

# Resilient Miami Beach

## A Dialogue with the Dutch

**Miami Beach Commission Chambers**  
**September 18, 2013**  
**1700 Convention Center Drive, (3rd Floor)**

The City of Miami Beach, the University of Miami, and the Consulate General of the Kingdom of the Netherlands invite you to take part in a one-day seminar where experts from Southeast Florida and the Netherlands will engage in multi-disciplinary discussions designed to explore if, where, and how Dutch approaches to water management, landscape architecture, flood protection, and urban design are relevant in making Miami Beach more resilient.

	Welcome and Introduction	9:00 - 9:15 AM
Session 1	Introduction to Water & Resiliency Challenges	9:20 - 10:25 AM
	Networking Break	10:25 - 10:50 AM
Session 2	Coastal Protection	10:50 AM - 12:10 PM
	Lunch Break	12:10 - 1:10 PM
Session 3	Modeling	1:10 - 2:30 PM
	Networking Break	2:30 - 2:50 PM
Session 4	Urban Design Challenges and Opportunities	2:50 - 4:10 PM
	Summations and Closing Remarks	4:10 - 4:15 PM



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# Resilient *Miami Beach*

## *A Dialogue with the Dutch*

9:00 am—9:15 am

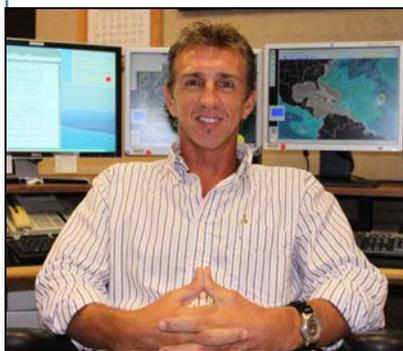
### Welcome and Introductions

Jimmy Morales, City Manager, City of Miami Beach

Ben Kirtman, Associate Dean of Research, University of Miami

Steef van den Berg, Consul, Netherlands Consulate General, Miami

## Panel Moderators



**Scott Stripling** is a meteorologist with the Tropical Analysis and Forecast Branch at NOAA's National Hurricane Center in Miami, Florida, responsible for marine and weather forecasts for the tropical North Atlantic and East Pacific Oceans.

He received his Bachelor of Science degree in Atmospheric Sciences from Northeast Louisiana University in 1985.

In 1986, Stripling took a position with Joule Corp, a NASA contractor, to participate in NOZE (The National Ozone Expedition), headed by NOAA's Dr. Susan Solomon. He spent more than four months at Palmer Station, Antarctica, taking radiosonde observations to quantify upper atmospheric chemical and ozone levels. This was the first field study to assess the ozone hole over Antarctica and its suspected causes.

He began his career with NOAA in 1987 as a meteorological intern with the New Orleans area National Weather Service Forecast Office in Slidell, La., forecasting for southeast Louisiana and the Gulf of Mexico. In 1992, he transferred to the NWS Forecast Office in San Juan, Puerto Rico, where he spent nearly 18 years forecasting marine and weather conditions for Puerto Rico, the U.S. Virgin Islands and the northeast Caribbean region. In Dec 2008 he transferred to Miami and the NHC, to be with his daughter, Isabella, now 11.

Stripling is a recognized expert in Caribbean wind and wave climatology, and has numerous publications and presenta-



**Jeral Estupiñán** is a Science and Operations Officer with the National Weather Service in Miami Florida. The primary focus of my job is to ensure the scientific integrity of the hydro-meteorological products and services provided to the public by the WFO and to lead or participate in joint research projects and developmental efforts conducted with the collocated university/research center. I joined the Miami WFO in 2010. Prior to coming to Miami I worked at the Brownsville Weather Forecast Office also as a Science and Operations Officer. Prior to joining the Weather Service I worked at the Weather Channel for 9 years in various science and management positions. In addition to weather forecasting I have a strong interest on climate and the effects of climate and weather on people and communities. I have lived in different places in the US and abroad. I received my Ph.D. from Georgia Tech in Atmospheric Sciences. Prior to my graduation I worked in different research projects

some of them related to the environment. I am very multicultural. I am originally from the Canary Islands, Spain. My wife is from Mexico and we have two young daughters.

## Session 1: Introduction to Water & Resiliency Challenges

9:15 am—9:30 am

### Water and Resiliency Challenges in Miami Beach: An Overview

Presented by Richard Saltrick, City of Miami Beach



**Richard Saltrick** graduated from the University of Florida with a Bachelor of Science in Civil Engineering. He is a registered professional engineer in the State of Florida and has designed many utility projects in Miami-Dade and Broward counties.

