



California Water and Environmental Modeling Forum

2011 ANNUAL MEETING PROGRAM

“Bringing Together the Disciplines for Creative Water Solutions”



February 28 to March 2, 2011

Asilomar Conference Grounds
800 Asilomar Boulevard
Pacific Grove, California

SUMMARY OF SESSIONS

Monday, February 28, 2011

Time	Session	Moderator	Location
9:45 -10:15 a.m.	Registration	---	Heather
10:15 a.m.-12:00 noon	1. Flood Modeling	Michael Mierzwa	Acacia
	2. 2010 DSM2 Developments	Tara Smith	Heather
12:00-1:00 p.m.	Lunch	---	Dining Hall
1:15-3:00 p.m.	3. 2010 DSM2 Applications	Nicky Sandhu	Acacia
	4. Evaluating Effects of Climate Uncertainty in Long-Term Planning Studies	Mike Tansey	Heather
3:15-4:00 p.m.	Registration and Asilomar Check-in	---	Social Hall
4:15-6:00 p.m.	5. 2010 Developments and Applications of CalLite	Nazrul Islam	Acacia
	6. Modeling for Creative Delta Water Solutions	Jay Lund	Heather
6:00-7:00 p.m.	Dinner	---	Dining Hall
7:00-10:00 p.m.	7. Evening Program – Reception and Poster Session	---	Toyon Heather
7:30-8:00 p.m.	2010 Distinguished Life Membership Award and Certificates of Appreciation	Tara Smith	
8:00-9:00 p.m.	Keynote Speaker – Art Baggett	Mike Deas	

Tuesday, March 1, 2011

Time	Session	Moderator	Location
7:30-8:15 a.m.	Breakfast	---	Dining Hall
8:15-9:15 a.m.	8. CWEMF Activities / Annual Business Meeting	Paul Hutton	Heather
9:15-10:00 a.m.	9. Pop-Up Talks I: 5-Minute Overviews of Modeling Work	Nigel Quinn	Heather
9:15-10:00 am	Registration	---	Social Hall
10:15 a.m.-12:00 noon	10. Advances in Climate Change Assessment	Jamie Anderson	Heather
	11. Modeling and Forecasting Drinking Water Quality	Ted Swift	Acacia
12:00-1:00 p.m.	Lunch	---	Dining Hall
1:15-3:00 p.m.	12. Technical Analysis in Support of California Water Plan Update 2013	Rich Juricich	Acacia
	13. Bay-Delta Conservation Plan Modeling Activities	Parviz Nader	Heather
3:15-4:00 p.m.	14. Pop-Up Talks II: 5-Minute Overviews of Modeling Work	Stacy Tanaka	Heather
4:15-6:00 p.m.	15. 2010 HydroGeoSphere Enhancements and Applications	George Matanga	Acacia
	16. Development and Application of Sediment Transport Models in California	Jamie Anderson	Heather
6:00-7:00 p.m.	Dinner	---	Dining Hall
7:00-10:00 p.m.	17. Evening Program: Reception	Tara Smith	Heather
7:30 - 7:45 p.m.	2011 Distinguished Life Membership Award		
7:45 - 8:45 p.m.	Fischer Award / Presentation by Recipient		
8:45 - 9:45 p.m.	Career Achievement Award / Presentation by Recipient		

Wednesday, March 2, 2011

Time	Session	Moderator	Location
7:30-8:15 a.m.	Breakfast	---	Dining Hall
8:15-10:00 a.m.	18: Multi-Dimensional Delta Modeling	Ben Bray	Heather
	19: IWFM & IDC 2010 Enhancements and Applications	Tariq Kadir	Acacia
10:15 a.m.-12:00 noon	20: Development Progress on the Multi-Dimensional Model REALM	Eli Ateljevich	Heather
	21: Estimating in-Delta ET and Municipal Uses	Nigel Quinn	Acacia
12:00-1:00 p.m.	Lunch / Check-Out	---	Dining Hall
1:15-3:00 p.m.	22: Development Updates of CalSim 3.0	Hongbing Yin	Evergreen
	23: San Joaquin River Restoration Modeling	Peter Vorster	Oak Shelter

2011 ANNUAL MEETING SPONSORS

Evening Receptions

CH2MHill
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Poster Session

Watercourse Engineering

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ORGANIZATIONAL MEMBERS

California Department of Water Resources
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Contra Costa Water District
East Bay Municipal Utility District
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U.S. Bureau of Reclamation

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AGENDA

Monday, February 28

9:45- 10:15 a.m. – Registration in Heather

10:15 a.m.-12:00 noon

Session 1.Flood Modeling

Moderator: Michael Mierzwa (CA DWR)

