



California Water and Environmental Modeling Forum

2016 ANNUAL MEETING PROGRAM

Modeling Extremes: Drought to Flood and In-Betweens



SUMMARY OF SESSIONS

Monday, April 11

Time	Session	Moderator	Room
8:00 - 8:30	Registration		Sierra Hallway
8:30 - 10:15	1. DSM2 Development and Applications	Xiaochun Wang	Sierra 1
	2. Water Availability and Water Rights Modeling for State Water Board Processes	Rich Satkowski	Folsom/Natoma
10:15 - 10:30	Break		
10:30 - 12:15	3. Incorporating Water Right Based Diversions into CalSim	Erik Reyes	Sierra 1
	4. Riverine and Alluvial Fan Flood Modeling	Samson Haile-Selassie	Folsom/Natoma
12:15 – 1:00	Lunch - Included in registration fee		Restaurant
1:00 - 2:00	5. CWEMF Awards Ceremony	Benjamin Bray	Sierra 1
2:00 - 3:15	6. Pop-up Talks	Stacy Tanaka & Nigel Quinn	Sierra 1
3:15 - 3:30	Break		
3:30 - 5:15	7. CalSim and Callite Model Applications	Raymond Hoang	Sierra 1
	8. Shifting Baselines in the Bay-Delta Watershed and Estuary	Paul Hutton	Folsom/Natoma
5:30 - 8:00	9. Business Meeting and Social	Josué Medellín-Azuara	Sudwerk

ORGANIZATIONAL MEMBERS

California Department of Water Resources

California State Water Resources Control Board

CH2M

Contra Costa Water District

Delta Stewardship Council

East Bay Municipal Utility District

ICF International

Metropolitan Water District of Southern California

U.S. Bureau of Reclamation

Tuesday, April 12

Time	Session	Moderator	Room
7:30 - 8:00	Registration		Sierra Hallway
8:00 - 9:45	10. Managing Groundwater According to SGMA – Developing Approaches	Robert Gailey	Sierra 1
	11. A Kaleidoscope of Modeling	Laurel Saito	Folsom/Natoma
9:45 - 10:00	Break		Sierra 2
10:00 - 11:45	12. Coastal and Delta Flood Modeling	Samson Haile-Selassie	Sierra 1
	13 Integrated Water Resources Modeling	Ali Taghavi	Folsom/Natoma
11:45 - 12:30	Lunch - Included in registration fee		Restaurant
12:30 - 1:15	14. Keynote Speaker – Cliff Dahm	Josué Medellín-Azuara	Sierra 1
1:15 – 3:00	15. Advances in Integrated Modeling	Nigel Quinn	Sierra 1
	16. Environmental Flows Modeling under Climate Extremes	Josué Medellín-Azuara	Folsom/Natoma
3:00 - 3:15	Break		
3:15 - 5:00	17. Sustainable Groundwater Management	Steffen Mehl & Rich Juricich	Sierra 1
	18. San Joaquin River Restoration Program 2D Hydraulic Modeling Applications	Katrina Harrison	Folsom/Natoma
	19. Student/Young Professional Mentoring Session	Holly Canada	TBD
5:00 - 7:00	20. Poster Session and Social	Stacy Tanaka	Sierra 2

*Posters will be set up by 10:00 am and available for viewing all day. Presenters will be available from 5:00 to 7:00 pm.

Wednesday, April 13

Time	Session	Moderator	Room
7:30 - 8:00	Registration		Sierra Hallway
8:00 - 9:45	21. Climate Change Adaptation – Strategies and Insights from the Sacramento-San Joaquin Basins Study	Michael Tansey	Sierra 1
	22. NHD Hydro Spatial Data Review 2016	Jane Schafer-Kramer	Folsom/Natoma
9:45 - 10:00	Break		
10:00 - 11:45	23. Advanced Conjunctive Use Analysis with MODFLOW One Water	Scott Boyce & Randall Hanson	Sierra 1
	24. California Water Plan Update 2018: Employing New Integrated Water Management Tools for Sustainable Outcomes	Abdul Khan	Folsom/Natoma
11:45 - 1:15	Lunch at area restaurants		
1:15 - 3:00	25. Dealing with Drought: Data, Modeling, and Strategies	Jamie Anderson	Sierra 1
	26. Multi-D Modeling	Aaron Bever & Eli Ateljevich	Folsom/Natoma
3:00 - 3:15	Break		
3:15 - 5:00	27. Development Updates and Application of CalSim 3.0 (Sacramento Valley)	Hongbing Yin	Sierra 1
	28. Water Budgets: An Overview for Supporting SGMA Implementation	Mesut Cayar	Folsom/Natoma