After ten years working with local governments in South Florida as a consulting engineer, Mr. Saltrick returned to school and received a Master's Degree in Public Policy and Urban Planning from Harvard. While there, he focused on performance management in the public sector and on environmental sustainability. Upon graduation, he returned to South Florida to provide more sustainable designs for urban infill and infrastructure improvement projects.

Mr. Saltrick first began working with the City of Miami Beach as a consultant with the firm of Hazen & Sawyer. Hazen & Sawyer assisted the City with its Neighborhood Improvement Program installing new drainage infrastructure and new drinking water pipes and making the streets more pedestrian and bicycle friendly.

He later joined the City in its Capital Improvements Office. In this capacity, he managed construction projects, developed capital budgets, and led community meetings for the Neighborhood Improvement Program. Mr. Saltrick then transferred to the Public Works Department where, among other responsibilities, he oversaw the development of the City's new Stormwater Management Master Plan, which is one of the first in Florida to incorporate sea level rise.

9:30 am—9:45 am

### Climate Change Scenarios

Presented by Brian Soden, University of Miami



**Dr. Brian J. Soden** is a Professor and Associate Dean at the University of Miami's Rosenstiel School for Marine and Atmospheric Science. Dr. Soden specializes in the use of satellite observations to test and improve computer simulations of Earth's climate. He has published over 90 peer-reviewed papers on a variety of topics, but most often related to the response of the climate system to global warming. He received his B.S. degree from the University of Miami, and M.S. and Ph.D. degrees from the University of Chicago. Before returning to the University of Miami, Dr. Soden was a Visiting Scientist and Lecturer at Princeton University, and a Physical Scientist with NOAA's Geophysical Fluid Dynamics Laboratory in Princeton, NJ. Dr. Soden is a Fellow of the American Meteorological Society and Lead Author for the 2007 and 2013 reports of the Intergovernmental Panel on Climate Change.

Other honors include the American Meteorological Society's Henry G. Houghton Award, the National Space Club's David S. Johnson Award, and the National Aeronautics and Space Agency's H.E. Reid Award.

## 9:45 am—10:00 am Dutch Perspective: An Overview of the Past and Present

Presented by Dale Morris, Embassy of the Kingdom of the Netherlands



**Dale Morris** is Senior Economist at the Royal Netherlands Embassy in Washington, DC, providing economic and political analyses of US macro-economic, fiscal and monetary policy, as well as US federal budget, tax and appropriations developments. Morris directs the Dutch Government's Water Management network in Louisiana, Florida, New York, and California, where the focus is on a broad array of "sustainability" topics: flood protection, flood risk mitigation, coastal restoration, water supply/conveyance, ecosystem resiliency, climate change adaptation, and landscape design for risk reduction. Morris is a co-director of Dutch Dialogues. Morris previously served as Legislative Director and Press Secretary to two Members of the U.S. Congress and was responsible for budget, tax, trade, appropriations, entitlements and energy/environment issues.

Morris is a graduate of the University of Pittsburgh and the University of Virginia.

## 10:00 am—10:15 am Storm Water Modeling

Presented by Fred Bloetscher, Florida Atlantic University



**Dr. Frederick Bloetscher** is an Associate Professor at Florida Atlantic University. His areas of expertise includes water resource management issues and utility management. Major areas of research in the past five years have included adaptation strategies for sea level rise for water, wastewater, stormwater and transportation infrastructure, water supply challenges for water limited areas, water quality solutions for water supply challenges, and public health impacts of emerging water contaminants. He is a co-PI on the 2009 Southeast Florida report on the effects of sea level rise on water infrastructure, and on the FDOT study on roadway vulnerability. He has written over 200 papers, 22 peer reviewed, concerning utility management and practice, including sea level rise.

He holds a Ph.D. in Civil & Environmental Engineering from the University of Miami, a Master of Public Administration from the University of North Carolina at Chapel Hill, and a B.S. in Civil Engineering from the University of Cincinnati. His past experience includes 11 years as Director or Deputy Director of large water and sewer utility systems in south Florida and managing two municipalities North Carolina. He has authored five books on water issues, two of which relate to utility management issues, including the AWWA best seller – Basics for Decision-makers.

