



# SpaceMonitor

PoWWow

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Meredith Xu • Richard Rodriguez**

The New York Times

***California Imposes First  
Mandatory Water Restrictions  
to Deal With Drought***

*April 1, 2015*



**The California Drought lasted**

**376 weeks**

**December 27, 2011 - March 5, 2019**



# Problems



**SpaceMonitor**

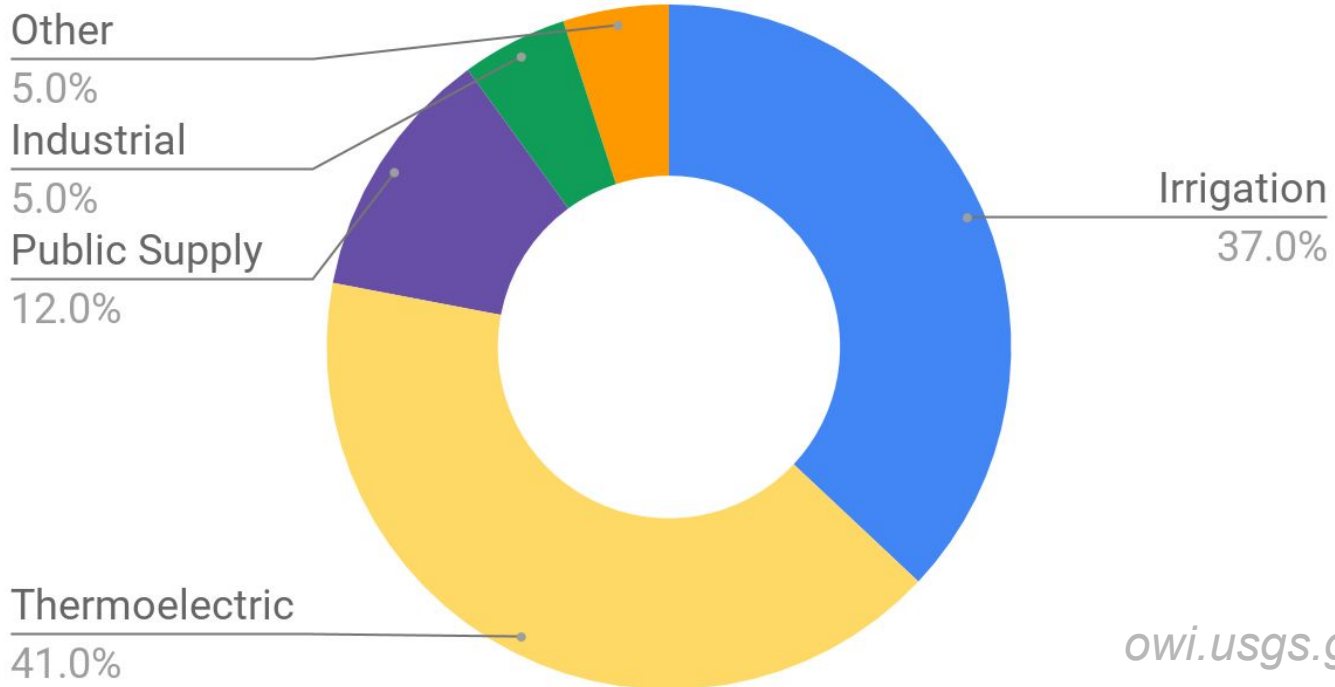
- Excessive water use on a large scale
- Climate change
  - Droughts more frequent
- Waste water = waste money
- Comply with state regulations



