

Beacon Hill Seminars – 2016

“Earth’s Changing Climate: What is Causing  
It? What Will It Mean for You?”

Session 3 –Sea Level Change (Part 2)  
+ Climate Change and Food Security

Timothy C. Weiskel

20 October 2016

Transition-Studies

Cambridge Climate Research Associates

Fall Semester 2016

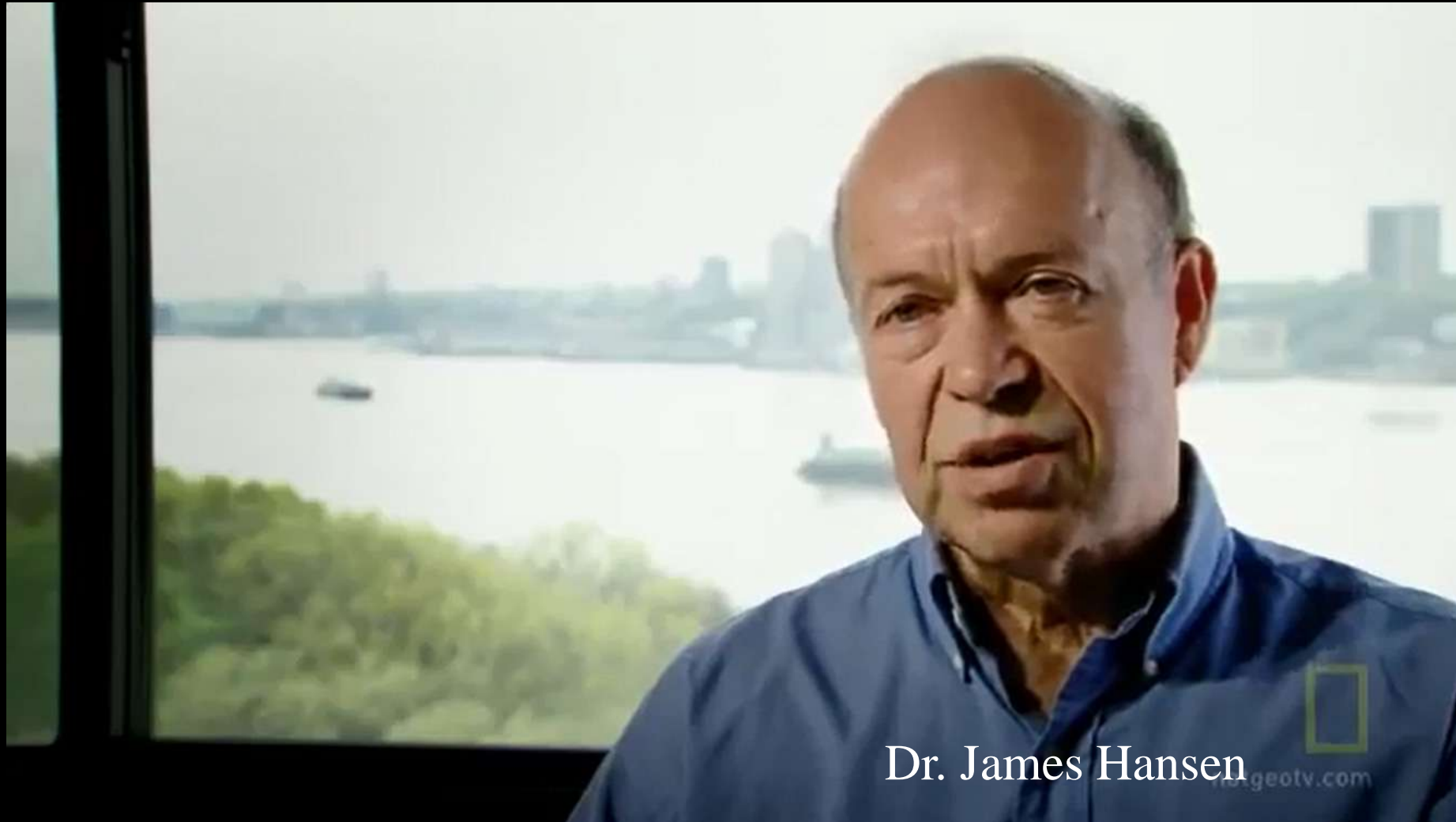


# What determines “sea level” in Earth’s ecosystem?



<https://environmentaljusticetv.wordpress.com/2016/04/17/earth-under-water/>

Tim Weiskel - 2



Dr. James Hansen

“...not a question of *will* sea level rise a large amount... It is only a question of how fast that will occur.”

# What will this mean for Boston in “historical time?”



Courtesy of T.C. Weiskel

Eel fishing, Back Bay section of the lower Charles River, about 1845. The causeway in the background was built for the Boston & Worcester Railroad, which began serving passengers in 1835.





**PROFESSOR HAROLD WANLESS**  
Chair of Geology, University of Miami





**Flooding from 100 year storm with 0.6 m sea level rise**

## New York City – Category 3 Hurricane – “*Knowns and Needs*”



















"New York City Goes Under."  
YouTube - stepitup07, (27 February 2007).



# Envisioning Our Coastal Future – NYC, Boston, Cambridge & Beyond – Pt. 1



**Barry Bergdoll, PhD**

Chief Curator, Architecture & Design





# Storm Tracker

Posted on [January 28, 2016](#) | [Leave a comment](#) | [Edit](#)



<https://environmentaljusticetv.wordpress.com/2016/01/28/storm-tracker/>



<https://environmentaljusticetv.wordpress.com/2016/01/27/mega-disasters-new-york-city-hurricane-2006/>

# "Envisioning Our Coastal Future: NYC, Boston, Cambridge, and Beyond - Pt. 2"

HOME / GLOBE / IDEAS

## Defending Boston from the sea

A massive ocean barrier. Hidden Holding tanks. With Sea Levels Rising, Urban Planners Start Envisioning a More Waterproof City



(Courtesy Antonio Di Mambro & Associates )

By Drake Bennett

June 6, 2010



# "Envisioning Our Coastal Future: NYC, Boston, Cambridge, and Beyond - Pt. 2"

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FORUM  
NETWORK

Flooding from 100 year storm with 0.6 m sea level rise

Applied Science Associates Inc., 200

"Daniel Schrag: Geoengineering," WGBH Forum Network, (30 October 2008).



"Daniel Schrag: Geoengineering." WGBH Forum Network, (30 October 2008).







## Re-Viewing Boston by the Sea



## Harbor Highlights

### **The Boston Harbor Association's "Boston Harbor Sea Level Rise Forum" and related community meetings**

Come learn about climate change and sea-level rise in Boston Harbor at The Boston Harbor Association (TBHA)'s "Boston Harbor Sea-Level Rise Forum" on the evening of 9 November and the morning of 10 November 2010.

Highlights of the Forum include a keynote address by Gina McCarthy, the U.S. Environmental Protection Agency's Assistant Administrator, as well as the debut of maps showing the potential impacts of sea level rise and climate change in Boston Harbor and local neighborhoods. The forum will provide valuable information specific to Boston Harbor as well as include open mike sessions for questions and comments from the general public.



# The Honorable Leo Robinson, Mayor of Chelsea





Enclosure - Harvard Side  
Syllabus Home Page

The Working Group on Environmental Justice of the  
*W.E.B. Du Bois Institute for African and African American Research* and *The Extension School*, Harvard University present

ENVR E-145

## Introduction to Environmental Justice

<http://courses.doe.harvard.edu/envr145>

James Hoyte, Rhona Julien and Timothy C. Weiskel

### Class Related Events

#### Course Calendar - Spring 2011

#### ■ Videos of Class Lectures

#### Library Resources

[Harvard Libraries](#)

[Harvard Library HDS&LIS](#)

[Connections](#)

[e-Resources & Journals](#)

[Introduction Library Guide](#) by

George E. Clark

#### Environmental Justice

[Search Engines](#)

& [Web Portals](#)

[Harvard 2011 Ender](#)

