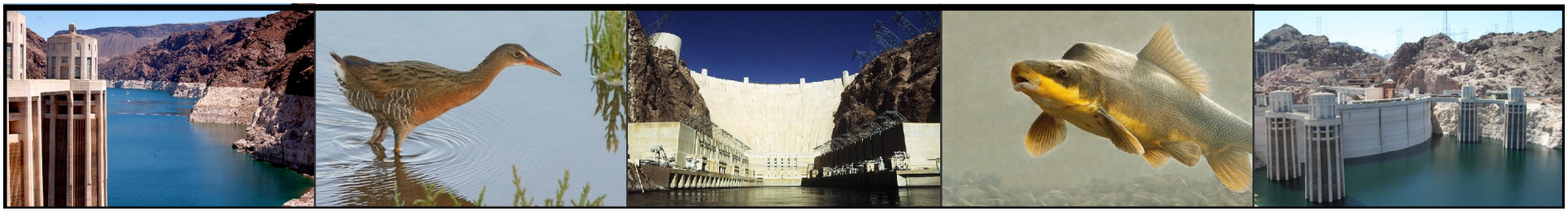
Colorado River Commission of Nevada

Natural Resources Group
Hydrologic Update
September 10, 2013



Hydrologic Conditions

Unregulated Inflow Into Lake Powell

As of August 19, 2013

	MAF*	% Avg**
• WY 2013 (projected):	4.40	41%
• April-July 2013 (observed):	2.56	36%
• Jul 2013 (observed):	0.14	13%
• Aug 2013 (projected):	0.23	46%

***MAF=Million Acre-Feet**

****30-year average, from 1981-2010 (current normal)**

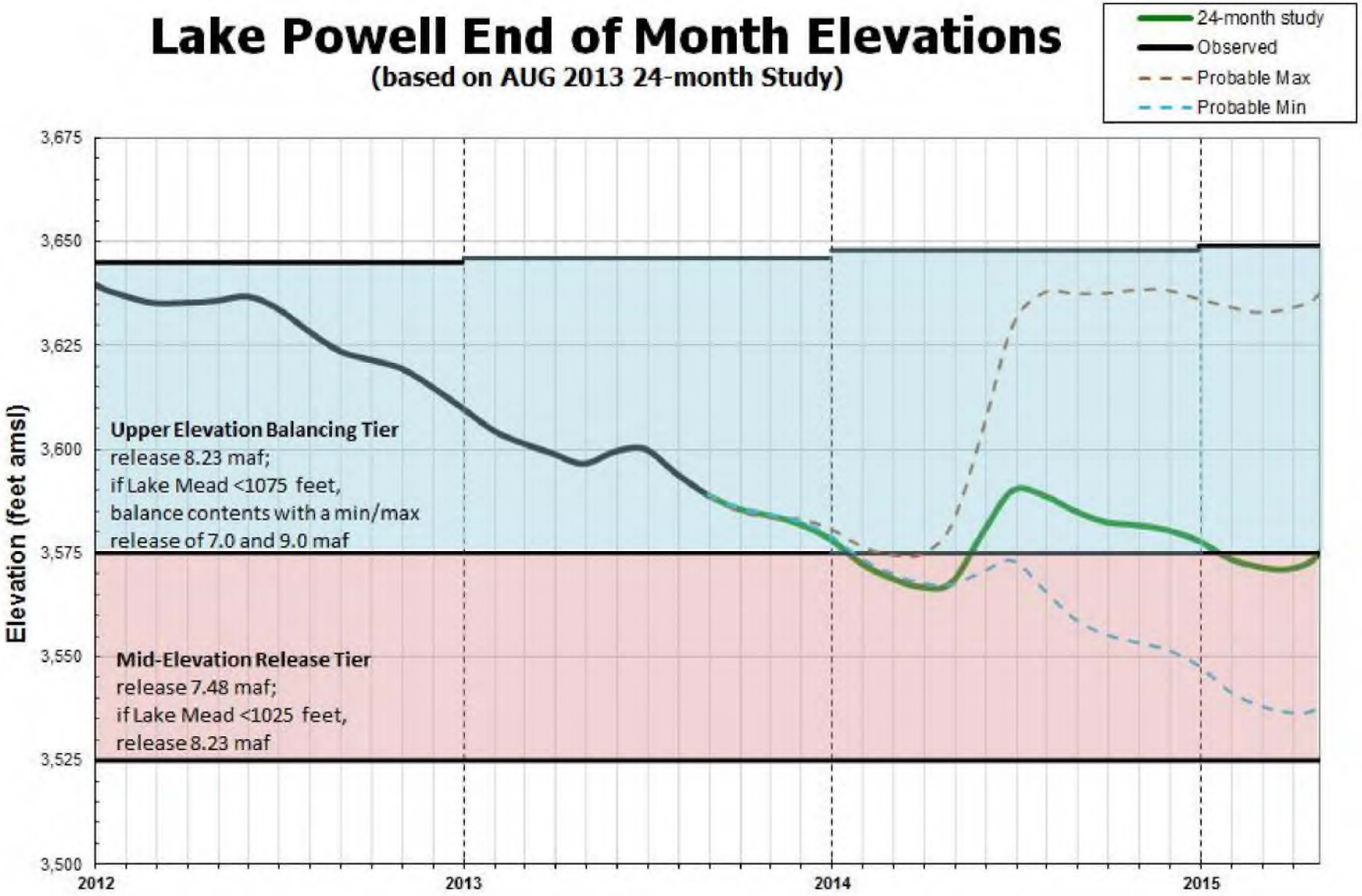
Storage Conditions

As of September 3, 2013

		Percent of Capacity	Δ from last year
Lake Mead elev.	1,106.31 ft	47%	↓ 10.18 ft
Lake Powell elev.	3,589.60 ft	44%	↓ 33.78 ft
Total System Storage (9/2013)	29.82 maf	50%	↓ 4.82 maf
Total System Storage (9/2012)	34.64 maf	58%	

