Overview

1. California Water
   - Sources
   - Usage
   - Water Rights

2. Climate
   - Drought Impact

3. Sustainability
   - CA. Water Plan
   - Groundwater Management
Water Sources & Usage

- CA. Water
- Ground Water
- Surface Water
  - Rivers/Aqueducts
  - Reservoirs
  - Oceans
Ground Water

Ground-water Supply in California

2005-10 Average

The Central Coast region is the most groundwater dependent.

The Tulare Lake region is the largest user of groundwater.
Groundwater level change from Spring 2013 to 2014

As California faces its third year of drought, groundwater levels have dropped dramatically in many parts of the Central Valley, especially in the southern San Joaquin Valley.
Surface Water

Snow Pack
California’s Largest Surface Reservoir

13.5 MAF/year
Sacramento Valley
Reservoir Storage

15 MAF/year
Snow Pack
Storage

11 MAF/year
San Joaquin Valley
Reservoir Storage

5°F increase in temperature

>>> 4 to 5 MAF decrease in Sierra snow pack
CA. Aqueducts
Water Policy

• CA. State Water Plan (SWP)
  – Spans 600 miles from Northern to Southern CA.
  – Drinking water for 20+ million people
  – Irrigation for 750k acres

• Central Valley Project (CVP)
  – Irrigation for 3 million acres
  – Drinking water for Contra Costa, Santa Clara, and Sacramento Counties
Water Rights

1. Riparian Rights
2. Appropriative Rights
3. Prescriptive Rights
4. Overlying Rights
Climate

- Rain vs. Snow
- Sacramento-San Joaquin Delta
- Sierra Nevada Mountains
Sierra Nevada Mountains
Sustainability

- California Water Plan
- Groundwater Policy (SGMA)
Conclusions

- Climate change impacts our water supply.
- Population is ever growing.
- We cannot build our way out of the current water crisis!