

Chapman Conference on Tropical-Extratropical Climatic Teleconnections: A Long-Term Perspective

Keoni Auditorium, Imin Conference Center
East-West Center, Honolulu
February 8 – 11, 2005

Tuesday, February 8

09:00-09:20 Welcome by Jay McCreary (Director, IPRC), Bette Otto-Bliesner (NCAR), and Ray Bradley (University of Massachusetts)
Discussion of meeting organization by Bette Otto-Bliesner
Local logistics by Niklas Schneider (University of Hawaii)

Session 1: Mid- and High Latitude Ocean

Session Chair: Niklas Schneider

09:20-09:50 **Keynote Speaker: Tom Delworth**, Geophysical Fluid Dynamics Laboratory/NOAA
The Role of the Thermohaline Circulation in Tropical-Extratropical Climate Teleconnections

09:50-10:10 **C. Rühlemann**, Federal Institute for Geosciences and Natural Resources
Heinrich Events and Dansgaard-Oeschger Cycles in the Tropical Atlantic: Climate Teleconnections to the Northern High Latitudes

10:10-10:30 **J. A. Timmermann**, IPRC, SOEST, University of Hawaii, Honolulu
Pan-Oceanic Synchronization of Centennial-Scale Global Climate Change

10:30-11 Coffee break

11:00-11:20: **S. B. Kim**, Jet Propulsion Laboratory, California Institute of Technology
The 1997-99 Abrupt Change of the Upper Ocean Temperature in the Northcentral Pacific

11:20-11:40 **M. A. Alexander**, NOAA-CIRES, Climate Diagnostics Center
The Impact of ENSO on the North Pacific Atmosphere-Ocean System

11:40-12:00 **S.-I. An**, IPRC, University of Hawaii
Does ENSO Lead the Pacific Decadal Change?

12:00-12:20 Discussion of morning papers

12:20-1:30 Lunch

Session 2: Tropical Oceans

Session Chair: Bette Otto-Bliesner

- 1:30-2:00 **Keynote Speaker: D. Lea**, Department of Geological Sciences,
University of California, Santa Barbara
Thermal history of Tropical Surface Waters on Millennial and Orbital
Timescales
- 2:00-2:20 **L. Stott**, Department of Earth Sciences, University of Southern California,
Los Angeles
Investigating how Tropical to Subtropical Moisture Exchange has
Influenced Climate
- 2:20-2:40 **J. M. Webster**, Monterey Bay Aquarium Research Institute
Millennial Scale Climate Variability Around Hawaii and Possible Global
Linkages
- 2:40-3:00 **C. L. Holland**, Institute for Geophysics, University of Texas, Austin
Propagating Decadal SST Signal Identified in Modern Proxy Records of
the Tropical Pacific
- 3:00-3:30 *Coffee break*
- 3:30-3:50 **H. J. Spero**, Department of Geology, University of California, Davis
Glacial ITCZ Variation Recorded by Tropical Salinity Reconstructions in
the Pacific and Caribbean
- 3:50-4:10 **M. A. Medina**, Department of Geological Sciences, University of
California, Santa Barbara
Temperature History of the Pacific Warm Pool Over the Last 1.3 Ma
- 4:10-4:30 **A. C. Ravelo**, Ocean Sciences, University of California, Santa Cruz
Are Warm Upwelling Regions and Reduced Walker Circulation Features
of Global Warmth?: Lessons From the Pliocene Warm Period
- 4:30-5:00 Discussion of afternoon papers
- 5:00-6:30 *Reception*

Wednesday, February 9

Session 3: Tropical Climate – Modern Processes

Session Chair: Jerry Meehl

- 9:00 – 9:30 **Keynote speaker: K. Trenberth**, National Center for Atmospheric Research
The Role of the Tropics in the Global Energy and Water Cycles and Implications for Teleconnections
- 9:30-9:50 **D.-Z. Sun**, CIRES, University of Colorado
The Extratropical Control over the Level of ENSO Activity
- 9:50–10:10 **C. Jones**, Institute for Computational Earth System Science, University of California, Santa Barbara
Decadal Changes in the Madden-Julian Oscillation
- 10:10-10:30 Coffee break*
- 10:30-10:50 **P. Loubere**, Biogeochemical Cycling in the Eastern Equatorial Pacific: extra-tropical control of carbon transport to the deep ocean
- 10:50-11:10 **F. Wang**, Institute for Geophysics, University of Texas at Austin
The Dynamical Regimes of ENSO and their Connection to Mean Climate
- 11:10-11:30 **O. Timm**, International Pacific Research Center, University of Hawaii, Honolulu
Are Coral Proxies Capable of Detecting Climatic Shifts in Teleconnection Patterns?
- 11:30-11:45 Discussion of morning papers

