



ABC News

**What Global Warming Looks Like**

**New Report Visualizes Impact of Sea Level Rise on U.S. Coastal Cities**

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Edward Mazria wants people to know how rising sea levels made worse by global warming will affect residents along U.S. coastlines.

Goodbye, Hollywood, Fla. So long, Boston. New Orleans? Forget about it.

"We're not talking about South Sea islands and Bangladesh here," Mazria said. "We're talking about the U.S. being physically under siege with a very small increment of sea level rise."

Mazria isn't a climatologist. He's not even a scientist. He's an architect who gave up running his company in January to devote his time to a nonprofit group he founded several years ago. Called Architecture 2030, the organization tries to bring attention to the amount of greenhouse gas emissions that the building sector contributes to global warming through inefficient electricity use, lighting, heating and cooling.

"The building sector is responsible for close to half of all energy consumption in this country and close to half of all greenhouse gas emissions," he said. Buildings are the single largest contributor to global warming, he said, emitting more than even automobiles.

To demonstrate Mazria's point, Architecture 2030 has compiled a report that features images depicting the dramatic effects of sea level rise from about 3 to 16 feet on 31 cities around the country.

The 2030 Challenge

The chief villain contributing to global warming, Mazria said, is coal that is burned in power plants to generate electricity in buildings. Mazria's group has issued the "2030 Challenge," calling for greatly improved efficiency standards in new and renovated buildings in the coming decades. The goal is to make buildings "carbon neutral" by 2030.

The plan has been adopted by the U.S. Conference of Mayors and the American Institute of Architects, among others. If the goal can be reached, Mazria said, demand for coal should drop dramatically.

"Seventy-six percent of the energy produced in this country goes just to operating buildings. That's heating, lighting, cooling and hot water," Mazria said. "Our focus has been on how to reduce the demand side so we don't need the new coal plants."

So Long, Boston

The images of cities under a layer of water in the Architecture 2030 report are eye-opening. Mazria said they took a year to compile, using government elevation data combined with Google Earth maps.

The results show wide swaths of Miami and Hollywood, Fla., under water after just 3 feet of sea level rise. With about 5 feet of sea level rise, Galveston, Texas, would lose its airport and much of the area around it. And if San Francisco sees a 8-foot sea level rise, the waters of McCovey Cove would be lapping across the infield at AT&T Park.

Sea level rise of 3 feet by the end of this century may seem apocalyptic, but some leading scientists say it is a very real possibility. In a report issued earlier this year, the Intergovernmental Panel on Climate Change it's made up of thousands of scientists from around the world said various warming scenarios could raise sea levels anywhere from 7 to 23 inches.

Many researchers, however, consider the panel's estimates conservative because of the uncertain contribution that melting ice sheets in Greenland and Antarctica could make to sea level in coming decades.

"We do not have good models that include all of the relevant physics for the ice sheets," said James Hansen, a top climate scientist at NASA's Goddard Institute for Space Studies in New York. But Hansen said that if humans continue to heat the atmosphere in a business-as-usual fashion □ and the Greenland or Antarctic ice sheets start to collapse all bets are off.

"Once a collapse starts, things can happen very rapidly," Hansen said. "I would expect that it's almost certain that before the end of the century we would have sea level rise measured in meters. At least one or 2 or 3 meters [ 6 to 9 feet] this century if we follow business as usual."

With so many people around the world living within several meters of sea level, the implications could be catastrophic.

"A large fraction of people live within several meters' elevation of sea level," said Hansen. "So we would be talking about hundreds of millions of people being displaced if sea level goes up a few meters. So we really can't afford to go down that path."

Mazria, like Hansen, believes humans must act now to dramatically reduce the use of coal. The Architecture 2030 report claims that any other measures proposed to fight global warming are almost futile. Consider the following statistics, which were calculated by Architecture 2030 using government data.

"Wal-Mart is investing a half billion dollars to reduce the energy consumption and CO2 emissions of their existing buildings by 20 percent over the next seven years," the report stated. "If every Wal-Mart Supercenter met this target, the CO2 emissions from only one medium-sized coal-fired power plant, in just one month of operation each year, would negate this entire effort."

"California passed legislation to cut CO2 emissions in new cars by 25 percent and in SUVs by 18 percent, starting in 2009. If every car and SUV sold in California in 2009 met this standard, the CO2 emissions from only one medium-sized coal-fired power plant, in just eight months of operation each year, would negate this entire effort."

Grim figures, for sure, But Mazria doesn't want anyone to lose hope, either.

"The American public is exceptional at taking a hold of a problem and solving it," he said. "If there's a need to do something, we'll do it."

Bill Blakemore contributed to this report.

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