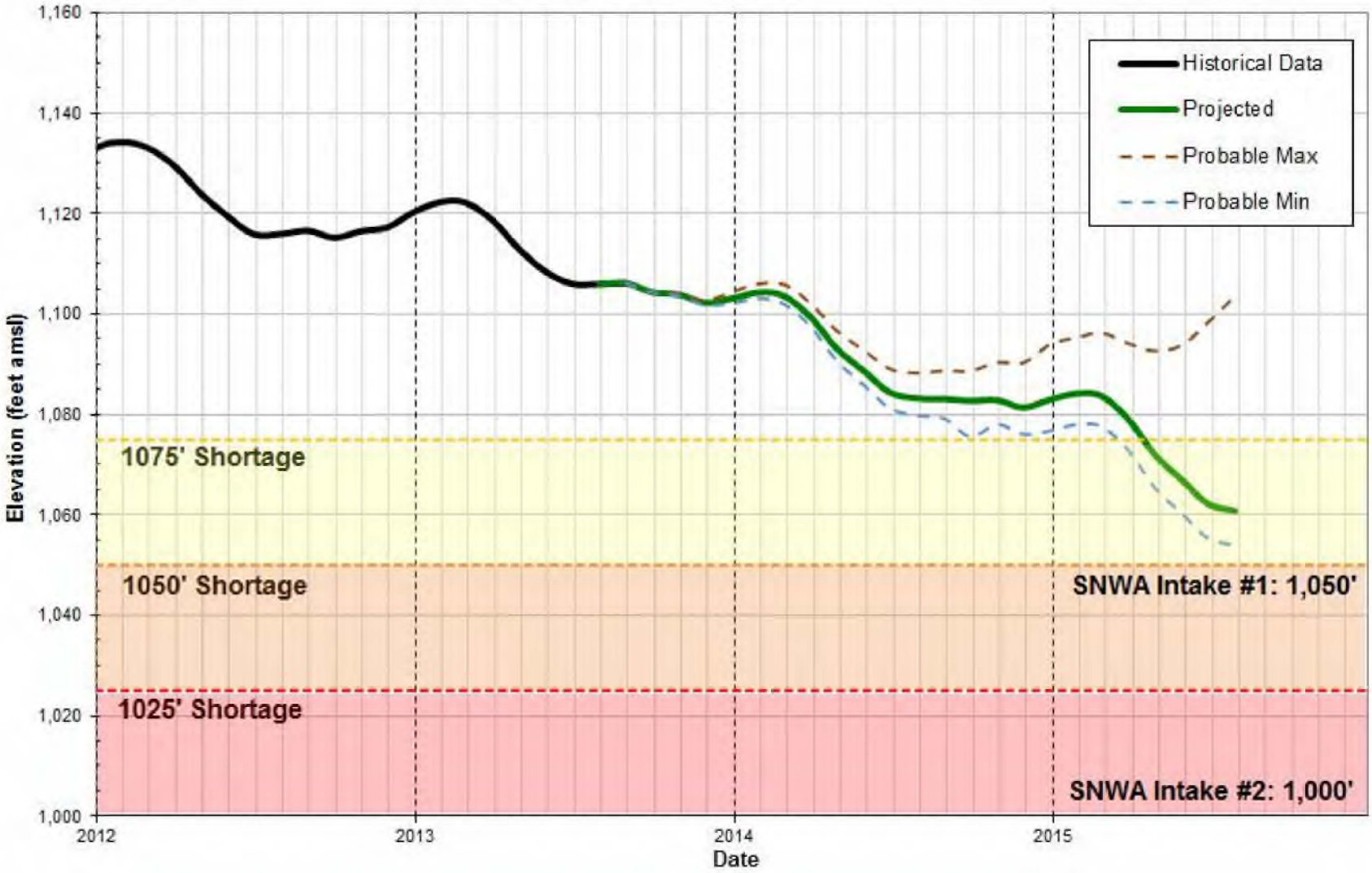
Lake Powell End of Month Elevations

(based on AUG 2013 24-month Study)



Lake Mead End of Month Elevation Projections

(based on the AUG 2013 24-month study)

