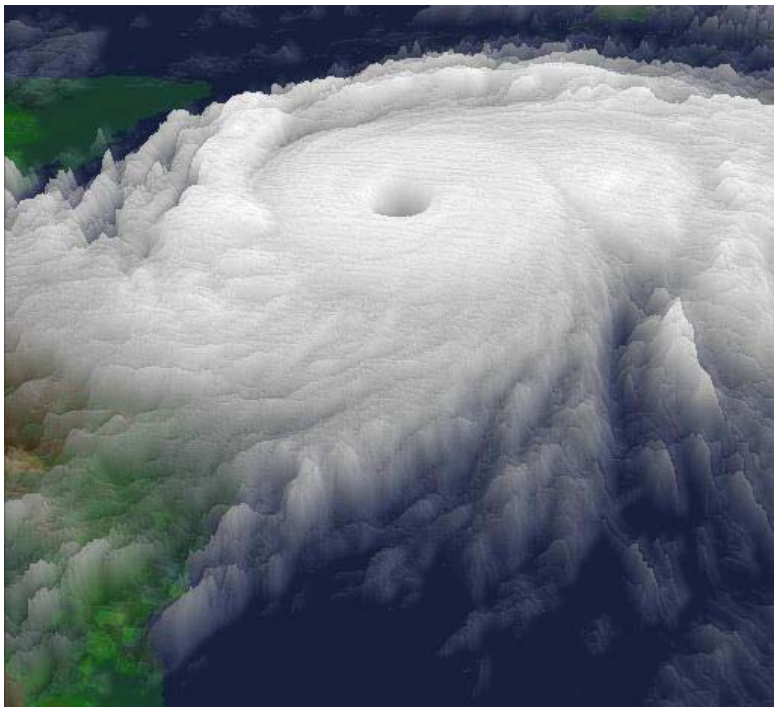
California Water and Environmental Modeling Forum

2010
Annual Meeting
Agenda

"Modeling in the Eye of the Storm"



February 22-24, 2010

Asilomar Conference Grounds
800 Asilomar Boulevard
Pacific Grove, California

California Water and Environmental Modeling Forum
2010 Annual Meeting Summary of Sessions

Monday, February 22, 2010

Time	Session	Moderator	Location
10:15 am-12:00 pm	1: Modeling for the California Water Plan	Rich Juricich	Fred Farr
	2: 2009 DSM2 Developments and Applications	Nicky Sandhu	Kiln
12:00-1:00 pm	Lunch	---	Dining Hall
1:15-3:00 pm	3: Water Management Responses to Climate Change, Delta Restoration and Drought	Rich Juricich	Fred Farr
	4: Apps of Multi-Dimensional Delta Models for Studies of the 2-Gates Project, Delta Smelt and Salinity Intrusion	Pete Smith	Kiln
3:00-4:00 pm	Registration I / Check-In	---	Social Hall
4:15-6:00 pm	5: Flood Modeling	Michael Mierzwa	Fred Farr
	6: Bay-Delta Conservation Plan Modeling Activiites	Parviz Nader	Kiln
6:00-7:00 pm	Dinner	---	Dining Hall
7:00-10:00 pm	7: Evening Program: Reception I and Poster Session	---	Fred Farr
8:00-9:00 pm	Keynote Speaker: Ellen Hanak, PPIC, “Efficiency and Equity Considerations for the New Delta”	Jay Lund	

