

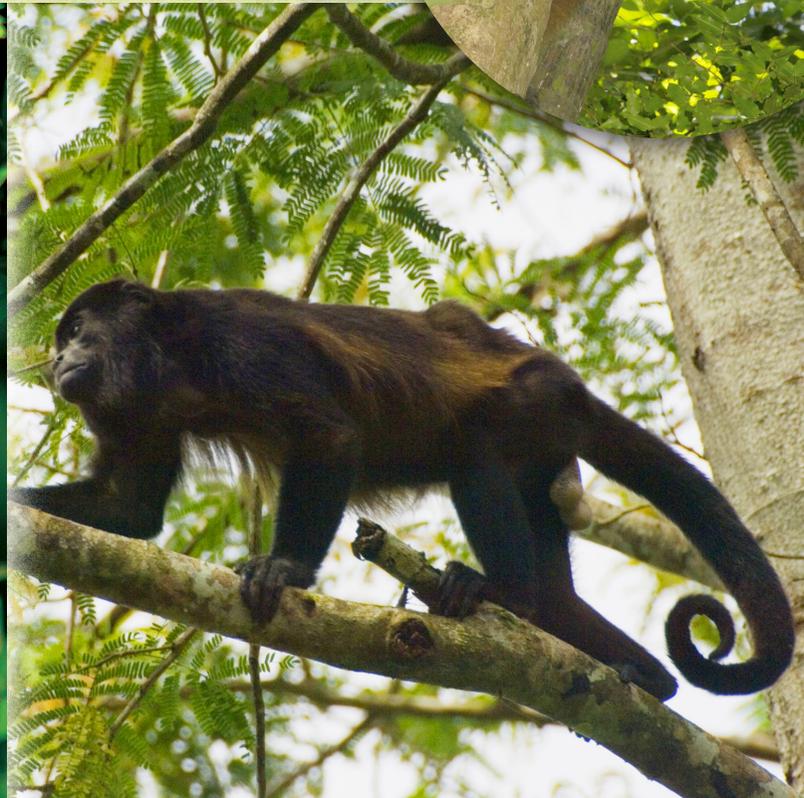
26-28 JANUARY, 2016
PANAMA CITY, PANAMA



MANAGING WATER AND BIODIVERSITY IN HUMID AREAS



NINTH BIENNIAL
ROSENBERG
INTERNATIONAL FORUM ON WATER POLICY





Welcome Reception

25 January (Monday)

1700 Buses depart from the Westin Playa Bonita
Meet in the lobby. Companions are welcome.

**1800 Welcome reception at the BioMuseo
Panama**

Pre-Forum Field Trip

26 January (Tuesday)

Hosted by the Smithsonian Tropical Research Institute. (Unfortunately, companions cannot be accommodated on the field tour.)

0530 Breakfast

In the Anise room for those who are joining us on the tour.

0630 Agua Salud Watershed

The morning tour includes three stops:

1. Camino Las Cruces
2. Smithsonian Research Institute Lab Research Area
3. Madden Dam

1230 Lunch

1330 Panama Canal-Gamboia to Pedro

Miguel

Sponsored by the Panama Canal Authority.

1600 Return to hotel

1830 Buffet dinner

Sponsored by the Rosenberg International Forum on Water Policy.

Dear Participants:

On behalf of the Rosenberg Forum Advisory Committee, I welcome you to Panama City, Panama, for the 9th Rosenberg International Forum on Water Policy. The theme of this year's Forum, Managing Water and Biodiversity in Humid Areas, contrasts with the focus of earlier Forums on water policy and management problems in arid and semi-arid regions. The specific purposes of this 9th Forum are to: 1) underscore the extent to which problems of water availability and management in humid regions are similar to those in much drier regions, and 2) emphasize that water scarcity, long a problem in dry areas, is increasingly a problem in humid areas around the world.

The formal sessions will be preceded by a day-long field trip to the Smithsonian Watershed Projects and return on the waters of the Panama Canal courtesy of the Panama Canal Authority. The program itself includes sessions on how humid areas are characterized by the earth sciences, conservation of biodiversity in humid regions, variability across humid areas, the implications of El Niño for wet and dry regions, and discussion of the lessons learned from this Forum.

