

AGENDA FOR THE TWENTY-FOURTH PACIFIC CLIMATE WORKSHOP

**Asilomar State Conference Grounds, Pacific Grove, California
19-22 April 2009**

The Pacific Climate Workshop (PACLIM) is a multidisciplinary workshop that broadly addresses the climatic phenomena occurring in the eastern Pacific Ocean and western North America. The purpose of the workshop is to understand climate effects in this region by bringing together specialists from diverse fields including physical, social, and biological sciences. Time scales from weather to the Pleistocene are addressed in oral and poster presentations.

The theme of the 2009 PACLIM workshop addresses the connection between atmospheric and oceanic processes in the eastern Pacific Ocean and the climate of western North America. The remainder of the meeting is devoted to a wide range of climate-related topics.

The atmosphere of the workshop is intentionally informal, and room and board are provided for many of the participants. This year, the workshop was organized by representatives of the U.S. Geological Survey and U.S. Forest Service. The funding and other sources of support come from several agencies:

The CALFED Bay-Delta Science Program: **Cliff Daum**

The Desert Research Institute: **John Warwick**

The U.S. Geological Survey Office of Global Change: **Tom Armstrong and Virginia Burkett**

The U.S. Geological Survey Office of Surface Water: **Julie Kiang**

The U.S. Naval Postgraduate School: **Tom Murphree**

All oral presentations will be in the **FRED FARR FORUM** and posters will be in the **KILN ROOM**.

SUNDAY NIGHT, April 19th

Moderator: Scott Starratt

CURRENT EVENTS

SUNDAY AFTERNOON REGISTRATION

600-700 DINNER

700-715 OPENING REMARKS
Scott Starratt (USGS-Menlo Park)

- 715-745 THE WEATHER AND CLIMATE OF PACLIM YEAR 2008-2009
Kelly Redmond (WRCC)
- 745-815 WY 2009: WILL THERE BE ENOUGH WATER FOR CALIFORNIA?
Maurice Roos (CA DWR))
- 815-1000 POSTERS AND SOCIALIZING

MONDAY MORNING, April 20th

Moderator: John Barron

SPECIAL SESSION: MODERN MARINE-TERRESTRIAL CLIMATE CONNECTIONS

- 730-830 BREAKFAST
- 845-900 INTRODUCTORY REMARKS
Scott Starratt (USGS, Menlo Park)
- 900-925 RECENT TRENDS IN CALIFORNIA SNOWMELT RUNOFF
Iris T. Stewart (Santa Clara University)
- 925-950 WESTERN CANADIAN INTERIOR STREAMFLOW TIME SERIES:
TRENDS AND VARIABILITY
Jeannine-Marie St. Jacques, David J. Sauchyn, (both University of Regina), and Jodi Axelson (Pacific Forestry Centre)
- 950-1015 RESPONSE OF NORTH CASCADE GLACIERS TO CLIMATE
CHANGE, METHODS FOR FORECASTING THEIR MASS BALANCE
AND SURVIVAL
Mauri S. Pelto (Nichols College)
- 1015-1035 BREAK
- 1035-1100 NORTHERN HEMISPHERE MODES OF VARIABILITY AND THE
TIMING OF SPRING
Toby R. Ault, Alison K. Macalady, Greg Pederson (all University of Arizona), Julio L. Betancourt (USGS, Tucson), and Mark D. Schwartz (University of Wisconsin-Milwaukee)
- 1100-1125 SUMMER FOG VARIABILITY FROM HOURLY TO CENTURY
SCALES IN THE COAST REDWOOD REGION OF NORTHERN
CALIFORNIA
James A. Johnstone and Todd E. Dawson (both University of California-Berkeley)

1125-1150 CLIMATIC CONTROLS ON SUMMERTIME FOG AND LOW STRATUS CLOUDINESS ALONG THE US WEST COAST
A. Park Williams, Joel Michaelsen, and Christopher J. Still (all University of California-Santa Barbara)

1200-100 LUNCH

MONDAY AFTERNOON, April 20th

Moderator: Dave Wahl

SPECIAL SESSION: PAST MARINE-TERRESTRIAL CLIMATE CONNECTIONS

130-155 CLIMATE CHANGE AND CULTURAL RESPONSE IN THE PREHISTORIC AMERICAN SOUTHWEST
Larry V. Benson (USGS-Boulder)

