

COLORADO RIVER BASIN UPDATE AND STATUS

**Arizona Water Banking Authority
December 2, 2015**

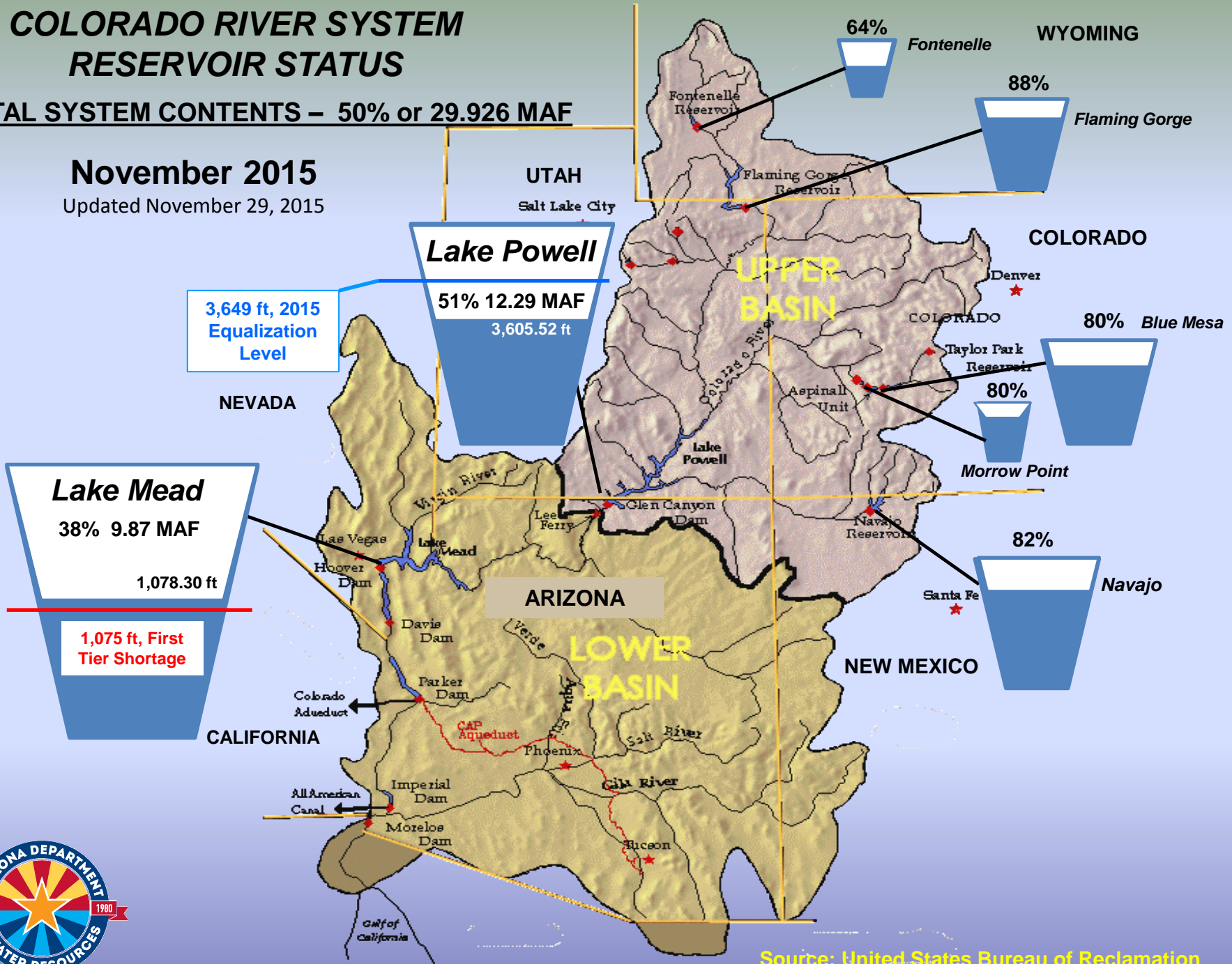


COLORADO RIVER SYSTEM RESERVOIR STATUS

TOTAL SYSTEM CONTENTS – 50% or 29.926 MAF