Tuesday, February 23, 2010

Time	Session	Moderator	Location
7:30-8:15 am	Breakfast	---	Dining Hall
8:15-9:15 am	8: CWEMF Activities / Annual Business Meeting	Paul Hutton	Fred Farr
9:15-10:00 am	9: Pop-Up Talks I: 5-Minute Overviews of Modeling Work	Nigel Quinn	
10:15 am-12:00 pm	10: Climate Change: Eyeing the Storms of the Future I	Jamie Anderson	Fred Farr
	11: Water Temperature Modeling at Multiple Scales	Mike Deas	Kiln
12:00-1:00 pm	Lunch	---	Dining Hall
1:15-3:00 pm	12: Climate Change: Eyeing the Storms of the Future II	Jamie Anderson	Fred Farr
	13: Wetlands Modeling	Nigel Quinn	Kiln
3:15-4:00 pm	14: Pop-Up Talks II: 5-Minute Overviews of Modeling Work	Stacy Tanaka	Fred Farr
3:15-4:00 pm	Registration II	---	Social Hall
4:15-6:00 pm	15: Development Updates of CalSim 3.0	Sushil Arora	Fred Farr
	16: Remote Sensing and Synthetic Aperture Radar (SAR)	Ted Swift	Kiln
6:00-7:00 pm	Dinner	---	Dining Hall
7:00-10:00 pm	17: Evening Program: Reception II	---	Fred Farr
7:30-8:30 pm	Career Achievement Award / Presentation by Recipient	Rich Satkowski	
8:30-9:30 pm	Special Speaker: Ralph Cheng, USGS—Retired, “Hydrodynamic Modeling used in Forensic Investigations”	Tara Smith	

Wednesday, February 24, 2010

Time	Session	Moderator	Location
7:30-8:15 am	Breakfast	---	Dining Hall
8:15-10:00 am	18: Delta Solutions Modeling	Jay Lund	Fred Farr
	19: IWFM & IDC 2008-2009 Enhancements and Apps	Tariq Kadir	Kiln
10:15 am-12:00 pm	20: San Joaquin River Restoration: Modeling Tools for River Management	Peter Vorster	Fred Farr
	21: Techniques for Optimizing Conjunctive Use of Surface and Ground Waters	H. Morel-Seytoux	Kiln
12:00-1:00 pm	Lunch / Check-Out	---	Dining Hall
1:15-3:00 pm	22: HydroGeoSphere: 2009 Enhancements and Apps	George Matanga	Kiln

2010 Annual Meeting Agenda

Version Date:
February 17, 2010

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

Session One: Modeling for the California Water Plan

Moderator: Rich Juricich (CA DWR)
Location: Fred Farr Forum

What's New with the Water Portfolios, Todd Hillaire (CA DWR)

Results of Future Demand Scenarios using the WEAP Model for California Water Plan Update 2009, Mohammad Rayej (CA DWR)

A Climate Driven Model of the Water Resources of the Sacramento and San Joaquin Hydrologic Regions: Hydrologic and Demand Response to Climate Change,
David Purkey (Stockholm Environment Intitute)

Discussion: Analytical Improvements for Water Plan Update 2013 and Beyond, Rich Juricich (CA DWR)

Session Two: 2009 DSM2 Developments and Applications

Moderator: Nicky Sandu (CA DWR)
Location: Kiln

Calibration of DSM2 for the Bay Delta Conservation Plan, Chandra Chilmakuri (CH2M Hill)

Nutrient Modeling with DSM2/QUAL: Historical Results 1990–2008 with a Focus on Ammonia, Marianne Guerin (RMA)

DSM2 Sediment Transport Model (STM): A Technical Overview,
Fabian Bombardelli (UC Davis)

DSM2 Version 8, Eli Ateljevich (CA DWR)

12:00-1:00 p.m. — Lunch

Note: Monday lunch is not included in the lodging or registration fees.
A limited number of complimentary lunch tickets are available from CWEMF representatives. Alternatively, tickets may be purchased separately in the Social Hall at the registration counter.

1:15-3:00 p.m.

