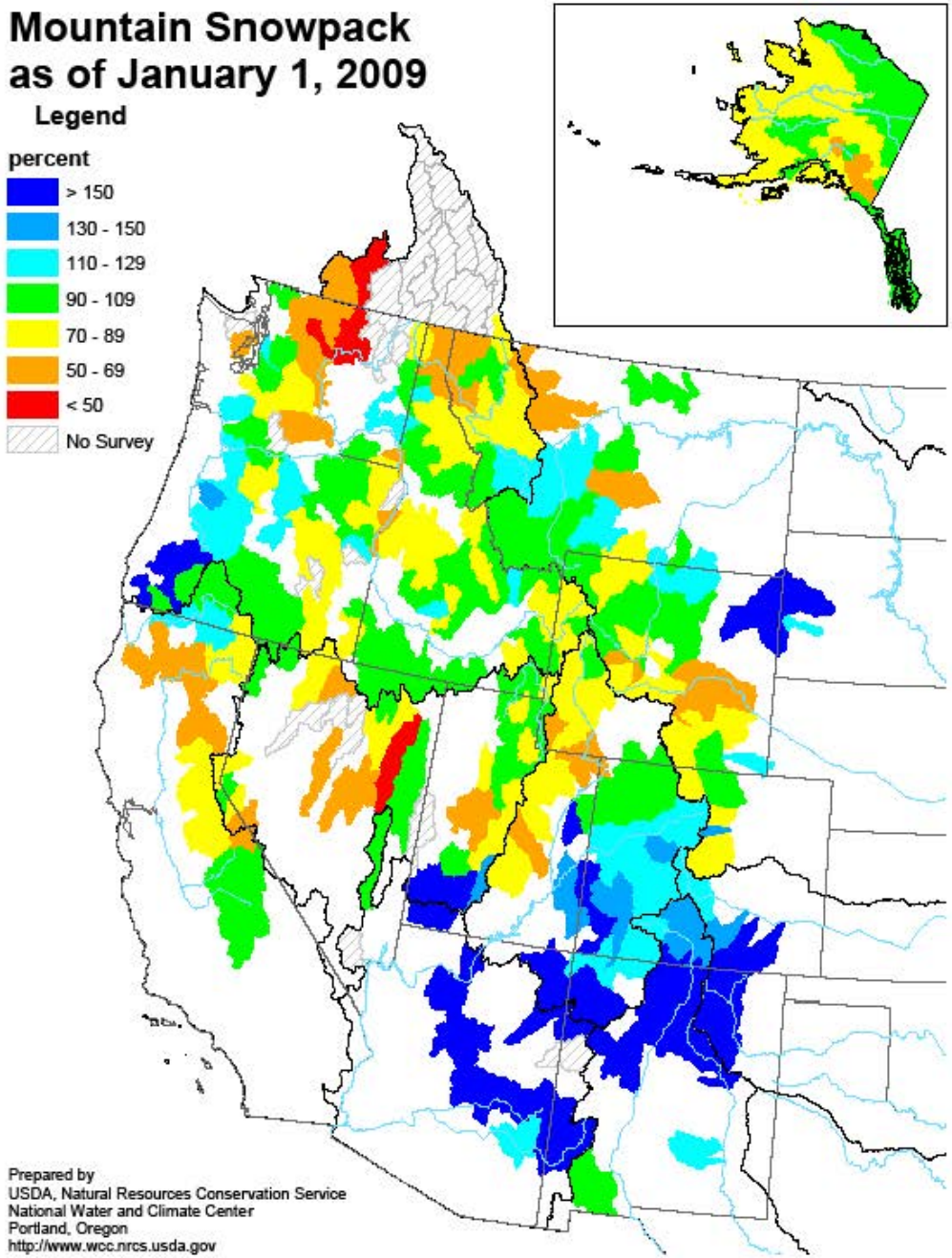
IDWR Water Supply Meeting

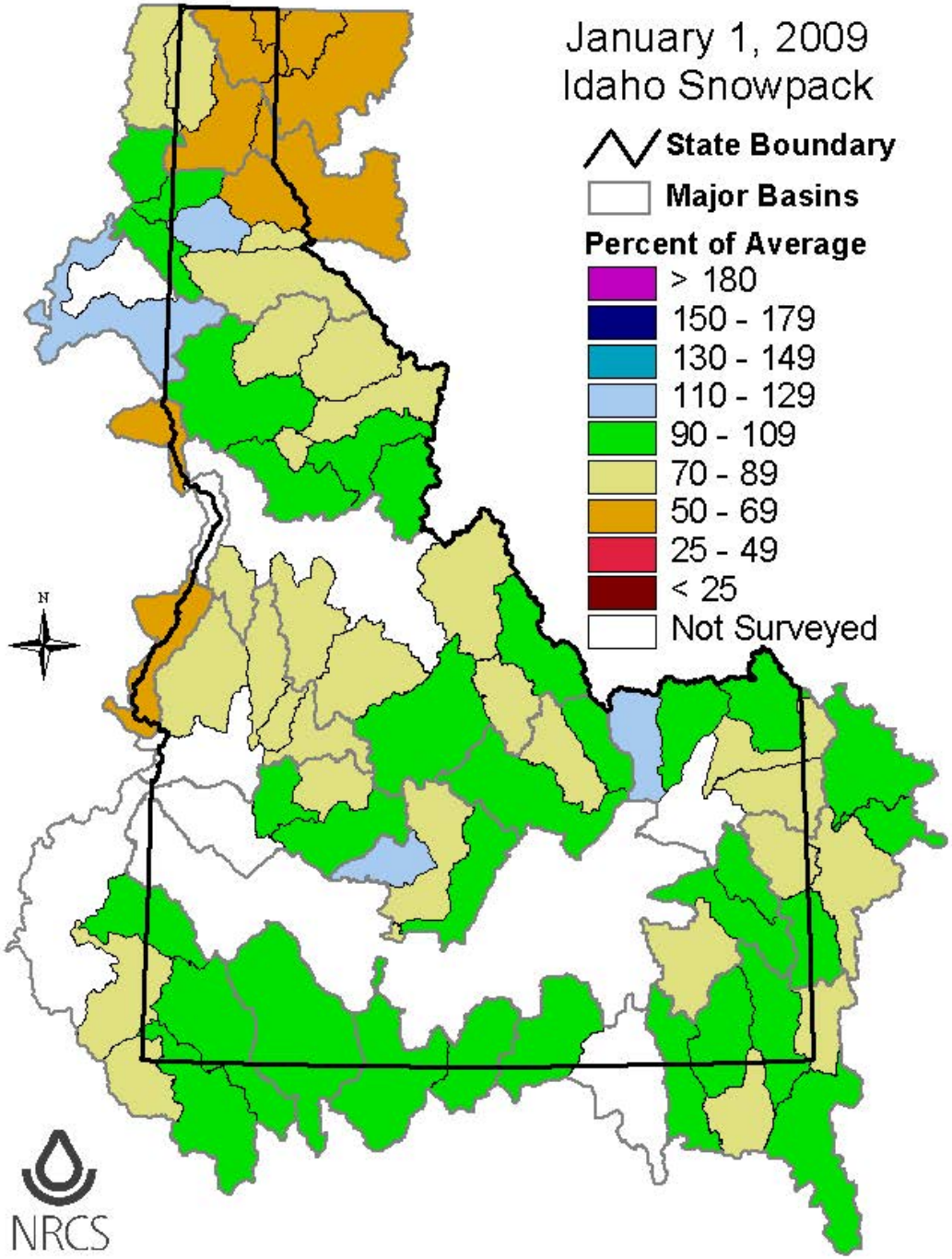
January 15, 2009 Boise, Idaho

Phil Morrisey USDA NRCS Snow Survey

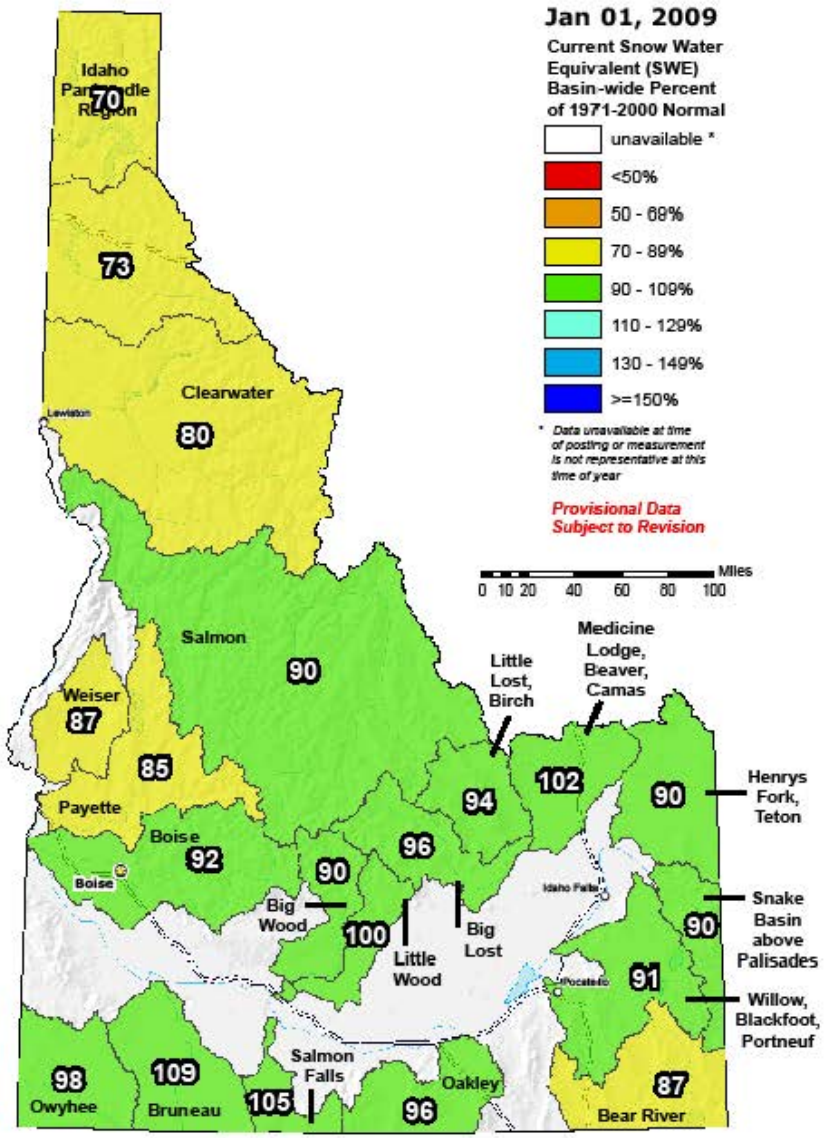
View From Fishpole Lake Snow Course Elevation: 9300 feet

Mountain Snowpack as of January 1, 2009




January 1, 2009
Idaho Snowpack
State Boundary
Major Basins
Percent of Average
> 180
150 - 179
130 - 149
110 - 129
90 - 109
70 - 89
50 - 69
25 - 49
< 25
Not Surveyed
N
NRCS

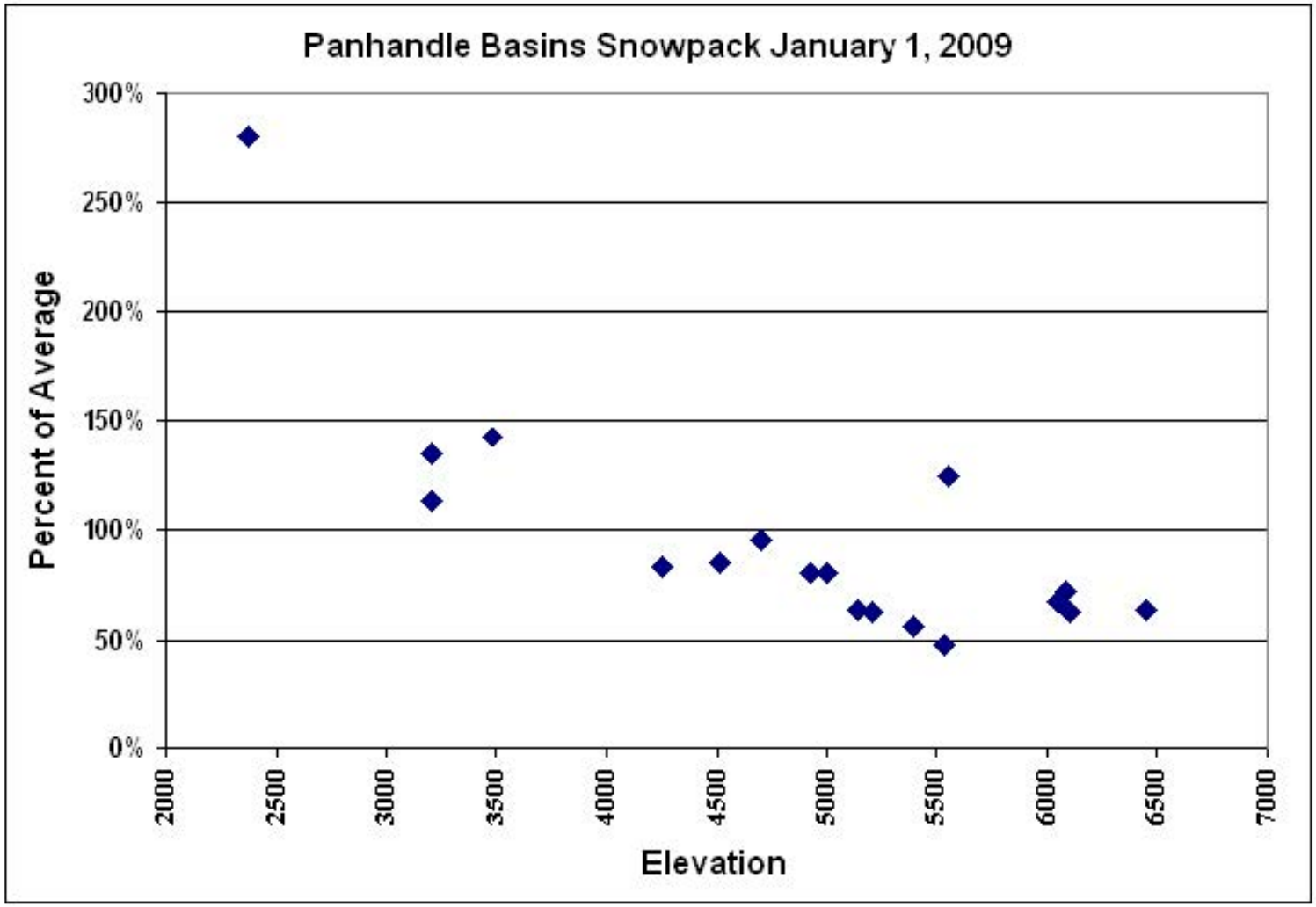
Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal



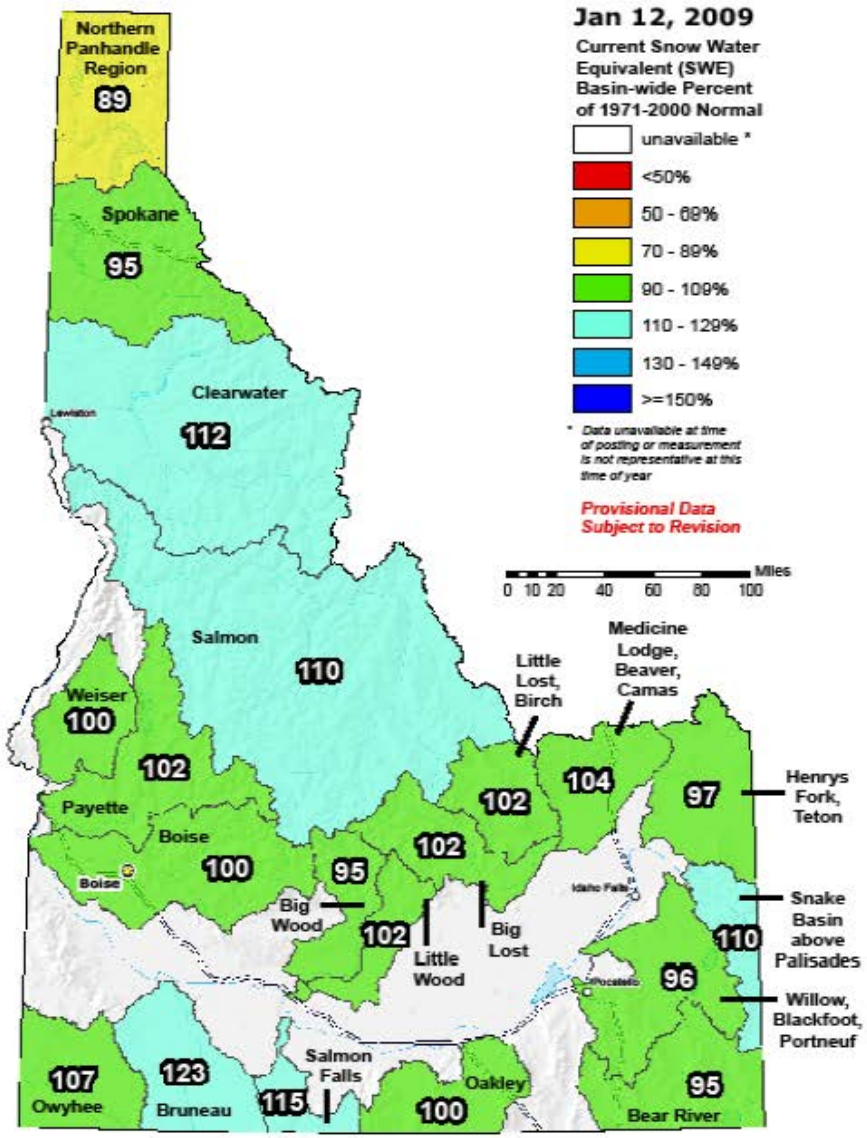
USDA NRCS

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/
Science contact: Tom.Pagano@por.usda.gov 503 414 3010


Panhandle Basins Snowpack January 1, 2009
Percent of Average
300%
250%
200%
150%
100%
50%
0%
2000
2500
3000
3500
4000
4500
5000
5500
6000
6500
7000
Elevation

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



USDA NRCS

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).

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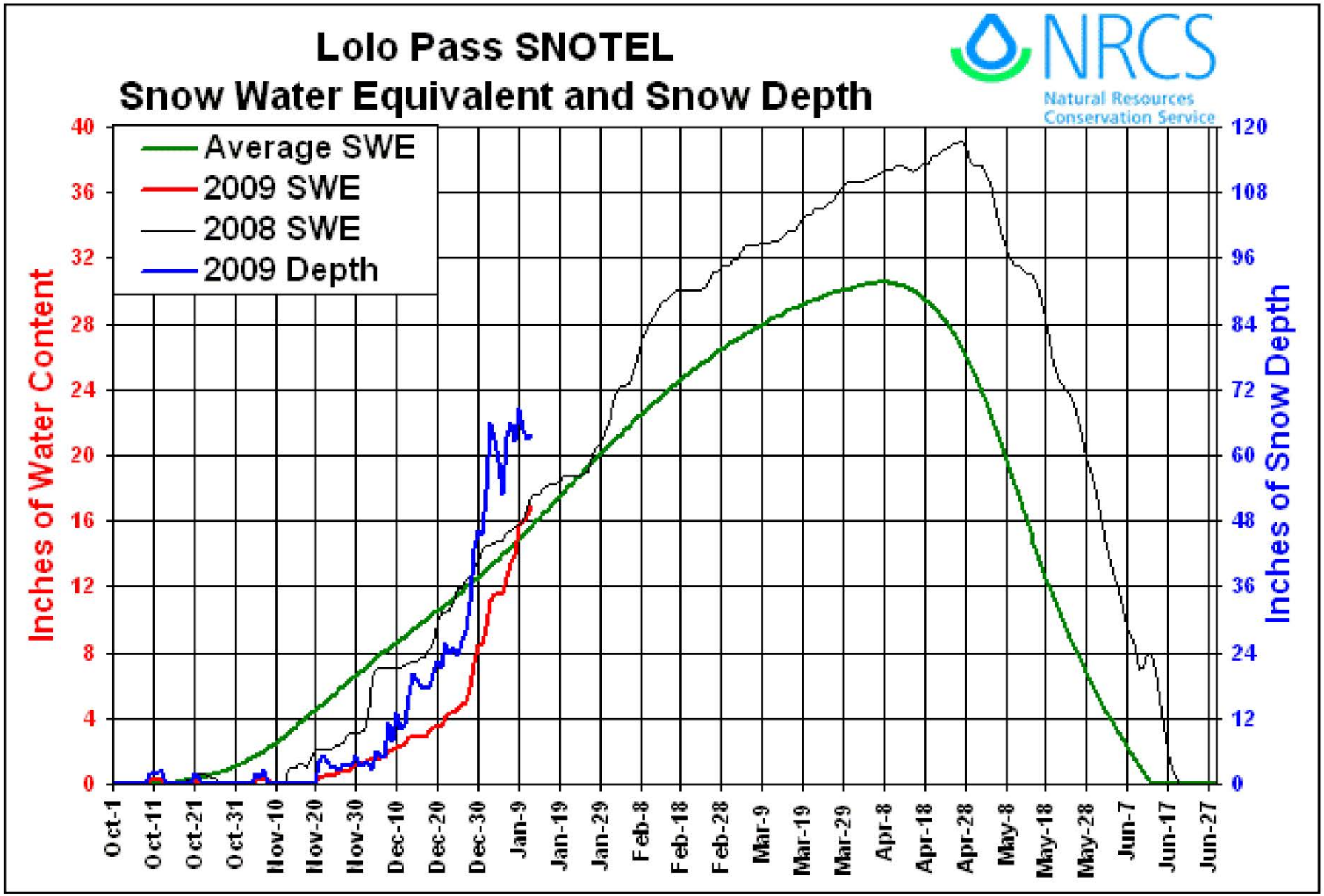
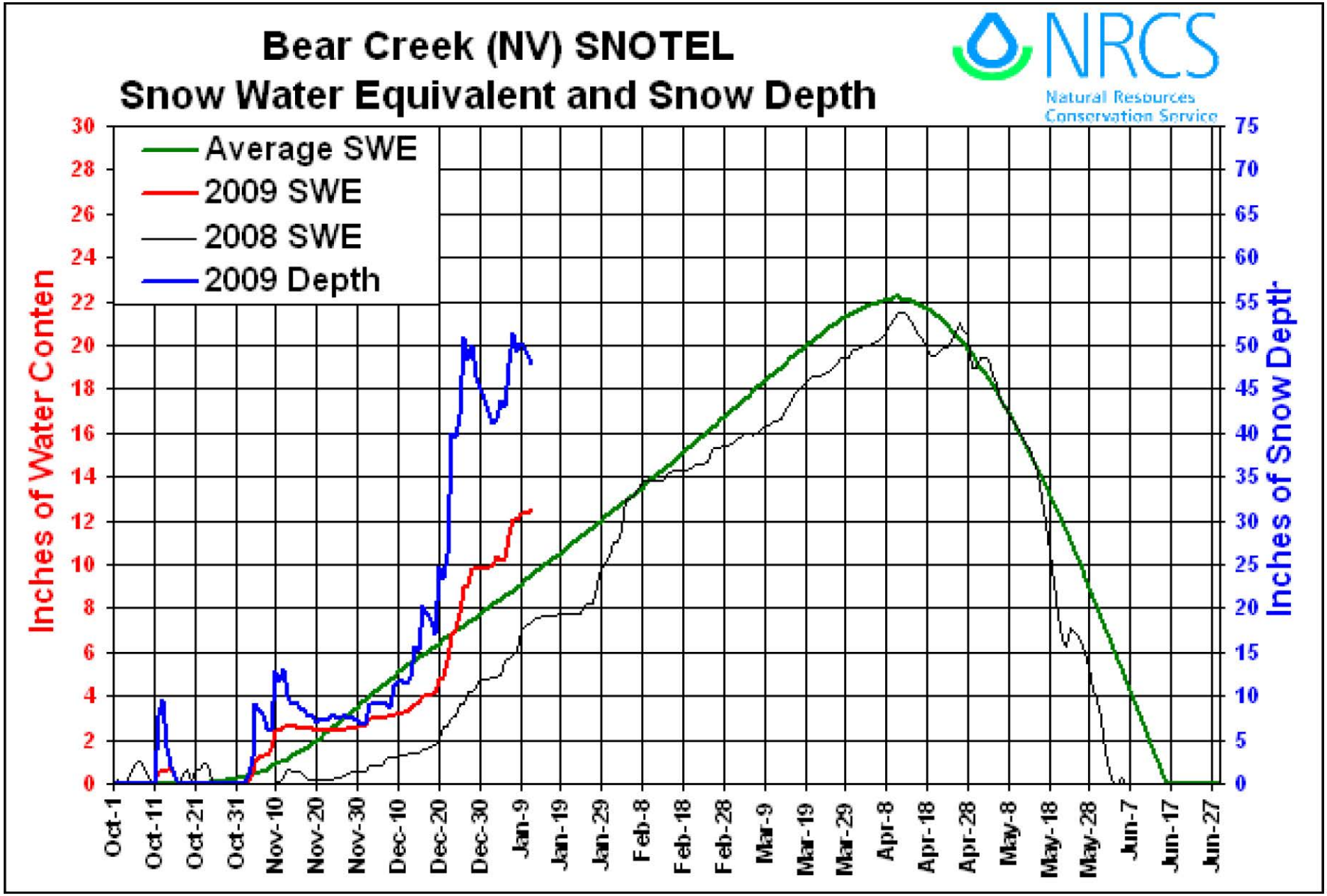
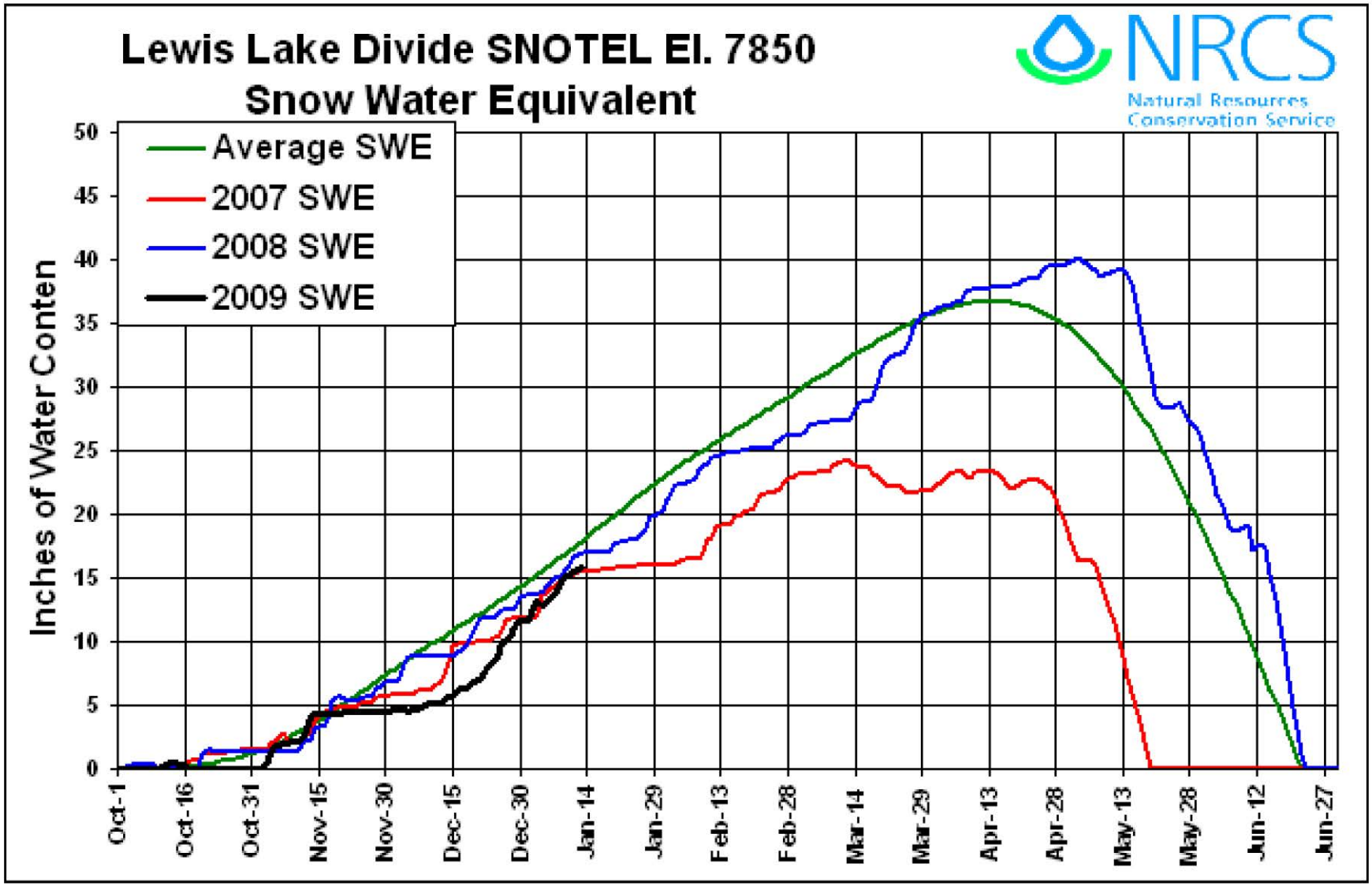

Lolo Pass SNOTEL
Snow Water Equivalent and Snow Depth
NRCS
Natural Resources Conservation Service
Average SWE
2009 SWE
2008 SWE
2009 Depth
Inches of Water Content
Inches of Snow Depth
0
4
8
12
16
20
24
28
32
36
40
0
12
24
36
48
60
72
84
96
108
120
Oct-1
Oct-11
Oct-21
Oct-31
Nov-10
Nov-20
Nov-30
Dec-10
Dec-20
Dec-30
Jan-9
Jan-19
Jan-29
Feb-8
Feb-18
Feb-28
Mar-9
Mar-19
Mar-29
Apr-8
Apr-18
Apr-28
May-8
May-18
May-28
Jun-7
Jun-17
Jun-27

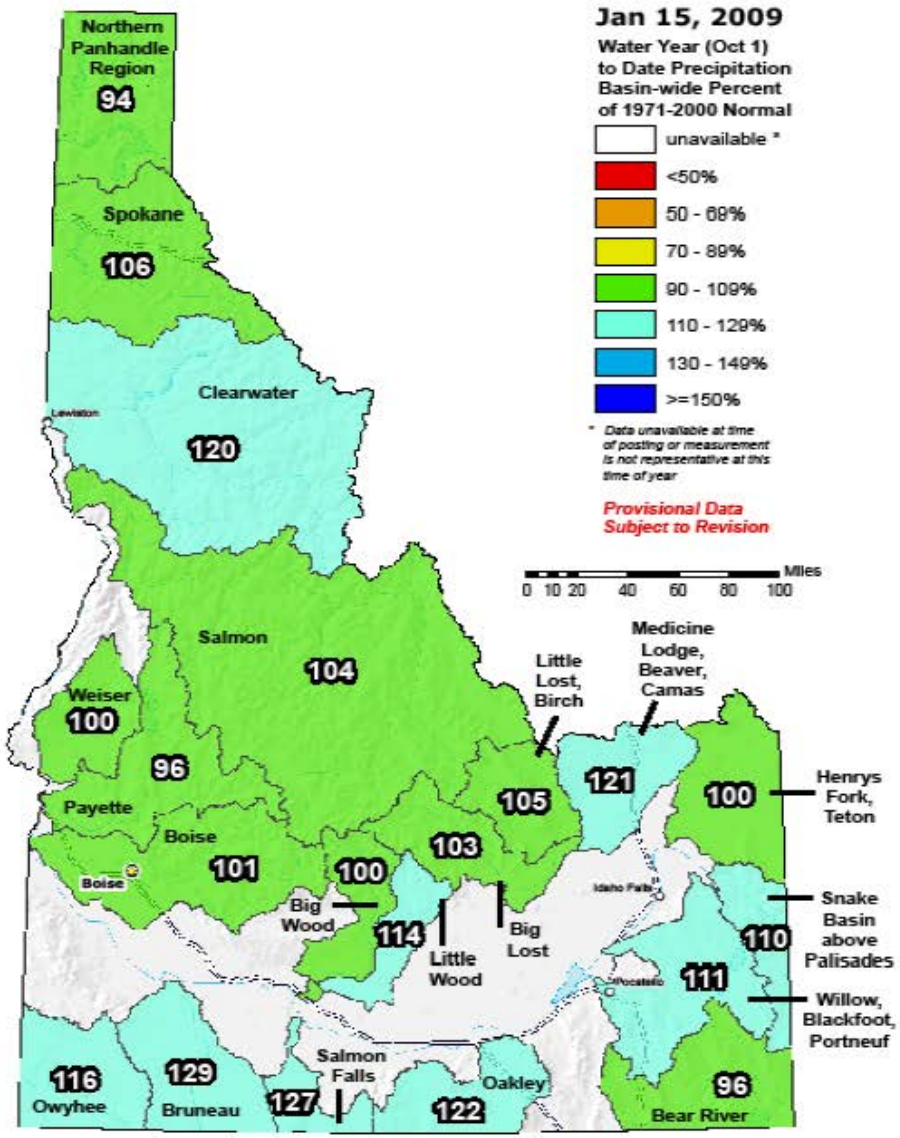

Bear Creek (NV) SNOTEL
Snow Water Equivalent and Snow Depth
NRCS
Natural Resources Conservation Service
Average SWE
2009 SWE
2008 SWE
2009 Depth
Inches of Water Conten
Inches of Snow Depth
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
Oct-1
Oct-11
Oct-21
Oct-31
Nov-10
Nov-20
Nov-30
Dec-10
Dec-20
Dec-30
Jan-9
Jan-19
Jan-29
Feb-8
Feb-18
Feb-28
Mar-9
Mar-19
Mar-29
Apr-8
Apr-18
Apr-28
May-8
May-18
May-28
Jun-7
Jun-17
Jun-27


Lewis Lake Divide SNOTEL El. 7850
Snow Water Equivalent
NRCS
Natural Resources Conservation Service
Average SWE
2007 SWE
2008 SWE
2009 SWE
Inches of Water Conten
0
5
10
15
20
25
30
35
40
45
50
Oct-1
Oct-16
Oct-31
Nov-15
Nov-30
Dec-15
Dec-30
Jan-14
Jan-29
Feb-13
Feb-28
Mar-14
Mar-29
Apr-13
Apr-28
May-13
May-28
Jun-12
Jun-27