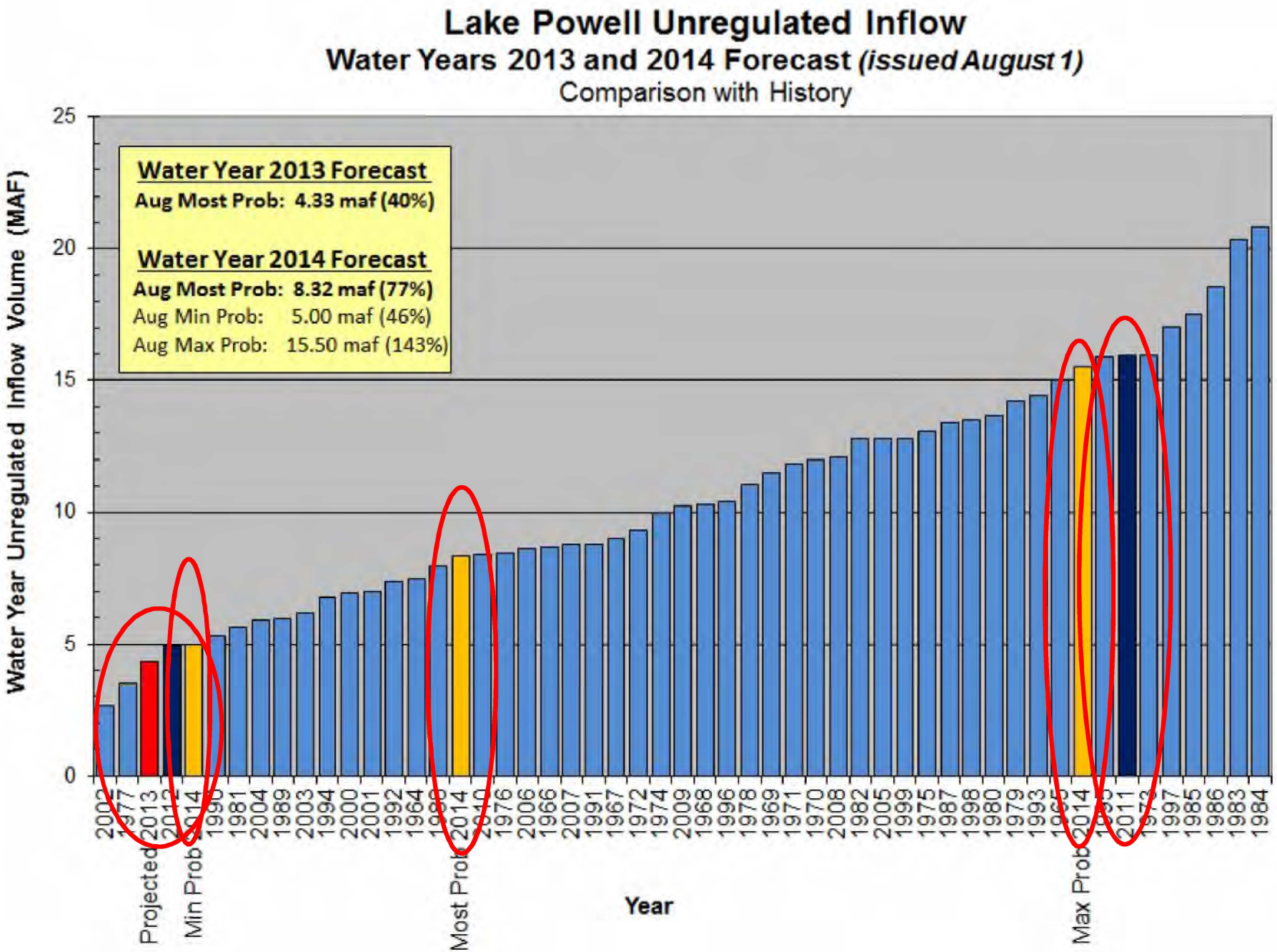


Precipitation - Colorado River Basin

As of September 3, 2013

	Upper Colorado Basin
WY Precip to Date	83% (24.1″)
Current Basin Snowpack	NA% (NA″)

(Avg 1981-2010)


Lake Powell Unregulated Inflow
Water Years 2013 and 2014 Forecast (issued August 1)
Comparison with History
Water Year 2013 Forecast
Aug Most Prob: 4.33 maf (40%)
Water Year 2014 Forecast
Aug Most Prob: 8.32 maf (77%)
Aug Min Prob: 5.00 maf (46%)
Aug Max Prob: 15.50 maf (143%)
Water Year Unregulated Inflow Volume (MAF)
25
20
15
10
5
0
2002
1977
2013
2012
2014
1990
1981
2004
1989
2003
1994
2000
2001
1992
1964
1999
2014
2010
1976
2006
1966
2007
1991
1967
1972
1974
2009
1968
1996
1978
1969
1971
1970
2008
1982
2005
1999
1975
1987
1998
1980
1979
1993
1965
2014
1983
2011
1973
1997
1985
1986
1983
1984
Projected
Min Prob
Most Prob
Max Prob
Year

2014 Lake Powell Unregulated Inflow Scenarios As Presented in Annual Operating Plan

Scenario	2014 AOP WY 2014 Developed August 2013
Minimum Probable	5.00 maf (46%)
Most Probable	8.32 maf (77%)
Maximum Probable	15.50 maf (143%)