Session Three: Water Management Responses to Climate Change, Delta Restoration and Drought

Moderator: Rich Juricich (CA DWR)
Location: Fred Farr Forum

Water Management Lessons for California from Statewide Hydro-Economic Modeling using the CALVIN Model, Jay Lund (UC Davis)

Economic Impacts of Climate-Related Crop Yield Changes in California
Josue Medellin-Azuara (UC Davis)

CalSim-II Modeling Efforts on Water Resources Challenges and Potential Management Responses and Uncertainties Facing Management of the CVP and SWP, Francis Chung and Ray Hoagland (CA DWR)

Session Four: Applications of Multi-Dimensional Delta Models for Studies of the 2-Gates Project, Delta Smelt, and Salinity Intrusion

Moderator: Pete Smith (USGS—Retired)
Location: Kiln

Overview of the Delta 2-Gates Project and the Scientific Underpinnings and Modeling, Pete Smith (USGS—Retired)

Modeling for the 2-Gates Project using Bootstrapping to Incorporate Uncertainty in Turbidity Predictions, John DeGeorge (RMA)

Delta Smelt Distribution and Entrainment Estimates from 3D Particle Tracking and Vertical Migration Behavior, Ed Gross (Bay Modeling)

The Need for Speed: 3-D Hydrodynamic and Salinity Simulations using the UnTRIM Bay-Delta Model, Michael MacWilliams (River Modeling)

3:00-4:00 p.m. — Registration I (Social Hall)

4:15-6:00 p.m.

Session Five: Flood Modeling

Moderator: Michael Mierzwna (CA DWR)
Location: Fred Farr Forum

Watershed-Scale Response to Climate Change: Feather River Basin, CA,
Kate Koczpt (USGS)

Using HAZUS for a Statewide Flood Assessment, Steve Cowdin (CA DWR)

Concurrent Flooding – Drainage-Area Ratio Analysis,
David Thompson (R.O. Anderson Engineering)

Recent Developments in Numerical Simulations of Open Water,
Gijs van Banning (Alkyon Hydraulics Consultancy & Research/ARCADIS Group)

Session Six: Bay-Delta Conservation Plan (BDCP) Modeling Activities

Moderator: Parviz Nader (CA DWR)
Location: Kiln

Overview of Modeling for BDCP, Armin Munevar (CH2M Hill)

Integration of Tidal Marsh Modeling for BDCP,
John F. DeGeorge and Stacie Grinbergs (RMA)

Modeling of Dual Conveyance Operations, Chandra Chilmakuri (CH2M Hill)

Sea Level Rise Modeling from Bay to Delta, Michael MacWilliams (River Modeling)

6:00-7:00 p.m. — Dinner

7:00-10:00 p.m.

Session Seven: Evening Program

Moderator: Jay Lund (UC Davis)
Location: Fred Farr Forum

7:00-10:00 p.m. Reception I and Poster Session
Reception sponsored by CH2M Hill and CWEMF.
Poster session sponsored by WaterCourse Engineering.

Please note: Poster titles are located on page 13.

8:00-9:00 p.m. Keynote Speaker: Ellen Hanak, Director of Research, Public Policy Institute of California, “Efficiency and Equity Considerations for the New Delta"

7:30-8:15 a.m. — Breakfast

8:15-9:15 a.m.

Session Eight: CWEMF Activities / Annual Business Meeting

Moderator: Paul Hutton (CWEMF Convener / MWDSC)
Location: Fred Farr

8:15 Introduction — Paul Hutton (CWEMF Convener, MWDSC)
8:20 Report on CWEMF Peer Reviews –- Paul Hutton
8:25 Report on CWEMF Model User Groups — Tara Smith (Past-Convener/CA DWR)
8:30 Report on CWEMF Workshops — Marianne Guerin (Vice-Convener/RMA)
8:35 Executive Director's Report — Rich Satkowski (CWEMF)
8:45 Annual Business Meeting — Paul Hutton
- Declaration of a Quorum
- Business Reports
- Officer Elections
- Other Business

9:15-10:00 a.m.

Session Nine: Pop-Up Talks I

Moderator: Nigel Quinn (LBNL/USBR)
Location: Fred Farr Forum

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 the moderator or the CWEMF.

