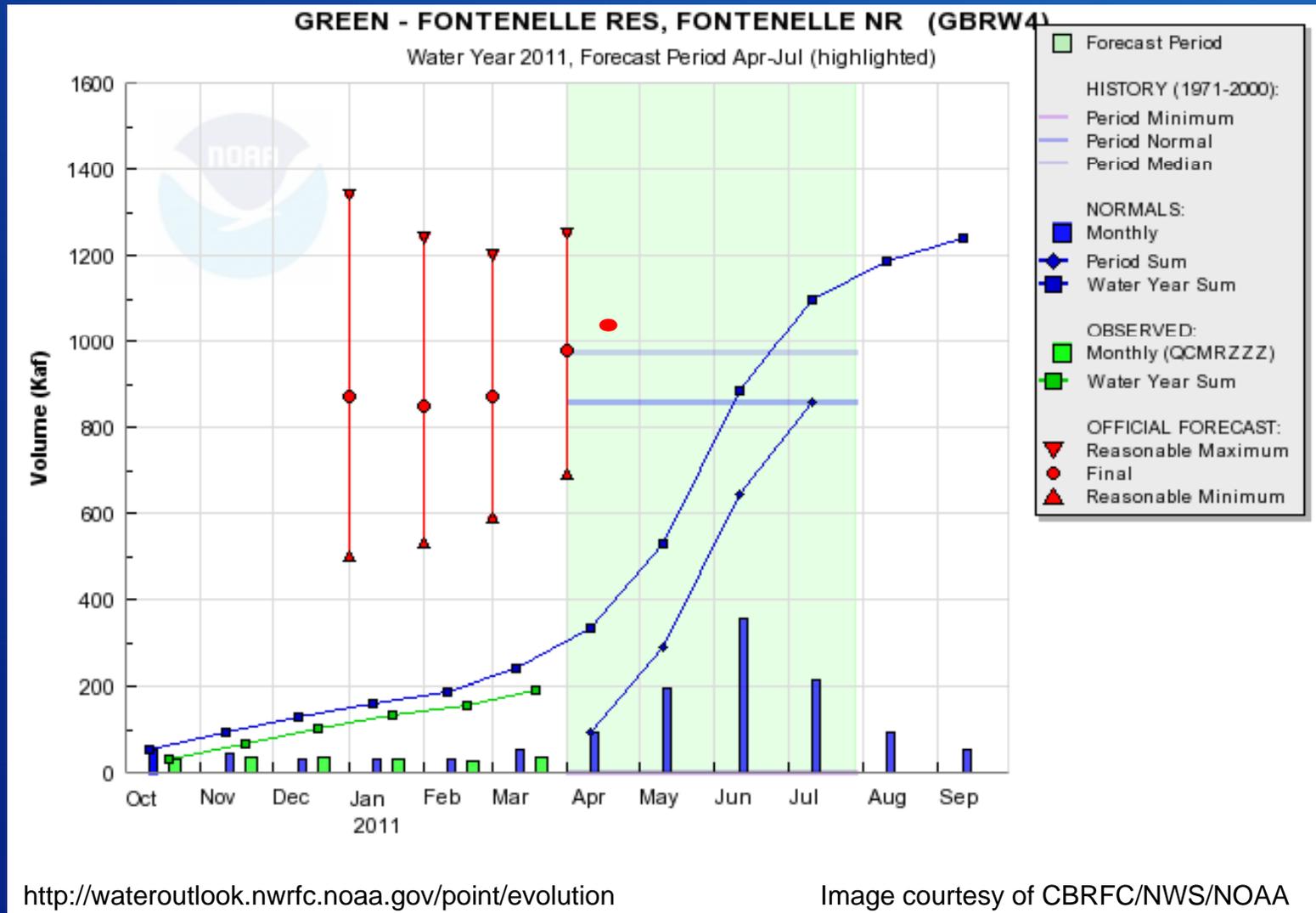


2011 Forecast

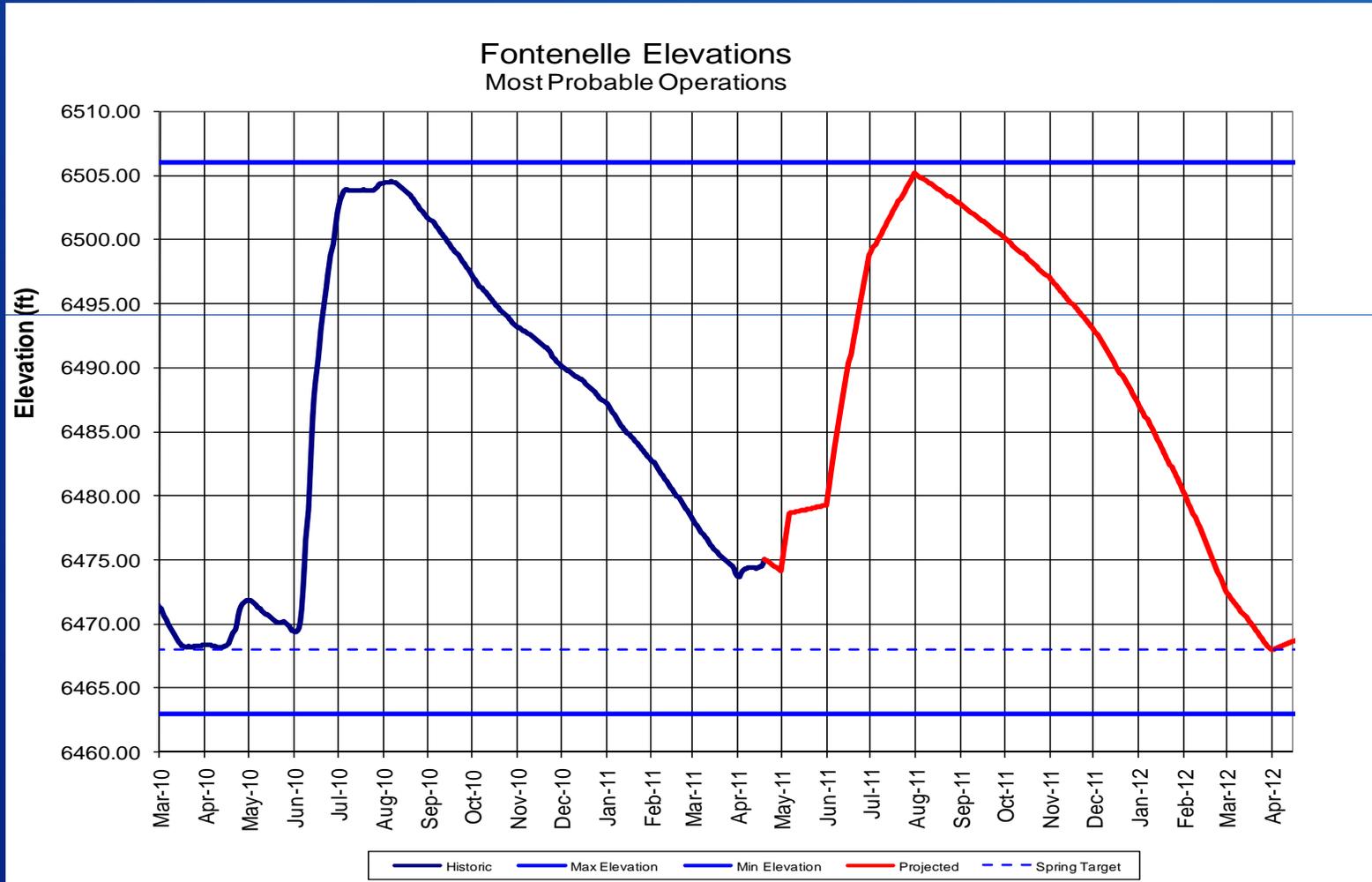


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Forecast Evolution