Location: Acacia

Hydraulic Modeling to Support Channel Evaluation and Maintenance on the Sacramento River Flood Control Project: A Case Study for the Bear River at the Union Pacific Rail Road Crossing - MDHaque and Joseph Chang (CA DWR)

Community Hydrologic Prediction System: A Framework for Expanding Flood Forecast and Water Resources Support Services - Alan Haynes (NOAA-NWS)

2012: A Hydrology Odyssey–Brad Moore and John High (USACE)

Forecast Coordinated Operations in the San Joaquin Valley: Dealing with Limited Channel Capacity and High Outflows in 2011 - MDHaque (CA DWR)

Session 2.2010 DSM2 Developments

Moderator: Tara Smith (CA DWR)

Location: Heather

Improvements to the Qual Computational Scheme in DSM2 (Version 8.1) - Lianwu Liu (CA DWR)

DSM2 Comparison Report Tool - En Ching Hsu (CA DWR)

DSM2 Grid Map Tool - Nicky Sandhu (CA DWR)

Developing a Testing Framework for a 1-D Transport Model - Eli Ateljevich (CA DWR)

12:00 noon-1:00 p.m. — Lunch

Monday lunch is not included in the lodging or registration fees. Complimentary lunch tickets are available from CWEMF representatives for meeting attendees staying at Asilomar and for students. A limited number of meal tickets are available for purchase in the Social Hall by meeting attendees staying offsite.

1:15-3:00 p.m.

Session 3.2010 DSM2 Applications

Moderator: Nicky Sandhu (CA DWR)

Location: Acacia

Water Quality Modeling in the Delta: It's Not Just Salinity Anymore - Marianne Guerin (Resource Management Associates)

Simulating Spills in Delta Channels: Advance Planning and Real-Time Response - Deanna Sereno (Contra Costa Water District)

Using DSM2 to Explore the Feasibility of Using Low Head Pumps to Improve South Delta Water Quality - Jamie Anderson (CA DWR)

Session 4. Evaluating Effects of Climate Uncertainty in Long-Term Planning Studies

Moderator: Michael Tansey (USBR)

Location: Heather

Overview of Central Valley Project Integrated Resource Plan (CVP IRP) – Technical Approach - Brian VanLienden (CH2M Hill)

Climate Scenarios and Regional Climate Modeling for the CVP IRP - Armin Munévar (CH2M Hill) and David Yates (NCAR)

Integration of Water Resources Computer Models under the CVP IRP- Marcelo Reginato (CH2MHill) and Brian Joyce (SEI)

Modeling the Effects of Climate on Agricultural Water Demands and Crop Yields - Francisco Flores-Lopez (SEI)

Economic and Hydrological Models Integration: Evaluating Future Climate Change Scenarios Using WEAP and SWAP - Laura Forni (SEI)

3:15-4:00 p.m. -Registration in Social Hall

4:15-6:00 p.m.

Session 5.2010 Developments and Applications of CalLite

Moderator: Nazrul Islam (CA DWR)

Location: Acacia

CalLite Model Built in WRIMS – Development and Updates, Nazrul Islam (CA DWR)

CalLite Model Features and Corroboration Study Results - Tom FitzHugh(USBR)

Graphical User Interface for WRIMS CalLite - Nancy Parker (USBR)

A Daily Time-step CalLite Model for Sacramento-Delta CVP/SWP Operations–Z. Richard Chen (CA DWR)

Session 6. Modeling for Creative Delta Water Solutions

Moderator: Jay Lund (U.C. Davis)

Location: Heather

Water Management Costs and Adaptations with Delta Restrictions, Climate Change, and Expanded Urban Water Conservation - Rachel Ragatz (U.C. Davis)

Use of Remote Sensing in Economic Analysis of Agricultural Production South of the Delta - JosuéMedellín-Azuara(U.C. Davis)

How the Delta Flowed – Retrospective Modeling of Historical Delta Hydrodynamics - William Fleenor (U.C. Davis)

Dual Stressors – Interactions between Delta Exports and Sacramento Wastewater Discharges - William Fleenor (U.C. Davis)

6:00-7:00 p.m. — Dinner

7:00-10:00 p.m.

Session 7. Evening Program

Moderators: Tara Smith (CA DWR) and Mike Deas (Watercourse Engineering)

Location: Toyon and Heather

7:00-10:00 p.m. Reception and Poster Session

Reception sponsored by CH2MHill and CWEMF. Poster session is sponsored by Watercourse Engineering.