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

Session Ten: Climate Change: Eyeing the Storms of the Future I

Moderator: Jamie Anderson (CA DWR)
Location: Fred Farr Forum

Changed States – Quantifying California's Future Storms for Today's Hydrologic Planning, Michael Anderson (CA DWR)

Preferences among Hydrologic Models for Studies involving Climate Change, Levi Brekke (USBR)

Incorporating Climate Variability, Change, and Model Uncertainty in Scenarios in California Water Planning, Armin Munevar (CH2M Hill)

Downscaling Climate Change Projections: Implications of Multiple Scales on Hydrologic Investigations, Lorrie Flint (USGS)

10:15 a.m.-12:00 p.m. (Continued)

Session Eleven: Temperature Modeling at Multiple Scales

Moderator: Mike Deas (WaterCourse Engineering)
Location: Kiln

Watershed Scale Flow and Temperature Modeling in the San Joaquin River Basin, Don Smith (RMA)

Two-Dimensional Flow and Temperature Modeling for Restoration Strategies in Big Springs Creek, Siskiyou County, Ann Willis (Watercourse Engineering, Inc.)

Thermal Modeling of Stevens Creek Reservoir and its Application in Multiport Outlet Structure Design, Lei Hong (SCVWD)

12:00-1:00 p.m. — Lunch

1:15-3:00 p.m.

Session Twelve: Climate Change: Eyeing the Storms of the Future II

Moderator: Jamie Anderson (CA DWR)
Location: Fred Farr Forum

Isolating the Effect of Seasonal Pattern Shift from General Climate Change Impact on Water Resources: California Case, Jianzhong (Jay) Wang (CA DWR)

Potential Increase in Floods in California's Sierra Nevada under Future Climate Projections, Tapash Das (Scripps)

Constructing ARkStorm--An Extreme Storm Scenario for Emergency Preparedness in California, Michael Dettinger (USGS/Scripps)

Computational Fluid Dynamics Modeling for Fish Passage Improvement including Temperature Effects: A Case Study for McNary Dam and Forebay on The Columbia River, MD Haque (CA DWR)

Session Thirteeen: Wetlands Modeling

Moderator: Nigel Quinn (LBNL/USBR)
Location: Kiln

Application of a 1-D hydraulic and Salinity Model to a Managed Pond Restoration Design: Eden Landing Ponds E12/13, South Bay Salt Ponds, Justin Vandever (PWA)

Wetland Model Linkage to a Flood Early Warning System for Water Quality and System Morphology Assessments: Examples from Spain and Puget Sound on the Deschutes River, Edwin Welles (Deltares Inc.)

Wetland Response to Adaptive Salinity Drainage Management, Ric Ortega (Grassland Water District)

Real-Time, Non-Point Source Salt Management: A Comparison of Applications in the Grasslands Ecological Area in California and the Hunter River Basin, Australia, Nigel Quinn (LBNL/USBR)

3:15-4:00 p.m. — Registration II (Social Hall)

Session Fourteen: Pop-Up Talks II

Moderator: Stacy Tanaka (Watercourse Engr)
Location: Fred Farr Forum

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 the moderator or the CWEMF.

4:15-6:00 p.m.

Session Fifteen: Development Updates of CalSim 3.0

Moderator: Sushil Arora (CA DWR)
Location: Fred Farr Forum

CalSim 3.0 Overview, Hongbing Yin (CA DWR) and James Cornwell (USBR)

CalSim 3.0 Model Validation, Richard Chen and Hongbing Yin (CA DWR)

CalSim 3.0 Model Schematic and Output Visualization Tool, Jonathan Goetz and Andy Draper (MWH)

CalSim 3.0 San Joaquin River Basin Module Development, Nancy Parker (USBR)

4:15-6:00 p.m. (Continued)

Session Sixteen: Remote Sensing and Synthetic Aperture Radar (SAR)

Moderator: Ted Swift (CA DWR)
Location: Kiln

Using DifInSAR to Monitor Small-Scale Surface Changes in the Sacramento-San Joaquin Delta, Cathleen Jones (JPL)

Field Monitoring Evapotranspiration to Determine Crop Coefficients
Richard Snyder (UC Davis)

Monitoring and Forecasting Crop Evapotranspiration in California with the Terrestrial Observation and Prediction System,
Forrest Melton (CSU Monterey Bay / NASA Ames)

Near-real Time Mapping of Evapotranspiration, Crop Coefficients and Biomass Production,
Bryan P. Thoreson (Davids Engineering, Inc./SEBAL North America, Inc.)

