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WCVC Climate Resilience Workshop

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In Context

- Kaiser Foundation Study* – issued last week

- "When it comes to world affairs, majorities of Americans list
  - fighting terrorism (64%),
  - protecting human rights (60%), and
  - **protecting the environment and fighting climate change (51%)**
- as top priorities for the president and Congress, finds a new Kaiser Family Foundation survey of the public's views on the United States' role in global health.

* http://kff.org/global-health-policy/poll-finding/2016-survey-of-americans-on-the-u-s-role-in-global-health/

Question

- “How do the planning tools you used in your analysis (e.g. Cal-Adapt) help when making water management decisions that take into account climate resiliency/climate change adaptation?”

Let's Go Travelin'

- March 2012 Workshop
- IRWMP – Chapter on Climate Change (2014), focus on mitigation and adaptation
- Continuing attention to climate change at the State level:
  - Mitigation:
    - Scoping Plan update (2014)
    - Cap and Trade
    - CEQA in full force (DOT, DHS guidance)
  - Adaptation
    - Safeguarding California: Reducing Climate Risk: An Update to the 2009 California Climate Adaptation Strategy (July 2014)
    - Ongoing updates to Cal-Adapt (in the details)
    - NOAA materials on sea level rise
    - DWR guidance (a little dated but can be modified)

What climate change assessment planning tools were used in IRWMP?

- Cal-Adapt
  - Helped to identify regional Climate Change Stressors and Vulnerabilities
  - Met with groups (Calleguas Creek, Santa Clara, Ventura)
  - Used a checklist to identify priorities – began at subregional level, decision made to address vulnerabilities at the regional level

WCVC Vulnerabilities

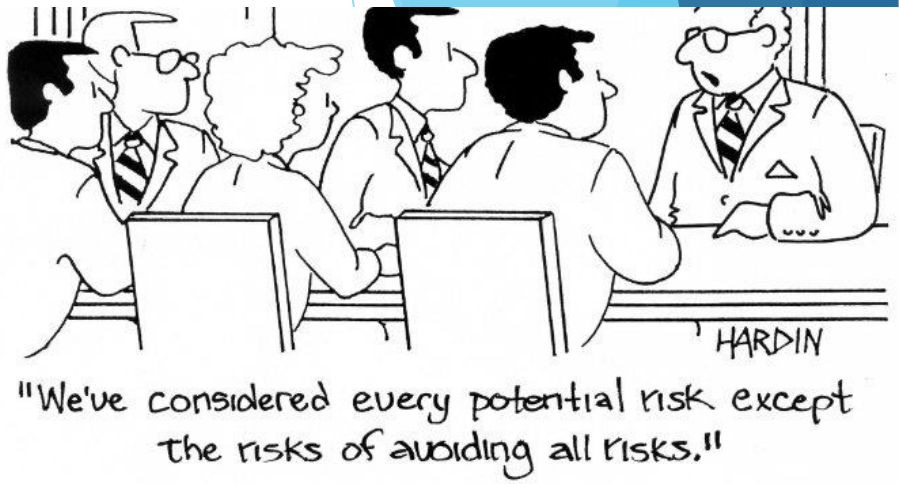
- WCVC vulnerabilities relate to changes in our climate:
  - Longer, More Frequent Droughts
  - Higher Temperatures
  - More Extreme Flood Events
  - More Frequent and Intense Wildfires
  - Sea Level Rise
- Committees addressed the impacts of these on:
  - Water Demand
  - Water Supply
  - Water Quality
  - Water Related Infrastructure
  - Ecosystems and Habitats
  - Agriculture
  - Human Populations

Take a Step Back

- The question I've been asked is complicated. *"How do the planning tools you used in your analysis (e.g. Cal-Adapt) help when making water management decisions that take into account climate resiliency/climate change adaptation?"*
- First…
  - Where are we in the decision making process?

Information and the Decision Making Process

- "Trick" is to inject the right information/science at the right time in the process
  - For regional planning and priority setting
    - Tolerance for uncertainty is higher
    - Regional or higher level science is adequate
    - Cal-Adapt and similar tools help us narrow the field
    - Other factors sometimes set the stage (pressure for regions to be self-reliant)
  - As project identification narrows
    - Tolerance narrows as well- risk of error has more environmental, social and economic consequences
      - Need more granular data, but it's not always available
      - Specialized studies, but they're expensive
      - Adaptive management



Climate Change Mitigation is Easy? Who Knew?!

- Robust tools to tell us how much CO_2 we will avoid by taking specific actions (CAPCOA, CEQA, Cal EEMod)
- Where sensitivities to climate change are high, **long-term adaptation planning will often be a process of decision- making under deep uncertainty.** For example, climate projections at the spatial and temporal scales relevant to decision making are often highly uncertain, conditional on models with known flaws, and sensitive to the unknown future emissions pathway.
  - **Adaptation in the UK: a decision-making process, 2010**
- Much more difficult to predict:
  - When and how the climate will change
  - At a specific location

In the face of uncertainty….

- Adaptive management
  - Strategies that can be modified
  - Constant feedback
  - Takes into consideration the fact that our modelling might be wrong
  - Allows for quick adaptation to unexpected changes
  - It’s how we live as human beings, but we’re not always adept at at adapting when looking at big $ projects
  - Learn from each other

Did I answer the question?

- I'm not sure (uncertain) but ….
- I think I adapted it to my understanding.

- Short answer:
- The Cal-Adapt tool is useful for:
  - High level priority setting
  - Discussing resiliency with the public
  - Providing some locallized data
  - The first step in prioritizing potential projects

- Bottom Line:
  - Tools in IRWMP (like Cal-Adapt) will help with first screening of potential projects
  - Do not look to them to tell you when, where or how you should design **specific** adaptive water projects
  - No easy fix – you will need technical experts and stakeholder input.