



California Water and Environmental Modeling Forum

2013 ANNUAL MEETING PROGRAM

“Modeling to Make a Difference”



Lake Natoma Inn
702 Gold Lake Drive
Folsom, California



SUMMARY OF SESSIONS

Monday, April 22

Time	Session	Moderator	Location
8:00 - 8:30	Registration		Sierra Hallway
8:30 - 10:15	1. Developments and Applications of CalSim and CalLite - Part I	Nazrul Islam	Sierra 1
	2. Technical Analysis in Support of California Water Plan Update 2013	Abdul Khan	Folsom/Natoma
10:15 - 10:30	Break		
10:30 - 12:15	3. Achieving Scientific Advancements by Exploring Dimensional Enhancements	Ben Bray	Sierra 1
	4. Linking Delta Water Quality Modeling to Regulations and Monitoring	Stephen McCord	Folsom/Natoma
12:15 - 12:45	Lunch (included in registration fee)		Restaurant
12:45 - 1:30	5. Keynote speaker - Joseph DePinto	Marianne Guerin	Sierra 1
1:30 - 3:15	6. Developments and Applications of CalSim and CalLite - Part II	Tom FitzHugh	Sierra 1
	7. Sediment Transport and Channel Morphology with Spatially Resolved Models, Approaches, Applications, and Analysis	Ben Bray	Folsom/Natoma
3:15 - 3:30	Break		
3:30 - 5:15	8. Central Valley Project Integrated Resource Plan – Integrating Socioeconomic and Climate Uncertainties in Long Range Planning	Michael Tansey	Sierra 1
	9. Rising Above and Seeing from Afar: Remote Sensing and Modeling	Josué Medellín-Azuara	Folsom/Natoma
5:15 - 8:00	10. Evening Program - Reception with Hors d'oeuvres	Paul Hutton	Sierra 1
6:00 - 7:30	Award Presentations		

ORGANIZATIONAL MEMBERS

California Department of Water Resources
 California State Water Resources Control Board
 Contra Costa Water District
 East Bay Municipal Utility District
 ICF International
 Metropolitan Water District of Southern California
 MWH Americas, Inc.
 U.S. Bureau of Reclamation

Tuesday, April 23

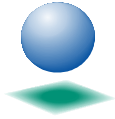
Time	Session	Moderator	Location
7:30 - 8:00	Registration		Sierra Hallway
8:00 - 9:45	11. Highlights from the Modeling Trenches	Eleanor Bartolomeo	Sierra 1
	12. Reconciling Flood Risk and Improved Ecosystems: Consideration of Plant Structure in Flood Modeling	Stefan Lorenzato	Folsom/Natoma
9:45 - 10:00	Break and poster set-up		
10:00 - 11:30	13. Pop-up Talks: 5 Minute Overviews of Modeling Work	Nigel Quinn & Stacy Tanaka	Sierra 1
11:30 - 1:00	Lunch (included in registration fee)		Restaurant
	14. Poster Session	Stacy Tanaka	Sierra 2
1:00 - 2:00	15. Business Meeting	Marianne Guerin	Sierra 1
2:00 - 3:45	16. Advances in Climate Change Assessment	Jamie Anderson	Sierra 1
	17. Sensor Networks and Real-time Decision Support	Nigel Quinn	Folsom/Natoma
3:45 - 4:00	Break		
4:00 - 5:45	18. DSM2 Applications and Developments	Tara Smith	Sierra 1
	19. Flood Modeling	Samson Haile-Selassie	Folsom/Natoma
6:00 - 8:00	20. Evening Program - CWEMF's Role in the Delta Science Plan	Ben Bray	Sudwerk

Wednesday, April 24

Time	Session	Moderator	Location
7:30 - 8:00	Registration		Sierra Hallway
8:00 - 9:45	21. Ecological Engineering	Chris Bowles	Sierra Ballroom
	22. Recent Advances in Estimating X2 Position	Paul Hutton	Folsom/Natoma
9:45 - 10:15	Break		
10:15 - 11:40	23. Joint CWEMF and IEP – Models of Ecosystem Dynamics	Chris Enright	Sierra Ballroom
11:40 - 1:10	Lunch at area restaurants		
1:10 - 3:10	24. Joint CWEMF and IEP – Models of Ecosystem Dynamics	Marianne Guerin	Sierra Ballroom

2013 ANNUAL MEETING SPONSORS

Evening Receptions



CH2MHILL



MWH

BUILDING A BETTER WORLD



TETRA TECH



CWEMF

Poster Session



Lunches



Refreshments



Systech Engineering, Inc.