6:00-7:00 p.m. — Dinner

7:00-9:00 p.m.

Session Seventeen: Evening Program

Moderator: Tara Smith (Past-Convener/CA DWR)
Location: Fred Farr Forum

7:00-10:00 p.m. Reception II
Reception sponsored by MWH Americas and CWEMF.

7:30-8:30 p.m. Presentation of the Career Achievement Award and Remarks by the Award Recipient

8:30-9:30 pm: Special Speaker: Ralph Cheng, U.S. Geological Survey—Retired, "Hydrodynamic Modeling used in Forensic Investigations"

7:30-8:15 a.m. — Breakfast

8:15-10:00 a.m.

Session Eighteen: Delta Solutions Modeling

Moderator: Jay Lund (UC Davis)
Location: Fred Farr Forum

Policy Implications of Permanently Flooded Islands in the Sacramento-San Joaquin Delta, Robyn Suddeth (UC Davis)

Preliminary Methods and Estimates for Freshwater Flows to Sustain Desirable Fishes in the Sacramento-San Joaquin Delta with Peripheral Conveyance, William Fleenor (UC Davis)

Physical Drivers of Biological Productivity Following Levee Breaches on Islands in the Sacramento- San Joaquin Delta, Laura Doyle (UC Davis)

Transitions in Structure of the Delta's Economy, Josue Medellin-Azuara (UC Davis)

Prisoners and Chickens – Game Theory Insights on the Delta Problem, Kaveh Madani (UC Riverside/UC Davis)

Session Nineteen: IWFM & IDC 2008-2009 Enhancements and Applications

Moderator: Tariq Kadir (CA DWR)
Location: Kiln

A Peer Review of IWFM and MODFLOW-FarmProcess, Tariq Kadir (CA DWR) and Randall Hanson (USGS)

Enhancing solver performance in the Integrated Water Flow Model IWFM, Matthew Dixon (UC Davis)

Automated Mesh Generator for IWFM in ArcMap, Tom Heinzer and Diane Williams (USBR)

IWFM Demand Calculator (IDC) Version 4.0, Can Dogrul (CA DWR)

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

Session Twenty: San Joaquin River Restoration: Modeling Tools for River Management

Moderator: Peter Vorster (Bay Institute)
Location: Fred Farr Forum

Introduction to the San Joaquin River Restoration Hydrographs,
Peter Vorster (Bay Institute)

Temperature Modeling for San Joaquin River Restoration, Bill Smith (MWH Americas)

San Joaquin River Vegetation Modeling for Analysis and Design of Management Actions,
Lisa Fotherby (USBR)

Groundwater Modeling Tools and Future Applications for the San Joaquin River Restoration Program, Steve Phillips (USGS)

Using Fish Life-History Models to Guide Management Decisions in River Restoration Programs, Shannon Brewer (USFWS)

Session Twenty-One: Techniques for Optimizing Conjunctive Use of Surface and Ground Waters

Moderator: Hubert Morel-Seytoux (Hydroprose Consulting Int.)
Location: Kiln

Integrating Groundwater and Surface Water Management to Optimize for Water Supply Reliability and Restoration of Aquatic Ecosystems, Gregory A. Thomas (NHI)

Experience in Conjunctive Management within Water Rights,
Hubert Morel-Seytoux (Hydroprose Consulting Int.)

Optimality Conditions for Conjunctive Management of Surface and Ground Waters in Continuous Time, Hubert Morel-Seytoux (Hydroprose Consulting Int.)

12:00-1:00 p.m. — Lunch / Check-Out

1:15-3:00 p.m.