#### Virtual Thread Info

Course Assignment  
Dropbox



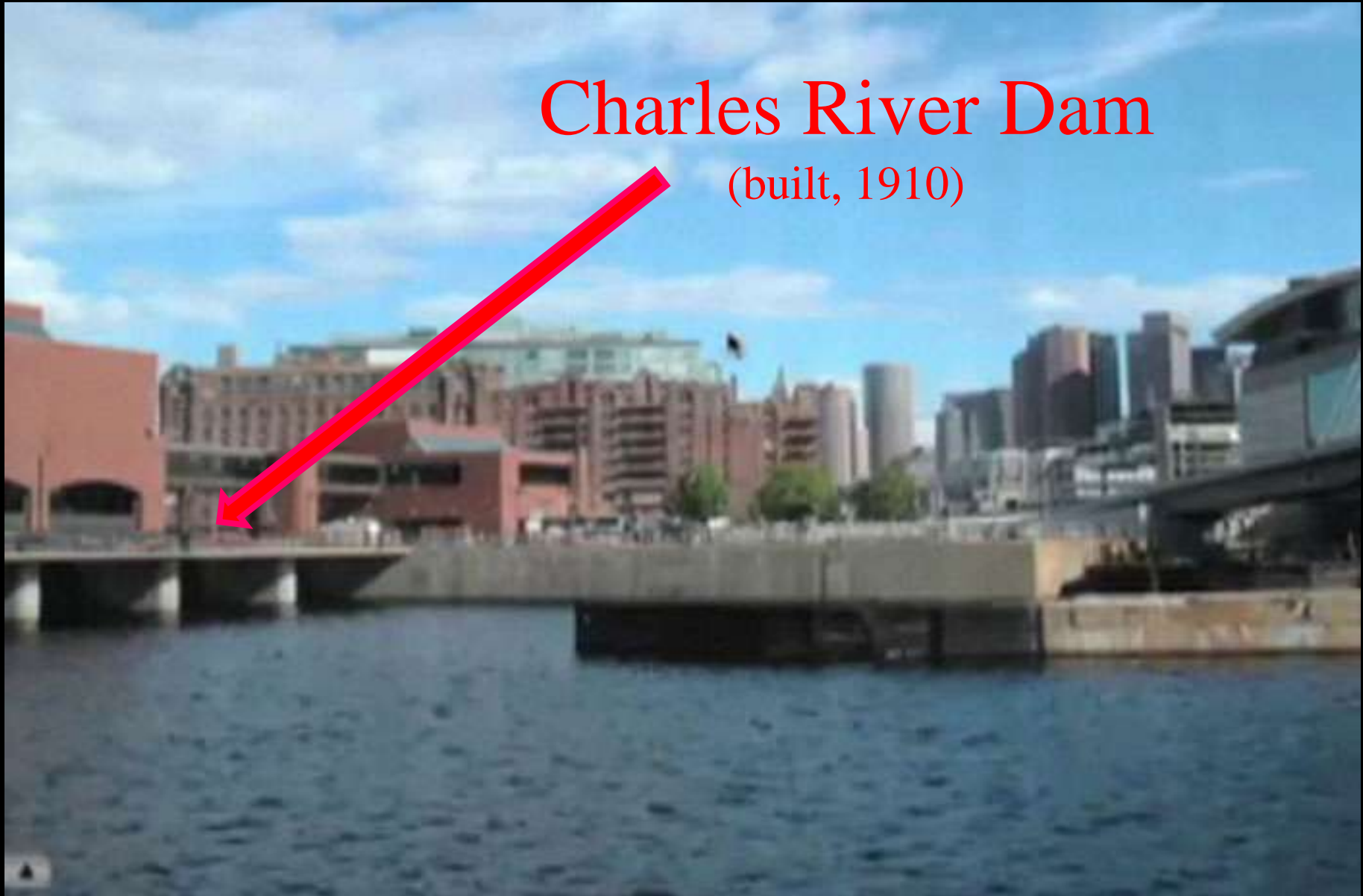
# Sea Level and Environmental Justice

## Boston, Chelsea and the Challenge of Climate Change and the Rising Sea

4 April 2011

# Charles River Dam

(built, 1910)

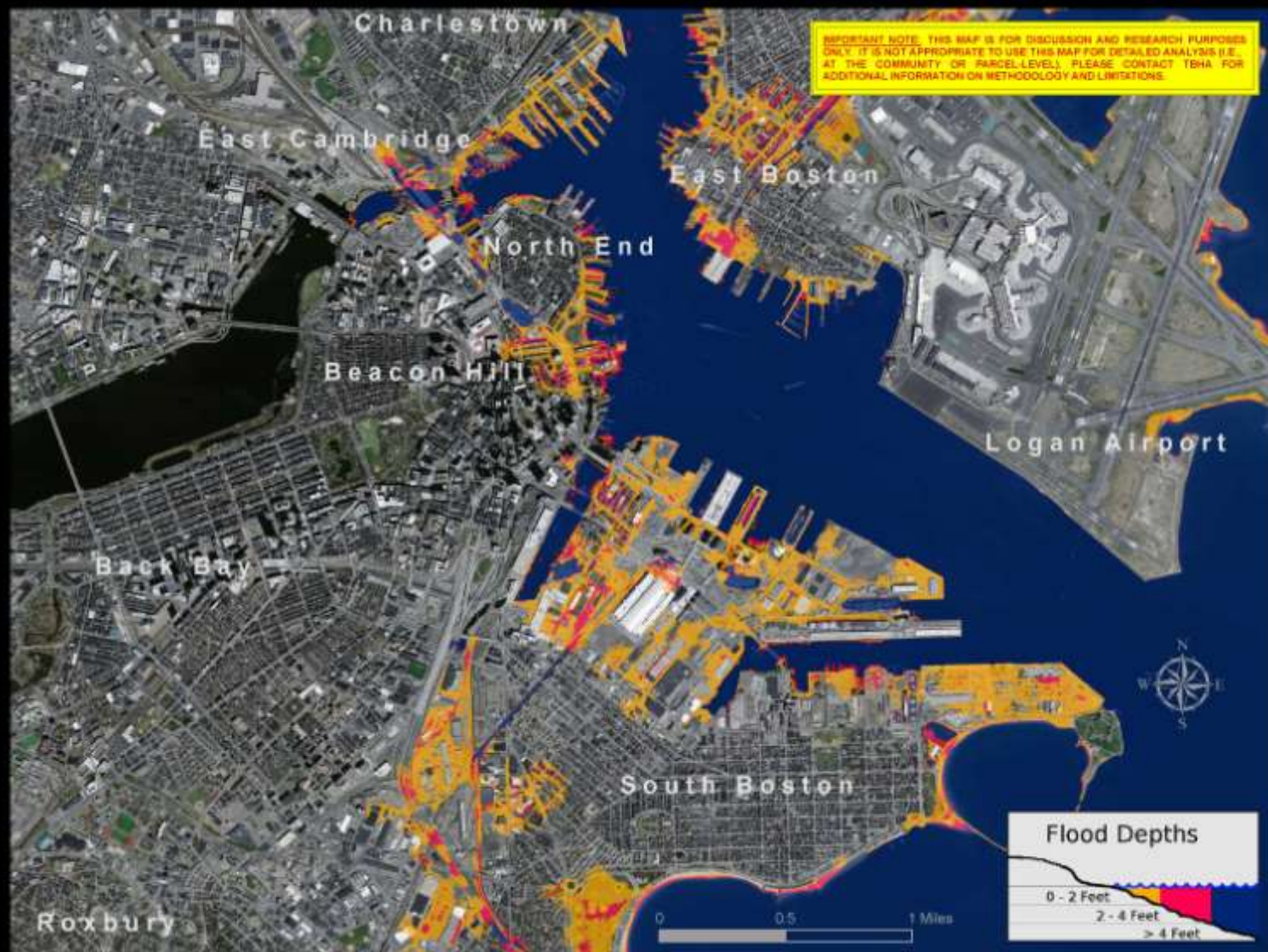






## Re-Viewing Boston by the Sea














# Exxon Sued Again, This Time for Polluting Mystic River

Posted on [October 10, 2016](#) | [Leave a comment](#) | [Edit](#)



A woman with long dark dreadlocks, wearing a red top, is shown from the chest up, gesturing with her right hand while speaking. The background is a dark, solid color.