SNOTEL January 2009 Precipitation as of Jan. 13

Basin	Percent of January Average Precipitation
IDAHO PANHANDLE REGION	88
CLEARWATER BASIN	99
SALMON BASIN	76
WEISER BASIN	63
PAYETTE BASIN	66
BOISE BASIN	49
BIG WOOD BASIN	43
LITTLE WOOD BASIN	35
BIG LOST BASIN	48
LITTLE LOST, BIRCH BASINS	53
MEDICINE LODGE, BEAVER, CAMAS BASINS	42
HENRYS FORK, TETON BASINS	48
SNAKE BASIN ABOVE PALISADES	79
WILLOW, BLACKFOOT, PORTNEUF BASINS	47
OAKLEY BASIN	47
SALMON FALLS BASIN	58
BRUNEAU BASIN	62
OWYHEE BASIN	50
BEAR RIVER BASIN	53

Idaho SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal



USDA NRCS

The water year to date precipitation percent of normal represents the accumulated precipitation 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/
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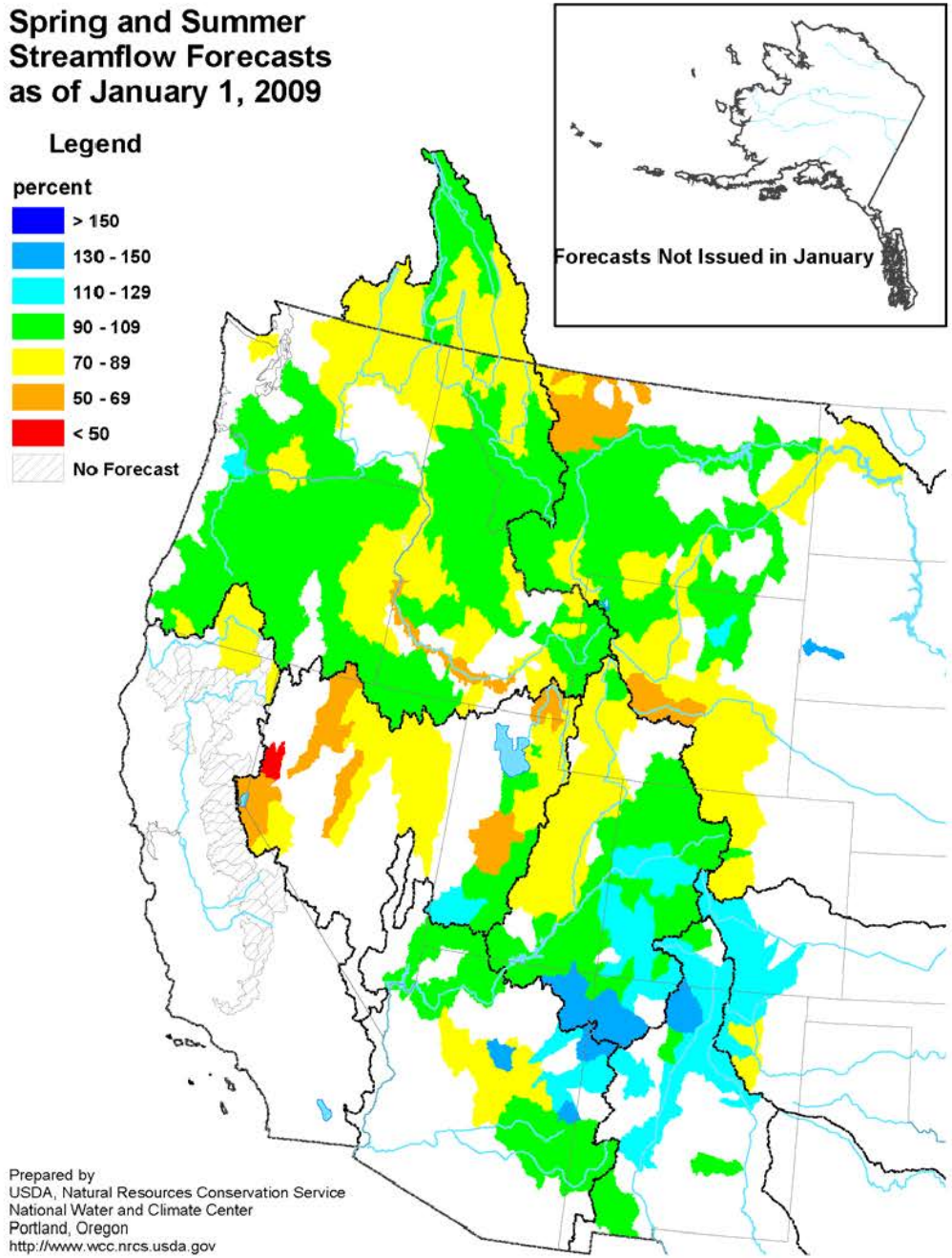
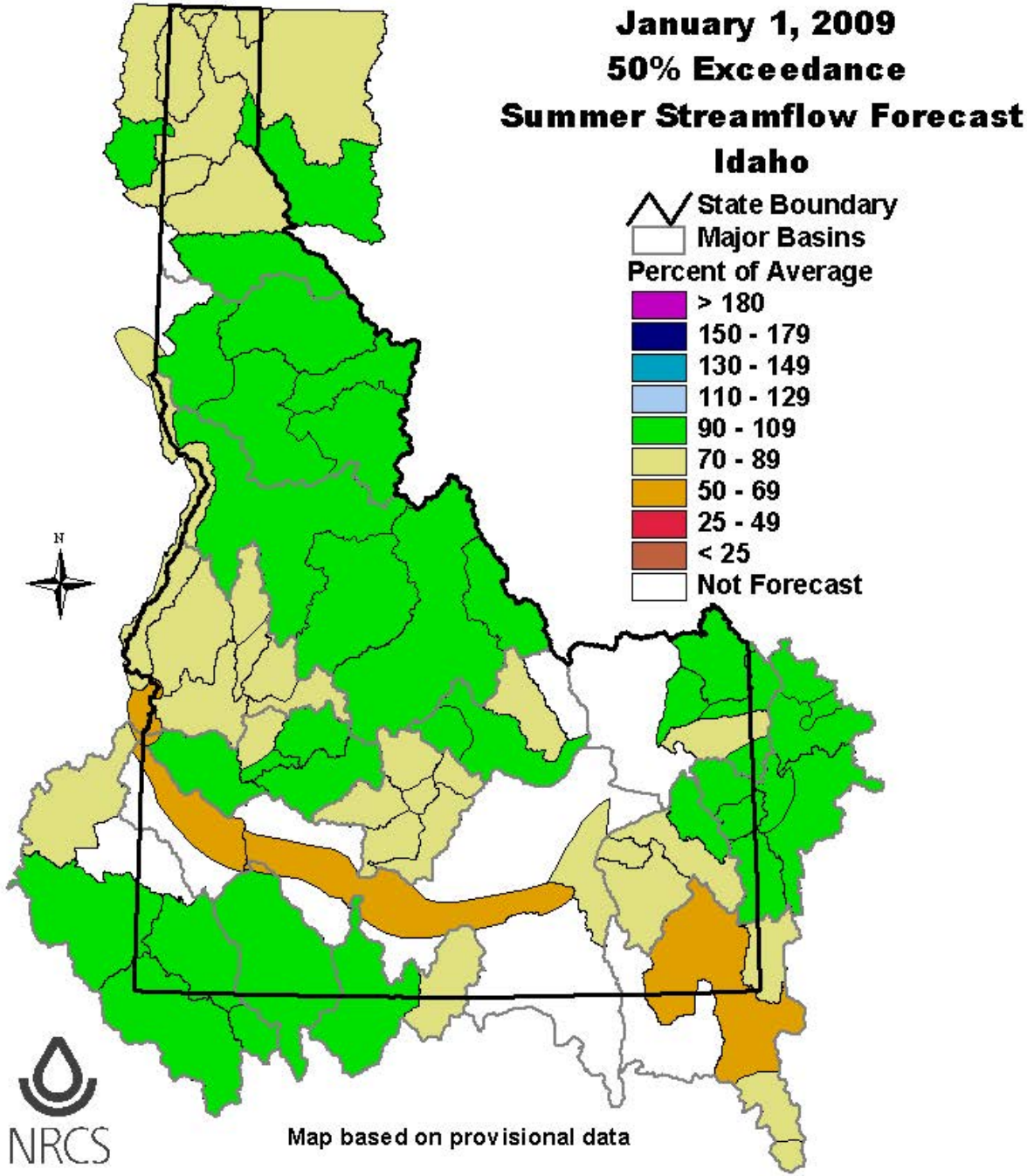
Spring and Summer Streamflow Forecasts as of January 1, 2009



Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov


January 1, 2009
50% Exceedance
Summer Streamflow Forecast
Idaho
State Boundary
Major Basins
Percent of Average
> 180
150 - 179
130 - 149
110 - 129
90 - 109
70 - 89
50 - 69
25 - 49
< 25
Not Forecast
N
NRCS
Map based on provisional data

Final January 2009 Streamflow Forecasts, 50% Exceedance Probability
Produced jointly with NRCS and National Weather Service.

	Forecast Point	Period	1000 Ac-ft	% Average
PANHANDLE REGION	KOOTENAI at Leonia	APR-JUL	6110	87
	PEND ORIELLE Lake Inflow	APR-JUL	11200	88
	ST. JOE at Calder	APR-JUL	1020	90
	SPOKANE near Post Falls	APR-JUL	2240	88
CLEARWATER BASIN	Selway R nr Lowell	APR-JUL	1966	95
	DWORSHAK RESV Inflow	APR-JUL	2490	94
SALMON BASIN	SALMON at Salmon	APR-JUL	770	90
	Salmon at White Bird	APR-JUL	5430	93
WEISER, PAYETTE, BOISE BASINS	Weiser R nr Weiser	FEB-JUL	560	86
	Payette R nr Horseshoe Bend	APR-JUL	1400	85
	BOISE near Boise	APR-JUL	1290	92
WOOD AND LOST BASINS	BIG WOOD below Magic Dam	APR-JUL	255	88
	LITTLE WOOD near Carey	MAR-JUL	84	88
	BIG LOST blw Mackay Resv	APR-JUL	130	92
	Little Lost R nr Howe	APR-JUL	26	84
UPPER SNAKE BASINS	HENRYS FORK near Rexburg	APR-JUL	1400	90
	Teton R nr St. Anthony	APR-JUL	355	88
	SNAKE nr Moran	APR-JUL	775	95
	SNAKE near Heise	APR-JUL	3330	94
	Portneuf R at Topaz	MAR-JUL	78	88
SOUTHSIDE SNAKE BASINS	Oakley Reservoir Inflow	MAR-JUL	30	88
	Salmon Falls Ck nr San Jacinto	MAR-JUL	86	93
	Bruneau R nr Hot Springs	MAR-JUL	226	96
	Owyhee R blw Owyhee Dam	FEB-JUL	620	89
	SNAKE RIVER at Hells Canyon Dam	APR-JUL	4350	70
BEAR RIVER BASIN	Bear R nr UT-WY State Line	APR-JUL	98	87
	Bear River ab Reservoir nr Woodruff	APR-JUL	120	88
	Smiths Fork nr Border	APR-JUL	88	85
	Bear River at Stewart Dam	APR-JUL	140	60

IDAHO RESERVOIR STORAGE

NRCS Usable Contents December 31, 2008

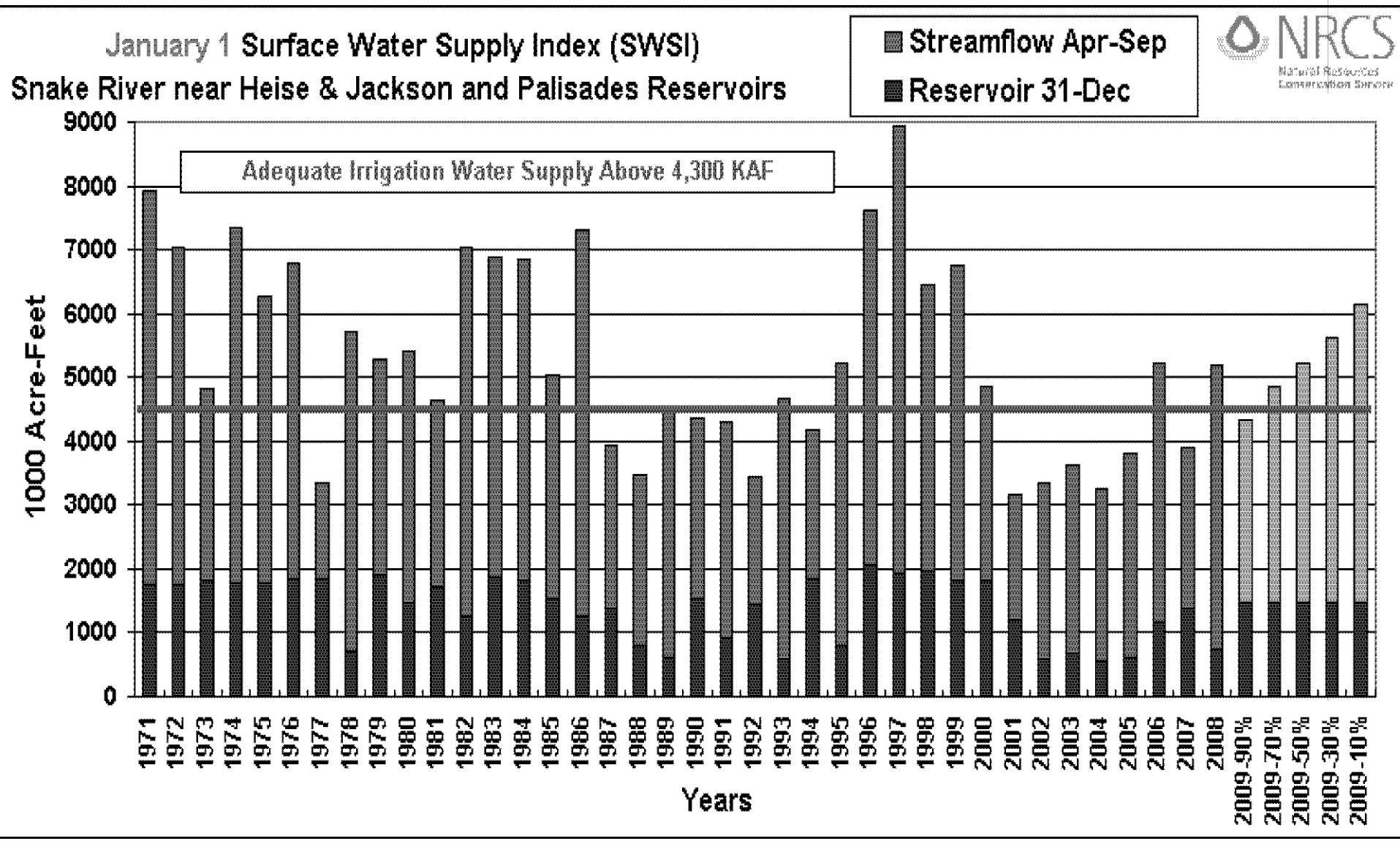
Reservoir or Basin	Percent of Capacity December 31, 2008	Percent of Average December 31, 2008	Percent of Average December 31, 2007
Coeur d'Alene	22	47	65
Dworshak	69	107	101
Payette (2)	61	96	96
Boise (3)	53	95	73
Magic	13	30	21
Little Wood	27	57	67
Mackay	42	78	73
Henrys Fork (3)	84	107	86
Jackson & Palisades (2)	65	97	48
Blackfoot	25	40	37
American Falls	57	97	72
Oakley	21	62	89
Salmon Falls	9	32	51
Owyhee	26	47	44

IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of January 1, 2009

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-1.9	1995	NA
CLEARWATER	-0.5	2004	NA
SALMON	-0.2	2003	NA
WEISER	1.7	2008	NA
PAYETTE	-0.4	2003	NA
BOISE	0.4	2008	-1.7
BIG WOOD	**-0.6**	**2005**	**-0.1**
LITTLE WOOD	0.4	2005	-1.8
BIG LOST	**-0.2**	**2005**	**0.0**
LITTLE LOST	**-0.9**	**2008**	**0.6**
HENRYS FORK	-1.9	2004	-3.4
SNAKE (HEISE)	0.4	2006	-1.7
OAKLEY	**-0.9**	**2005**	**-0.5**
SALMON FALLS	**-1.5**	**2007**	**-1.1**
BRUNEAU	-0.6	2008	NA
BEAR RIVER	-2.7	1995	-3.0

```
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION
 -4     -3     -2     -1      0      1      2      3      4
  |------|------|------|------|------|------|------|------|
 99%    87%    75%    63%    50%    37%    25%    13%     1%
  -----------------------------------------------------------
| Much   | Below    |    Near Normal    | Above   |  Much |
| Below  | Normal   |    Water Supply   |  Normal |  Above|
-----------------------------------------------------------
```

Jan 1, 2009 Forecast 95% 3950 KAF



Idaho Weather, Climate and Water Supply Outlook

IDWR Briefing, Jan 15th 2009

Jay Breidenbach, NOAA National Weather Service

Snow Accumulation Movies

Last Week's Major Weather Pattern Change

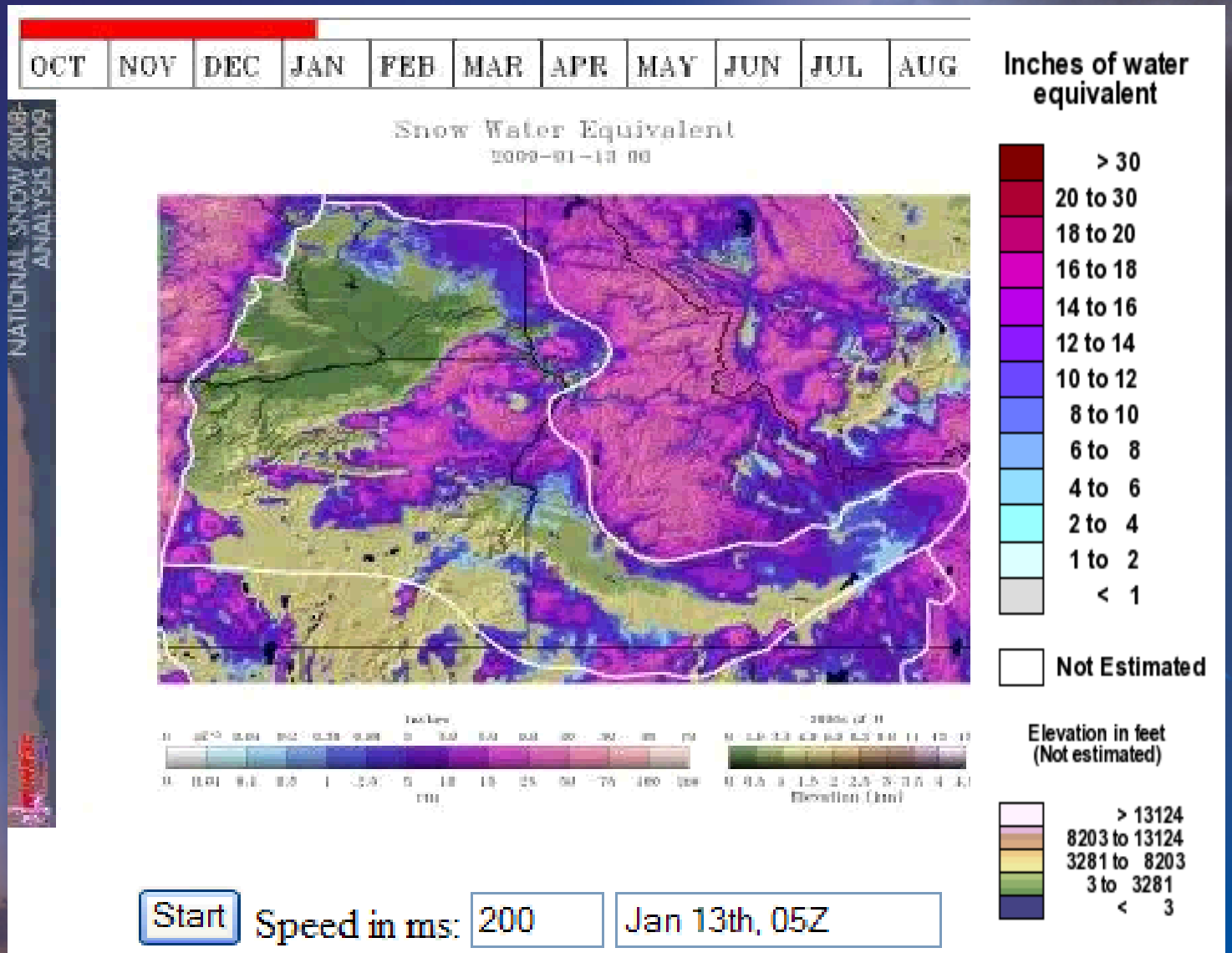
Forecast for next 10 days

Unexpected return of La-Nina

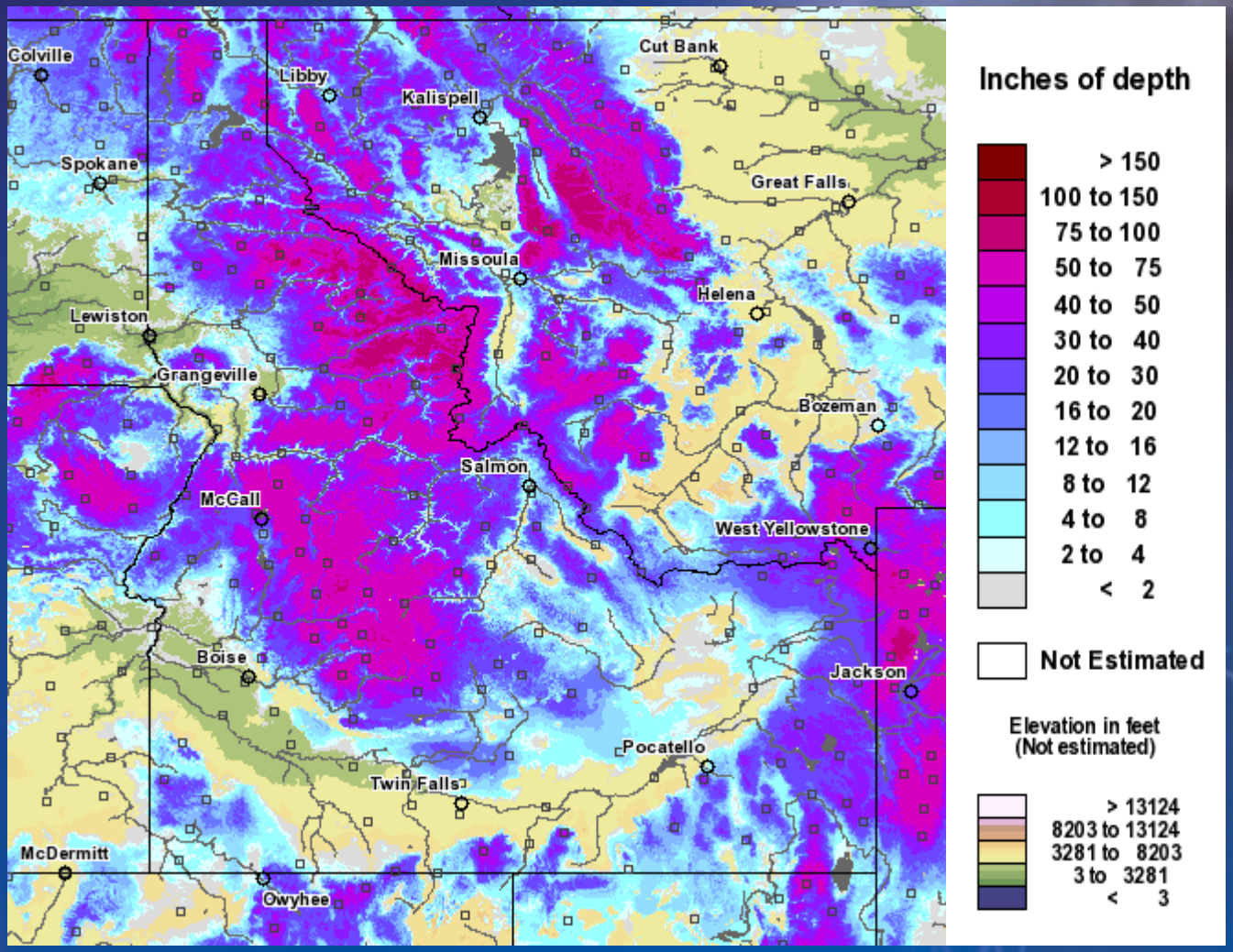
Three Month Climate Outlook

Water Supply Numbers and Drought Summary

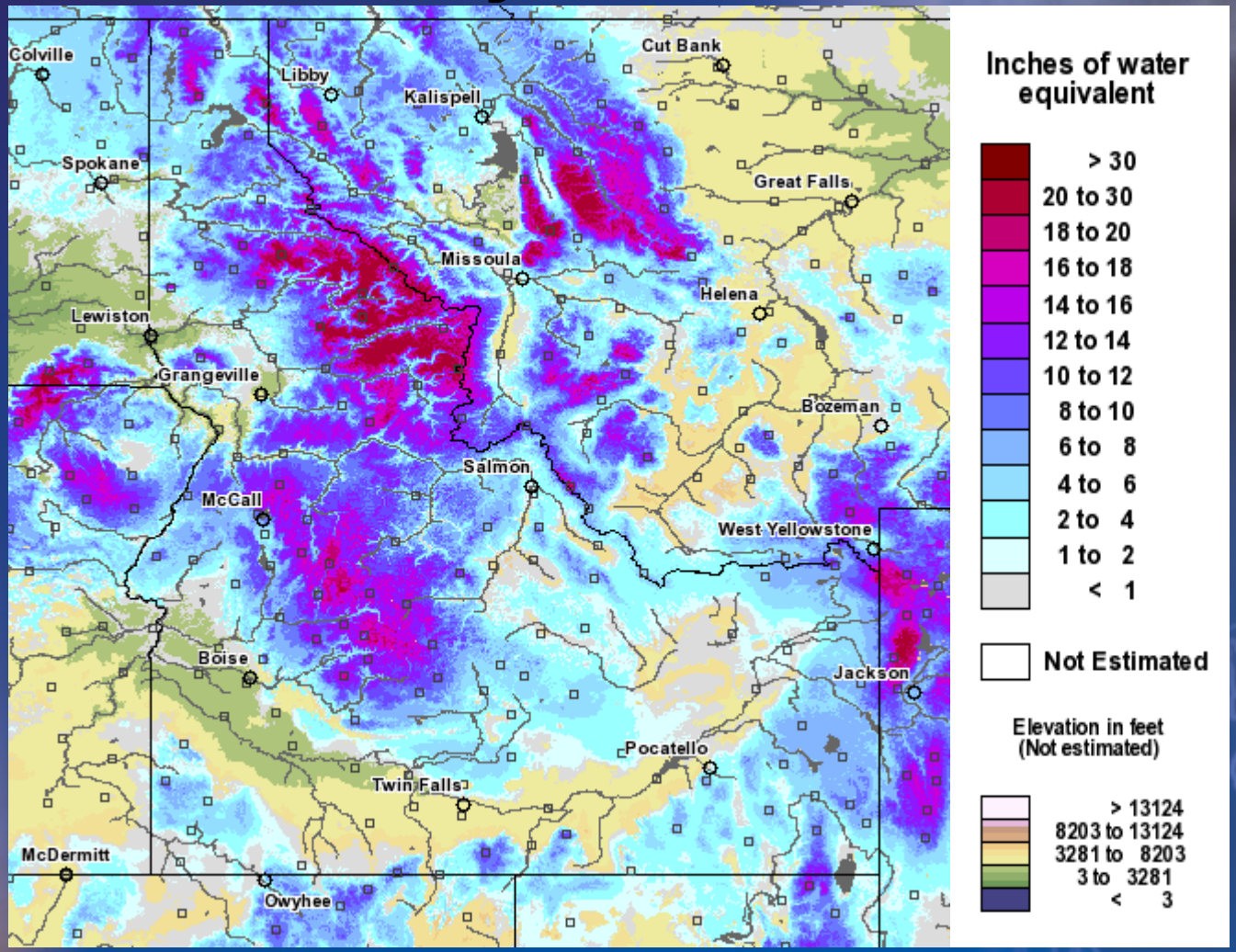
2009 Water Year
Snow Accumulation Movie



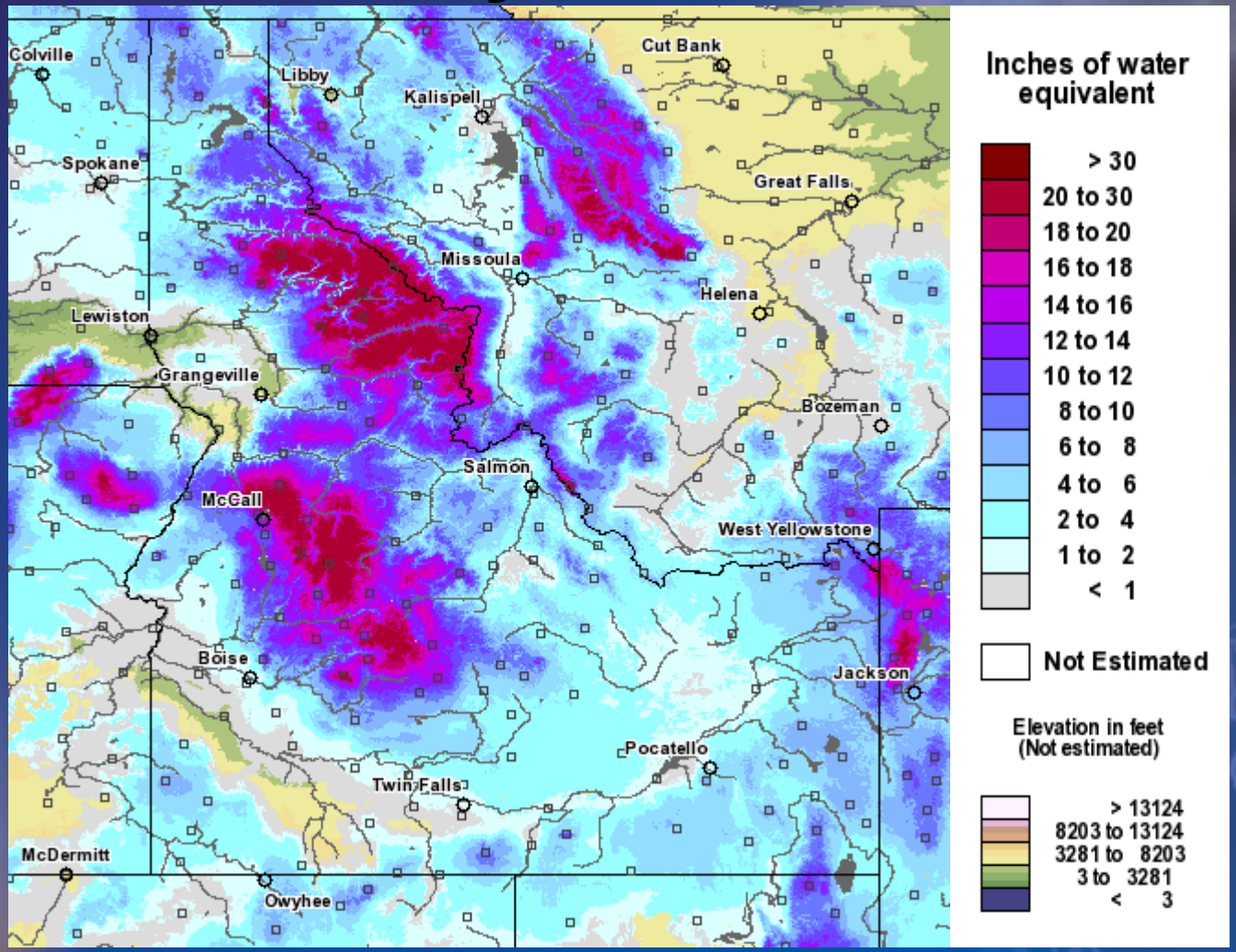
Snow Depth, Jan 14th, 2009



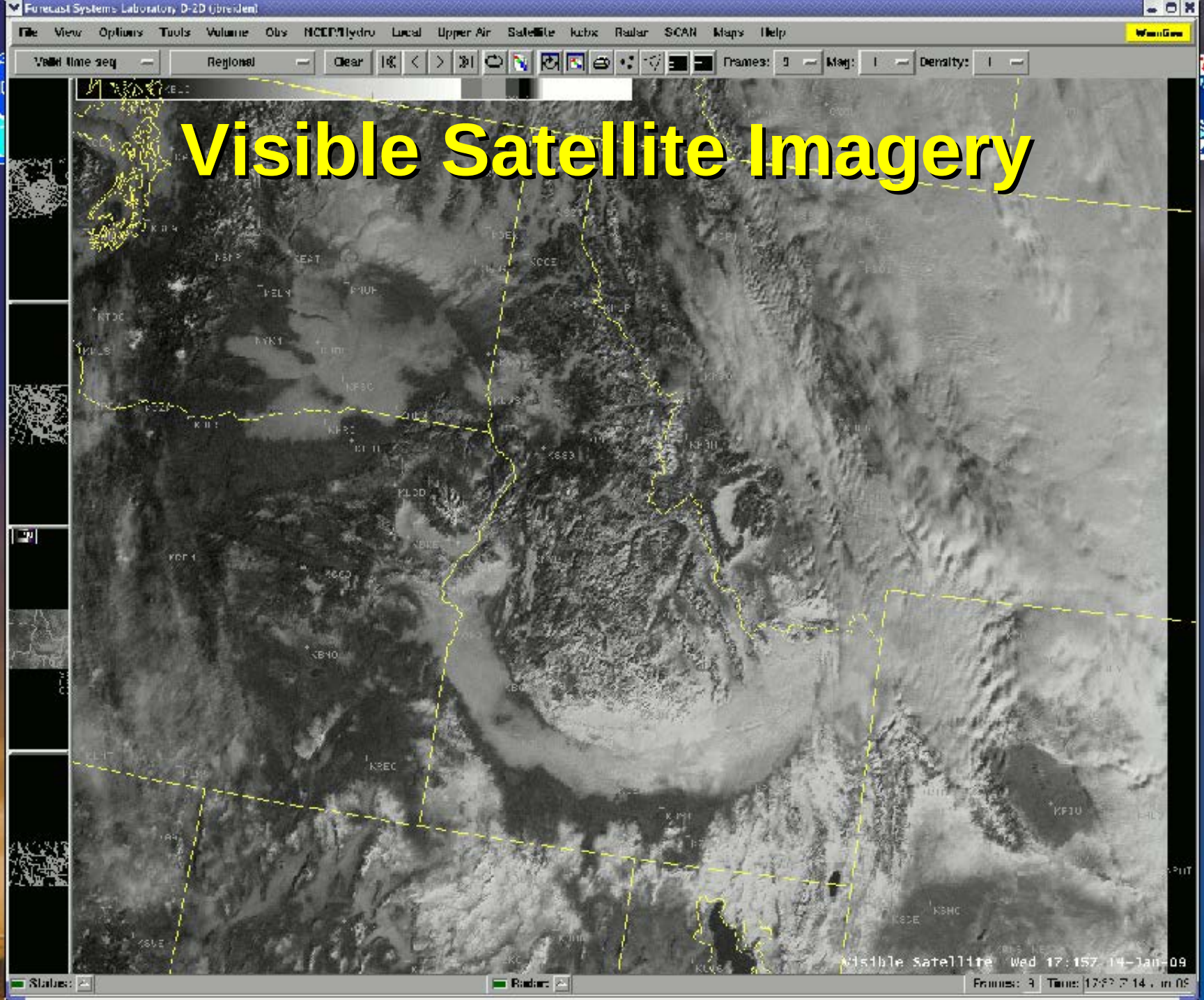
Snow Water Equivalent
January 14th, 2009



