



# AMERICAN MUSEUM OF NATURAL HISTORY

## **Our Earth's Future: Understanding Climate Science and Sea Level Rise**

**March 11, 2017**

**10 am – 3 pm**

### **Davis Classroom East**

In this one-day offering, Dr. Debra Tillinger leads an in-depth course about the forces that determine sea levels. Compare human-induced sea level rise, a consequence of global warming, with other phenomena related to the interaction of the ocean and the atmosphere. Through the use of mapping on multiple scales, participants will come away with a better understanding of climate change, and the ability to discuss the science behind the headlines with friends and family.

### **SCHEDULE**

10:00-10:15 – Welcome, coffee (15 min)

10:15-10:55 – Climate I (40 min)

#### **Local**

10:55-11:45 – Community Mapping (50 min)

11:45-11:50 – break (5 min)

#### **Regional**

11:50-12:05 – SMARTIC intro (15 min)

12:05 – 12:30 – Lunch (25 min)

12:30-1:30 – SMARTIC (60 min)

#### **Global**

1:30-1:55 – Climate II (25 min)

1:55-2:00 – break (5 min)

2:00-2:30 – Ocean Circulation (30 min)

2:30-2:40 – Q & A (10 min)

2:40-3:00 – Roundup (20 min)



## BIOGRAPHIES

**Dr. Debra Tillinger** teaches the science of climate change to the general public, other educators, and students of all ages. She works at the American Museum of Natural history as an adjunct visiting scientist in the graduate education program and as an educator for the Our Earth's Future series. Our Earth's Future, funded by the Institute of Museum and Library Services, has provided informal after-hours classes, one-day intensives, and several online courses. The program won the 2015 REVERE award for teaching "Beyond the Classroom." Her work also includes teaching in-service educators the science of climate change and contributing to the development of a project-based climate curriculum for public schools.

Dr. Tillinger holds a PhD in ocean and climate physics from Columbia University and teaches courses on physics, natural disasters, and oceanography at Marymount Manhattan College and CUNY. In addition to formal science education, Dr. Tillinger also presents scientific information through the arts in character as "Dr. Mermaid," at venues including TEDxBlackRockCity, Gratitude Migration Festival, the annual Mermaid Lagoon Fundraiser, and Bushwick's House of Light.

**Alicia Grullón** moves between performance, video, and photography, channeling her interdisciplinary approach towards critiques on the politics of presence, an argument for the inclusion of disenfranchised communities in political and social spheres. Ultimately Grullón wants to decolonize the world through art. Grullón's works have been shown in numerous group exhibitions including The 8th Floor, Center for Book Arts, Franklin Furnace Archives, Bronx Museum of the Arts, BRIC House for Arts and Media, School of Visual Arts, El Museo del Barrio, Smack Mellon, Art in Odd Places, Jamaica Flux, and Performa 11. She has received grants from the Puffin Foundation, Bronx Council on the Arts, Department of Cultural Affairs, and Franklin Furnace Archives, among others. She has participated in residencies in the United States, Korea and Germany and presented at Open Engagement, Creative Time Summit 2015, The Royal College of Art, United States Association for Art Educators, Culture Push, and Migrating Academies in



## AMERICAN MUSEUM OF NATURAL HISTORY

Kassel Germany. Grullón's project PERCENT FOR GREEN, a green bill created as art with Bronx residents, contributed to her acting as co-lead organizer in the Bronx for the People's Climate March. Grullón is a fellow at Columbia University's Wallach Art Gallery and Artist Catalyst for The Laundromat Project. She is currently an artist in residency at The Center for Book Arts and a mentor for NYFA's Immigrant Artist Mentoring Program in Social Practice Art. Her work has been reviewed in Hyperallergic, Creative Time Reports, and Art Fag City.

**Stephanie Pfirman** is Hirschorn Professor of Environmental Science and co-Chair of Barnard's Department of Environmental Science. She holds a joint appointment with Columbia University. Professor Pfirman's scientific research focuses on the Arctic environment, particularly on the nature and dynamics of Arctic sea ice under changing climate. She is currently principal investigator of the Polar Learning and Responding: PoLAR Climate Change Education Partnership supported by the National Science Foundation. Prior to joining Barnard, Professor Pfirman was a senior scientist at the Environmental Defense Fund and co-developer of the award-winning exhibition, "Global Warming: Understanding the Forecast," produced jointly with the American Museum of Natural History. She has worked for the House of Representatives, as a staff scientist, for the US Geological Survey, as an oceanographer, and for the GeoMarine Research Institution in Kiel, Germany, as an Arctic researcher. Her PhD is from the Massachusetts Institute of Technology/Woods Hole Oceanographic Institution joint program in Oceanography and Oceanographic Engineering.

**Arnold Gordon** is Professor of Oceanography at Columbia University, and on the research staff at Lamont-Doherty Earth Observatory of Columbia University. He was awarded the Maurice Ewing Medal of the American Geophysical Union in 1999 for his significant original contributions to understanding ocean circulation and the ocean's role in global climate variability. In 2013, he was awarded the Prince Albert I Medal for outstanding contributions to oceanography by the International Association for the Physical Sciences of the Ocean.



## AMERICAN MUSEUM OF NATURAL HISTORY

His research is directed at the ocean's stratification, circulation and mixing and its role in Earth's climate system. Gordon studies the transfer of heat and freshwater within the ocean and between the ocean, cryosphere and atmosphere. He views the ocean as a global system, with specific attention to interocean exchange and to ventilation of the deep ocean interior through sea-air-ice interaction. Comparison and extension of observational data with model results are an increasingly important part of his research. Historically much of his research deals with the Southern Ocean, but research within the warmer waters of the Indonesian Seas, tropical North Pacific, Indian and Atlantic Oceans now compose most of my research program. Recently his focus is on the role of the ocean mesoscale in the transfer of heat and freshwater to compensate for net sea-air flux. He tends to go to areas that have been neglected by the research community, but have the potential of being key players in the global system.