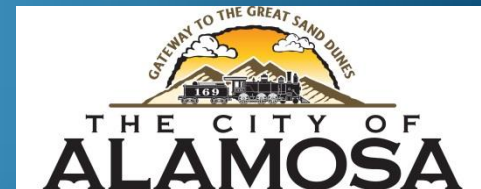


# Water Use Trends

Alamosa Department of Public Works



# Water Use 2013-2017

Year	Residential Consumption	Commercial Consumption	Institutional Consumption	Non-Potable	EAWSD	Total Metered Gallons
2013	379,313,000	77,445,000	77,891,000	54,429,000	57,325,000	646,403,000
2014	372,250,000	83,552,000	80,827,000	56,090,000	52,986,000	645,705,000
2015	365,692,000	90,555,000	71,196,000	51,510,000	48,619,000	627,572,000
2016	373,016,000	85,234,000	69,504,000	44,761,000	48,608,000	621,123,000
2017	362,950,000	115,915,000	26,530,000	41,553,000	45,609,000	592,557,000

# What is Driving the Trends in Water Use?

- Annual Rate Increases
  - New Rates In Effect 2012, 2017
- Annual Precipitation
- Conservation Efforts and Education
- Updates in Construction Standards & Water Efficient Fixtures

# Baseline Residential Data

Year	Annual Precip (in)*	Residential Consumption	Population**	Residential Usage (gal/days/pop**)
2013	10.18	379,313,000	9,021	115.2
2014	5.54	372,250,000	9,094	112.1
2015	9.42	365,692,000	9,195	109.0
2016	9.17	373,016,000	9,343	109.7
2017	10.69	362,950,000	9,435	105.4

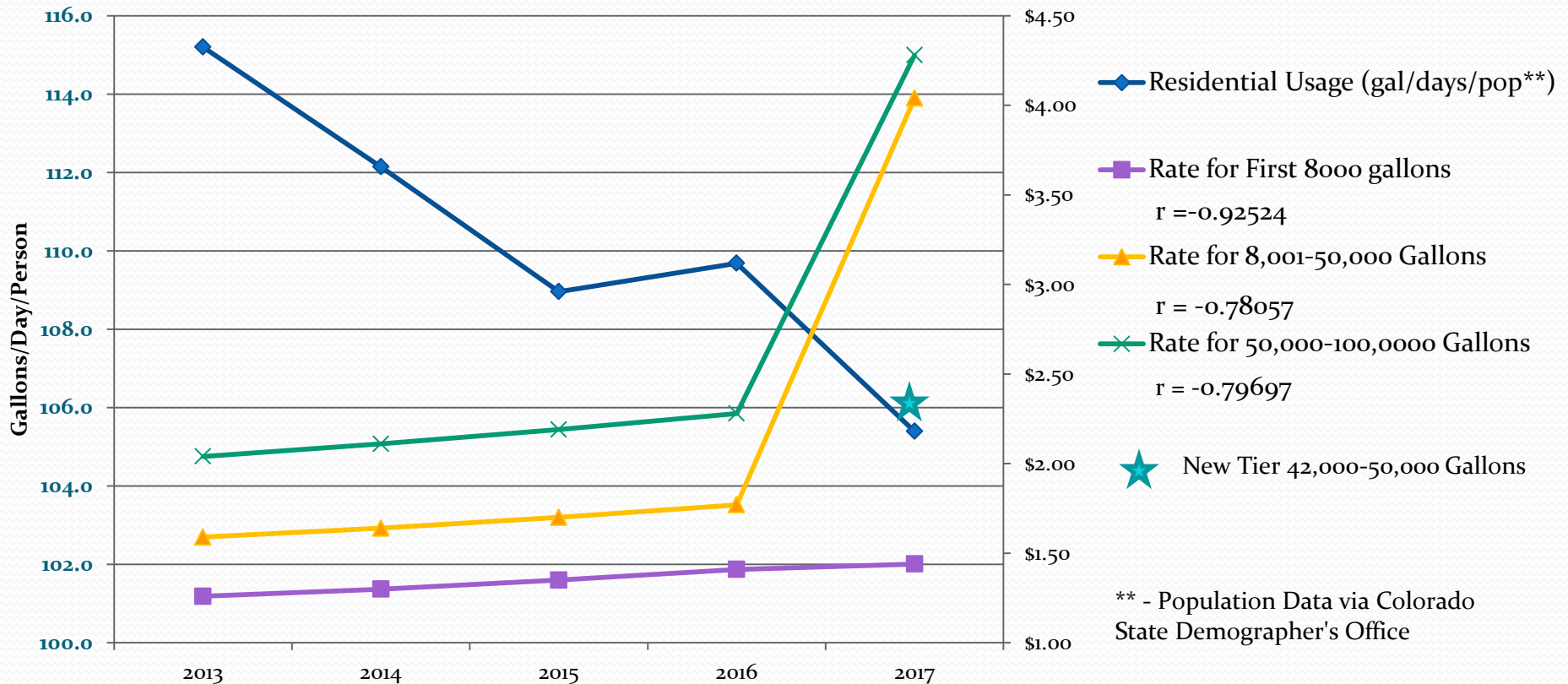
Consumption Data via Alamosa Finance Department