AGENDA

Monday, April 22

8:00 – 8:30 a.m. – Registration in Sierra Hallway

8:30 – 10:15 a.m.

Session 1. Developments and Applications of CalSim and CalLite – Part I

Moderator: Nazrul Islam (DWR)

Location: Sierra 1

WRIMS2 – Development and Updates – Kevin Kao-Cheng (DWR)

WRIMS Integrated Development Environment and its Applications – Hao Xie (DWR)

CalLite Model Development and New Features – Tom FitzHugh (Reclamation)

CalLite Comparison of Water Supply and Delta Outflow under Three Regulatory Environments: D-1485, D-1641, and Biological Opinions – Holly Canada (DWR)

Session 2. Technical Analysis in Support of California Water Plan Update 2013

Moderator: Abdul Khan (DWR)

Location: Folsom/Natoma

New Developments in the Water Portfolios: What to Expect in Update 2013 and Beyond – Todd Hillaire (DWR)

California's Future Water Demand Modeling Using WEAP – Mohammad Rayej (DWR)

Groundwater Enhancement for the California Water Plan Update 2013 – Abdul Khan (DWR)

Water Sustainability Indicators for the California Water Plan – Fraser Shilling (UC Davis)

10:30 a.m. – 12:15 p.m.

Session 3. Achieving Scientific Advancements by Exploring Dimensional Enhancements

Moderator: Ben Bray (EBMUD)

Location: Sierra 1

2D Modeling and Ecohydraulic Analysis – Greg Pasternack (UC Davis)

SELFE 3D Application to the Sacramento-San Joaquin Bay Delta – Eli Ateljevich (DWR)

Development of the SUNTANS Model for the Sacramento-San Joaquin Delta – Nancy Monsen (Stanford University)

Computing Secondary Flows in the Delta: The Problem of Noise on Unstructured C-grids
– Phil Wolfram (Stanford University)

Session 4. Linking Delta Water Quality Modeling to Regulations and Monitoring

Moderator: Stephen McCord (McCord Environmental)

Location: Folsom/Natoma

The U.S. Geological Survey SPARROW Model: Integrating Monitoring Data with Landscape Information to Understand Nitrogen and Phosphorus Sources, Transport and Fate in California Streams – Dina Saleh (USGS)

Mercury and Dissolved Oxygen Processes in Suisun Marsh – Philip Bachand (Tetra Tech)

Dye Studies and Modeling to Characterize the Fate of Effluent from the City of Vacaville in the Delta – Susan Paulsen (Flow Science)

Delta Water Quality Modeling and Development of a Numeric Nutrient Endpoint Framework for San Francisco Bay – Andy Stoddard (Dynamic Solutions)

12:15 – 12:45 p.m.

Lunch

Pick up a box lunch (if you registered by Apr 5) and then join us for the Keynote Speaker in Sierra 1. Box lunches provided by CDM Smith and CWEMF.

12:45 – 1:30 p.m.

Session 5. Keynote Speaker

Moderator: Marianne Guerin (CWEMF/RMA)

Location: Sierra 1

History of Great Lakes Modeling in Support of Resource Management Decisions – Joseph DePinto (LimnoTech)

1:30 – 3:15 p.m.

Session 6. Developments and Applications of CalSim and CalLite – Part II

Moderator: Tom FitzHugh (Reclamation)

Location: Sierra 1

San Joaquin Basin Model Resolution - CalSim3 and CalLite – Nancy Parker (Reclamation)

Los Vaqueros Enlargement – CalSim Application – Dan Easton (MBK)

Temperature Model Development for CalSim and CalLite – En-Ching Hsu (DWR)

Development of CalLite Hydrology Based on CalSimHydro – Richard Chen (DWR)

Session 7. Sediment Transport and Channel Morphology with Spatially Resolved Models, Approaches, Applications, and Analysis

Moderator: Ben Bray (EBMUD)

Location: Folsom/Natoma

Suspended Sediment Transport and Geomorphic Processes at a Breached Delta Island – Edward Divita (ESA PWA)

Investigating Sediment Routing during the 2011 First Flush Using the UnTRIM Bay-Delta Hydrodynamic, Wave, and Sediment Transport Modeling System – Aaron Bever (Delta Modeling Associates)

Creation of Salmon Habitat on the Sacramento River: How Multidimensional Modeling and Sediment Transport Data Aid the Design Process – Paul Frank (New Fields)

3:30 – 5:15 p.m.