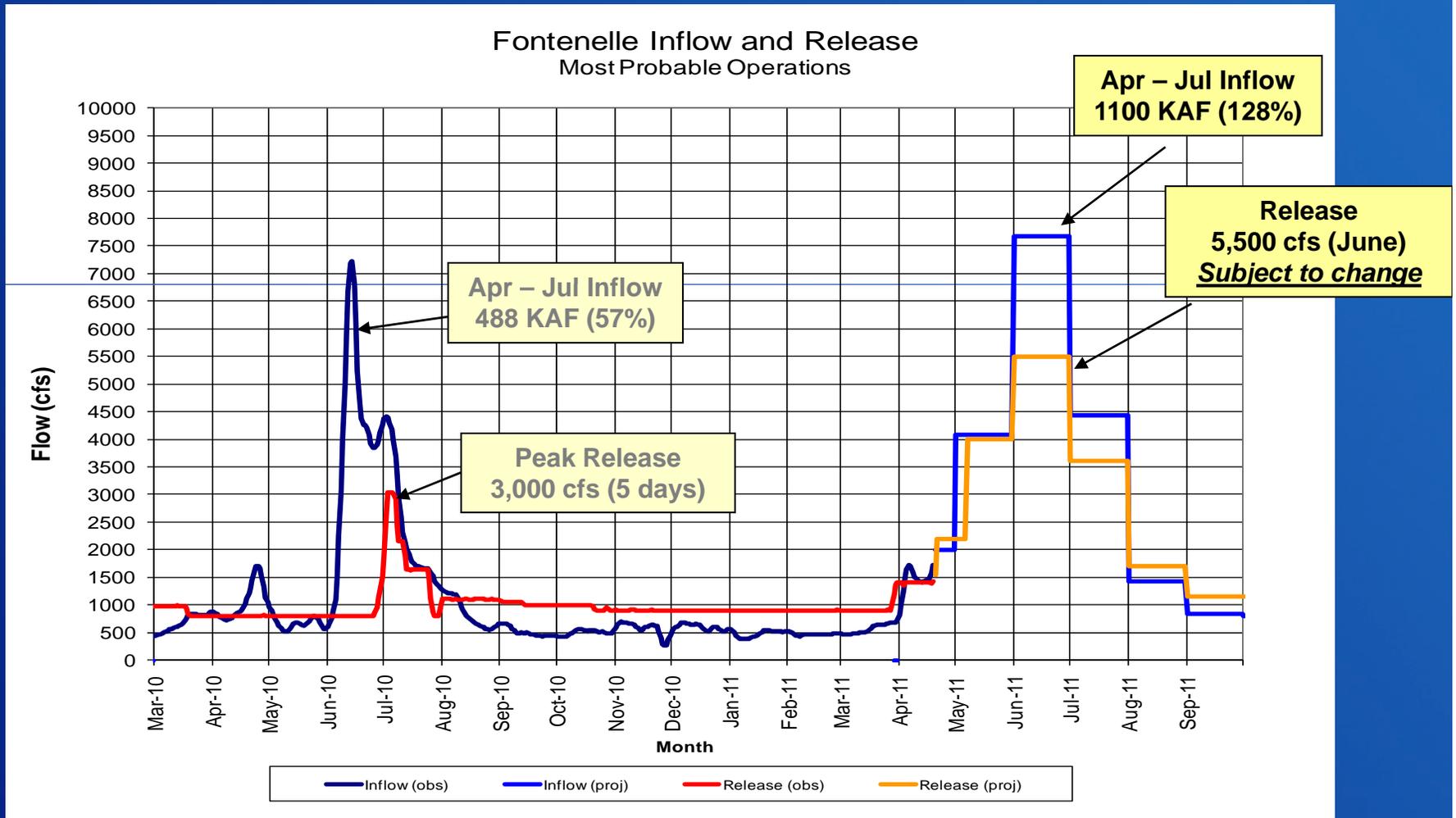


Projected Reservoir Elevation Based on April 15th Forecast



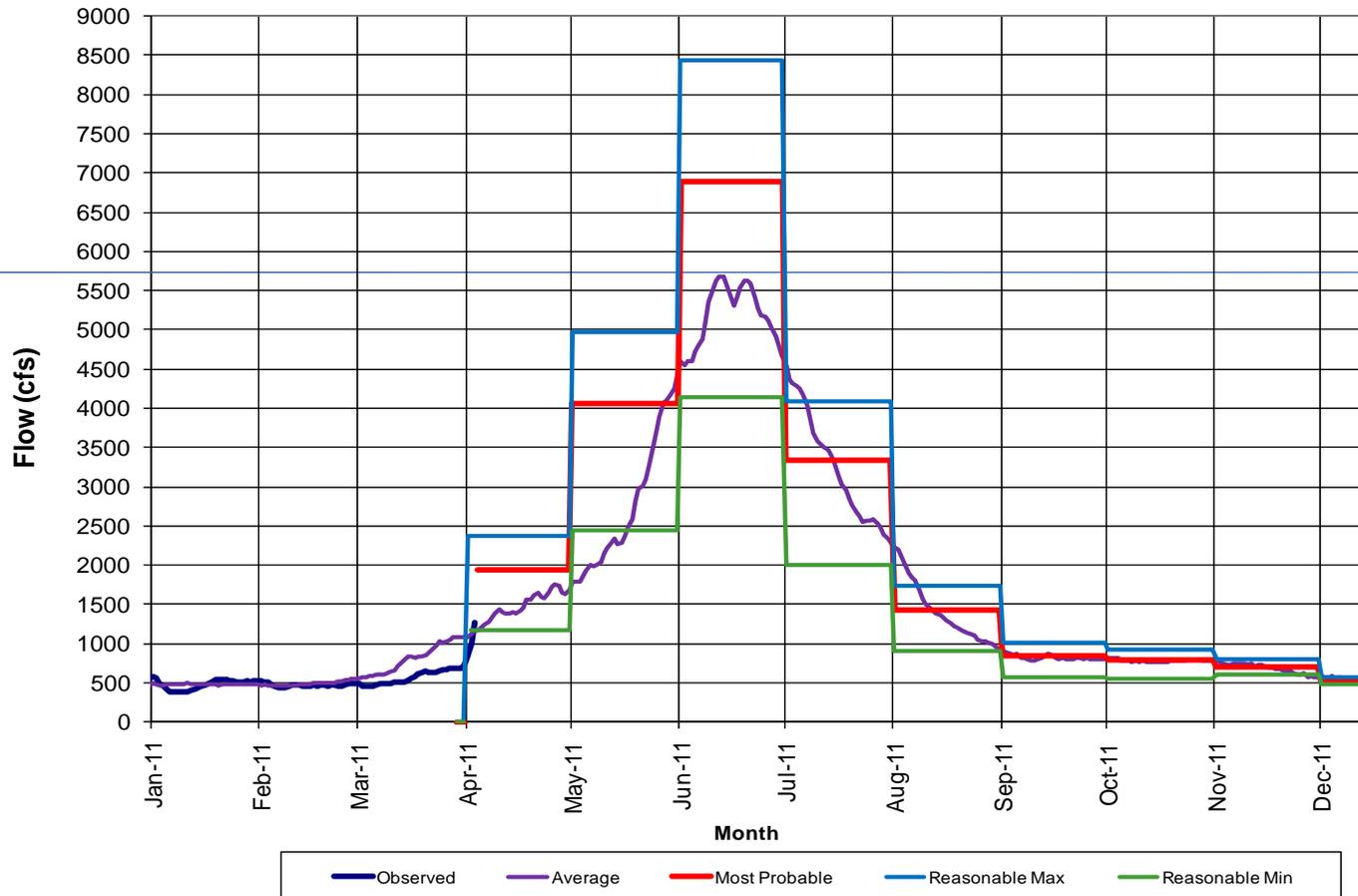