155-220 DROUGHT IN THE WEST: ASPECTS OF HISTORY AND SCALE
Wolfgang H. Berger (Scripps Institution of Oceanography)

220-245 MAKING CONNECTIONS IN THE NORTHEAST PACIFIC: LAND AND SEA, NORTH AND SOUTH
Bruce Finney (Idaho State University) and Jason Addison (University of Alaska)

245-310 MARINE AND TERRESTRIAL RECORDS ALONG THE PACIFIC COAST OF NORTH AMERICA REVEAL ENHANCED EXPRESSION OF ENSO CYCLES AFTER ~4,200 YEARS B.P.
John A. Barron (USGS-Menlo Park)

310-330 BREAK

330-355 EXPLORING THE SCALES OF FIRE HISTORY IN THE PACIFIC NORTHWEST AND POTENTIAL LINKS TO ENSO
Douglas J. Hallett (Queen's University)

355-420 THE DYNAMIC NATURE OF DESERT WETLANDS- HOLOCENE CHANGES IN SEDIMENTATION AND FIRE REGIME ON THE ARIZONA/MEXICO BORDER
Andrea Brunelle (University of Utah), Thomas Minckley (University of Wyoming), Shawn Blissett, Brenda Guzman (UNAM-Baja California), and Scott Starratt (USGS-Menlo Park)

- 420-445 LAKE SEDIMENT D/H RATIOS: A POTENTIAL TRACER FOR
DECADAL SCALE HYDROCLIMATE VARIABILITY IN THE
SIERRA NEVADA
Lydia D. Roach, Daniel C. Cayan (both Scripps Institution of
Oceanography), Alex L. Sessions (California Institute of Technology),
Christopher D. Charles (Scripps Institution of Oceanography) , and R.
Scott Anderson (Northern Arizona University)
- 445-510 HYDROLOGIC VARIABILITY IN THE WESTERN SIERRA NEVADA
SINCE THE LAST GLACIAL MAXIMUM FROM D/H RATIOS IN
LEAF WAXES
Joseph H. Street (University of California-Santa Cruz, Stanford
University), Alex L. Sessions (California Institute of Technology) , R.
Scott Anderson (Northern Arizona University), Jeffrey M. Welker
(University of Alaska), and Adina Paytan (University of California-Santa
Cruz)
- 600-700 DINNER

MONDAY EVENING, April 20th

Moderator: Scott Starratt

- 700-800 A CLIMATE OF STEWARDSHIP IN THE SIERRA NEVADA
John Muir Laws (California Academy of Sciences)
- 800-1000 POSTERS AND SOCIALIZING

TUESDAY MORNING, April 21st

Moderator: Dave Miller

POTPOURRI – PAST AND PRESENT

- 730-830 BREAKFAST
- 900-925 SEDIMENT GEOCHEMICAL RECORDS OF PRODUCTIVITY AND
OXYGEN DEPLETION ALONG THE MARGIN OF WESTERN
NORTH AMERICA DURING THE PAST 60,000 YEARS:
TELECONNECTIONS WITH THE GREENLAND ICE AND THE
CARIACO BASIN
Walter E. Dean (USGS-Denver)
- 925-950 CHRONOLOGY OF PLUVIAL LAKE COYOTE, CALIFORNIA, AND
IMPLICATIONS FOR 25,000 TO 10,000 CAL YR B.P. MOJAVE
RIVER PALEOHYDROLOGY
David M. Miller (USGS-Menlo Park), Stephanie L. Dudash (Montrose,
CO), and John P. McGeehin (USGS-Reston)

