



# **MIAMI-DADE COUNTY FINAL OFFICIAL MINUTES Miami-Dade Sea Level Rise Task Force**

Dade County Courthouse  
73 West Flagler Street  
Suite 242  
Miami, Florida 33130

May 15, 2014  
As Advertised

Harvey Ruvin, Clerk  
Board of County Commissioners

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Clerk of the Board Division

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**CLERK'S SUMMARY AND OFFICIAL MINUTES  
MIAMI-DADE COUNTY SEA LEVEL RISE TASK FORCE  
May 15, 2014**

The Miami-Dade County Sea Level Rise Task Force (Task Force) convened a meeting on Thursday, May 15, 2014, at the Dade County Courthouse, 73 West Flagler Street, Suite 242, Miami, Florida, at 2:00 p.m. Present were Honorable Clerk of Courts Harvey Ruvin, Task Force Chairman; and members Dr. David Enfield, Ms. Sara Fain, Mr. Arsenio Milian and Mr. James Murley; (Mr. Willard T. Fair, and Mr. Jorge Gonzales were absent).

In addition to the Task Force members, the following staff members were present: Ms. Nichole Hefty, Chief, Office of Sustainability, Planning Division, Miami-Dade Department of Regulatory and Economic Resources (RER); Assistant County Attorney Christopher Angell; and Deputy Clerk Maryse Fontus.

**I. Welcome and Introductions**

Chairman Ruvin announced that there was a quorum as five members were present. He noted a group of retired generals issued a report stating that the biggest security threat in the world today was climate change, which could cause massive displacement of populations, as well as water and food shortages. Chairman Ruvin also referred to an announcement made by scientists regarding new evidence that the West Antarctica ice sheet was destabilizing more rapidly than previously thought and could cause a rise in sea level of 10 feet in coming centuries. Chairman Ruvin pointed out that all of these developments were creating greater public awareness on sea level rise.

Dr. Enfield recalled that in his presentation he referred to the instability in Antarctica; and the two papers recently published by scientists presented firm evidence that this was already occurring.

Mr. Milian informed the members that the newspaper El Pais had also published an extensive article on the instability in West Antarctica.

## **II. Draft Report Review and Discussion**

Chairman Ruvin noted the challenge facing the Task Force members was that they had to produce a final report, but it could not be done in a fully collaborative fashion. He said that today (05/15) the members would further hone the draft report. Chairman Ruvin referred to the document produced by Ms. Hefty, which captured the members' last discussion, as well as the contributions submitted since the last meeting.

Chairman Ruvin said that he would begin by discussing the additional changes he wished to make to the draft report. He noted on the third page, the sentence at the top, which began with "With regards to an Assessment of Sea Level Rise ..." should be deleted, and replaced with a paragraph distinguishing sea level rise from storm surge.

Chairman Ruvin said that on the next page, most of the figures provided by Mr. Way focused on weather-related impacts. He noted he would like to add the following sentence to that paragraph: "With trillions of dollars of built environment at stake, the economic imperative to take action sooner rather than later is clear."

Dr. Enfield noted the commissioners would take notice of anything that affected not only the built environment but the tax base as well.

Chairman Ruvin said that he would like to insert the following sentence in the next paragraph before the sentence beginning with "Without a professionally well thought-out ...": "Insurance rates are climbing and could soon become prohibitive ..."

Mr. Milian said that he attended a County Commission meeting recently at which sea level rise was discussed. He noted Commissioner Suarez talked about how Hurricane Sandy caused billions of dollars in damage, and how the County could spend much less to prevent this type of damage.

Chairman Ruvin noted he wanted to include the following sentence at the end of the paragraph beginning with "A recent report ...": "In addition, South Dade is the nation's source of fruits and vegetables. Saltwater intrusion in those soils would be a national economic disaster."

Chairman Ruvin said he believed that it would be useful to underline the first part of the following sentence: "The Sea Level Rise Task Force sees the need to begin the process by seeking and formally selecting the engineering expertise needed."

Ms. Fain suggested rewriting the sentence as follows: "The Sea Level Rise Task Force recommends beginning the process ..." She also suggested rewriting the beginning of the first recommendation as follows: "In order to secure a future that is resilient to these threats ..."

Responding to Ms. Fain's question as to what was meant by reinventing the rural infrastructure, Chairman Ruvin explained that what he meant was to protect the soil. He said that he would delete the words "and rural."