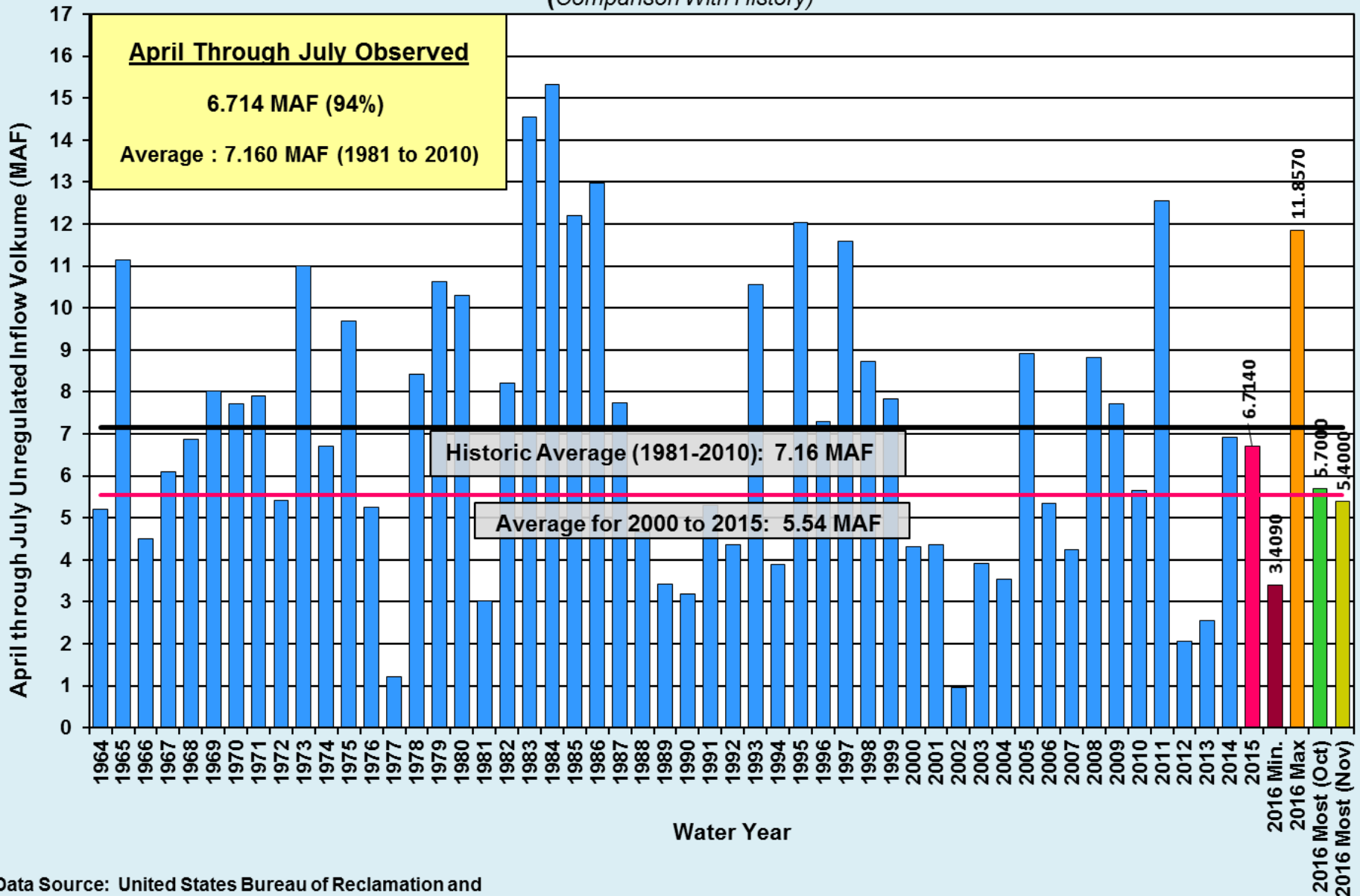
November 2015

Updated November 29, 2015



Source: United States Bureau of Reclamation

Lake Powell Unregulated Inflow April through July (Comparison With History)