Session 8. Central Valley Project Integrated Resource Plan - Integrating Socioeconomic and Climate Uncertainties in Long Range Planning

Moderator: Michael Tansey (Reclamation)

Location: Sierra 1

Central Valley Project Integrated Resource Plan - Project Overview – Mike Tansey (Reclamation)

Development of the Socioeconomic and Climate Scenarios – Tapash Das (CH2M Hill) and Mike Tansey (Reclamation)

Development and Application of the CVP IRP CalLite Model – Brian Van Lienden (CH2M Hill) and Derya Sumer (CH2M Hill)

Development and Application of Other CVP IRP Performance Assessment Models – Chandra Chilmakuri (CH2M Hill), Lucas Bair (CH2MHill), and Brian Van Lienden (CH2MHill)

Project Summary and Next Steps – Armin Munevar (CH2M Hill) and Arlan Nickel (Reclamation)

Session 9. Rising Above and Seeing from Afar: Remote Sensing and Modeling

Moderator: Josué Medellín-Azuara (UC Davis)

Location: Folsom/Natoma

Data as a Resource – Automated Monitoring and Data Libraries Create Rich Data Sets – Jeffrey N. Schuyler (Eyasco)

Improvement of DETAW and its Application to the DSM2 Historical Simulation – Lan Liang (DWR)

Multiple Uses for Aerial LiDAR Data Sets throughout All Stages of Floodplain Restoration Projects – Andrew Nichols (UC Davis)

Physically Based Modeling of Delta Island Consumptive Use: A Case Study of Fabian Tract and Staten Island – Lucas Siegfried (UC Davis)

Field-scale Modeling of the Yolo Bypass – William Fleenor (UC Davis)

The Hobbes Project – Josué Medellín-Azuara (UC Davis)

5:15 – 8:00 p.m.

Session 10. Evening Program

Moderator: Paul Hutton (MWDSC)

Location: Sierra 1

Reception with Hors d'oeuvres

Reception sponsored by RMC Water and Environment, Tetra Tech, and CWEMF.

6:00 – 7:30 p.m. Award Presentations

Tuesday, April 23

7:30 – 8:00 a.m. – Registration in Sierra Hallway

8:00 – 9:45 a.m.

Session 11. Highlights from the Modeling Trenches

Moderator: Eleanor Bartolomeo (SWRCB)

Location: Sierra 1

San Joaquin River Restoration Program Use of Modeling Tools and Real-time Monitoring to Guide Restoration Flow Management – Scott McBain (McBain & Trush)

Hydraulic Modeling to Support Floodplain Habitat Assessment for the SJRRP – Blair Greimann (Reclamation)

Virtuous Data Management for Decision Support Tools: Examples from IOOS and CUAHSI – Tad Slaweki (LimnoTech)

Bathymetry for Bay-Delta Modeling – Ruen-Fang Wang (DWR)

Groundwater Overdraft in California's Central Valley: Updated CALVIN Modeling Using Recent CVHM and C2VSIM Representations (UC Davis) – Heidi Chou (CH2MHill)

Session 12. Reconciling Flood Risk and Improved Ecosystems: Consideration of Plant Structure in Flood Modeling

Moderator: Stefan Lorenzato (DWR)

Location: Folsom/Natoma

Introduction – Stefan Lorenzato (DWR)

Making the Connections between Riparian Vegetation and Flow Conveyance in Reconciliation Design – Chris Bowles (cbec)

Floodplain Vegetation Structure: Important Considerations for Multi-benefit Projects – Tom Griggs (River Partners)

Central Valley Flood Operations – Nate Burley (UC Davis) and Christy Jones (UC Davis)

10:00 – 11:30 a.m.

Session 13. Pop-up Talks

Moderators: Stacy Tanaka (Watercourse Engineering) and Nigel Quinn (Berkeley National Laboratory/Reclamation)

Location: Sierra 1

Five-minute overviews summarizing modeling work using a maximum of five PowerPoint slides per speaker. Please contact Stacy Tanaka, Nigel Quinn, or Elaine Archibald to sign up for a talk.

11:30 a.m. – 1:00 p.m.