Chairman Ruvin noted he read the NY Times article, but he decided not to include it in the appendix.

Mr. Murley said he agreed, because it was preferable to only include the published assessments in the appendix.

Dr. Enfield noted the National Climate Assessment (NCA) was well-illustrated, comprehensive, and very easily understood; conversely, the NY Times article did not explain the science. Dr. Enfield pointed out that the potential for 10 feet of sea level rise existed, but it would not happen in this century; the most that would happen in this century would be one foot of sea level rise on top of present projections.

In response to Mr. Milian's question regarding whether it would be possible for Ms. Hefty to send the drafts to the members before the meetings, Assistant County Attorney Angell advised that this was not possible due to the Sunshine Law, which is meant to prevent covert communications between the members.

Pursuant to Mr. Murley's question regarding whether Ms. Hefty could incorporate the members' comments into the draft, and send the new draft to the members before the next meeting, Assistant County Attorney Angell advised that Ms. Hefty was only allowed to send to the members what was discussed "in the Sunshine."

Chairman Ruvlin noted there would only be one or two more workshop to discuss the draft, and one final meeting to present the draft to the public. He asked Dr. Enfield to present his suggestions for the draft report.

Dr. Enfield said that in the middle of page three, he inserted "Action Plan." He noted at the bottom of page five, he inserted the following sentences, because he believed that it was important for the report to indicate that the County Administration should not work from a set of standards that were static in time: "County planning for infrastructure cannot afford to be based on a static set of standards. Because of the changing nature of the County's environment in the 21<sup>st</sup> century ..."

Ms. Hefty noted she had already inserted these sentences into the new draft.

Dr. Enfield said that at the top of page six, in pink, was the following sentence: "As the atmosphere warms, the oceans are absorbing 80 percent of that energy." He pointed out that it should be changed to 83.4 percent and the word "solar" should be added before "energy". Dr. Enfield explained that solar energy was different from an energy exchange between the ocean and the atmosphere; and 80 percent specifically refers to solar radiation coming in from outside the earth. Dr. Enfield indicated that in order to be perfectly accurate, the whole sentence would have to be rewritten. He said that he would work on this sentence, because the report was not due for some time.

Ms. Hefty pointed out that in order for the report to be presented at the July Committee meeting, it would have to be submitted by June 2<sup>nd</sup>.

Dr. Enfield suggested that the sentence be changed to refer to solar energy hitting the surface. He said that he would research this before the next meeting.

Ms. Fain pointed out that on the fourth line the word “causes” was misspelled.

Dr. Enfield noted in the middle of the same page, below the title “Sea Level Rise and Storm Surge,” he added a paragraph in yellow.

Mr. Milian said he believed that this paragraph should be clarified, because the way it was written made it appear that only the coastal areas were affected by sea level rise and storm surges.

Dr. Enfield noted this was another difference between storm surge and sea level rise, because storm surges would affect properties close to the coast, whereas sea level rise would affect properties all over the County.

Pursuant to Mr. Murley’s comment that in a storm event in the future, sea level rise might affect surge, Dr. Enfield confirmed that an increase in the level of the sea would add to the surge. He pointed out that with a typical surge of 10 feet, a sea level rise of 2 and a half feet would comprise one fourth of the surge.

Mr. Milian noted once the high tide raised the water to a certain level, the canals would be backing up.

Mr. Murley pointed out that as it was a tide event, the water would recede.

Chairman Ruvlin noted the difference between sea level rise and storm surge was that with sea level rise, the water would not recede.

Dr. Enfield said that after the sentence “Although sea level rise is less in magnitude than storm surge it is always present, affects shorelines everywhere ...,” the words “inland areas as well” should be added.

Chairman Ruvlin suggested that this paragraph be rewritten after Mr. Murley and Dr. Enfield provide their contributions.

Dr. Enfield said that he attended a lecture by Dr. Keren Bolter, in which she showed maps of elevations in the County, and maps of groundwater depths. He noted the maps illustrated that Sweetwater has low elevations,

and shallow depths of groundwater, which explains why it floods easily. Dr. Enfield said he had asked Dr. Bolter to send him some of her maps, as they could be useful for the Task Force's report.

In response to Chairman Ruvin's question as to whether all of the members agreed to include Dr. Enfield's comments into the draft report, the members indicated that they had no objections.