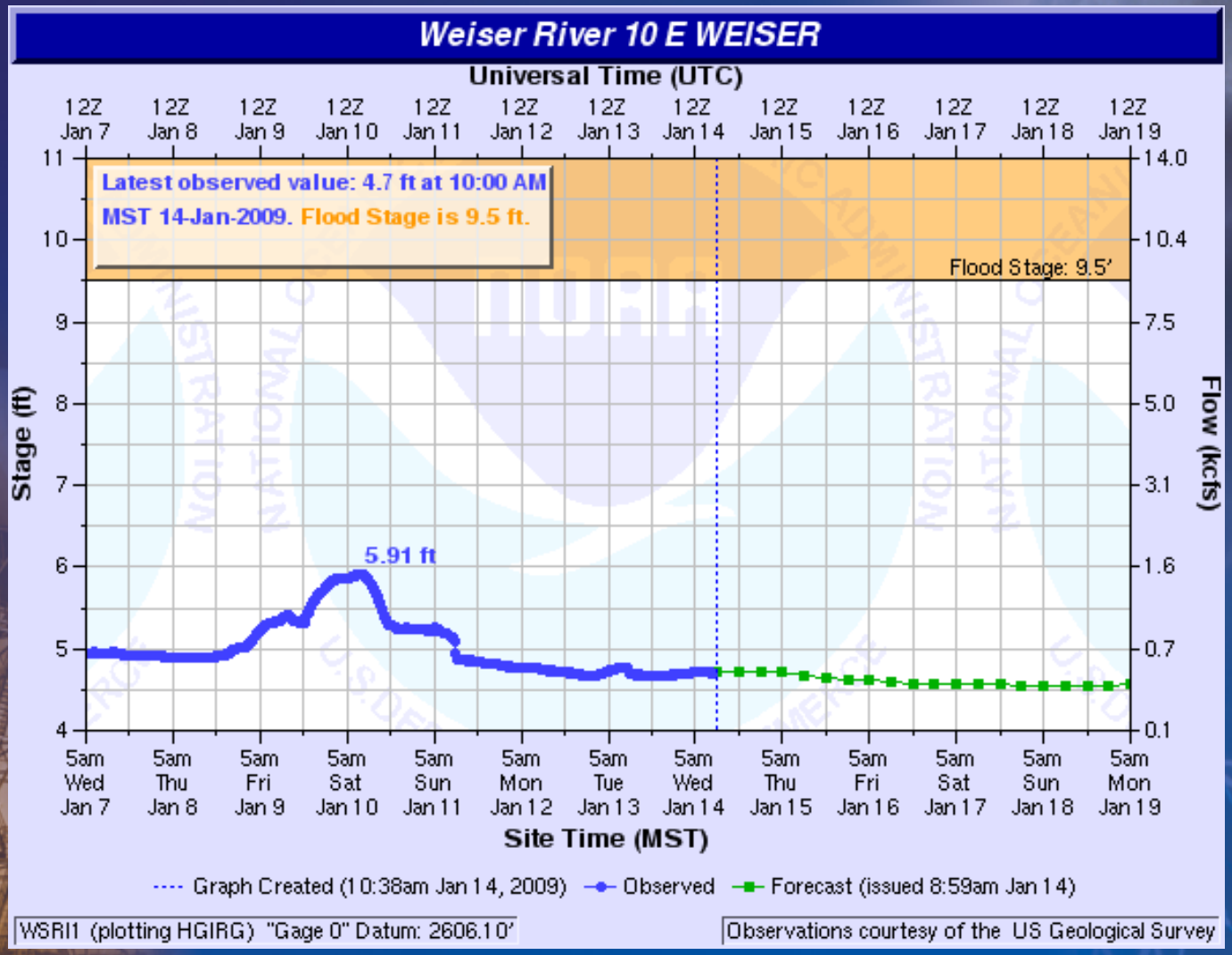
Snow Water Equivalent
January 14th, 2008



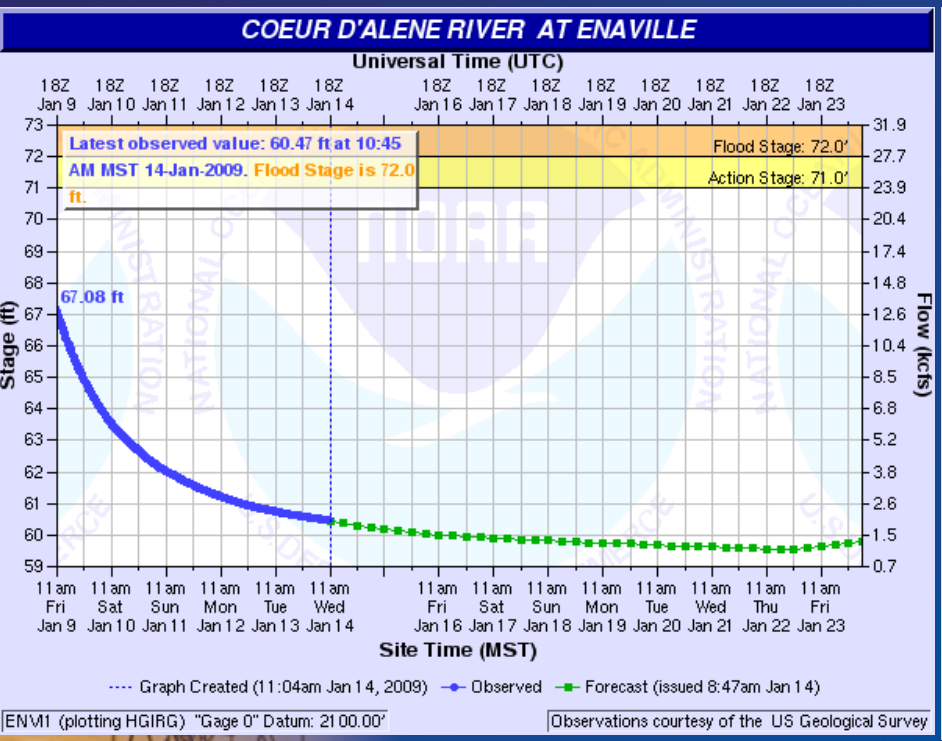
Visible Satellite Imagery

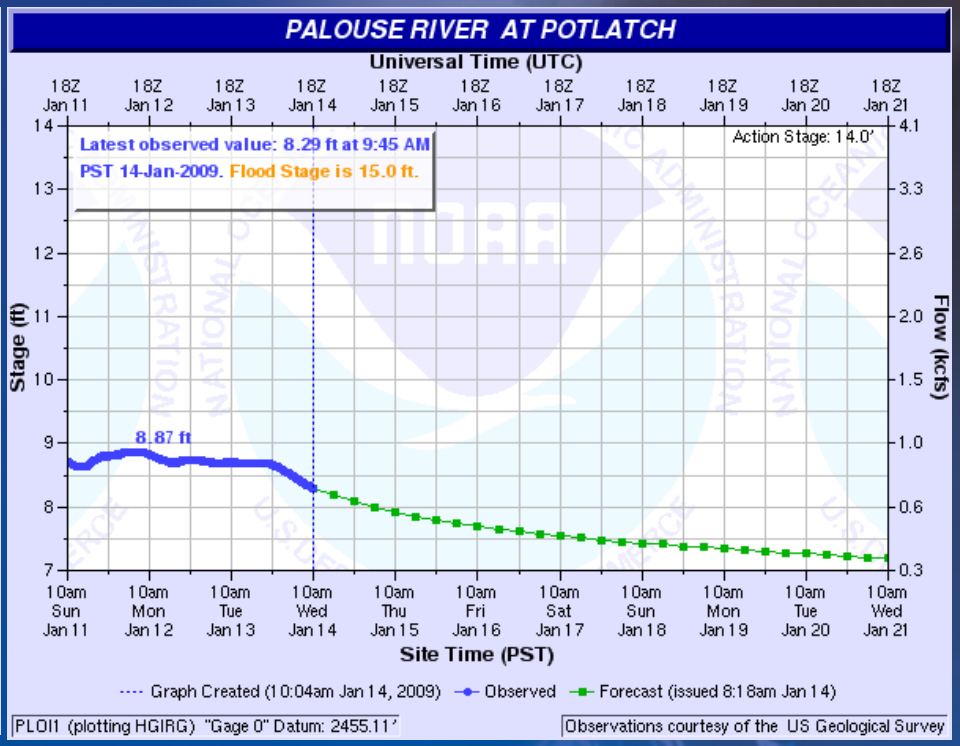


Weiser River near Weiser



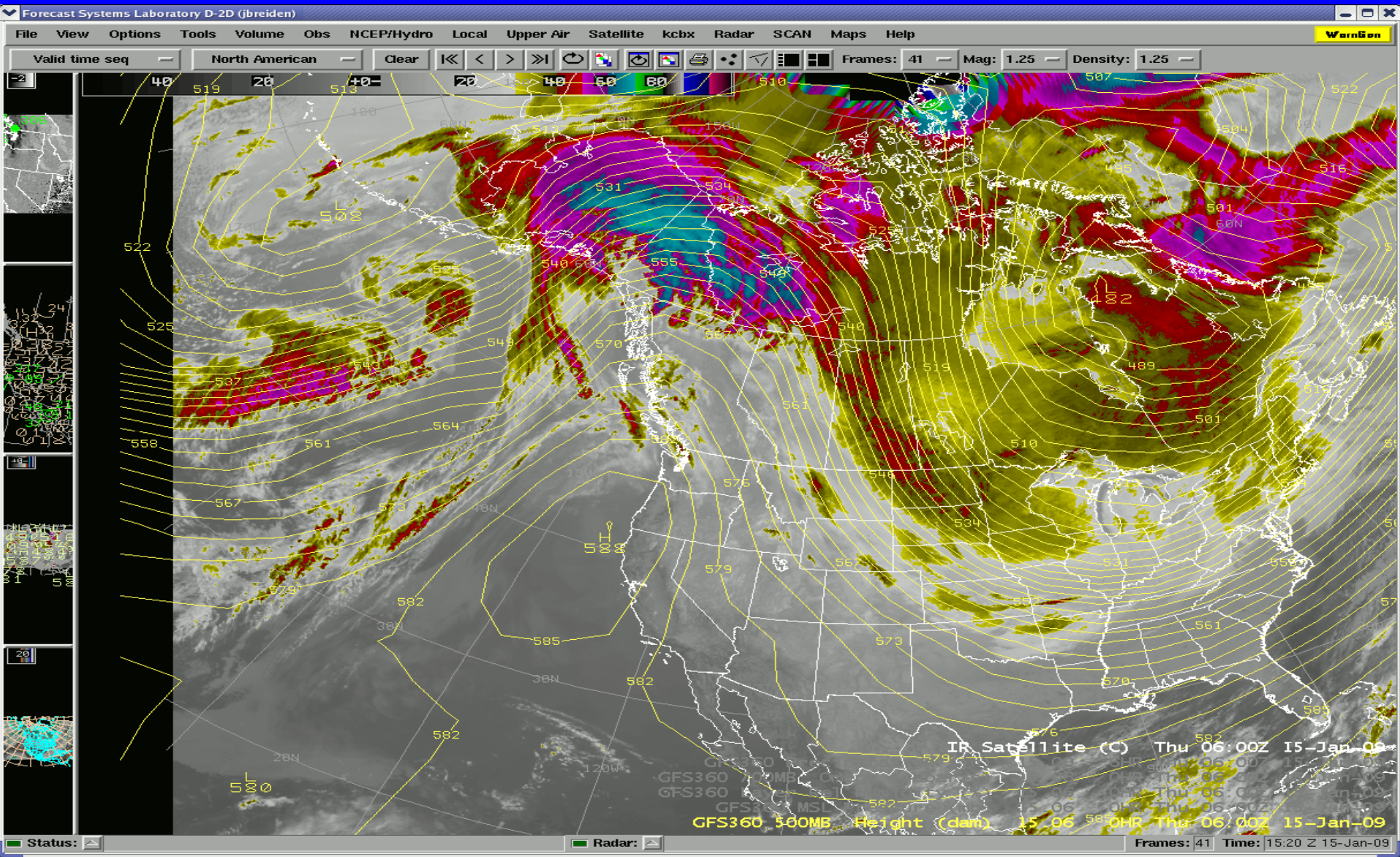
Northern Idaho Rivers Receding



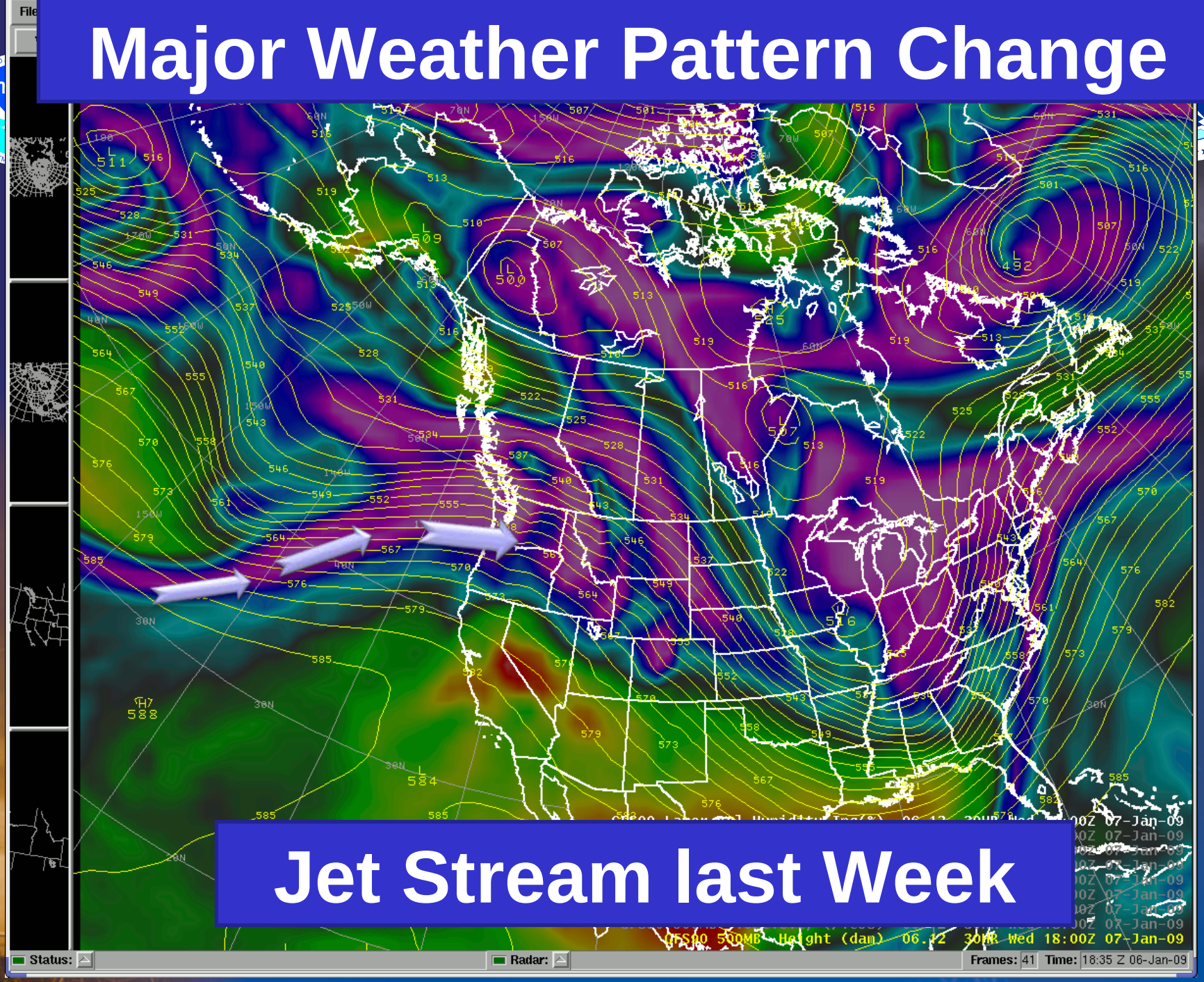


Paloose River –High water and Ice

Thursday - Jan 15th
IR Satellite Imagery / 500 mb heights

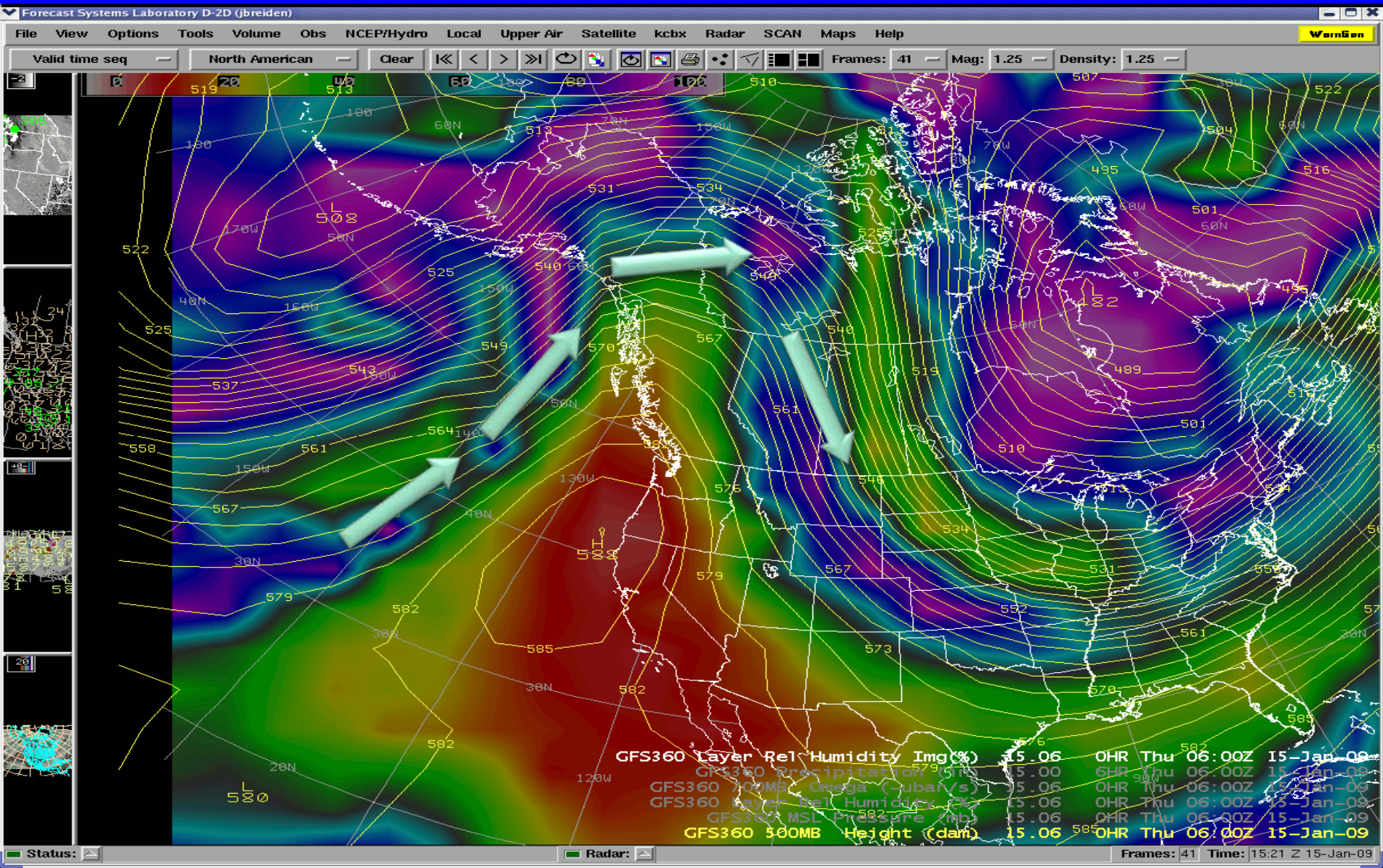


Major Weather Pattern Change

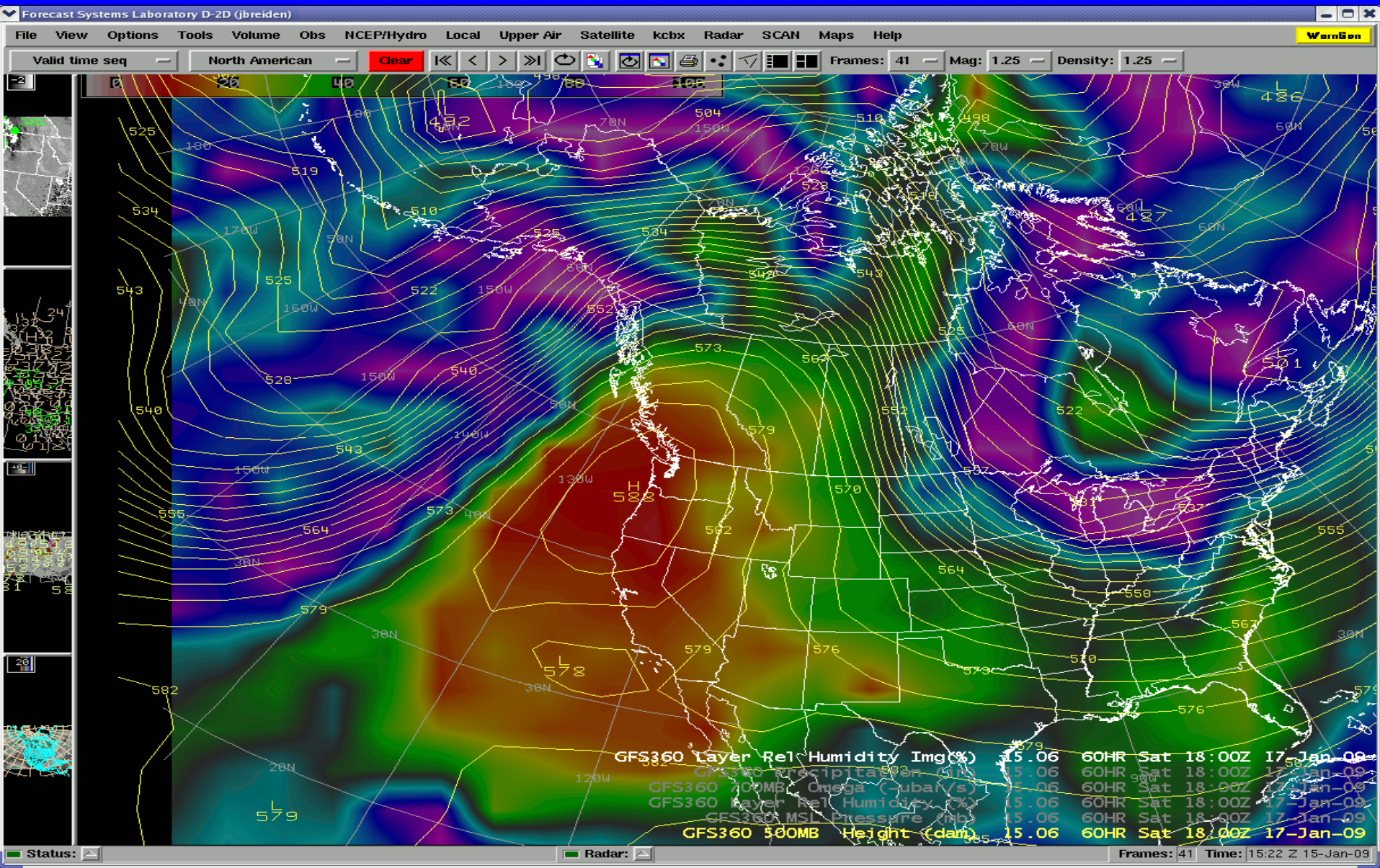


Jet Stream last Week

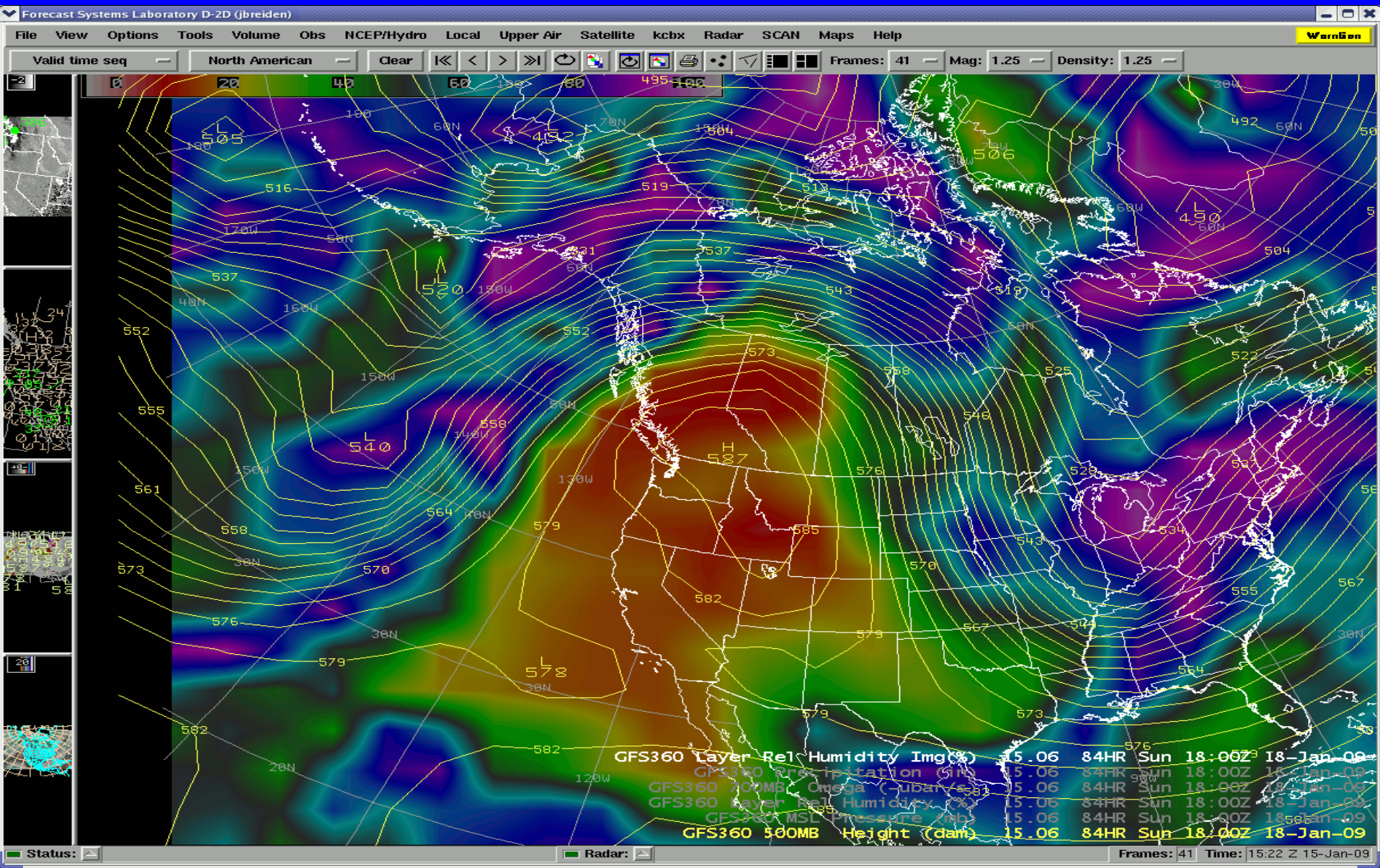
Thursday, Jan 15th
500 mb heights / model precipitation