## Veronica Eady

DIRECTOR, MASSACHUSETTS

CONSERVATION LAW FOUNDATION

▶ | 🔊 1:12 / 2:17



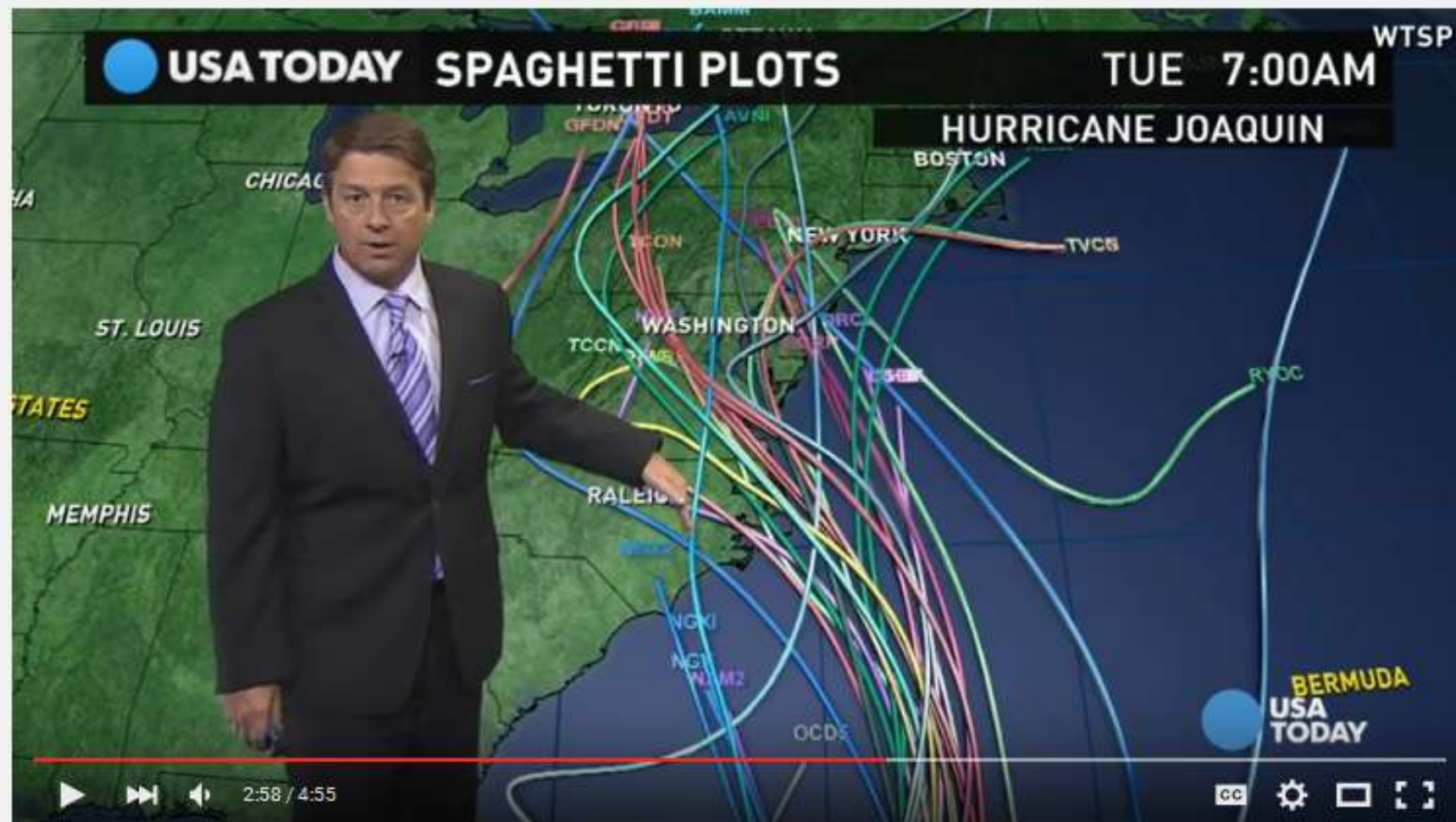


**USA TODAY SPAGHETTI PLOTS**

**TUE 7:00AM**

WTSP

**HURRICANE JOAQUIN**



Hurricane Joaquin strengthens

# THE WEATHER OF THE FUTURE

Heat Waves, Extreme Storms, and Other Scenes  
from a Climate-Changed Planet



Heidi Cullen

# THE WEATHER OF THE FUTURE

Heat Waves, Extreme Storms, and Other Scenes  
from a Climate-Changed Planet



Fortunately, Dan Schrag has subsequently done a great deal to move along the public understanding of sea level change in Boston

## HUBweek: Coping with Climate Change: How Will Boston Adapt?

Posted on [October 21, 2015](#) | [Leave a comment](#) | [Edit](#)



<https://vimeo.com/143134251>



# Harvard University Center for the Environment

The Harvard University Center for the Environment presents:

# Hubweek 2015

**Atyia Martin, James McCarthy, Carl Spector, & Robert Young**  
Coping with Climate Change: How Will Boston Adapt?

**October 7th 2015**




[environment.harvard.edu](http://environment.harvard.edu)





Professor Dan Schrag, October 2015

A medium shot of Professor Kerry A. Emanuel, a middle-aged man with grey hair, wearing a light blue button-down shirt. He is speaking and looking slightly off-camera. The background is a large wooden bookshelf filled with books.

**Professor Kerry A. Emanuel**

*Massachusetts Institute of Technology*

A portrait of John Bolduc, a middle-aged man with grey hair and glasses, wearing a dark suit jacket over a light blue shirt. He is looking directly at the camera with a slight smile. The background is a blurred indoor setting with bookshelves.

**John Bolduc**

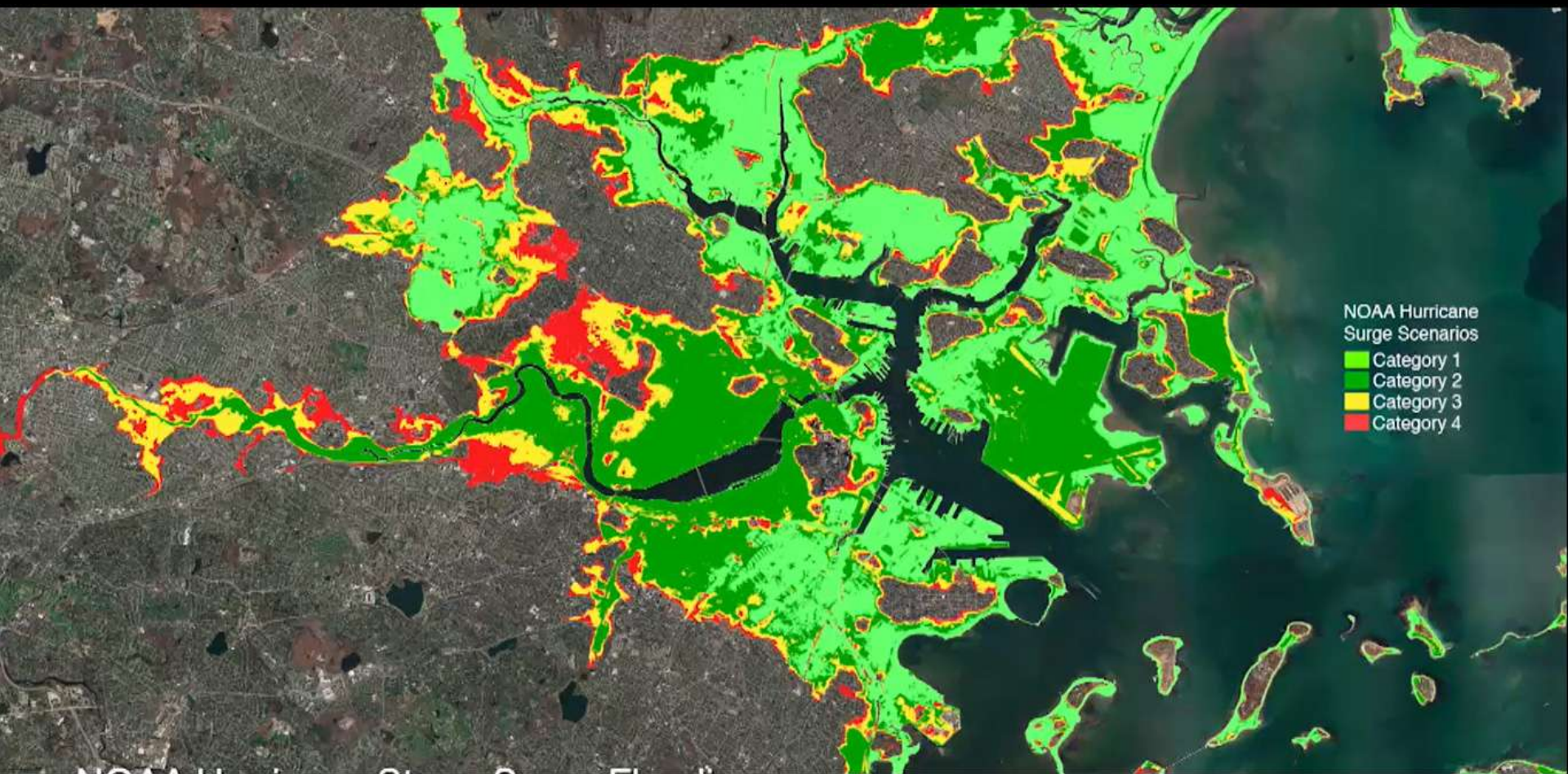
*Environmental Planner, City of Cambridge Community Development Department*



A portrait of Alan Berger, a man with dark hair and a light beard, wearing a dark blazer over a striped shirt. He is looking slightly off-camera with a thoughtful expression. The background is a blurred indoor space with warm lighting.