## 10:15 am—10:30 am Panel Discussion: Water Challenges

Moderator: Scott Stripling

Panelists: Richard Saltrick, Brian Soden, Dale Morris, & Fred Bloetscher

10:30 am—10:50 am

## NETWORKING BREAK

### Session 2: Coastal Protection

10:50 am—10:55am Coastal Protection Introduction

Michael Gongora, City of Miami Beach Commissioner

10:55 am—11:10 am Shoreline Protection

Presented by Ad Reniers, University of Miami—Rosenstiel School of Marine and Atmospheric Science



For more than 17 years, **Ad Reniers** of the University of Miami, USA, has been active in both research and teaching, using a combination of state of the art numerical modeling, laboratory experiments and comprehensive field studies with many national and international partners. At the university, Ad Reniers works at the Rosenstiel School of Marine and Atmospheric Science (RSMAS). RSMAS has grown into one of the leading academic oceanographic and atmospheric research institutions in the world.

Together with his research group, he works on understanding and predicting the near-shore and surfzone hydrodynamic and morphological response with a strong emphasis on coastal safety in all its aspects. This includes (but is not restricted to) the safety of the hinterland during extreme storm and hurricane conditions for sandy coasts, swimmer safety, which is mostly affected by a combination of breaking waves and strong rip currents, and safety from environmental hazards such as pollutants potentially contaminating the beach for many kilometers alongshore. Ad Reniers is one of the authors of

the book 'A Guide to Modeling Coastal Morphology (Oct. 2011)'.

11:10 am—11:25 am Coastal Dune Management

Presented by Elizabeth Wheaton, City of Miami Beach

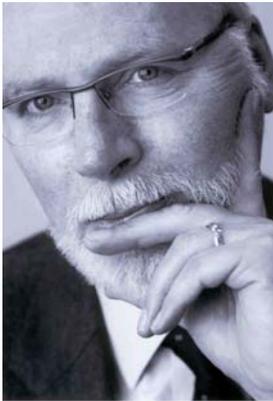


**Elizabeth Wheaton** is the Environmental Resources Manager at the City of Miami Beach. Elizabeth has been working with the City of Miami Beach's Environmental Division since 2008. The City's Environmental Resources Management Division, also focuses on a broad variety of projects including: construction management, beachwalk system development, beach and dune management, regulatory compliance, and recycling. In addition, Elizabeth has been instrumental in the development of the City's Sustainability Plan and implementation of the City's sustainable and climate change initiatives. Also, through her leadership, the City has developed a dune management plan with an ecosystem focused approach.

In 2007, Elizabeth graduated from University of Miami, Rosenstiel School of Marine and Atmospheric Science with a Masters in Marine Affairs and Policy. After graduating, Elizabeth worked for the environmental engineering firm ATC Associates conducting Phase I Environmental Site Assessments and environmental site assessments for T-Mobile and MetroPCS.

## 11:25am—11:55 am Dutch Perspective: Protecting the Coast by Creating Natural Habitat

Presented by Marcel Stive, University of Delft



**Professor Marcel Stive** has 30+ years of experience in research and projects in the fields of hydraulic engineering, coastal morphodynamics, coastal bio-geomorphology and coastal and estuarine management. His record involves coasts, estuaries, harbours and offshore projects in many countries in Europe, the Americas, Asia, and Africa, using fieldwork and experimental physical and mathematical physical models. Prof. Stive has been scientific director of the Water Research Centre of Delft University of Technology since 2003, and since 2006 he has been leading the EU Erasmus Mundus MSc programme on Coastal and Marine Engineering and Management. In 2001 he accepted the fulltime chair of Coastal Engineering at the Faculty of Civil Engineering and Geosciences of Delft University of Technology.

Prof. Stive is and has been involved in several projects sponsored by the science and technology programmes of the EU, including as overall coordinator. He was a member of the latest Delta Committee in the Netherlands, and is still a member of the National Advisory Committee on Water Defence, of the Board of Trustees of the Netherlands Centre for Coastal Research, and of the Scientific Council of Deltares and the International Conference Councils for the international conferences ICCE and CD. He has written many publications on a variety of topics, ranging from geology to hydraulic engineering and coastal zone management.