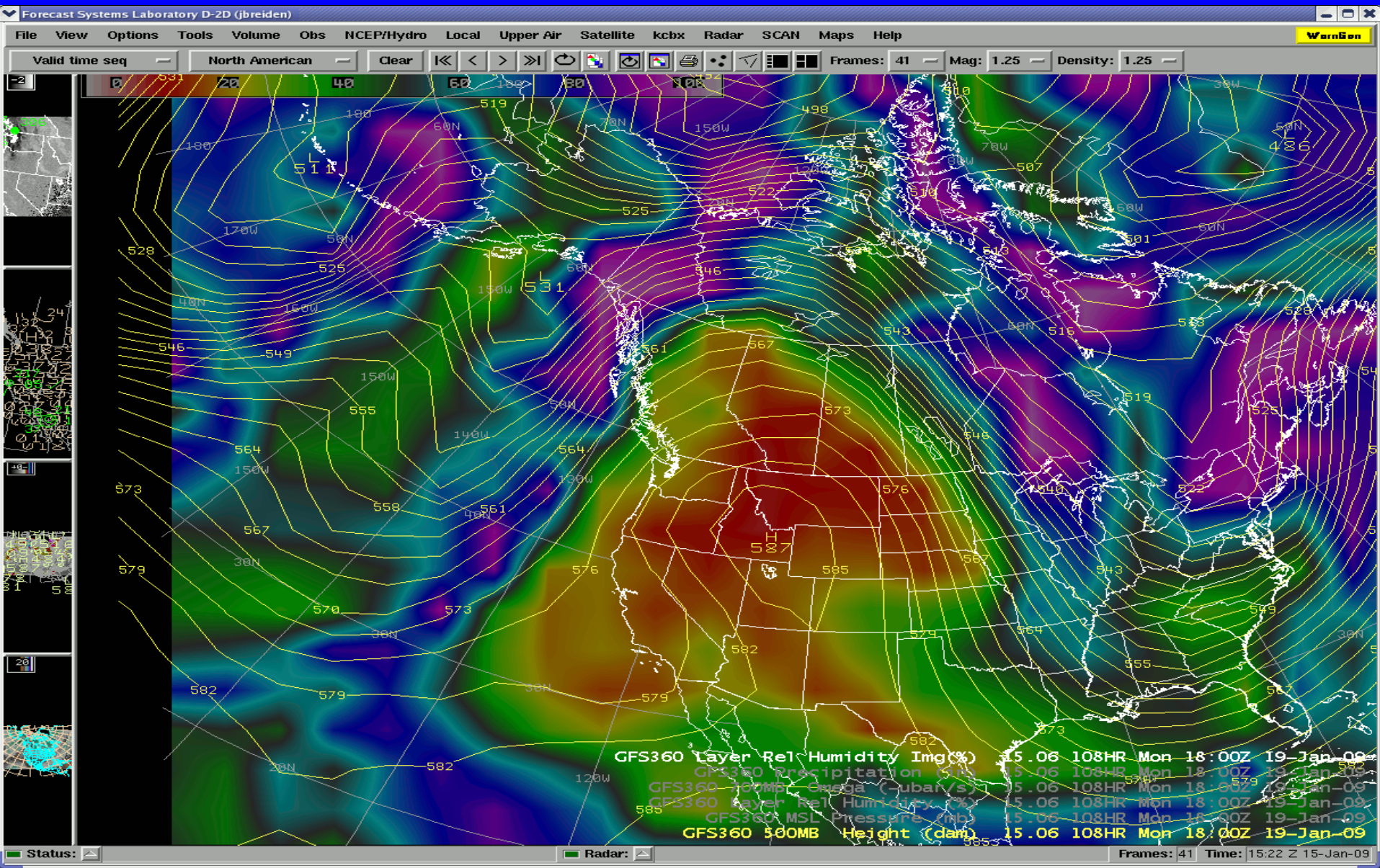
Saturday, January 17th



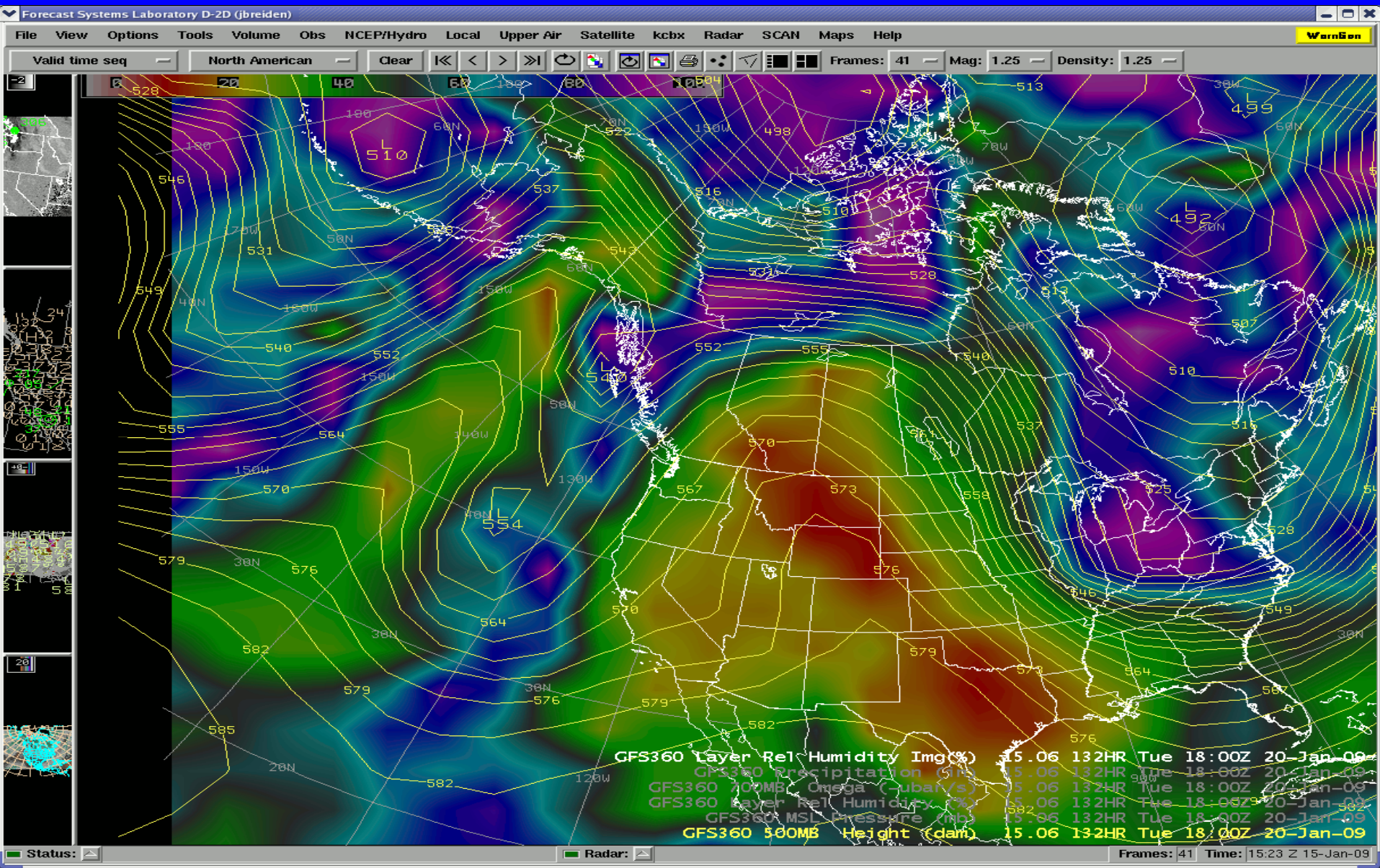
Sunday, January 18th



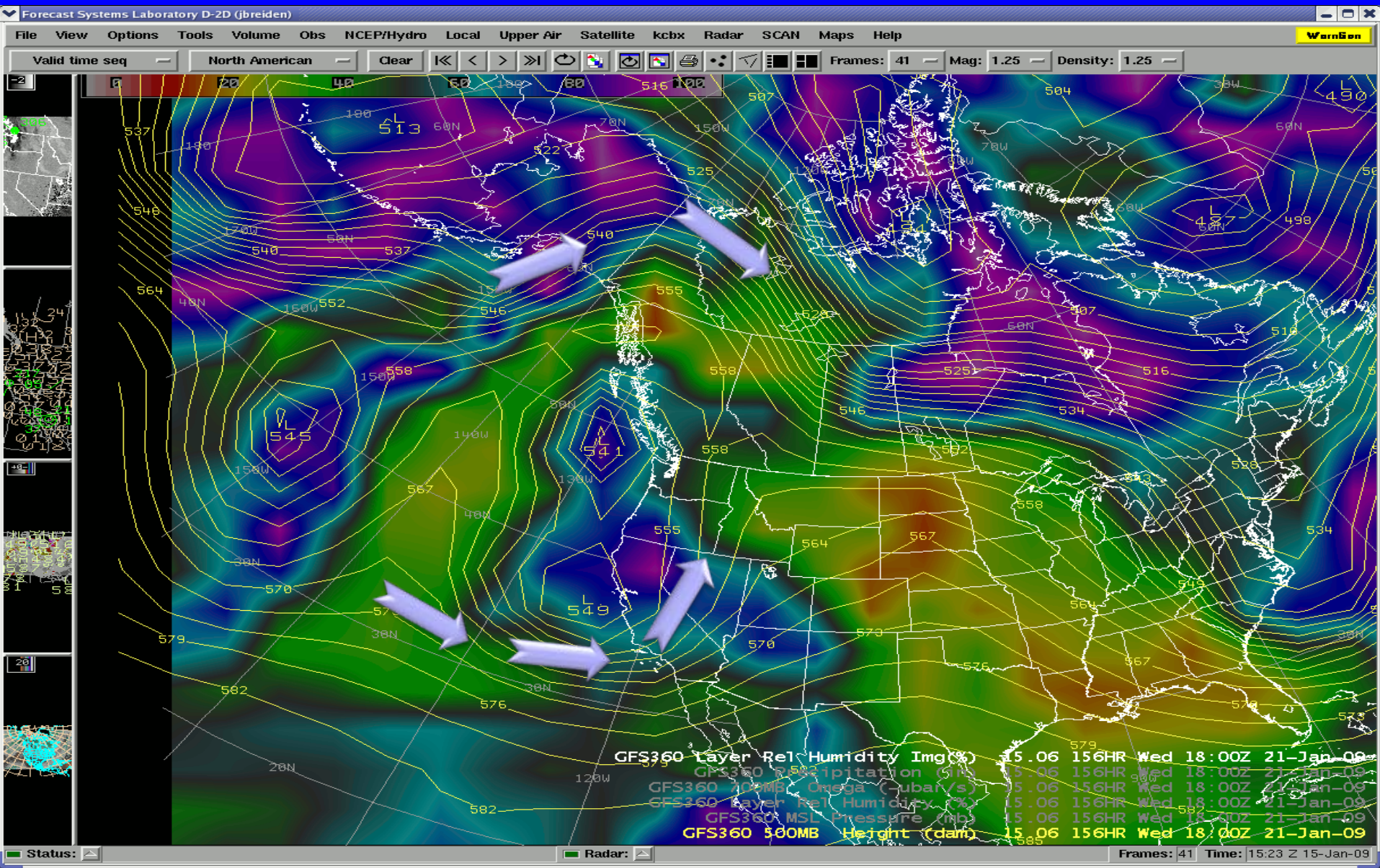
Monday, January 19th



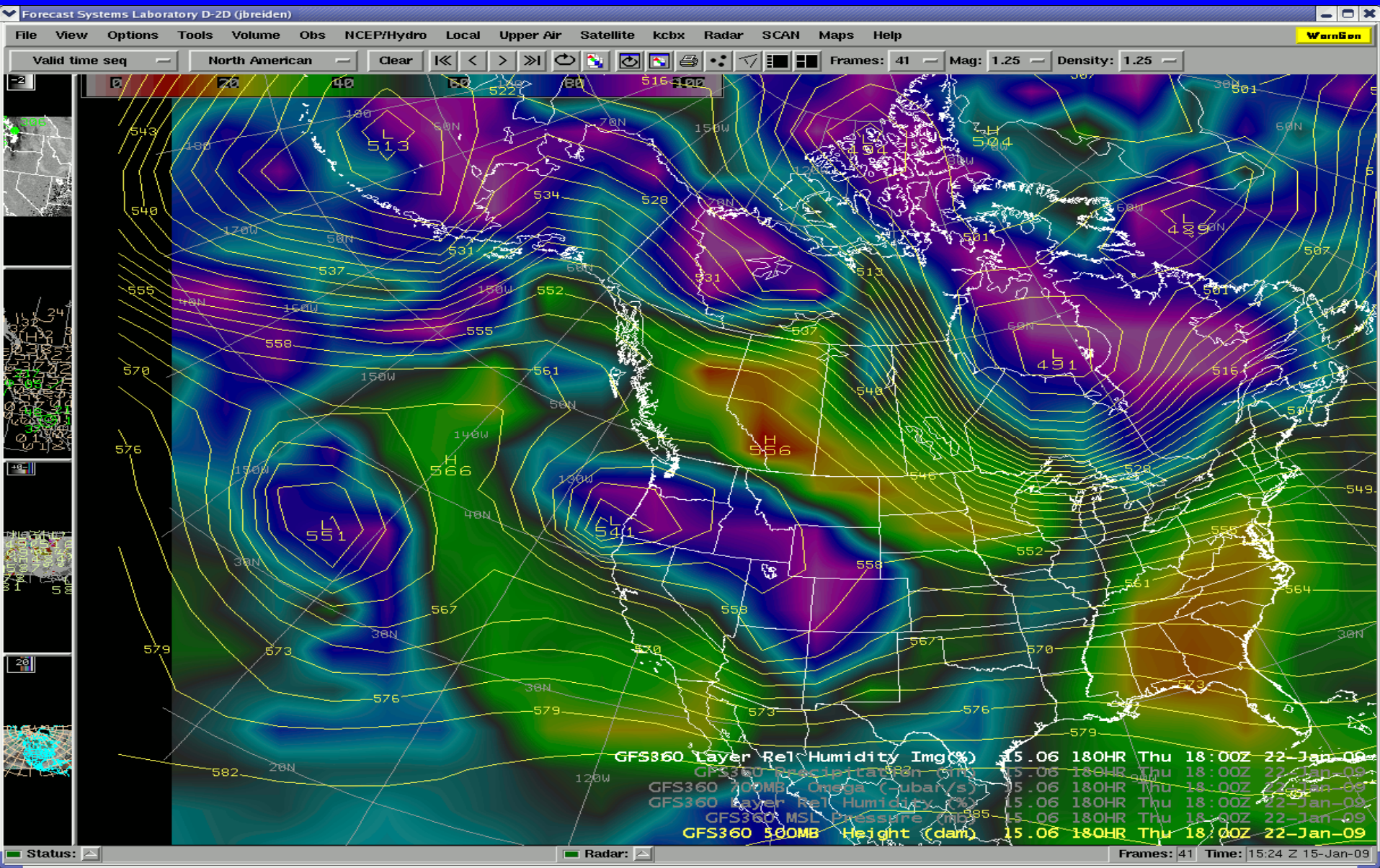
Tuesday, January 20th



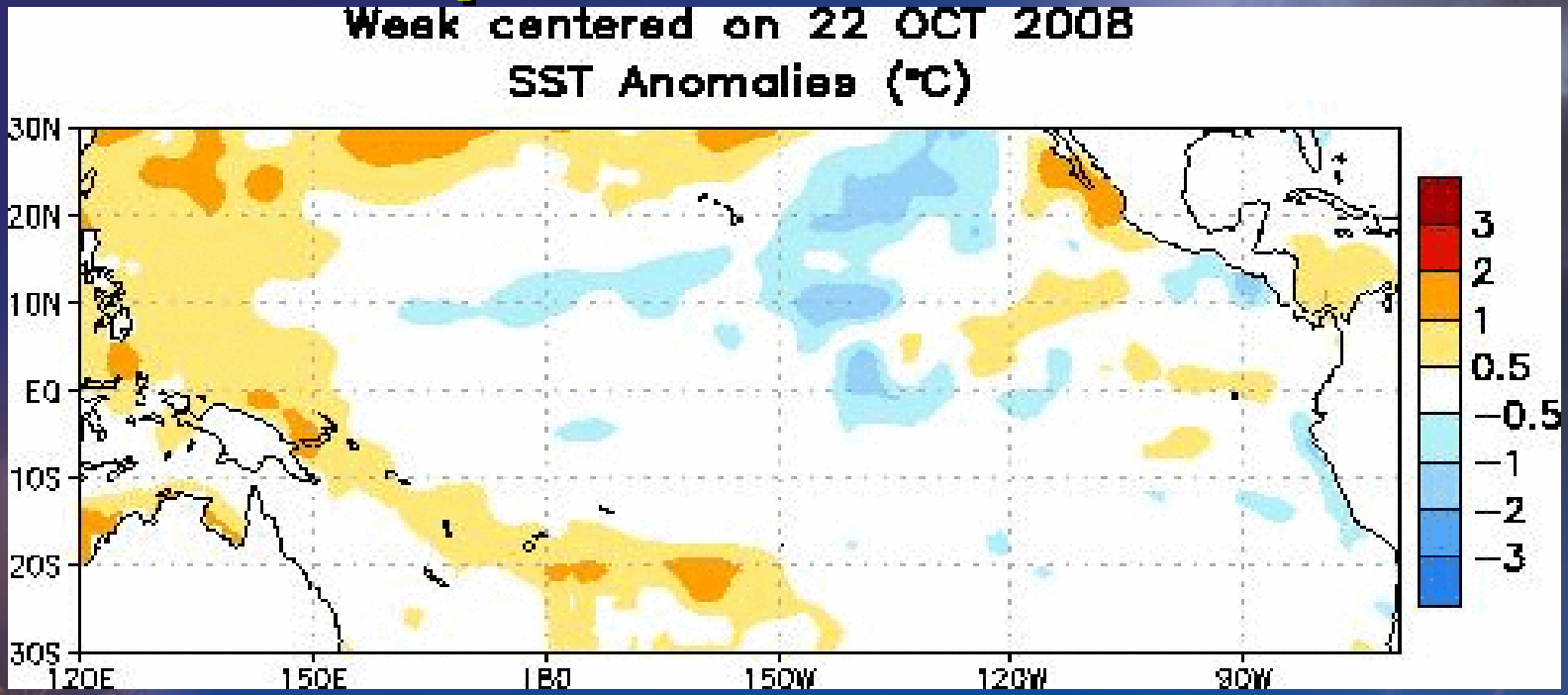
Wednesday, January 21st –Pattern Change

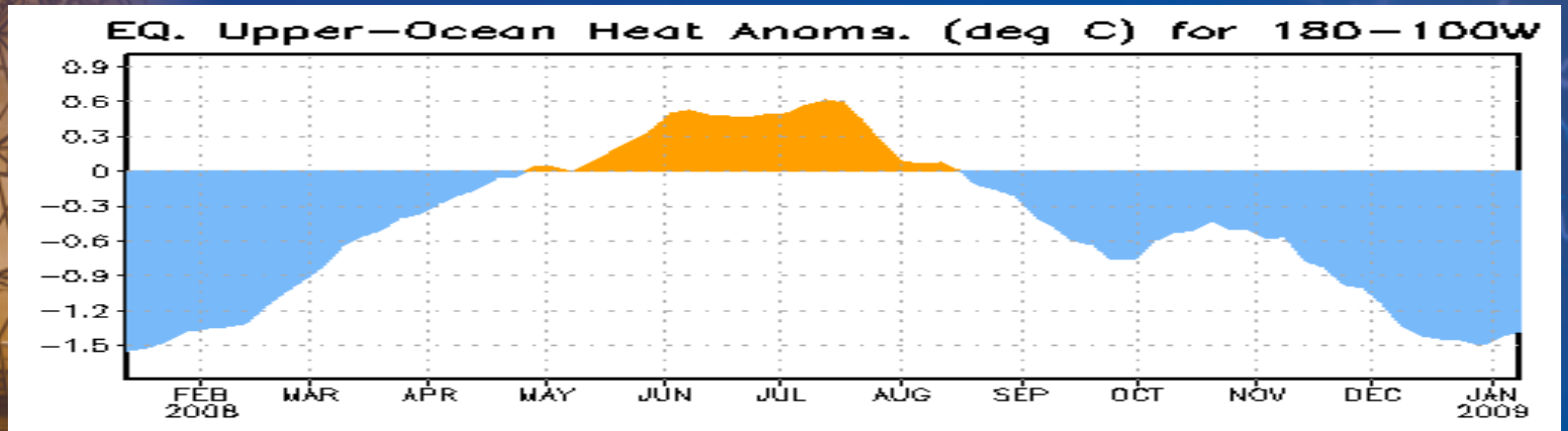


Thursday, January 22nd

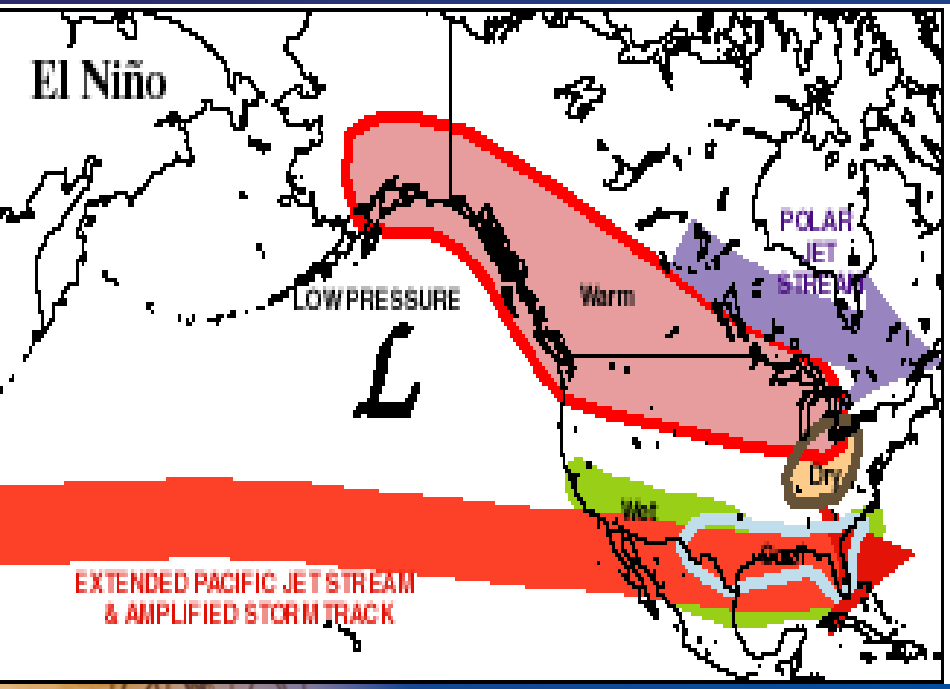


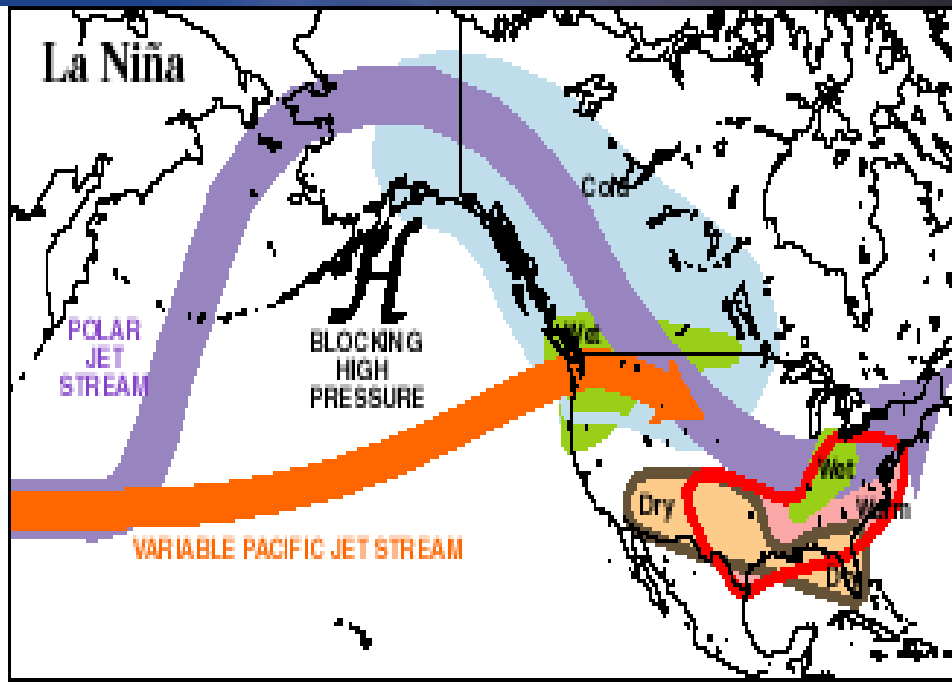
Equatorial Sea Surface Temperature Anomalies



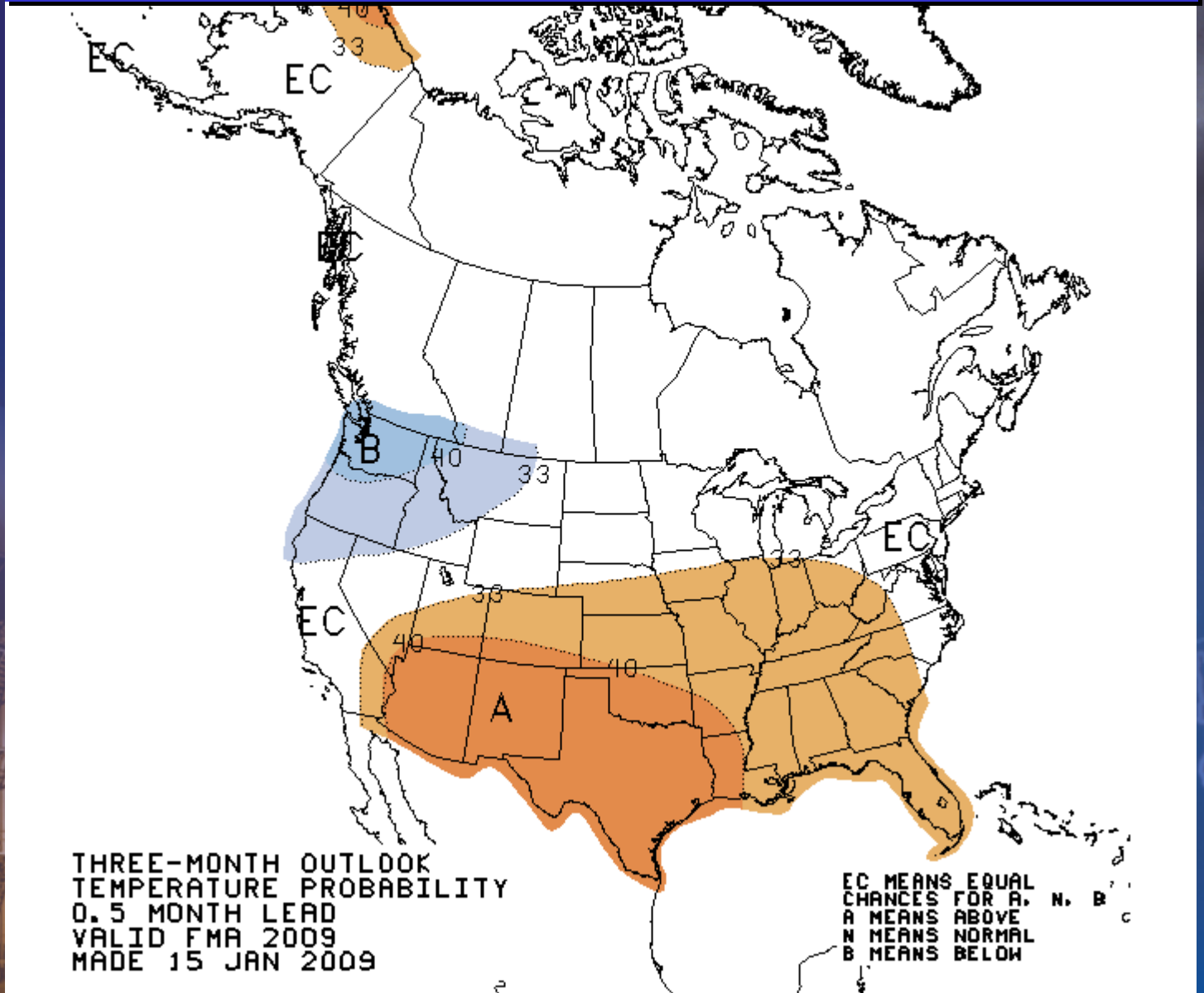


Typical North American Impacts of La Nina

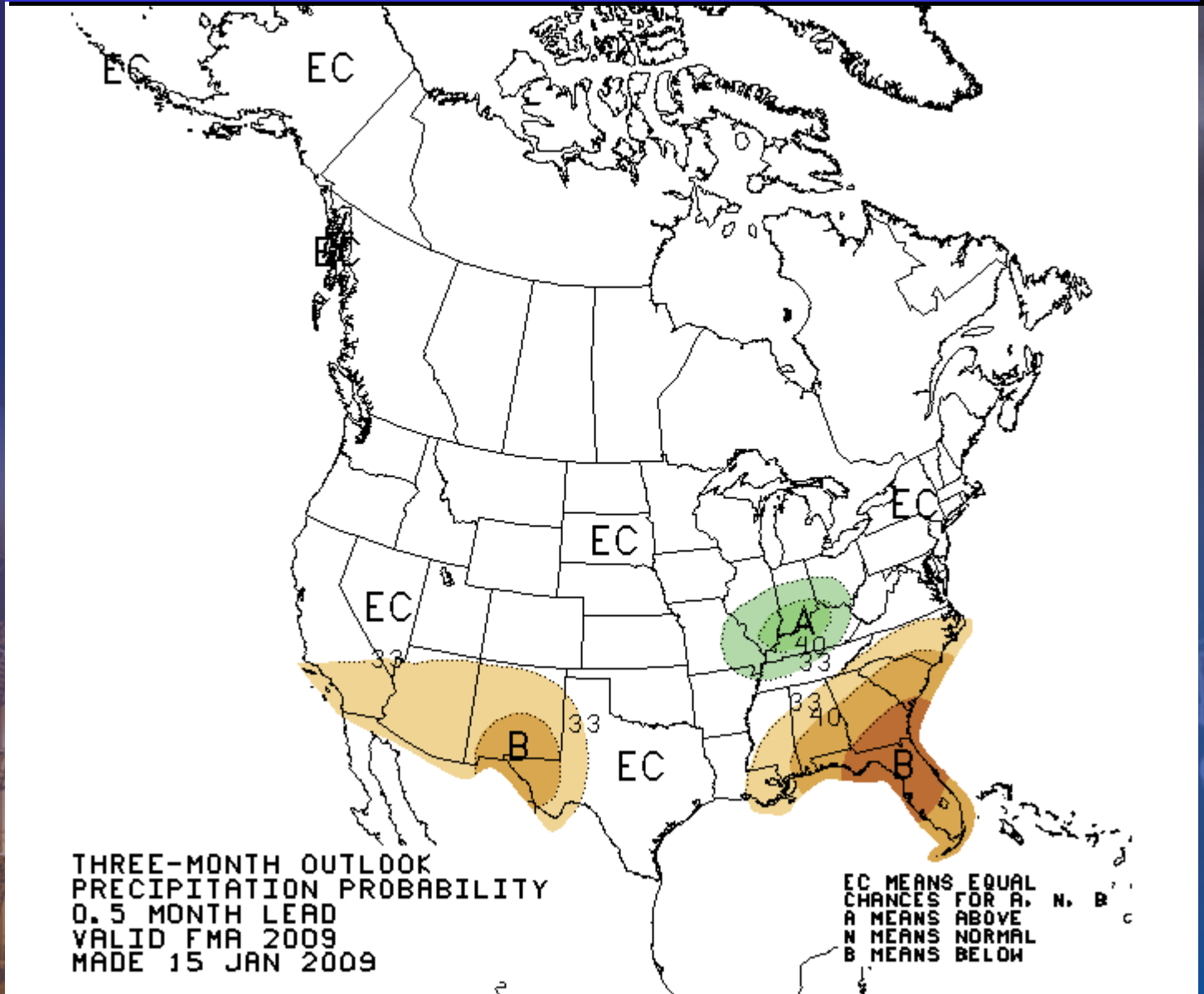




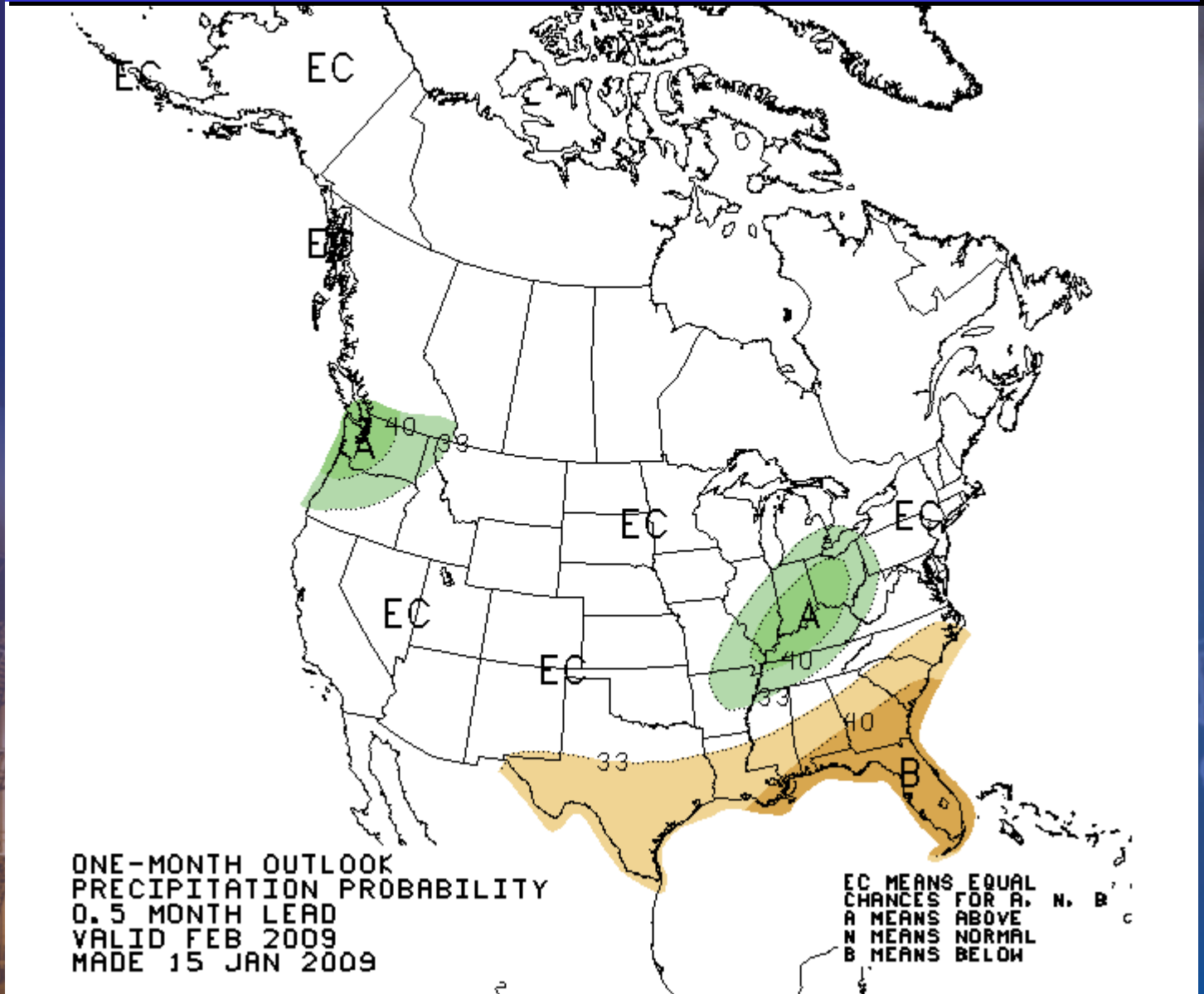
Three Month Outlook (Feb-Apr) Temperatures



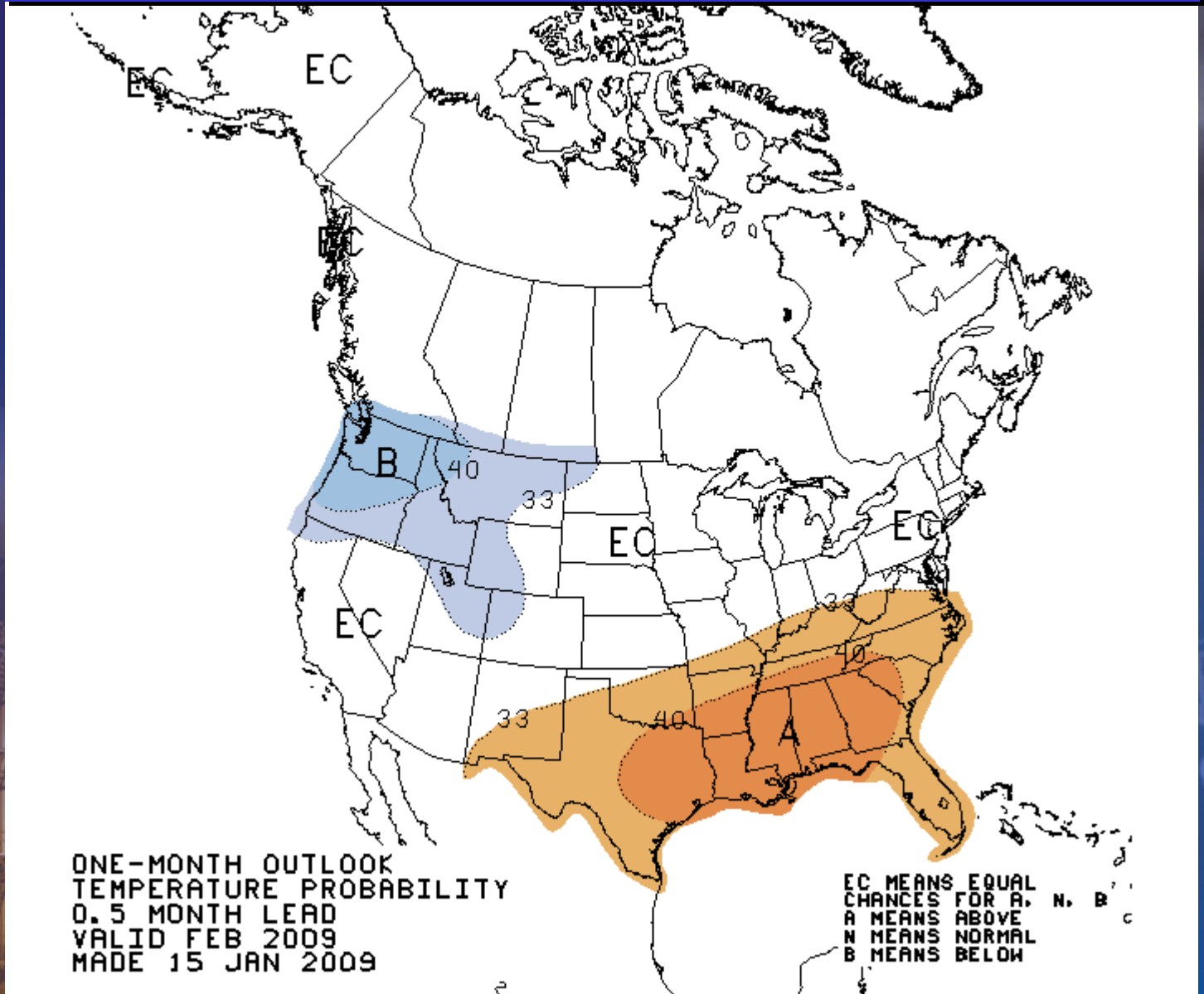
Three Month Outlook (Feb-Apr) Precipitation



