Colorado River Commission of Nevada

Natural Resources Group
Hydrologic Update
June 9, 2015

Unregulated Inflow Into Lake Powell

As of June 8, 2015

	MAF*	% Avg**
• WY 2015 (forecast):	8.54	79%
• April-July 2015 (forecast):	5.00	70%
• May (observed):	1.61	69%
• June (forecasted):	2.15	81%

***MAF=Million Acre-Feet**

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

Storage Conditions

As of June 8, 2015

		Percent of Capacity	Δ from last year
Lake Mead elev.	1075.96 ft	37%	↓ 10.38 ft
Lake Powell elev.	3,600.77 ft	49%	↑ 3.31 ft
Total System Storage (6/2015)	29.57 maf	50%	↓ 0.15 maf
Total System Storage (6/2014)	29.72 maf	50%	

Reservoir Storage

As of June 8, 2015

Colorado River Reservoir Storages

Basin	Reservoir	Max Storage	*Current Storage	Percentage	Current Storage subtotals
Upper Basin	Crystal Reservoir	17,356	16,562	95%	5,651,564
	Flaming Gorge	**3,749,000**	**3,220,099**	**86%**	
	Fontenelle	344,800	320,731	93%	
	Morrow Point	117,190	112,041	96%	
	Blue Mesa	829,500	688,554	83%	
	Navajo	**1,696,000**	**1,293,577**	**76%**	
	Lake Powell	**24,322,000**	**11,619,851**	**48%**	
Lower Basin	Lake Mead	26,120,000	9,679,000	37%	
	Lake Mohave	1,809,800	1,726,100	95%	2,319,500
	Lake Havasu	619,400	593,400	96%	
	TOTAL	59,625,046	29,269,915	49%	

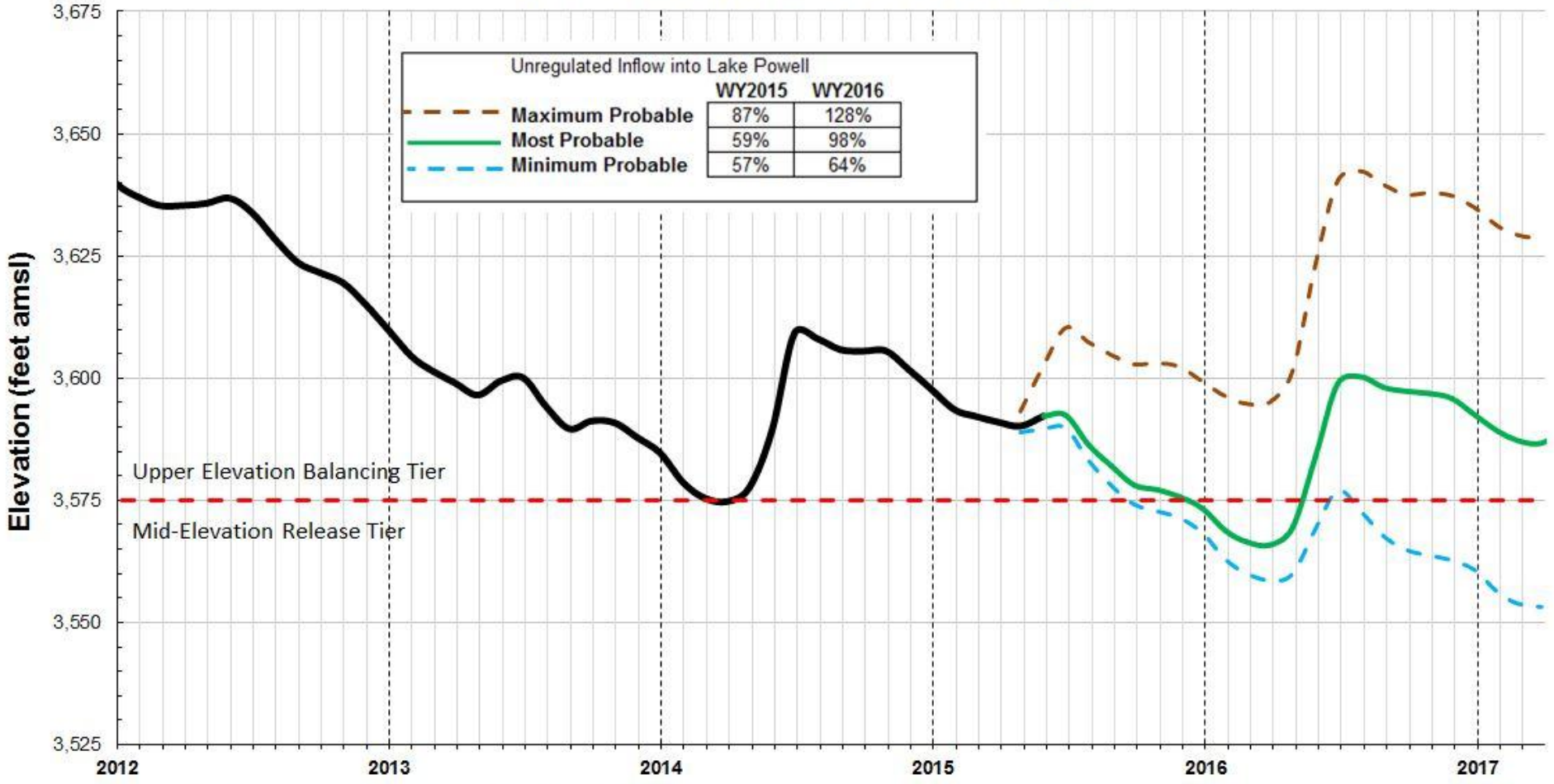
**Data current as 6/4/2015*

http://www.usbr.gov/lc/region/g4000/hourly/levels.html

http://www.usbr.gov/uc/water/rsvrs/ops/r40day.html

Lake Powell End of Month Elevations

(based on MAY 2015 24-month Study)



