**The Siege of Miami**

**Directions: Answer the following questions in COMPLETE sentences.**

The New Yorker

By Elizabeth Kolbert

According to the Intergovernmental Panel on Climate Change, sea levels could rise by more than three feet by the end of this century. The United States Army Corps of Engineers projects that they could rise by as much as five feet; the National Oceanic and Atmospheric Administration predicts up to six and a half feet. According to Wanless, all these projections are probably low. In his office, Wanless keeps a jar of meltwater he collected from the Greenland ice sheet. He likes to point out that there is plenty more where that came from.

“Many geologists, we’re looking at the possibility of a ten-to-thirty-foot range by the end of the century,” he told me.

1. Why do you think there are different predictions for the rise in sea level?

The amount of water on the planet is fixed (and has been for billions of years). Its distribution, however, is subject to all sorts of rearrangements. In the coldest part of the last ice age, about twenty thousand years ago, so much water was tied up in ice sheets that sea levels were almost four hundred feet lower than they are today. At that point, Miami Beach, instead of being an island, was fifteen miles from the Atlantic Coast. Sarasota was a hundred miles inland from the Gulf of Mexico, and the outline of the Sunshine State looked less like a skinny finger than like a plump heel.

As temperatures climb again, so, too, will sea levels. One reason for this is that water, as it heats up, expands. The process of thermal expansion follows well-known physical laws, and its impact is relatively easy to calculate. It is more difficult to predict how the earth’s remaining ice sheets will behave, and this difficulty accounts for the wide range in projections.

The latest data from the Arctic, gathered by a pair of exquisitely sensitive satellites, show that in the past decade Greenland has been losing more ice each year. In August, NASA announced that, to supplement the satellites, it was launching a new monitoring program called—provocatively—Oceans Melting Greenland, or O.M.G. In November, researchers reported that, owing to the loss of an ice shelf off northeastern Greenland, a new “floodgate” on the ice sheet had opened. All told, Greenland’s ice holds enough water to raise global sea levels by twenty feet.

1. How much could sea level rise if all of Greenland’s ice melted?

Many of the world’s largest cities sit along a coast, and all of them are, to one degree or another, threatened by rising seas. Entire countries are endangered—the Maldives, for instance, and the Marshall Islands. Globally, it’s estimated that a hundred million people live within three feet of mean high tide and another hundred million or so live within six feet of it. Hundreds of millions more live in areas likely to be affected by increasingly destructive storm surges.

Against this backdrop, South Florida still stands out. The region has been called “ground zero when it comes to sea-level rise.” It has also been described as “the poster child for the impacts of climate change,” the “epicenter for studying the effects of sea-level rise,” a “disaster scenario,” and “the New Atlantis.” A recent report on storm surges in the United States listed four Florida cities among the eight most at risk. (On that list, Tampa came in at No. 1.) For the past several years, the daily high-water mark in the Miami area has been racing up at the rate of almost an inch a year, nearly ten times the rate of average global sea-level rise. It’s unclear exactly why this is happening, but it’s been speculated that it has to do with changes in ocean currents which are causing water to pile up along the coast. Talking about climate change in the Everglades this past Earth Day, President Obama said, “Nowhere is it going to have a bigger impact than here in South Florida.”

3) Besides melting glaciers, what other factor might be contributing to sea level rise near Florida?

Video Questions:

1. Why can’t a wall be constructed around Miami?
2. How much has Miami spent in order to pump water out?
3. Which country will be hit hardest by rising sea levels? Why?
4. How will New York be affected by rising sea levels?

Analysis Question:

1. Do you think the government should be encouraging people to move away from coastal cities? Why or why not?