One Month Outlook (Feb) Precipitation



One Month Outlook (Feb) Temperature



Drought Situation

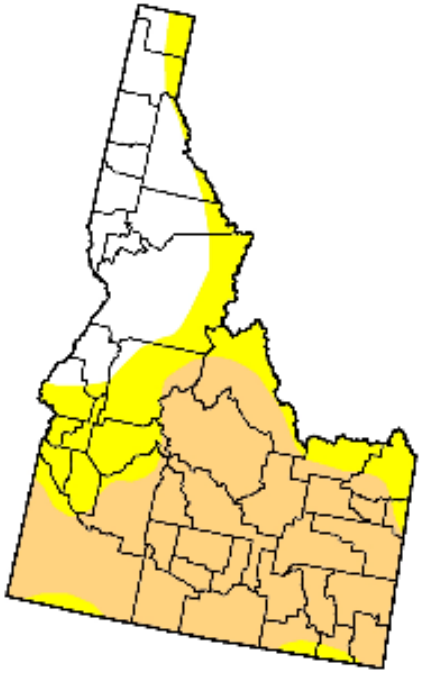
U.S. Drought Monitor

Idaho

January 6, 2009
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	22.4	77.6	53.5	0.0	0.0	0.0
Last Week (12/30/2008 map)	21.2	78.8	53.5	0.0	0.0	0.0
3 Months Ago (10/14/2008 map)	23.4	76.6	34.5	0.0	0.0	0.0
Start of Calendar Year (01/06/2009 map)	22.4	77.6	53.5	0.0	0.0	0.0
Start of Water Year (10/07/2008 map)	23.2	76.8	34.5	0.0	0.0	0.0
One Year Ago (01/08/2008 map)	0.5	99.5	88.3	49.7	0.0	0.0



Intensity:

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

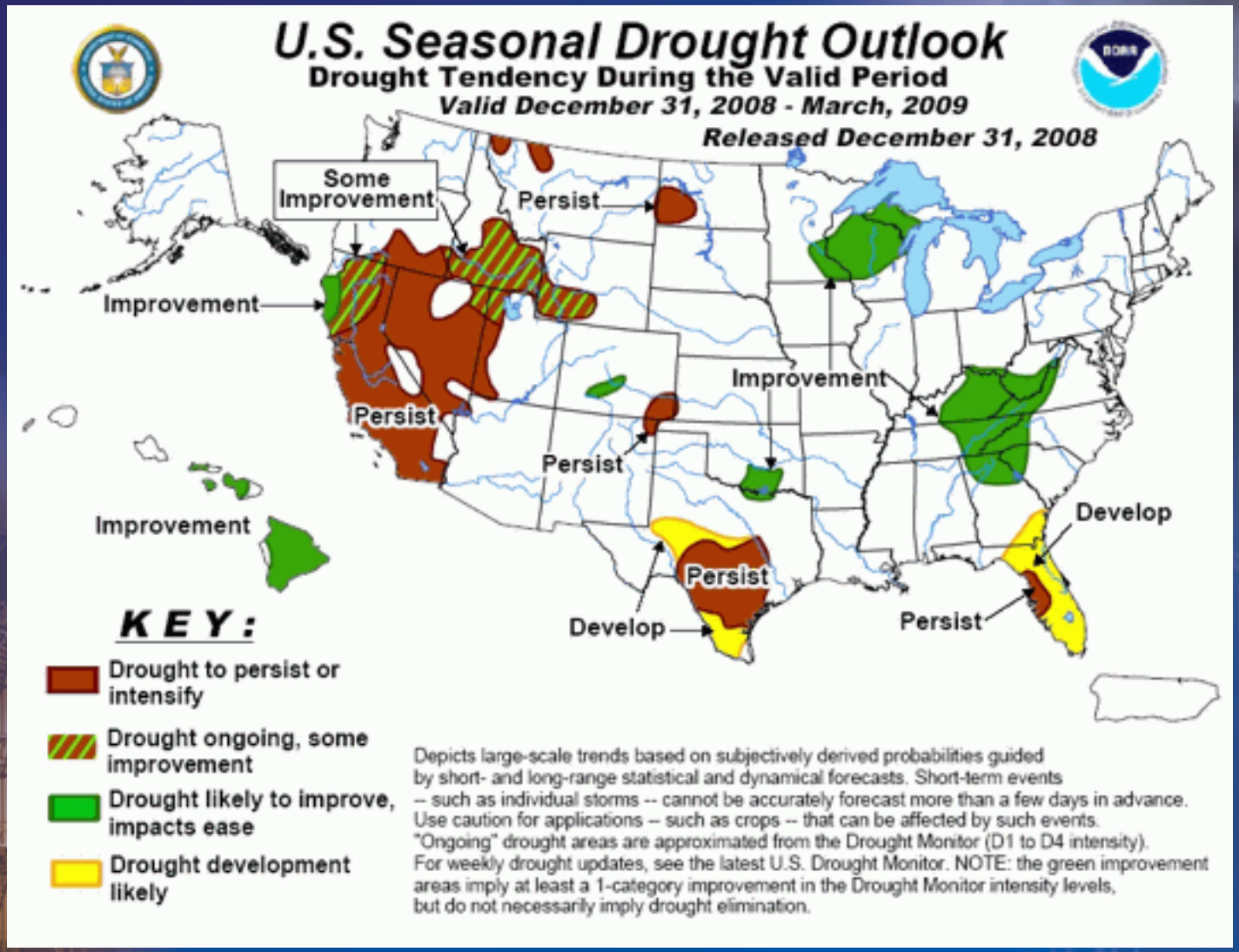
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm

Released Thursday, January 8, 2009

Author: Brian Fuchs, National Drought Mitigation Center

Drought Outlook



Current Information on Web

www.weather.gov/boise

www.nwrfc.noaa.gov/westernwater

RECLAMATION

Managing Water in the West

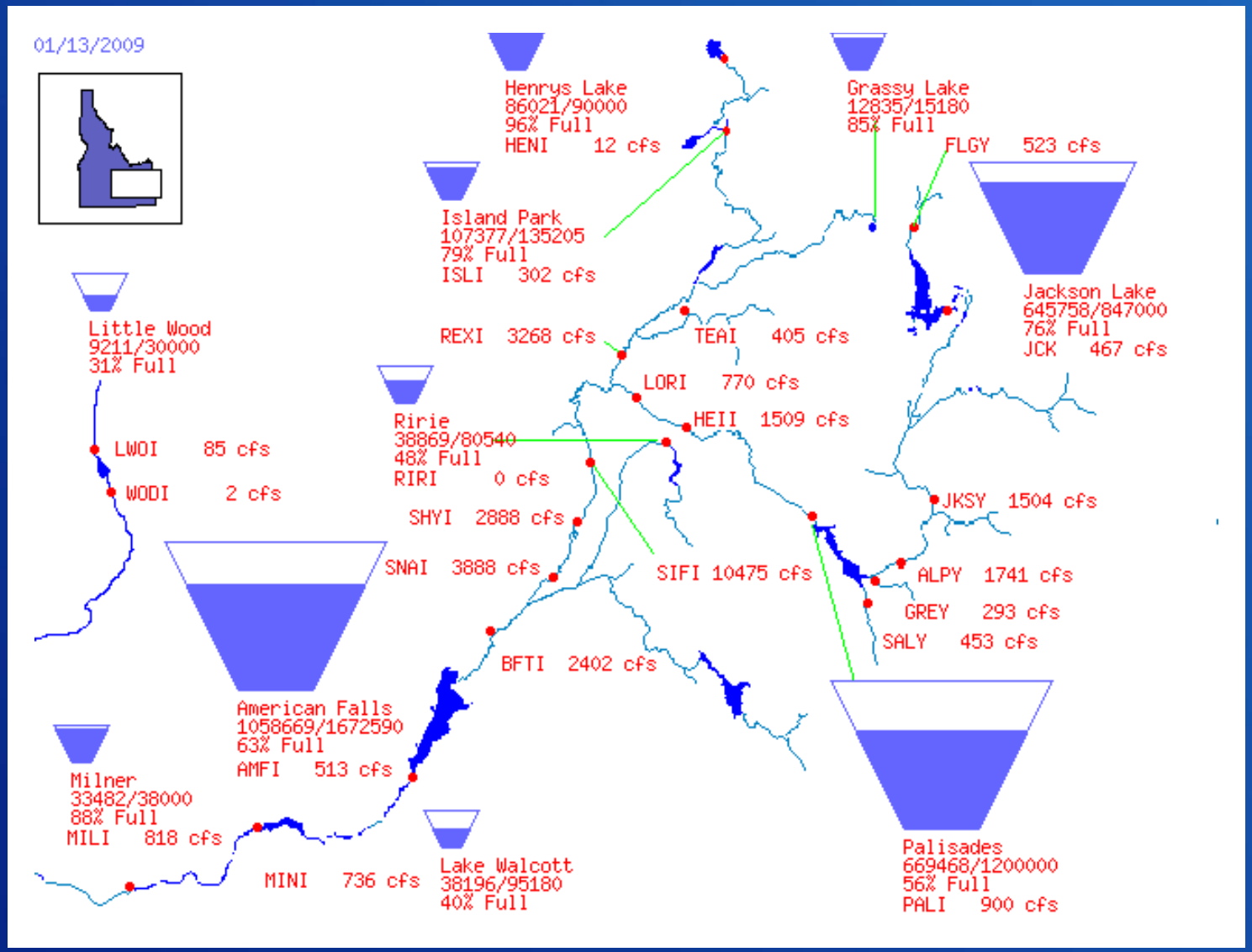
Idaho Water Supply Committee Meeting

January 15, 2009

U.S. Department of the Interior
Bureau of Reclamation

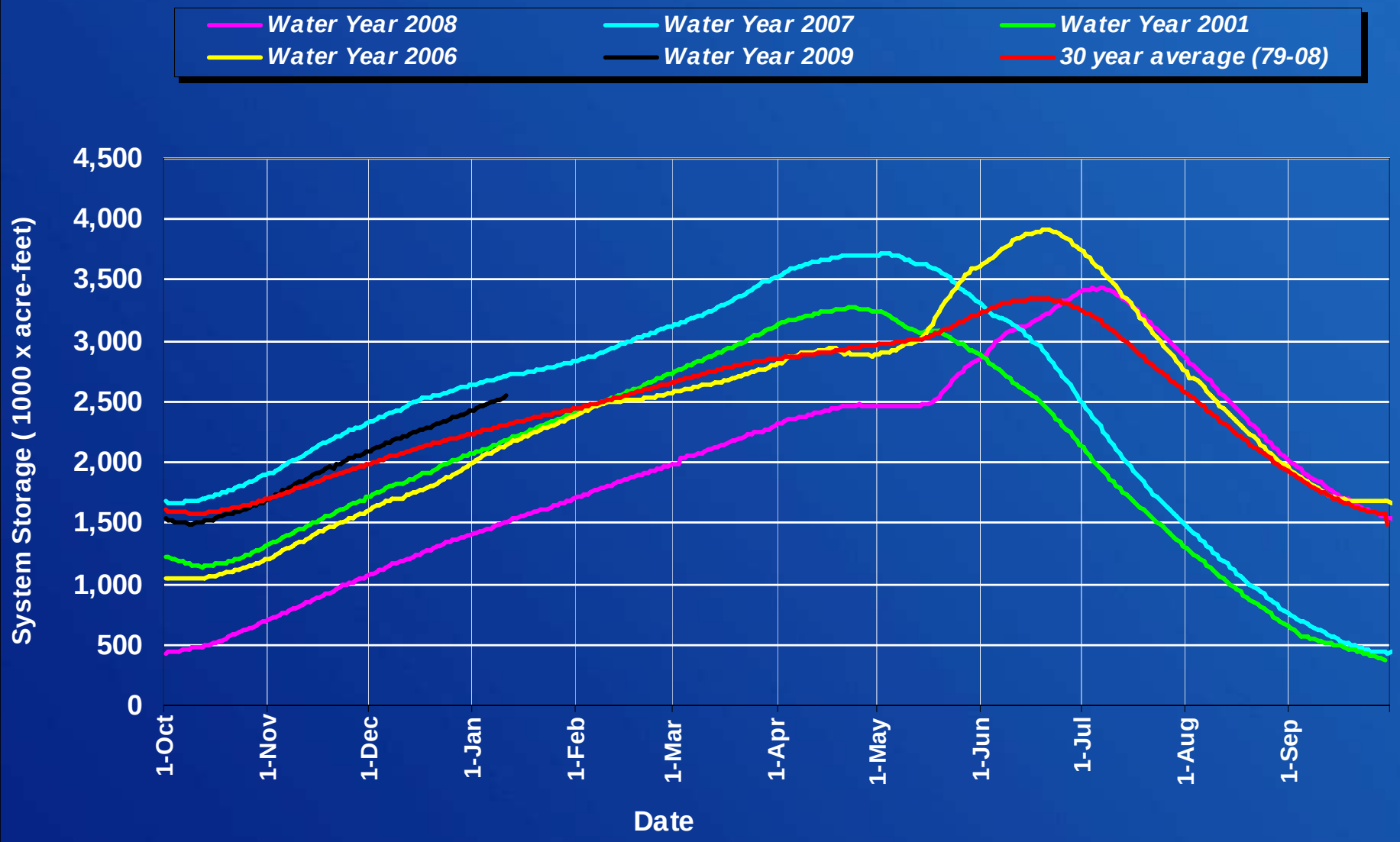
Major Storage Reservoirs in the Upper Snake River Basin

Upper Snake River system (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls, Lake Walcott) is at 64% of capacity. Total space available: 1,474,518 AF with a Total storage capacity: 4,045,695 AF



RECLAMATION

Jackson + Palisades + Ririe + Grassy Lake + Island Park + American Falls + Lake Walcott



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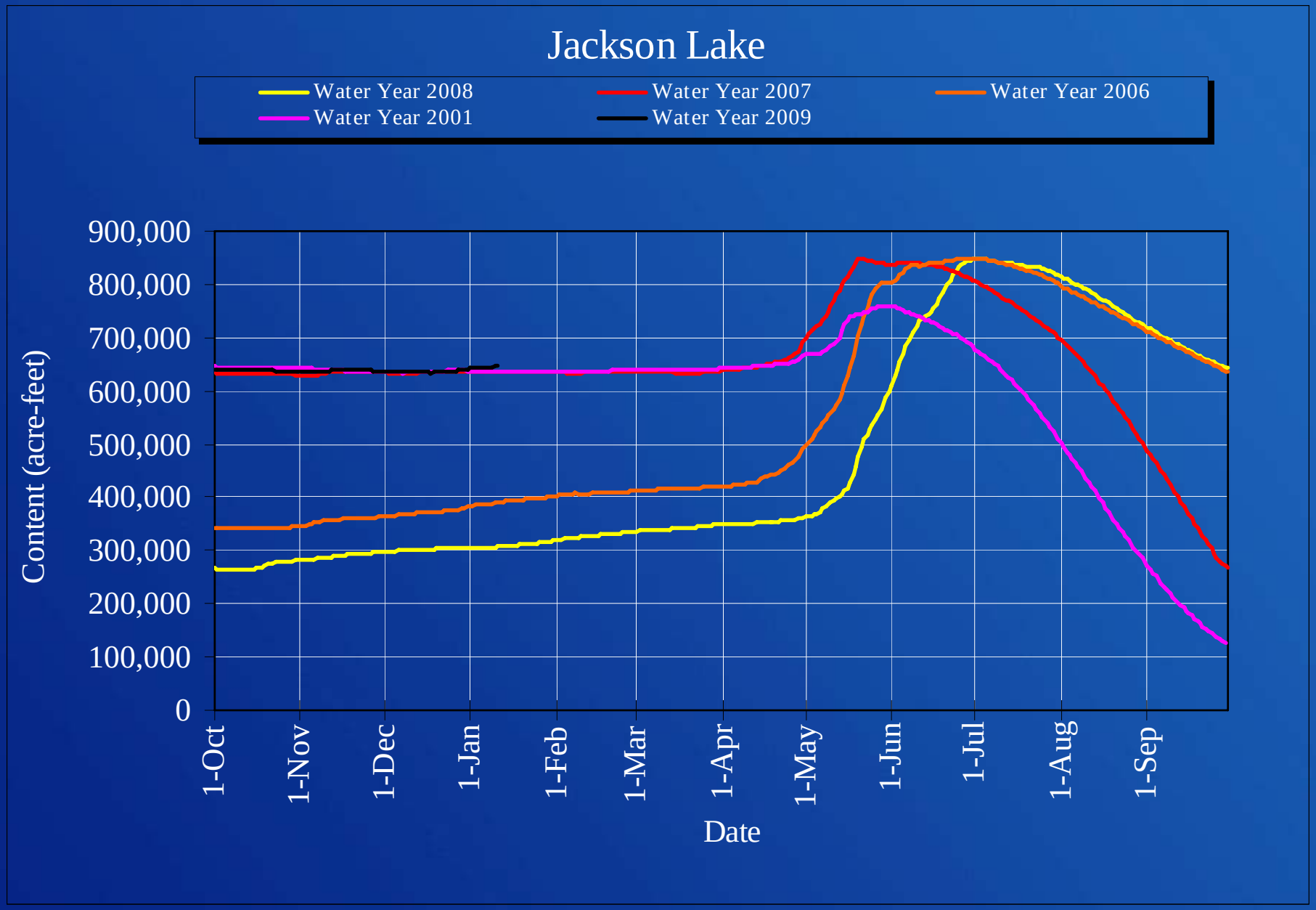

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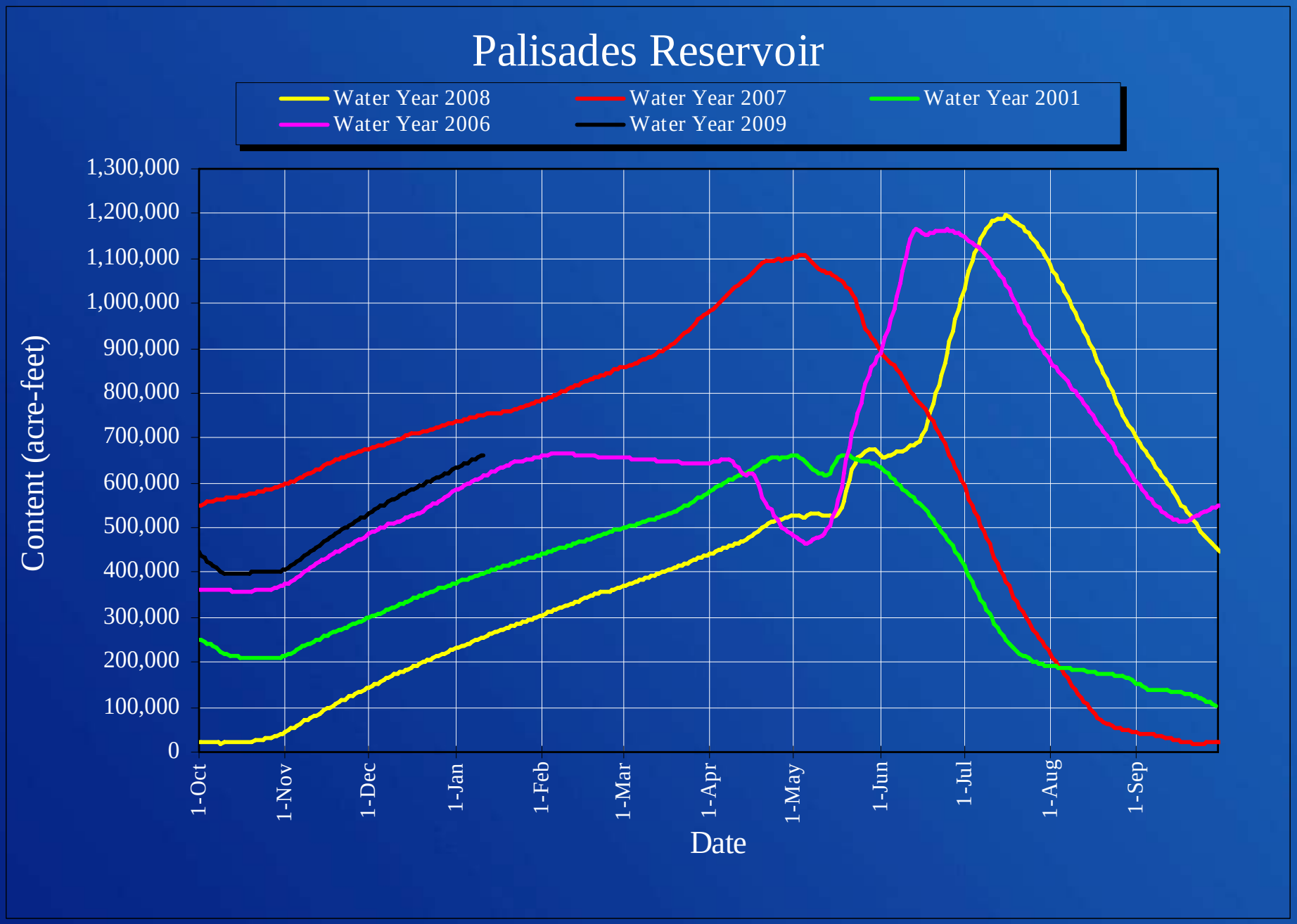

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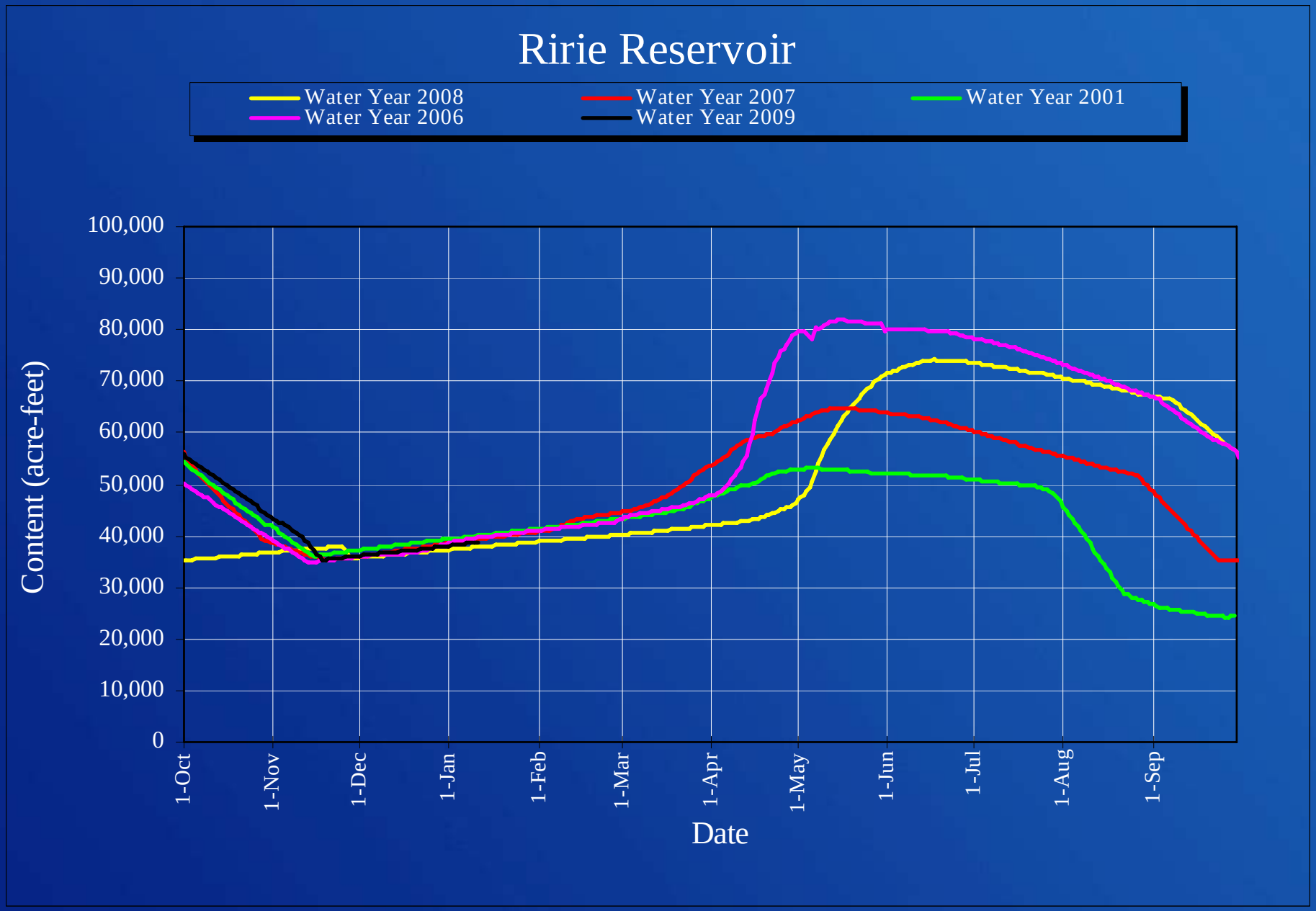

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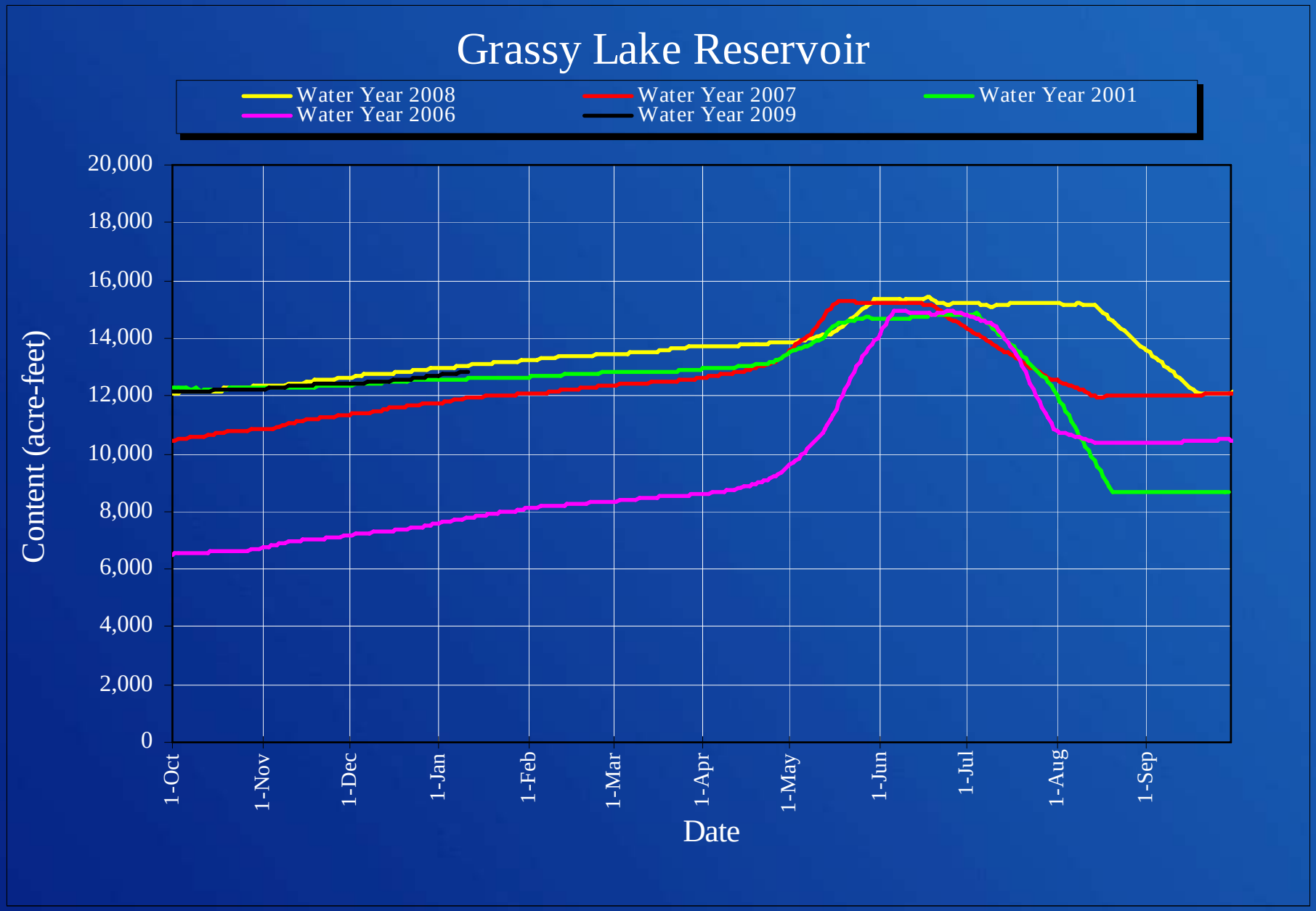

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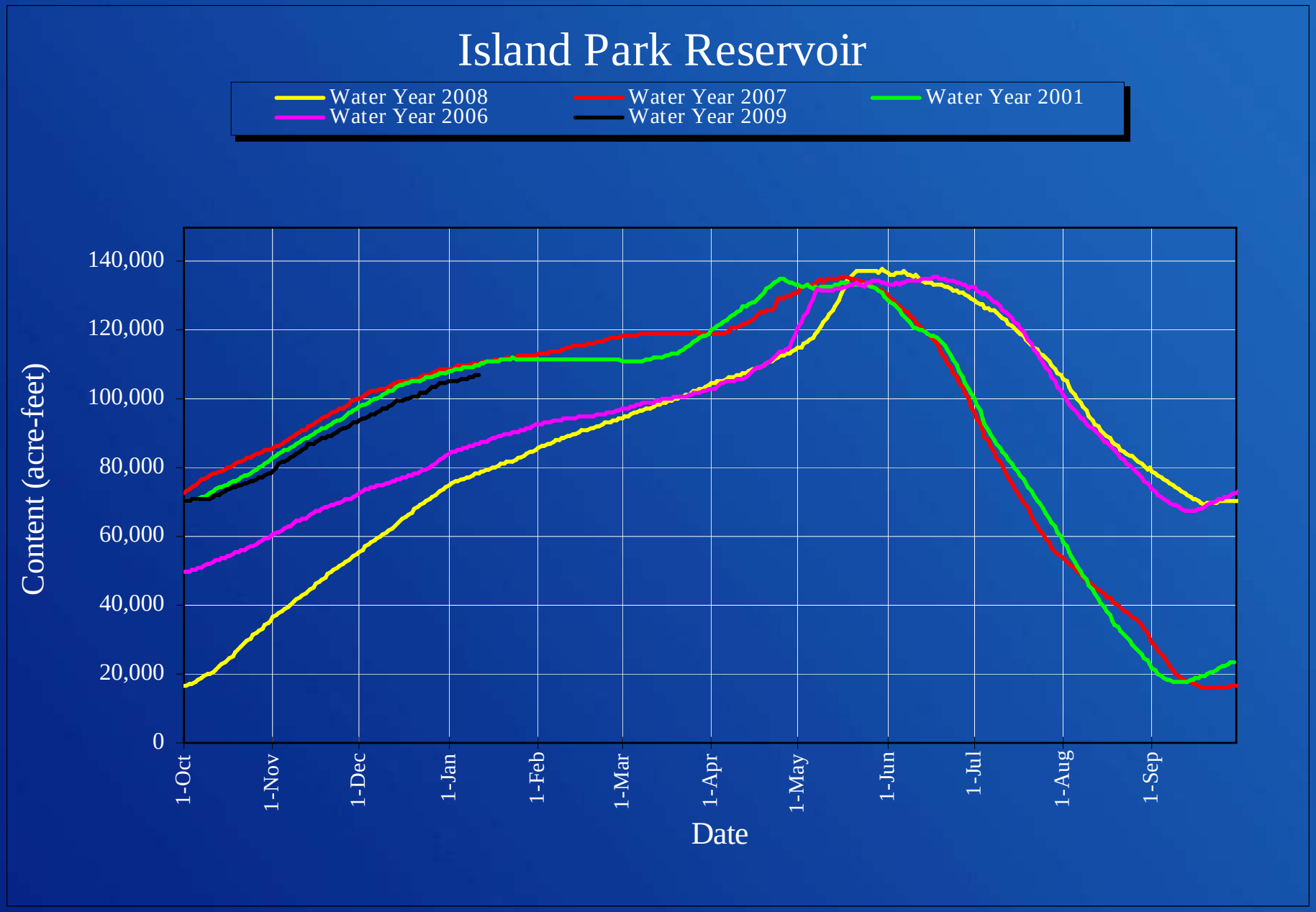
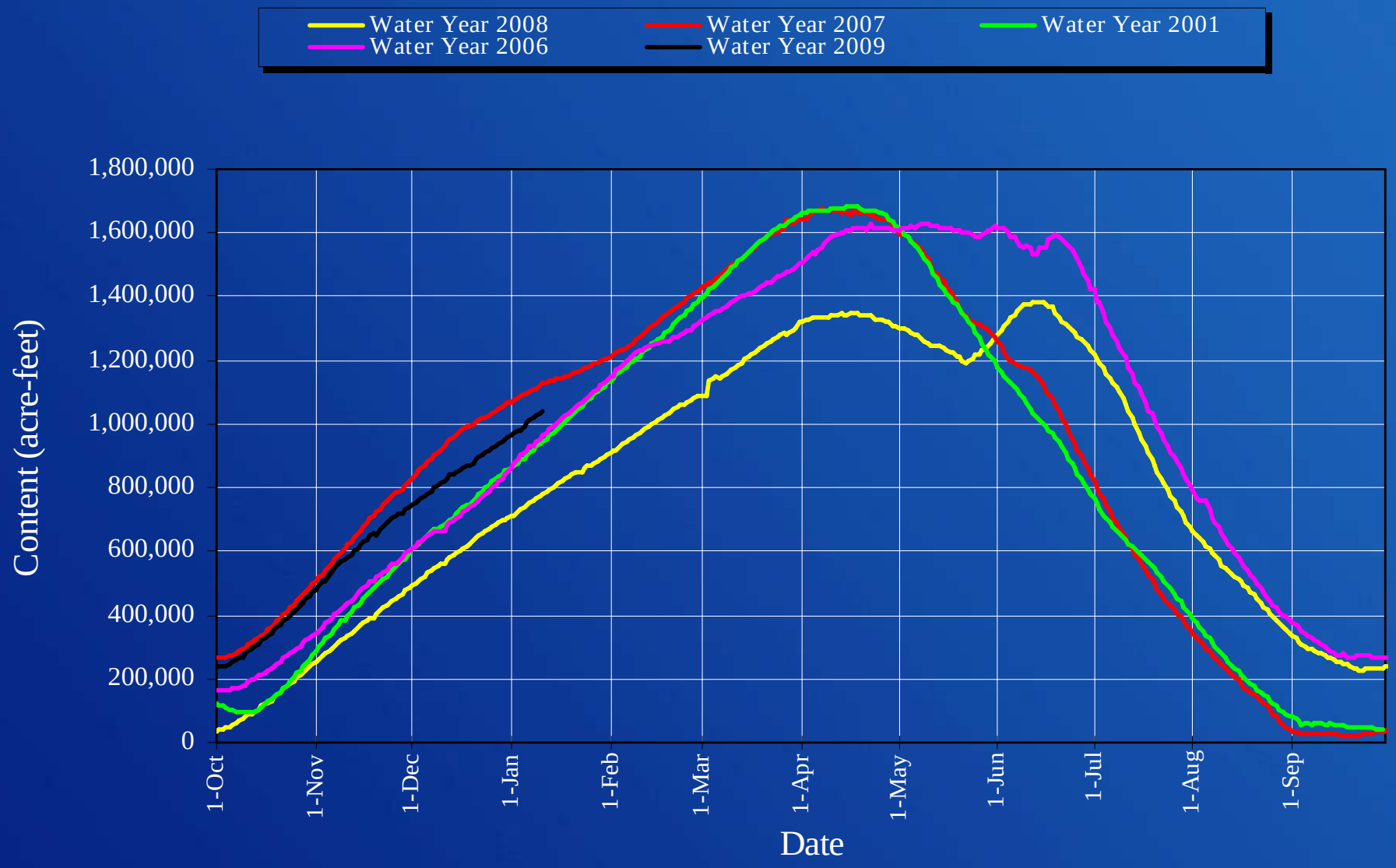