Actual Data - End of month measurements

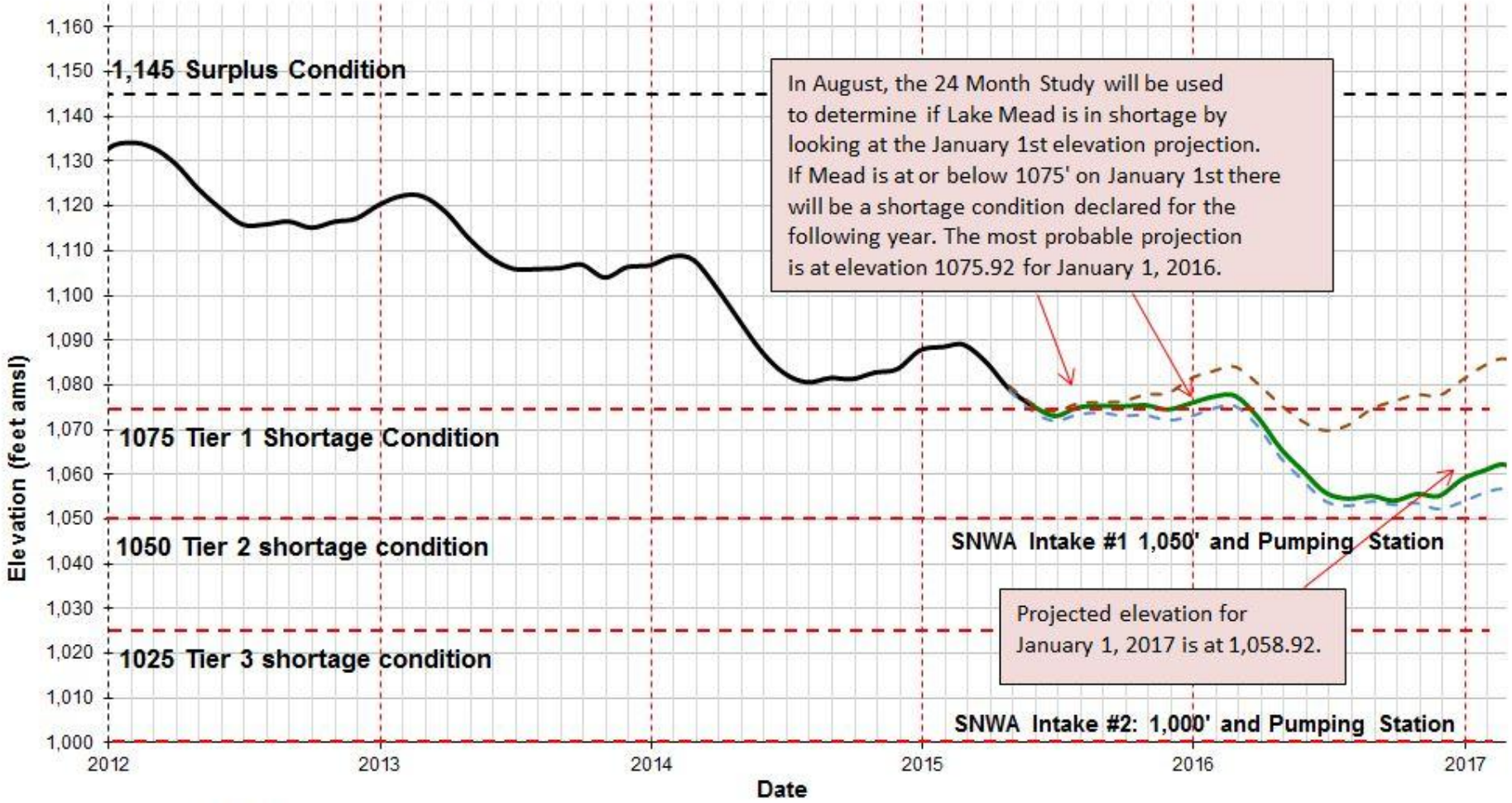
Maximum Probable - Lake Powell Release of 9.0 maf in WY2015 and 9.0 maf in WY2016

Most probable - Lake Powell Release of 9.0 maf in WY2015 and 7.48 maf in WY2016

Minimum Probable - Lake Powell Release of 8.93 maf in WY2015 and 7.48 maf in WY2016

Lake Mead End of Month Elevation Projections

(Projections based on the MAY 2015 24-month study)