7:30 – 8:00 p.m. Presentation of the 2010 Distinguished Life Membership Award and Certificates of Appreciation

8:00-9:00 p.m. Keynote Speaker - Arthur Baggett (Former California State Water Resources Control Board Member)

Tuesday, March 1

7:30-8:15 a.m. - Breakfast

8:15-9:15 a.m.

Session 8. CWEMF Activities / Annual Business Meeting

Moderator: Paul Hutton (CWEMF Convener / MWDSC)

Location: Heather

- 8:15 Introduction -Paul Hutton (MWDSC)
- 8:20 Report on CWEMF Peer Reviews, Model User Groups, and Workshops–
Marianne Guerin (Resource Management Associates)
- 8:30 Executive Director's Report - Rich Satkowski and Elaine Archibald (CWEMF)
- 8:40 Annual Business Meeting -Paul Hutton
 - Declaration of a Quorum
 - Business Reports
 - Officer Elections
 - Organizational Dues
 - Other Business

9:15-10:00 a.m.

Session 9. Pop-Up Talks I

Moderator: Nigel Quinn (LBNL/USBR)

Location: Heather

Five-minute overviews summarizing California water and environmental modeling work using a maximum of five PowerPoint slides per speaker. To sign up for a talk, please contact Nigel Quinn or Elaine Archibald.

Registration in Social Hall

10:15 a.m.-12:00 noon

Session 10. Advances in Climate Change Assessment

Moderator: Jamie Anderson (CA DWR)

Location: Heather

Hydrologic Projections to Support Climate Change Vulnerability Assessments in the Western U.S. – Subhrendu Gangopadhyay (USBR)

Incorporating Climate Change into the Central Valley Flood Protection Plan - Michael Anderson (CA DWR)

A New Insight towards Establishing a Baseline for Uncertainty Analysis in Projected Climate Change - Messele Ejeta (CA DWR)

Impact of Warming on Outflows from Selected Upper Watersheds in California - Tariq Kadir (CA DWR)

Recent Developments and Comparisons of Statistical and Dynamical Downscaling Techniques - Jianzhong (Jay) Wang (CA DWR)

Session 11. Modeling and Forecasting Drinking Water Quality

Moderator: Ted Swift (CA DWR)

Location: Acacia

Identification of the Sources of Drinking Water Pollutants Using the WARMF Watershed Model - Joel Herr (Systech Water Resources)

Simulation of Historical Flows and Water Quality in the California Aqueduct Using DSM2- Siqing Liu (CA DWR)

Development of Water Quality Data for DSM2 Modeling of the California Aqueduct and Delta-Mendota Canal – Marcia Scavone-Tansey (CA DWR)

Analysis of DSM2 Aqueduct Extension Closure Terms and Locating Data Sources for the Delta-Mendota Canal and California Aqueduct - Bryant Giorgi and Amardeep Singh (CA DWR)

12:00-1:00 p.m. - Lunch

1:15-3:00 p.m.

Session 12. Technical Analysis in Support of California Water Plan Update 2013

Moderator: Rich Juricich (CA DWR)

Location: Acacia

Quantifying Regional Portfolios of Water Supplies and Uses - Todd Hillaire (CA DWR)

A Preliminary Analysis of Regional Water Management Responses under Uncertainty for the California Water Plan - David Groves (RAND Corporation)

A Framework for Sustainability Indicators for California Water Resources - Abdul Khan (CA DWR)

Evaluating Agricultural Production in California Water Management with the SWAP Model - Farhad Farnam (CA DWR)

Session 13. Bay Delta Conservation Plan Modeling Activities

Moderator: Parviz Nader (CA DWR)

Location: Heather

Challenges in Establishing the Existing Condition and No Action Alternatives - Rob Leaf (CH2MHill)

Climate Change Scenarios and Sensitivity - Armin Munévar (CH2MHill)

Integration of Hydrodynamics Modeling at Varying Scales - Kyle Winslow (CH2MHill)

Delta Water Rights Impact Analysis Tool - Xiaochun Wang (CA DWR)

3:15 - 4:00 p.m.

Session 14. Pop-Up Talks II

Moderator: Stacy Tanaka (Watercourse Engineering)

Location: Heather

Five-minute overviews summarizing California water and environmental modeling work using a maximum of five PowerPoint slides per speaker. To sign up for a talk, please contact Stacy Tanaka or Elaine Archibald.

4:15-6:00 p.m.