The principal sponsors of the Rosenberg Forums are the University of California and the Bank of America. For this 9th Forum we have co-sponsors including: the BioMuseo, the Botin Foundation, the Panama Canal Authority, the Smithsonian Tropical Research Institute, the Technological University of Panama and SENACYT of the Republic of Panama. Please join me in thanking the co-sponsors. I extend special thanks for continuous support of Forum planning efforts to Dr. Jorge Motta, Secretary of SENACYT, Professor José Fábrega of the Technological University of Panama and Dr. Matt Larsen of the Smithsonian Tropical Research Institute.

I welcome each of you to the 9th Forum. I trust that you find the sessions rewarding and your stay in Panama pleasant.

Best wishes.

Henry J. Vaux, Jr.
Chair



Photo credit: BioMuseo Panama

All other photos courtesy of the Smithsonian Tropical Research Institute.

Managing Water and Biodiversity in Humid Areas

26-28 January, 2016, Panama City, Panama

27 January (Wednesday)

- 0900 Opening Ceremony
- 1000 Keynote: What are the Challenges of Managing Water Resources and Biodiversity in Humid Areas? - Matt Larsen, Director, Smithsonian Tropical Research Institute
- 1045 Evaluating the Water Footprint in Colombian Basins - Diego Arevalo, Regional Director, Good Stuff International
- 1145 Adjourn
- 1200 Lunch

Session 1: What Earth Science Tells Us About Humid Areas

Session Chair: Ayman Rabi

- 1330 Atmospheric Science of Humid Areas: Why are humid areas humid? - Professor Sumant Nigam, University of Maryland
- 1400 Hydrologic Consequences: What Are the Water Resource Issues? - Professor Soroosh Sorooshian, University of California Irvine
- 1430 Roundtable Discussion
- 1500 Break

Session 2: Conserving Biodiversity Resources in Humid Areas

Session Chair: Alberto Garrido

- 1530 Ecological Dimensions - Dr. Jefferson Hall, Smithsonian Tropical Research Institute

- 1600 Policy Issues - Prof. Louis Santiago, UC Riverside
- 1630 Roundtable Discussion: Lessons Learned from the Day
- 1730 Adjourn
- 1930 Evening Visit and Reception at the Miraflores Visitors Center

28 January (Thursday)

Session 3: Variability Across Humid Areas

Session Chair: Dan Dooley

- 900 Panama - Dr. José Fábrega, Director, Hydraulic and Hydrotechnical Research Center
- 930 South America–Amazon - Dr. José A. Marengo, Research Director, CEMADEN
- 1000 Bangladesh - Dr. Susmita Dasgupta, The World Bank
- 1030 Break
- 1100 Mekong Delta - Dr. Trinh Thi Long, WWF, Vietnam
- 1130 Africa–Congo River Basin - Prof. Daniel Olago, University of Nairobi
- 1200 Roundtable Discussion: What are Similarities and Differences Among Regions
- 1300 Lunch

Session 4: El Nino and Drought: Unlikely Connections

Session Chair: Ariel Dinar

- 1430 El Nino Tele-Connections and Their Role in Drought - Dr. David Sauchyn, PARC,

University of Regina

- 1500 The Panamanian Drought: Obtaining Water to Meet Urban Demands - Julia Guardia, Director, IDAAN
- 1530 The Panamanian Drought: Finding Water for the Panama Canal - Carlos Vargas, Executive Vice President, Panama Canal Authority
- 1600 The Great California Drought, 2011-20?? - Dr. Peter Gleick, President, Pacific Institute
- 1630 Roundtable Discussion
- 1700 Break

Session 5: Lessons Learned from the Forum

Session Chair: Henry Vaux, Jr.

- 1730 Panama - Dr. Jorge Motta, Secretary, SENACYT
- 1740 Latin and South America - Dr. Katherine Vammen, University of Central America
- 1750 SE Asia - Dr. Ainun Nishat, BRAC University
- 1800 Africa - Dr. Diop Salif, Academy of Sciences
- 1830 Closing Ceremony and Adjourn
- 1900 Closing Gala Dinner

29 January (Friday)

Advisory Committee Members will meet one day after the conference to develop key points from the Forum which will be posted on the website and released on social media.