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POSTER SESSION



EVENING SOCIALS



2016 ANNUAL MEETING SPONSORS

REFRESHMENTS



LUNCHES





California Water and Environmental Modeling Forum

Promoting Excellence and Consensus in Water and Environmental Modeling

P.O. Box 22529, Sacramento, CA 95822 • 916-833-6557 • cwemf@cwemf.org • www.cwemf.org

Folsom, California, April 11th – 13th, 2016

Dear CWEMF members, friends, students, and guests:

The CWEMF Steering Committee welcomes you back to Folsom for our 2016 Annual Meeting, Modeling Extremes: Drought to Flood and In-Betweens. We have an exciting program which covers a wide array of topics and will pose the usual challenge of deciding upon which sessions and talks to attend. In the past year, our modeling community has witnessed the shift from an extreme drought to closer to average snow pack and reservoir conditions, all spiced by thoughtful technical discussions over recent regulations and producing better science to manage our precious natural resources.

On Monday, learn about modeling advancements in water rights, flood management, and Delta hydrodynamics. Meet others for lunch and then attend the awards ceremony to honor distinguished modelers. CWEMF's signature pop-up talks will provide attendees with sneak peeks at current research in the modeling community. CalSim, CalLite, and rethinking baseline conditions for modeling in the Bay-Delta watershed will round out the afternoon sessions. We encourage you to participate in our business meeting at Sudwerk to learn about CWEMF's achievements over the past year and the new exciting activities we are planning including workshops and papers.

Tuesday will be a busy day with sessions on groundwater, flood modeling, environmental water management, and integrated modeling, to name a few. Dr. Cliff Dahm, our recently appointed Lead Scientist for the Bay-Delta, will share with us perspectives on modeling and organizing science in our fragile estuary under the Delta Science Program. If you are a student or young professional, please participate in our third student/young professional mentoring session. On Tuesday evening, the poster session and social will provide great opportunities to further discuss presentations and other research.

On Wednesday, advances in climate change research and progress on the California Water Plan Update will be introduced concurrently with geospatial data and conjunctive use sessions. Drought strategies, multidimensional modeling, CalSim 3.0 and water budgeting will give you a flavor for ongoing and future modeling as we close our third day.

This year, we provide speakers the opportunity to turn their talks into short papers to be published on the CWEMF Annual Meeting website as proceedings. We applaud the enthusiasms from our presenters who expressed their interest in participating in the proceedings, and invite you to contact your session moderator if you wish to join us in this new adventure.

Last but not least, we are very thankful to all our sponsors and volunteers that have made this event possible. We look forward to your feedback on what you enjoy the most and what can be improved for future meetings and events.

Sincerely,

A handwritten signature in black ink, appearing to read "Josué Medellín-Azuara". The signature is fluid and cursive, with a large initial "J" and "M".

Josué Medellín-Azuara
CWEMF Convener

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AGENDA

Monday, April 11

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

Refreshments sponsored by LimnoTech.

8:30 – 10:15 a.m.

Session 1. DSM2 Development and Applications

Moderator: Xiaochun Wang (DWR)

Location: Sierra 1

1. Delta Salinity Simulation with DSM2-GTM – En-Ching Hsu (DWR)
2. Challenges and Progress on Extending DSM2 for Mercury and Sediment – Jamie Anderson (DWR)
3. Synthesizing Data, Isotope Analyses, and DSM2 Nutrient Model Output to Characterize Nutrient Transformations in the Delta – Marianne Guerin (RMA)
4. Modeling Salinity in the San Francisco Bay-Delta Estuary using Artificial Neural Networks – Sujoy Roy (Tetra Tech)

Session 2. Water Availability and Water Rights Modeling for State Water Board Processes

Moderator: Rich Satkowski (SWRCB)

Location: Folsom/Natoma

1. 2015 Water Availability Analyses in the Sacramento-San Joaquin, Russian River, and Eel River Watersheds – Jeff Yeazell (SWRCB)
2. Update on the Drought Water Right Allocation Tool – Chad Whittington (UC Davis)
3. Water Supply Effects Modeling Analyzing San Joaquin Tributary Streamflow Requirements as Part of the SWRCB Bay-Delta Plan Update Process – Will Anderson (SWRCB)
4. Update on SacWAM: A WEAP-based Simulation Tool for Bay-Delta Water Quality Control Planning – Scott Ligare (SWRCB)

10:30 a.m. – 12:15 p.m.