Session 15.2010 HydroGeoSphere Enhancements and Applications

Moderator: George Matanga(USBR)

Location:Acacia

Brief Presentation of Reclamation's On-going Applications of HydroGeoSphere - George Matanga (USBR)

Application of HydroGeoSphere in Impact Analysis of Land Subsidence due to Increased Groundwater Withdrawal along the Delta-Mendota Canal - Kirk Nelson (USBR)

Parallelization Framework of the Integrated Surface and Subsurface Flow and Transport Simulator: Parallelization of HydroGeoSphere- Don Demarco (HydroGeoLogic)

Comprehensive Optimal Management Planning of Integrated Aquifer and Surface Water Resource Systems - Xinyu Wei (HydroGeoLogic)

Session 16.Development and Application of Sediment Transport Models in California

Moderator: Jamie Anderson (CA DWR)

Location:Heather

Numerical Morphological Modeling of the Sacramento River - AndreyShvidchenko (Northwest Hydraulic Consultants)

Sediment Transport during Drawdown of the Copco 1 Reservoir on the Klamath River under Dam Removal Scenarios- Yong Lai (USBR)

One-Dimensional Mobile Sediment Bed Modeling for the Klamath River below Iron Gate Dam - David Varyu (USBR)

3-D Simulation of Sediment Transport Using the UnTrimSan Francisco Bay-Delta Model - Michael MacWilliams (River Modeling)

Coupled Wave-Current Modeling of Sediment Dynamics in San Francisco Bay Using the SUNTANS Model–Yi-Ju Chou (Stanford University)

6:00- 7:00 p.m. - Dinner

7:00-10:00 p.m.

Session 17.Evening Program

Moderator: Tara Smith (Past-Convener/CA DWR)

Location: Heather

7:00-10:00 p.m.-Reception

Reception sponsored by MWH and CWEMF.

7:30 – 7:45 p.m. – Presentation of the 2011 Distinguished Life Membership Award

7:45-8:45 p.m.-Presentation of the Hugo B. Fischer Award and Remarks by the Award Recipient

8:45-9:45 p.m. -Presentation of the Career Achievement Award and Remarks by the Award Recipient

Wednesday, March 2

7:30-8:15 a.m. - Breakfast

8:15-10:00 a.m.

Session 18. Multi-Dimensional Modeling from San Francisco Bay through the Sacramento-SanJoaquin Delta

Moderator: Benjamin Bray (EBMUD)

Location: Heather

High-Resolution, Three-Dimensional Hydrodynamic Modeling of San Francisco Bay - Oliver Fringer (Stanford University)

San Francisco Estuary SaltFlux Analysis for Sea Level Rise Scenarios - Edward Gross (Bay Modeling)

3-D Hydrodynamic and Salinity Simulations Using the UnTRIM Bay Delta Model - Michael MacWilliams (River Modeling)

Analysis of the Distribution of Tidal Prism in the Sacramento-San Joaquin Delta - John DeGeorge (Resource Management Associates)

Session 19. IWF M & IDC 2010 Enhancements and Applications

Moderator: Tariq Kadir (CA DWR)

Location: Acacia

IWF M v4.0: A New Version with an Improved Root Zone Module - Can Dogrul (CA DWR)

Evaluating the Feasibility of Artificial Recharge in the Walla Walla Basin Using the Hydrological Model IWF M - Aristides Petrides (Oregon State University)

IDC, Uniquely Positioned for Diverse Applications - Ali Taghavi (RMC WRIME)

Current Status of the California Central Valley Groundwater-Surface Water Simulation Model C2VSIM - Charles Brush (CA DWR)

10:15 a.m.-12:00 p.m.

Session 20. Development Progress on the Multi-Dimensional Model REALM

Moderator: Eli Ateljevich (CA DWR)

Location: Heather

REALM Project Overview and Progress - Eli Ateljevich (CA DWR)

2D Adaptive Mesh, Embedded Boundary Modeling for Shallow Water - Phil Colella (Lawrence Berkeley National Laboratory)

Embedded 1D Modeling - Peter Schwartz (Lawrence Berkeley National Laboratory)

Test Application of REALM Hydrodynamics near Threemile Slough - QiangShu (CA DWR)

Particle Tracking Model in REALM, 2D Shallow Water Model with Adaptive Mesh Refinement and Embedded Boundaries- Kijin Nam (CA DWR)

Session 21. Estimating in-Delta ET and Municipal Uses

Moderator: Nigel Quinn (LBNL/USBR)

Location: Acacia

Advances in Evapotranspiration Measurement in California - Tom Shapland (U.C. Davis)

Consumptive Water Demands in the Sacramento-San Joaquin Delta for Water Year 2007: Simulated (DETAW) vs. Remote Sensing - Tariq Kadir (CA DWR)

A Simulation Approach for Capturing and Coping with Demand Uncertainty in South-of-the-Delta Water Management– Michael Tansey (USBR)

Prospects for Automation of Regional Evapotranspiration Estimation - Nigel Quinn (LBNL/USBR)

12:00-1:00 p.m. — Lunch / Check-Out

1:15-3:00 p.m.