**Alan Berger**

*Professor of Landscape Architecture and Urban Design  
Massachusetts Institute of Technology*





A portrait of Jennifer Leaning, MD, SMH. She is an older woman with short, grey hair, wearing a dark blue blazer over a white top. She is looking directly at the camera with a serious expression. The background is slightly blurred, showing what appears to be a window with a grid pattern and some shelves with books or decorative items.

## Jennifer Leaning, MD, SMH

*FXB Professor of the Practice of Health and Human Rights  
T. H. Chan School of Public Health, Harvard University*



# In addition, citizens of Cambridge have done a great deal as well...

## Cambridge Climate Congress:

Building a Community of Response to Climate Change  
October 1st and November 12th, 2016

100 delegates from throughout Cambridge will meet in City Hall to make recommendations on how everyone in Cambridge can join in responding to climate change.



The aim of the Congress is to develop a practical vision of climate citizenship to build a community of response to climate change. Congress delegates will reflect the diversity of Cambridge and discuss how these differences shape our views of climate change and how we can respond to it. To close, the Congress will consider a unified statement of response that respects and bridges these differences.

# Dr. Paul Kirshen – Cambridge Climate Congress October – November 2016



And,  
fortunately,  
Boston has  
begun as  
well...

[via the  
BBC]

BBC  
WORLD  
SERVICE

## Boston Calling



[Boston Calling Home](#)

[Episodes](#)

[Clips](#)

[Podcast](#)

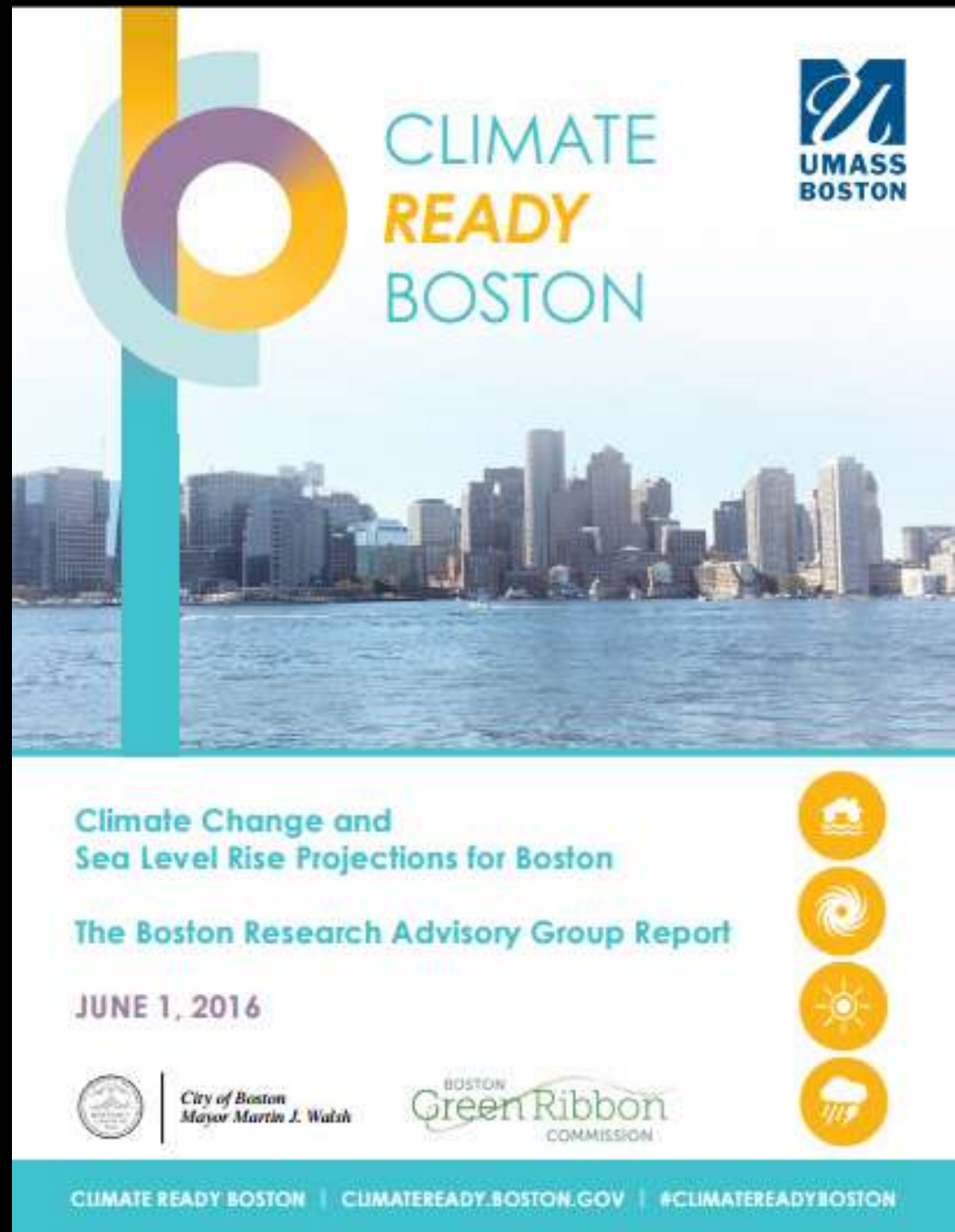
[Subscribe to our Newsletter](#)



**Was Hurricane Sandy a climate change  
wake-up call for America?**



Boston has begun as well to project what sea level changes will mean locally.



And Boston has  
begun as well...