Data Source: United States Bureau of Reclamation and Colorado Basin River Forecast Center

August 24-Month Study Results

Operational Tiers for Water/Calendar Year 2016 determined with the August 2015 24-Month Study

Lake Powell			Lake Mead		
Elevation (feet)	Operation According to the Interim Guidelines	Live Storage (maf) ¹	Elevation (feet)	Operation According to the Interim Guidelines	Live Storage (maf) ¹
3,700	Equalization Tier Equalize, avoid spills or release 8.23 maf	24.3	1,220	Flood Control Surplus or Quantified Surplus Condition Deliver > 7.5 maf	25.9
3,636 - 3,666 (2008-2026)	Upper Elevation Balancing Tier ² Release 8.23 maf; if Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	15.5 - 19.3 (2008-2026)	1,200 (approx.) ²	Domestic Surplus or ICS Surplus Condition Deliver > 7.5 maf	22.9 (approx.) ²
	3,602.46 ft		1,145	Normal or ICS Surplus Condition Deliver ≥ 7.5 maf	15.9
	Jan 1, 2016 projection		1,105	Normal or ICS Surplus Condition Deliver ≥ 7.5 maf	11.9
3,575	Mid-Elevation Release Tier Release 7.48 maf; if Lake Mead < 1,025 feet, release 8.23 maf	9.5		1,082.33 ft	
			1,075	Shortage Condition Deliver 7.167 ⁴ maf	9.4
				Jan 1, 2016 projection	
3,525	Lower Elevation Balancing Tier Balance contents with a min/max release of 7.0 and 9.5 maf	5.9	1,050	Shortage Condition Deliver 7.083 ⁵ maf	7.5
3,490		4.0	1,025	Shortage Condition Deliver 7.0 ⁶ maf	5.8
3,370		0	1,000	Shortage Condition Deliver 7.0 ⁶ maf Further measures may be undertaken ⁷	4.3
			895		0

Diagram not to scale

¹ Acronym for million acre-feet

² This elevation is shown as approximate as it is determined each year by considering several factors including Lake Powell and Lake Mead storage, projected Upper Basin and Lower Basin demands, and an assumed inflow.

³ Subject to April adjustments which may result in a release according to the Equalization Tier

⁴ Of which 2.48 maf is apportioned to Arizona, 4.4 maf to California, and 0.287 maf to Nevada

⁵ Of which 2.40 maf is apportioned to Arizona, 4.4 maf to California, and 0.283 maf to Nevada