11:45-1 Lunch

Session 4: Tropical Climate – Paleoclimate Records

Session Chair: Jamie Shulmeister

- 1:00-1:30 **Keynote speaker: M. K. Gagan**, Research School of Earth Sciences, The Australian National University, Canberra
Post-glacial Evolution of the Indo-Pacific Warm Pool and Tropical General Circulation
- 1:30-1:50 **S. J. Burns**, Department of Geosciences, University of Massachusetts
A Comparison of Northern and Southern Hemisphere Records of Changes in Tropical Atmospheric Circulation During the Last Glacial Period

- 1:50-2:10 **S. G. Haberle**, Department of Archeology and Natural History, RSPAS, Australian National University, Canberra
Fire in the Tropics: A Paleoclimatic Assessment of Charcoal Records from the Western Pacific Warm Pool Region
- 2:10-2:30 **M. –P. Ledru**, Institut de Recherche pour le Developpement, UR Great Ice, Maison des Sciences de l’Eau, Universite Montpellier, France
Paleoclimate Changes During the Last 100 ka from a Record in the Brazilian Atlantic Rainforest Region and Interhemispheric Comparison
- 2:30-2:50 *Coffee break*
- 2:50-3:10 **M. S. Lachinet**, Department of Geoscience, University of Nevada
Tropical and Extratropical Forcing of Late Quaternary Rainfall in Central America
- 3:10-3:30 **B. Turcq**, Institut de Recherche pour le Développement, PALEOTROPIQUE, Department of Geochesmitry, Universidade Federal Fluminense, Rio de Janeiro, Brazil
The Last Glacial Maximum and its Ending: Evidences from Tropical South-America
- 3:30-3:50 **A. P. Kershaw**, School of Geography and Environmental Science, Monash University, Australia
Variation in Forcing of Low Latitude Climate in the Southern Hemisphere on Orbital Timescales
- 3:50-4:10 Discussion of afternoon papers
- 4:10-5:30 **Poster session**

Thursday, February 10

Session 5: Monsoon Climates – Modern Processes

Session Chair: Henry Diaz

- 9:00-9:30 **Keynote speaker: P. J. Webster**, Department of Earth and Atmospheric Sciences, Georgia Institute of Technology
Monsoons
- 9:30-9:50 **K. S. Nair**, Centre for Mangrove Studies, Vallayil House, North Gate, Cochin University of Science & Technology
A Study of the Influence of Global Anomalies on the Aridity Conditions in India
- 9:50–10:10 **H Rashid**, Do the Bay of Bengal G. ruber d18O data represents the diminishing trend of the Indian Ocean monsoon during the late Holocene?

10:10-10:30 Coffee break

- 10:30-10:50 **G. A. Meehl**, National Center for Atmospheric Research
The Role of Coupled Tropical-Midlatitude and Ocean-Atmosphere Interactions in Producing Multi-Decadal Megadroughts in the Indian Monsoon and Southwest U.S. Regions
- 10:50-11:10 **N. Graham**, Scripps Institution of Oceanography and Hydrologic Research Center, San Diego
Tropical Pacific – Western North America Teleconnections: The Mid-Holocene through Present
- 11:10-11:30 **S.E. Nicholson**, Department of Meteorology, Florida State University, Tallahassee
African Rainfall Variability on Modern, Historical and Paleo-Time Scales: Spatial Modes of Variability and Teleconnections to the Tropical Continents and Oceans
- 11:30-11:45 Discussion of morning papers

11:45-1 Lunch

Session 6: Monsoon Climates – Paleoclimate Records

Session Chair: Ray Bradley

- 1 –1:30 **Keynote speaker: D. M. Anderson**, NOAA Paleoclimatology
Monsoon Dynamics Observed Over Decades to Millions of Year

- 1:30-1:50 **M. Pfeiffer**, IFM-GEOMAR, Leibniz Institute of Marine Sciences, Kiel, Germany
Monsoon-Induced Cooling of the Arabian Sea Recorded in Coral Oxygen Isotope Records from the Seychelles
- 1:50-2:10 **A. W. Tudhope**, School of GeoSciences, Edinburgh University, Scotland, United Kingdom
ENSO and Interdecadal Climate Variability in the Tropical Pacific in the Early-Mid-Holocene
- 2:10-2:30 **N. Khelifi**, Department of Geology, Faculty of Sciences, University of Sfax, Tunisia
The South-West Indian Monsoon Climate Changes Over the Last 160,000 Years
- 2:30-3:00 Coffee break*
- 3:00-3:20 **T. S. Ivanochoko**, School of GeoSciences, University of Edinburgh, United Kingdom
Monsoon Variability as an Amplifier of Sub-Orbital Climatic Change
- 3:20-3:40 **P. Ghosh**, Physical Research Laboratory, Ahmedabad, India
Evidence for High Monsoonal Intensity During Late Miocene in India: Relationship with North Atlantic Deep Water Circulation
- 3:40-4:00 Discussion of afternoon papers
- 6:00-9:00 Banquet*

