Climate Change Vulnerability Analysis

WCVC IRWMP
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**Vulnerability:**

- the degree to which a **system** is
- exposed to,
- susceptible to, and
- able to cope with and adapt to

- **the adverse effects** of climate change.

*Climate Change Handbook*
Characterize our Region:
- Part of overall IRWM regional description

Identify Qualitative Water-Related Climate Change Impacts – WCVC will examine:

- Water Supply and Demand
- Water Quality
- Sea Level Rise and Flooding
- Land Use Planning and Ecosystems
Vulnerability Assessment (2)

- Identify key indicators of potential vulnerability
- Prioritize vulnerable water (related) resources
Today’s meeting: common understanding

Meetings to be arranged with Ventura River, Santa Clara and Calleguas watersheds to:

- identify watershed-specific impacts and key indicators of potential vulnerability
- prioritize vulnerabilities to climate change impacts
- Plan and propose adaptation strategies (Bob Thiel)

Develop recommendations for future assessment and analysis
Tools Available for Understanding How Our Climate Is Changing
View Local Profiles: Examples

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Precipitation

DATA: Projected Annual (Cumulative) Precipitation...
MODEL: Average of All Models
SCENARIO: High Carbon Emissions (A2)

Kamala Park Area
Elevation: 37 ft

DATA: Projected Annual (Cumulative) Precipitation...
MODEL: CNRM Model
SCENARIO: High Carbon Emissions (A2)

Thousand Oaks Area
Elevation: 1,334 ft
While our WCVC risk of increased wildfires appears to be lower than the Sierras and northern California, wildfires in those areas have consequences for our water and power supplies.
Important issue for all California coastal communities

Maps available from Pacific Institute

Project underway by Nature Conservancy to address climate adaptation and sea level rise

Cross-analysis with flooding and extreme weather

Mapping of key infrastructure in coastal areas
Bias Corrected and Downscaled WCRP CMIP3 Climate and Hydrology Projections

- Lawrence Livermore, range of models and emission projections

- More specific data, down to GPS coordinates
* These changes in and of themselves don’t tell us much
* **Impacts** on ecosystems (including human ecosystems) define our planning boundaries
* Proposing to look at impacts on:
  * Water supply and demand
  * Water quality
  * Sea level rise and flooding
  * Land use planning and ecosystems
* Consistent with strategies in 2006 IRWMP, State Water Plan and State Adaptation Strategy
Our Watershed Meetings

- Identify vulnerabilities (shared and unique)
- Prioritize
- Plan for future analyses
Projections are much more robust at global level
Less precision at the local level = planning uncertainty

“While climate change adds an additional layer of uncertainty to water resources planning, it does not necessarily alter the way uncertainty is addressed.”
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