Session 3. Incorporating Water Right Based Diversions into CalSim

Moderator: Erik Reyes (DWR)

Location: Sierra 1

1. Incorporating Water Right Based Diversions into CalSim – Session Introduction – Hongbing Yin (DWR)
2. Water Rights Mapping into CalSim – Liheng Zhong (DWR)
3. Land Use Projection for CalSim – Liheng Zhong (DWR)
4. CalSim Rim Inflow Projection – Guobiao Huang and Jay (Jianzhong) Wang (DWR)
5. A CalSim Model for Water Rights Diversion in Sacramento Valley – Z.Q. Richard Chen (DWR)

Session 4. Riverine and Alluvial Fan Flood Modeling

Moderator: Samson Haile-Selassie (DWR)

Location: Folsom/Natoma

1. Changing Flood Risks in the Central Valley under Climate Change – Armin Munévar (CH2M)
2. Atmospheric Conditions Associated with Extreme Precipitation and Post-fire Debris Flows on Alluvial Fans – Transverse Ranges, Southern California – Jeremy Lancaster (California Geologic Survey)
3. Alluvial Fan Flood Hazards and Modeling in the Coachella Valley – Jimmy Pan and Brady McDaniel (NHC)
4. Modeling Subsidence in the Central Valley and Evaluating the Current and Future Impact on Flood Risk – Mary Horvath (CH2M)
5. 2-D Modeling for the San Joaquin Basin-Wide Feasibility Study to Promote Multi-Benefit Projects – Devinder Dhillon (DWR)

12:15 – 1:00 p.m.

Lunch

Pick up a box lunch and then join us for the CWEMF Awards Ceremony in Sierra 1.

Lunch sponsored by cbec eco-engineering and CDM Smith.

1:00 – 2:00 p.m.

Session 5. CWEMF Awards Ceremony

Moderator: Benjamin Bray (CWEMF/EBMUD)

Location: Sierra 1

Presentation of the Hugo B. Fischer and Distinguished Life Membership awards.

2:00 – 3:15 p.m.

Session 6. Pop-up Talks

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

Location: Sierra 1

Pop-up talks are five minute overviews summarizing modeling work using a maximum of five PowerPoint slides per speaker.

[Advancing Residential Water Management by Smart Metering and Data Intensive Modeling of Consumers' Behaviors](#) – A. Cominola, M. Giuliani, A. Castelletti, J.R. Lund

[CalSim / CalLite Post-Processor](#) – Karandev Singh

[Comparative Study of Methods for Measuring Consumptive Use in the Delta: Study Progress Report](#) – Josué Medellín-Azuara, Yufang Jin, Kyaw Tha Paw U, Quinn Hart, Nadya Alexander, Michelle M. Leinfelder-Miles, J.R. Lund

[DSM2 User Group Overview](#) – Min Yu

[EPA Interoperable Watershed Pilot Project](#) – Tad Slawewski

[Flow-Salinity Relationships](#) – Daniel Broman

[Groundwater Storage Change Estimation](#) – Reza Namvar

[The Hobbes Project](#) – Quinn Hart

[The Horizon 2020 FREEWAT Project: Free and Open Source Software Tools for Water Resource Management](#) – Laura Foglia

[Improving the Calculation of River Seepage in Groundwater Models](#) – Hubert Morel-Seytoux

[Salmon Lifecycle Modeling for CVPIA](#) – Michael Wright

[Selecting Appropriate Model Sophistication for Analysis of Delta Hydrodynamics and Constituent Transport](#) – Paul Hutton

[SGMA: The Big Unifier](#) – Saquib Najmus

3:30 – 5:15 p.m.

