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COMMENT

CHILLING

by Elizabeth Kolbert

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In March, 2002, NASA and the Deutsches Zentrum für Luftund Raumfahrt, the German aerospace agency, launched a pair of satellites from the Plesetsk Cosmodrome, a former intercontinental-ballistic-missile site in northern Russia, to map changes in the earth's surface. The satellites, nicknamed Tom and Jerry, have been chasing each other around the globe ever since. Separated by a gap of approximately a hundred and thirty-seven miles, they sometimes pull apart, only to draw closer again. By monitoring their relative positions to the fantastic exactitude of one micron—less than one-fiftieth the width of a human hair—scientists can detect tiny variations in the earth's gravitational field.



Now, almost four years to the day after they were launched, Tom and Jerry have yielded a scarily significant result: Antarctica is losing ice. The rate of loss, according to researchers at the University of Colorado, in Boulder, who analyzed changes in the continent's gravitational pull, is around thirty-six cubic miles per year. (For comparison's sake, the city of Los Angeles uses about one-fifth of a cubic mile of water annually.) The finding, which was reported two weeks ago in the online version of *Science*, is particularly ominous, because climatologists had expected that even as the ice sheet lost mass at its edges, its over-all mass would increase, since rising temperatures would lead to more snowfall over the continent's midsection. If the loss continues, it will mean that predictions for the rise in the sea level for the coming century are seriously understated.

The news from Antarctica follows a string of similarly grim discoveries. In September, satellite measurements showed that the extent of the Arctic ice cap had shrunk to the smallest area ever recorded, prompting a prediction that the Arctic Ocean could be ice-free in summer

“well before the end of this century.” Around the same time, a group of British scientists reported that soils in England and Wales have been losing carbon at the rate of four million metric tons a year, a loss that is at once a symptom of warming and—as much of that carbon is released into the atmosphere—a likely cause of more. In January, researchers at NASA’s Goddard Institute for Space Studies concluded that 2005 had been the hottest year on record, and, in February, a team of scientists from NASA and the University of Kansas announced that the flow of ice from glaciers in Greenland had more than doubled over the past decade. Earlier this month, the *Washington Post* reported that the mountain pine beetle, a pest once kept in check by winter cold, has decimated huge swaths of forest in western Canada. Officials with the Canadian Forest Service say that the beetle has crossed the Rockies and they fear that it will soon start eating its way east. “People say climate change is something for our kids to worry about,” one official told the *Post*. “No. It’s now.”

In the face of such news, how does a country, i.e. the United States, justify further inaction? Certainly, there isn’t much tread left in the argument that global warming is, to use Senator James Inhofe’s famous formulation, a “hoax.” In January, six former heads of the Environmental Protection Agency, five of whom had served under Republican Administrations, met with the current administrator, Stephen Johnson, for a panel discussion in Washington. Panelists were asked to hold up their hands if they believed global warming to be a real problem, for which human activity was responsible. Every one of them, Johnson included, raised a hand.

But where there’s a will there is, indeed, always a way. The new argument making the rounds of conservative think tanks, like the National Center for Policy Analysis, and circulating through assorted sympathetic publications goes something like this: Yes, the planet may be warming up, but no one can be sure of why, and, in any case, it doesn’t matter—let’s stop quibbling about the causes of climate change and concentrate on dealing with the consequences. A recent column in the *Wall Street Journal* laid out the logic as follows: “The problems associated with climate change (whether man-made or natural) are the same old problems of poverty, disease, and natural hazards like floods, storms, and droughts.” Therefore “money spent directly on these problems is a much surer bet than money spent trying to control a climate change process that we don’t understand.” Sounding an eerily similar note, a column published a few days later in the *National Review Online* stated, “We can do more to help the poor by combating these problems now than we would by reducing carbon dioxide emissions.”

The beauty of this argument is its apparent high-mindedness, and this, of course, is also its danger. Carbon dioxide is a persistent gas—it lasts for about a century—and once released into the atmosphere it is, for all practical purposes, irrecoverable. Since every extra increment of

CO2 leads to extra warming, addressing the effects of climate change without dealing with the cause is a bit like trying to treat diabetes with doughnuts. The climate isn't going to change just once, and then settle down; unless CO2 concentrations are stabilized, it will keep on changing, producing, in addition to the "same old problems," an ever-growing array of new ones. The head of the Goddard Institute, James Hansen, who first warned about the dangers of global warming back in the nineteen-seventies and recently made headlines by accusing the Bush Administration of censorship, has said that following the path of business-as-usual for the remainder of this century will lead to an earth so warm as to be "practically a different planet." In a world thus transformed, the only sure bet is that there will be no sure bets.

A project like Tom and Jerry demonstrates all the strengths of American science: technological sophistication, restless curiosity, and monumental budgets. But, at the same time, it points to the fundamental disconnect in our culture. Why spend tens of millions of dollars to produce such an elegant set of measurements only to ignore them? With knowledge comes responsibility, and so it is that we turn from the knowledge we have gone to such lengths to acquire.

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