## 11:55 am—12:15 pm Panel Discussion: Coastal Protection

Moderator: Scott Stripling

Panelists: Ad Reniers, Elizabeth Wheaton, & Marcel Stive



## 12:15 to 1:15 Lunch Presentations

12:40 pm -12:55 pm **Advancing Resiliency in New York**

Presented by Robert Daoust, Arcadis



**Robert Daoust** has more than 18 years of experience in environmental consulting experience with public and private clients, including state, municipal, and federal agencies. He specializes in ecosystem restoration projects as well as climate adaptation studies that focus on sea level rise and storm surge flood risk mitigation. He leads ARCADIS national Ecosystem Restoration and Coastal Protection practice in the United States, part of the firm's Water Management ground, with a particular emphasis on Florida, New York, Louisiana, and California. His most recent work involves support in New York City on climate change adaptation to mitigate future flood risk associated with extreme storm events and sea level rise as well as efforts to restore coastal Louisiana and the Florida Everglades. Mr. Daoust's background is in ecosystem ecology and includes extensive experience in experimental design, implementation and optimization of long-term monitoring as part of adaptive management programs, as well as statistical analysis and interpretation of ecological data. He holds a BS degree in Geography from McGill University in Montreal, Canada and an MS from Florida International University, where he

did research on the effects of phosphorus in Everglades National Park. Originally from Toronto, Canada, Mr. Daoust is now a resident of Fort Lauderdale, and is happy to call South Florida home.

12:55 pm — 1:10 pm

**A Tidewater (Norfolk) Virginia Example for the Dutch American Coastal Flooding Cooperation**

Presented by Thomas McNeilan, Fugro



**Thomas W. McNeilan P.E.** is a Vice-President and General Manager of Fugro Consultants in Norfolk, Virginia. He directs Fugro's marine and coastal engineering and survey practice on the U.S. east coast. He has degrees in Civil Engineering and Geotechnical Engineering and is a registered professional engineer in eight states (including Florida).

His professional focus is towards: 1) coastal infrastructure & industrial development, 2) flood inundation & flood defense improvements, and 3) offshore renewable energy. His project experience includes: the replacement of the San Francisco – Oakland Bay Bridge eastern span; 500+-acre land reclamations for port development on the U.S east and west coasts; many other port and coastal energy facilities, and a proposed reconfiguration and expansion of the San Francisco International Airport.

He has been the principal-in-charge, since 2009, of Fugro's "city-wide coastal flooding contract" with the City of Norfolk. Fugro's efforts for this contract has including: a) a number of technical studies and feasibility design evaluations, b) the preparation of a new City-wide storm water - flood defense master plan, c) the initiation of the strategic connection between the City and Royal Netherlands Embassy, and d) the development of much of the City's strategic outreach plan with State and Federal agencies.

1:10 pm—1:20 am

**NETWORKING BREAK**

## Session 3: Environmental Storm Water Impacts

1:20 pm—1:40 pm

### Dutch Perspective: Water Governance—A Joint Approach Towards Resiliency

Presented by Pim Nijssen, Twynstra Gudde



**Pim Nijssen** studied planning and management science at the Radboud University Nijmegen (the Netherlands) and currently works as a senior consultant for the leading independent firm *Twynstra Gudde*. His field of experience lies in building coalitions between organizations in the field of water management and spatial planning. Pim is convinced that, in the complex and interconnected modern world, a solution to a problem mostly requires more than one party and an integrated approach. Not only as this leads to better results, but also as it contributes to a greater support for the chosen solution.

Pim has worked on a variety of clients whose projects address the complex impacts of climate change in the Netherlands and Europe. For the so called 'Room for the River Waal' project at Nijmegen he was awarded with the prestigious International Waterfront

Award in New York in October, 2011 for the way the project involved the community and collaborated internationally. For the project's communication strategy he won the Red Dot Public Space Award in Berlin.

1:40pm—2:00 pm

### Water Quality

Presented by Helena Solo-Gabriele, University of Miami

**Dr. Helena Solo-Gabriele** is a Professor and Associate Dean for Research within the College of Engineering at the University of Miami, where she teaches courses in Environmental Microbiology, Environmental Analysis, and Environmental Engineering. Her research has focused on evaluating the environmental and human health impacts of contaminants. She has conducted extensive studies evaluating the factors that influence microbe levels within nearshore waters with a particular emphasis on recreational waters. Specific outcomes of her team's work have included document-



ing shoreline sands as a major contributor to marine water quality, quantifying diffuse sources of non-point sources of microbes, and conducting an epidemiologic study aimed at evaluating the relationships between water quality, hydrometeorologic measures, and human health. Most recently the team's work has focused on evaluating regional relationships between beach sand and water quality and also assessing the risks from pathogen measures in beach sands. Dr. Helena Solo-Gabriele holds a Bachelor and Master of Science degrees in Civil Engineering from the University of Miami, Coral Gables, FL and her Ph.D. degree in Civil and Environmental Engineering from the Massachusetts Institute of Technology, Cambridge, MA.