**How much water do we  
actually use?**

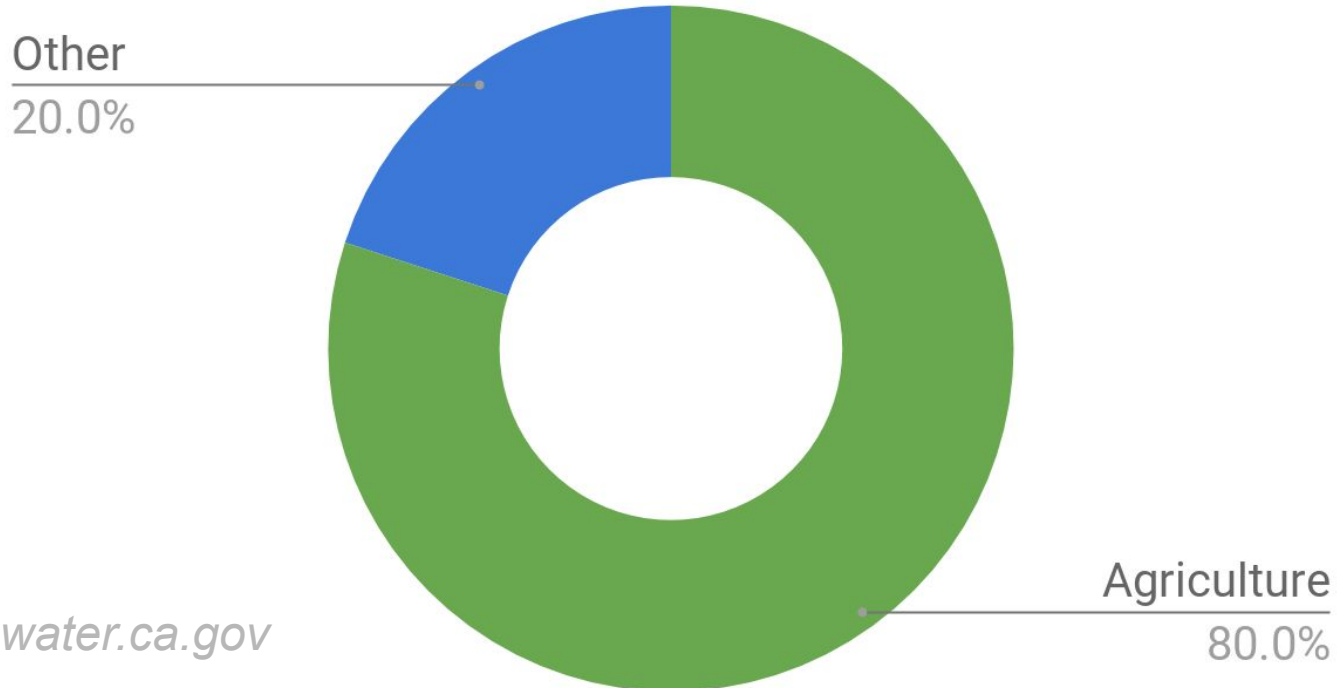


## National Breakdown of Water Withdrawals (2015)





## California Breakdown of Human Water Use (2015)



# Take a Step Back ...



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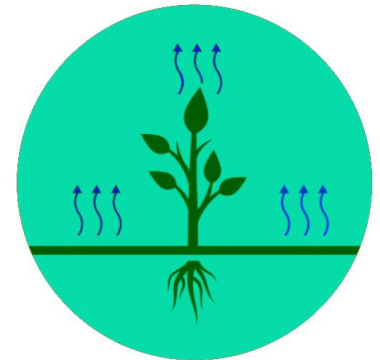
- Water is a precious resource
- Scarce resource during droughts
- More water efficiency in agriculture



# Solution



- Focus on agricultural sector
- Evapotranspiration (ETa)
  - Amount of water evaporated
  - Data is fairly NEW
- Visualize water usage



# Applying ETa

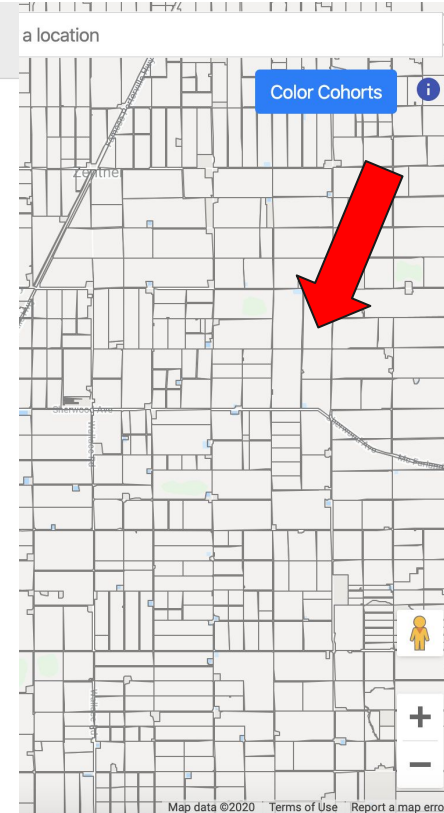
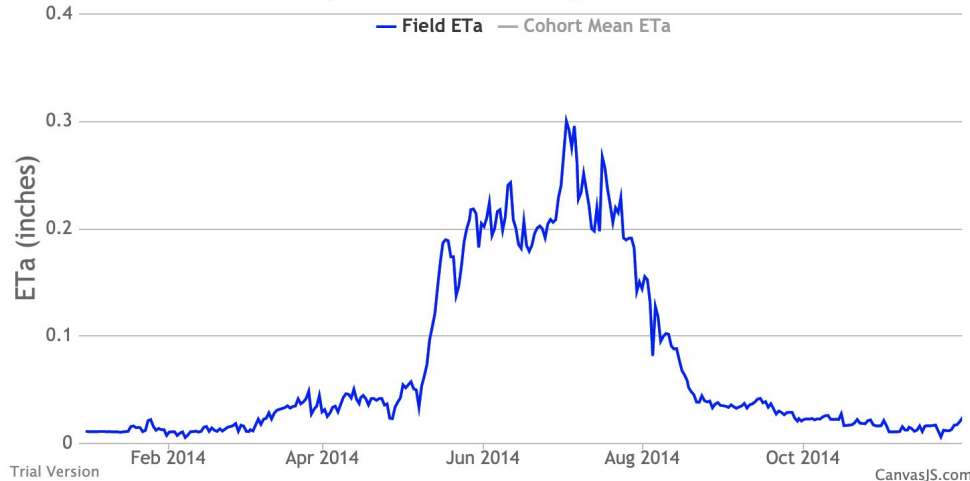