RECLAMATION

American Falls Reservoir



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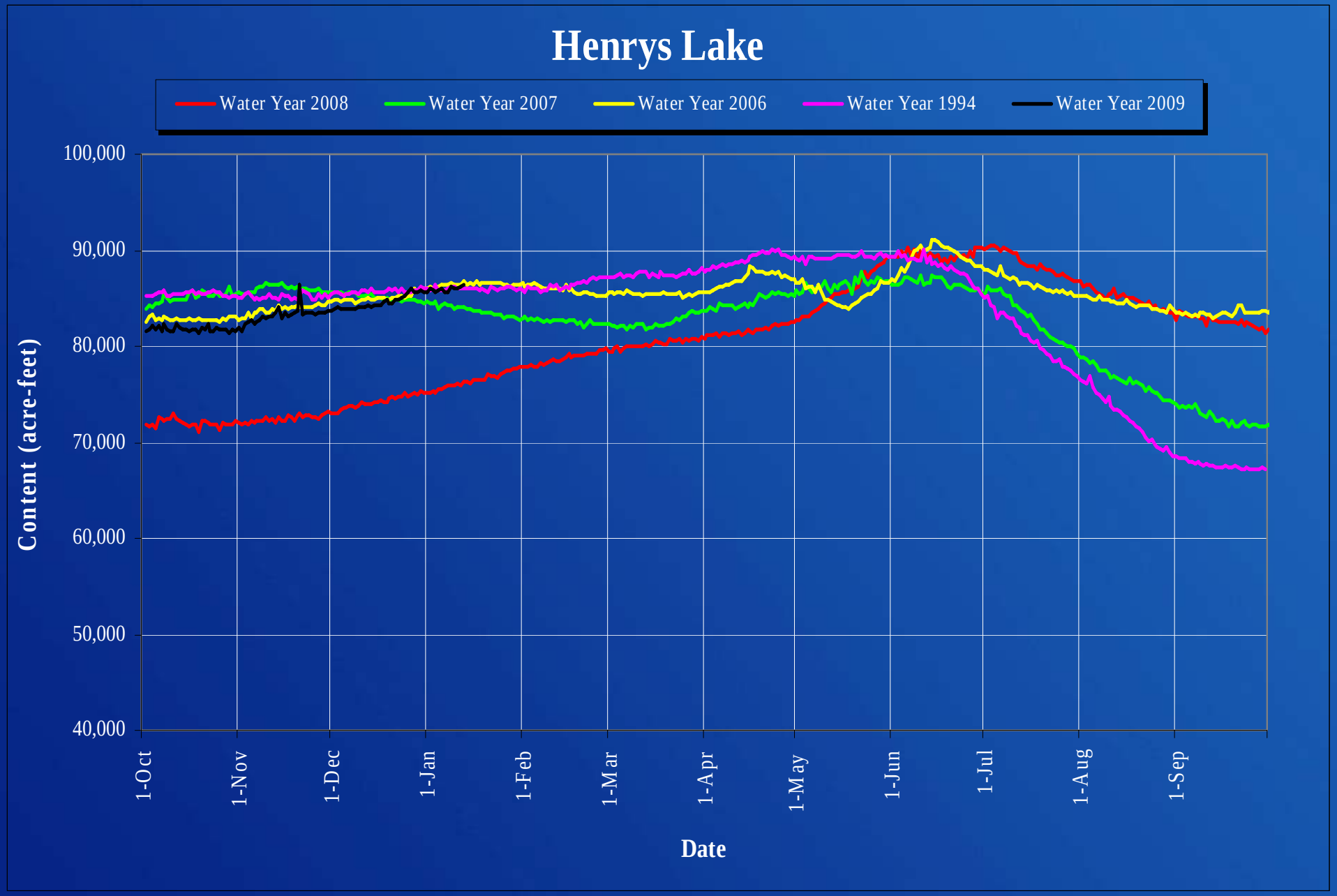

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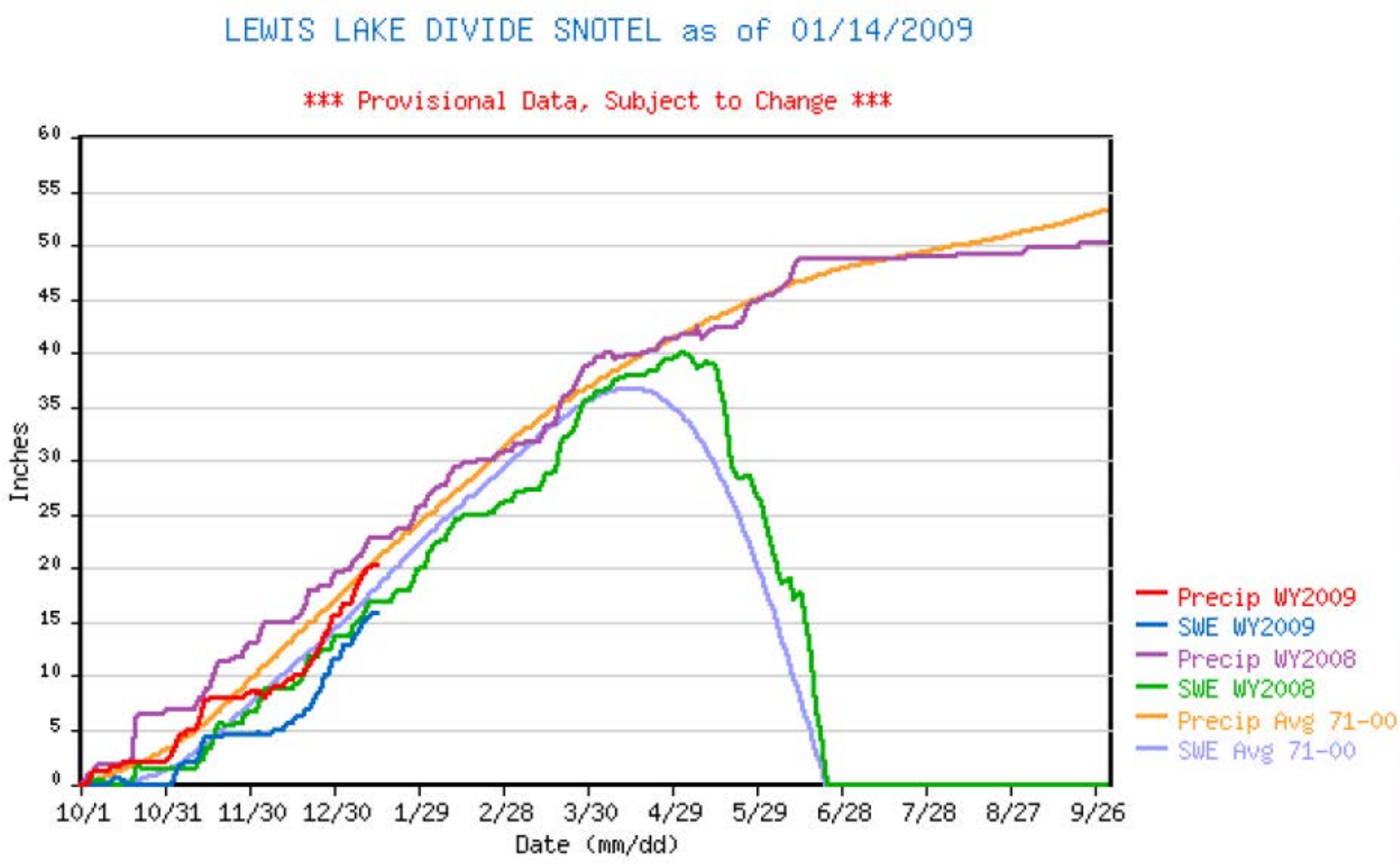

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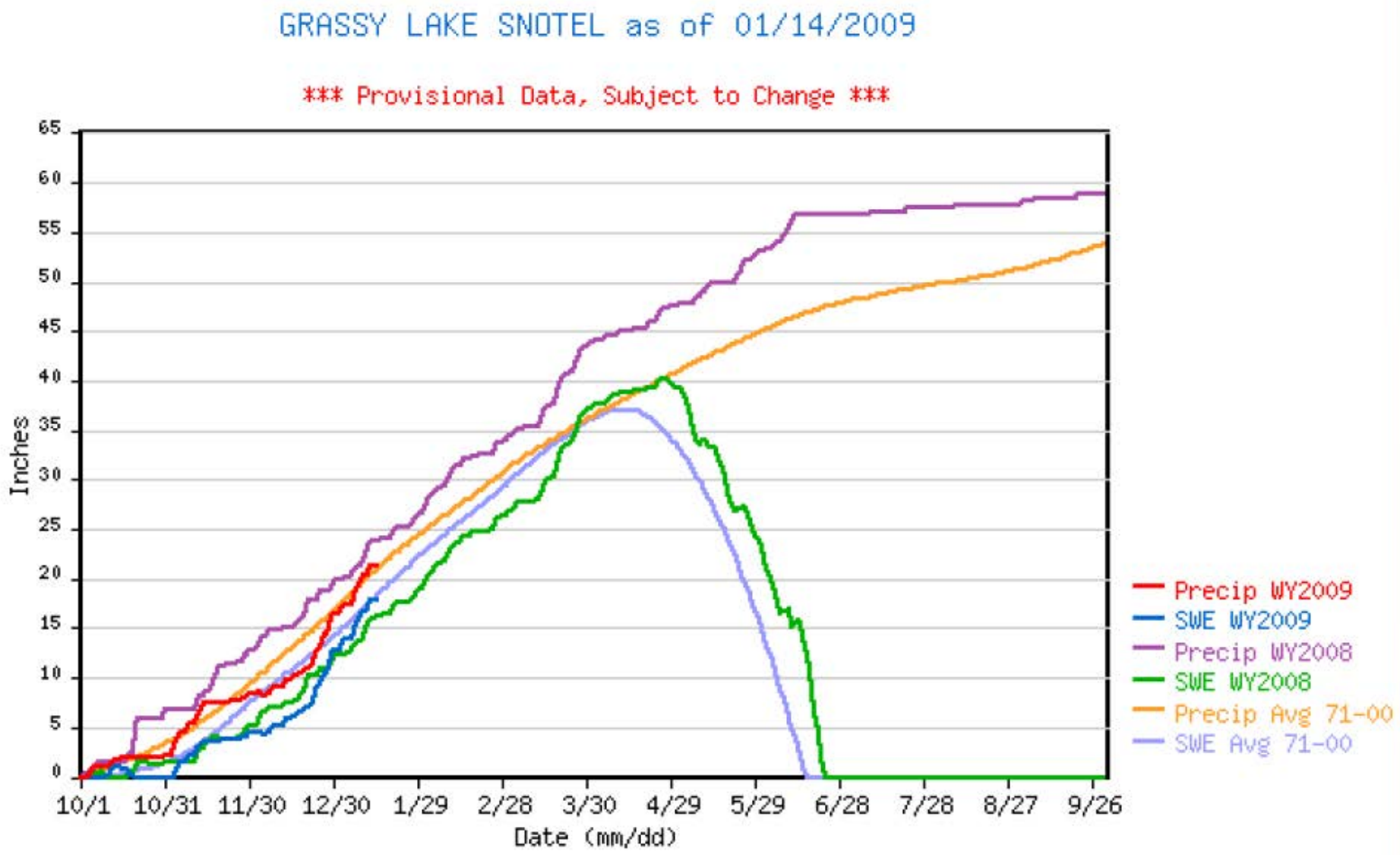

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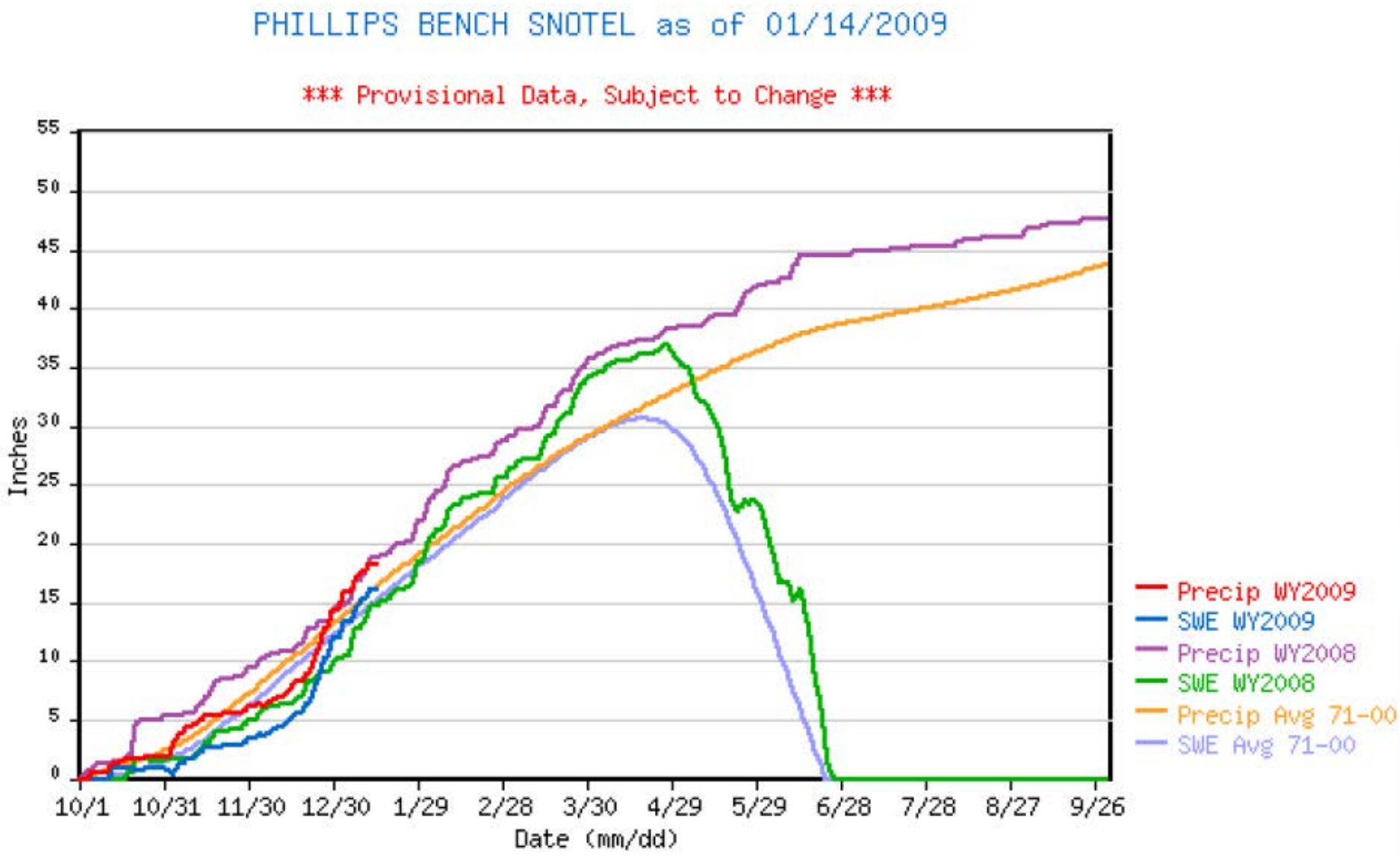

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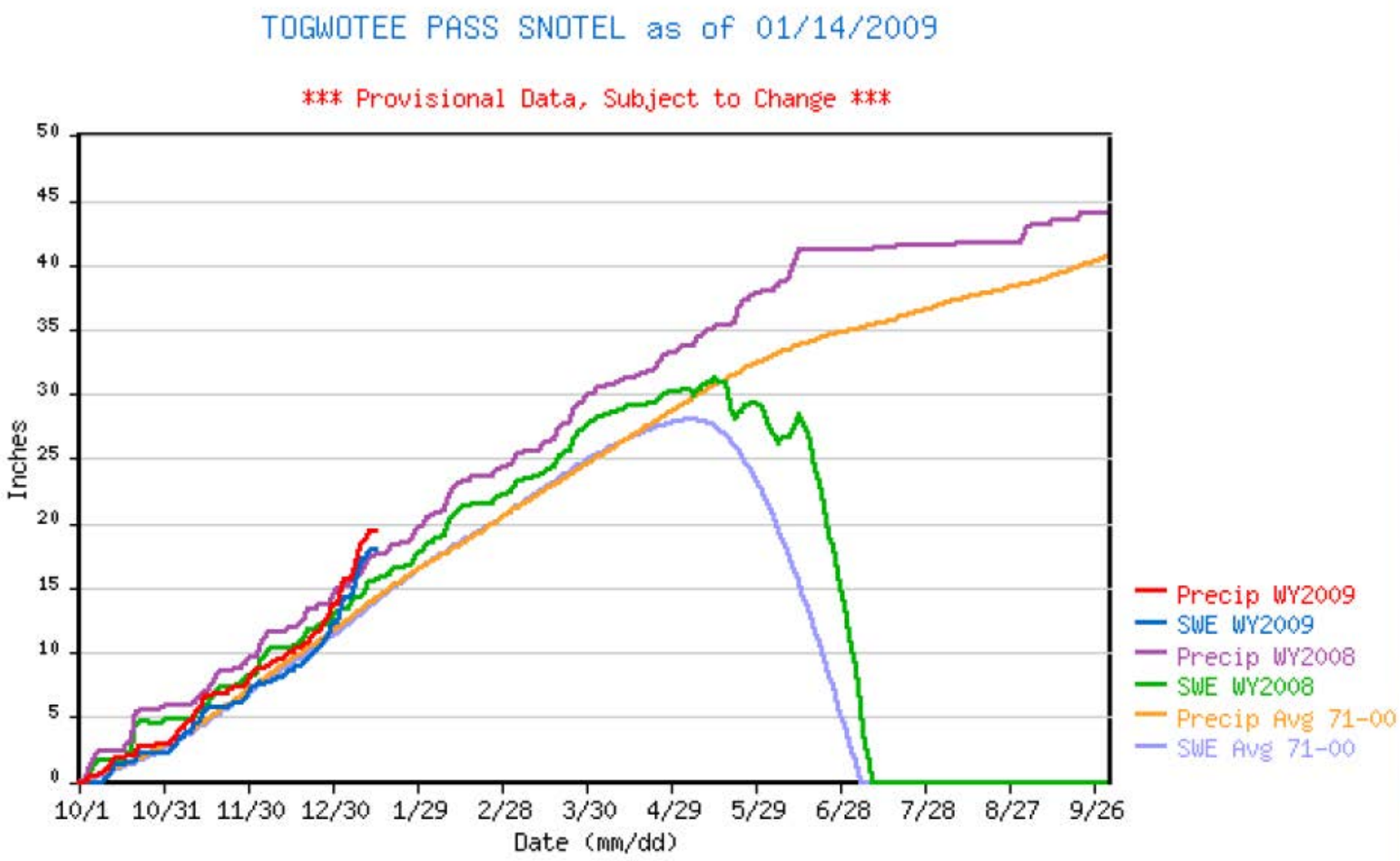
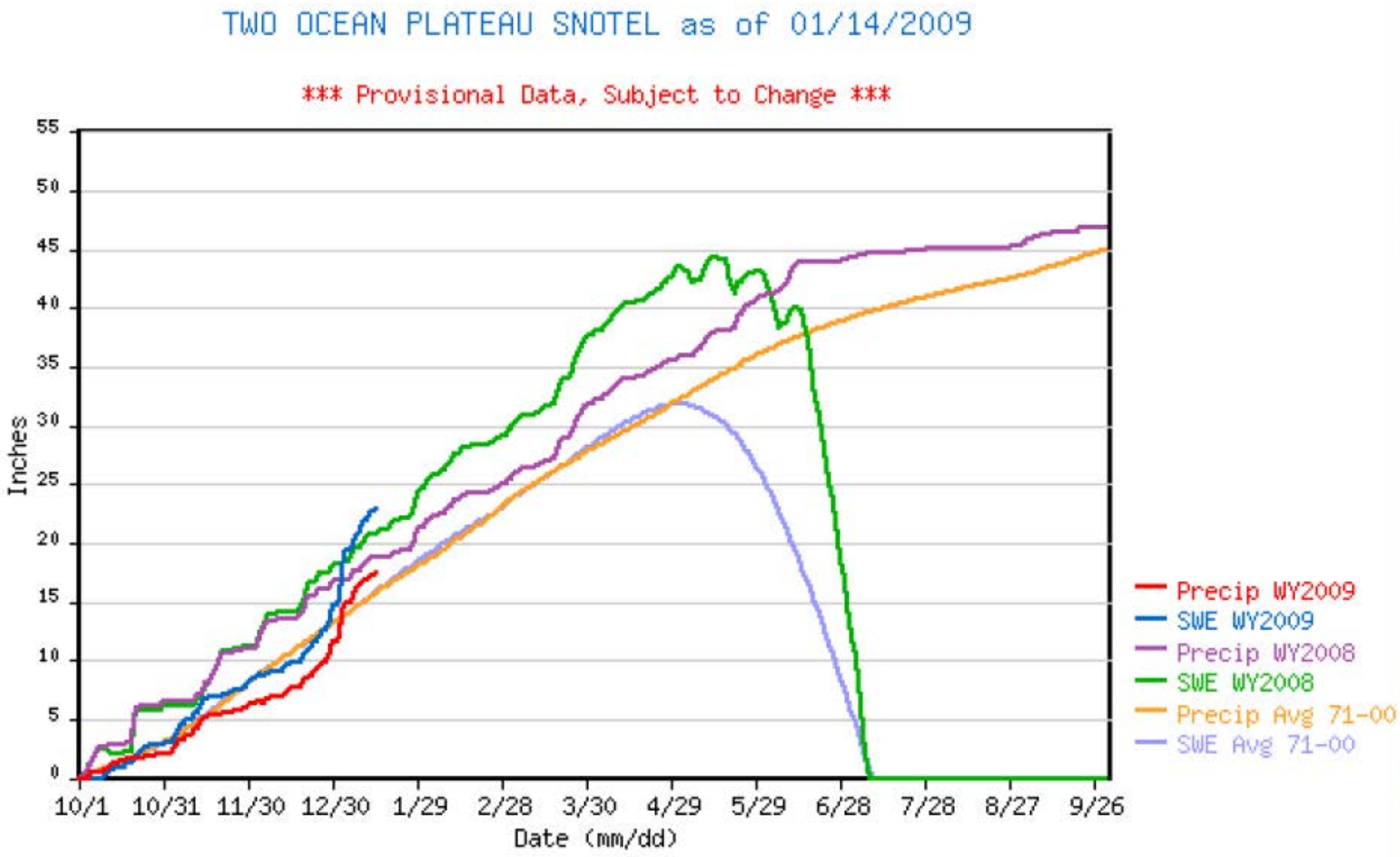