- 950-1015 LATE PLEISTOCENE SHORELINE FLUCTUATIONS OF LAKE MANIX, MOJAVE DESERT: PALEOCLIMATE IMPLICATIONS
Marith C. Reheis (USGS-Denver), David M. Miller (USGS-Menlo Park), and John P. McGeehin (USGS-Reston)
- 1015-1035 BREAK
- 1035-1100 NINETEENTH CENTURY PRECIPITATION VARIATIONS IN WESTERN NORTH AMERICA
Stephanie F. Dodds (University of South Carolina)
- 1100-1125 D/H RATIOS OF BIOMARKERS AS A TOOL FOR PALEOHYDROLOGY
Sarah Feakins (University of Southern California)
- 1125-1150 TREE-RING CARBON ISOTOPES IN THE U.S. SOUTHWEST: INFERENCE OF MOISTURE AND MONSOON
Steven W. Leavitt, Connie A. Woodhouse, David M. Meko, and Ramzi Touchan (all University of Arizona)
- 1200-100 LUNCH

TUESDAY AFTERNOON, April 21st

Moderator: John Barron

POTPOURRI – MODERN

- 130-155 CLIMATEWNA - ACCESS TO HIGH SPATIAL RESOLUTION CLIMATE DATA FOR WESTERN NORTH AMERICA
Dave Spittlehouse (British Columbia Ministry of Forestry and Range, Tongli Wang (University of British Columbia), Andreas Hamann, Michael Mbogga (both University of Alberta), and Trevor Murdock (University of Victoria)
- 155-220 CLIMATIC RESPONSE OF THE INTERMOUNTAIN WEST TO THE PACIFIC NORTHWEST – DESERT SOUTHWEST DIPOLE
Erika K. Wise (University of Arizona)
- 220-245 INFERRING MOISTURE-ANOMALY GRADIENTS FROM TREE RINGS
David M. Meko (University of Arizona), David W. Stahle (University of Arkansas), and Troy A. Knight (University of Arizona)

- 245-310 EVIDENCE FOR RECENT EFFECTS OF CLIMATE ON THE RAPIDLY SHRINKING DISTRIBUTION OF THE AMERICAN PIKA
Chris Ray (University of Colorado), Erik A. Beever (USGS-Anchorage), Philip W. Mote (University of Washington), Jennifer L. Wilkening (University of Colorado), and Peter F. Brussard (University of Nevada-Reno)
- 310-330 BREAK
- 330-355 CLIMATE CHANGE IN THE TAHOE BASIN: TRENDS, IMPACTS AND DRIVERS
Robert Coats (University of California-Davis)
- 355-420 VULNERABILITY OF LAKE TAHOE (CALIFORNIA-NEVADA) MIXING PATTERNS TO CLIMATE CHANGE
Goloka B. Sahoo, S.G. Schladow, J.E. Reuter, and Robert Coats (all University of California-Davis)
- 420-445 CLIMATE CHANGE AND SPECIES RESPONSES: GETTING DOWN TO THE CLIMATE NEAR THE GROUND
Stuart B. Weiss (Creekside Center for Earth Observation)
- 445-510 DECADE-SCALE TRENDS SHOWING PHYSICAL, BIOLOGICAL, AND ECONOMIC INTERCONNECTIONS IN CALIFORNIA FISHERIES, 1928-2004
Cindy Bessey (NOAA-Hawai'i), Samuel F. Herrick (NOAA-La Jolla), Torbjorn Lorentzen (Bjerknes Centre for Climate Research), Janet E. Mason, and Jerrold G. Norton* (NOAA-Pacific Grove)
- 600-700 DINNER

TUESDAY EVENING, April 21st

Moderator: Scott Starratt

- 700-800 EFFECTS OF CLIMATE CHANGE ON THE DISTRIBUTIONS OF PREDATORY GROUND-BEETLES OF GENUS *NEBRIA* (INSECTA: COLEOPTERA: CARBIDAE) IN WESTERN NORTH AMERICA
David Kavanaugh (California Academy of Sciences)
- 800-1000 POSTERS AND SOCIALIZING

