



GROUNDWATER RESOURCES ASSOCIATION
of California



28th Biennial Groundwater Conference and 20th GRA Annual Meeting “California’s Water Future Goes Underground”

October 5-6, 2011

Radisson Hotel – Sacramento, CA

Program Agenda

(as of 9-9-11)

CONFERENCE CO-CHAIRS

Vicki Kretsinger, Luhdorff and Scalmanini, Consulting Engineers

Tim Parker, Parker Groundwater

Thomas Harter, University of California, Davis

Day 1 – Wednesday, October 5, 2011

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

8:15 am **Conference Welcome – Conference Co-Chairs: Vicki Kretsinger, Tim Parker, and Thomas Harter**
Happy 20th Anniversary GRA – Legacy of Achievement and Exciting Prospects for the Future – Bill Pipes, AMEC, GRA President

General Session: Present and Future Groundwater Outlook

Moderator: Vicki Kretsinger Grabert, Luhdorff & Scalmanini, Consulting Engineers

8:35-10:00 am	Plenary Presentations
	<p>John Laird, Secretary of the California Natural Resources Agency: <i>Groundwater Management as Part of California’s Water Future</i></p> <p>Steve Arakawa, Metropolitan Water District: <i>Present and Future Groundwater Outlook for The Metropolitan Water District of Southern California</i></p> <p>Ken Belitz, US Geological Survey: <i>Statewide Groundwater Quality and the GAMA Project: Where Have We Been? What Have We Learned? Where Are We Headed?</i></p>

10:00 – 10:30 am BREAK – Exhibit Hall – transition to concurrent sessions

Concurrent Session 1A: Groundwater Remediation: 20 Year Retrospective & Future Approaches

Moderator: Sarah Raker, AMEC

Concurrent Session 1B: Groundwater Modeling: Latest Approaches

Moderator: Steve Phillips, US Geological Survey

Track A

10:30-10:50 am	<i>San Gabriel Basin Water Quality Authority – Revolution or Evolution?</i> Ken Manning, San Gabriel Basin Water Quality Authority
10:50-11:10 am	<i>San Fernando Basin Groundwater Supplies Affected by Subsurface Contamination</i> Milad Taghavi, Los Angeles Department of Water and Power
11:10-11:30 am	<i>Alternative Endpoints and Approaches Selected for the Remediation of Contaminated Groundwater at Complex Sites</i> Rula Deeb, ARCADIS Malcolm Pirnie
11:30-11:50 am	<i>Site Cleanup in the San Francisco Bay Region: Taking Stock</i> Stephen Hill, Regional Water Quality Control Board
11:50-12:10 pm	<i>Common Ground – Reclaiming Chico’s Drinking Water Resource: How a Regional Problem Influences our Approach in Other Basins</i> Stewart Black, California Department of Toxic Substances Control
12:10-12:20 pm	Discussion

Track B

10:30-10:50 am	<i>Role of Surface and Groundwater Interactions on Projected Baseflows in Snow Dominated Regions: An Integrated Modeling Approach</i> Rich Niswonger, US Geological Survey
10:50-11:10 am	<i>Linking Global Climate Models (GCMs) to Regional Hydrologic Models to Assess Potential Future Conjunctive Use</i> Randy Hanson, US Geological Survey
11:10-11:30 am	<i>Climate Variability and Water Regulation Impacts on Surface Water and Groundwater Interactions in Central Valley, CA</i> Francisco Munoz-Arriola, University of California, San Diego, Scripps Institution of Oceanography
11:30-11:50 am	<i>Refining a Regional-Scale Groundwater-Flow Model to Address Basin-Specific Management Goals in Ventura County</i> Tony Morgan, United Water Conservation District
11:50-12:10 pm	<i>The Progression of Studies by the US Geological Survey to Improve the Understanding of the Aquifer System in Antelope Valley, California: From Artesian to Adjudication</i> Adam Saide, US Geological Survey
12:10-12:20 pm	Discussion

Lunch Program

Moderator: James Strandberg, HydroMetrics Water Resources, Inc.

