

WORLD CLIMATE RESEARCH PROGRAMME



Organizers:

Antonio Busalacchi,
Chair of WCRP Joint
Scientific Committee

Nancy Colleton,
President of the Institute
for Global Environmental
Strategies

Panel Discussion

Sponsor:



Earth System Science
Interdisciplinary Center (ESSIC)



OPEN SCIENCE CONFERENCE (OSC)

Climate Science in Service to Society:
Private Sector Needs and Opportunities

Denver Sheraton Downtown
6:15 PM, Tuesday October 25, 2011
Reception to Follow



TIMOTHY E. CARONE

Director, Global Climate Monitoring Systems, Advanced Programs & Technology Division, Northrop Grumman Aerospace Systems

Dr. Timothy E. Carone is director, Global Climate Monitoring Systems (GCMS), for the Advanced Programs & Technology Division of Northrop Grumman Aerospace Systems, a premier provider of manned and unmanned aircraft, space systems, missile systems and advanced technologies critical to our nation's security. Carone leads the GCMS practice in Northrop Grumman Aerospace Systems and is responsible for integrating these efforts with other climate efforts across the corporation. He developed the Aerospace Systems strategy to address global climate, energy and water issues and problems in a holistic manner leveraging the leading edge technologies and services developed and fielded by Northrop Grumman. Carone is a member of the American Meteorological Society and the Association of Computing Machinery. He also serves on the board of directors for HOPE, a non-profit student services organization.



NANCY COLLETON

President & Founder, Institute for Global Environmental Strategies Executive Director, Alliance for Earth

Nancy Colleton is a proven leader and facilitator of Earth and environment-related information activities. While her background is primarily in space-based Earth monitoring systems, her experience extends far beyond that and includes promoting public-private sector partnerships and cooperation, building knowledge and support for measuring and monitoring the Earth, and promoting Earth science education. She writes and speaks extensively on the need for improved environmental information and economic opportunity for U.S. business in its development and delivery. She is one of the pioneers to promote the concept of Earth observations data and information as environmental intelligence, as well as to promote awareness of the U.S. environmental information supply chain.

Ms. Colleton is the founder and president of the Institute for Global Environmental Strategies (IGES), a 501(c)3, non-profit corporation. She also is a co-founder of the Alliance for Earth Observations, which works with private, academic, and non-governmental organization stakeholders in partnership with government leaders to promote the need for improved environmental information.



SHARON L. HAYS

Vice President, Office of Science and Engineering, Computer Sciences Corporation

Dr. Sharon L. Hays is a Vice President within CSC's North American Public Sector, where she leads a team focused on strategic development of the emerging federal market for climate change, energy and sustainability services. Before joining CSC, Dr. Hays served in the White House Office of Science and Technology Policy (OSTP) where, after confirmation by the U.S. Senate, she was a deputy to the President's Science Advisor. In that role, she led the strategic direction for all OSTP activities related to a range of science initiatives and advised senior White House officials on environmental and security policies. In 2007, Dr. Hays led the U.S. delegation to the Nobel Prize-winning Intergovernmental Panel on Climate Change. Earlier in her career, she worked on Capitol Hill, serving in several senior staff positions in the House of Representatives. Dr. Hays received her Ph.D. in Biochemistry from Stanford University, where she studied in the laboratory of Nobel Laureate Paul Berg. She also holds a BA in Molecular Biology from the University of California, Berkeley.



GEMMA HEDDLE

Senior Carbon Advisor Chevron Services Company

Gemma Heddle is a Senior Carbon Advisor with the Chevron Services Company. She is responsible for leading Chevron's internal carbon credit generation activities, as well as managing the development and deployment of a system to manage Chevron's compliance with carbon-based emissions trading schemes. During her time with Chevron, she has also managed the development and deployment of Chevron's new energy and GHG emissions inventory system, and the revision of Chevron's GHG reporting protocol. Prior to joining Chevron in 2005, she worked as a senior associate with ICF Consulting in Washington DC, and as a technology policy analyst at the Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC) in Australia. Ms. Heddle holds a dual Master of Science in technology and policy and in civil and environmental engineering from MIT, a Master of Engineering Studies in chemical engineering from the University of Sydney, Australia, and Bachelor of Engineering in civil engineering and Bachelor of Arts degrees from the University of Adelaide, Australia.

PANELISTS



DAVID C. NAGEL

Executive Vice President, BP America Inc.