POTPOURRI – QUATERNARY

- 730-830 BREAKFAST
- 900-925 STABLE HYDROGEN ISOTOPES IN BONE COLLAGEN AS A
PALEOENVIRONMENTAL INDICATOR
Katarina Topalov, Arndt Schimmelmann, David Polly, Peter E. Sauer (all
Indiana University), and Mark Lowry (NOAA-La Jolla)
- 925-950 HOLOCENE HYDROCLIMATE OF THE UPPER COLORADO RIVER
BASIN : DECADE-TO- CENTURY-SCALE VARIABILITY FROM
SMALL, CALCAREOUS ALPINE LAKES
Lesleigh Anderson, Joseph G. Rosenbaum (both UGSG-Denver), Erik T.
Brown (University of Minnesota-Duluth), Mark D. Shapley (Idaho State
University)
- 950-1015 PALYNOLOGICAL RECONSTRUCTION OF CONDITIONS FOR THE
FORMATION OF PEAT IN THE SACRAMENTO-SAN JOAQUIN
DELTA, CALIFORNIA
Irina Delusina (University of California-Davis)
- 1015-1035 BREAK
- 1035-1100 RATE OF GEOLOGIC SUBSIDENCE IN THE SACRAMENTO-SAN
JOAQUIN DELTA, CALIFORNIA
Kenneth L. Verosub, Irina Delusina, and Roy J. Shlemon (all University of
California-Davis)
- 1100-1125 VARIABILITY BETWEEN WESTERN USA LAKES AND MARINE
SEQUENCES: A 50,000-13,000-YEAR RECORD FROM PYRAMID
LAKE
Steve Lund (University of Southern California), Larry Benson (USGS-
Boulder), Scott Mensing (University of Nevada-Reno), Joe Smoot (USGS-
Reston), Joe Liddocoat (Barnard College), Robert Negrini (California
State University-Bakersfield), and Martha Schwartz (University of
Southern California)
- 1125-1150 A 200,000-YEAR RECORD OF LAKE-LEVEL CHANGE FROM THE
CARRIZO PLAIN, CENTRAL COASTAL CALIFORNIA
Rob Negrini, Tracie Miller, Randy Stephenson, Raquel Ramirez, Jason
Leiran, Peter Wigand (all California State University-Bakersfield), Dallas
Rhodes (Georgia Southern University), and Thomas Algeo (University of
Cincinnati)

1150-1200 FINAL WORDS
Scott W. Starratt (USGS-Menlo Park)

1200-100 LUNCH

POSTERS

A RECORD OF PALEOENVIRONMENT AND FOREST DISTURBANCE FROM SOUTHEASTERN WYOMING

Vachel A. Carter, Andrea Brunelle (both University of Utah), and Elliott Lips (Great Basin Earth Science)

NEVADA INFRASTRUCTURE FOR CLIMATE CHANGE SCIENCE, EDUCATION, AND OUTREACH

Gayle L. Dana, Nicholas Lancaster (both Desert Research Institute), Scott A. Mensing (University of Nevada-Reno), and Thomas Piechota (University of Nevada-Las Vegas)

A 1600-YEAR LAKE LEVEL AND VEGETATION HISTORY OF ISLA ISABELA, GULF OF CALIFORNIA

A.C. Englebracht, B.L. Ingram, R. Byrne (all University of California-Berkeley), U. Kienel (GeoForschungsZentrum-Potsdam), and H. Böhnel (UNAM-Juriquilla)

HOLOCENE MULTI-DECADAL-TO-CENTENNIAL SCALE HYDROLOGIC VARIABILITY IN LAKE ELSINORE, SOUTHERN CALIFORNIA

Matthew E. Kirby (California State University-Fullerton), Steve P. Lund (University of Southern California), William P. Patterson (University of Saskatchewan), Michael A. Anderson (University of California-Riverside), Broxton W. Bird (University of Pittsburgh), Luissa Ivanovici, Pedro Monarrez, and Shauna Nielsen (all California State University-Fullerton)

A PALEOECOLOGICAL ANALYSIS OF MEADOW SEDIMENTS FROM THE KLAMATH MOUNTAINS OF CALIFORNIA

Jennifer E. Kusler and James A. Wanket (both California State University-Sacramento)

COMPARISON OF MILLENNIAL TO SUB-MILLENNIAL SCALE ENVIRONMENTAL RECORDS OF HOLOCENE HYDROCLIMATOLOGY FROM THE BEAR RIVER RANGE, SOUTHEAST IDAHO

Zachary Lundeen and Andrea Brunelle (both University of Utah)

THE STRATIGRAPHIC RECORD OF THE LOWER COLORADO RIVER – POSSIBLE CLIMATE CONNECTIONS

Daniel V. Malmon, Keith A. Howard (both USGS-Menlo Park), Peter M. Martin (USGS-San Diego), John P. McGeehin (USGS-Reston), Elmira Wan (USGS-Menlo Park), and Shannon Mahan (USGS-Denver)