Session Twenty-Two: HydroGeoSphere: 2009 Enhancements and Applications

Moderator: George Matanga (USBR)
Location: Kiln

HydroGeoSphere in Evaluation of Predevelopment Hydrologic Conditions in San Joaquin Basin of California, G.B. Matanga (USBR)

Status of HGS and Groundwater Modeling System (GMS) Integration,
Lorri Peltz-Lewis (USBR)

Testing Sub-timing and Sub-gridding Schemes using an Integrated Surface and Subsurface Numerical Model of the San Joaquin Valley, Don DeMarco (HydroGeoLogic);

Simulation and Optimization of Regional integrated Ground and Surface Water Resource Systems, Larry M. Deschaine (HydroGeoLogic)

2010 Annual Meeting
Poster Session Titles

Sponsored by Watercourse Engineering

Integrated Water Operations and Ecosystem Decision Support Modeling: The Sacramento River–Delta Ecological Flows Tool (Sac-DeltaEFT),
Clint Alexander (ESSA Technologies Ltd) and Ryan Luster (The Nature Conservancy)

California Environmental Data Exchange Network, Karl Jacobs and George Nichol (SWRCB)

California's Water Supply: Adaptation to Climate Change,
Christina R. Connell, Josué Medellín-Azuara, and Jay Lund (UC Davis)

Delta Island Subsidence Reversal: A Criteria-Based Approach to Modeling and Evaluation,
Matthew E. Bates and Jay Lund (UC Davis)

Water 2.0 Calendar, Josué Medellín-Azuara (UC Davis)

Water Maps of California, Jay Lund (UC Davis)

Integrated Reservoir Re-operation and Floodplain Management to Improve Ecosystem,
Mokelumne River Case, Patrick Ji and Nate Burley (UC Davis)

RMA2, DSM2, and WAM: A Theoretical, Numerical, and Scenario-Driven Comparison,
Fabian Bombardelli, James Kohne, Dane Behrens (UC Davis), and Mark Gowdy

Groundwater Database for California,
Christina R. Connell, Josué Medellín-Azuara, Shannon Brown, Joshua Viers, Will Sicke, Matthew Bates, Daniel Nover, Marsha Sukardi, David Rheinheimer, Rachel Ragatz, Kevin Fung, Eleanor Bartolomeo, Pradnya Khimsara, Daphne Korth, and Jay Lund (UC Davis)

Salinity Intrusion in the Western Sacramento – San Joaquin Delta and Suisun Bay,
Deanna M. Sereno and Gregory Gartrell (CCWD)

Calibration of a Three-Dimensional Model of San Francisco Bay Using SUNTANS,
Vivien P. Chua and Oliver B. Fringer (Stanford University)

Using the Potential Entrainment Index Tool for Assessment of Los Vaqueros Reservoir Expansion Project Operational Alternatives, Brett T. Kawakami, David Pene and Deanna Sereno (CCWD)

The Community Hydrologic Prediction System (CHPS),
Alan Haynes (NOAA NWS), Peter Gijsbers (Deltares USA Inc.), Lee Cajina, Christine Dietz, Jon Roe, Edwin Welles (OHD, NOAA NWS)

Using Remote Sensing Observations to Improve Water Resource Forecasting,
S. Granger. N. Molotch, D. Waliser, S. Kaki (JPL NASA)

Myth-Conceptions about California Water, Robyn Suddeth (California Center for Applied Mythology, UC Davis)

A 3-Dimensional Model of the Sacramento-San Joaquin Delta using Poster Foam and Thermoplastic Figurines,
Rachel E. Ragatz, Scott T. Ligare, and David E. Rheinheimer (UC Davis)

Price Schreiner: 1939-2009, Tariq Kadir (CA DWR)

Delta Corridors Plan, Russ Brown (ICF International)

REALM (A River, Estuary And Land Model), Eli Ateljevich and Qiang Shu (CA DWR)

Delta photos courtesy of the California Department of Water Resources