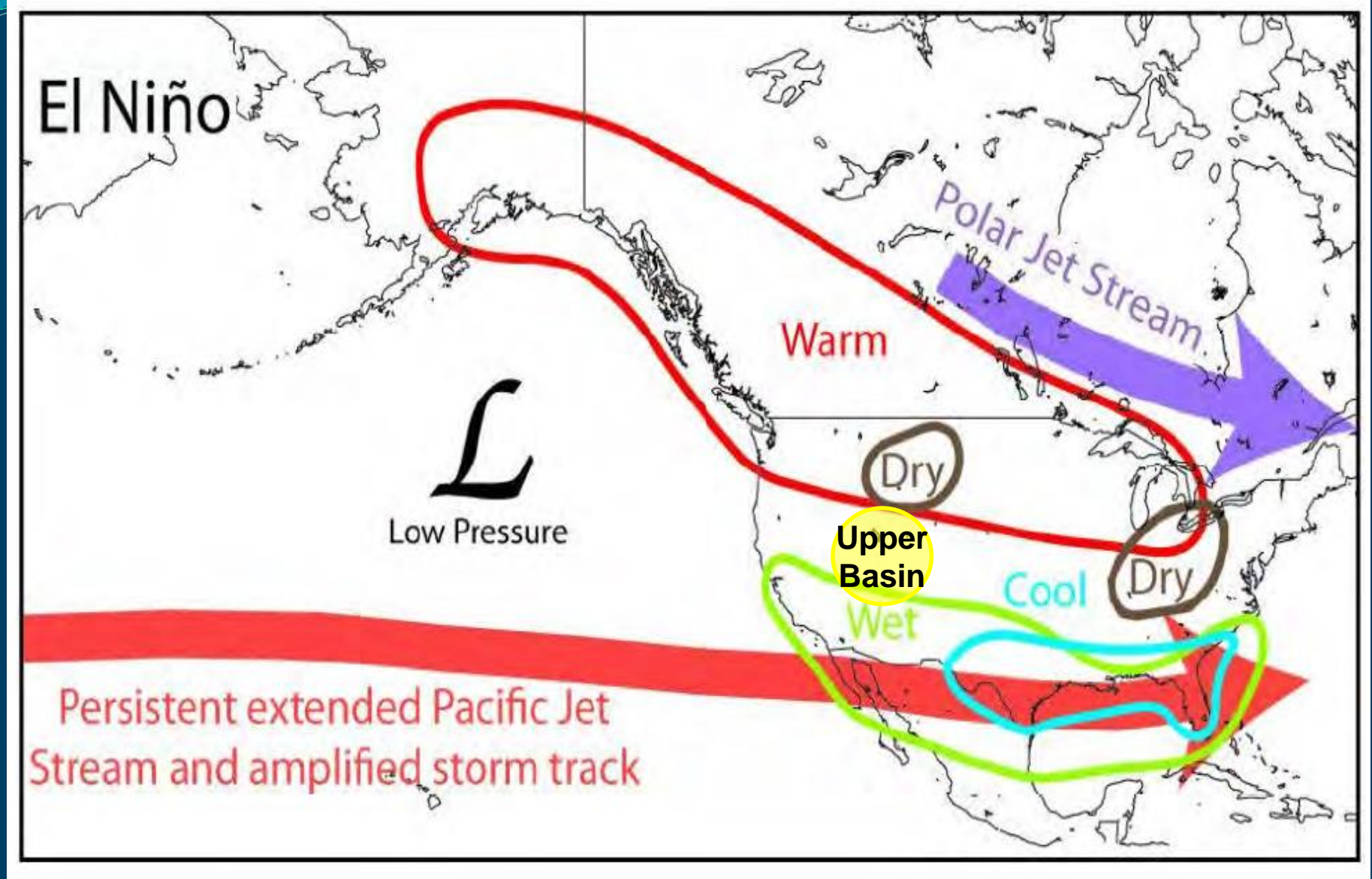
⁶ Of which 2.32 maf is apportioned to Arizona, 4.4 maf to California, and 0.280 maf to Nevada

⁷ Whenever Lake Mead is below elevation 1,025 feet, the Secretary shall consider whether hydrologic conditions together with anticipated deliveries to the Lower Division States and Mexico is likely to cause the elevation at Lake Mead to fall below 1,000 feet. Such consideration, in consultation with the Basin States, may result in the undertaking of further measures, consistent with applicable Federal law.

