

CalWater 2015 – ACAPEX Campaign Planning Workshop

Scripps Institution of Oceanography La Jolla, California

Tuesday, 22 April, 1:30 PM – Thursday, 24 April 2014, 4:00 PM

CalWater 2 Co-Leads: Marty Ralph, Kim Prather, Dan Cayan (Scripps)
Organizing Committee: Chris Fairall (NOAA), Ruby Leung (PNNL), Andrew Martin (Scripps), Ryan Spackman (NOAA/STC)

CalWater 2 and ACAPEX (ARM Cloud Aerosol Precipitation Experiment) is moving from the white-paper stage to planning and implementation stages. This involves developing near-term implementation plans for January-February 2015 when major facilities deployments are scheduled. It also includes strategic planning for activities over the next 5 years. Science objectives need to be refined, planning for field operations is required, and synergistic modeling activities are ready to be identified and developed.

Workshop Goals

- 1) Review CalWater accomplishments, identify science gaps, and refine science goals and priorities in the context of the long-term vision for CalWater 2.
- 2) Present and discuss the planned measurements, platforms, and payloads for CalWater 2-ACAPEX to address the science objectives including detailed implementation strategies and deployment logistics for 2015.
- 3) Coordinate and discuss modeling and remote sensing activities.

Logistics Details

- 1) Workshop *by invitation only* with maximum participants at 40.
- 2) Full workshop adjourns on Thursday, 24 April at 12:00 PM.
- 3) CalWater 2 Core Scientific Steering Group and Logistics Coordination Group will meet *separately* on 24 April between 1:00 – 4:00 PM.
- 4) A room block at the La Jolla Shores Hotel (877-346-6714) was established and the block closed on 8 April. Although within walking distance, the hotel does offer a free shuttle to the Martin Johnson House as well as the Scripps Seaside Forum. Please contact the Scripps Logistics Coordinator (Donna Stout, dstout@ucsd.edu) for assistance with lodging.
- 5) Continental breakfast, lunch, snacks, and refreshments will be provided throughout the workshop to complement the busy agenda.

Workshop sponsored by Scripps Center for Western Weather and Water Extremes (CW3E), Scripps Center for Aerosol Impacts on Climate and the Environment (CAICE), and Science and Technology Corporation (STC).

Agenda

Tuesday Afternoon, 22 April 2014 Martin Johnson House

Time	Topic
1:30 – 1:45 PM	Welcome and Introductions (<i>Ralph</i>)
1:45 – 2:00 PM	Climate Change Impacts, Risks, and Adaptation for Water in California (<i>Cayan</i>)
2:00 – 3:15 PM	CalWater 1 Accomplishments (Chair: <i>Cayan</i>) History, vision, and atmospheric river science highlights (<i>Ralph</i>) Aerosol and microphysics science highlights (<i>Prather</i>)
3:15 – 3:45 PM	Break
3:45 – 4:45 PM	CalWater 2 – ACAPEX Science Goals and Priorities (Chair: <i>Cayan</i>) Atmospheric rivers (ARs) goals (<i>Waliser</i>) Aerosol-cloud-precipitation goals (<i>Leung/Rosenfeld/Prather</i>)
4:45 – 5:15 PM	CalWater 2 Early Start Successes (Chair: <i>Fairall</i>) NOAA G-IV flights in February 2014 (<i>Spackman</i>) BBACPAX observations at Bodega Bay (<i>Martin</i>)
5:15 – 5:45 PM	Discussion – Lessons learned and refinement of the science priorities for CalWater 2015 – ACAPEX (<i>Waliser/Cayan</i>)
5:45 – 7:00 PM	Joint Reception with the <i>Climate Variability and Change in the California Current Ecosystem 2 Workshop</i> , Scripps Seaside Forum (Wine, Beer, Snacks)

Wednesday, 23 April 2014 Martin Johnson House

Time	Topic
8:00 – 8:30 AM	Revisit science priorities for CalWater 2015 – ACAPEX (<i>Leung</i>)