12:20-1:30 pm

LUNCHEON

GRA Annual Meeting and 20th Year Commemoration: Bill Pipes, AMEC, GRA President

Legislative Update and Presentation of Legislators of the Year Awards: Tim Parker, Parker Groundwater and Chris Frahm, Brownstein Hyatt Farber Schreck, LLP

Concurrent Session 2A: Regional Groundwater Monitoring: Implementation

Moderator: Rob Swartz, Sacramento Groundwater Authority

Track A

1:30-1:50 pm	<i>California Statewide Groundwater Elevation Monitoring (CASGEM)</i> Mary Scruggs, California Department of Water Resources
1:50-2:10 pm	<i>WEBH₂O: An Open-Source EIMS - Principles and Application to the Sonoma Valley Groundwater Basin</i> Marcus Trotta, Sonoma County Water Agency
2:10-2:30 pm	<i>Representative Groundwater Monitoring at California Dairies</i> Till Angermann, Luhdorff & Scalmanini, Consulting Engineers
2:30-2:50 pm	<i>Occurrence of Pharmaceuticals and Perchlorate in Deep Groundwater: Results from the GAMA Priority Basin Project</i> Miranda Fram, US Geological Survey
2:50-3:00 pm	Discussion

Concurrent Session 2B: Nitrate in Groundwater: Current Status & Future Implications

Moderator: Thomas Harter, University of California, Davis

Track B

1:30-1:50 pm	<i>Nitrate Occurrence and Trends in Groundwater: From the U.S. to California's Central Valley</i> Karen Burow, US Geological Survey
1:50-2:10 pm	<i>Factors Affecting Nitrate Concentrations in Water Supply Wells</i> Rob Gailey, The Source Group
2:10-2:30 pm	<i>Nitrate and Drinking Water in California's Agricultural Regions: Assessment and Solutions</i> Thomas Harter, University of California, Davis
2:30-2:50 pm	<i>Regulatory Approach to Control or Abate Impacts of Nitrate to Groundwater</i> Pamela Creedon, Regional Water Quality Control Board
2:50-3:00 pm	Discussion

3:00–3:30 PM BREAK – Exhibit Hall

Concurrent Session 3A: Collegiate Groundwater Colloquium

Moderator: Jean Moran, California State University, East Bay

Track A

3:30-3:40 pm	Introduction and Overview of GRA Educational Support Jean Moran, California State University, East Bay
3:40-3:55 pm	<i>Mercury Speciation and Transport via Submarine Groundwater Discharge at a Coastal Lagoon in Central California</i> Priya Ganguli, University of California, Santa Cruz
3:55-4:10 pm	<i>Investigating the Source of Nitrate in a Drinking Water Supply Well with Isotopic Tracers</i> Marianne Holtz, California State University, East Bay

Concurrent Session 3B: Groundwater Recharge Approaches & Issues

Moderator: Chris Petersen, West Yost Associates

Track B

3:30-3:50 pm	<i>Sustainable Recharge and Injection Well Operations and Practices</i> Tom Morris, ASR Systems LLC
3:50-4:10 pm	<i>Feasibility and Potential Benefits of the Proposed Amargosa Creek Recharge Project, Palmdale, California</i> Allen Christensen, US Geological Survey
4:10-4:30 pm	<i>Dynamic Variations and Improvements to Water Supply and Quality During Managed Recharge</i> Andrew Fisher, University of California, Santa Cruz