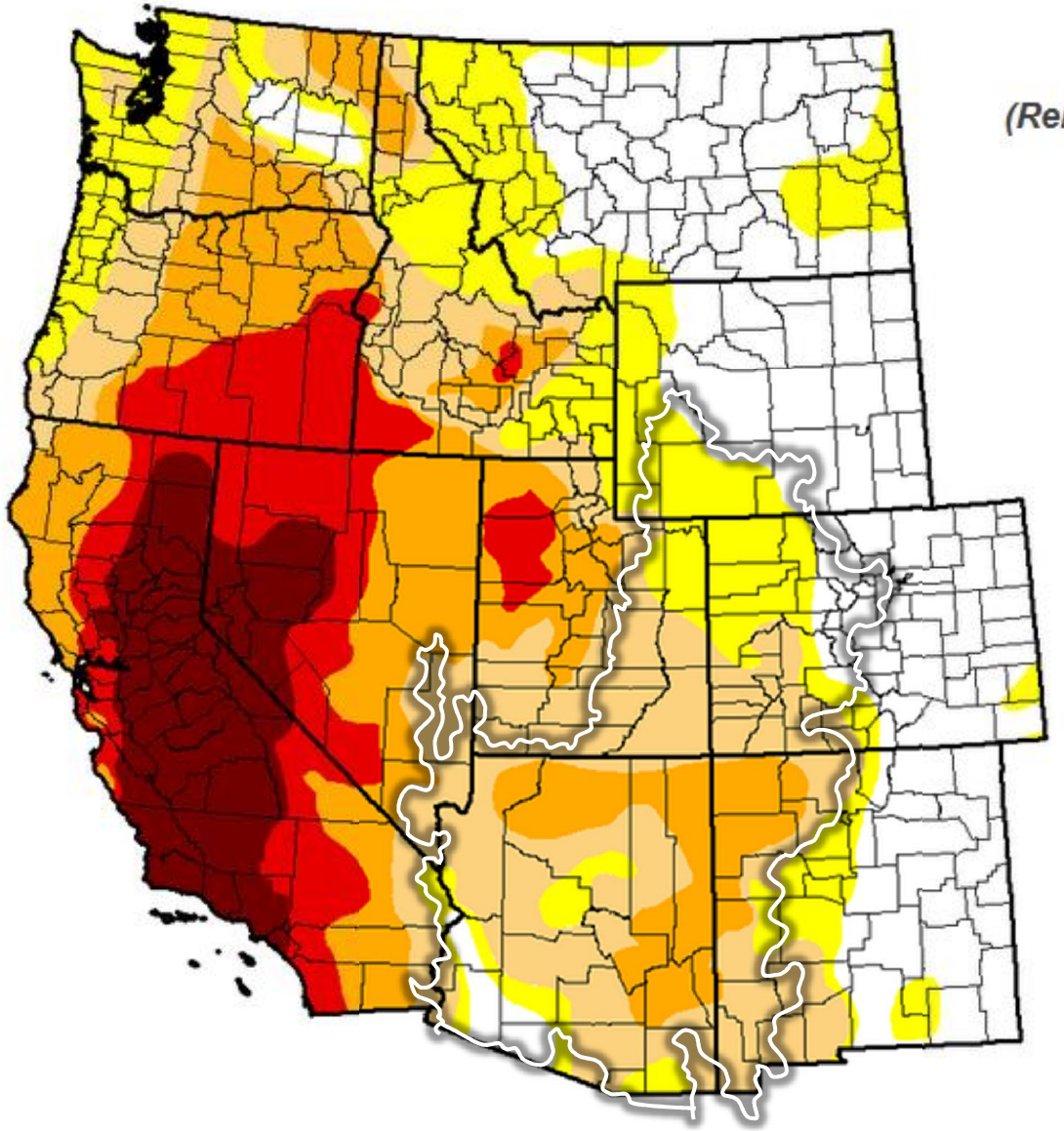
Actual Data - End of month measurements

Maximum Probable - Lake Powell Release of 9.0 maf in WY2015 and 9.0 maf in WY2016

Most probable - Lake Powell Release of 9.0 maf in WY2015 and 7.48 maf in WY2016

Minimum Probable - Lake Powell Release of 8.93 maf in WY2015 and 7.48 maf in WY2016

U.S. Drought Monitor



June 2, 2015

(Released Thursday June 4, 2015)

Valid 8 a.m. EDT

Intensity:

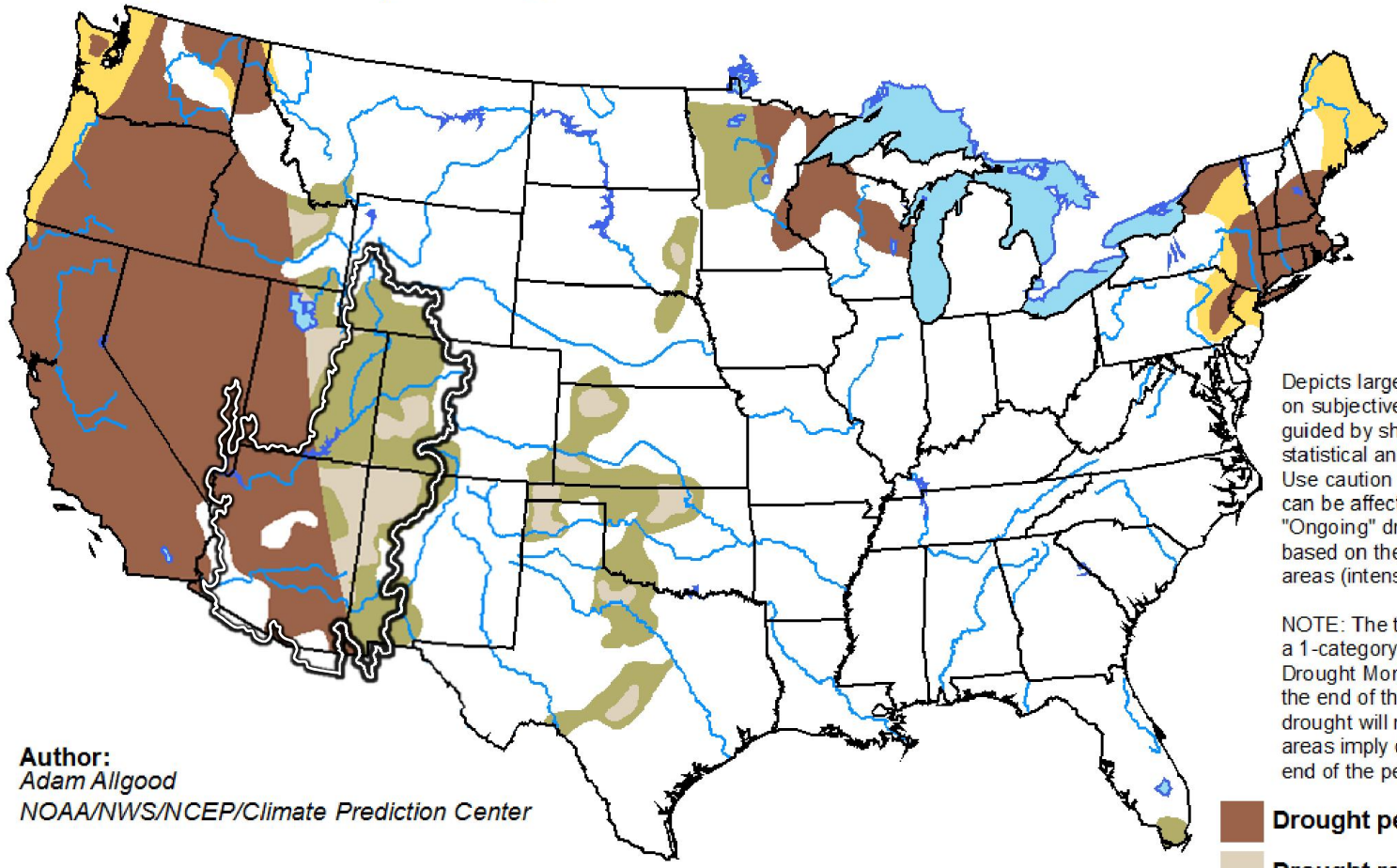
- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

http://droughtmonitor.unl.edu/Home/RegionalDroughtMonitor.aspx?west

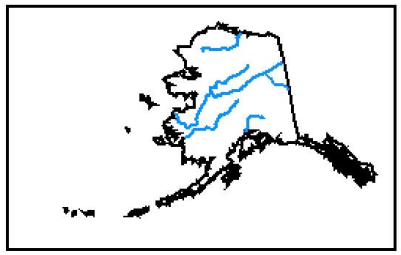
U.S. Seasonal Drought Outlook

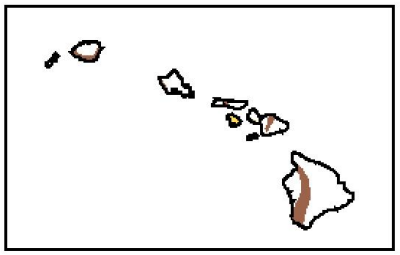
Drought Tendency During the Valid Period