RECLAMATION



RECLAMATION

The End

RECLAMATION

RECLAMATION

Managing Water in the West

Idaho Water Supply Committee Meeting

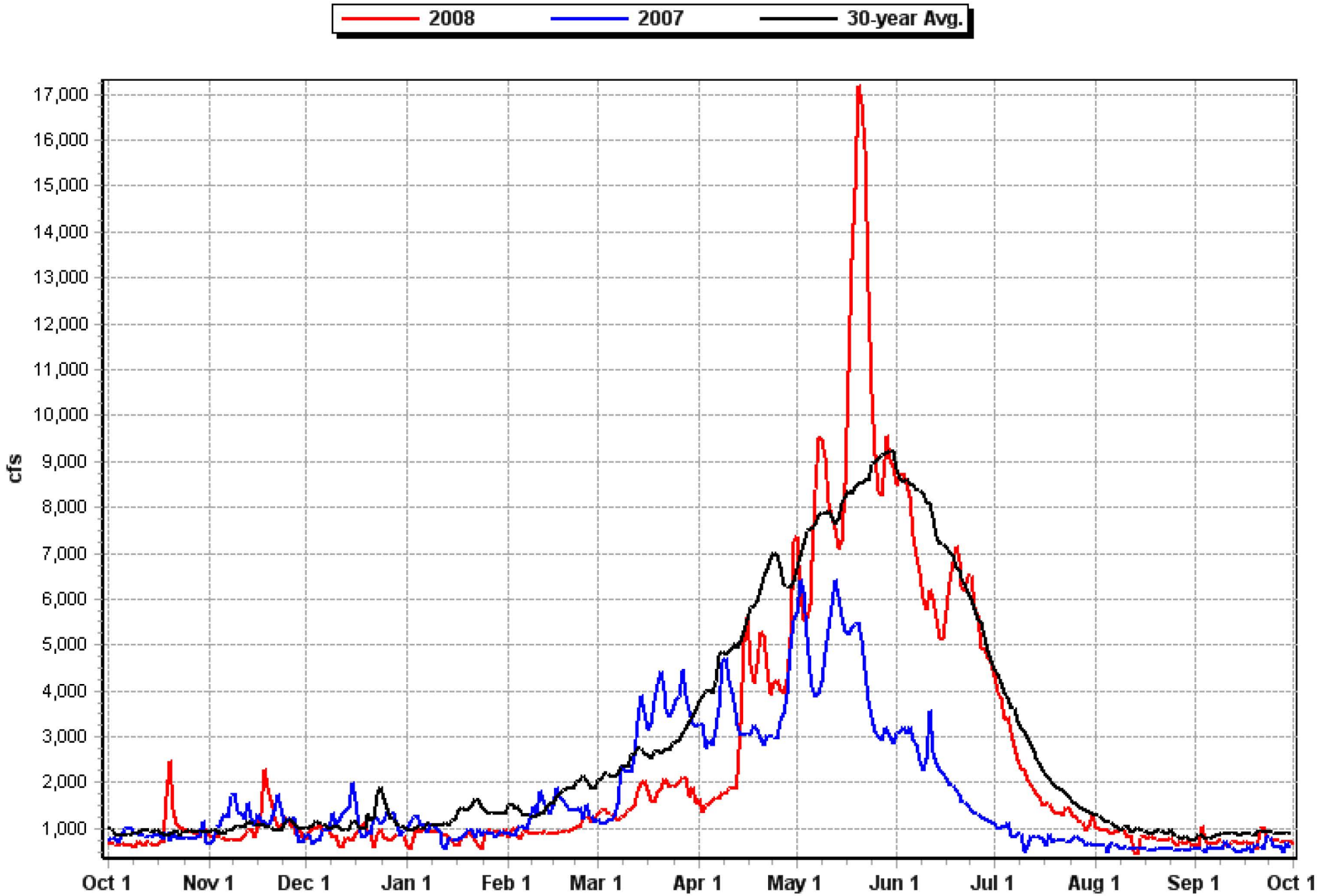
January 15, 2009

U.S. Department of the Interior
Bureau of Reclamation

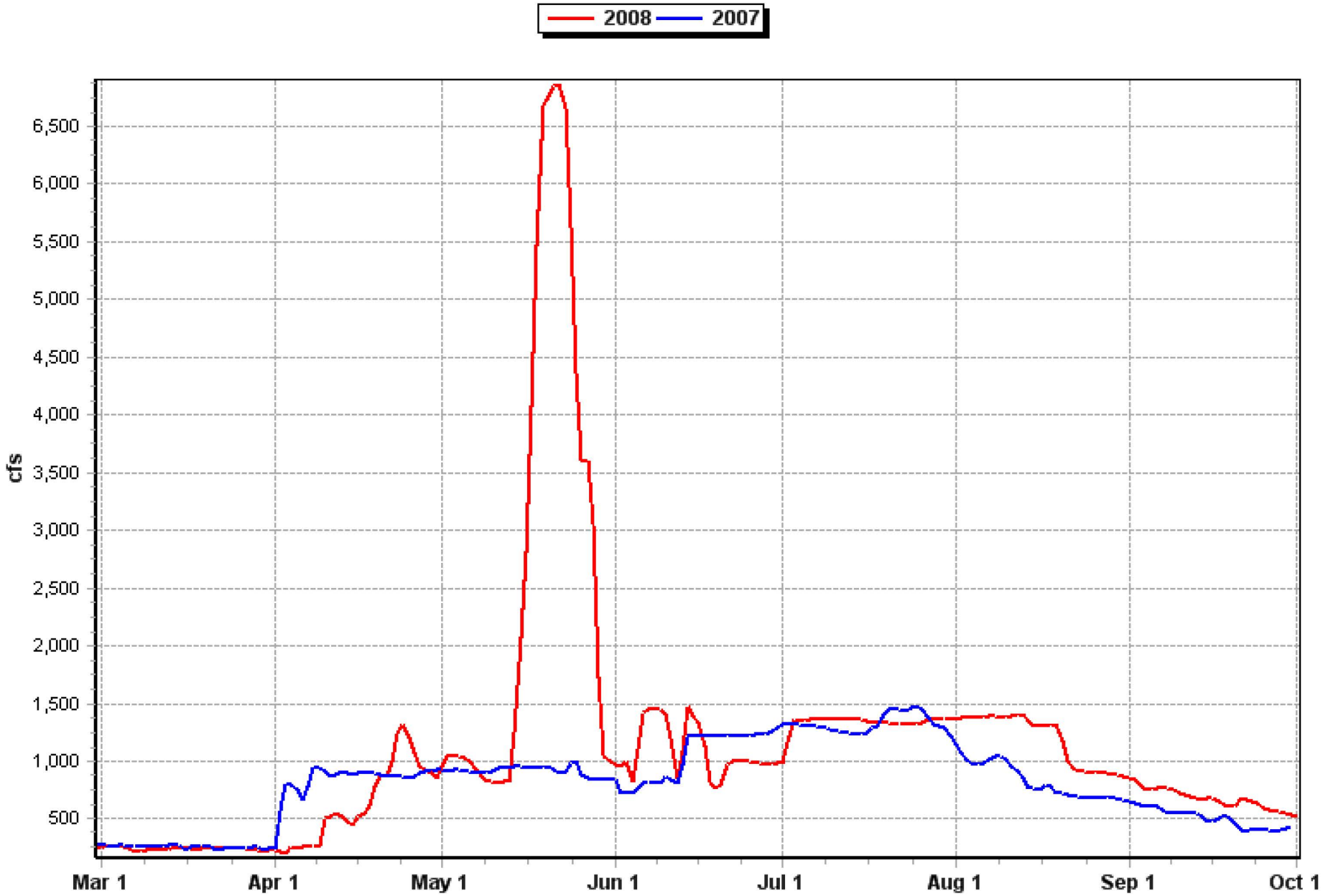
May 24, 2008

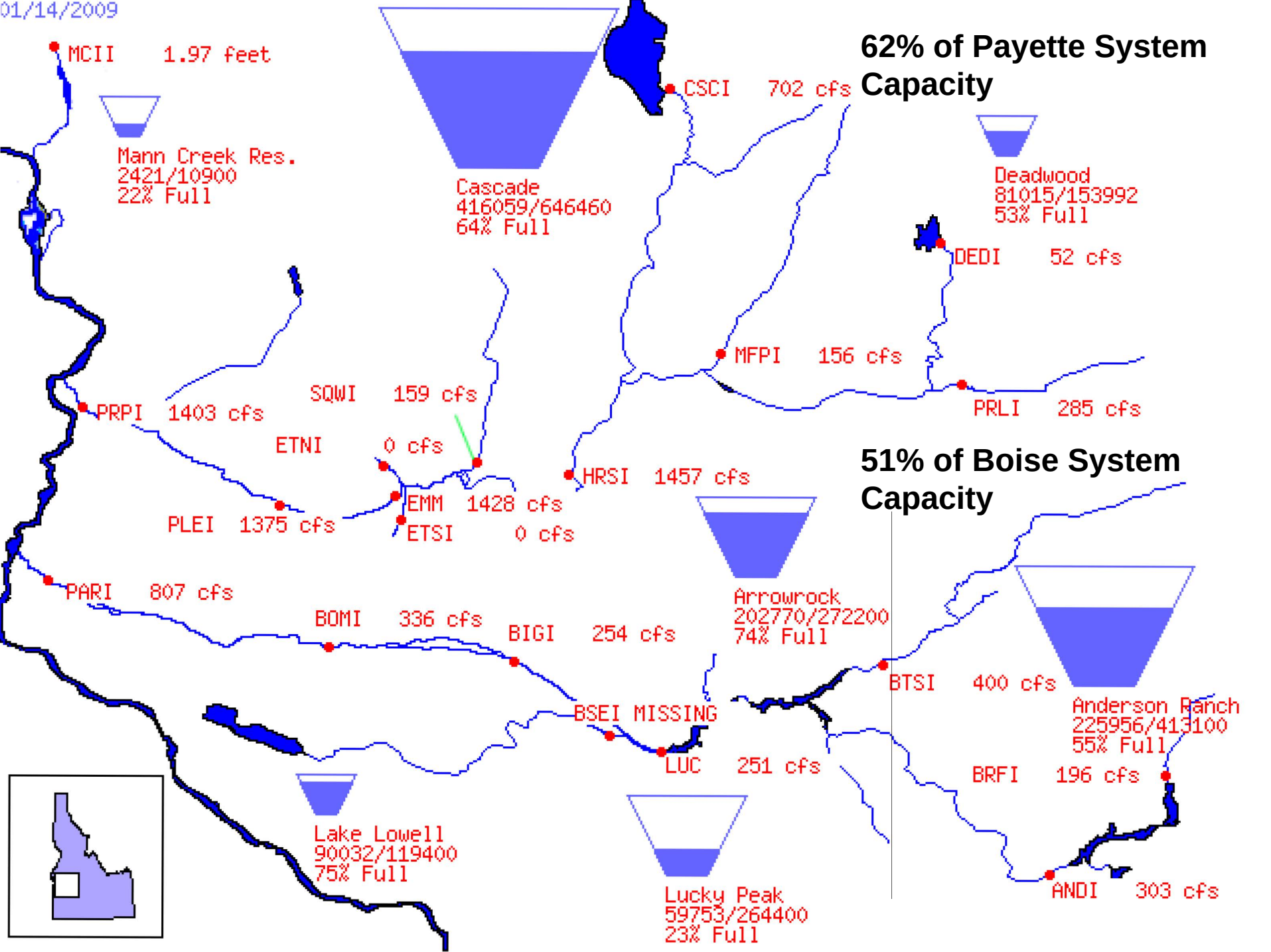
June 24, 2008
19
18
17

Boise Reservoir System Inflows

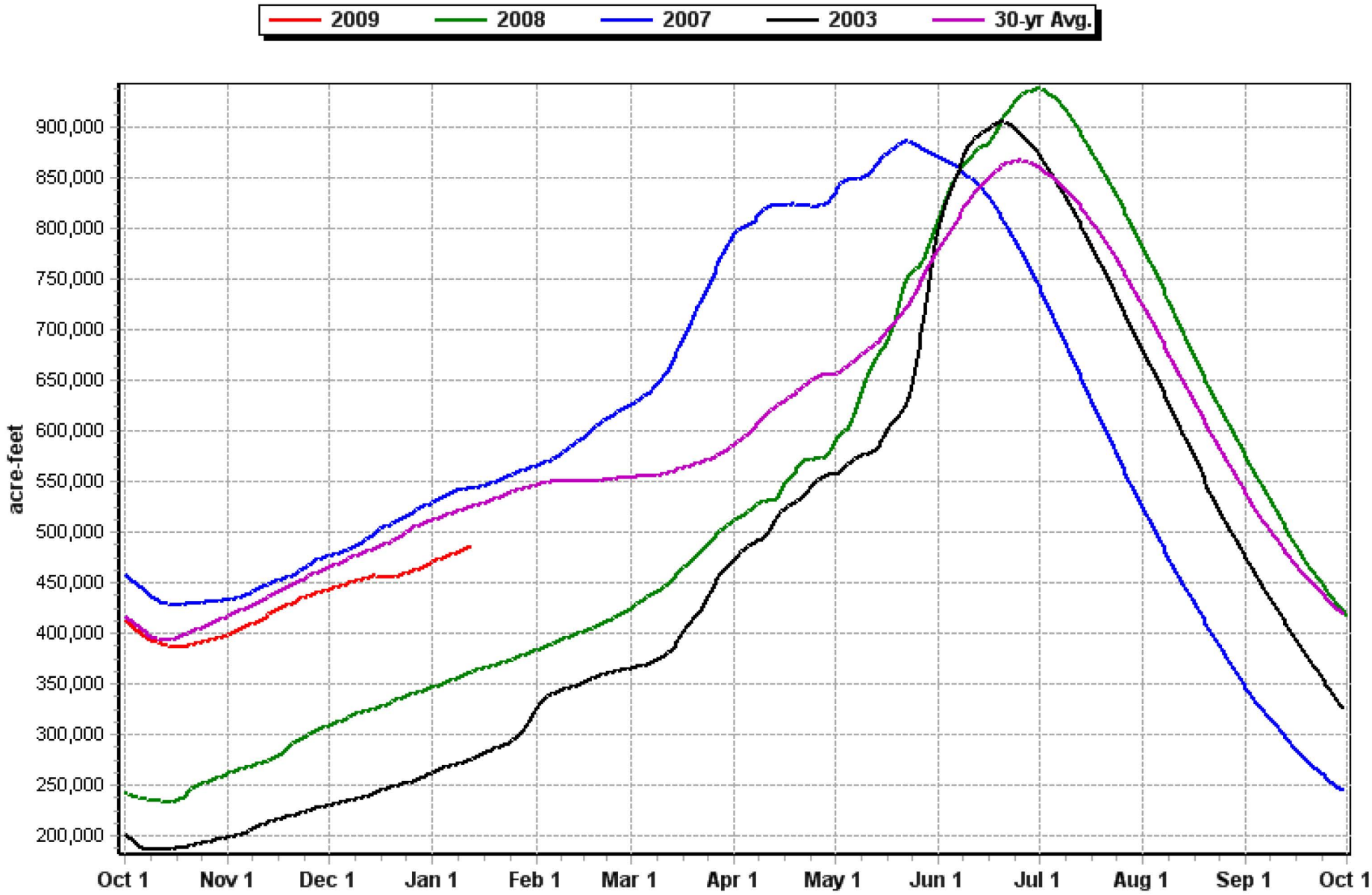


Boise River Flows at Glenwood Bridge



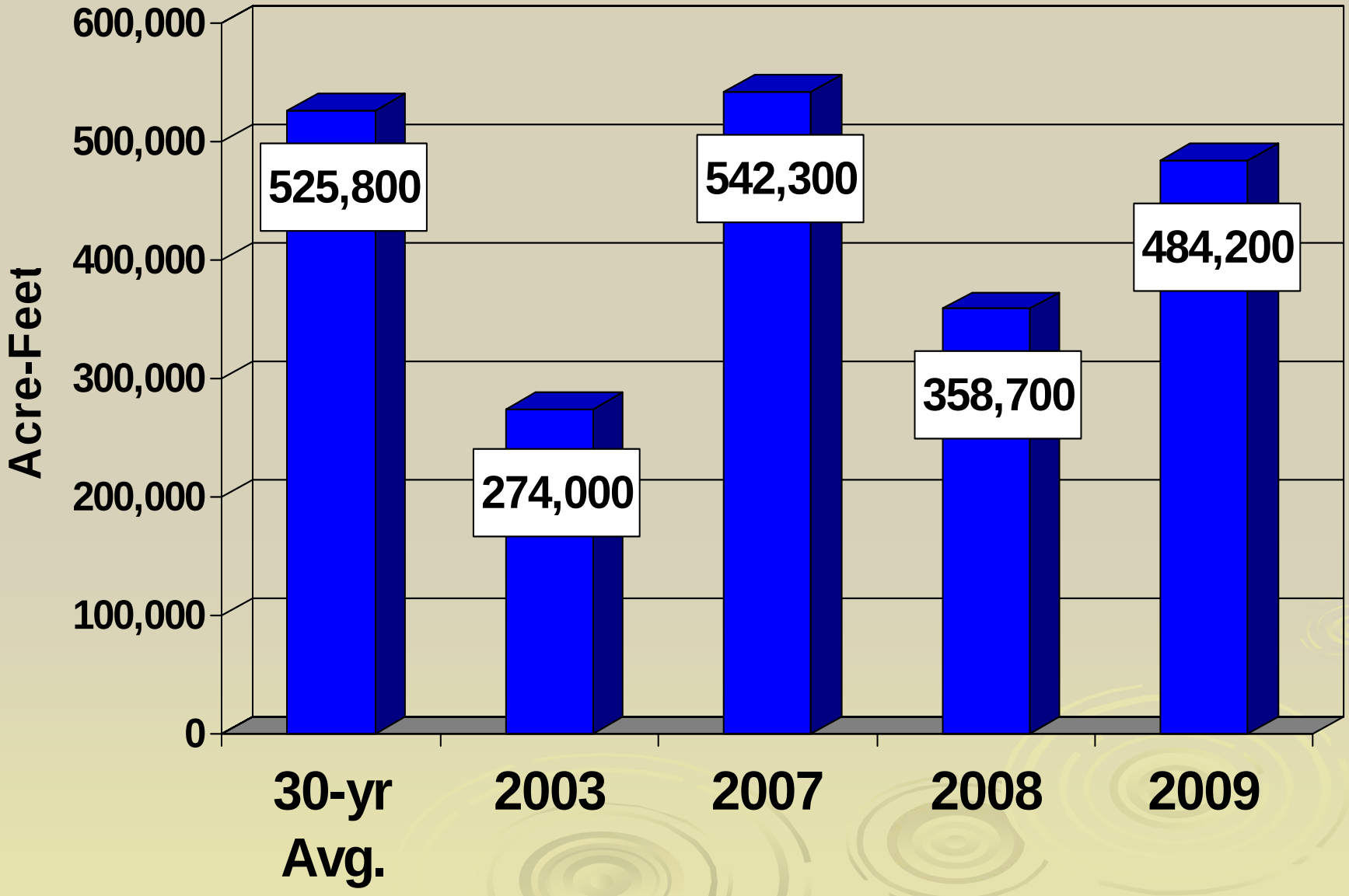

01/14/2009
MCII 1.97 feet
Mann Creek Res.
2421/10900
22% Full
Cascade
416059/646460
64% Full
CSCI 702 cfs
62% of Payette System Capacity
Deadwood
81015/153992
53% Full
DEDI 52 cfs
MFPI 156 cfs
PRLI 285 cfs
SQWI 159 cfs
PRPI 1403 cfs
ETNI 0 cfs
HRSI 1457 cfs
51% of Boise System Capacity
EMM 1428 cfs
ETSI 0 cfs
PLEI 1375 cfs
PARI 807 cfs
Arrowrock
202770/272200
74% Full
BOMI 336 cfs
BIGI 254 cfs
BTSI 400 cfs
Anderson Ranch
225956/413100
55% Full
BSEI MISSING
LUC 251 cfs
BRFI 196 cfs
Lake Lowell
90032/119400
75% Full
Lucky Peak
59753/264400
23% Full
ANDI 303 cfs

Boise River Reservoir Storage
(capacity = 949,900 acre-ft)



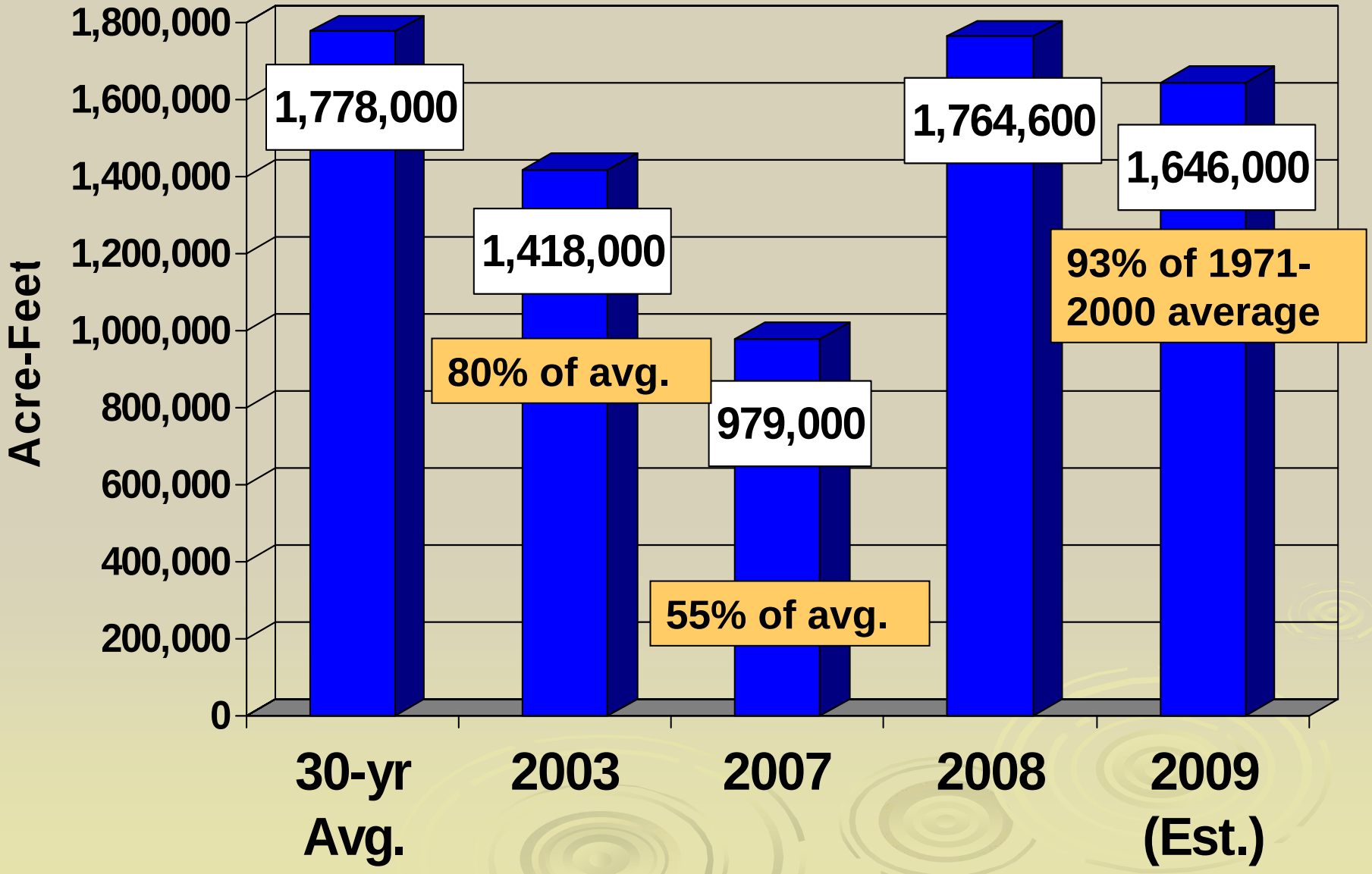
Boise River Reservoir Storage

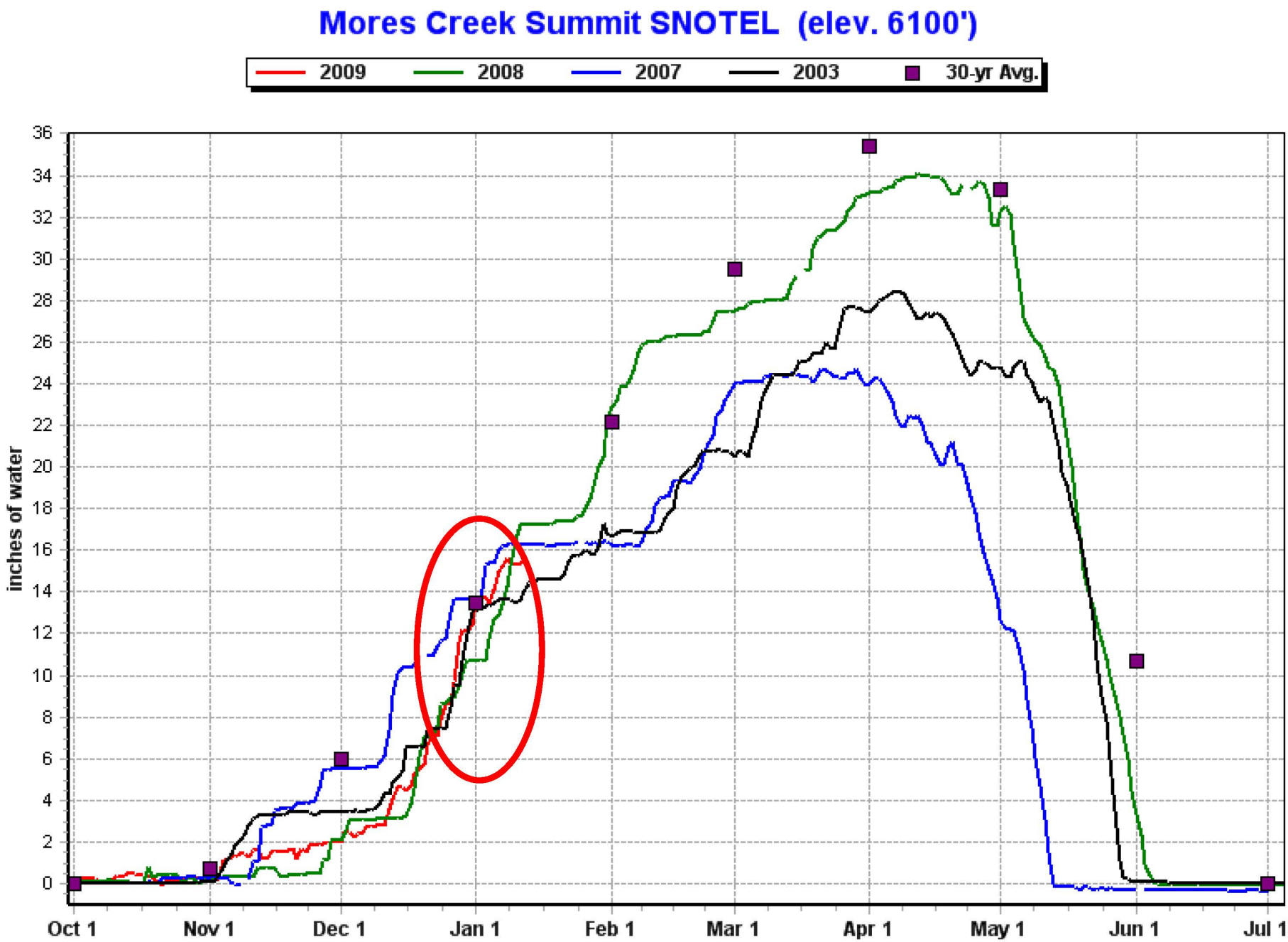
January 11

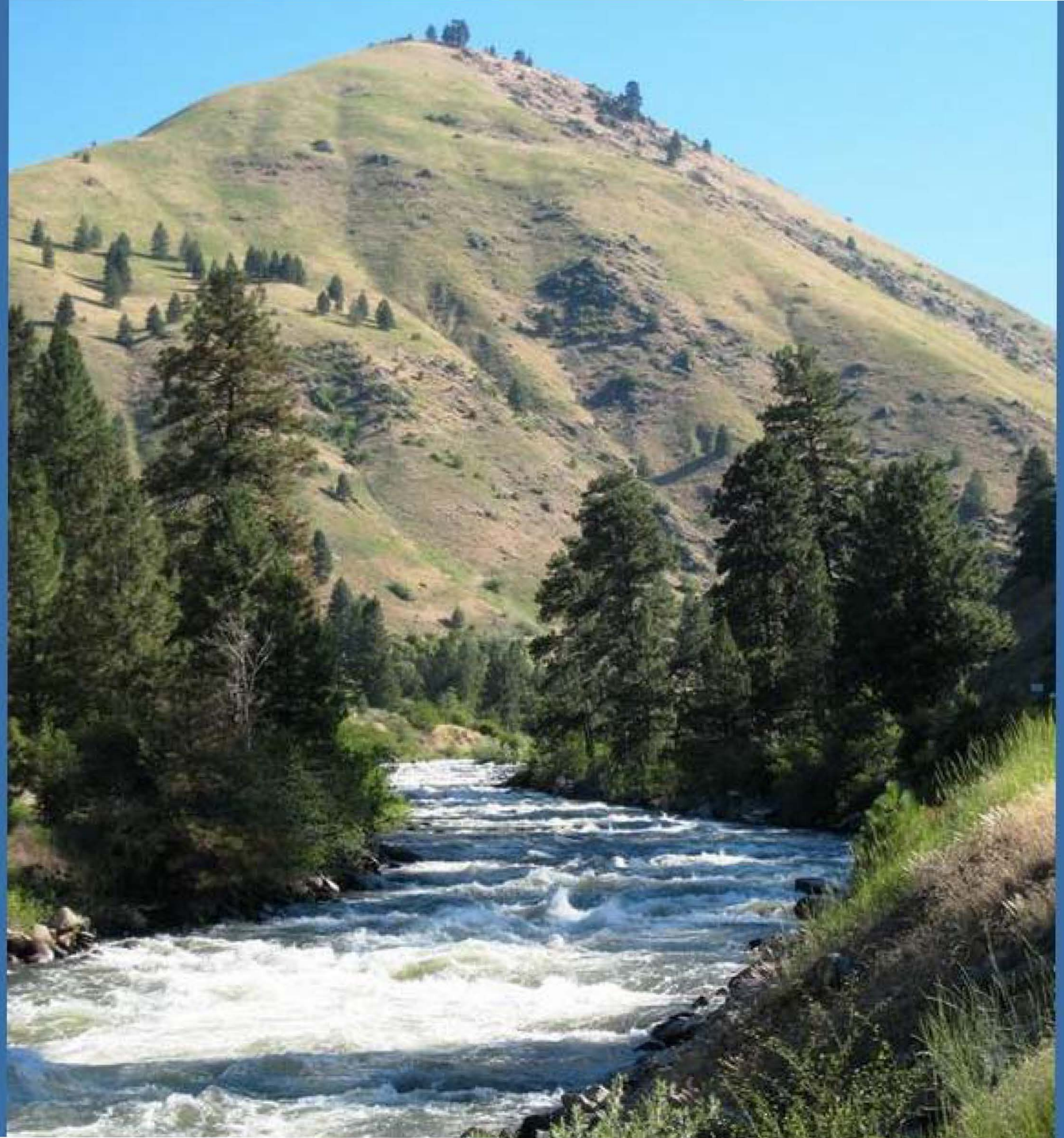


Boise Basin Runoff

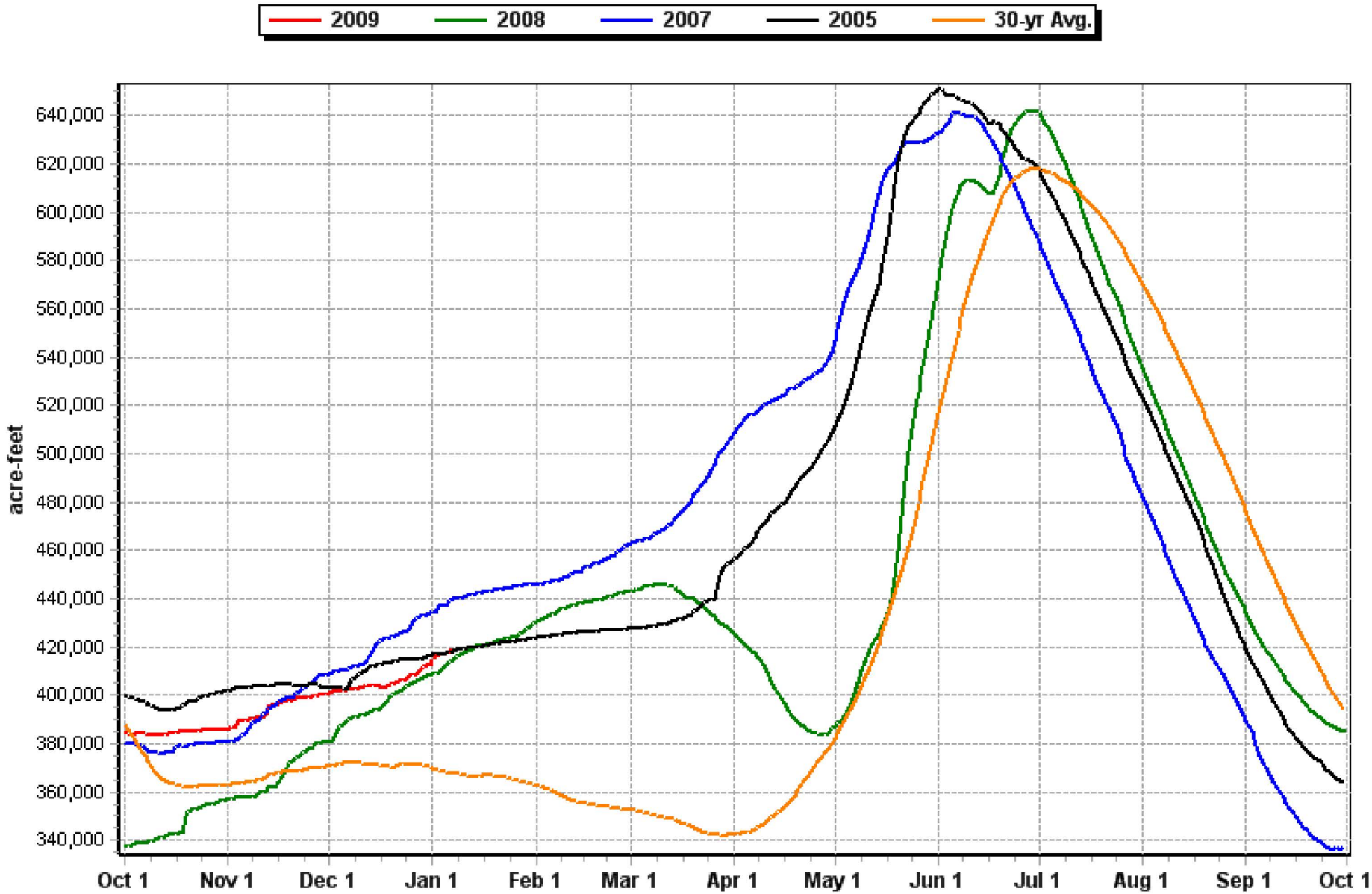
January-July



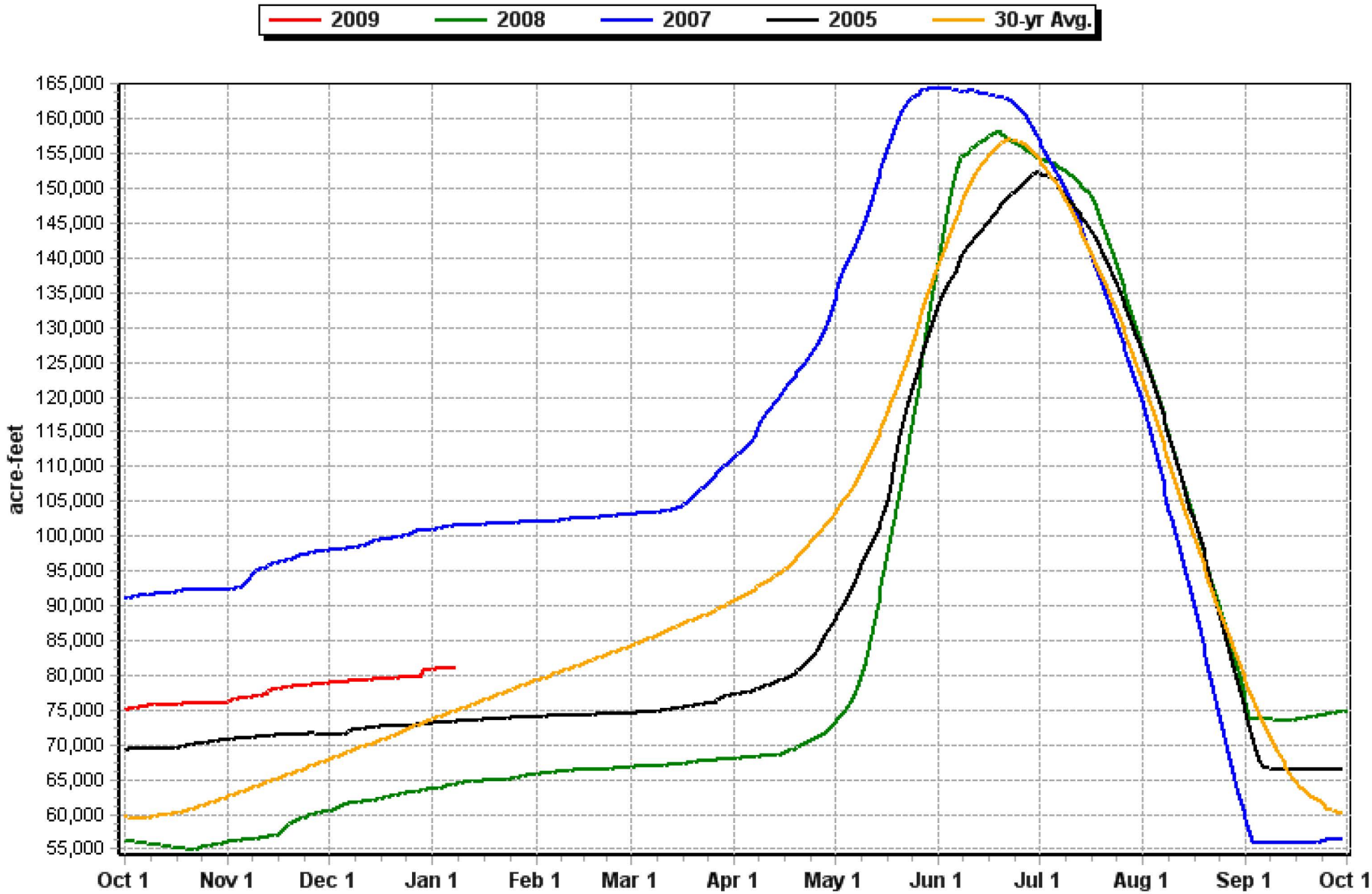

Mores Creek Summit SNOTEL (elev. 6100')
2009
2008
2007
2003
30-yr Avg.
inches of water
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1



Cascade Reservoir Storage
(Capacity = 646,460 ac-ft)

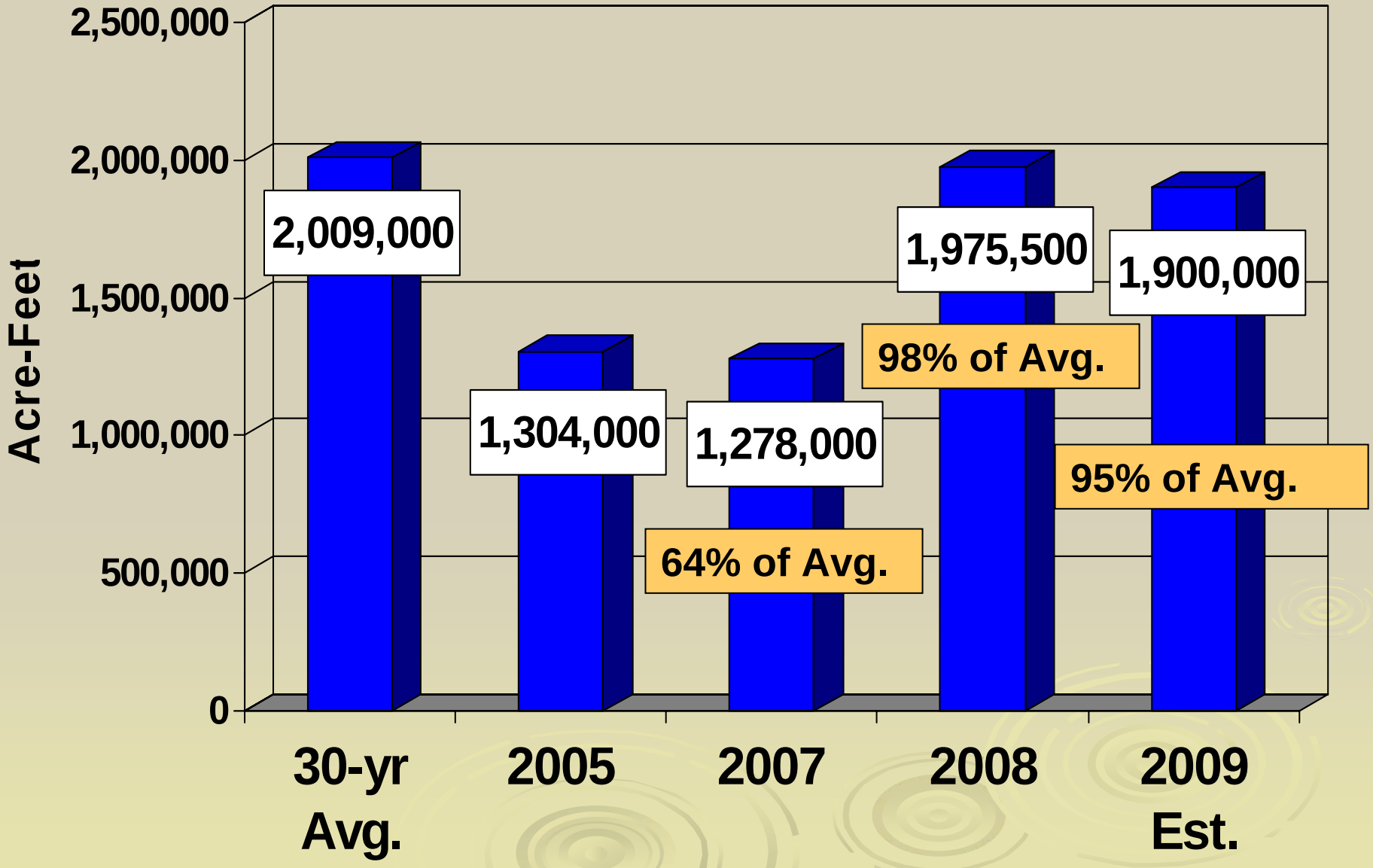


Deadwood Reservoir Storage
(capacity = 154,000 ac-ft)