MICROCHARCOAL CONCENTRATIONS ANALYSES TO RECONSTRUCT WILDFIRE HISTORY

Tracie Miller, Rob Negrini, Peter Wigand (all California State University-Bakersfield), Dallas Rhodes (Georgia Southern University)

A PALYNOLOGICAL CALIBRATION STUDY OF SPRUCE BEETLE EPIDEMICS FROM THE HIGH PLATEAUS OF UTAH

Jesse Morris and Andrea Brunelle (both University of Utah)

INCORPORATION HIGH-RESOLUTION QUANTITATIVE ESTIMATES OF JULY AIR TEMPERATURE IN SIMULATING THE DYNAMIC BEHAVIOR OF A SIERRA NEVADA GLACIER DURING THE YOUNGER DRYAS

David F. Porinchu (Ohio State University) and Mitchell A. Plummer (Idaho National Laboratory)

DECADAL VARIABILITY IN GROUNDWATER AS RECORDED IN A CORAL PROXY RECORD FROM MOLOKA'I, HAWAII

Nancy G. Prouty and Mike E. Field (USGS-Santa Cruz)

A PALEOCLIMATE CHANGE RECORD FROM BIG SODA LAKE, NORTHWEST NEVADA

Liam Reidy and Roger Byrne (University of California-Berkeley)

A MULTI-PROXY RECONSTRUCTION OF HOLOCENE PALEOCLIMATE CONDITIONS IN THE GREAT BASIN, UNITED STATES

Scott A. Reinemann, David F. Porinchu (both Ohio State University), and Amy M. Bloom (Illinois State University)

HOLOCENE VEGETATION HISTORY IN NORTHWEST COLORADO AND SOUTHWEST WYOMING: NEW RESULTS FROM PACKRAT MIDDENS AND POLLEN CORES

David Rhode (Desert Research Institute) and Lisbeth A. Louderback (University of Washington)

COFFIN-LID EFFECT OF CLAY-RICH FLOOD AND TURBIDITE LAYERS IN SEDIMENT FROM SANTA BARBARA BASIN, CALIFORNIA

Arndt Schimmelmann (Indiana University)

QUANTIFICATION OF LARGE WOOD RECRUITMENT RATE AND VOLUME TO FORESTED MOUNTAIN RIVER CHANNELS

Anne E. Senter (University of California-Davis)

COMPARISON OF ORBITAL PARAMETERS AND DEVILS HOLE NEVADA $\delta^{18}\text{O}$ TIME SERIES DURING THE LAST FOUR GLACIAL CYCLES SUPPORTS INTERHEMISPHERIC CONCURRENCE

Saxon E. Sharpe (Desert Research Institute)

A ~13,000-YEAR RECORD OF ENVIRONMENTAL CHANGE FROM THE
NORTHWESTERN COLORADO RIVER BASIN INFERRED FROM DIATOMS

Abbie H. Tingstad (University of California-Los Angeles), Katrina A. Moser (University of
Western Ontario), and Glen M. MacDonald (University of California-Los Angeles)

HOLOCENE CLIMATE VARIABILITY IN THE RUBY MOUNTAINS, NEVADA: A
PERSPECTIVE FROM THE NORTH-CENTRAL GREAT BASIN

David Wahl, Scott Starratt, Elmira Wan (all USGS-Menlo Park), Jim Wanket (California State
University-Sacramento), Holly Olson, Thomas Lloyd-Davies (both USGS-Menlo Park), Jennifer
Kusler ((California State University-Sacramento)

USING LAKE SEDIMENT CORES TO INVESTIGATE PAST MOUNTAIN PINE BEETLE
OUTBREAKS

Jennifer H. Watt, Andrea Brunelle (both University of Utah), and Barbara Bentz (USDA-Forest
Service)

MAPPING PATTERNS OF PAST DROUGHT IN CALIFORNIA: LATE HOLOCENE LAKE
SEDIMENTS AS MODEL DIAGNOSTICS

Susan Zimmerman, Tom Brown, and Tom Guilderson (all LLNL)