4:10-4:25 pm	<i>Control of Groundwater Pollution from Animal Feeding Operations: A Farm-Level Dynamic Model for Policy Analysis</i> Jingjing Wang, University of California, Riverside	4:30-4:50 pm	<i>Groundwater Recharge with Infiltrated Stormwater – Los Angeles Basin Water Augmentation Case Study</i> Martin Spongberg, AMEC Geomatrix
4:25-4:40 pm	<i>Spatial Analysis of Suitability for Managed Aquifer Recharge in a Groundwater Basin in Central Coastal California</i> Tess Russo, University of California, Santa Cruz	4:50-5:00 pm	Discussion
4:40-4:55 pm	<i>Market Solutions for Conjunctive Management of Surface and Ground Water: A Case Study of Idaho's East Snake River Plain</i> Bronwyn Green, University of California, Santa Barbara		
4:55-5:00 pm	Discussion		

5:00–7:00 pm **GRA PRESIDENT’S RECEPTION, EXHIBITS, AND POSTER SESSION – Exhibit Area**

Day 2 – Thursday, October 6, 2011

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

Moderator: Paul Parmentier, The Source Group

8:30 – 9:10 am **Southern California David Keith Todd Lecturer – Prem Saint; *Groundwater: A Historical and Global Perspective***

9:10–9:20 am **Break – transition to concurrent sessions**

Concurrent Session 4A: Remote Sensing Technologies & Applications

Moderator: Bob Niblack, California Department of Water Resources

Concurrent Session 4B: Managing, Organizing & Visualizing Data

Moderator: Brian Lewis, California Department of Toxic Substances Control

Track A

9:20-9:40 am	<i>Remote Monitoring of Groundwater with Orbital Radar</i> Tom Farr, Jet Propulsion Laboratory
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Track B

9:20-9:40 am	<i>Sacramento Groundwater Authority Groundwater Quality Vulnerability Assessment: Tools for Long-Term Water Resources Management</i> Sean Maguire, Kennedy/Jenks Consultants
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9:40-10:00 am	<i>Multi-Decadal Analysis of Irrigated Acreage in the Lower Rio Grande Valley, New Mexico</i> David Jordan, INTERA	9:40-10:00 am	<i>Groundwater Data Synthesis for Water Resource Management</i> James Hunt, University of California, Berkeley
10:00-10:20 am	<i>A Comparison of Groundwater Storage Using GRACE Data, Groundwater Levels, and a Hydrological Model in California's Central Valley</i> William Brandt (Michelle Newcomer), NASA Ames Research Center DEVELOP National Program	10:00-10:20 am	<i>Web-Enabled and Map-Based Water Resources Data Management and CASGEM Compliance</i> Joseph LeClaire, Wildermuth Environmental
10:20-10:30 am	Discussion	10:20-10:30 am	Discussion

10:30 – 10:50 am BREAK – Exhibit Area

Concurrent Session 5A: Local Groundwater Management Successes and Insights

Moderator: Roy Herndon, Orange County Water District

Concurrent Session 5B: Climate Change/Enhancing Groundwater Reserves

Moderator: Vera Nelson, Eler & Kalinowski, Inc.

Track A

10:50-11:10 am	<i>Aquifers, Agriculture and Academics: How One Agency is Working to Eliminate Overdraft and Halt Seawater Intrusion</i> Brian Lockwood, Pajaro Valley Water Management Agency
11:10-11:30 am	<i>Basin Sustainability through a Cooperative Water Accounting Framework</i> Rob Swartz, Sacramento Groundwater Authority
11:30-11:50 am	<i>Choosing the Appropriate Scale for Groundwater Management: Basin-Specific Planning within a Groundwater Management Agency</i> Bryan Bondy, United Water Conservation District
11:50-12:00 pm	Discussion

Track B

10:50-11:10 am	<i>Interannual to Multidecadal Climate Variability and Groundwater Resources of California</i> Jason Gurdak, San Francisco State University
11:10-11:30 am	<i>Legal Hurdles to Establishing Groundwater Reserves as a Hedge Against Drought</i> Ruth Langridge, University of California, Santa Cruz
11:30-11:50 am	<i>Groundwater Reserves for Drought Protection</i> Bruce Daniels, University of California, Santa Cruz
11:50-12:00 pm	Discussion