Projected Inflow and Release

Based on April 15th Forecast



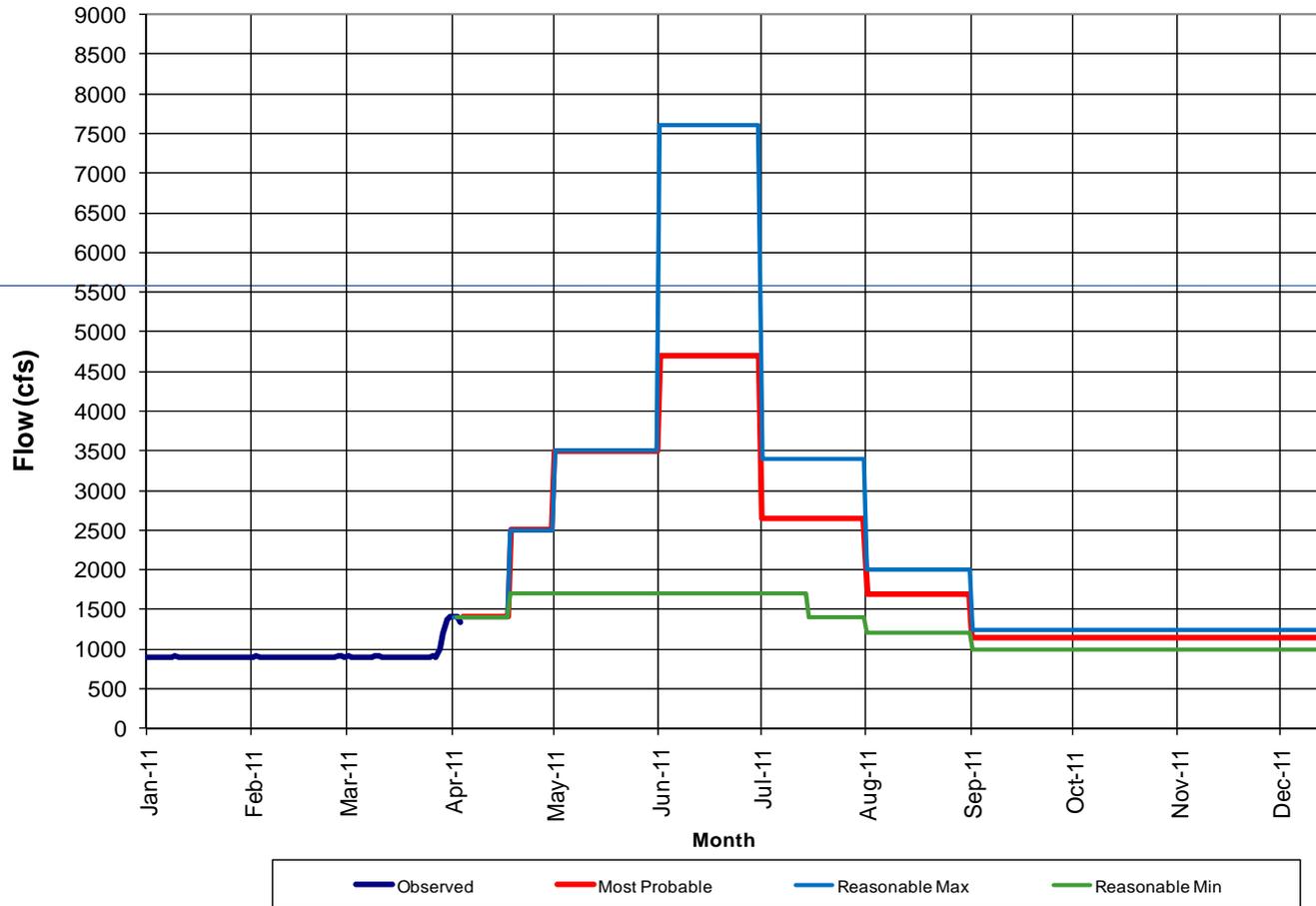
Inflow Scenarios

Fontenelle Inflow Scenarios
Based on April 1 Forecasts