\* - Precipitation via NOAA Annual Climate Summary

\*\* - Population Data via Colorado State Demographer's Office

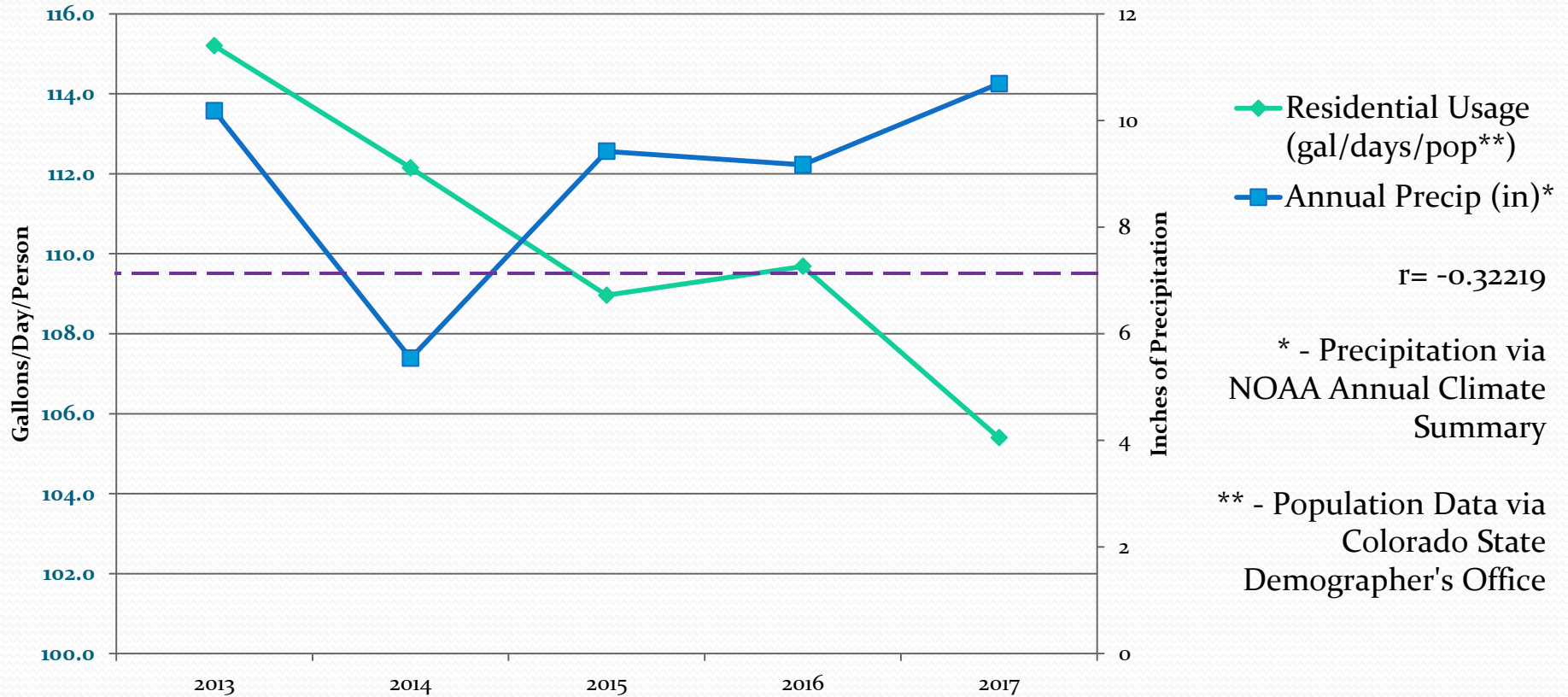
# Rate Increases

## Daily Per Capita Water Use vs. Rate Increase



# Precipitation

## Daily Per Capita Water Use vs. Annual Precipitation



◆ Residential Usage  
(gal/days/pop\*\*)

