



Climate Change and IRWMP Planning

March 15, 2012

NOTES

Where are we most vulnerable? Most significant impacts?

- Sea level rise
- Fires
- Increasing temperatures (highs and low)
- Increased air pollution due to temperature rise
- More flooding due to channelized rivers and creeks
- Flood hazard planning and mitigation
- More severe droughts and flooding - disruptions to food production
- More intense rains? Less rain? Impact on species and infrastructure
- Increased frequency of ocean storms and increased hurricanes
- Reliability of imported water impacted
- Local storage of water impacted. Possible effects of sedimentation
- Groundwater impacts
- Increased pollution from runoff
- Ability to adapt given our rigid institutions. Need flexibility to quickly respond
- Funding to address risks
- Stationarity is “dead”

What strategies can we adopt to mitigate our contributions to climate change?

- Bike paths, solar power
- Increase water use efficiency – saves energy reducing GHG
- More invasive and weed species impacting our ecosystems which affects our water systems.

What strategies can we adopt to adapt to the impacts?

- Evaluate sea level rise impacts on coastal aquifers to prevent sea water intrusion
- Land use planning policies to improve transit, reduce energy use
- Regional transit options – among neighboring regions and areas
- What about harnessing the energy coming from climate change (i.e. hydro, wind) – use it to our advantage
- Changing crop types

Is climate change a game changer for water planning?

- Need a more robust set of water resource strategies that helps us be more adaptable
- Full understanding that we live in a desert
- Recycling more important than ever
- We can't use history to predict future impacts – we need more technical tools to address this challenge.

- We need to understand what natural system variables ought to be monitored to develop tools to address climate change
- Think about how we use water – need to think more seriously about graywater reuse and onsite stormwater reuse
- Agricultural and landscape water use – need more efficiencies
- Need more public education so people understand the need for recycling and other measures
- We need to drive a stake in the heart that we can floodproof a floodplain for development

General Discussion

Any discussion regarding ocean acidification with the IRWM?

- Ocean Protection Council developing marine strategies regarding ocean impacts. Acidification affects the food web – species upon which we rely. State’s Ocean Strategy dealing with some of those issues, difficult to deal with on a local basis.
- Point Mugu issues with coastal erosion and sand deficit. Sediments are trapped in upper watersheds. Important to our fisheries. Demand for water and water storage upriver – but important that fresh water come to the ocean carrying its normal loads. Maintaining sand to reduce erosion from storm events.

Question regarding modeling and number of models/scenarios – should there be more used by DWR?

- DWR uses multiple models

Do plans address climate change refugees?

- Climate change doesn’t affect a static system. It will be a dynamic system and moving people around quite a bit.

What about climate change models and land use – any models?

- Hayhoe, Kathleen – powerpoint – takes climate change models and existing empirical data, feeding it into model and doing specific results for specific areas. **WE WILL FIND THIS POWERPOINT AND PUT THE LINK UP ON THE WEBSITE. Also consider Fish and Wildlife website for public education.**
- Corps of Engineers and University of Florida, MIT, use models like SIMCity to determine impacts on Everglades. UC Davis research on something similar for sections of California.
- Assessing our vulnerability is the easy part, doing something about it is the hard part. We need to think about policies. We will not solve this in the water management world, we need to urge policy makers.

LINKS:

http://www.water.ca.gov/climatechange/docs/SLR_GuidanceDocument_SAT_Responses.pdf

(interim guidance on sea level)

As promised here are several links to the FWS training site – the first is the main website for FWS climate change resources, from which you can navigate to the other two, but you have to dig a little further so I've included them. The second link is to FWS web conference, "Safeguarding Wildlife from Climate Change," held in 2009. Kathleen Hayhoe's presentation is almost at the very end, so you have to scroll all the way down, but the other presentations are also excellent. The last link is to the pdf of Kathleen Hayhoe's presentation, but it's really valuable to hear her actual web presentation, because she is such an effective speaker on this topic.

http://training.fws.gov/CSP/Resources/climate_change/home.html

http://training.fws.gov/CSP/Resources/climate_change/safeguarding_bc.html

http://training.fws.gov/CSP/Resources/climate_change/webinar_info/pdfs/presentation/localizing_climate_projections.pdf