Dr. Enfield suggested that at the bottom of page 10 the following sentence be added: "Recognizing the clear trend toward reducing subsidies of insurance rates in flood-vulnerable areas ..." He said he believed it was important to explain that eventually, as it became increasingly difficult to obtain insurance for properties, the County would have to decide what to do after a big hurricane destroyed a large number of homes.

Chairman Ruvin recalled that at a previous meeting, Captain Dan Kipnis (a member of the public), suggested that all of the homeowners' insurance policies be consolidated into a multi-peril policy; and that funds be provided to homeowners to move if their homes were severely damaged due to sea level rise.

Ms. Fain recalled that some of the presenters had suggested that pre-disaster insurance be implemented.

Chairman Ruvin noted this was within the realm of the insurance industry; however, the County could recommend wise land-use planning; and the Comprehensive Development Master Plan (CDMP) recognized that certain areas were not appropriate for development because of sea level rise. He said that he agreed with Dr. Enfield's proposed language.

Mr. Murley pointed out that while it was possible to discontinue federal subsidies that would enable people to rebuild their houses, there was no law that prevented people from assuming the risk and building where they wished.

Dr. Enfield said that it was preferable not to wait until a disaster happened to inform people that they should not rebuild in the same location.

Chairman Ruvin noted he believed that this idea was already expressed in the report, which recommended wise land-use planning.

Mr. Murley suggested that perhaps some language could be added that would activate the Adaptation Action Areas (AAAs) provisions in the CDMP.

Chairman Ruvin said he agreed that some language regarding subsidies could be added to the CDMP review process, or the Environmentally Endangered Lands (EEL) program.

Ms. Fain noted perhaps land-use planning could be used recognizing that different areas in the County had to be approached based on their vulnerability to sea level rise.

Chairman Ruvin assured the members that he and Ms. Hefty were taking notes on this discussion, and would revise the draft accordingly.

Assistant County Attorney Angell confirmed that anything that was discussed in the meeting could be included in the draft; however, if a member were to draft a section before the next meeting and send it to Ms. Hefty, Chairman Ruvin would not be allowed to work on it.

Ms. Hefty noted if she worked with Chairman Ruvin, they would not be able to work on edits that the members would send them; on the other hand, if she worked alone, the members could send her their edits; she would incorporate them, and disseminate the draft at the next meeting.

Chairman Ruvin asked Mr. Murley to present his suggestions for the draft report.

Mr. Murley suggested that the Task Force adopt the definition of storm surge provided in the National Hurricane Center's glossary of terms.

Chairman Ruvin said that he agreed with the definition of storm surge provided by Mr. Murley; however, he would add that after some time, the water recedes. On the other hand, he noted, with sea level rise the water does not recede. Chairman Ruvin suggested that after providing the



definitions of storm surge and sea level rise, the Task Force could then distinguish between the two by using the paragraph proposed by Dr. Enfield.

Dr. Enfield explained that the reason his paragraph was rather long was because he wanted to describe how sea level rise and storm surge differed and interacted.

Mr. Murley noted he condensed the National Oceanic and Atmospheric Administration's (NOAA) definition of sea level rise.

Chairman Ruvin said it appeared that the members agreed that the report would provide the definitions of storm surge and sea level rise and explain how they interact.

Dr. Enfield asked whether he should also explain how they differ; for example, a storm surge would only affect a portion of the County's coastline, but sea level rise would affect not only the coastline but also the inland areas.

Chairman Ruvin confirmed that the report would explain how storm surge and sea level rise differ. He asked Dr. Enfield to work on a paragraph to be presented at the next meeting.

Ms. Hefty informed the members that she had distributed another version of the report, into which she had incorporated all of the comments she had received.

Assistant County Attorney Angell suggested that assuming the next meeting would be held in 10 days; for the first five days, Chairman Ruvin and Ms. Hefty could work together on what was discussed today (05/15); during the following five days, the members could send their assignments to Ms. Hefty, and she could incorporate everything into one draft that would be discussed at the next meeting.

Chairman Ruvin said he believed that the members had made some tangible progress today: they agreed about what the report should say regarding sea level rise and storm surge; and they agreed that the report

should mention insurance subsidies. He noted at the next meeting they would discuss the graphs and the presentation; and this would be followed by one last meeting with the public.