Session 22. Development Updates of CalSim 3.0

Moderator: Hongbin Yin (CA DWR)

Location: Evergreen

CalSim 3.0 Highlights - Hongbing Yin (CA DWR) and Jim Cornwell (USBR)

CalSim User Interface and Web User Interface - Dustin Jones (CA DWR)

CalSimHydro – Hydrology Pre-processor - Ines Ferreira (CA DWR)

Model Validation Results - Andy Draper (MWH)

Comparisons of CalSim 3.0's and CalSim II's Water Balances and Performance Metrics- Erik Reyes (CA DWR) and Messele Ejeta (CA DWR)

Session 23. San Joaquin River Restoration Modeling

Moderator: Peter Vorster (The Bay Institute)

Location: Oak Shelter

Interim Flows Monitoring and Reporting - Erin Rice (USBR) and Heather Shannon (MWH)

Update on Groundwater Modeling Tools and Future Applications for the San Joaquin River Restoration Program (SJRRP) – Steven P. Phillips

Ecosystems Diagnostics and Treatment - Chip McConnaha (ICFI) and Bill Smith (MWH)

Habitat Modeling for Site-Specific Designs - Bob Mussetter (TetraTech)

POSTER SESSION TITLES

Sponsored by Watercourse Engineering

Consumptive Use Program + (CUP+) Model - Morteza N. Orang (CA DWR) and Richard L. Snyder (U.C. Davis)

Effects of Projected Climate Change on the Hydrology in the Mono Lake Basin, California - Darren L. Ficklin (Santa Clara University)

Using Modeling to Complement Monitoring Data - George Nichol (SWRCB)

Comparing Actual and Unimpaired Flow in the San Joaquin River Basin - Mark Gowdy and Lucas Sharkey(SWRCB)

*The Role of Extreme Weather in Reservoir Temperature Management
A Case Study: Camanche Reservoir October 2009* - Benjamin Bray (East Bay Municipal Utility District)

California Water: Cost and Supply Implications Water Conservation and Varying Delta Exports in a Warmer, Drier Climate. - Rachel Ragatz (U.C. Davis), Jay Lund (U.C. Davis), JosuéMedellín-Azuara(U.C. Davis), Eleanor Bartolomeo (U.C. Davis), Will Sicke (U.C. Davis), Matthew Bates (USACE),Sachi De Souza (U.C. Davis)

Subsurface Imaging: Challenges of Interpolation with High Resolution Direct Push Methods - Jason H. Davison and Peter K. Kitandis(Stanford University)

Southern California without the Imports? - Eleanor Bartolomeo (U.C. Davis)

Interdependence of Climate and Land Surface Hydrology in the Central Valley: The Use of Modeling and Remote Sensing - Francisco Munoz-Arriola (Scripps Institution of Oceanography, UCSD), Michael Dettinger (Scripps Institution of Oceanography, UCSD and USGS), Randall Hanson (USGS), and Daniel Cayan (Scripps Institution of Oceanography, UCSD and USGS)

Application of the Central Valley Hydrologic Model to Simulate Groundwater and Surface-Water Interaction in the Sacramento-San Joaquin Delta. - Lisa Porta (CH2M HILL), Peter Lawson (CH2M HILL), Nathan Brown (CH2M HILL), Claudia Faunt (USGS), and Randall Hanson (USGS)

Climate Change Impacts to Local Water Management in the San Francisco Bay Area - William Sicke, JosuéMedellín-Azuara, and Jay Lund (U.C. Davis)

Large-Scale Inverse Modeling with an Application in Hydraulic Tomography - Xiaoyi Liu and Peter Kitanidis (Stanford University)

Evaluation of 2-D modeling at the Merced River-San Joaquin River Confluence - Henry Pai (U.C. Merced)

Managing California's Water: Insights from Interviews with Water Policy Experts - Sarah Null (U.C. Davis), Eleanor Bartolomeo (U.C. Davis), Jay Lund (U.C. Davis), and Ellen Hanak (Public Policy Institute of California)

Resolving Hydrology Budgets for Westside Salinity Management - Lisa Holm (USBR), Jonathon Goetz (MWH), Jamil Ibrahim (MWH), Nigel Quinn (LBNL/USBR), Heather Shannon (MWH), Josh Yang (MWH), Joel Herr (Systech Water Resources)