■ Annual Precip (in)\*

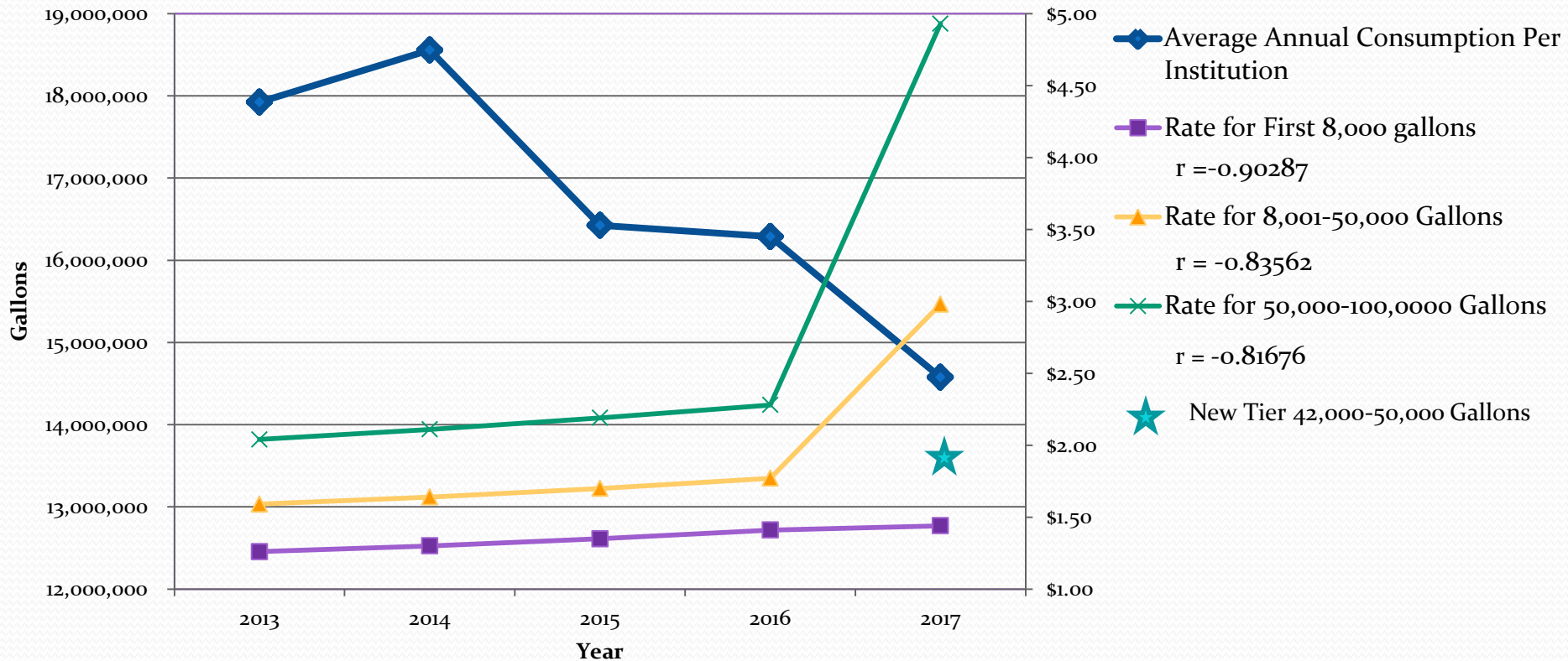
$r = -0.32219$

\* - Precipitation via  
NOAA Annual Climate  
Summary