CLIMATE  
**READY**  
BOSTON



## Climate Change and Sea Level Rise Projections for Boston

**The Boston Research Advisory Group Report**

**JUNE 1, 2016**

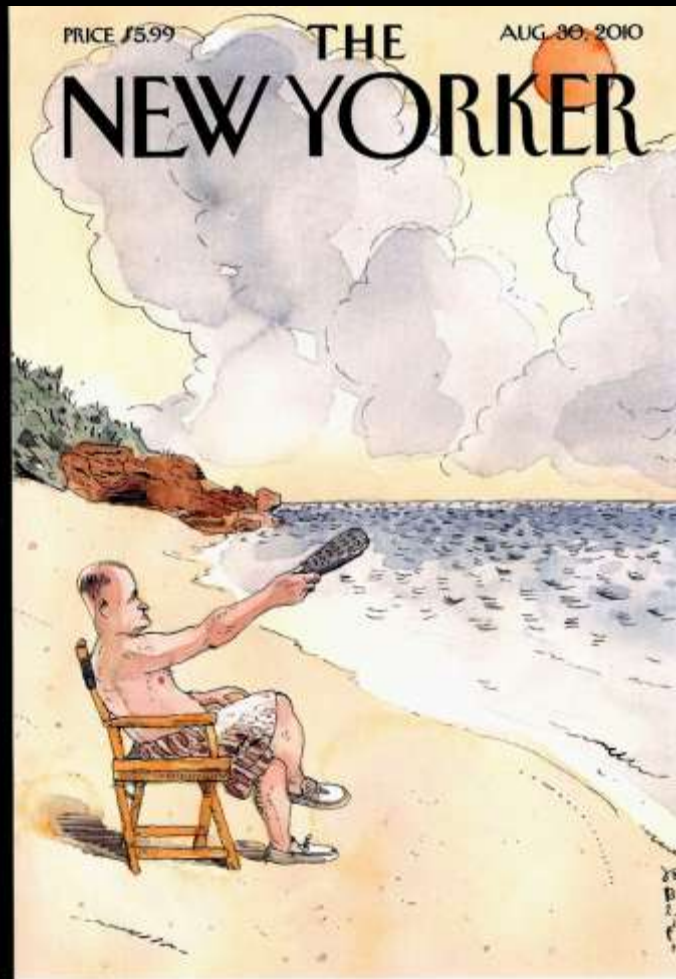


*City of Boston*  
**Mayor Martin J. Walsh**

BOSTON  
**Green Ribbon**  
COMMISSION

*“Time and Tide Wait for No Man...”*

Rethinking Boston by the Sea

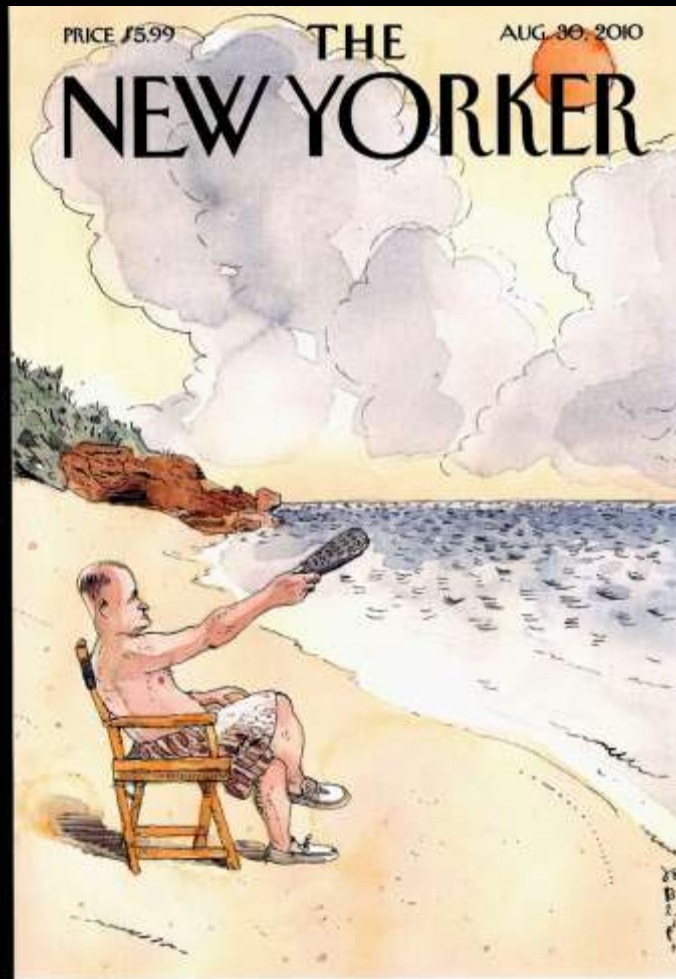




*“Time and Tide Wait for No Man...”*

## Rethinking Boston by the Sea

Expecting the “channel to change” is not a good strategy for Boston.

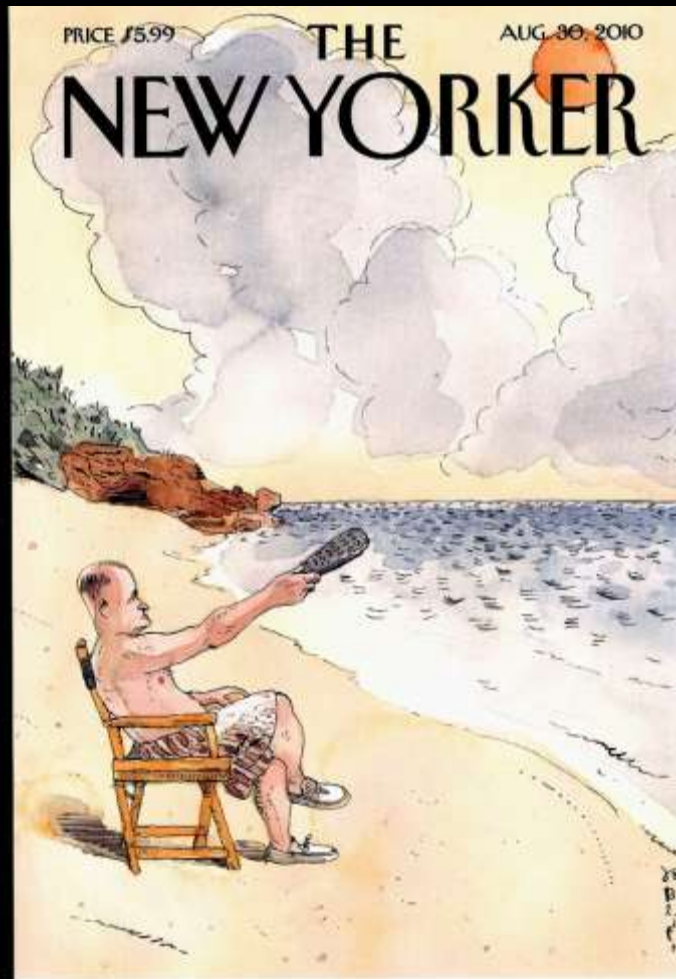


*“Time and Tide Wait for No Man...”*

## Rethinking Boston by the Sea

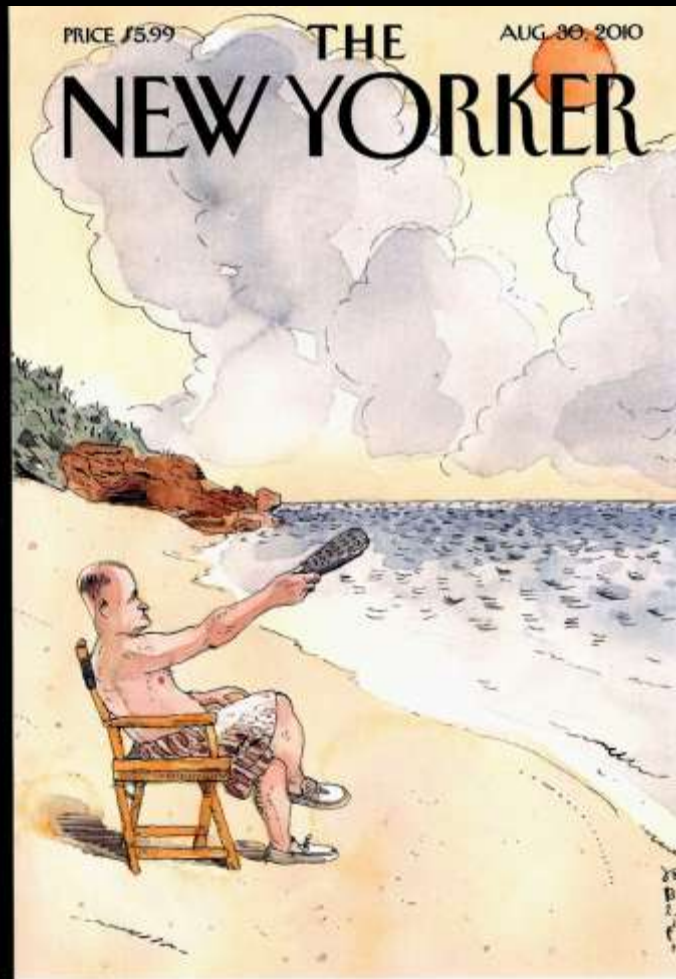
Expecting the “channel to change” is not a good strategy for Boston.

No matter how hard we hit the clicker, the “sea-level channel” will not change simply because we are tired of this story and want to look at something else....



