**DR. GAIL CHMURA**

Friday March 4, 2016, 4pm
Florida Atlantic University, Davie Campus, DW 103

**Blue Carbon and Climate Change**

Salt marshes are the world’s most efficient carbon (C) sinks and have been so for millennia – but will they continue to be with warming climate and rapid rates of sea level rise? Over the last few thousand years the rate of sea level rise has enabled salt marsh vegetation to survive tidal flooding and accumulate C-rich soils. More importantly, marsh deposits hold at least 1,275 million metric tonnes of C globally. In recognition of their value as a C sink the carbon in salt marshes (along with that of mangroves and seagrasses) has been branded as “blue carbon” and is under consideration for the voluntary C market. How will climate change affect the salt marsh blue C sink and its feedbacks to climate change?

**Dr. Gail Chmura** is an Associate Professor in the Geography Department at UF/GIFC. Previously, she has held the Jacob’s Global Environment and Climate Change Centre at the University of Ottawa, Canada and the University of Queensland’s Global Environment and Climate Change Centre. She is a member of the ESA and a co-founder of the International Coastal Wetland Council. She is also a co-founder of the Blue Carbon Alliance. She has received numerous awards for her work on the science and policy of salt marshes and the Blue Carbon Alliance. Her research focuses on the role of salt marshes in the carbon cycle and the impacts of climate change and sea level rise on their persistence and function. She is a member of the National Academy of Sciences and the Royal Society of Canada. She is also a co-founder of the International Coastal Wetland Council. She has received numerous awards for her work on the science and policy of salt marshes and the Blue Carbon Alliance. Her research focuses on the role of salt marshes in the carbon cycle and the impacts of climate change and sea level rise on their persistence and function. She is a member of the National Academy of Sciences and the Royal Society of Canada.

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**PROFESSOR DAN KAHAN**

Friday April 8th, 2016, 4pm
Florida Atlantic University, Davie Campus, DW 103

**Democracy and the Science Communication Environment**

There are two climate changes in America: the one people “believe” or “disbelieve” in in order to express their cultural identities, and the one they acquire and use scientific knowledge about in order to make decisions of consequence, individual and collective. The talk will present various forms of empirical evidence—including standardized science literacy tests, lab experiments, and real-world field studies in Southeast Florida—to support the “two climate changes” thesis. It will also examine what this position implies about the forms of deliberative engagement necessary to get the science communication environment of the toxic effects of the first climate change and to make it habitable for enlightened democratic engagement with the second.

**Dan Kahan** is the Elizabeth D. Dollard Professor of Law and Professor of Psychology at Yale Law School. He is a member of the National Academy of Sciences, and served on review panels and teams for numerous agencies and universities. Henry now lives and works for NSF in Fort Collins, CO.

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**DR. ALEX GARDNER**

Tuesday May 3rd, 2016, 3pm
Hyatt Regency Pier Sixty-Six, 2301 S.E. 17th Street, Fort Lauderdale, FL

**Out of Equilibrium in a Warming World: Glaciers and Sea Level change**

Global mean sea level is rising in response to two primary factors: warming oceans and diminishing glaciers and ice sheets. If melted completely, glaciers would raise sea levels by half a meter, much less than that the 80 meters or so that would result from total melt of the massive Greenland and Antarctic ice sheets. That is why glacial contributions to sea level rise have been less studied, allowing estimates of to vary widely. Recent advances in satellite altimetry and graviometry now allow for precise estimation of global glacier contributions to sea level rise. Using these new techniques glacial loss was found to account for 30% of global mean sea level rise over the 2003-2014 period, an amount equal to the contribution from both ice sheets combined. Over the next century and beyond glaciers are expected to continue to contribute substantial volumes of water to the world’s oceans, motivating continued study of how glaciers will respond to climate change, impacts of climate change and human perturbations on coastal ecosystems, and ecosystem services of natural and recovering salt marshes. Presently, her lab’s research is largely focused on the effect of nutrient pollution on coastal ecosystems, assessment of soil carbon stocks and rates, and greenhouse gases fluxes in salt marshes.

**Alex Gardner** is a Research Scientist at Caltech’s Jet Propulsion Laboratory. He earned a B.Eng. in Civil Engineering from the University of Saskatchewan, a Ph.D. in Earth Sciences from the University of British Columbia, and was a NSERC research fellow in the Department of Atmospheric, Oceanic, and Space Sciences at the University of Michigan. He is a member of NASA’s Sea Level Change and ICESat-2 Science Definition Teams. Alex studies how the Earth’s climate responds to natural and human induced forcings as well as how changes in the reflectivity of snow and ice modify the Earth's climate.