Pursuant to Ms. Hefty's comment that the draft did not contain much information about the sea level rise impacts, Chairman Ruvin noted the draft indicated that without adaptation measures, all critical infrastructure would be compromised.

Dr. Enfield asked whether it would be possible to take the list of recommendations from the Climate Change Advisory Task Force (CCATF) and the Southeast Florida Regional Climate Compact (Compact), and group them according to the impacts that they were intended to address.

Chairman Ruvin noted Ms. Hefty was concerned about the terminology "comprehensive assessment" in the Task Force's charge. He said he believed that he had addressed these concerns by adding the first paragraph of the draft which began with "Noting the mounting evidence supporting a near unanimous scientific consensus that climate change is real ..." He indicated that he would like to change that to an "almost overwhelming scientific consensus."

Mr. Milian said he believed that the County Commission was expecting the Task Force to develop recommendations to address sea level rise at the County, state, regional and federal levels.

Chairman Ruvin noted the draft report contained this language. He said that in his cover letter, he planned to indicate that in addition to the challenges posed by sea level rise, the implementation of a robust capital improvement plan would create a tremendous intergovernmental challenge.

Mr. Murley pointed out that the National Climate Change Assessment constituted a comprehensive assessment, and suggested that the report refer to it.

Dr. Enfield noted he did not believe that the word "comprehensive" meant that the Task Force's reports would cover the impacts in great depth; rather that it would address a wide variety of impacts.

Chairman Ruvín pointed out that the CCATF's recommendations were very comprehensive, noting the Task Force was urging the County to implement them.

Assistant County Attorney Angell informed the members that he worked on the resolution that created the Task Force. He noted the legislative intent was not to have a massive report, and he believed that the Task Force's draft report met Chairwoman Sosa's expectations.

Chairman Ruvín noted the CCATF recommendations were still relevant, even though they needed to be updated. Chairman Ruvín suggested that the Task Force urge the County Commission to formalize a structure to ensure their implementation.

Mr. Murley pointed out that the Task Force had two enabling resolutions: the resolution that created it, and Chairwoman Sosa's resolution.

In response to Mr. Murley's question, Chairman Ruvín confirmed that the concept of vital signs was mentioned in the report's recommendations.

Pursuant to Mr. Murley's comment that the vital signs recommendation should be strengthened, Chairman Ruvín asked him to draft this recommendation.

Dr. Enfield suggested that before the next meeting, the members give some thought as to how to incorporate the impacts into the report.

Mr. Murley said he believed that some information on the impacts could be garnered from the National Climate Change Assessment, which had a Southeast chapter.

Dr. Enfield noted while it was possible to refer to the National Climate Change Assessment, the body of the report should also list the impact categories.

### **III. Questions and Comments from the Public**

Chairman Ruvlin asked the members of the public whether they had any questions or comments.

Ms. Janet Seitlin, Florida Supreme Court, asked whether the Task Force members had engaged the land use professionals in a discussion regarding what could be done to address sea level rise.

Chairman Ruvlin informed Ms. Seitlin that the CCATF met for over five years, and heard in-depth presentations. He indicated that the CCATF's membership included many land use professionals.

Ms. Seitlin commented that moving forward the land use professionals could prove very useful. She said that it also seemed important to engage the investment community.

Chairman Ruvlin noted he met with Ms. Irela Bagué, Vice Chair of the Sustainability, Environment and Energy Committee, Greater Miami Chamber of Commerce. He said he informed her that at some point funding may be required to implement the Task Force's recommendations, and the Chamber's members should voice their concerns to the County Commission.

Pursuant to Mr. Milian's comment regarding the need to educate the general public on this issue, Chairman Ruvlin noted this was the reason he included the phrase "Prohibitive insurance rates are the cruelest form of taxation." He said while he agreed with Mr. Milian, he believed that he was underestimating the public.

Ms. Fain noted she had a recommendation along those lines, and the CCATF also had recommendations on outreach. She pointed out that on page two of the report, the Task Force "... urged the County Commission to direct the County Administration to establish formal oversight, and dedicate sufficient resources and staffing to ensure implementation and update of the CCATF's recommendations." Ms. Fain suggested that the need for public education be included in that recommendation.

Pursuant to Ms. Seitlin's suggestion that any outreach that would be undertaken should include the public school system and start with young children, Chairman Ruvlin noted a number of organizations were already doing this.

Assistant County Attorney Angell advised that if the meeting was to continue beyond 4 p.m., a motion to extend it would be necessary.