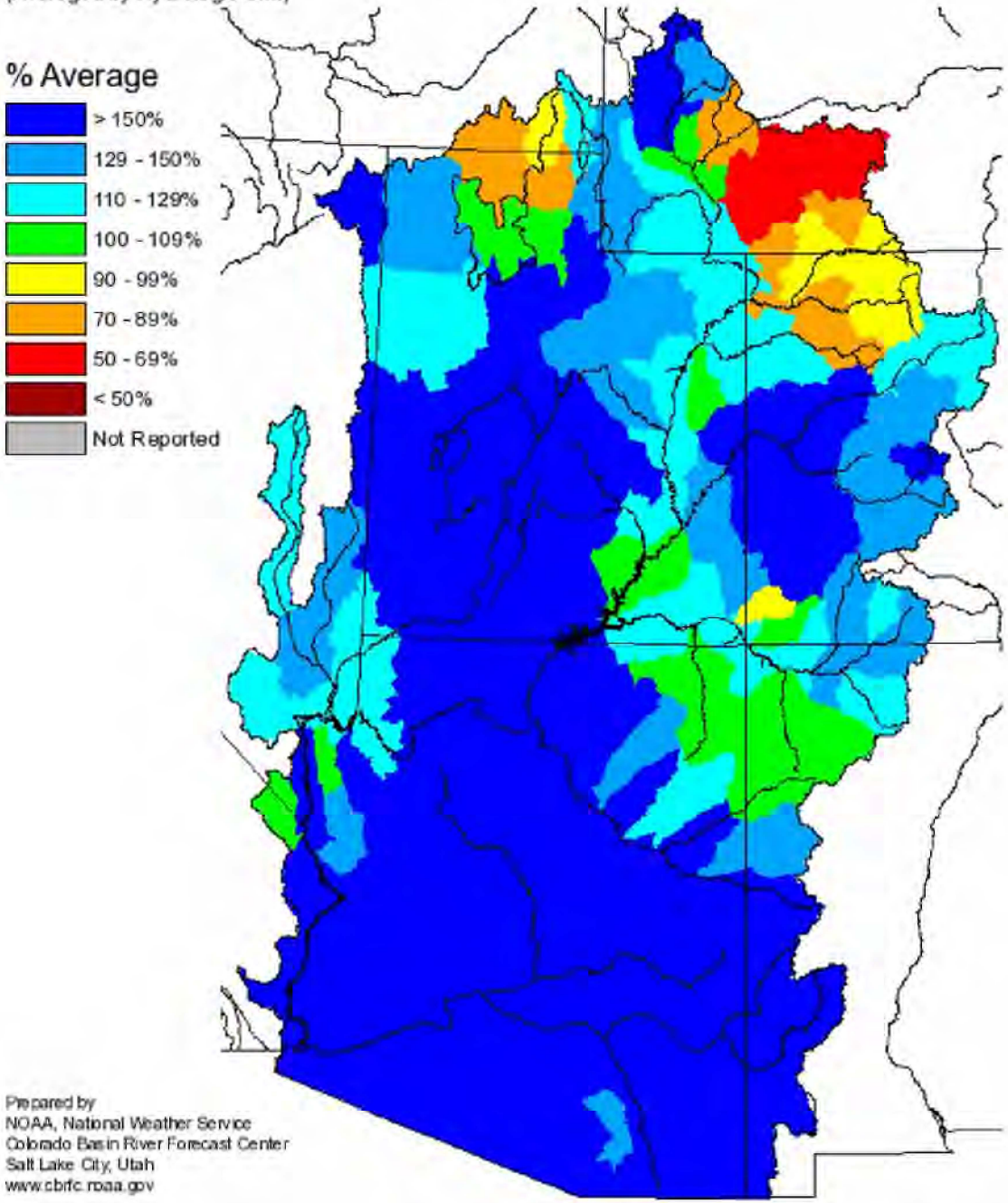
2013 Annual Operating Plan
Lake Powell Unregulated Inflow Projections WY2013

Scenario	2013 AOP WY 2013 Developed August 2012	Most Probable WY 2013 Developed August 2013
Minimum Probable	5.00 maf (46%)	4.33 maf (40%)
Most Probable	8.85 maf (82%)	
Maximum Probable	16.00 maf (148%)	

Drought and Precipitation

Monthly Precipitation for July 2013

(Averaged by Hydrologic Unit)



Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov


MS LOW: 78°
LAS VEGAS TOMORROW: A CHANCE F
74°
7:29

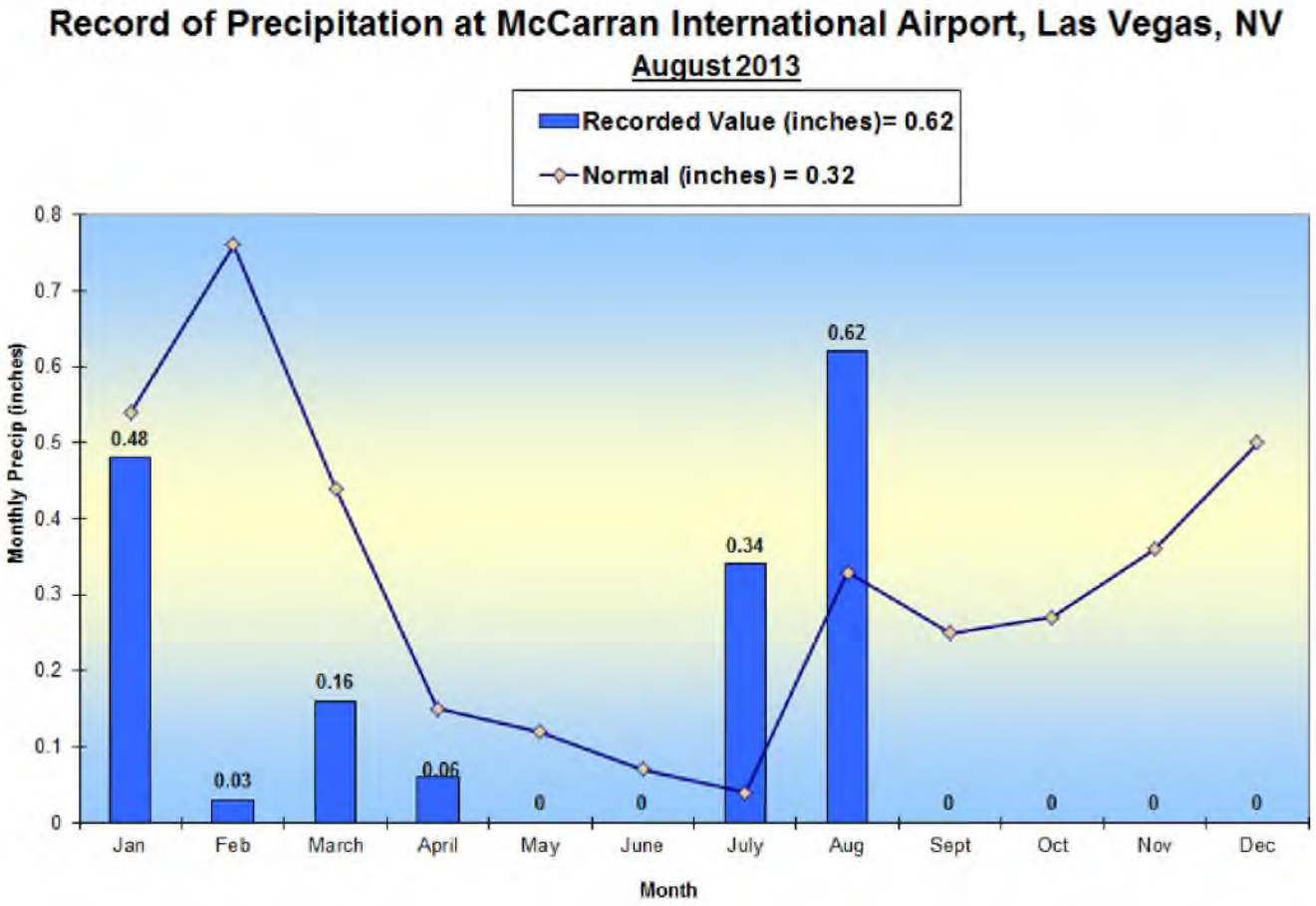

ACCIDENT: 95 & ANN NB
ACCIDENT: 215 & WARM
74°
7:04


FLOODING
KLAS-TV DT
NG STORMS LOW: 78°
LAS VEGAS TOMORROW: A C
74°
7:25


LIVE
TEAM COVERAGE
Flash Flooding
near Imperial Palace
15 & WASHINGTON NB
ACCIDENT: I-15 & SAHARA NI
74°
7:29