Lunch

Pick up a box lunch (if you registered by Apr 5) and then join us for the Poster Session in Sierra 2. Box lunches provided by Larry Walker Associates and CWEMF.

11:30 a.m. – 1:00 p.m.

Session 14. Poster Session

Moderator: Stacy Tanaka (Watercourse Engineering)

Location: Sierra 2

Poster session sponsored by Watercourse Engineering.

1:00 – 2:00 p.m.

Session 15. Business Meeting

Moderator: Marianne Guerin (CWEMF/RMA)

Location: Sierra 1

2:00 – 3:45 p.m.

Session 16. Advances in Climate Change Assessment

Moderator: Jamie Anderson (DWR)

Location: Sierra 1

Tracking Change – Existing and New Monitoring Systems to Document Climate Change and its Impact on Water Resources Management – Michael Anderson (DWR)

Subsidence Monitoring in the Sacramento Delta Using Space- and Near-Ground Platforms – Ben Brooks (USGS)

Balancing Relevance, Reliability, and Uncertainty in the Face of Evolving Climate Projections: Incorporating CMIP5 into Reclamation's West-Wide Climate Risk Assessments – Kirk Nelson (Reclamation)

Sensitivity of Integrated California Forecast and Reservoir Management to Projected Climatic Change – Kosta Georgakakos (Hydrologic Research Center and Scripps Institution of Oceanography)

Session 17. Sensor Networks and Real-time Decision Support

Moderator: Nigel Quinn (Berkeley National Laboratory/Reclamation)

Location: Folsom/Natoma

Moving Towards a Decision Support System for the San Joaquin River Restoration Program – Katrina Harrison - (Reclamation) and Tom Heinzer (Reclamation)

Three-dimensional Hydrodynamic and Water Quality Model for Lake Mead – Al Preston (Flow Science)

Bridging the Data Gaps in Real Time for Situational Awareness and Decision Support – Matt Ables (KISTERS North America)

Sensor Web Technologies for Real-Time Scheduling of Salt Loading from Seasonally Managed Wetlands – Nigel Quinn (Berkeley National Laboratory/Reclamation)

4:00 – 5:45 p.m.

Session 18. DSM2 Applications and Developments

Moderator: Tara Smith (DWR)

Location: Sierra 1

How good is my model? Assessing Model Skill in a Regulatory Environment – Marianne Guerin (RMA)

Adding Route Decision Behavior to the Particle Tracking Model – Xiaochun Wang (DWR)

Recent Developments and New Features of DSM2-PTM – Yu Zhou (DWR)

General Transport Module (DSM2-GTM) – Nicky Sandhu (DWR)

Session 19. Flood Modeling

Moderator: Samson Haile-Selassie (DWR)

Location: Folsom/Natoma

Opening Remarks – Paul Marshall (DWR)

Modeling Complex Flow Splits in the Lower Sacramento River System Using One-dimensional HEC-RAS and Two-dimensional TUFLOW Models for the Central Valley Floodplain Evaluation and Delineation Program (CVFED) – Shyamal Chowdhury (Wood Rodgers)

Towards Understanding the Flood Protection Function of the Yuba Goldfields – Don Trieu (MBK) and Paul Brunner (TRLIA)

CVFPP Life Risk Analysis: An Update – Steve Cowdin (David Ford Consulting)

Quantifying Ecologic Benefits of Floodplain Reconnection on the Lower San Joaquin River – Katie Jagt (American Rivers)

6:00 – 8:00 p.m.

Session 20. Evening Program – CWEMF’s Role in the Delta Science Plan

Moderator: Ben Bray (EBMUD)

Location: Sudwerk Restaurant

Dr. Peter Goodwin, Lead Scientist for the Delta Science Program in the Delta Stewardship Council, has asked CWEMF for input into the modeling section of the Delta Science Plan (DSP). He believes there is currently a “window of opportunity” to develop science-based solutions that actually try to FIX the Delta’s problems, not just characterize them.

Over a backdrop of food and drinks at Sudwerk Riverside Restaurant and Brewhouse, 9900 Greenback Lane, Folsom , join Dr. Goodwin—and possibly other members of the Independent Science Board—in a brainstorming session on several modeling topics that interface with the DSP. Share your thoughts on a vision for the future of modeling through a robust, innovative “Community Modeling” approach that Dr. Goodwin is articulating as part of the DSP. Breakout groups will explore key topics where proposed solutions will be incorporated in CWEMF’s suggestions to Dr. Goodwin on the DSP.

