



GROUNDWATER RESOURCES ASSOCIATION
OF CALIFORNIA

4th Conference in GRA's *Water Resources Series*
**“Climate Change: Implications for California
 Groundwater Management”**

August 13, 2008

Radisson Hotel - Sacramento, CA

PROGRAM AGENDA

(as of 7/31/08)

7:00 am **Registration/Continental Breakfast**

8:00-8:45 am **Introduction – Technical Overview**

Michael Dettinger, U.S. Geological Survey and Scripps Institution of Oceanography

General Session 1: Groundwater and Climate Change Overview

Moderators: K. Ryan Hiete, Musick, Peeler and Garrett, LLP
 Jon Rohrer, AQUI-VER, Inc.

8:45–9:05 am	<i>Overview of Policies and Laws Related to Climate Change and Water Supply</i> Russell McGlothlin, Brownstein Hyatt Farber Schreck
9:05–9:25 am	<i>Overview of the Energy/Water Connection</i> James Crowley, Santa Clara Valley Water District
9:25–9:45 am	<i>Perspectives From the State Level on Climate Change, Emissions and Water Supplies</i> Matt Bogoshian, California Environmental Protection Agency

9:45-10:00 am **BREAK – Exhibit Hall**

Concurrent Session 2A: Changes in Precipitation

Moderators: Jean Moran, Lawrence Livermore National Laboratory
 Randall Hanson, U.S. Geological Survey

Track A

10:00–10:20 am	<i>Potential Predictability of Drought: What Can We Learn From Climate Models?</i> Dr. Philip Duffy, Lawrence Livermore National Laboratory
10:20–10:40 am	<i>Coupled Watershed Response to Human-Induced Climate Change: Feedback From Subsurface and Land Surface Under Future Forcing Scenarios</i> Dr. Reed Maxwell, Lawrence Livermore National Laboratory

Concurrent Session 2B: Demand/Supply and Agricultural Changes

Moderators: Walter Ward, Modesto Irrigation District
 James Crowley, Santa Clara Valley Water District

Track B

10:00–10:20 am	<i>Responses of Crop Plants to Rising Atmospheric Carbon Dioxide Concentrations</i> Dr. Arnold J. Bloom, University of California, Davis
10:20–10:40 am	<i>Impact of Climate Change on Crop Water Requirements, Groundwater and Soil Salinity in the San Joaquin Valley, California</i> Dr. Jan Hopmans, University of California, Davis

Concurrent Session 2A: Changes in Precipitation (Cont.)

Moderators: Jean Moran, Lawrence Livermore National Laboratory
 Randall Hanson, U.S. Geological Survey

Concurrent Session 2B: Demand/Supply and Agricultural Changes (Cont.)

Moderators: Walter Ward, Modesto Irrigation District
 James Crowley, Santa Clara Valley Water District

Track A

10:40–11:00 am	<i>Change is the Constant: Adapting to Climate Variability and Anthropogenic Change in Water Resource Management</i> Dr. Bruce Abernethy, Malcolm Pirnie, Inc.A
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Track B

10:40–11:00 am	<i>Simulation of Agricultural Water Use, Climate Variability, Climate Change, and Ground-water Recharge, California's Central Valley with CVHM</i> Randall Hanson, U.S. Geological Survey
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11:10–12:10 pm**LUNCH KEYNOTE PRESENTATION – Policy/Regulatory Keynote Speaker**

California State Senator Mike Machado, 5th Senate District, Linden

Concurrent Session 3A: Changes in Runoff/Recharge

Moderators: Jean Moran, Lawrence Livermore National Laboratory
 Maryline Laugier, Malcolm Pirnie, Inc.