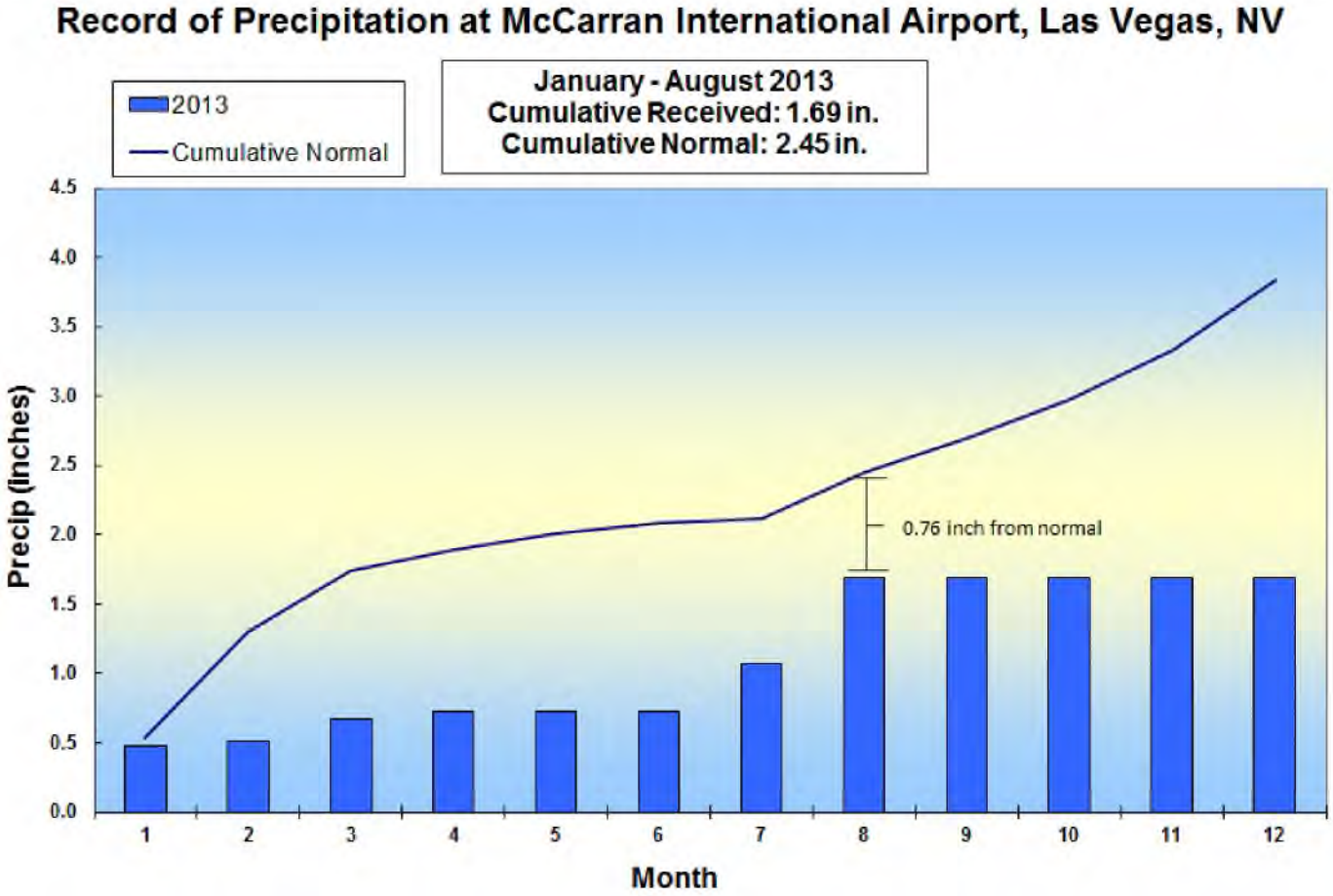
Record of Precipitation, Las Vegas, NV

As of August 31, 2013



Record of Precipitation, Las Vegas, NV

As of August 31, 2013



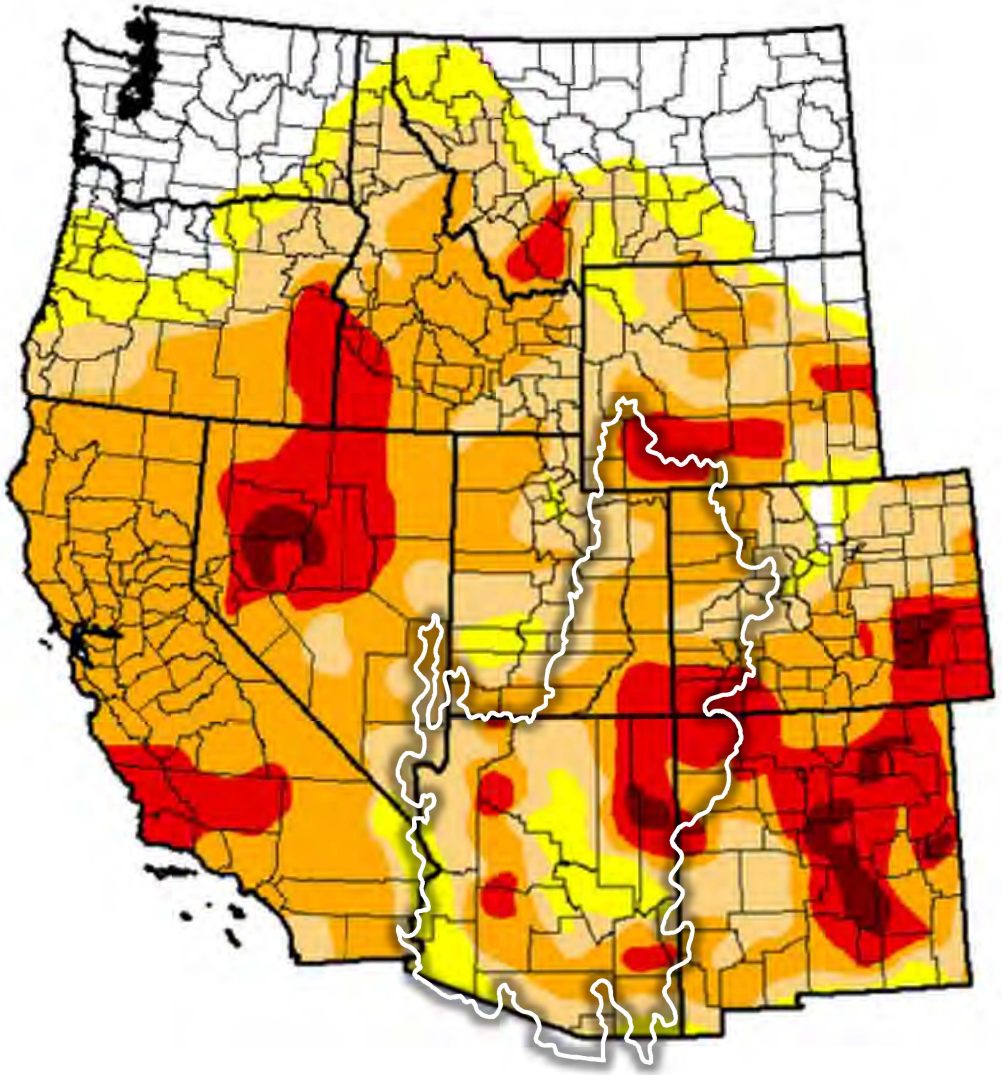
Lower Basin Side Inflows – 2013

Intervening Flow from Glen Canyon to Hoover Dam

Month	5 Year Average (KAF)	Observed Flow (KAF)	% of Average
October 2012	54	53	98%
November 2012	44	60	136%
December 2012	99	50	50%
January 2013	81	56	69%
February 2013	94	68	73%
March 2013	77	69	89%
April 2013	80	37	46%
May 2013	64	28	44%
June 2013	33	1	3%
July 2013	55	115	211%
August 2013	109	127	117%

U.S. Drought Monitor
West

September 3, 2013
(Released Thursday, Sep. 5, 2013)
Valid 7 a.m. EST



Intensity:

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

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

Author:
David Miskus
NOAA/NWS/NCEP/CPC

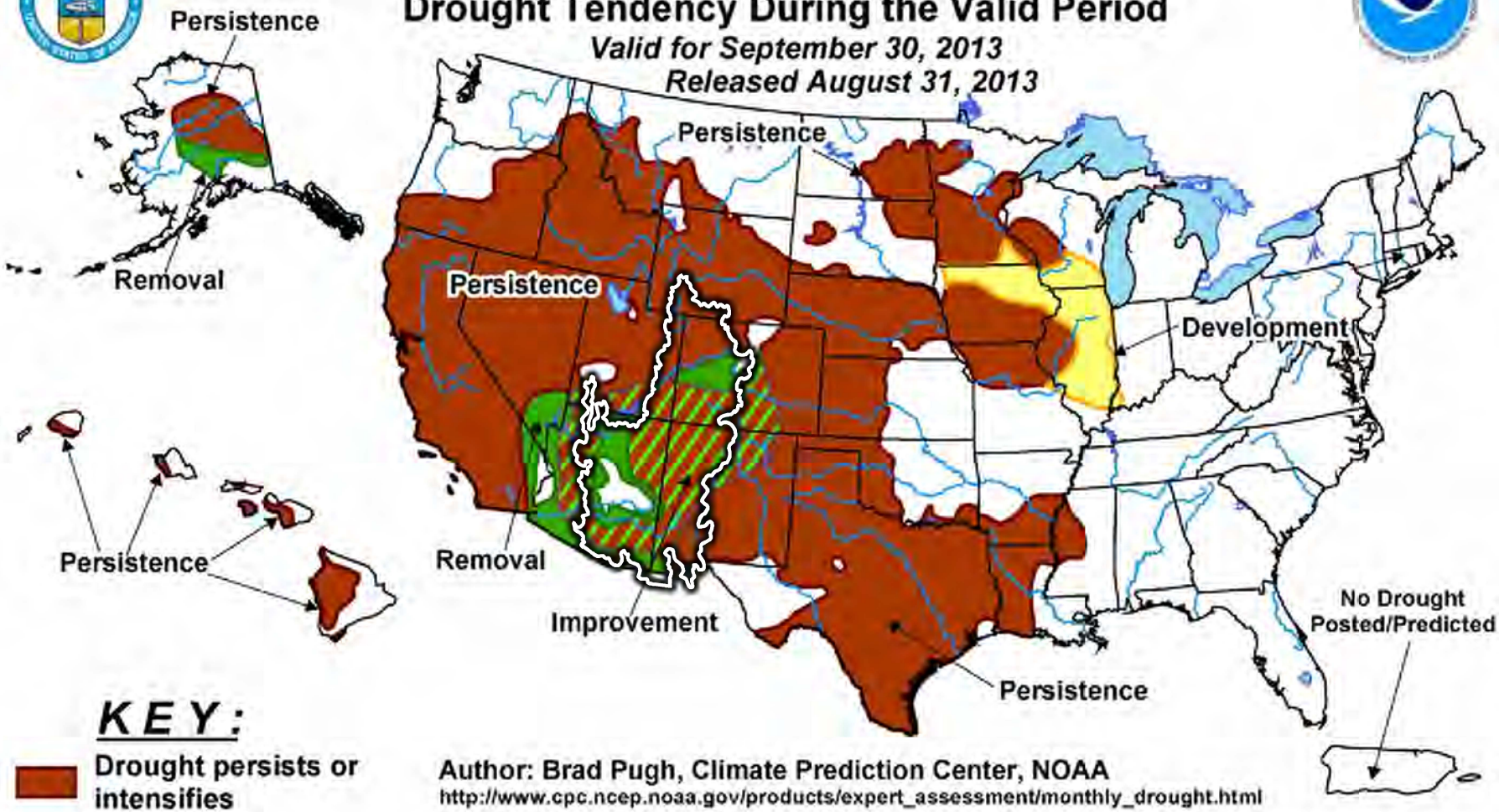
http://droughtmonitor.unl.edu/

U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

Valid for September 30, 2013

Released August 31, 2013



KEY:

- **Drought persists or intensifies**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**

Author: Brad Pugh, Climate Prediction Center, NOAA

http://www.cpc.ncep.noaa.gov/products/expert_assessment/monthly_drought.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.

NOTE: The Green and Brown hatched areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The Green areas imply drought removal by the end of the period (D0 or none)

Water Use in Southern Nevada

Water Use in Southern Nevada
January - July

2013*:	Consumptive Use =	139,278
	CR Water Banked =	0
		139,278
2012:	Consumptive Use =	146,358
	CR Water Banked =	0
		146,358