*“Time and Tide Wait for No Man...”*

## Rethinking Boston by the Sea

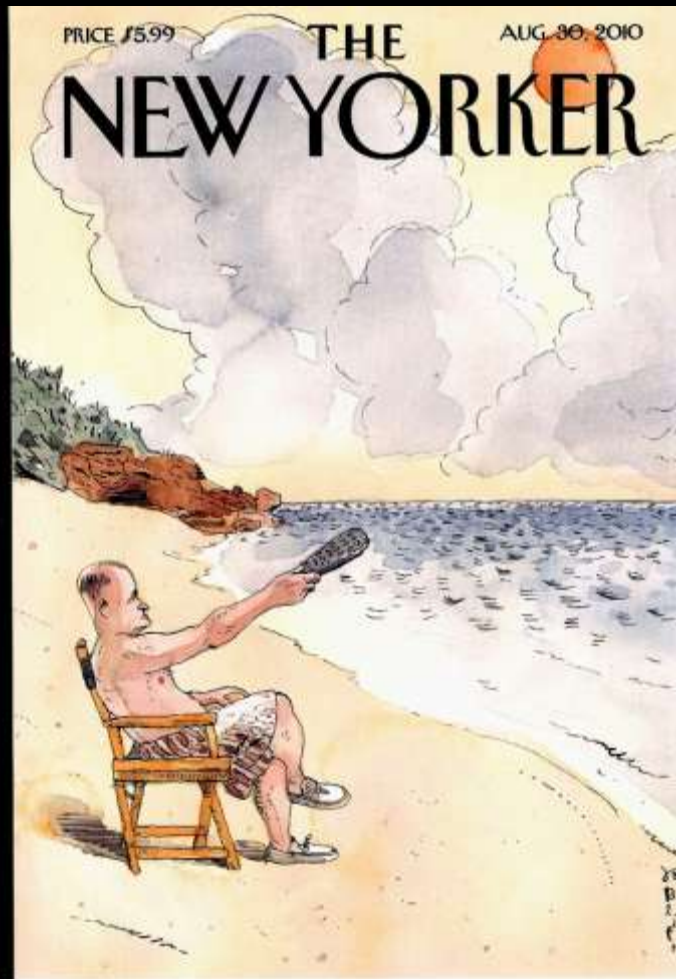


Is Boston better prepared for the future than New York was for hurricane Sandy?



*“Time and Tide Wait for No Man...”*

## Rethinking Boston by the Sea



BHS beacon hill  
seminars

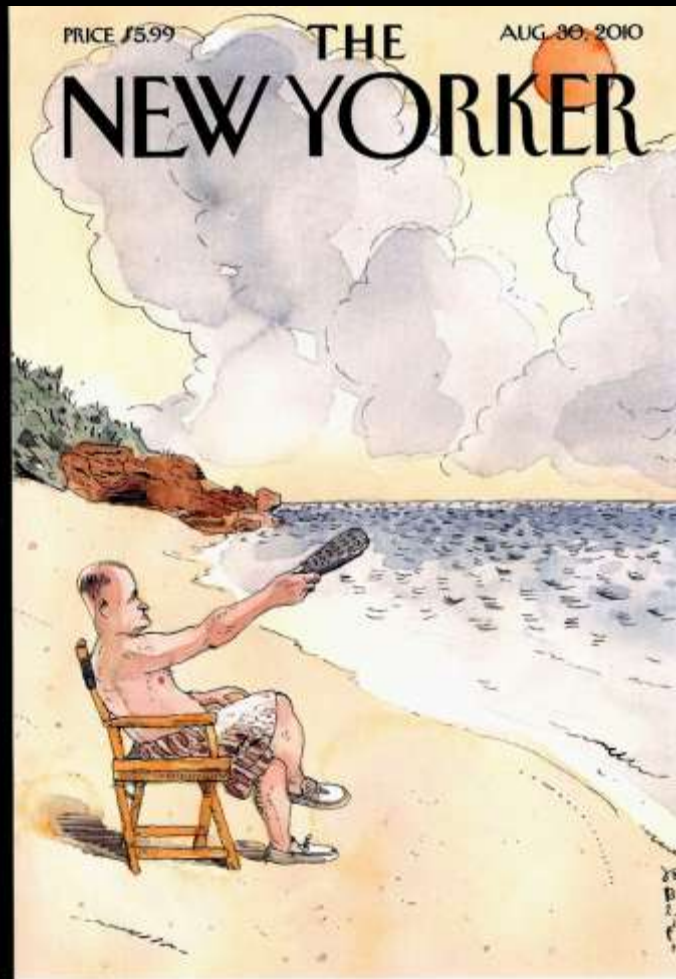


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*Those who do not learn from the past are condemned to repeat it.*

# *“Time and Tide Wait for No Man...”*

## Rethinking Boston by the Sea



BHS beacon hill seminars



*Those who do not learn from the past are condemned to repeat it.*

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### Climate Change and Sea Level Rise Projections for Boston