Session 7. CalSim and CalLite Model Applications

Moderator: Raymond Hoang (DWR)

Location: Sierra 1

1. CalSim and CalLite Model Updates – Raymond Hoang and Nur Taraky (DWR)
2. What’s Controlling Delta Outflow? – Karandev Singh (DWR)
3. Decision Scaling with CalLite to Identify Climate Change Vulnerabilities to the State Water Project (Update of Work Performed to Date) – Andrew Schwarz (DWR)
4. Cost Allocation/Flow Tracker – Nancy Parker (Reclamation)
5. CalSim 3.0 and the San Joaquin: Has the Model Changed? – David O’Connor and Jim Shannon (Reclamation)

3:30 – 5:15 p.m.

Session 8. Shifting Baselines in the Bay-Delta Watershed and Estuary

Moderator: Paul Hutton (MWDSC)

Location: Folsom/Natoma

1. Development of Hydrologic Time Series for 1850-1920 – John Rath (Tetra Tech)
2. Changing Delta Inflows – a Historical Analytical Perspective – Andy Draper (MWH)
3. Delta and Central Valley Watershed Flows: Trends and Attribution 1922-2009 – Sujoy Roy (Tetra Tech)
4. Connecting Past to Present and Watersheds to Ocean: Modeling 165 Years of Incremental Changes to Flows into the San Francisco Bay Delta System – Lissa MacVean (UC Berkeley)

5:30 – 8:00 p.m.

Session 9. Business Meeting and Social

Moderator: Josué Medellín-Azuara (CWEMF/UC Davis)

Location: Sudwerk Brewhouse Grille

Social sponsored by MBK Engineers, Resource Management Associates, and RMC Water and Environment.

[CWEMF 2016 Annual Business Meeting](#)

Tuesday, April 12

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

Refreshments sponsored by Systech.

8:00 – 9:45 a.m.

Session 10. Managing Groundwater According to SGMA – Developing Approaches

Moderator: Robert Gailey (UC Davis)

Location: Sierra 1

1. Evaluating the Effects of Over Pumping and Drought on Water Supply Well Pumping Costs – Brad Arnold (UC Davis)
2. Effects of Ending Long-Term Overdraft on California’s Water Supply System – Mustafa Dogan (UC Davis)
3. Using Cross-Sectional Models to Develop Measurable Objectives for Saltwater Intrusion – Sean Culkin (HydroMetrics)
4. Hydro-Economic Considerations for Sustainable Groundwater Management – Robert Gailey (UC Davis)

Session 11. A Kaleidoscope of Modeling

Moderator: Laurel Saito (University of Nevada Reno)

Location: Folsom/Natoma

1. MODFLOW-OWHM Version 2 Features and Updates – Scott Boyce (USGS)
2. Evaluating Erosion at a Dam Spillway – a 3D Model of Free Surface Jet Flow – Will L’Hommedieu (cbec)
3. Flow Management Tool – Rob Simpson (Citizens Water Plan)
4. Updating EBMUD’s Water Supply Planning Model to Meet Future Challenges – Gary Palhegyi (EBMUD)
5. Fully Coupled 1-D Mobile-bed River Sediment Transport Model (Unsteady Flow and Non-equilibrium Sediment Transport with Looped Network System – Sungho Lee (DWR)

10:00 – 11:45 a.m.

Session 12. Coastal and Delta Flood Modeling

Moderator: Samson Haile-Selassie (DWR)

Location: Sierra 1

1. Operational and Future Flood Forecasting for San Francisco Bay and the Outer Coast – Liv Herdman (USGS)
2. California Coastal Flood Modeling and Effects of Sea Level Rise: Relating Future Conditions Coastal Flood Hazards to Existing Conditions FEMA Maps – Bob Battalio (ESA)
3. SCHISM: 2D and 3D Flood Modeling Approaches for the Bay-Delta – Eli Ateljevich (DWR)
4. Development of Stage-Frequency Curves in the Sacramento-San Joaquin Bay-Delta – Romain Maendly (DWR)
5. Delta Emergency Response Tool: Development and Operational Forecasting – Jeremy Hill (DWR), John DeGeorge (RMA), and Shankar Parvathinathan (MBK Engineers)

Session 13. Integrated Water Resources Modeling

Moderator: Ali Taghavi (RMC)

Location: Folsom/Natoma

1. Using CVFED Hydraulic Models to Inform the C2VSim Groundwater-Surface Water Model – Holly Canada (David Ford Consulting Engineers)
2. Recent Enhancements to the SACFEM Groundwater Flow Model of the Sacramento Valley – Heather Perry (CH2M)
3. HydroEconomic Modeling of Groundwater Sustainability, A Pilot Study – Mesut Cayar (RMC)
4. Features and Planned Updates in the Integrated Water Flow Model (IWFM) in Support of Sustainable Groundwater Management Act (SGMA) – Emin Can Dogrul (DWR)

11:45 a.m. – 12:30 p.m.