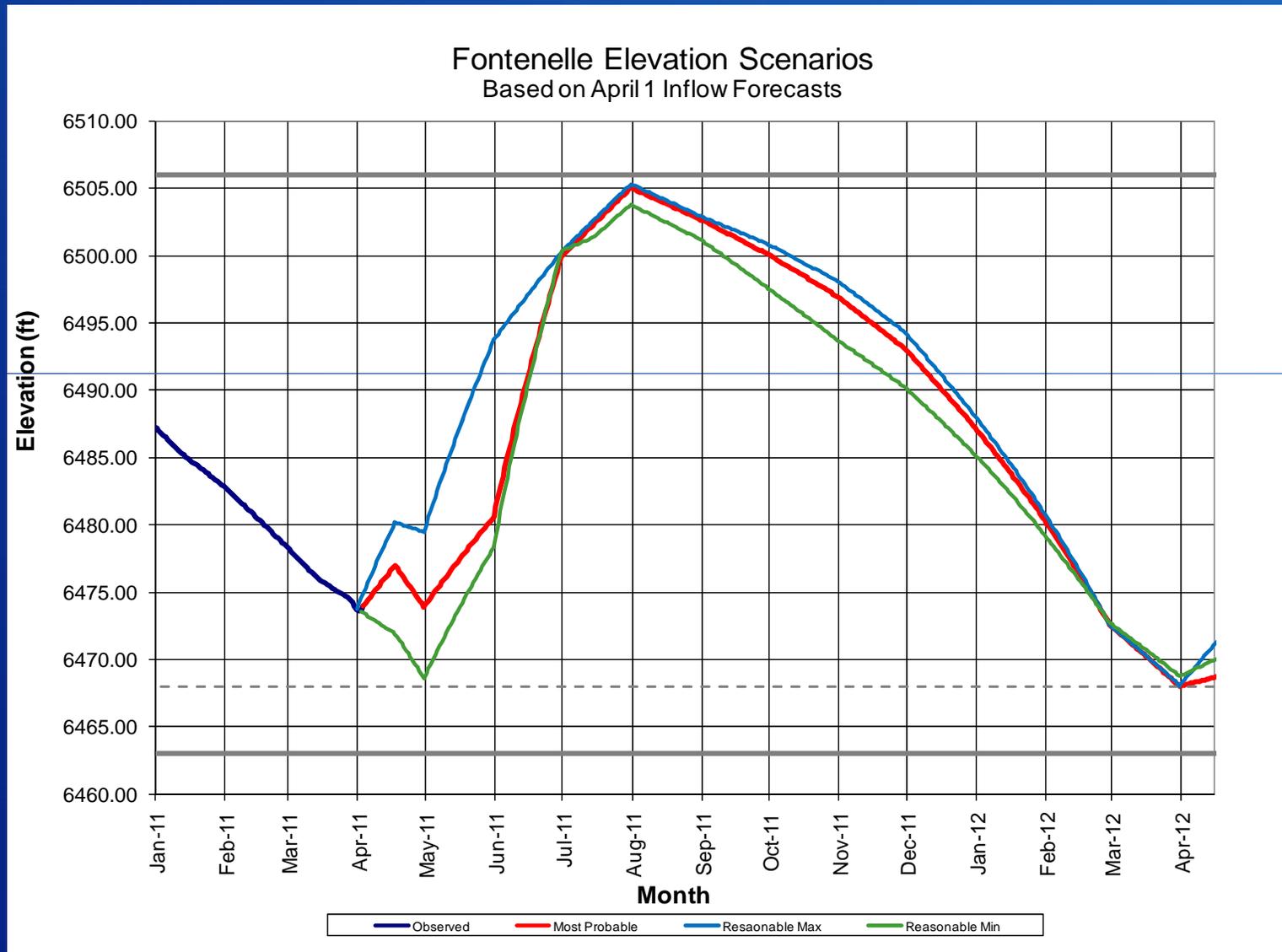


Release Scenarios

Fontenelle Release Scenarios
Based on April 1 Forecasts



Elevation Scenarios



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Fontenelle Working Group Meeting April 2011



Questions / Comments ?

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Additional Slides Follow

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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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