David Nagel has over 30 years experience in the global energy industry. Currently he is Executive Vice President of BP America Inc. In this role, Nagel is responsible for BP's engagement with the Administration, Congress, federal regulators, trade associations, and other DC and national stakeholders. He took this post in July 2009, and oversaw BP's Washington operations during the Gulf Oil Spill in 2010. Nagel reports to Lamar McKay, Chairman and President of BP America, who is based in Houston, Texas.

Nagel, a native of Wisconsin, was educated at the University of Wisconsin – Madison, where he earned a B.S. with honors in Chemistry and an MBA in International Finance.

In 1976, he joined Amoco International in Chicago. His Amoco career included management positions in treasury, planning & administration, shared services, and international negotiations and business development.

Mr. Nagel joined BP following the merger with Amoco in 1999, and moved to Egypt as the company's chief representative and business unit leader for natural gas. In 2001 he was appointed President and CEO for BP Algeria, where he worked with Sonatrach and the Ministry of Energy to restructure and expand BP's business there. In 2005 he moved into BP Group Finance positions, where he was head of Mergers and Acquisitions, Controller for Exploration and Production, and VP for Finance Transformation.

Nagel chairs the Advisory Board for the Vice Provost of International Studies at the University of Wisconsin – Madison. Nagel is also a member of the Executive Committee of the National Capital Area Council - Boy Scouts of America, as a well as proud Board member of the National Action Council for Minorities in Engineering ("NACME").

Nagel and his wife Helen, who holds a masters degree in East Asian Art History, are based in Washington D.C. They have three adult children and actively support rural land preservation in Vermont.



LINDENE PATTON

*Chief Climate Product Officer
Zurich Financial Services*

Lindene Patton is Chief Climate Product Officer for Zurich Financial Services (Zurich). She is responsible for product development and risk management related to climate change.

She is a member of the Green Growth Platform and has served as a project Board Member for the World Economic Forum Low Carbon and the Forest Carbon Finance Initiatives. She is an advisory board member for the University of California at Santa Barbara's Bren School of Environmental Science and Management. She is a member of the ICLEI* for Sustainable Governments Adaptation Experts Advisory Committee. Ms. Patton serves as the Vice-Chair of the Climate Change and Tort Liability Sub-Committee of the Geneva Association. Ms. Patton also serves on numerous government and non-governmental advisory boards, including the Executive Secretariat of the U.S. National Climate Assessment Development and Advisory Committee; U.S. Environmental Protection Agency (EPA) Environmental Financial Advisory Board, the Bureau of National Affairs' monthly publication, the Environmental Due Diligence Guide, and the US EPA Environmental Technology Verification Program.

Ms. Patton is an attorney licensed in California and the District of Columbia and an American Board of Industrial Hygiene Certified Industrial Hygienist. She holds a Bachelor of Science in biochemistry from the University of California, Davis, a Master of Public Health from the University of California, Berkeley, and a Juris Doctor from Santa Clara University School of Law.

*ICLEI - International Council for Local Environmental Initiatives



PAUL WALSH

*Vice President, Weather Analytics
The Weather Channel Companies*

Currently Vice President, Weather Analytics with The Weather Channel Companies, Paul helps companies affected by weather-related risks integrate weather and climate science into their business processes.

Since 1997, he has helped business leaders in large corporations - as well as investors and analysts - use weather and climate intelligence to increase sales and maximize profits.

Prior to joining The Weather Channel Companies, Paul served as Senior Vice President, Business Solutions at Atmospheric and Environmental Research (a Verisk Analytics company), Chief Strategy Officer at Storm Exchange, Inc., and Senior Vice President, Client Services/Analytics at Planalytics, Inc.

Paul's observations on weather impacts on consumers and business have been featured on CNBC, The Weather Channel, NBC Nightly News, Fox Business News, Bloomberg Television/Radio, and in dozens of publications, including The Wall Street Journal, Barron's, USA Today, The New York Times, and Forbes.

Prior to 1997, as a meteorologist in the United States Air Force, Paul provided weather-based intelligence support to war fighters and mission planners and served as the chief of weather operations for the US Army's elite 101st Airborne Division during Operation Desert Storm.