Lunch

Pick up a box lunch and then join us for the keynote speech by Cliff Dahm, Lead Scientist for the Delta Science Program, in Sierra 1.

Lunch sponsored by Larry Walker Associates and CWEMF.

12:30 – 1:15 p.m.

Session 14. Keynote Speaker

Moderator: Josué Medellín-Azuara (CWEMF/UC Davis)

Location: Sierra 1

[Musings on Models and the Delta Science Program](#) - Cliff Dahm, Lead Scientist, Delta Science Program

1:15 – 3:00 p.m.

Session 15. Advances in Integrated Modeling

Moderator: Nigel Quinn (Berkeley National Laboratory/Reclamation)

Location: Sierra 1

1. Long-term Decline in Ungaged Inflows and the Beginning of Net Seepage Losses in the Lower San Joaquin River – Joel Herr (Systech)
2. Interaction of Surface Water and Groundwater under Highly Dynamic Conditions – Michael Gabora (DHI)
3. Developing Water Quality Objectives for Salinity Diversions to Agriculture using Steady-state and Transient Models – Nigel Quinn (Berkeley National Laboratory/Reclamation)
4. Integrated Modeling of Surface and Groundwater Quality: Using EC to Calibrate Hydrology between ET and Deep Percolation to Groundwater – Joel Herr (Systech)

Session 16. Environmental Flows Modeling Under Climate Extremes

Moderator: Josué Medellín-Azuara (CWEMF/UC Davis)

Location: Folsom/Natoma

1. Recommendations for a Modeling Framework to Answer Nutrient Management Questions in the Sacramento-San Joaquin Delta – Mike Deas (Watercourse Engineering)
2. Multi-benefit Analysis for Flood Bypass Capacity Optimization – Alessia Siclari (UC Davis)
3. Modeling Juvenile Fish Passage at Shasta Lake – Laurel Saito (University of Nevada Reno)
4. Central Valley Refuge Management under Non-stationary Climatic and Management Conditions – Karandev Singh (DWR)
5. Using Machine Learning to Statistically Model Natural Flow: The Sacramento River Watershed under Dry Conditions – Bonny Magnuson-Skeels (UC Davis)

3:15 – 5:00 p.m.

Session 17. Sustainable Groundwater Management

Moderators: Steffen Mehl (CSU Chico) and Rich Juricich (DWR)

Location: Sierra 1

1. The Sustainable Groundwater Management Act, a Year Later – Rich Juricich (DWR) and Sam Boland-Brien (SWRCB)
2. Measurable Objectives for SGMA – Juliet Christian-Smith (Union of Concerned Scientists)
3. Tackling Technical and Policy Aspects of SGMA in Butte County – Christina Buck (Butte County)
4. Historic, Current, and Future Availability of Surface Water for Agricultural Groundwater Banking in the Central Valley, California – Helen Dahlke (UC Davis)

Session 18. San Joaquin River Restoration Program 2D Hydraulic Modeling Applications

Moderator: Katrina Harrison (Reclamation)

Location: Folsom/Natoma

1. Two-dimensional Water Temperature Modeling of In-channel and Hydraulically Connected Off-channel Zones in Reach 1A of the San Joaquin River – Daniel Dombroski (Reclamation)
2. Preliminary Estimates of Chinook Salmon Spawning Habitat within Reach 1A of the San Joaquin River – Blair Greimann (Reclamation)
3. Channel Morphology Design of the Mendota Pool Bypass – Rebecca Kallio (Reclamation)
4. Informing Channel Stability Considering Added Cohesion Due to Roots using BSTEM – Emily Thomas (Reclamation)

Session 19. Student/Young Professional Mentoring Session

Moderator: Holly Canada (David Ford Consulting Engineers)

Location: TBD

The Student/Young Professional Mentoring Session is designed to bring students and young professionals together with experienced modelers. A panel of successful modelers will talk about their careers and what skills they consider important in the workplace. Students and young professionals will have the opportunity to ask questions of the mentors and discuss their career goals.