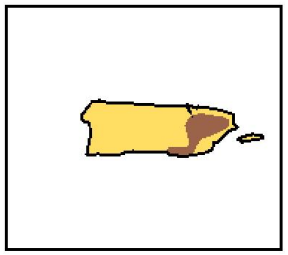
Valid for May 21 - August 31, 2015
Released May 21, 2015



Author:
Adam Allgood
NOAA/NWS/NCEP/Climate Prediction Center







Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan 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).

Drought persists/intensifies

Drought remains but improves

Drought removal likely

Drought development likely

http://go.usa.gov/hHTe

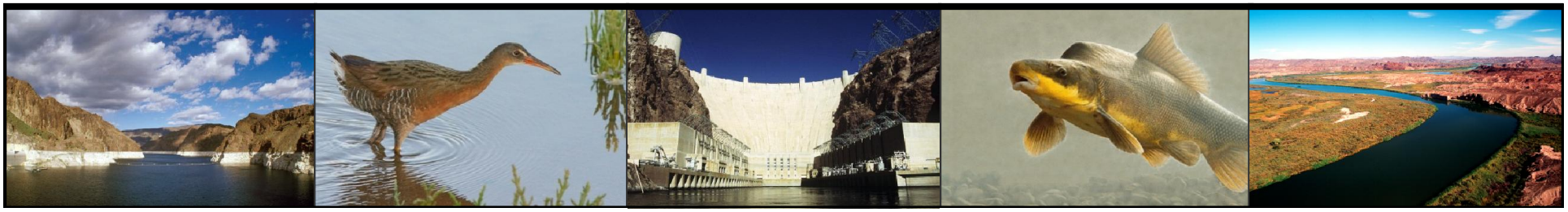
http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