\*\* - Population Data via  
Colorado State  
Demographer's Office

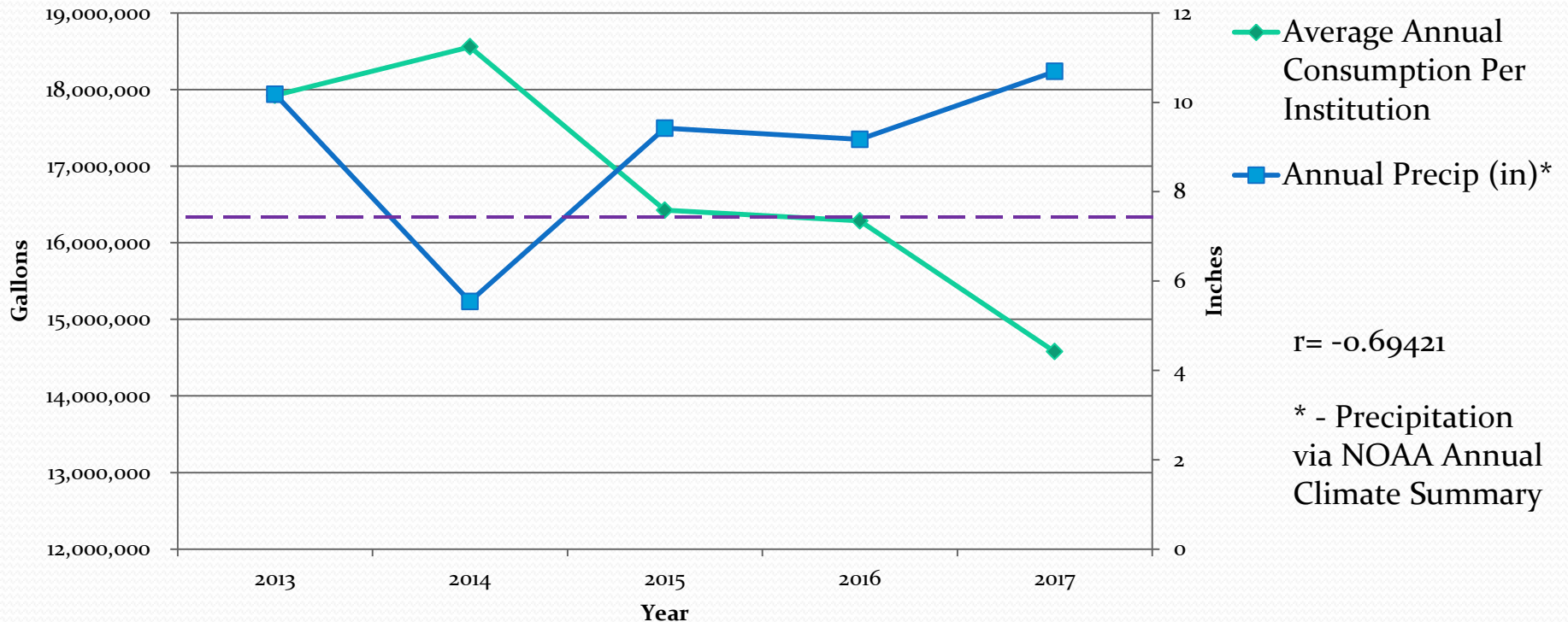
# What About Institutions?

