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(Slip Opinion)

NOTE: Where it is feasible, a syllabus (headnote) will be released, as is being done in connection with this case, at the time the opinion is issued. The syllabus constitutes no part of the opinion of the Court but has been prepared by the Reporter of Decisions for the convenience of the reader. See *United States v. Detroit Lumber Co.*, 200 U. S. 321, 337.

SUPREME COURT OF THE UNITED STATES

Syllabus

LUCAS v. SOUTH CAROLINA COASTAL COUNCIL

CERTIORARI TO THE SUPREME COURT OF SOUTH CAROLINA

No. 91-453. Argued March 2, 1992—Decided June 29, 1992

In 1986, petitioner Lucas bought two residential lots on a South Carolina barrier island, intending to build single-family homes such as those on the immediately adjacent parcels. At that time, Lucas's lots were not subject to the State's coastal zone building permit requirements. In 1988, however, the state legislature enacted the Beachfront Management Act, which barred Lucas from erecting any permanent habitable structures on his parcels. He filed suit against respondent state agency, contending that, even though the Act may have been a lawful exercise of the State's police power, the ban on construction deprived him of all "economically viable use" of his property and therefore effected a "taking" under the Fifth and Fourteenth Amendments that required the payment of just compensation. See, e. g., *Agins v. Tiburon*, 447 U. S. 255, 261. The state trial court agreed, finding that the ban rendered Lucas's parcels "valueless," and entered an award exceeding \$1.2 million. In reversing, the State Supreme Court held itself bound, in light of Lucas's failure to attack the Act's validity, to accept the legislature's "uncontested . . . findings" that new construction in the coastal zone threatened a valuable public resource. The court ruled that, under the *Mugler v. Kansas*, 123 U. S. 623, line of cases, when a regulation is designed to prevent "harmful or noxious uses" of property akin to public nuisances, no compensation is owing under the Takings Clause regardless of the regulation's effect on the property's value.

Held:

1. Lucas's takings claim is not rendered unripe by the fact that he may yet be able to secure a special permit to build on his property under an amendment to the Act passed after briefing and argument before the State Supreme Court, but prior to issuance of that court's opinion. Because it declined to rest its judgment on ripeness

STATEMENT OF SENATOR ALBERT GORE, JR.
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
HEARING ON GLOBAL WARMING AND THE OCEANS
WEDNESDAY, MAY 20, 1992

Good afternoon. Today, the Commerce Committee is conducting another in a series of research roundtables to examine the latest findings of global change researchers. Today, we are going to focus on the role of oceans in global climate change.

The ocean covers more than seventy percent of the earth's surface and plays a key role in regulating the earth's climate. In some ways, it is the engine that drives the entire climate system.

Anyone who wants to understand greenhouse warming must understand how the ocean mediates and controls climate. It does so in several ways. First, it absorbs and transports heat. Since water absorbs much more heat than air, the ocean tends to moderate climate changes. Indeed, it is quite likely that the oceans are the reason we have not seen a much faster increase in global temperatures due to the 25 percent increase in greenhouse gases since pre-industrial times. Unfortunately, however, as we will hear today, the oceans cannot and will not delay global warming by more than a few decades.

Oceans also influence climate by absorbing and releasing greenhouse gases, like carbon dioxide. It is estimated that about 30 percent of the 7 billion tons of carbon dioxide emitted into the atmosphere every year by the burning of fossil fuels and deforestation end up being absorbed by the ocean. If it were not for this "sink," the concentration of carbon dioxide in the atmosphere would probably be almost 400 parts per million by now and global temperatures would be climbing even faster.

Researchers are not sure how the oceans will respond if global warming continues. In general, water can absorb less carbon dioxide as temperatures increase. Think about what happens to your soda on a hot day. So it is quite possible that global warming could reduce the amount of carbon dioxide the oceans can absorb, causing even more global warming.

At today's hearing we will examine whether oceans will slow or reduce greenhouse warming. According to some greenhouse skeptics, the oceans can indefinitely postpone the onset of global warming. The vast majority of researchers disagree and seem to have good data on which to base their conclusion.

For while there is much we do not understand about the role of oceans in climate change, researchers are rapidly reducing the uncertainties. Using satellites and ships, they are improving our understanding of ocean circulation. They are studying the complex physical, chemical, and biological processes that control the temperature and composition of the ocean and collecting the data needed to document the effects of global warming in the oceans. Some of this new research seems to indicate that we have considerably underestimated the extent to which we have perturbed the climate system--that we may need to cut greenhouse gas emissions even more than previously thought.

Using supercomputers, researchers have constructed models of ocean circulation. These models indicate that the ocean system is very sensitive to changes in temperature and wind patterns. Apparently, it does not take much to shift major ocean currents several hundred kilometers. And these kinds of "non-linear" changes can have profound changes on climate.

Researchers who study the geological record stored in ocean sediments and ice cores have found evidence such dramatic shifts in ocean circulation in the past. After the last Ice Age it appears that the circulation of the entire North Atlantic re-organized itself in less than 100 years. Some of our witnesses today will discuss the evidence for this and other dramatic changes in ocean circulation and climate. If such a dramatic change occurred today, many important marine fisheries would be decimated and many regions would experience radical changes in climate. Just look at the changes resulting from the El Nino.

It is these kinds of unpredictable, unexpected changes in climate that may be the greatest danger posed by global warming. The computer models may never be able to predict such events, so we would not have much time to adapt to whatever Mother Nature decides to do to us.

I am looking forward to hearing from today's witnesses. We have a number of distinguished scientists here today, including Dr. Mike McElroy, a good friend who has spent many hours educating me about global warming. I am glad that all of you can be here today. I think your work is critical if we are to understand and address the problem of greenhouse warming.

I would like each witness to give us a very brief summary--no more than three minutes--of their research. Then we will begin a open discussion of how all this work fits together and what it means to policymakers here in Congress.