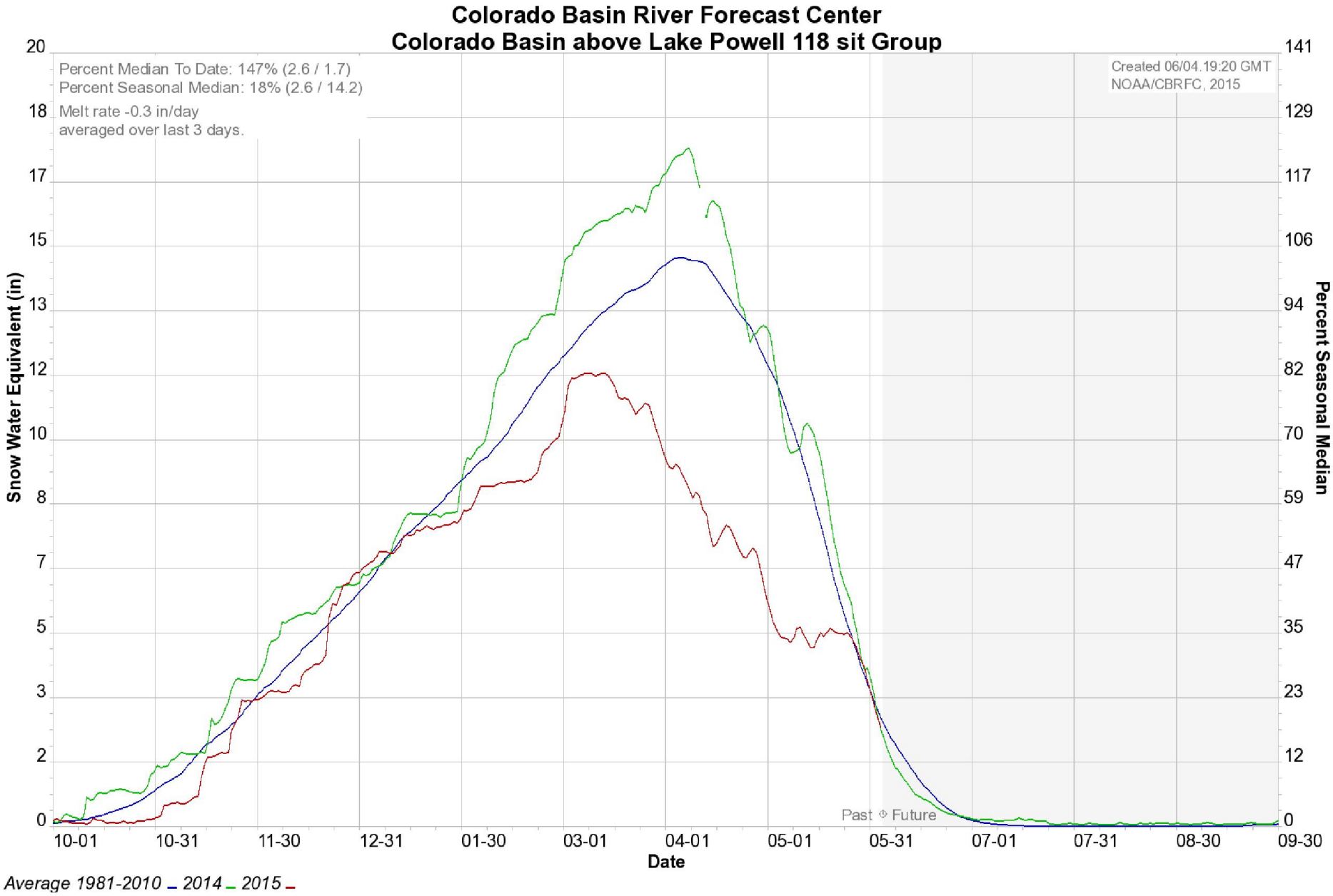
Precipitation – Colorado River Basin

As of June 8, 2015

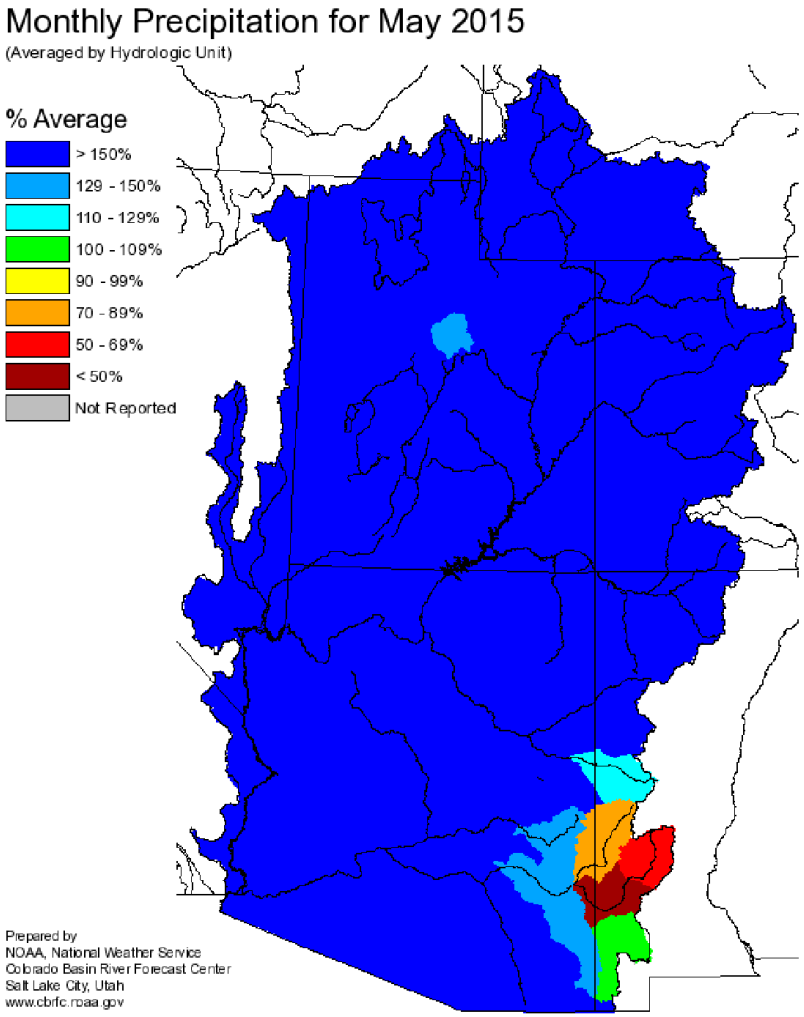
	Upper Colorado Basin
WY Precip to Date	89% (21.4”)
Current Basin Snowpack	NA

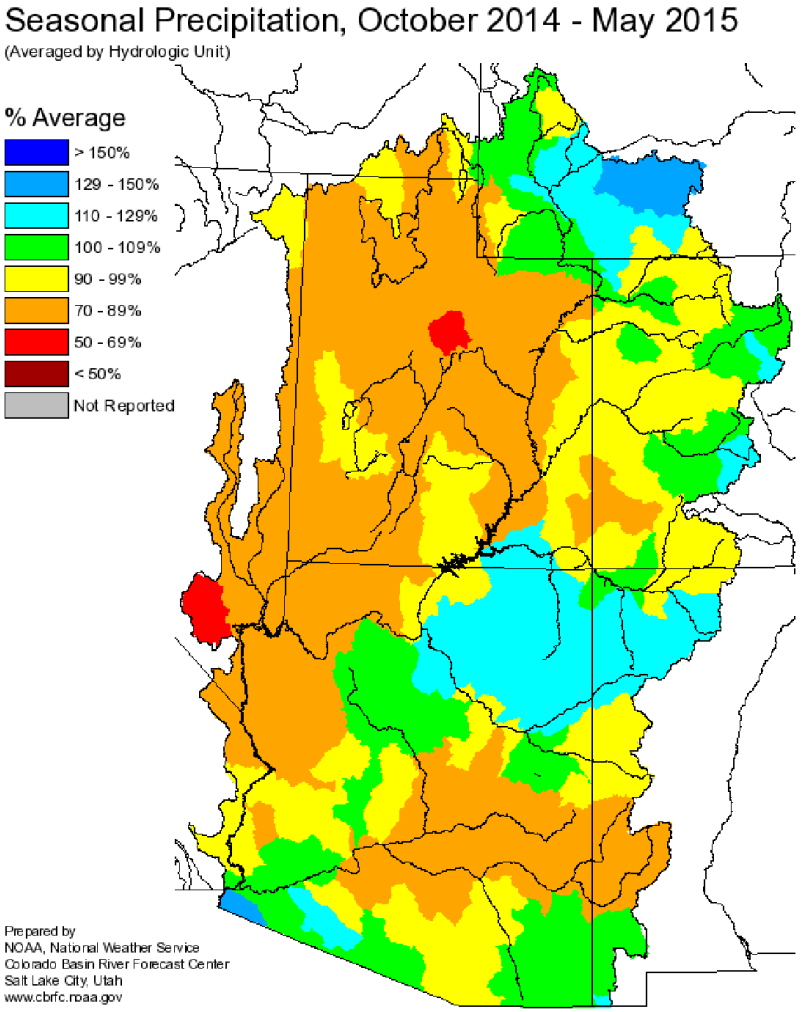
(Avg 1981-2010)




Colorado Basin River Forecast Center
Colorado Basin above Lake Powell 118 sit Group
Percent Median To Date: 147% (2.6 / 1.7)
Percent Seasonal Median: 18% (2.6 / 14.2)
Melt rate -0.3 in/day
averaged over last 3 days.
Created 06/04.19:20 GMT
NOAA/CBRFC, 2015
Snow Water Equivalent (in)
Percent Seasonal Median
Past
Future
Date
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Average 1981-2010
2014
2015