## Average Annual Consumption Per Institution vs. Rates



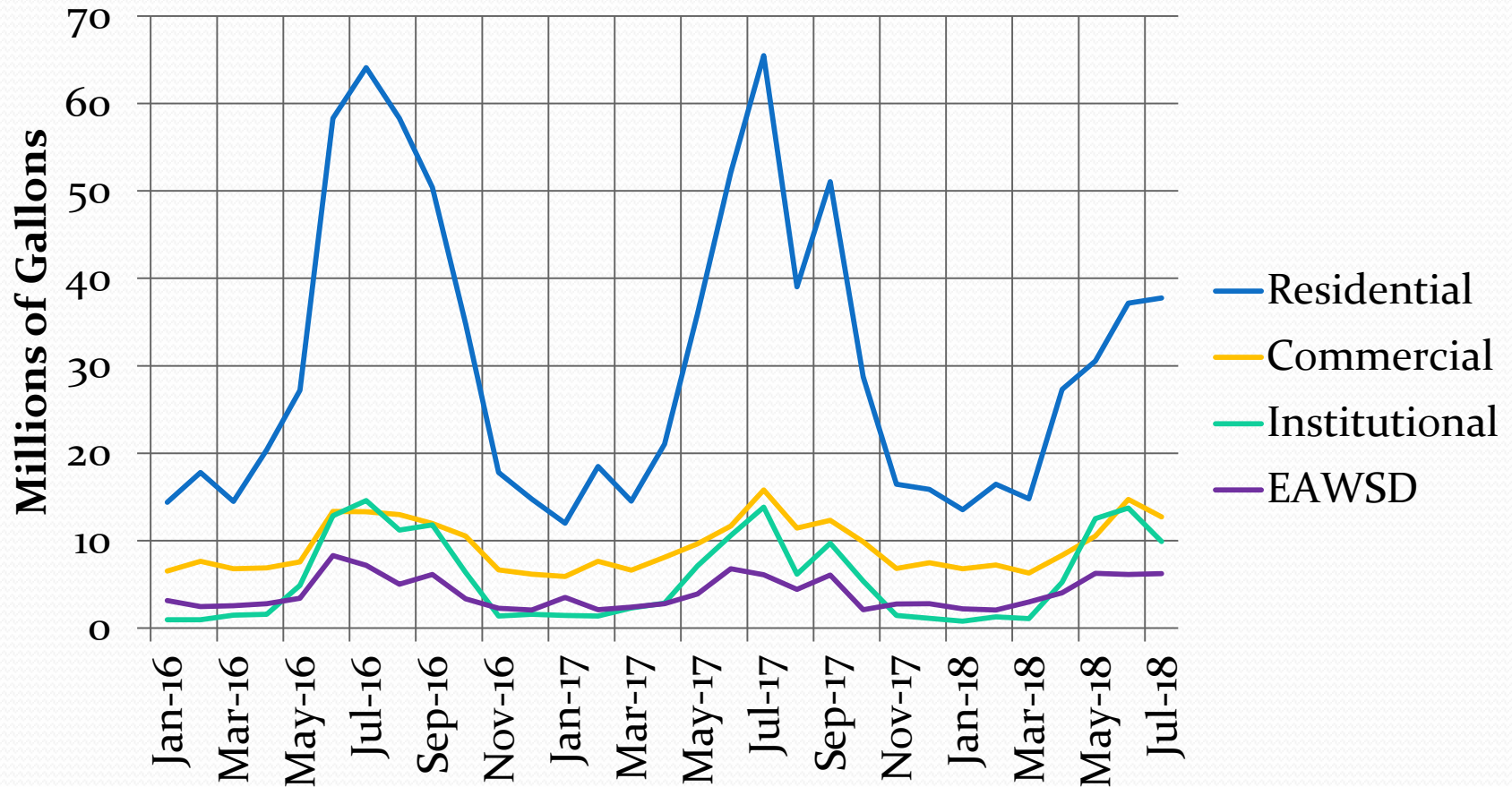
# What About Institutions?

## Average Annual Consumption Per Institution vs. Annual Precipitation





# Voluntary Conservation



# Voluntary Conservation

- Res. 9-2018 institutes voluntary watering restrictions (18 May)
- From May-July 2018 vs. May-July 2017
  - Rainfall 1.81” vs. 4.95”
  - Total water consumption up 5.6%
  - Institutional use up 14.6%
  - Commercial use up 2.3%
  - **Residential use DOWN 31.3%**
    - Some of this is due to the rate increase
    - Could change with next billing cycle

# Conclusions

- Rate increase is a strong determiner of reduction of domestic water consumption ( $-0.92524 = \text{Very Strong Correlation}$ )
- Annual precipitation not as much of a driving factor *for domestic consumption* as some may think ( $r = -0.32219 = \text{Weak Correlation}$ )
- Voluntary watering restrictions appear to be working to some degree
  - Unable to determine Correlation due to multiple factors: rate increase vs voluntary conservation, inadequate data, etc.
- Conservation efforts and education, updates in construction standards & water efficient fixtures also help, but difficult to quantify impact
- Results not necessarily the same for Commercial & Institutional consumptions