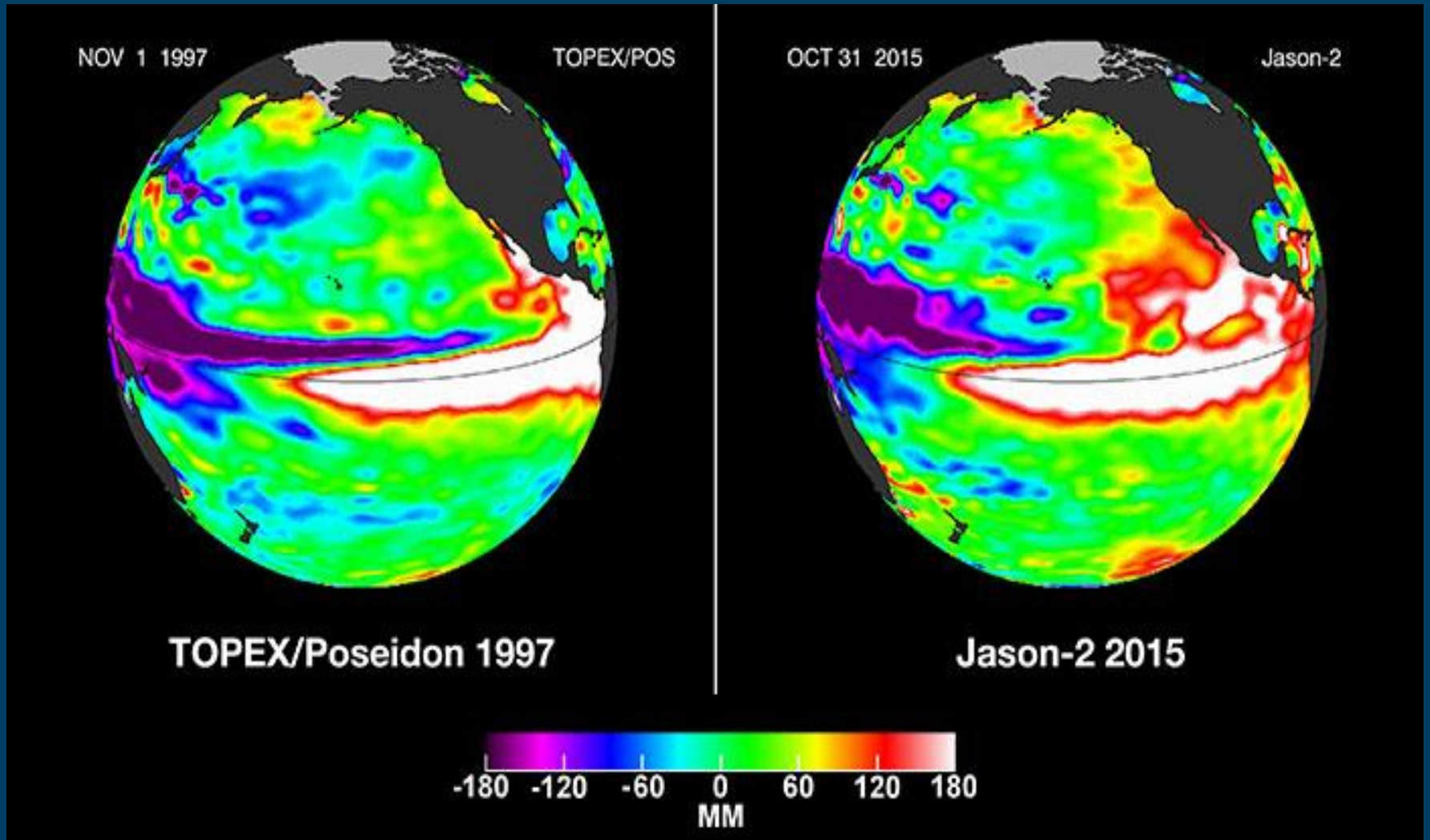
Probabilities of Shortage Based on United States Bureau of Reclamation CRSS Model Run – August 2015

	2016	2017	2018	2019	2020
Probability of any level of shortage (Mead \leq 1,075 feet)	0	18	52	65	59
1 st level shortage (Mead \leq 1,075 and \geq 1,050 feet)	0	18	42	47	35
2 nd level shortage (Mead $<$ 1,050 and \geq 1,025 feet)	0	0	10	14	18
3 rd level shortage (Mead $<$ 1,025 feet)	0	0	0	4	7