5:00 – 7:00 p.m.

Session 20. Poster Session and Social

Moderator: Stacy Tanaka (Watercourse Engineering)

Location: Sierra 2

Poster session sponsored by Watercourse Engineering.

Social sponsored by CH2M, Tetra Tech, and HDR.

Poster Session Titles

1. [Optimal Drinking Water Provision](#) – Lauren Adams (UC Davis)
2. [An Innovative Cellular Automata Method for Reliability-based Hydropower Operation of Reservoirs](#) – Mohammad Azizipour (UC Davis)
3. [Recommendations for a Modeling Framework to Answer Nutrient Management Questions in the Sacramento-San Joaquin Delta](#) – Mike Deas (Watercourse Engineering)
4. [FREEWAT, a HORIZON 2020 Project to Build Open Source Tools for Water Management: A European Perspective](#) – Laura Foglia (UC Davis)
5. [Understanding Reservoir Temperature Dynamics with Distributed Temperature Sensing and Modeling at Shasta Lake, California](#) – Rachel Hallnan (University of Nevada Reno)
6. Evaluating the Effects of Over Pumping and Drought on Water Supply Well Capacity – Angela Kwon (UC Davis)
7. [A Reach-Scale Hydrogeomorphic Classification of California for Environmental Flows Applications](#) – Belize Lane (UC Davis)
8. [Defining MODFLOW's River Coefficient for Calculation of Seepage in Large Regional Studies](#) – Hubert Morel-Seytoux (Hydroprose International Consulting)
9. [Water Prism, a Decision Support System for Examining Strategies to Address Water, Energy, Food, and Ecosystem Security Challenges](#) – Tad Slaweki (LimnoTech)
10. [Climate Change Impact Study with CMIP5 and Comparison with CMIP3](#) – Jay (Jianzhong) Wang (DWR)
11. [A Review of Grid-based Datasets for Hydrological Modeling](#) – Luciana Cunha (West Consultants)
12. Site Specific Probable Maximum Precipitation (PMP) – Jeff Harris (West Consultants)
13. Quantifying Floodplain Inundation Patterns in Space and Time – Alison Whipple (UC Davis)

14. [Implementation of the Truckee River Operating Agreement with the RiverWare Modeling Platform](#) – James Lu (Reclamation)
15. Bay-Delta Water Quality Control Plan Update – Fish Benefit Analysis – Timothy Nelson (SWRCB)
16. [Optimal Selection and Placement of Green Infrastructure and Tracking Progress for Urban Watersheds](#) – Jing Wu (San Francisco Estuary Institute)

Wednesday, April 13

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

Refreshments sponsored by ICF International.

8:00 – 9:45 a.m.

Session 21. Climate Change Adaptation – Strategies and Insights from the Sacramento-San Joaquin Basins Study

Moderator: Michael Tansey (Reclamation)

Location: Sierra 1

1. Climate Change Impact Study with CMIP5 and Comparison with CMIP3 – Jay (Jianzhong) Wang (DWR)
2. Assessing Impacts of Climate and Socioeconomic Changes on Central Valley System Risk and Reliability – Brian Van Lienden, and Tapash Das (CH2M)
3. Development of Water Management Actions and Portfolios to Address Central Valley System Risks – Armin Munévar (CH2M)
4. Evaluation of Portfolio Performance and Trade-offs in Management of Future Central Valley System Risks – Michael Tansey (Reclamation)
5. Next Steps for the Sacramento and San Joaquin Basins Study – Arlan Nickel (Reclamation)

Session 22. NHD Hydro Spatial Data Review 2016

Moderator: Jane Schafer-Kramer (DWR)

Location: Folsom/Natoma

1. The National Hydrography Dataset (NHD) and National Hydrography Dataset Plus (NHDPlus) – Alan Rea (USGS)
2. National Watershed Boundary Dataset Overview – Susan Buto (USGS)
3. Data Wrangling with Reachcodes – Jeff Kapellas and Stephanie Bucknam (SWRCB)
4. Status of National Hydrography (NHD) Dataset Stewardship for California – Jane Schafer-Kramer (DWR)
5. USGS National Geospatial Program 3D Elevation Program for Understanding California's Surface Waters – Carol Ostergren (USGS)

10:00 – 11:45 a.m.