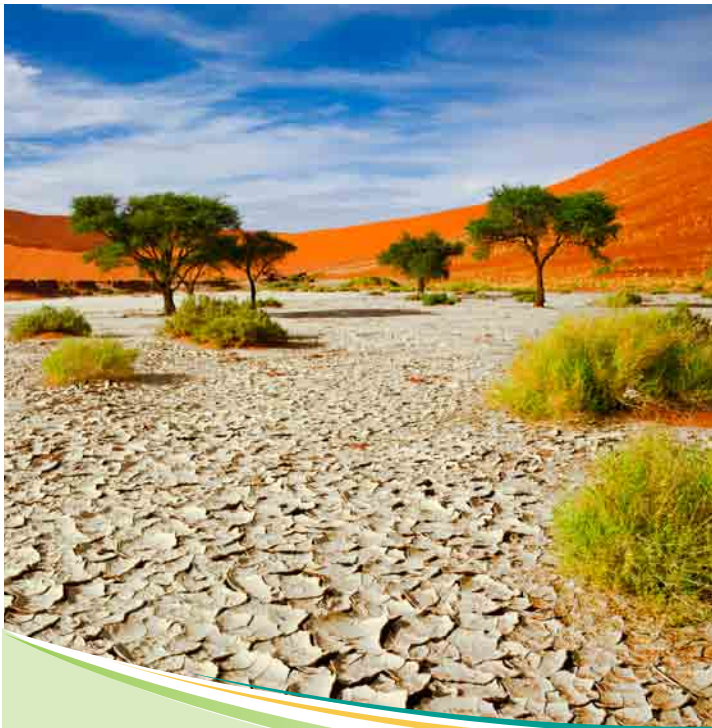
ANTONIO BUSALACCHI

Chair, WCRP Joint Scientific Committee

Dr. Busalacchi is Director of ESSIC and Professor in the Department of Atmospheric & Oceanic Science at the University of Maryland. Prior to that he served as Chief of the NASA/Goddard Laboratory for Hydrospheric Processes. He received his Ph.D. degree in oceanography from Florida State University in 1982 and his interests include tropical ocean circulation and its role in the coupled climate system. His research in the areas of climate variability and prediction, tropical ocean modeling, ocean remote sensing, and data assimilation has supported a range of international and national research programs dealing with global change and climate, particularly as affected by the oceans. He served on the National Academy of Sciences/National Research Council (NAS/NRC) TOGA Advisory Panel, was a member of the NAS/NRC Panel on Ocean Atmosphere Observations Supporting Short-Term Climate Predictions, served as Co-Chairman of the Scientific Steering Group for the World Climate Research Programme on Climate Variability and Predictability (CLIVAR), as Chairman of the NAS/NRC Climate Research Committee and as Chair of the NAS/NRC Committee on Earth Science and Application: Ensuring the Climate Measurements from NPOES and GOES-R. Presently, he serves as Chairman of the Joint Scientific Committee for the World Climate Research Programme and Chairman of the NAS/NRC Board on Atmospheric Sciences and Climate. He is a Fellow of the American Meteorological Society (AMS), American Geophysical Union, and in 2006 was selected by the AMS to be the Walter Orr Roberts Interdisciplinary Science Lecturer.

SOCIETAL ISSUES

In this session, panelists will respond to issues such as:



How would you characterize the exposure or vulnerability to climate variability or change impacting your organization and its customers?

Does climate variability and/or change and resultant environmental impacts currently factor into your organization's objectives, operations and business plan?

Are any of your existing plans being affected by climate or projections of climate change? If yes, can you provide specific case(s) where climate information is essential?

Is your organization developing a business plan for providing climate adaptation and risk management services which requires climate information? Please give example(s).

What are your needs for climate observations, predictions, and services? Please comment to the extent possible on the time/space/regional requirements.

Do you currently have access to the climate information your organization needs?

What next steps are needed to ensure effective access and use of climate information in your business planning and decision making?

DRIVEN BY CHANGES IN OUR CLIMATE, THE PLANET'S NATURAL ENVIRONMENT IS CHANGING IN WAYS THAT OVER THE NEXT FEW DECADES WILL PROVIDE REAL RISKS, BUT ALSO OPPORTUNITIES, FOR MANY SECTORS OF THE ECONOMY.

LIFE IN THE COMING DECADES WILL BE DIFFERENT, BUT IT DOES NOT NEED TO BE WORSE IF OUR INNOVATIVE AND ENTREPRENEURIAL SPIRIT MOBILIZES US TO PLAN FOR AND ADAPT TO THIS NEW ERA.

A NEW LEVEL OF COOPERATION WITH INDUSTRIES AS DIVERSE AS INSURANCE, AGRICULTURE, TRANSPORTATION, HUMAN HEALTH AND NATIONAL SECURITY TARGETED AT PROVIDING ACTIONABLE INFORMATION FOR DECISION MAKERS WILL ENSURE CLIMATE SCIENTISTS CREATE THE NECESSARY FORECASTING TOOLS TO SUPPORT PLANNING IN AREAS OF MAJOR IMPORTANCE TO SOCIETY.