Generalized El Niño Weather Pattern



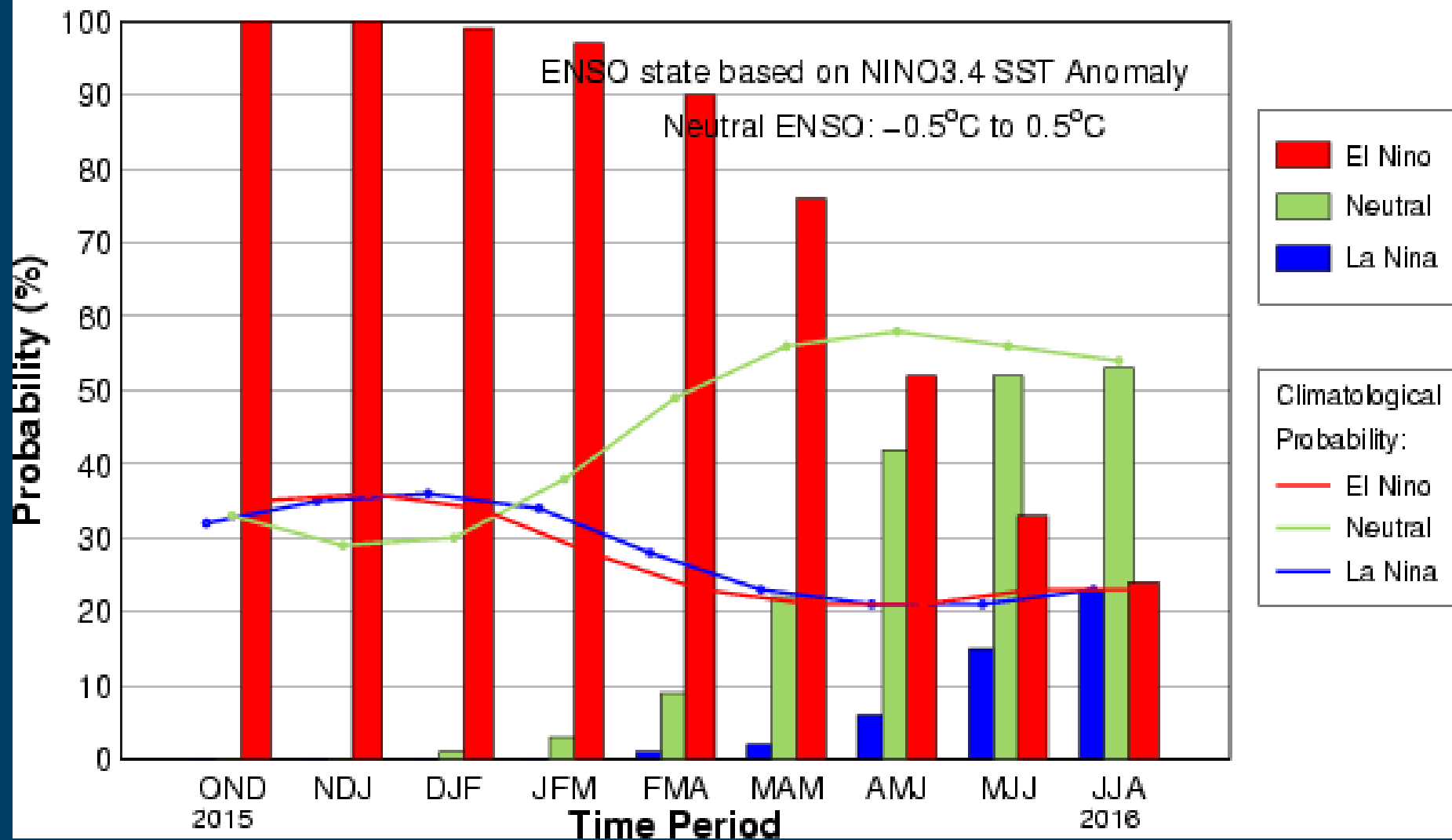
“El Niño strengthening, will be among biggest on record: WMO” Reuters – November 16, 2015



