

CW3E Annual Meeting
June 6 - 8, 2022
The Ida and Cecil Green Faculty Club
UCSD Campus, La Jolla

Monday, June 6th

- 12:30 - 1:00 Check-in / Register
- 1:00 - 2:00 CW3E Eight Years On - and Beyond, *Marty Ralph*
- 2:00 - 2:30 Introductions of new CW3E Staff
- 2:30 - 2:50 *BREAK***
- 2:50 - 4:50 **CW3E Observations and Data Assimilation Efforts and Partnerships****
Moderator(s): Anna Wilson & Minghua Zheng
- 2:50 - 3:05 Session Introduction: Overview and Highlights, *Anna Wilson, CW3E*
- 3:05 - 3:25 Impacts of AR Recon Dropsondes on the Forecasts of Landfalling Atmospheric Rivers in Numerical Weather Models, *Minghua Zheng, CW3E*
- 3:25 - 3:45 Overview of Ensemble-Based Sensitivity for Atmospheric River Applications, *Ryan Torn, University of Albany*
- 3:45 - 4:05 Air Force National Winter Season Operations Plan (Atmospheric River) Recap and Way Forward, *Lt. Col. Ryan Rickert, US Air Force Reserves 53rd Weather Reconnaissance Squadron*
- 4:05 - 4:25 Land-based Observations: Water Year 2021/2022 Highlights and Look-Ahead, *Ava Cooper, CW3E*
- 4:25 - 4:50 Discussion and Areas for Follow-up
- 4:50 - 5:00 Poster Lightning Session (brief teasers by poster presenters)
- 5:00 - 7:00 **Poster Session / Reception****

Tuesday, June 7th

- 9:00 - 9:10 Remarks by SIO Director, Dr. Margaret Leinen**
- 9:10 - 10:25 **Climate Science****
Moderator: Julie Kalansky
- 9:10 - 9:30 Seasonal and Storm Total Precipitation Reconstructions in California from Tree Rings, *Dave Stahle and Ian Howard, University of Arkansas*

Tuesday, June 7th

- 9:30 - 9:50 Extreme Precipitation and Future Projections, *Dan Cayan, UCSD/SIO*
- 9:50 - 10:10 Assessing Vulnerability and Adaptive Management Under Climate Change
Scenarios: Lessons from California's Largest Reservoir, *Mike Sierks, CW3E*
- 10:10 - 10:25 Discussion and Areas for Follow-up
- 10:25 - 10:45 BREAK**
- 10:45 - 12:00 Intersections and Transitions Between the Research and Operations Components of CW3E - Leads: Rob Hartman and Arleen O'Donnell**
- 12:00 - 1:00 LUNCH**
- 1:00 - 3:00 Forecasting, NRT, Verification**
Moderators: Rachel Weihs and Luca Delle Monache
- 1:00 - 1:20 Weather Prediction Center QPF and PQPF: Operations and R2O, *Jim Nelson, Weather Prediction Center*
- 1:20 - 1:40 2021-2022 West-WRF NRT Update, *Dan Steinhoff, CW3E*
- 1:40 - 2:00 Near Real-Time AR Forecast Verification, *Rachel Weihs, CW3E*
- 2:00 - 2:20 Sub-kilometer Numerical Weather Predictions over San Diego County, *Matthew Simpson, CW3E*
- 2:20 - 2:40 Forecast Perspectives on the Late January 2021 Atmospheric River, *Chad Hecht, CW3E*
- 2:40 - 3:00 Discussion and Areas for Follow-up
- 3:00 - 3:20 BREAK**
- 3:20 - 5:10 AR Science, GeoHazards**
Moderators: Jay Cordeira, Nina Oakley
- 3:20 - 3:25 Session Introduction: *Jay Cordeira, Nina Oakley*
- 3:25 - 3:45 Analysis of the Synoptic Settings and Predictability of Atmospheric Rivers using Self-Organizing Maps and Potential Vorticity, *Greta Easthorn and Gary Lackmann, NC State*
- 3:45 - 4:05 Dynamics and Evolution of the Longest-Lasting Persistent Ridge Regime over Western North America, *Tyler Leicht, University of Albany*
- 4:05 - 4:25 Global Application of the Atmospheric River Scale, *Bin Guan, NASA JPL*
- 4:25 - 4:45 From Rainfall to Runout: A Model for Rapid Assessments of Post-wildfire Debris Flow Inundation, *Luke McGuire, Univ. of Arizona*
- 4:45 - 5:00 Discussion and Areas for Follow-up

5:00 - 5:10 Wrap-Up and Look Ahead

Wednesday, June 8th

9:00 - 10:40 Hydrology, FIRO

Moderator: Duncan Axisa

9:00 - 9:20 From Weather to Water: a Summary on CW3E Hydrology Team Research and Development, *Ming Pan, CW3E*

9:20 - 9:40 The Role of Soil Moisture in Spring Runoff Predictability in a Warming Climate, *Dennis Lettenmaier, UCLA*

9:40 - 10:00 Water Forecasts to Reservoir Operations, *Chris Delaney, CW3E*

10:00 - 10:20 Recent Enhancements on CNRFC Forecast Systems HEFS and CHPS, *Brett Whitin, CNRFC*

10:20 - 10:40 Discussion and Areas for Follow-up

10:40 - 11:00 BREAK

11:00 - 12:00 / S2S Forecasting to Include Bulletin 120 (B-120)

1:00 - 2:00 *Moderator: Mike DeFlorio*

11:00 - 11:20 Highlights of CW3E S2S Research, Scientific Community Engagements/Activities, and Experimental Forecast Product Development, *Mike DeFlorio, CW3E*

11:20 - 11:40 A Statistical-Dynamical Hybrid Approach for Predicting Impactful California Weather on Extended Range Timescales, *Kristen Guirguis, CW3E*

11:40 - 12:00 CW3E Efforts to Improve S2S Water Supply Forecasts, *Ming Pan, CW3E*

12:00 - 1:00 LUNCH

1:00 - 1:20 MJO Impacts on Precipitation Extremes over the Western U.S.: Seasonality and QBO Modulation, *Jiabao Wang, CW3E*

1:20 - 1:40 Development of a Statistical Forecast Tool to Predict Atmospheric River Activity and Precipitation in California on Subseasonal Time Scales, *Chris Castellano, CW3E*

1:40 - 2:00 Discussion and Areas for Follow-up

2:00 - 3:35 Emerging Technologies: High Performance Computing (COMET), Dynamical Modeling, Observations, and Machine Learning

Moderators: Agniv Sengupta, Luca Delle Monache

2:00 - 2:20 Recent Advances in Airborne Radio Occultation, *Jennifer Haase, UCSD/SIO*

2:20 - 2:40 Evolution of Machine Learning Algorithms for Satellite Precipitation Estimation over Three Decades and Their Applications, *Soroosh Sorooshian, UC Irvine*

Wednesday, June 8th

- 2:40 - 3:00 COMET: Petascale Computing to Support Research and Development for Western Weather and Water Extremes, *Luca Delle Monache, CW3E*
- 3:00 - 3:20 Highlights of CW3E ML Research and Accomplishments, *Agniv Sengupta, CW3E*
- 3:20 - 3:35 Discussion and Areas for Follow-up
- 3:35 - 3:50 *BREAK***
- 3:50 - 4:45 Looking Ahead: CW3E's Next 5 Year Strategic Plan: 2024 - 2029**
Leads: *Julie Kalansky, Arleen O'Donnell*
- 4:45 - 5:00 Meeting Wrap-up, *Marty Ralph***
- 5:30-7:30 Scripps Surfside Beach Party**