Friday, February 11

Session 7: Mid-latitude Teleconnections – Modern Processes

Session Chair: Mike Alexander

9:00 – 9:30 **Keynote speaker: Marty Hoerling**, NOAA Climate Diagnostics Center
Teleconnections Originating from Patterns of Tropical SST Variability
and Change

9:30-9:50 **E. –J. Cha**, Center for Climate System Research, University of Tokyo,
Summertime ENSO Teleconnection Over the Eurasia: Cool Summer in
East Asian Countries

9:50-10:10 **H. Annamalai**, IPRC, University of Hawaii
Role of Indian Ocean SST on the Northern Hemispheric Circulation

10:10-10:30 Coffee break

10:30-10:50 **L. M. V. Carvalho**, Department of Atmospheric Sciences, University of
Sao Paulo, Brazil
Tropical-Extratropical Interactions and Implications for Antarctic Ozone
Trends

10:50-11:10 **G. N. Kiladis**, Aeronomy Laboratory, NOAA
The Dependence of Tropical-Extratropical Interactions on the Basic State
Circulation

11:10-11:30 **R. D. D'Arrigo**, Tree-Ring Lab, Lamont-Doherty Earth Observatory
Tropical-North Pacific Climate Linkages Over the Past Four Centuries

11:30-11:45 Discussion of morning papers

11:45-1 Lunch

Session 8: Mid-latitude Teleconnections – Paleoclimate Records

Session Chair: Jamie Shulmeister

1:00-1:30 **Keynote speaker: V. Masson-Delmotte**, LSCE, IPS/CEA-CNRS UMR
Mid to High Latitude Atmospheric Circulation and Hydrological Cycle
Changes as Recorded from Polar Ice Cores

1:30-1:50 **A. S. M. Schilla**, INSTAAR, University of Colorado
Antarctic-Pacific Teleconnections Recorded in the Siple Dome Deuterium
Excess Record

- 1:50-2:10 **E. R. Cook**, Tree Ring Lab, Lamont-Doherty Earth Observatory
Tropical Pacific Links to Long-Term Aridity Changes in the Western
United States
- 2:10-2:30 **C. Morrill**, National Center for Atmospheric Research
Translation of Abrupt Climate Change Between the Tropics and
Extratropics: Examples from Holocene Paleoclimate Records
- 2:30-2:50 **Z. J. Hazell**, School of Geography, University of Plymouth, Drake Circus,
Plymouth, Devon, United Kingdom
Holocene Palaeoclimate Reconstruction from New Zealand Peatlands
- 2:50-3:20 Discussion of afternoon papers
- 3:20-3:50 *Coffee break*
- 3:50-5:00 Overview and Key Conclusions (Summary presentations and wrap-up)

Poster Session on next page

Poster Session

1. **K. H. Kilbourne**, Tropical Salinity Reconstructions in Modern and Fossil Corals From Vanuatu, a South Pacific Convergence Zone Dominated Signal
2. **P S Dekens**, An Evolving Picture of the Eastern Tropical Pacific in Pleistocene Glacial-Interglacial Cycles
3. **F.W. Taylor**, Paleoclimate of the Western Pacific Warm Pool: 75 yr $\delta^{18}O$ and Sr/Ca Coral Record From ~13 ka for the Northeast (Huon Peninsula) Coast of Papua New Guinea
4. **M J Coombs**, Mid- to Late-Holocene Sea Surface Temperature Record from the Baja California Margin, Subtropical Eastern Pacific Ocean
5. **A. B. Arkaah**, Early Paleogene Tropical Isotopic Variability :Causes and Implications for Future Climate Change
6. **S G Haberle**, Fire Histories from the Wet Tropics and the Implications for Palaeoclimatology
7. **Robert A. Tomas**, Analysis of precipitation anomalies over northern Africa as simulated during the mid-Holocene and Last Glacial Maximum
8. **Bruce A. Leybourne**, Tectonic Links to the Global Oscillation System: A Unification Concept of Climate Modulation by Internal Joule Heating Teleconnections
9. **ALS Albuquerque**, Frequency Of Extra-tropical Cold-frontal System in Brazil During The Holocene Based on Upwelling Variability On The Atlantic Coast
10. **D M Sonechkin**, The key Role of the Precession Cycle Modulation in the Glacial/Interglacial Epoch Alternation
11. **R Snow**, Trend Analysis of Annual Temperature Range and Variations in the Mid-Latitude Circulation