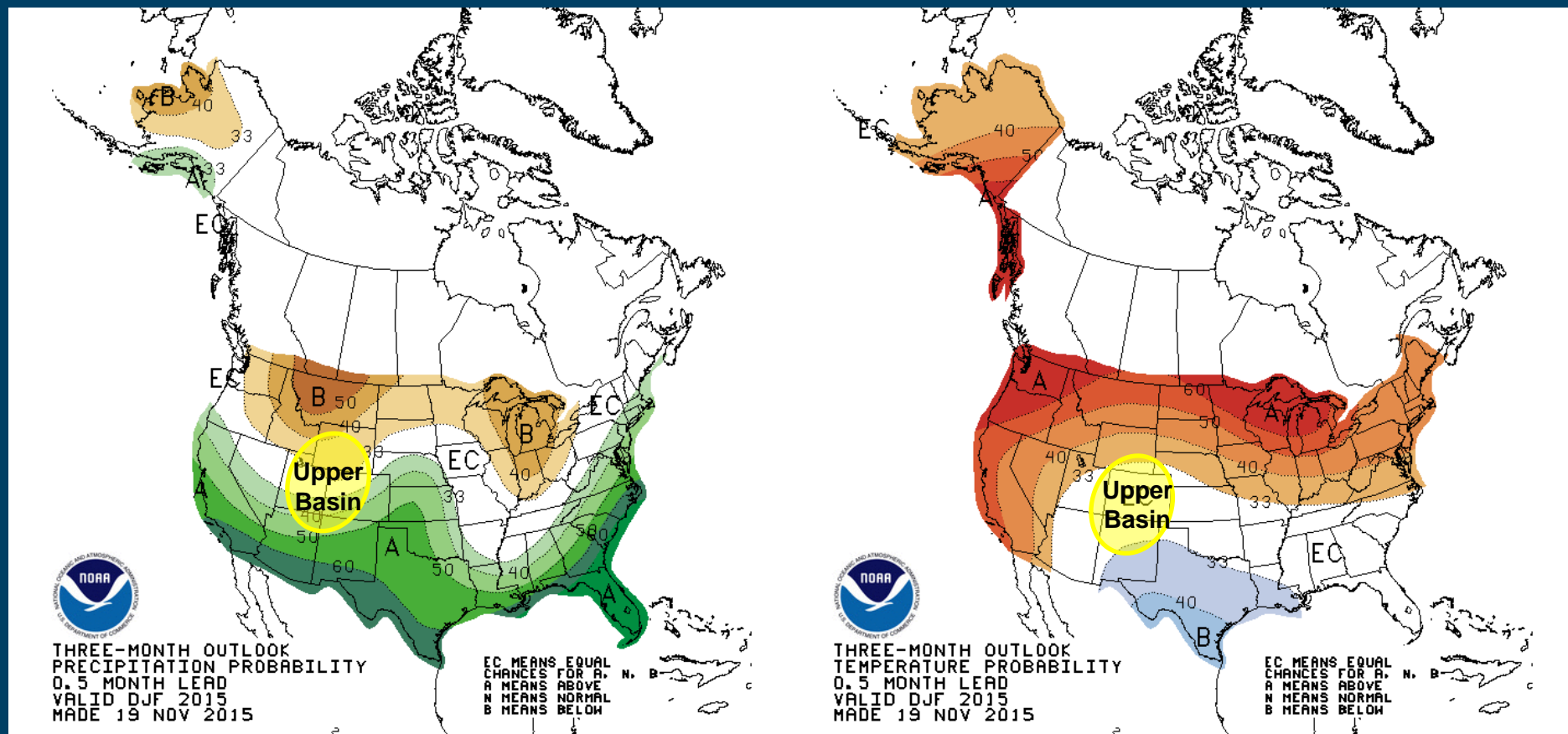
Source: National Oceanic and Atmospheric Administration – Climate Prediction Center