2:00—2:10 pm

### Development of the Nearshore Wave Prediction System

Presented by Jeral Estupiñán, National Weather Service

2:10pm—2:30 pm

## Dutch Perspective: Integrated Approach to Urban Flood Management

Presented by Frans van de Ven, Deltares



**Frans van de Ven** is leader of the Urban Land & Water Management team at Deltares and he is associate professor of Urban Water Management at the Faculty of Civil Engineering and Geosciences at Delft University of Technology. He holds a PhD in Hydrology and is leading research worldwide on creating sustainable cities, making them climate resilient, flood and drought proof, healthy and subsidence-free. This includes research on improved concepts for urban flood and water management, other ways of urban planning and design and water quality control, blue-green solutions and energy harvesting from water.

He started research on disaster impact reduction, on the adaptability of cities and on the concept of the “closed city” – aimed at enhancing the functional use of all types of water in the urban area. Design support systems for climate adaptation, water supply and integrated urban water resources management as well as effectiveness and applicability of blue green solutions (SUDS) were added to the pallet of ongoing research projects. Over the past couple of years Van de Ven worked on urban water management projects in New Orleans, London, Los Angeles, Melbourne, Ho Chi Minh / Can Tho, Puri and Kochi (India); Earlier he worked on projects in Manila, Saga (Japan) and Ekaterinburg. Moreover he was/is involved in Euro-

pean (EU) projects like SKINT and Blue Green Dream.

2:30pm—2:50 pm

## Panel Discussion: Environmental Stormwater Impacts

Moderator: Jeral Estupiñán,

Panelists: Pim Nijssen, Helena Solo Gabriele, & Frans van de Ven

2:50 pm—3:05 pm

## NETWORKING BREAK



## Session 4: Urban Design Challenges & Opportunities

3:05 pm—3:25 pm

### Urban Design Challenges & Opportunities in Miami Beach

Presented by Richard Lorber, City of Miami Beach



For the past four years, **Richard Lorber** has been acting as the Planning Director for the City of Miami Beach. He has served as Planning & Zoning Manager for the Miami Beach Planning Department, and as Planning Director for the City of South Miami. Before moving his career to Miami-Dade County, Richard worked as a planner for the Broward County Planning Council and Transportation Planning Division.

Richard is a graduate of the Florida Atlantic University Department of Urban and Regional Planning, receiving his MURP degree in 1997. He has taught planning for several semesters as an adjunct professor at FAU. His course focused on economic revitalization and urban infill, with a focus on built-out urban communities like Miami Beach.

Mr. Lorber is a member of the American Institute of Certified Planners (AICP), and has served on the Board of the Florida Chapter of the American Planning Association. In addition to his planning degree, he has a Master's degree in Economics from Florida International University, and did his undergraduate work at New England College in New Hampshire.



3:25 pm—3:45 pm

## Dutch Perspective: Resilient Flood Risk Management in Urbanized Areas

Presented by Steven Slabbers, Bosch Slabbers Landscape Architects



**Steven Slabbers** is general director of Bosch Slabbers, landscape + urban planning; one of the main private companies in the field of landscape and urban planning in the Netherlands. During the last 15 years, his company has developed a specialization in the field of delta development, also internationally.

Slabbers delivers an important tribute to the Dutch landscape in designing attractive, safe solutions with water to protect the Netherlands for future impact of water threats. He has a comprehensive experience with 'room for the river' projects in the Netherlands.

For the past three years, Steven Slabbers has been leading the design-studio for the Dutch South Western Delta. In this design studio they search for solutions for water safety and water quality which also add ecological, social, and/or economical quality.

In the United States Slabbers worked, together with Fregonese, on the Best Practices manual for development in coastal Louisiana. After Katrina, he participated as key advisor in the development of a water management strategy for Greater New Orleans, which was launched September 8, 2013.

His firm, Bosch Slabbers, also cooperates within an American-Dutch combination, in Rebuild by Design, the Post Sandy Project that just has been started for Greater New York.

In Vietnam, Slabbers worked as 'team leader spatial development' on the Climate Adaptation Strategy for Ho Chi Minh City.

3:45 pm—4:15 pm

## Group Discussion: Opportunities for a Resilient Miami Beach

Moderator: Jeral Estupinan

Panelists: Richard Lorber & Steven Slabbers

4:15 pm—4:30 pm

## Closing Remarks/End of Program



Thank You For Coming!

# Notes



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