Lunch Program:

Moderator: Sarah Raker, AMEC, GRA Vice President

12:00 – 1:30 pm Presentation of Kevin J. Neese and Lifetime Achievement Awards

1:30 – 2:10 pm

Northern California David Keith Todd Lecturer – John Bredehoeft, The Hydrodynamics Group; *Patterns of Water Use in the West: The Cowboy Water Crisis*

Vicki Kretsinger Grabert: Announce new David Keith Todd Distinguished Northern and Southern California Lecturers

General Session: Statewide Planning Underground: Raising the Bar on Groundwater Management

Moderator: Tim Parker, Parker Groundwater

2:20-4:00 pm	<p><u>Panelists:</u></p> <p>Tim Parker, Parker Groundwater – <i>Raising the Bar on Groundwater Management – A Brief History of Development, Trends and Management</i> Paul Massera, Department of Water Resources – <i>Groundwater Emphasis in the California Water Plan</i> Abdul Khan, Department of Water Resources – <i>Issue Paper: Annual Change in Groundwater Storage and Groundwater Overdraft in California</i> Gina Bartlett, Center for Collaborative Policy – <i>Engaging Stakeholders in Groundwater Management</i> Dennis O'Connor, State Legislature - <i>What Policy Changes Do We Need for Effective Statewide Planning</i> Tim Quinn, Association of California Water Agencies – <i>Sustainability from the Ground Up: A Framework for Groundwater Management in California</i></p> <p>Discussion/Q&A</p>
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4:00 pm

Closing Remarks

Bill Pipes, AMEC, GRA President

POSTER PRESENTATIONS

(Available for viewing during the entire Conference)

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1. *Quantification of Liquid Dairy Manure Storage Pond Seepage Rates*
Till Angermann, Luhdorff & Scalmanini, Consulting Engineers
 2. *Field Application of the In Situ Microcosm Array*
Thomas Bruton, Swette Center for Environmental Biotechnology, Arizona State University
 3. *Using GIS and Web Mapping Services to Communicate and Query Groundwater Monitoring Data*
Chad Flynn, Trihydro Corporation
 4. *Self-Sustaining Treatment for Active Remediation (STAR): Smoldering Combustion for the Treatment of Non Aqueous Phased Liquids*
Gavin Grant, SIREM

5. *Groundwater Flux Patterns Defined by Electromagnetic Flowmeters*
Yemia Hashimoto, AMEC Geomatrix
6. *Enhanced Biodegradation by Low-Flow Ozone Injection*
David Herzog, Conestoga-Rovers & Associates
7. *Geophysical Methods for Groundwater Investigations in California*
John Jansen, Cardno ENTRIX
8. *Automated Web-Based Monitoring and Visualization for Optimized Environmental and Water Resources Management*
Mark Kram, Groundswell Technologies
9. *Factors Controlling Nitrate Fluxes in Groundwater in Agricultural Areas*
Lixia Liao, US Geological Survey
10. *Synergistic Geophysical Techniques for Delineating Seawater Intrusion and the Optimal Design of an Injection Barrier*
Martin Miele, United Water Conservation District
11. *Groundwater Mapping in the Irvine Sub-Basin, Orange County, California, Using Stable Isotope ($\delta^{18}O$, δD , $\delta^{15}N$) Data, Tritium-Helium Dating, and General Mineral Compositions*
Patricia Robards, California State University, Fullerton
12. *Analysis of InSAR Data, Groundwater Levels, and Lithology in the Mojave River and Morongo Groundwater Basin, CA*
Mike Solt, US Geological Survey
13. *Characterization of the Rialto-Colton Fault by Using Water-Level, Well-Bore-Flow, and Isotopic Data*
Nicholas Teague, US Geological Survey