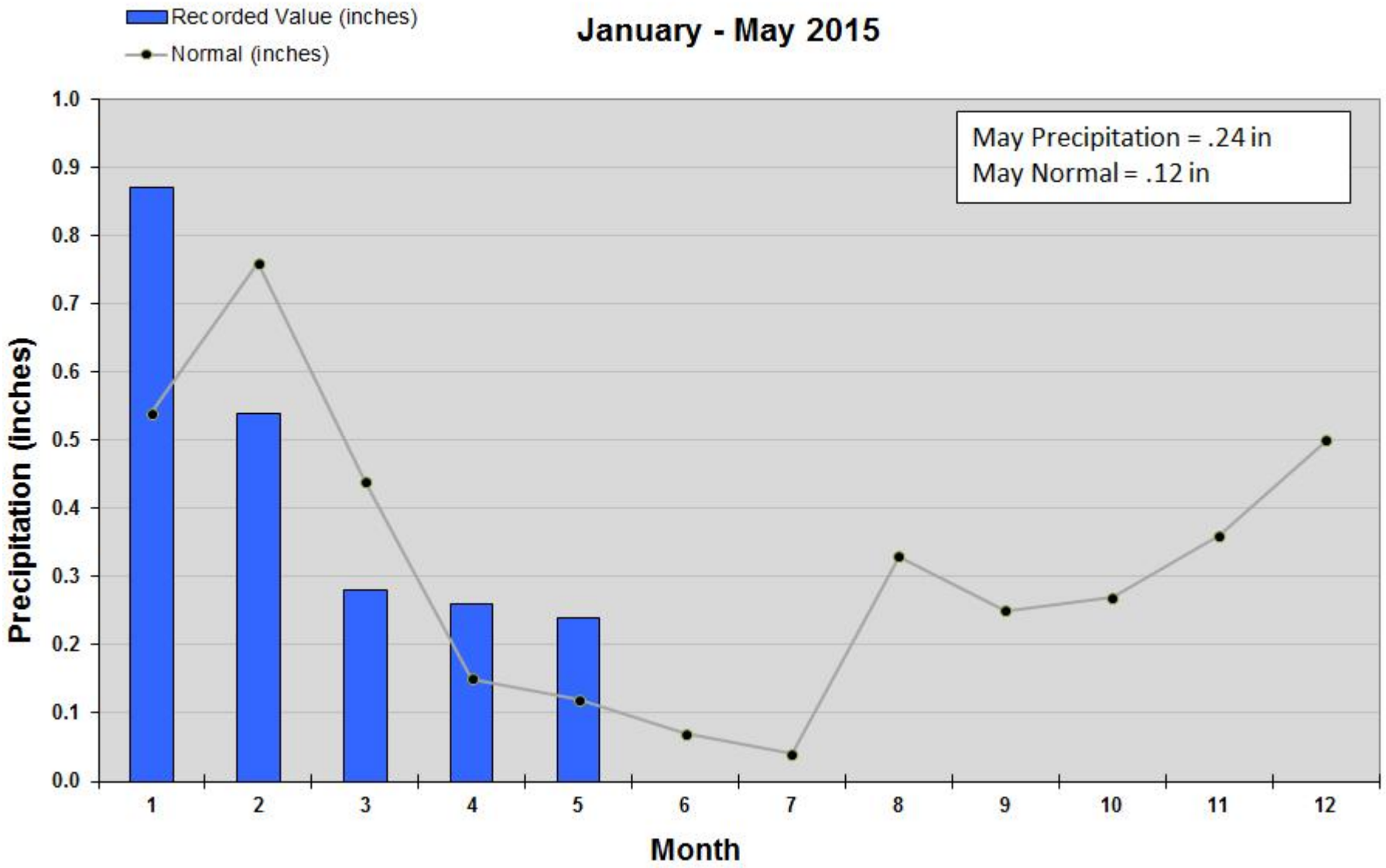
Upper Basin Precipitation



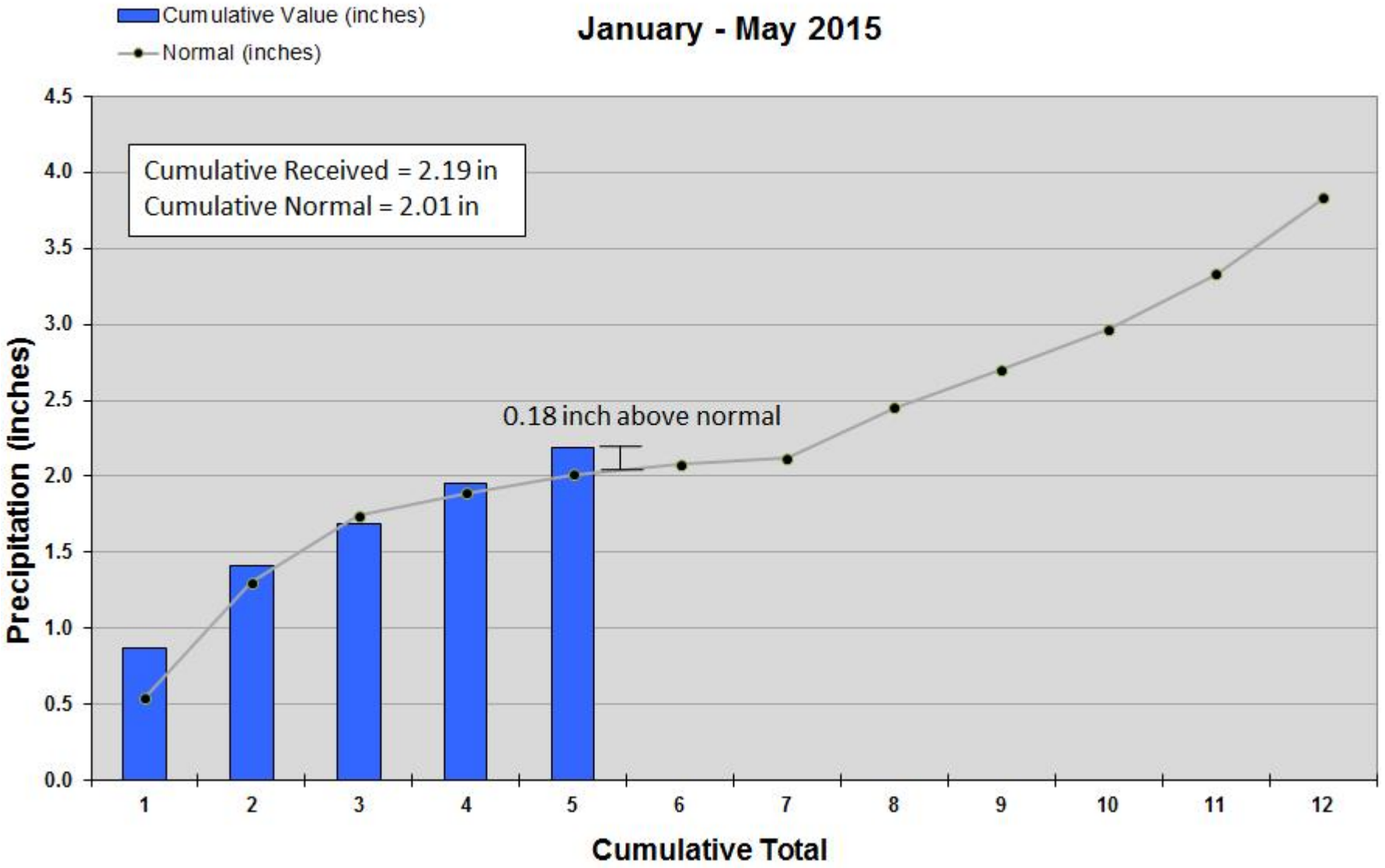


http://www.cbrfc.noaa.gov/product/mapsum/mapsum.php?area=cbrfc

Monthly Precipitation at McCarran International Airport, Las Vegas, NV



Cumulative Precipitation at McCarran International Airport, Las Vegas, NV



