American Water Works Association Research Foundation

Workshop on Climate Change and Water Utilities

Climate and Infrastructure

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Topics

• LADWP Water System Background

• Observable Impacts on Water Supply and Demand

• Climate Change Impacts on LADWP Infrastructure

• Planning for Climate Change Impacts
Background

• **LADWP’s Water System:**
  - 7,100 miles of distribution pipeline
  - Total of 106 reservoirs and tanks
  - 338 mile aqueduct system provides, on average, 50% of City’s water supply
  - MWD’s Colorado River Aqueduct and State Water Project supplies provide, on average, 35% of City supply
  - Local groundwater, primarily in the San Fernando Valley, provides 15% City’s water supply
Sources of L.A.’s Water Supply

- Lake Oroville
- Sacramento
- Mono Lake (Saline)
- Los Angeles
- Owens River 1st & 2nd Aqueducts
- State Water Project
- Local Groundwater
- San Diego
- Colorado River Aqueduct
- Colorado River
- Hoover Dam
Los Angeles Water Supplies

Local Groundwater: 15%

Recycled Water: 1%

Los Angeles Aqueducts: 49%

MWD: 35%
EASTERN SIERRA NEVADA RUNOFF
(Mono Basin & Owens Valley)
Percent of Normal

Runoff Year (April-March)
Above-normal temperature typically contributes to a lower normalized water demand. Only 3 of the last 20 years have been below-normal in temperature.

Mean annual average high temperature: 73.8 degree F

Below-normal temperature typically contributes to a higher normalized water demand.

CITY OF LOS ANGELES TEMPERATURE - Deviation from Normal

CITY OF LOS ANGELES WATER DEMANDS
Climate Change Impacts on Infrastructure

Floods and washouts...
Climate Change
Impacts on Infrastructure

Extreme droughts...or flows
Planning for Climate Change Impacts

- Continue water conservation efforts
- Develop alternative water supplies
  - Recycling
  - Seawater Desalination
- Proactive water resources planning
- Adaptive management for water system operations