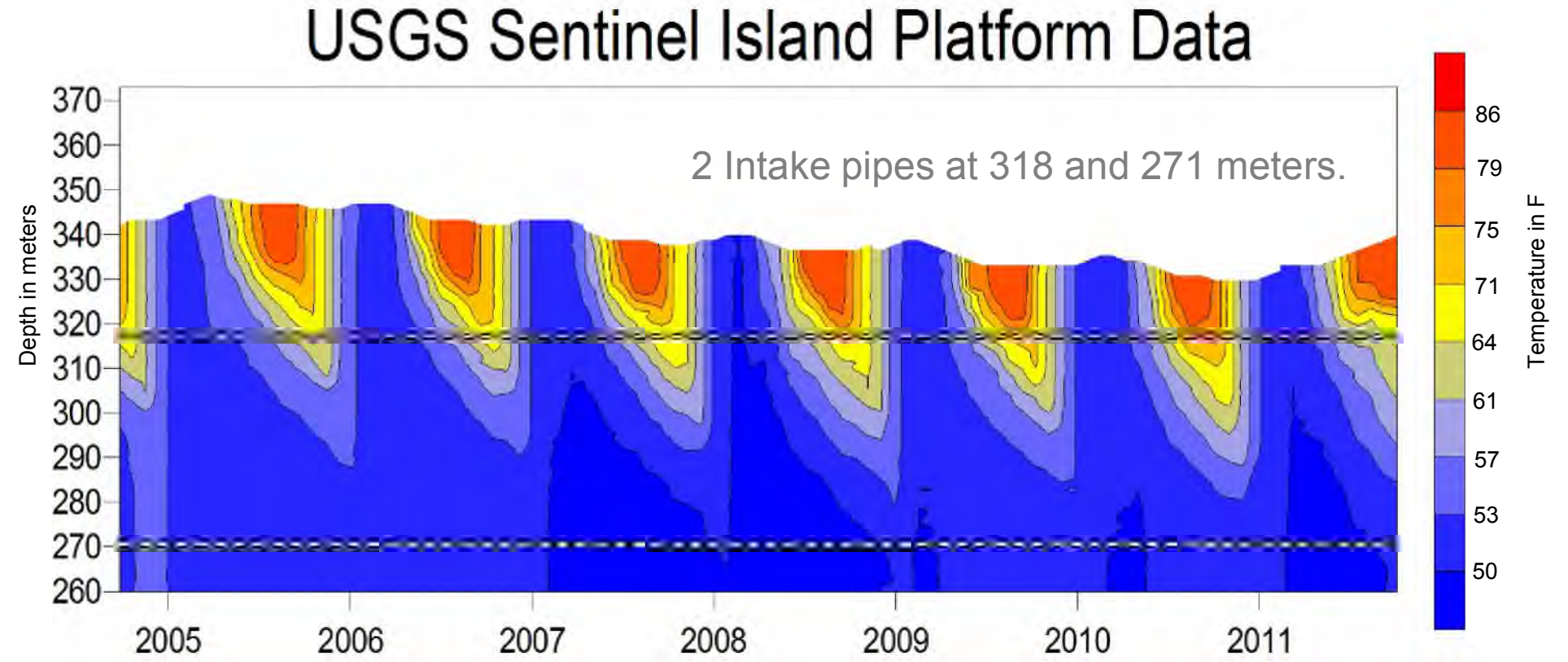
Difference = - 7,080 af

*Subject to final accounting.

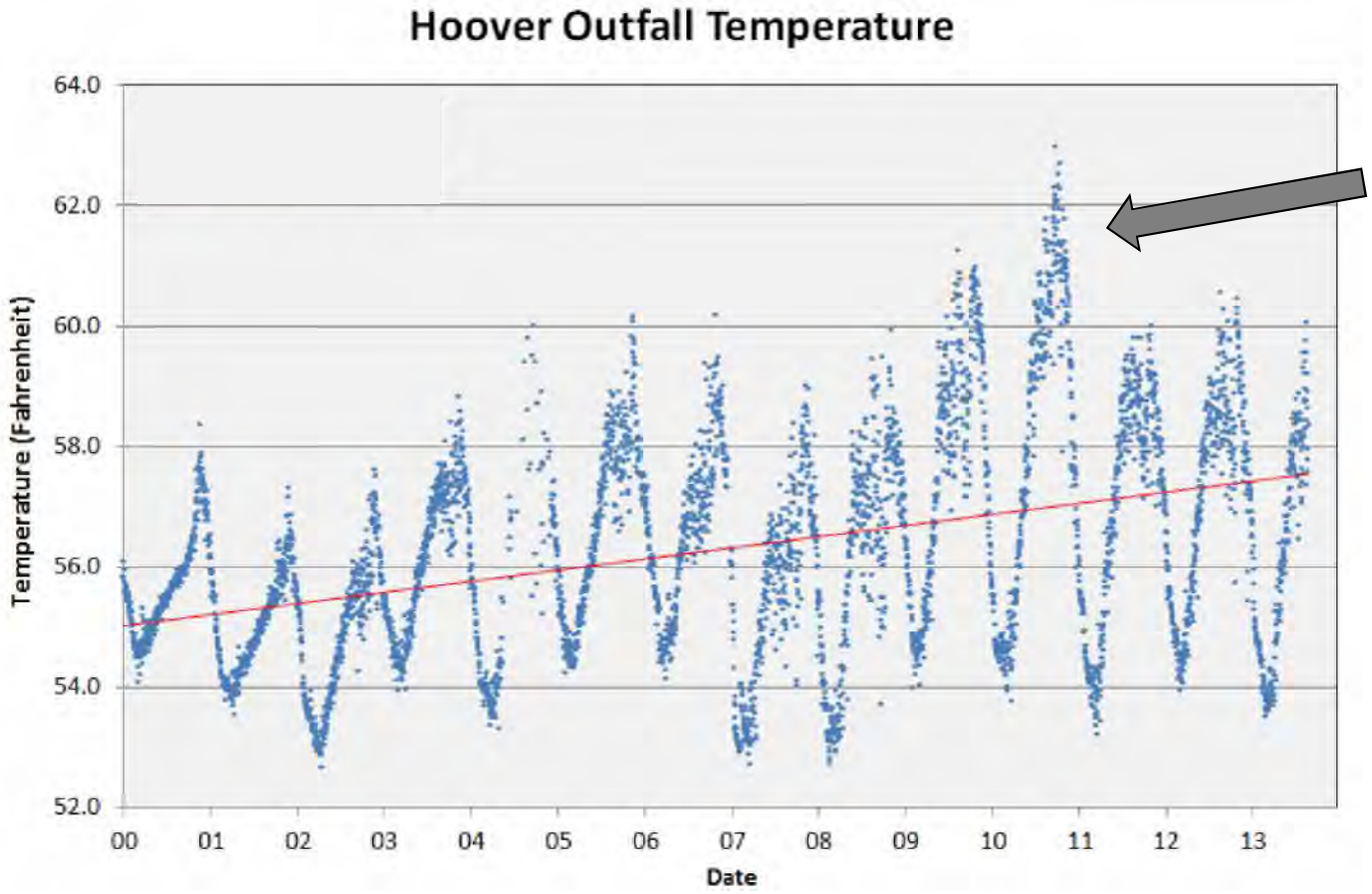
Water Use Comparison

Water Use	2012	2013	Difference	% Change
Las Vegas Wash Gauged Flow below Lake Las Vegas	113,528	120,236	6,708	5.9%
Total Nevada Diversions from Colorado River	261,858	260,279	-1,579	-0.6%
Total Nevada Return Flow Credit	115,500	121,000	5,500	4.8%
Total Nevada Consumptive Use Before Interstate Banking	146,358	139,278	-7,080	-4.8%

Lake Mead Temperature



Hoover Dam Outfall Temperature



As the lake lowers the upper intake takes in a larger amount of warm surface water

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