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< Field Details: 2014 ⓘ

- Area: 85.0 acres
- Crop: Tomatoes
- ETa: 24.72 inches

## Graph of Weekly Totals





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# Technical Challenges

- Huge dataset
  - 18 million data entries over nearly 5000 fields
  - Long loading times



# Easily Expandable to ...



**Residential**



**Business**

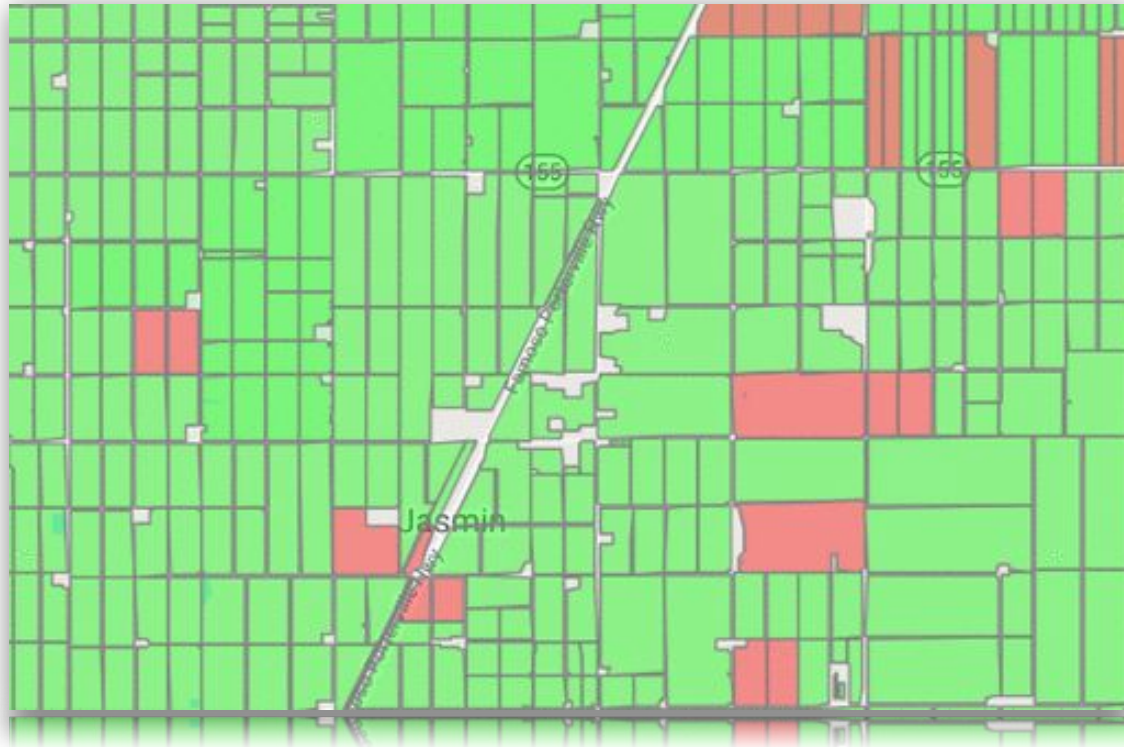
# Final Thoughts

- Proactive approach to water conservation
- Extendable to more sophisticated models





# Preserve the Planet





**Thank you**