Water Use in Southern Nevada

Water Use in Southern Nevada

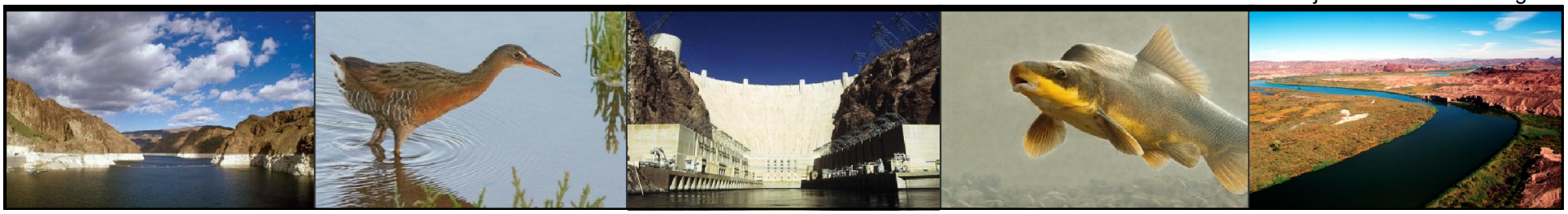
January – April 2015

2015*: Consumptive Use = 49,531 af

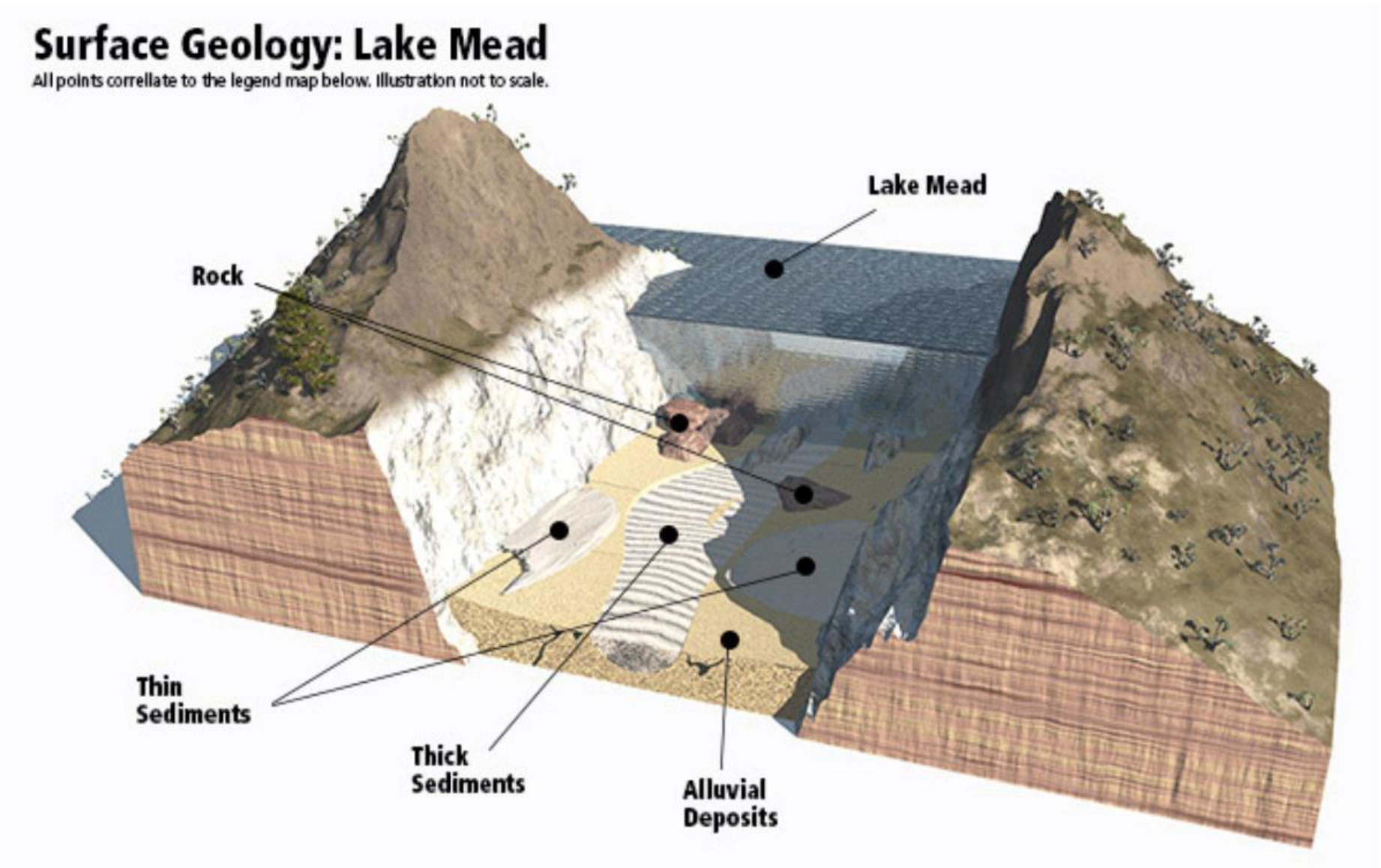
2014*: Consumptive Use = 51,006 af

Difference = -1,475 af

*Subject to final accounting.