Space is limited so this session is only open to those who responded to the April 8 email and received confirmation that space was available.

Food and beverages sponsored by MWH Americas, Inc., CH2MHill, and CWEMF.

Wednesday, April 24

7:30 – 8:00 a.m. – Registration in Sierra Hallway

8:00 – 9:45 a.m.

Session 21. Ecological Engineering

Moderator: Chris Bowles (cbec)

Location: Sierra Ballroom

The Challenges of Eco Engineering: Making the Connections between Engineering and Ecology – Chris Bowles (cbec)

Validation of Two-dimensional Hydrodynamic Models for Assessing Meso-scale Hydraulics of Ecological Importance – Brian Wardman (Northwest Hydraulic Consultants)

Impacts of Beach Management on Salmonid Habitat Conditions in the Russian River Estuary – Dane Behrens (ESA PWA)

Evaluating Productivity Potential for Prospect Island Restoration Alternatives Using Particle Tracking Methods – Stephen Andrews (RMA)

Session 22. Recent Advances in Estimating X2 Position

Moderator: Paul Hutton (MWDSC)

Location: Folsom/Natoma

Nine Decades of Salinity Observations in Suisun Bay & Western Delta – Paul Hutton (MWDSC)

Evaluating the Approaches and Assumptions Used to Calculate X2 Using Field Observations and Numerical Simulations – Michael MacWilliams (Delta Modeling)

A New Regression Relationship of X2 with Delta Outflow – Edward Gross (RMA)

Western Delta Salinity Modeling Using Artificial Neural Networks – Sujoy Roy (Tetra Tech)

10:15 – 11:40 a.m.

Session 23. Joint CWEMF and IEP – Models of Ecosystem Dynamics

Moderator: Chris Enright (Delta Stewardship Council)

Location: Sierra Ballroom

We Need to Do the Modeling: Imagining How Models and Modelers Advance Understanding of the SFE – Chris Enright (Delta Stewardship Council)

Physical Processes Influencing Habitat at a Breached Delta Island: Implications for Restoration Management and Planning – Matt Brennan (ESA PWA)

Bay-Delta EDT: A Tool for Restoration Planning – Chip McConnaha (ICF)

Enhancing Salmonid Habitat on the Lower American River – Chris Bowles (cbec)

11:40 a.m. – 1:10 p.m.

Lunch at area restaurants.

1:10 – 3:10 p.m.

Session 24. Joint CWEMF and IEP – Models of Ecosystem Dynamics

Moderator: Marianne Guerin (CWEMF/RMA)

Location: Sierra Ballroom

Yolo Bypass Ecosystem Reconciliation – Insights from Many Models and Lots of Field Work - Robyn Suddeth (UC Davis)

Mathematical Models in Support of Restoration: Examples from the Klamath Basin and Beyond – Mike Deas (Watercourse Engineering)

San Joaquin River Restoration Program Use of Modeling Tools to Guide Floodplain Restoration – Katrina Harrison (Reclamation)

Applying Modeling Results to Tidal Restoration Project Alternatives Development and Selection: Prospect Island – Stuart Siegel (Wetlands and Water Resources)

Habitat Restoration in the Delta: The Delta Independent Science Board Review – John Wiens (ISB)

CWEMF POSTER SESSION TITLES

Sponsored by Watercourse Engineering

DSM2 Version 8.1 Calibration with NAVD88 Datum – Lianwu Liu (DWR)

Rain-On-Snow Study in Upper Feather River Basins under PMP Conditions – Leiji Liu (DWR)

A Tool for Irrigation Water Management Planning (CUP Plus) – Morteza Orang (DWR)

Assessment of Climate Change Impacts on Agricultural Water Demands and Crop Yields in California's Central Valley – Mike Tansey (Reclamation)

Building Models from the Data Up: From Calvin to Hobbes – Wei Chu (UC Davis)

Hydrodynamic and Water Temperature Application of CE-QUAL-W2 to Lewiston Reservoir – Trinity River, California – Mike Deas (Watercourse Engineering)

Numerical Experiments on the Optimal Inefficiencies of Agricultural Water Use – Ashlee Vincent (UC Davis)

Residential Water-Energy Use in California: The Impacts of Spatial, Behavioral, and Household Heterogeneity – Alvar Escrivá-Bou (UC Davis)