Participants

Oktay Aksoy, Ambassador (retired), Turkish Foreign Policy Institute, Turkey

Suzanne Bayley, Professor of Ecology, University of Alberta, Canada

Gaye Cheikh Becaye, Director General of Research, Ministry of Higher Education, Senegal

Guillermo Donoso, Water Law and Management Center, Pontificia Universidad Católica de Chile, Chile

Antonio Embid, Catedrático de Derecho Administrativo, Universidad de Zaragoza

Elias Fereres Castiel, University of Cordoba, Spain

Martin Forde, Professor, St. George's University, Grenada

Andrea Gerlak, Director of Academic Development, International Studies Association, USA

Joan Girona, General Director, Agriculture, Livestock, Fisheries and Food, Generalitat de Catalunya, Spain

Pieter Heyns, Heyns International Water Consultancy, Namibia

Glenda Humiston, Vice President, University of California Division of Agriculture and Natural Resources, USA

Karin Kemper, Senior Regional Advisor, The World Bank Group, USA

Rodrigo Maia, Professor, Faculdade de Engenharia da Universidade do Porto, Portugal

Ken Matthews, Australian Academy of Technological Sciences, Australia

James McPhee, Universidad de Chile, Chile

Abdelfattah Metawie, Professor, National Water Research Center, Egypt

Doug Parker, Director, UC California Institute for Water Resources, USA

Silvia Rafaelli, La Plata Basin, Argentina

Gabriel Roldan, Universidad Católica de Oriente, Columbia

Richard Rosenberg, Bank Chair and Chief Executive Officer (retired), Bank of America, USA

R. Maria Saleth, Professor, Madras School of Economics, India

David Schindler, Professor Emeritus, University of Alberta, Canada

Jose Tundisi, Professor, Brazil

Fernando Urquidi, Academia de Ciencias de Bolivia, Bolivia

Chunmiao Zheng, Professor, Peking University, USA

Speakers

Diego Arevalo, Regional Director, Good Stuff International, Columbia

Susmita Dasgupta, Lead Environmental Economist, World Bank, USA

Salif Diop, Professor, Academy of Sciences, Senegal

José Fábrega, Universidad Tecnológica de Panamá, Panama

Peter Gleick, President, Pacific Institute, USA

Julia Guardia, Director, The Institute of Water Supplies and Sewer Systems of Panama, Panama

Jefferson Hall, Smithsonian Tropical Research Institute, Panama

Zakri Hamid, Professor, Science Advisor to the Prime Minister, Malaysia

Matthew Larsen, Director, Smithsonian Tropical Research Institute, Panama

Trinh Thi Long, World Wide Fund for Nature, Vietnam

Jose Marengo, Research Director, Centro Nacional de Monitoramento e Alertas de Desastres Naturais, Brazil

Jorge Motta, Secretary, Science, Technology, and Innovation, Panama

Sumant Nigam, Professor, University of Maryland, USA

Ainun Nishat, Professor, BRAC University, Bangladesh

Daniel Olago, Professor, University of Nairobi, Kenya

Louis Santiago, Professor, University of California Riverside, USA

David Sauchyn, Professor, University of Regina, Canada

Soroosh Sorooshian, Professor, University of California Irvine, USA

Vo Khac Tri, Southern Institute of Water Resources Research, Vietnam

Katherine Vammen, University of Central America, Nicaragua

Carlos Vargas, Executive Vice President, Panama Canal Authority, Panama

Advisory Committee

Ariel Dinar, Professor, University of California Riverside, USA

Dan Dooley, New Current Water and Land, LLC, USA

Alberto Garrido, Professor, Universidad Politécnica de Madrid, Spain

Helen M. Ingram, University of California Irvine, USA

John Nilson, MLA, Saskatchewan Legislature, Canada

Ayman Rabi, Palestinian Hydrology Group, Palestine

Mordechai Shechter, Professor, University of Haifa, Israel

Soroosh Sorooshian, Professor, University of California Irvine, USA

Henry Vaux Jr., Chair, Rosenberg Int. Forum on Water Policy, UC ANR, USA

Moneef Zou'bi, Islamic World Academy of Sciences, Jordan

WE WOULD LIKE TO THANK THE SUPPORTERS OF THE 9TH BIENNIAL ROSENBERG FORUM

BIOMUSEO



CANAL DE PANAMÁ

Bank of America



Smithsonian Tropical Research Institute

University of California
Agriculture and Natural Resources

FORUM COORDINATORS: SHERRY COOPER & LAUREN McNEES • LOCAL COORDINATORS: JOSÉ FÁBREGA & DR. JORGE MOTTA
FIELD TOUR COORDINATOR: MATTHEW LARSEN