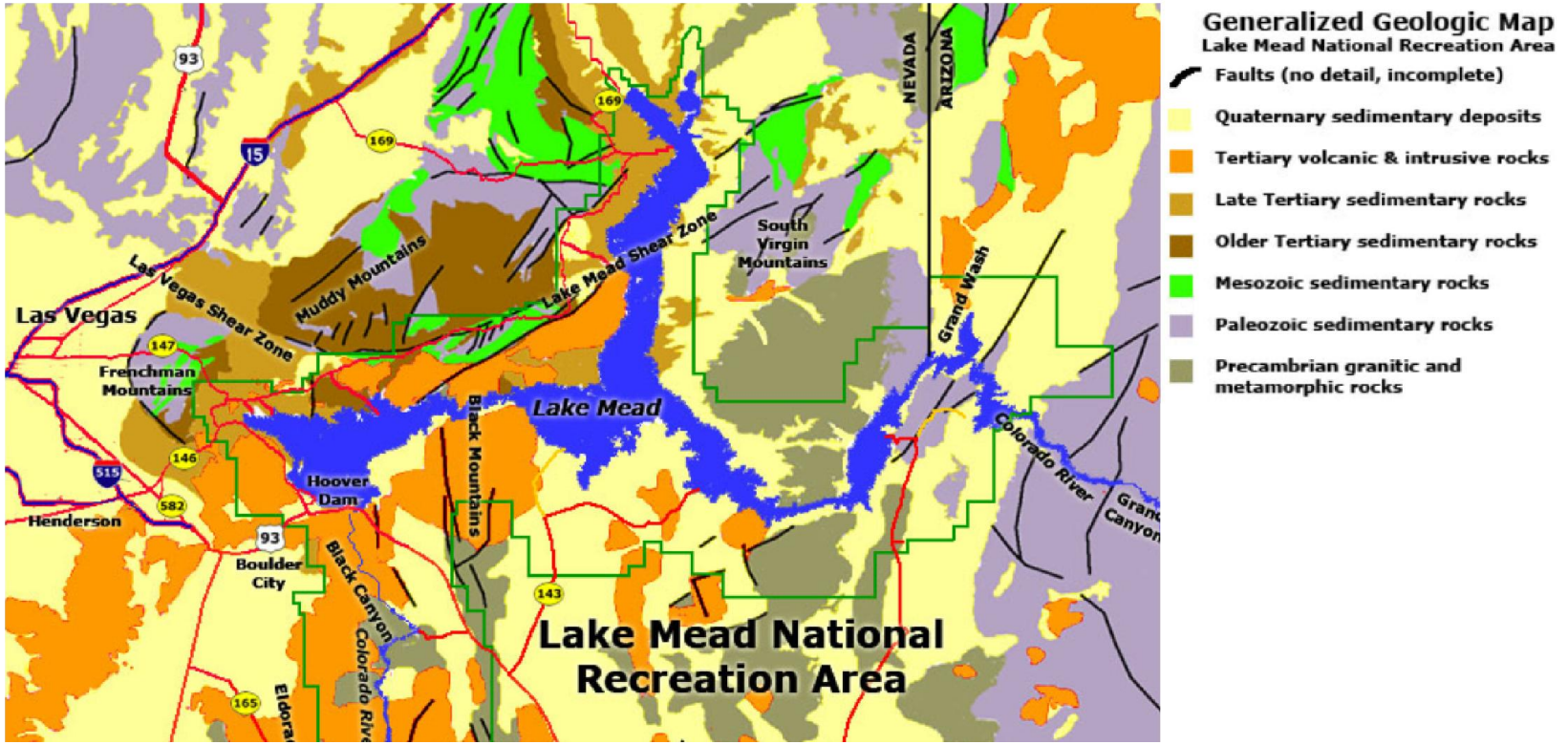


Lake Mead Geology



http://www.nps.gov/lake/learn/nature/surface-geology-of-lake-mead.htm

Lake Mead Geology



http://3dparks.wr.usgs.gov/lame/html/lame_geology.htm

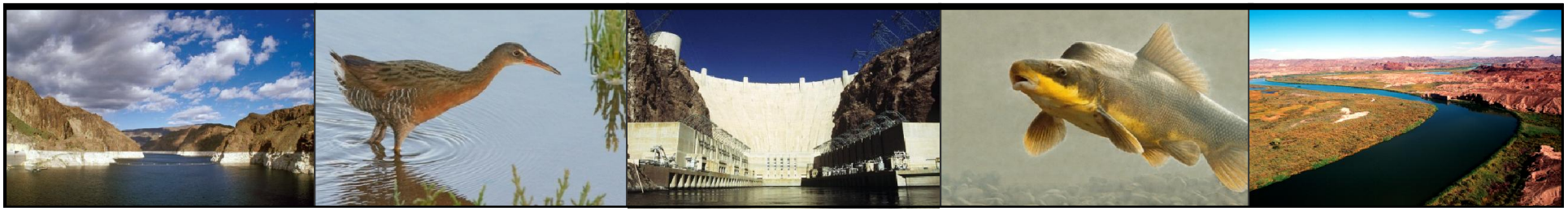
Bank Storage Modeling

Determining Bank Storage of Lake Mead
Paul Rechard, 1965

Annual bank storage is estimated to be 6.5% change in storage

Elevation increase = 6.5% of inflow enters bank storage.
Elevation decrease = 6.5% of outflow leaves bank storage.

Mass balance models do not include any losses.



Colorado River Commission of Nevada

Questions?

Warren Turkett
wturkett@crc.nv.gov