8:30 – 9:45 AM	<p>Implementation – Measurements, Platforms, Payloads (Chair: <i>White</i>)</p> <p>DOE G-1 (<i>Leung</i>) NOAA WP-3D – CalWater 2 (<i>Spackman/White</i>) NOAA WP-3D – Ocean Winds (<i>Jelenak</i>) NOAA G-IV (<i>Intrieri/White</i>) NASA Global Hawk (<i>Wick</i>)</p>
9:45 – 10:00 AM	Break
10:00 AM– 11:15 PM	<p>Implementation – Measurements, Platforms, Payloads (Chair: <i>DeMott</i>)</p> <p>NOAA Ron Brown (<i>Fairall/Rutledge</i>) DOE AMF2 (<i>Leung</i>) PMEL Shipboard Measurements (<i>Bates/Quinn</i>) HydroMeteorological Testbed Network (<i>White</i>) UCSD ground-based activities (<i>Collins</i>)</p>
11:15 AM– 12:30 PM	<p>New and Future Opportunities (Chair: <i>Leung</i>)</p> <p>Airborne Snow Observatory (<i>Painter</i>) AirMSPI (<i>Diner</i>) Autonomous measurements and global modeling of mineral aerosols (<i>Evan</i>) Cloud monitoring research program: Collaborative opportunity between NRL and Scripps (<i>Flatau/Schmidt</i>) Measurement, forecasting and analysis activities at NRL (<i>Campbell</i>)</p>
12:30 – 1:30 PM	Lunch
1:30 – 2:45 PM	<p>Implementation – Deployment Operations and Logistics (Chair: <i>Fairall</i>)</p> <p>Aircraft Facilities Logistics DOE G-1 (<i>Schmid/Hubbell</i>) NOAA WP-3D (<i>McFadden/Kibbey</i>) NOAA G-IV (<i>Parrish</i>) Ship Logistics – DOE AMF2 install on Ron Brown (<i>Ritsche/Haruta</i>)</p>
2:45 – 3:15 PM	Break
3:15 – 5:15 PM	<p>Implementation – Flight Operations and Coordination (Chair: <i>Intrieri</i>)</p> <p>Developing concept of operations – Facilities coordination (<i>Ralph</i>) Meteorological forecasting (<i>Cordeira</i>) Data plan (<i>Helly/Leung/White</i>) Near shore flight planning for the G-1 (<i>Rosenfeld/Leung</i>) Offshore flight planning and mission monitoring for the WP-3D and G-IV (<i>Spackman</i>)</p>
5:15 – 6:00 PM	<p>Discussion – Refining the implementation plan to meet the science goals (<i>Ralph/Fairall</i>)</p>

Thursday Morning, 24 April 2014
Scripps Seaside Forum, Ted Scripps Room

Time	Topic
8:00 – 10:00 AM	Modeling and Analysis Activities (Chair: <i>Martin</i>) Modeling resources, AR metrics, diagnostics, and satellite remote sensing products (<i>Waliser</i>) AR forecasting (<i>Dettinger</i>) CrIS/ATMS retrieval products (<i>Barnet</i>) AR and aerosol-cloud-precipitation – process modeling and model intercomparison (<i>Leung</i>) Regional downscaling: Testing the sensitivity of climatological precipitation to microphysics and lateral boundary conditions in a regional climate model (<i>Hughes</i>) Aerosol-cloud-precipitation modeling (<i>Prather/Martin</i>)
10:00 – 10:30 AM	Discussion – Modeling and analysis coordination (<i>Waliser/Leung</i>)
10:30 – 10:45 AM	Break
10:45 AM– 12:00 PM	Workshop Summary and Action Items (Chair: <i>Cayan</i>) Review science objectives (<i>Leung/Prather</i>) Review schedule and implementation strategies (<i>Spackman</i>) Review modeling activities (<i>Waliser</i>) Working Group Assignments and Actions (<i>Ralph</i>)

Thursday Afternoon, 24 April 2014
Scripps Seaside Forum

Time	Topic
1:00 – 4:00 PM	CalWater 2 Core Scientific Steering Group Robert Scripps Room
1:00 – 4:00 PM	Logistics Coordination Group (DOE, NOAA, NASA) Ted Scripps Room