It was moved by Ms. Sara Fain that the May 15<sup>th</sup>, 2014 meeting of the Sea Level Rise Task Force, be extended to 4:30 p.m. This motion was seconded by Dr. David Enfield, and upon being put to a vote, passed by a unanimous vote of those members present.

Captain Dan Kipnis, a member of the public, informed the members that a presentation on the impact of sea level rise in Miami Beach would be held on Tuesday, May 20, 2014 at 11:00 a.m. at the Blue Ribbon Sea Level Rise Committee meeting. He said that yesterday (5/14) at the City Commission's Sea Level Rise meeting the participants were presented with the new parking lot on 23<sup>rd</sup> Street, in Miami Beach, noting the authorities were asked to redesign it for 3 feet of sea level rise.

Chairman Ruvlin expressed the hope that the sea level rise issue would foster some creativity, noting perhaps someone would invent something to address the porous terrain.

#### **IV. Next Meeting**

Chairman Ruvlin suggested that the next meeting be scheduled for May 22<sup>nd</sup> at 2 p.m.

Chairman Ruvlin noted for the first three days he would work with Ms. Hefty on the draft report, and for the next four days, Ms. Hefty would work by herself to incorporate the members' contributions.

## V. Adjournment

There being no other business to come before the Sea Level Rise Task Force, the meeting adjourned at 4:10 p.m.

A handwritten signature in black ink, appearing to read "Harvey Ruvin", is written over a horizontal line.

Chairman Harvey Ruvin  
Sea Level Rise Task Force



**Miami Dade County  
Sea Level Rise Task Force  
May 15, 2014**

Prepared by: Maryse Fontus

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**EXHIBITS LIST**

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NO.	DATE	ITEM #	DESCRIPTION
1	5/15/14		Agenda
2	5/15/14		Roll Call Sheet
3	5/15/14		Scientists Warm of Rising Oceans from Polar Melts
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## **Miami-Dade Sea Level Rise Task Force Meeting**

**May 15, 2014**

**2:00 PM – 4:00 PM**

**Dade County Courthouse**

**73 West Flagler Street, #242**

**Miami, Florida 33130**

- **Welcome and Introductions**  
Honorable Clerk & Sea Level Rise Task Force Chair, Harvey Ruvin
- **Approve Meeting Minutes**
- **Draft Report Review and Discussion**
- **Questions and Comments from the Public**
- **Schedule Next Meeting**
- **Adjourn**



MEETING DATE OF May 15, 2014

[illegible]

*Four (4) members constitutes a quorum*



ENVIRONMENT | NYT NOW

# Scientists Warn of Rising Oceans From Polar Melt

By JUSTIN GILLIS and KENNETH CHANG MAY 12, 2014

A large section of the mighty West Antarctica ice sheet has begun falling apart and its continued melting now appears to be unstoppable, two groups of scientists reported on Monday. If the findings hold up, they suggest that the melting could destabilize neighboring parts of the ice sheet and a rise in sea level of 10 feet or more may be unavoidable in coming centuries.

Global warming caused by the human-driven release of greenhouse gases has helped to destabilize the ice sheet, though other factors may also be involved, the scientists said.

The rise of the sea is likely to continue to be relatively slow for the rest of the 21st century, the scientists added, but in the more distant future it may accelerate markedly, potentially throwing society into crisis.

“This is really happening,” Thomas P. Wagner, who runs NASA’s programs on polar ice and helped oversee some of the research, said in an interview. “There’s nothing to stop it now. But you are still limited by the physics of how fast the ice can flow.”

Two scientific papers released on Monday by the journals Science and Geophysical Research Letters came to similar conclusions by different means. Both groups of scientists found that West Antarctic glaciers had retreated far enough to set off an inherent instability in the ice sheet, one that experts have feared for decades. NASA called a telephone news conference Monday to highlight the urgency of the findings.

The West Antarctic ice sheet sits in a bowl-shaped depression in the earth, with the base of the ice below sea level. Warm ocean water is causing the ice sitting along the rim of the bowl to thin and retreat. As the front edge of the ice pulls away from the rim and enters deeper water, it can retreat much faster than before.

In one of the new papers, a team led by Eric Rignot, a glaciologist at the University of California, Irvine, used satellite and air measurements to document an accelerating retreat over the past several decades of six glaciers draining into the Amundsen Sea region. And with updated mapping of the terrain beneath the ice sheet, the team was able to rule out the presence of any mountains or hills significant enough to slow the retreat.