Session 23. Advanced Conjunctive Use Analysis with MODFLOW One Water

Moderators: Scott Boyce (USGS) and Randall Hanson (USGS)

Location: Sierra 1

1. Use of MODFLOW-OWHM to Simulate Land Subsidence – Jonathan Traum (USGS)
2. Development of the Sonoma Valley Integrated Hydrologic Flow Model – Andrew Rich (Sonoma County Water Agency)
3. Rio Grande Integrated Hydrologic Modeling Updates with Reservoir Operations Linkage – Randall Hanson (USGS)
4. Effects of Agricultural Water Transfers in Northern California on Aquifer Declines, Energy, and Food Production – Steffen Mehl (CSU Chico)
5. Land Subsidence and the Conjunctive Use of Water in the Central Valley: Past, Present, and Future – Claudia Faunt (USGS)

Session 24. California Water Plan Update 2018: Employing New Integrated Water Management Tools for Sustainable Outcomes

Moderator: Abdul Khan (DWR)

Location: Folsom/Natoma

1. California Water Plan 2018: Outcome-based Planning for Better Policy Decisions – Paul Massera (DWR)
2. Strategic Vision and Framework for IWM Data and Tools – Rich Juricich (DWR)
3. Comprehensive Water Budget Pilots for Tulare Lake and Central Coast Hydrologic Regions – Abdul Khan (DWR)

11:45 a.m. – 1:15 p.m.

Lunch at area restaurants

1:15 – 3:00 p.m.

Session 25. Dealing with Drought: Data, Modeling, and Strategies

Moderator: Jamie Anderson (DWR)

Location: Sierra 1

1. The California Drought of 2012-15 and Comparison to Past Droughts – Maurice Roos (DWR)
2. Hydroclimatic Characteristics of the 2012-2015 California Drought in a Historical Context – Kevin He (DWR)
3. Modeling Challenges for the 2015 Emergency Drought Barrier – Ming-Yen Tu and Kijin Nam (DWR)
4. Lessons from Recent California Droughts – Jay Lund (UC Davis)
5. Drought Management Practices – International Context – Pavithra Prakash (UC Davis)

Session 26. Multi-D Modeling

Moderators: Aaron Bever (Anchor QEA) and Eli Ateljevich (DWR)

Location: Folsom/Natoma

1. Flow Distribution at Fremont Weir, Sutter Bypass, Sacramento River, and Yolo Bypass by 2-Dimensional Hydraulic Model – Sungho Lee (DWR)
2. Bay-Delta SCHISM – Eli Ateljevich (DWR)
3. Three -dimensional Modeling of Suspended Sediment and Turbidity throughout the Sacramento-San Joaquin Delta – Aaron Bever (Anchor QEA)
4. Subgrid Bathymetry for Seamless 1D, 2D, and 3D Hydrodynamics and Sediment Transport Modeling in SUNTANS – Oliver Fringer (Stanford University)
5. Biogeochemical Modeling to Inform Nutrient Management Decisions in San Francisco Bay – Rusty Holleman (San Francisco Estuary Institute)

3:15 – 5:00 p.m.

Session 27. Development Updates and Application of CalSim 3.0 (Sacramento Valley)

Moderator: Hongbing Yin (DWR)

Location: Sierra 1

1. CalSimHydro Updates– Mei (Idy) Lui (DWR)
2. Reconstruction of Sacramento Valley Hydrology – Z.Q. Richard Chen (DWR)
3. CalSim 3.0 (Sacramento Valley) Model Calibration – Mei (Idy) Lui (DWR)
4. Construction of Hydrology at Historical Development Levels (HDL) in Sacramento Valley – Z.Q. Richard Chen (DWR)

Session 28. Water Budgets: An Overview for Supporting SGMA Implementation

Moderator: Mesut Cayar (RMC)

Location: Folsom/Natoma

1. Water Budget – Utility, Reliability, and Uncertainty – Abdul Khan (DWR)
2. Integrated Water Flow Model (IWFM): A Tool for Effective Water Budgeting in Support of SGMA – Emin Can Dogrul (DWR)
3. MODFLOW-OWHM Hydrologic Budgets and Case Studies – Jonathan Traum (USGS)
4. Bringing it All Together: Water Budget Framework – Saquib Najmus (RMC)

ABSTRACTS

Please go to
www.cwemf.org/AnnualMeeting/2016Abstracts.pdf
for Abstracts with links to Speaker Presentations

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