El Nino Forecast

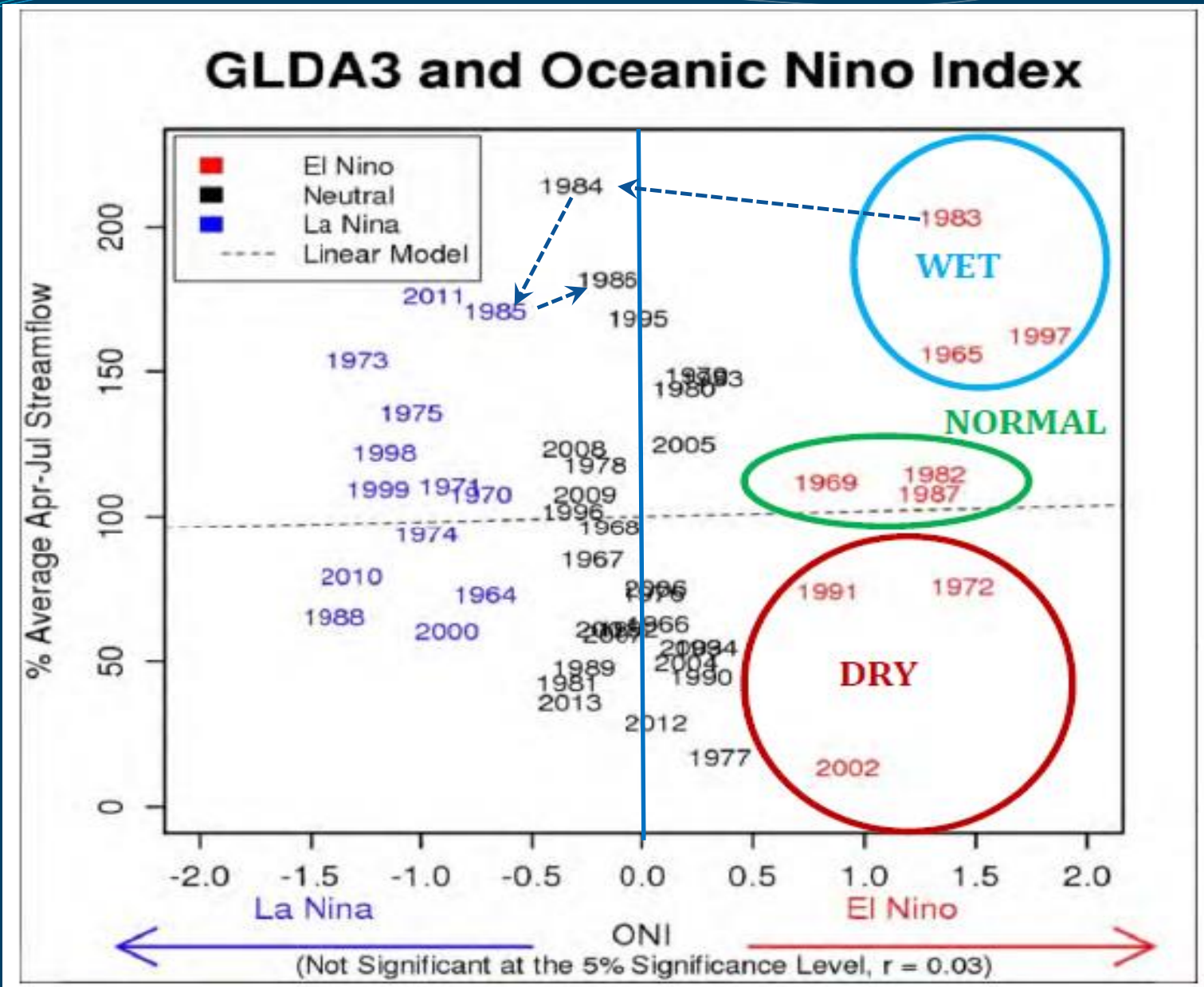
Early–Nov CPC/IRI Consensus Probabilistic ENSO Forecast



Precipitation and Temperature Outlook: Through March 2016



Lake Powell Inflow and El Nino



Lake Powell Inflow and El Nino

