



# CWRA Workshop

## Adaptation to Climate Change

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# Best Strategies for Immediate Implementation

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- ❑ Climate Change Adaptation refers to the our response to climate change and it can include exploiting opportunities as well as seeking solutions to perceived problems
- ❑ Climate Impact Assessment is an Important Precursor to Adaptation, answering the What, When and How of climate change at the local level and informing the formulation of adaptation strategies
- ❑ Strategies should address the whole process, from climate change assessment through to implementation
- ❑ Generally climate change issues in hydrology are not unique to climate change, so many strategies already exist and have been tried and tested somewhere

# Best Adaptation Strategies cont'd

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- Be Well Informed about the Potential Future Changes through Impact Assessment
  - Improve global and regional climate models
  - Improve and refine estimates of human socio-economic futures
  - Monitor intensively at local scales
  - Establish standardized procedures for impact assessment
  - Establish effective networks of information, data and dialogue that expedites the process of climate change assessment

# Best Adaptation Strategies cont'd

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- How can we Respond at the Local Level
  - Continue to address issues that already exist and that are expected to continue in the future (i.e., Baseflow, Peak flow)
  - Re-evaluate our Watershed Goals in light of non-stationarity in all systems. Goals need to reflect the ongoing evolution. Non steady vs. steady state thinking
  - Water Conservation is never a bad idea
  - Assigning true value to water consumption
  - Eliminate Wasteful Practices (i.e., spray irrigation, excessive lawn watering)
  - Reduce ponding and the associated heating and evapotranspiration
  - Encourage Infiltration especially in high and medium potential recharge areas
  - Re-evaluate Watershed and Subwatershed issues on a routine basis

# Knowledge Gaps/Issues

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## □ Information Gaps Around Impact Assessment

- Chronic shortages of Field level data (i.e., meteorology, hydrology and physical characteristics)
- How will important hydrological processes be affected by climate in the future (i.e., evapotranspiration, snowpack)
- How will old SWM infrastructure perform in the future
- How will LID measures perform in the future
- What will be our future storm patterns in terms of frequency (risk) and storm characteristics
- How will future wet/dry day distributions change

## □ Higher Level Demographic Issues

- How will human consumption patterns evolve
- How will human settlement patterns evolve in the future
- What's the future of Agriculture and Fisheries in our Area
- How should we structure our future scenarios for impact assessments

# Knowledge Gaps

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- ❑ Dealing with Uncertainty
  - ❑ Methods for Selecting Future Climates
  - ❑ Tools for Assessing Uncertainty in Results
  - ❑ Policy for establishing Acceptable Risk where there are Numerous Plausible Outcomes
  - ❑ Terminology for Communicating Uncertainty to the Public

# Policy

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- ❑ Monitoring programs should provide high resolution data for climate change assessments
- ❑ Climate Change Impact Assessment should be required as part of all water resource studies
- ❑ Implementation programs should include measures to respond to anticipated climate changes
- ❑ Pilot scale projects should be developed in high profile areas as soon as possible to help sell the larger scale implementation that is required