“Today we present observational evidence that a large sector of the West Antarctic ice sheet has gone into irreversible retreat,” Dr. Rignot said in the NASA news conference. “It has passed the point of no return.”

Those six glaciers alone could cause the ocean to rise four feet as they disappear, Dr. Rignot said, possibly within a couple of centuries. He added that their disappearance will most likely destabilize other sectors of the ice sheet, so the ultimate rise could be triple that.

A separate team led by Ian Joughin of the University of Washington studied one of the most important glaciers, Thwaites, using sophisticated computer modeling, coupled with recent measurements of the ice flow. That team also found that a slow-motion collapse had become inevitable. Even if the warm water now eating away at the ice were to dissipate, it would be “too little, too late to stabilize the ice sheet,” Dr. Joughin said. “There’s no stabilization mechanism.”

The two teams worked independently, preparing papers that were to be published within days of each other. After it was learned that their results were similar, the teams and their journals agreed to release the findings on the same day.

The new finding appears to be the fulfillment of a prediction made in 1978 by an eminent glaciologist, John H. Mercer of the Ohio State University. He outlined the vulnerable nature of the West Antarctic ice sheet and warned that the rapid human-driven release of greenhouse gases posed “a threat of disaster.” He was assailed at the time, but in recent years, scientists have been watching with growing concern as events have unfolded in much the way Dr. Mercer predicted. (He died in 1987.)

Scientists said the ice sheet was not melting because of warmer air temperatures, but rather because relatively warm water that occurs naturally in the depths of the ocean was being pulled to the surface by an intensification, over the past several decades, of the powerful winds that encircle Antarctica.

And while the cause of the stronger winds is somewhat unclear, many researchers consider human-induced global warming to be a significant factor. The winds help to isolate Antarctica and keep it cold at the surface, but as global warming proceeds, that means a sharper temperature difference between the Antarctic and the rest of the globe. That temperature difference provides further energy for the winds, which in turn stir up the ocean waters.

Some scientists believe the ozone hole over Antarctica — caused not by global warming but by an entirely different environmental problem, the human-caused release of ozone-destroying gases — may also be adding energy to the winds. And natural variability may be contributing as well, though scientists do not believe it is the primary factor.

The global sea level has been rising since the 19th century, but Antarctica so far has been only a small factor. The biggest factor to date is that seawater expands as it warms.

But the melting from both Greenland and Antarctica is expected to be far more important in the future. A United Nations scientific committee, the Intergovernmental Panel on Climate Change, has warned that the global sea level could rise as much as three feet by the end of this century if stronger efforts are not made to control greenhouse gases. The new findings suggest the situation is likely to get far worse in subsequent centuries.

The effects will depend in part on how much money future governments spend to protect shorelines from a rising sea. Research published in 2012 found that a rise of less than four feet would inundate land on which some 3.7 million Americans live today. Miami, New Orleans, New York and Boston are all highly vulnerable.

Richard B. Alley, a climate scientist at Pennsylvania State University who was not involved in the new research but has studied the polar ice sheets for decades, said he found the new papers compelling. Though he had long feared the possibility of ice-sheet collapse, when he learned of the new findings, “it shook me a little bit,” Dr. Alley said.

He added that while a large rise of the sea may now be inevitable from West Antarctica, continued release of greenhouse gases will almost certainly make the situation worse. The heat-trapping gases could destabilize other parts of

Antarctica as well as the Greenland ice sheet, potentially causing enough sea-level rise that many of the world's coastal cities would eventually have to be abandoned.

"If we have indeed lit the fuse on West Antarctica, it's very hard to imagine putting the fuse out," Dr. Alley said. "But there's a bunch more fuses, and there's a bunch more matches, and we have a decision now: Do we light those?"

***Correction: May 12, 2014***

*An earlier version of this article misstated the surname of the lead author of a paper in Science about the accelerated flow of glaciers in West Antarctica. He is Ian Joughin, not Joaquin.*

A version of this article appears in print on May 13, 2014, on page A1 of the New York edition with the headline: Scientists Warn of Rising Oceans From Polar Melt.

## **Next in Environment**

### **Amid Pipeline and Climate Debate, Energy-Efficiency Bill Is Derailed**

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