Concurrent Session 3B: Water Planning and Management

Moderators: Jon Rohrer, AQUI-VER, Inc.
 James Crowley, Santa Clara Valley Water District

Track A

12:10–12:30 pm	<i>How Climate Change Could Affect Western Groundwater and Surface Water Resources</i> Dr. Sam Earman, Desert Research Institute
12:30–12:50 pm	<i>Elevation-Dependent Source Waters in the Upper Merced River, Sierra Nevada, California: Runoff Disproportionality, Shift in Flowpaths and Hydroclimatic Implications</i> Dr. Fengjing Liu, University of California, Merced
12:50-1:10 pm	<i>Groundwater Residence Time in an Alpine Basin Likely to be Impacted by Climate Change</i> Michael Singleton, Lawrence Livermore National Laboratory

Track B

12:10–12:30 pm	<i>Confronting Drought: Establishing a Groundwater "Savings Account" for the Inevitable Drought</i> Dr. Ruth Langridge, University of California, Santa Cruz
12:30–12:50 pm	<i>CEQA, Land Use Planning, Climate Change and Water</i> Diane DeFelice, Brownstein, Hyatt Farber Schreck
12:50-1:10 pm	<i>Implications of Climate Change for Groundwater Management in Arizona</i> Kathy Jacobs, Arizona Water Institute

Concurrent Session 4A: Groundwater Modeling

Moderators: Randall Hanson, U.S. Geological Survey
 Maryline Laugier, Malcolm Pirnie, Inc.

Concurrent Session 4B: Energy and Water

Moderators: James Crowley, Santa Clara Valley Water District
 Russell McGlothlin, Brownstein Hyatt Farber Schreck

Track A

1:20–1:40 pm	<i>Simulated Effects of Climate Change on Surface Water Availability and Groundwater Conditions in the Agriculturally Dominated Modesto Region, California</i> Steve Phillips, U.S. Geological Survey
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Track B

1:20–1:40 pm	<i>Energy and Groundwater Use</i> Dr. Lon House, Water and Energy Consulting
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Concurrent Session 4A: Groundwater Modeling (Cont.)

Moderators: Randall Hanson, U.S. Geological Survey
Maryline Laugier, Malcolm Pirnie, Inc.

Concurrent Session 4B: Energy and Water (Cont.)

Moderators: James Crowley, Santa Clara Valley Water District
Russell McGlothlin, Brownstein Hyatt Farber Schreck

Track A

1:40-2:00 pm	<i>Drought Scenario Analysis of the California Central Valley Surface-Groundwater-Conveyance System</i> Dr. Norman Miller, Berkeley National Laboratory and University of California, Berkeley
2:00-2:20 pm	<i>21st Century Sea Level Rise and Seawater Intrusion in Coastal Aquifers of California</i> Dr. Hugo A. Loaiciga, University of California, Santa Barbara

Track B

1:40-2:00 pm	<i>CEC Perspective on Energy and Water</i> Shahid Chaudhry, California Energy Commission
2:00-2:20 pm	<i>Geologic Sequestration of Carbon Dioxide: Potential Impacts to Groundwater Resources, the U.S. Regulatory Framework, and Lessons Learned From Previous Injection Activities</i> Dr. Gregory Schnaar, U.S. Environmental Protection Agency Nicole Sweetland, Daniel B. Stephens & Associates

2:20-2:35 pm BREAK – Exhibit Hall

General Session 5: Conjunctive Use and Transfers

Moderators: Russell McGlothlin, Brownstein Hyatt Farber Schreck
Maryline Laugier, Malcolm Pirnie, Inc.

2:35-3:35 pm Panelists:
Steve Arakawa, Metropolitan Water District of Southern California
David Sunding, University of California, Berkley (invited)
Richard Katz, Richard Katz Consulting, Inc.

General Session 6: Panel Discussion: Strategies Looking Forward

Moderators: Russell McGlothlin, Brownstein Hyatt Farber Schreck
Dani Renan, EnTerra Environmental

3:45-4:55 pm Panelists:
Steve Arakawa, Metropolitan Water District of Southern California
Mike Floyd, Department of Water Resources
Gregory Zlotnick, Santa Clara Valley Water District

Poster Presentation(s)

Impact of Precipitation Changes on Operation of Reservoirs and Sustainable Yield of Groundwater Basins
Jim Blanke, WRIME, Inc.