The Boston Research Advisory Group Report

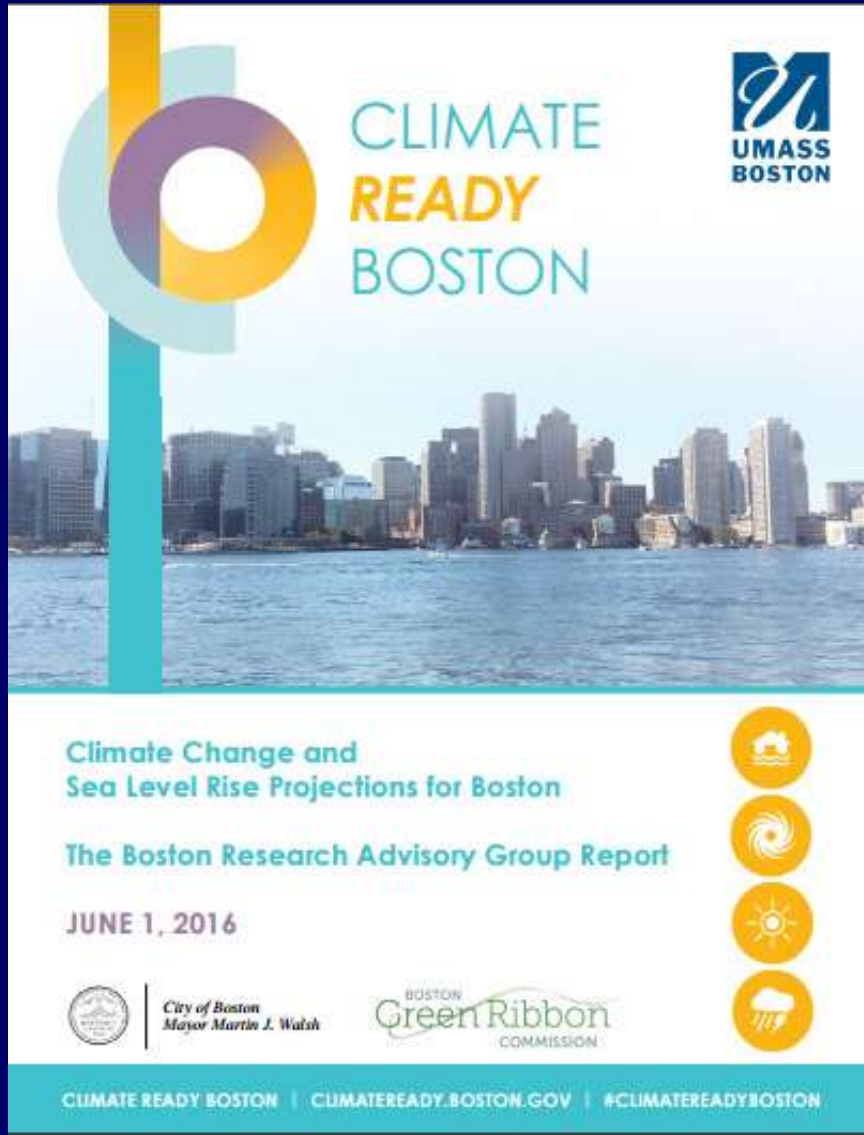
JUNE 1, 2016



City of Boston  
Mayor Martin J. Walsh

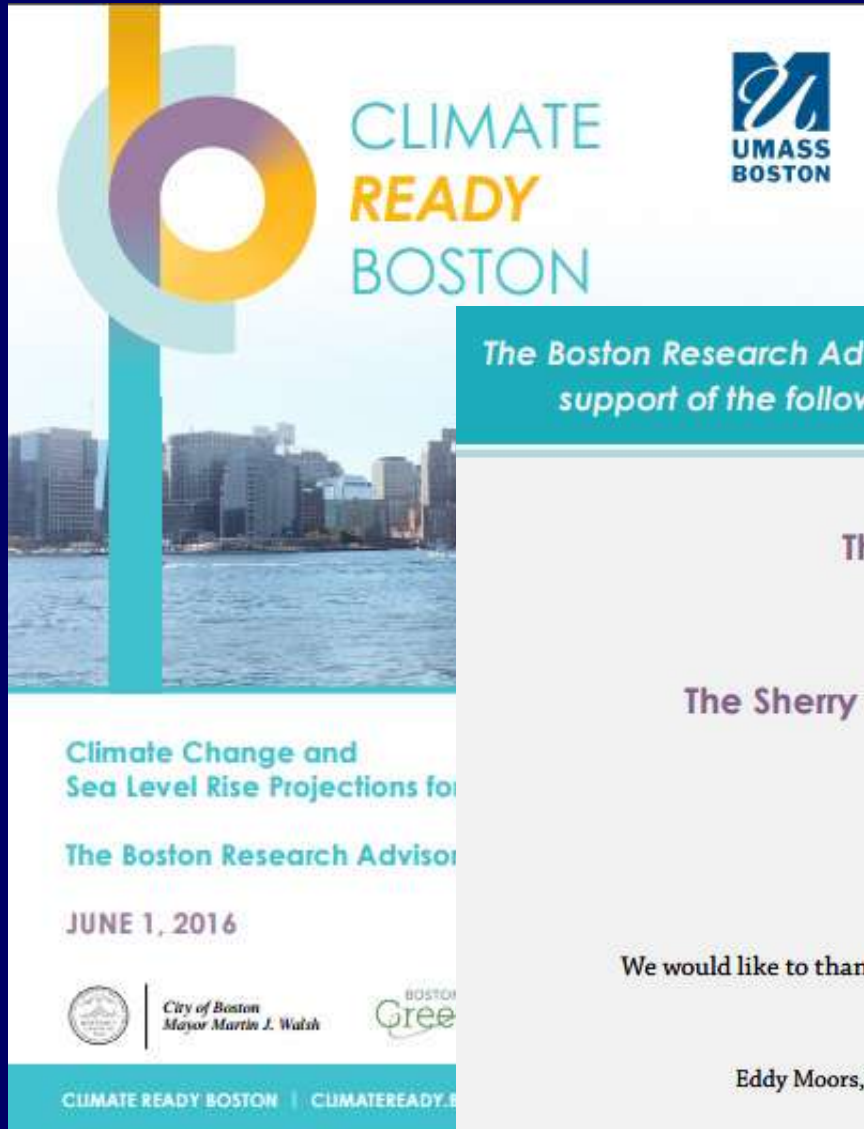
BOSTON  
Green Ribbon  
COMMISSION

Get your copy of the report...  
See who is engaged, get in touch with them, and thank them for their important professional and civic work...





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See who is engaged, get in touch with them, and thank them for their important professional and civic work...



*The Boston Research Advisory Group would like to acknowledge the generous support of the following organizations in making this project possible:*

**The Green Ribbon Commission**

**The Barr Foundation**

**The Sherry and Alan Leventhal Family Foundation**

**The Boston Foundation**

We would like to thank the following panel of experts for reviewing the BRAG report.

Robin Bell, *Columbia University*

Indrani Ghosh, *Kleinfelder*

Eddy Moors, *Alterra Wageningen University and VU University Amsterdam*

Anji Seth, *University of Connecticut*

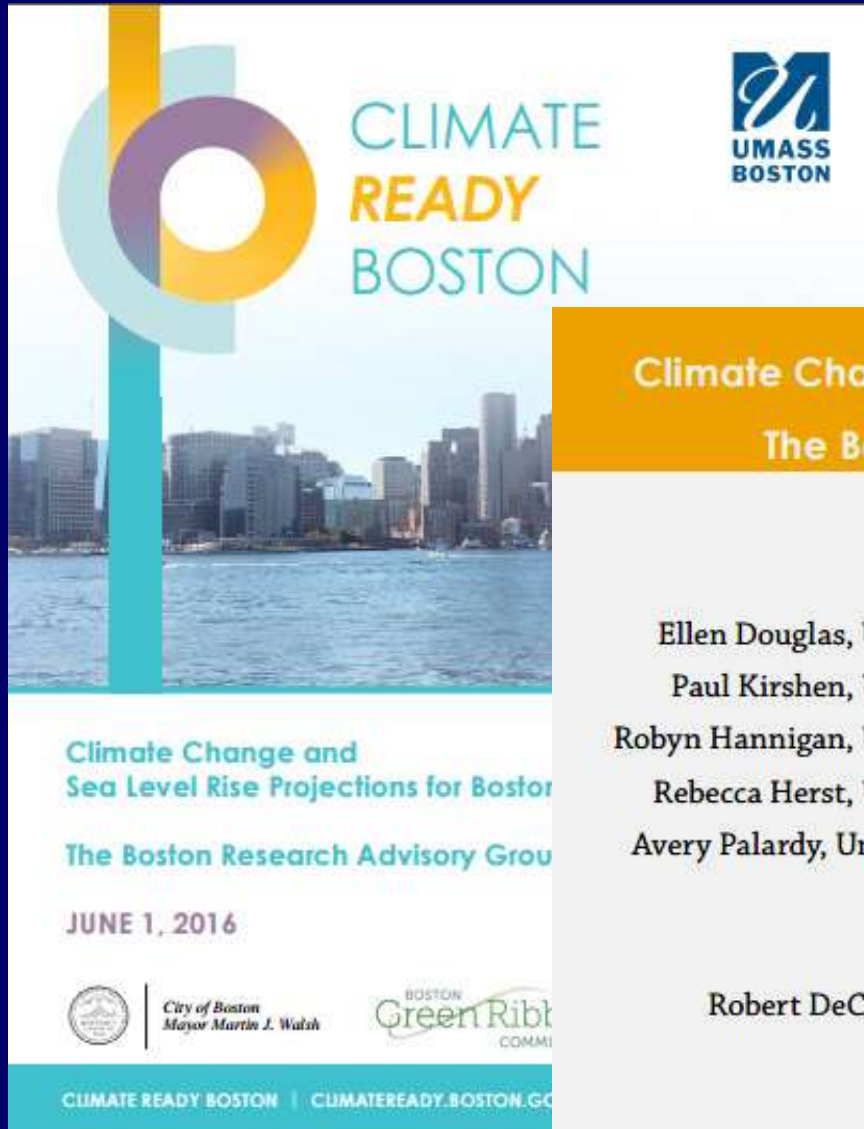
Geoffrey Trussell, *Northeastern University*

Richard Vogel, *Tufts University*

Michael Wehner, *Lawrence Berkeley National Laboratory*

Donald Wuebbles, *University of Illinois*

Get your copy of the report...  
See who is engaged, get in touch with them, and thank them for their important professional and civic work...



## Climate Change and Sea Level Rise Projections for Boston The Boston Research Advisory Group Report

### Management Team

Ellen Douglas, University of Massachusetts Boston, [Ellen.Douglas@umb.edu](mailto:Ellen.Douglas@umb.edu)

Paul Kirshen, University of Massachusetts Boston, [Paul.Kirshen@umb.edu](mailto:Paul.Kirshen@umb.edu)

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Rebecca Herst, University of Massachusetts Boston, [Rebecca.Herst@umb.edu](mailto:Rebecca.Herst@umb.edu)

Avery Palardy, University of Massachusetts Boston, [Avery.Palardy001@umb.edu](mailto:Avery.Palardy001@umb.edu)