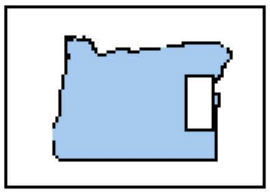


Payette Basin Runoff

January –July @ Horseshoe Bend

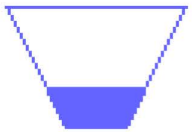


01/14/2009

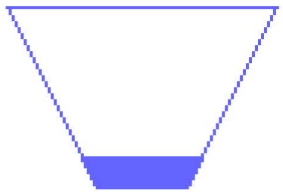


Phillips
35633/73000
49% Full

Unity
9236/25200
37% Full



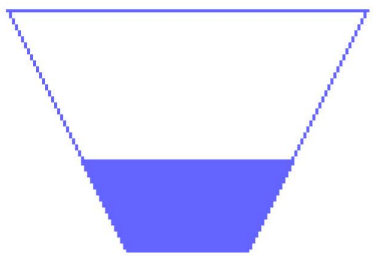
Beulah
13838/59900
23% Full



Warm Springs
17686/169639
10% Full

Thief Valley
13589/13307
102% Full

Bully Creek
7939/23676
34% Full



Owyhee
194310/715000
27% Full

NPDO 391 cfs

THF 141 cfs

HCDI 18034 cfs

PRHO 33 cfs

DRCO 0 cfs

PWDO 17 cfs

PRRO 618 cfs

PHL 11 cfs

UNY 9 cfs

Snake River

WEII 10298 cfs

MABO 60 cfs

MALO 95 cfs

VALO 88 cfs

BEUO 0 cfs

SNYI 7924 cfs

MADO 138 cfs

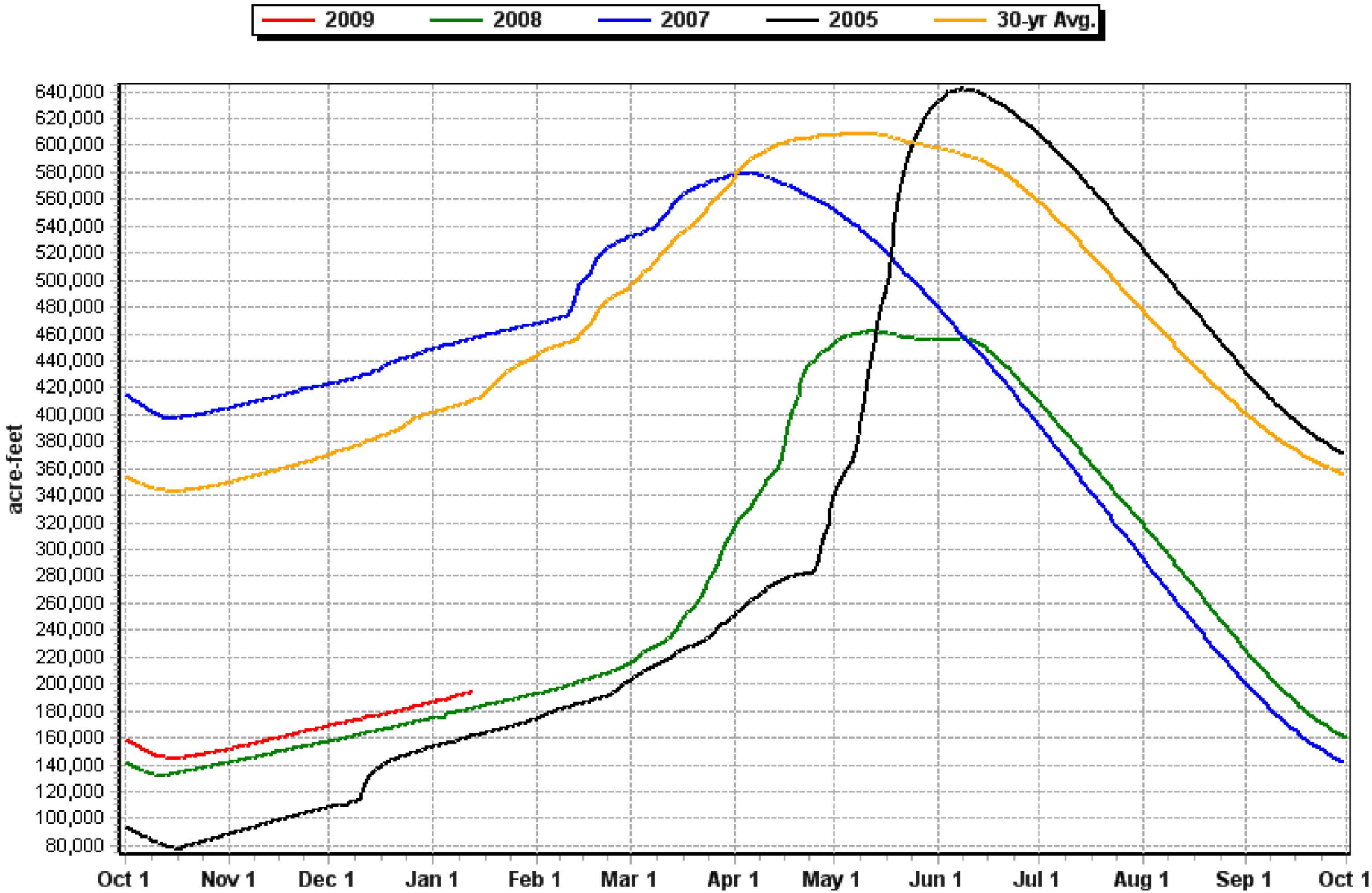
OWY 27 cfs

SWAI 7674 cfs

WARO 0 cfs

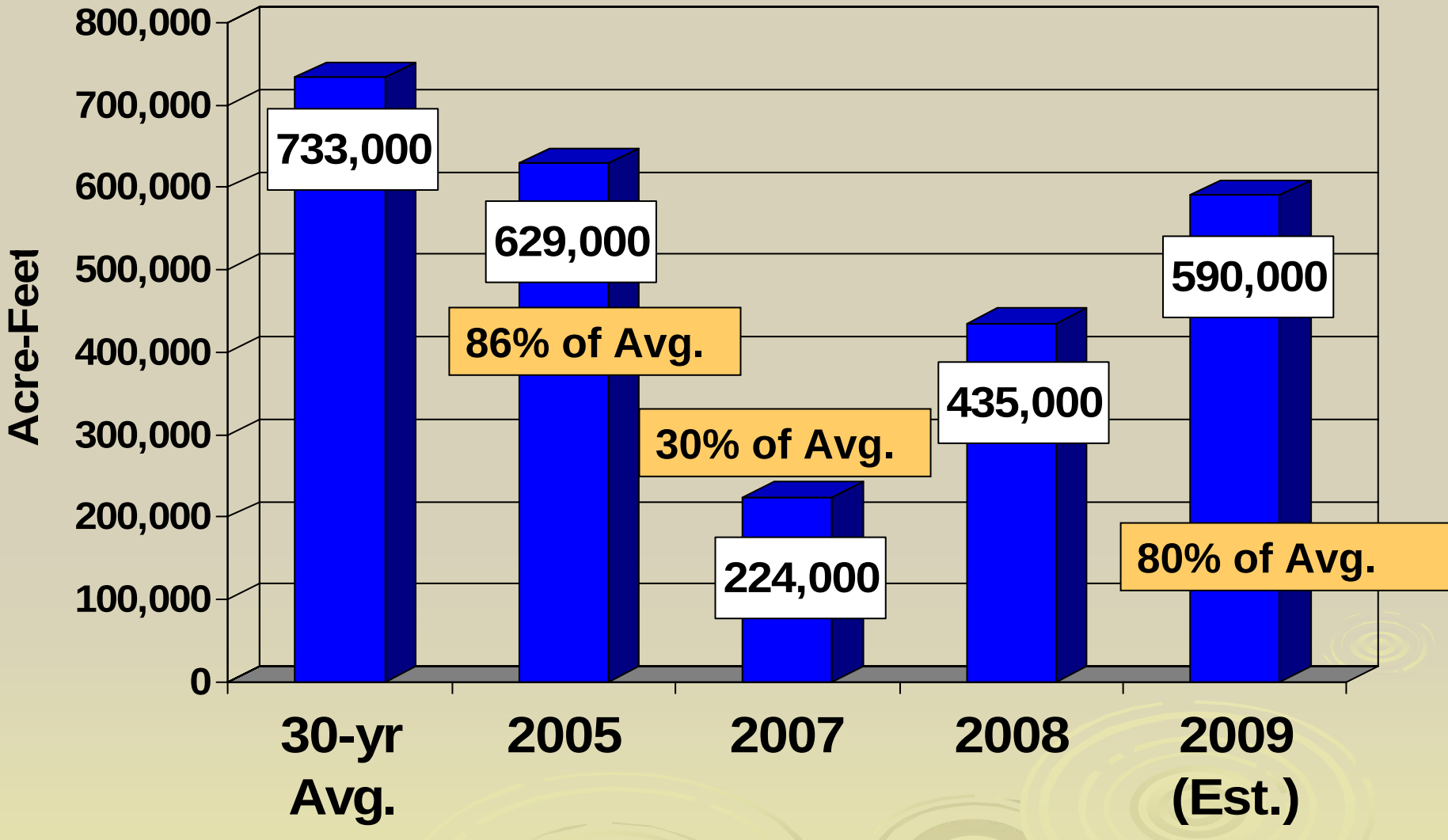
ROMO 189 cfs

Owyhee Reservoir Storage
(capacity = 715,000 acre-ft)



Owyhee Basin Runoff

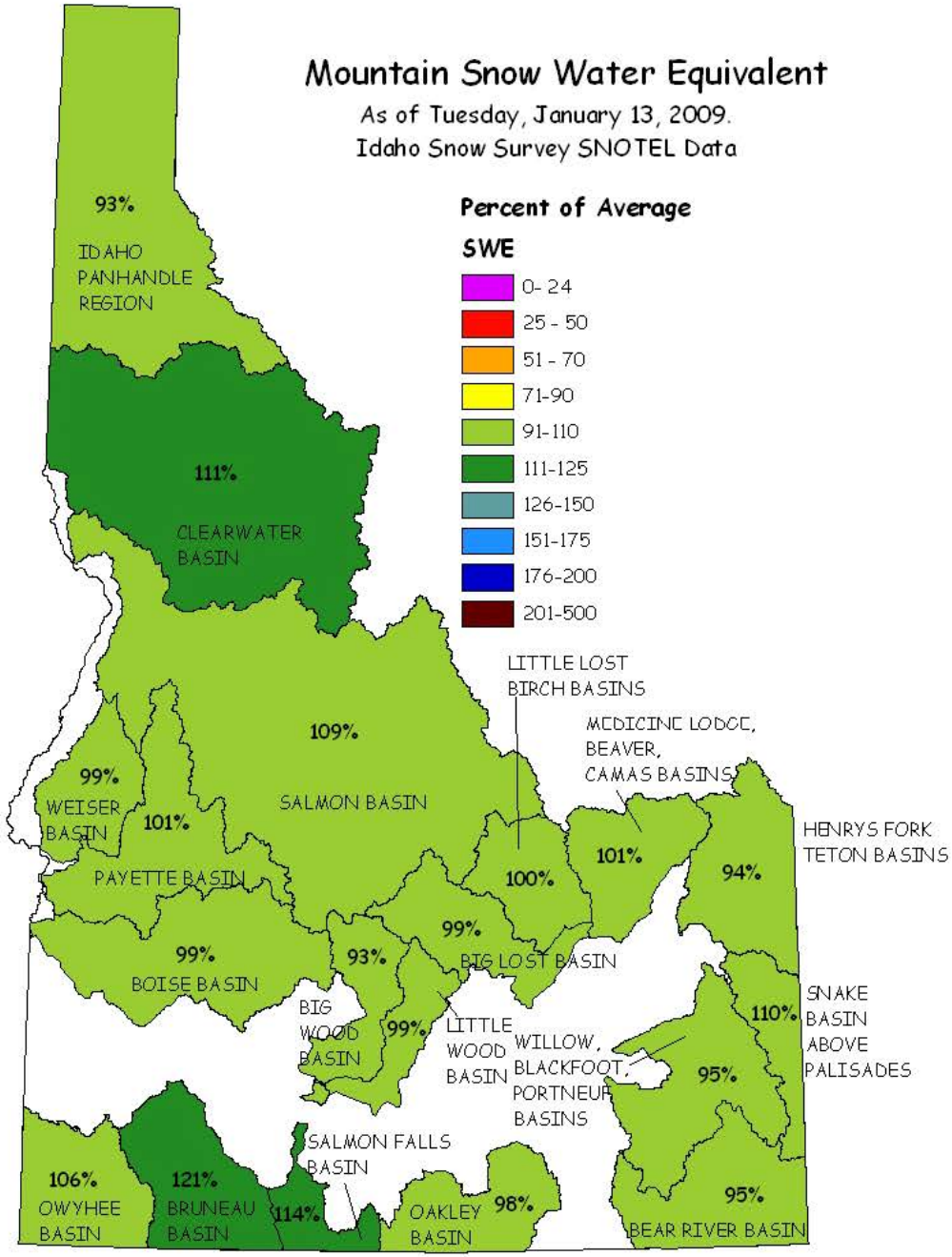
January -June

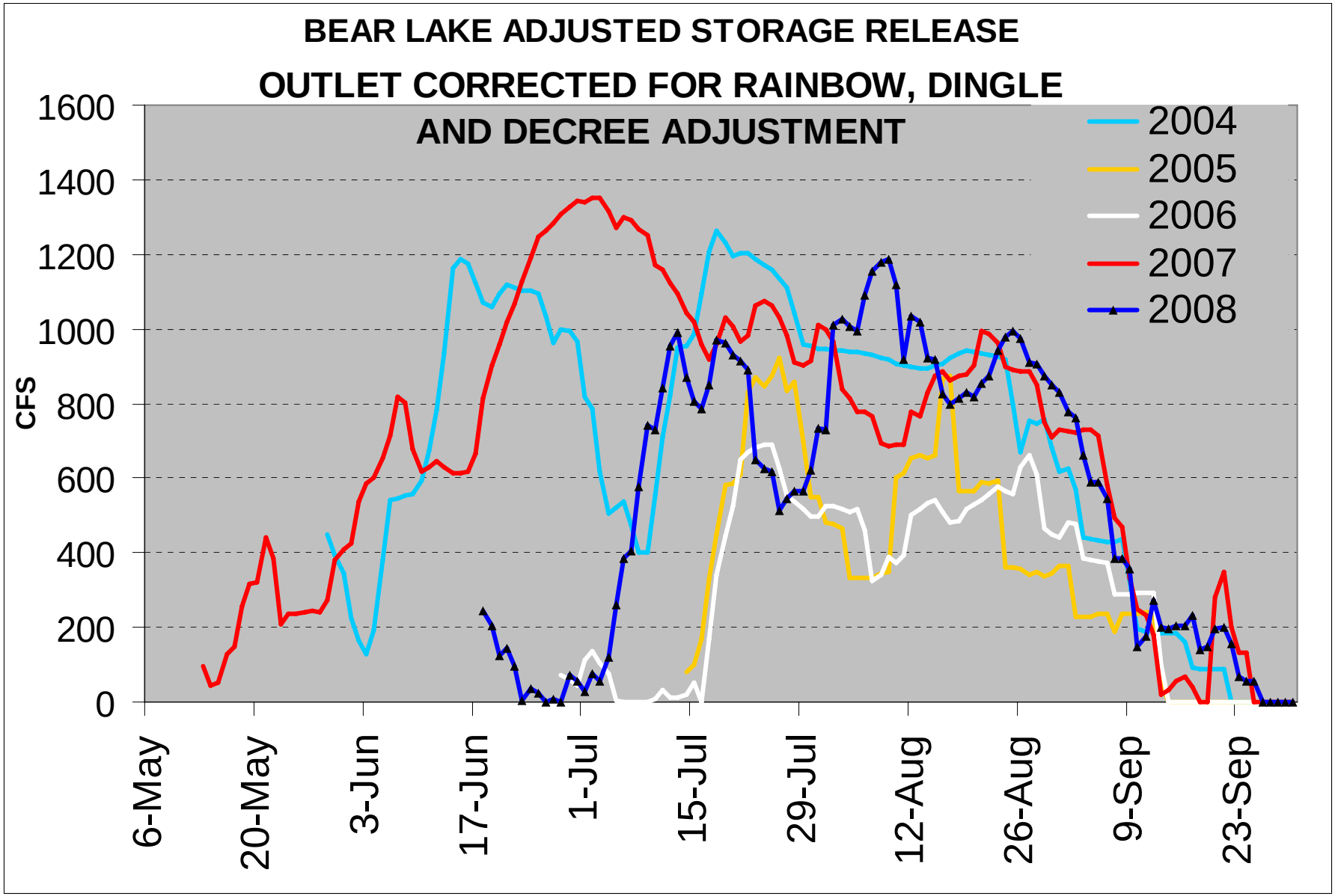


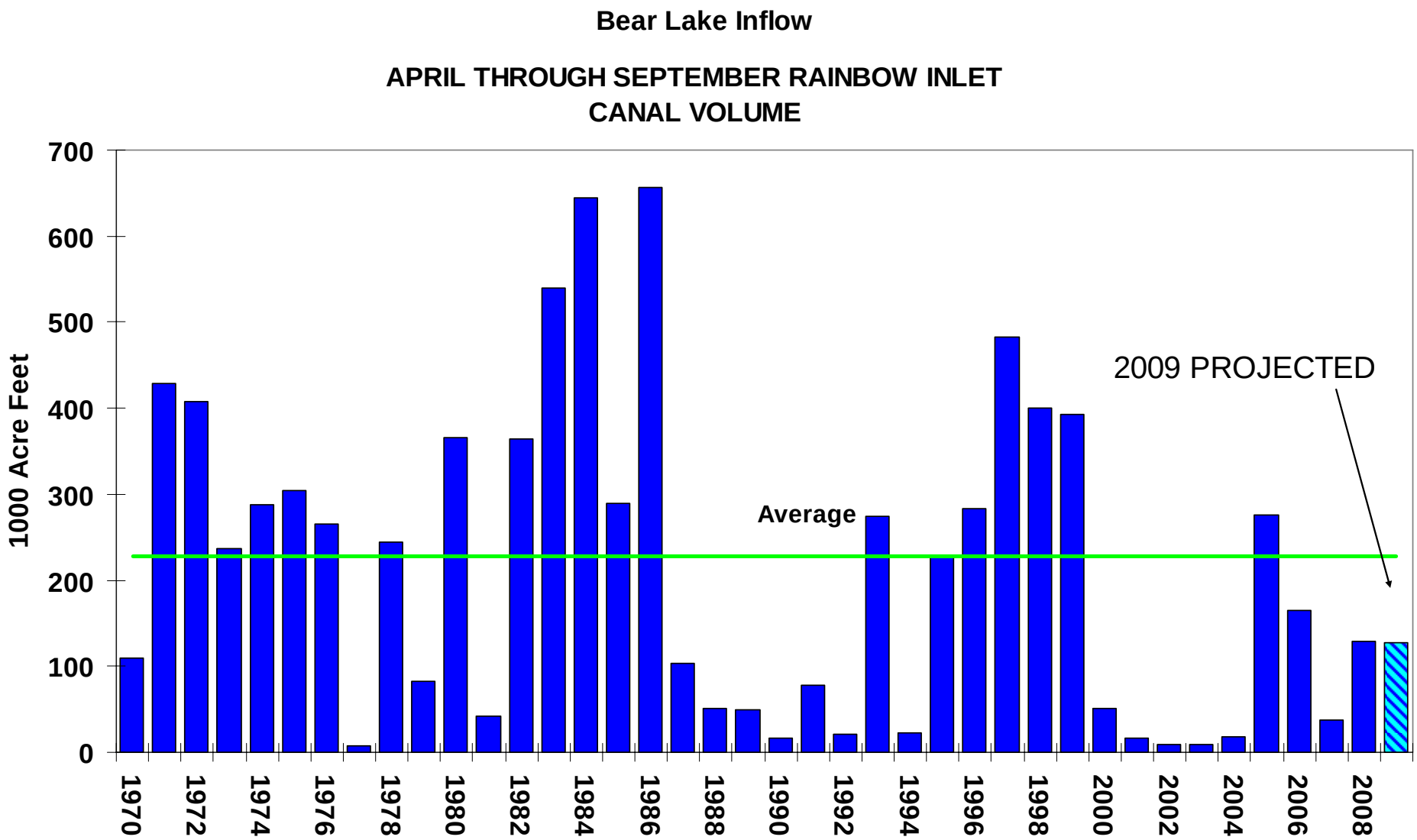
Think Snow !!

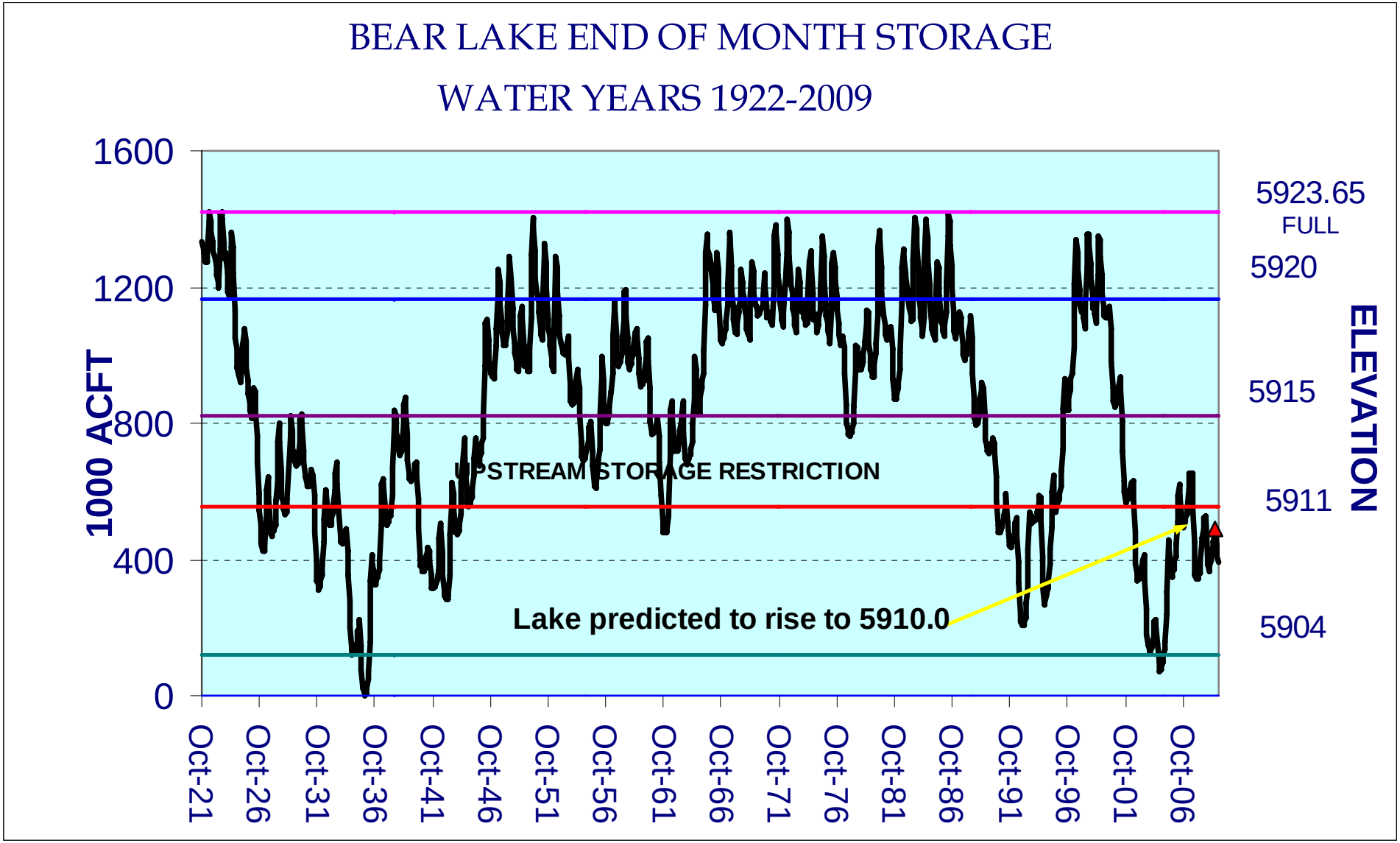
Spokane, WA 12-17-08

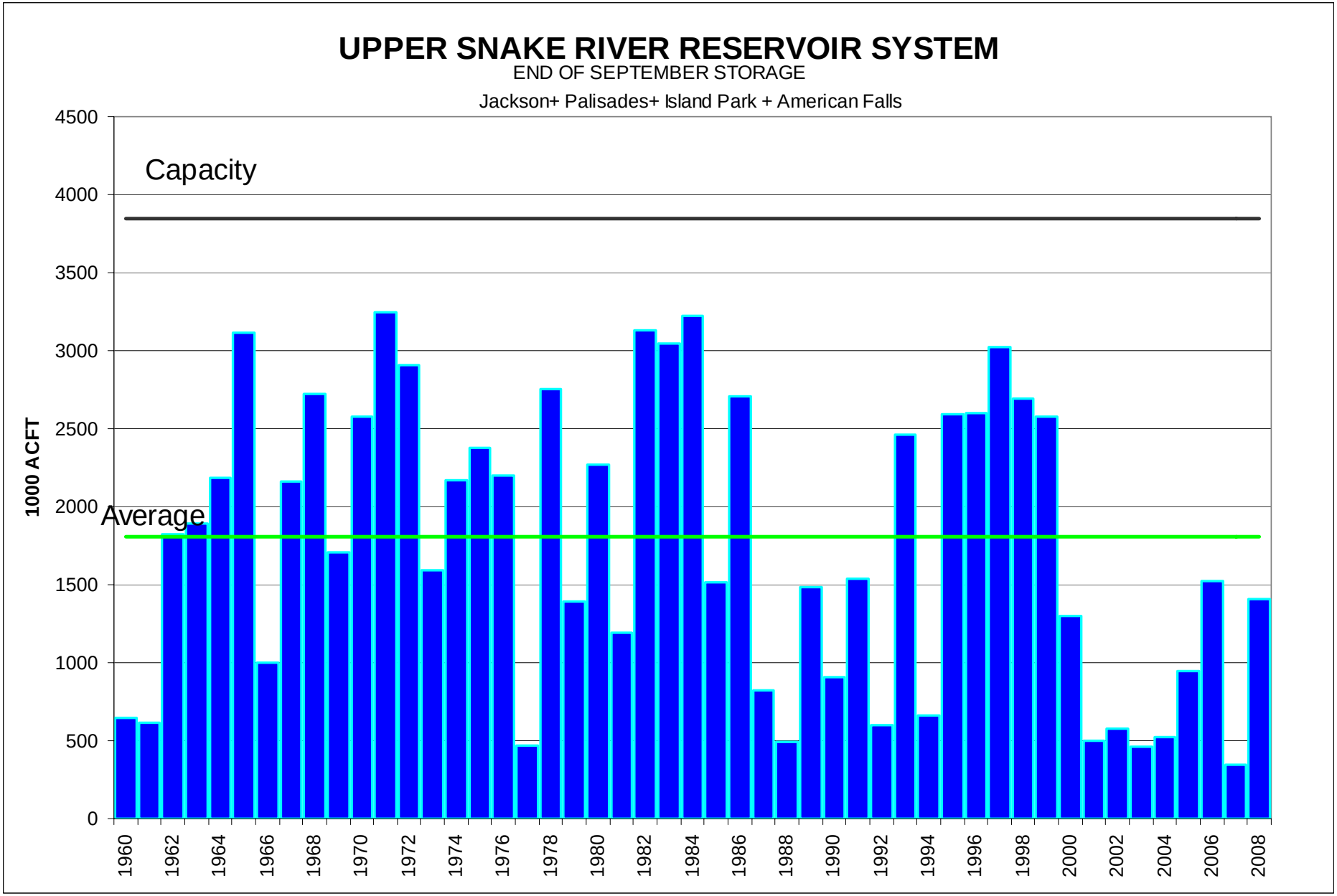
January 2009
Water Supply Committee

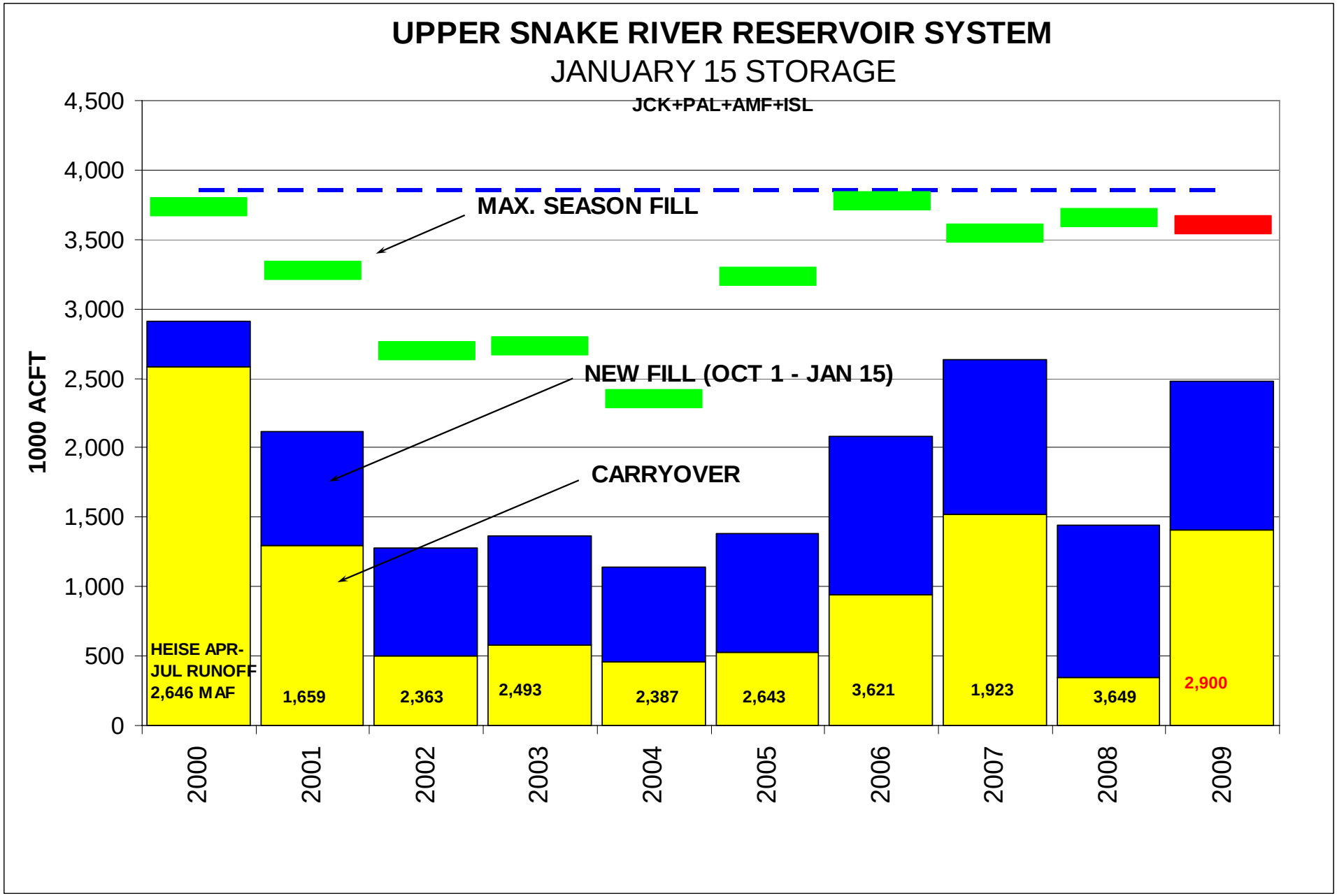

Mountain Snow Water Equivalent
As of Tuesday, January 13, 2009.
Idaho Snow Survey SNOTEL Data
Percent of Average
SWE
0- 24
25 - 50
51 - 70
71-90
91-110
111-125
126-150
151-175
176-200
201-500
93%
IDAHO PANHANDLE REGION
111%
CLEARWATER BASIN
109%
SALMON BASIN
99%
WEISER BASIN
101%
PAYETTE BASIN
99%
BOISE BASIN
93%
BIG WOOD BASIN
99%
LITTLE WOOD BASIN
99%
BIG LOST BASIN
100%
LITTLE LOST BIRCH BASINS
101%
MEDICINE LODGE, BEAVER, CAMAS BASINS
94%
HENRYS FORK TETON BASINS
110%
SNAKE BASIN ABOVE PALISADES
95%
WILLOW, BLACKFOOT, PORTNEUF BASINS
95%
BEAR RIVER BASIN
98%
OAKLEY BASIN
114%
SALMON FALLS BASIN
121%
BRUNEAU BASIN
106%
OWYHEE BASIN


BEAR LAKE ADJUSTED STORAGE RELEASE
OUTLET CORRECTED FOR RAINBOW, DINGLE
AND DECREE ADJUSTMENT
CFS
1600
1400
1200
1000
800
600
400
200
0
6-May
20-May
3-Jun
17-Jun
1-Jul
15-Jul
29-Jul
12-Aug
26-Aug
9-Sep
23-Sep
2004
2005
2006
2007
2008


Bear Lake Inflow
APRIL THROUGH SEPTEMBER RAINBOW INLET
CANAL VOLUME
1000 Acre Feet
700
600
500
400
300
200
100
0
Average
2009 PROJECTED
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008


BEAR LAKE END OF MONTH STORAGE
WATER YEARS 1922-2009
1600
1200
800
400
0
1000 ACFT
5923.65
FULL
5920
5915
5911
5904
ELEVATION
UPSTREAM STORAGE RESTRICTION
Lake predicted to rise to 5910.0
Oct-21
Oct-26
Oct-31
Oct-36
Oct-41
Oct-46
Oct-51
Oct-56
Oct-61
Oct-66
Oct-71
Oct-76
Oct-81
Oct-86
Oct-91
Oct-96
Oct-01
Oct-06


UPPER SNAKE RIVER RESERVOIR SYSTEM
END OF SEPTEMBER STORAGE
Jackson+ Palisades+ Island Park + American Falls
Capacity
Average
1000 ACFT
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008


UPPER SNAKE RIVER RESERVOIR SYSTEM
JANUARY 15 STORAGE
JCK+PAL+AMF+ISL
MAX. SEASON FILL
NEW FILL (OCT 1 - JAN 15)
CARRYOVER
1000 ACFT
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
HEISE APR-JUL RUNOFF 2,646 MAF
1,659
2,363
2,493
2,387
2,643
3,621
1,923
3,649
2,900
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009

Estimate in season shortages from groundwater pumping to Surface Water Coalition irrigation districts (upper Snake) for historic runoff conditions

Heise Apr-Jul Runoff (1000 ac-ft)	% of 1971-2000 Runoff	Comparable year	Predicted Surface Water Supply Shortfall (ac-ft)
2,990	85	1985	0
2,643	75	2005	0
1,923	65	2007	35,000
1,177	45	1977***	166,000

*** Using worst drought year natural flow supply since 1990.

http://www.idwr.idaho.gov/

[click here]

Major Issues

- Northern Idaho Adjudication Information
- Eastern Snake River Plain Aquifer (ESPA) Comprehensive Aquifer Management Plan (CAMP)
- Hydropower Water Right At Milner Dam Information Page
- Information About Warning Letters For 2009 Potential Curtailment
- Thousand Springs Area Water Call Related Documents & Audio from Hearing
- Surface Water Coalition Water Call Related Documents & Audio from Hearing
- A&B Irrigation Water Call Related Documents & Audio from Hearing
- Court Actions Related to Delivery Calls
- Swan Falls Agreement Information Page

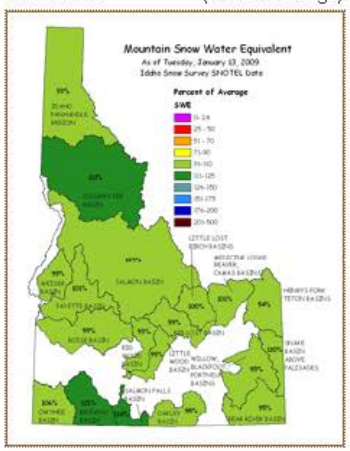
How is the Snowpack?

Mountain Snow Water Equivalent

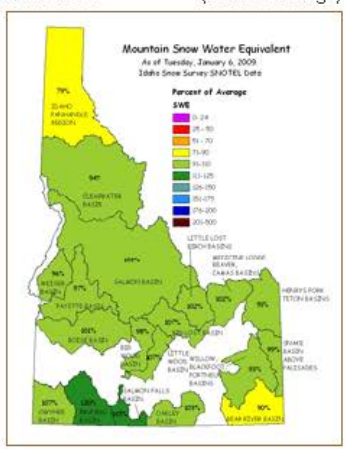
Snow Water Equivalent (SWE) is a common snowpack measurement. It is the amount of water contained within the snowpack. Check back weekly to see the changes in Idaho's snowpack.

Archived Images

This Week (click to enlarge)



Last Week (click to enlarge)



CAMP Future Water Demand
CAMP Facilitation Services

News Releases

January 8, 2009
IDWR Commences Northern Idaho Adjudicatior

January 8, 2009
Water Supply Committee to Hold Its First Meeting of the Water Year on Thursday

[Read more]