### Sea Level Rise

Robert DeConto, University of Massachusetts Amherst, Team Leader

Duncan FitzGerald, Boston University

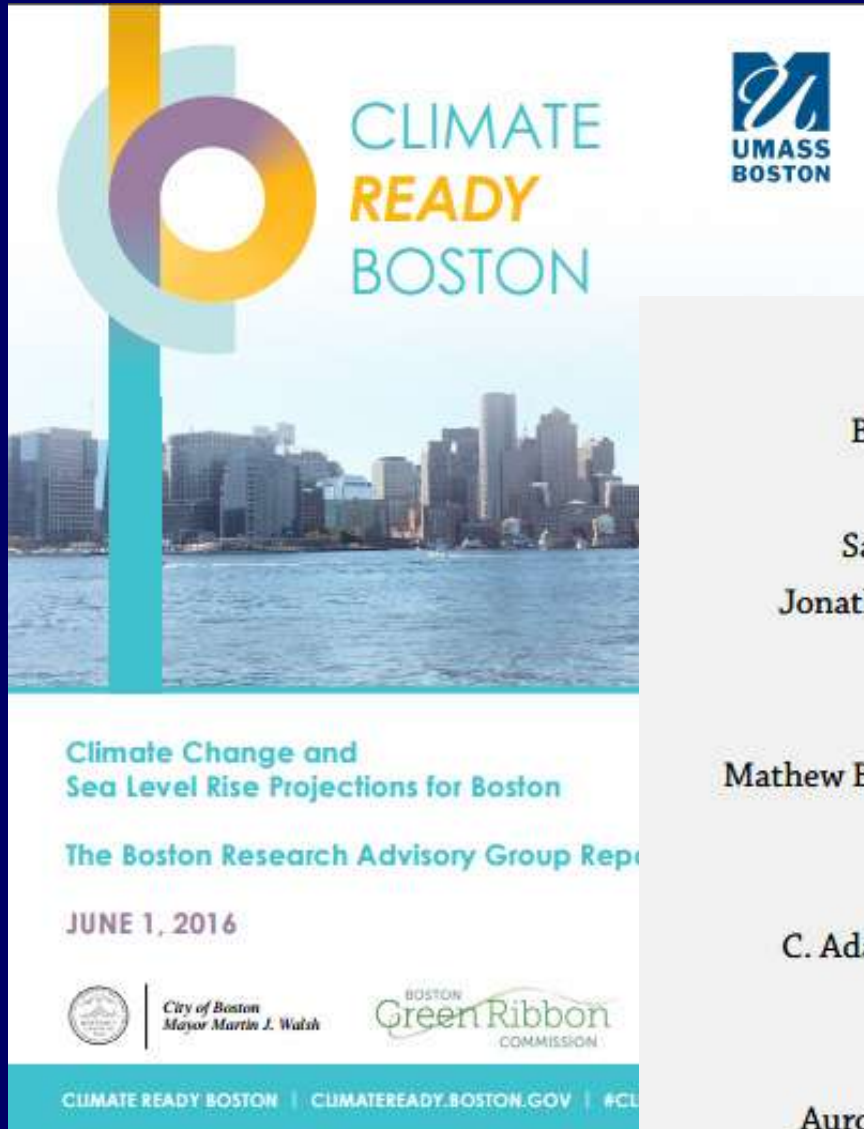
Carling Hay, Harvard University

Zoe Hughes, Boston University

Andrew Kemp, Tufts University

Robert Kopp, Rutgers University

Get your copy of the report...  
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### **Coastal Storms**

Bruce Anderson, Boston University, Team Leader

Zhiming Kuang, Harvard University

Sai Ravela, Massachusetts Institute of Technology

Jonathan Woodruff, University of Massachusetts Amherst

### **Extreme Precipitation**

Mathew Barlow, University of Massachusetts Lowell, Team Leader

Mathias Collins, NOAA

Art DeGaetano, Cornell University

C. Adam Schlosser, Massachusetts Institute of Technology

### **Extreme Temperatures**

Auroop Ganguly, Northeastern University, Team Leader

Evan Kodra, risQ Company

Matthias Ruth, Northeastern University



In addition  
discussions  
are beginning  
in Boston on  
the ethics of  
climate  
change  
strategies as  
well...

An Ethics for the Coming Storm: A Theological  
Reflection on Climate Change | Laurie Zoloth – Boisi  
Center – Boston College

Posted on [October 18, 2016](#) | [Leave a comment](#) | [Edit](#)

*The* **BOISI CENTER** *for*  
**RELIGION and AMERICAN PUBLIC LIFE**

Next Week at the Boisi Center

*The* **BOISI CENTER** *for* RELIGION and AMERICAN PUBLIC LIFE

The 16th Annual Prophetic Voices Lecture

**An Ethics for the Coming Storm**  
A Theological Reflection on Climate Change

**LAURIE ZOLOTH**

**NORTHWESTERN UNIVERSITY**

**DATE: TUESDAY, OCTOBER 25, 2016**

**TIME: 6:00-7:30 PM**

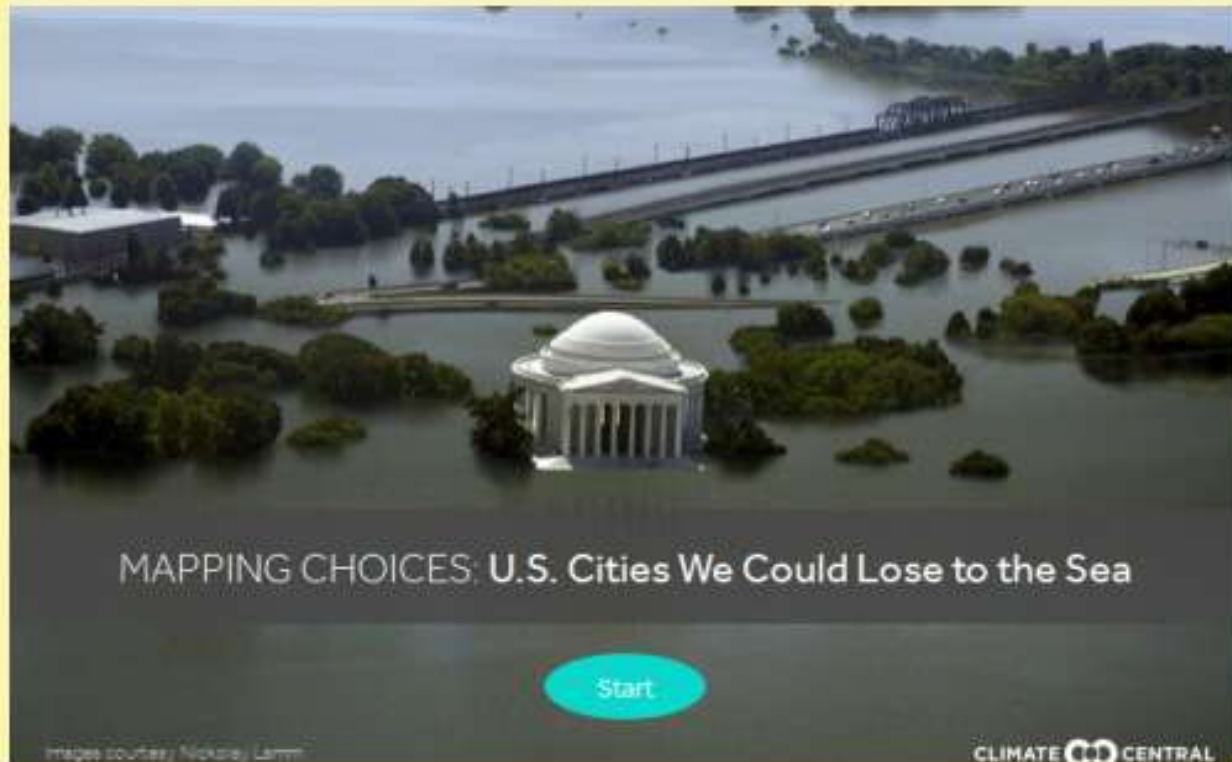
**LOCATION: FULTON HALL, ROOM 511**



# Further, we now realize that Boston is not facing this problem alone....

## Interactive Map Shows 414 U.S. Cities Already Locked Into Catastrophic Sea Level Rise

Posted on [October 18, 2015](#) | [Leave a comment](#)



MAPPING CHOICES: U.S. Cities We Could Lose to the Sea

Start

Images courtesy Nicklas Lamm

CLIMATE  CENTRAL

Then, beyond the post-Columbian city what about the other dimensions of the sea level problem...?.





# Nile Delta Disappearing Beneath the Sea – Inter Press Service

Posted on [January 29, 2014](#) | [Leave a comment](#) | [Edit](#)

By [Cam McGrath](#)





<https://environmentaljusticetv.wordpress.com/2013/06/13/rising-tide-egypt/>



<https://environmentaljusticetv.wordpress.com/2013/06/13/the-role-of-rising-food-prices-in-egypts-revolution/>



"Throughout the 21st century, climate-change impacts are projected to slow down economic growth, make poverty reduction more difficult, further erode food security

*IPCC REPORT*

DEMOCRACY  
**NOW!**

<https://environmentaljusticetv.wordpress.com/2014/04/02/u-n-climate-panel-issues-dire-warning-of-threat-to-global-food-supply-calls-for-action/>

We need to keep the long view in mind...  
.... and build our **response-ability** locally



We need to keep the long view in mind...  
.... and build our **response-ability** locally  
The moonlight sonata might help....





We need to keep the long view in mind...  
.... and build our **response-ability** locally  
The moonlight sonata might help....  
& some basic principles need emphasis:



We need to keep the long view in mind...  
.... and build our **response-ability** locally  
The moonlight sonata might help....

& some basic principles need emphasis:  
**Sea Level is NOT Storm Surge**



There is no “Planet B.”





There is no “Planet B.”

We only have one Earth.



There is no “Planet B.”

We only have one Earth.

We only get one chance.



There is no “Planet B.”

We only have one Earth.

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There is no “Planet B.”

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## **Earth's Changing Climate: What is Causing It? What Will It Mean for You?**

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Thank you....



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