



## “Addressing Climate Change is a Moral Imperative”

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Good morning. It's a great pleasure for me to be able to welcome you to learn about the many different religious perspectives on climate change and about “turning faith into action.” This is an example of the kind of interdisciplinary inquiry that makes the University of Michigan so exciting. Not only do we have about a dozen different religious groups represented, we have more than 1/3 of the colleges and schools across the campus represented, and I see people here from the School of Public Policy, the School of Natural Resources and Environment, the College of Engineering, the College of Literature, Science, and Arts, and of course, the Business School. This working across traditional boundaries is becoming increasingly important, I would argue, to solve the complex and intractable problems facing society today.

Climate change is one of the most increasingly pressing problems we face. You know the litany of facts. The temperatures are increasing worldwide. The water cycle of the planet is speeding up such that droughts and extreme rainfalls events have already increased, as have floods and wildfires. The ocean is acidifying. It's beginning to sound like the plagues. Weather-related disasters reached an all-time high of 370 billion dollars in 2005, 1/3 of a trillion dollars due to weather-related disasters--that's real money. And of course, it's not all due to climate change today since people live in areas prone to disasters, but the climate changes in store will cause more floods, more droughts, more famine and more poverty.

The world's fourth science consensus report by the Intergovernmental Panel on Climate Change (IPCC) has just been released. Since their previous report in 2001, scientists have now documented changes on every continent that are consistent with climate theory. There are some 20,000 data sets, more than a decade in duration, that confirm that species are shifting ranges as the climate changes. And they're moving either towards the poles at a rate of 6 kilometers per decade or up mountains at a rate of 6 meters per decade. Mountain glaciers are melting all over the world, the rate of sea-level rise has increased over the century, and, as you probably know, the phenomenal melting of the arctic ice and of Greenland exceed all the climate model expectations which is now leading scientists to question whether we are facing meters, not feet, of sea-level rise in this century.

We don't understand how it can be melting so fast. A new Department of Interior report summarized nine studies of polar bears and concluded that 2/3 of them will be gone in 50 years, certainly in the lifetime of the students in this room. You know that the average temperatures on the planet have already increased about 0.8 degrees Celsius--that a little more than a degree



Fahrenheit--above pre-industrial levels. We're already committed to another 0.5 degrees so we committed to 1.3 degrees C warming now. At 1.5 degrees C warming, scientists are saying we'll lose the coral reefs. If we exceed 2 degrees C, we risk losing 20-40% of the species on the planet. At 2.5 degrees C, both the tropics and the temperate zone will likely experience crop losses. So these conclusions have led many recent reports to call for keeping the temperature increase to no more than 2-2.5 degrees C above pre-industrial levels in order to prevent "dangerous anthropogenic interference with the climate system." That is the goal of the Framework Convention on Climate Change, which the U.S. did sign and ratify under the first President Bush.

So that is the law of our land, to prevent dangerous anthropogenic interference with the climate system. Yet the possible range of temperature increases over this century go up to 6 degrees C, so stopping at 2-2.5 degrees C is a very, very difficult task. Time is running out to achieve this goal. And of course, we must allow developing countries to increase their quality of life and have access to modern conveniences. So, all these facts lead to the inexorable conclusion that the developed countries of the world must aim towards a 60-80% reduction in their emissions by mid-century. And the bills that have appeared in the U.S. Senate and many of the presidential candidates' platforms are acknowledging this need. Within the last week, Barack Obama actually also framed the climate debate in terms of religion saying, "We are not acting as good stewards of the earth when our bottom line puts the size of our profits before the future of our planet."

Last week, you all know that the Nobel Peace Prize was award to the IPCC, the international science consensus body I mentioned earlier, and to Al Gore, for bringing the reality and the urgency of the danger of climate change to the attention of the world. I think that award emphasizes that peace and prosperity and the fate of the environment are intertwined. And I think it's also emphasizing that global climate change caused by human activities and the disruption of climate is the most dangerous of all environmental problems and the one that most threatens peace and prosperity.

Since 1947, the Bulletin of Atomic Scientists has used a clock on the cover of their journal to signify how close humans are to catastrophic destruction-- how many minutes before midnight we are. And this year, they moved the minute hand to five minutes before midnight. They said, "As in past deliberations we've examined other human-made threats to civilization. We have concluded that the dangers posed by climate change are nearly as dire as those posed by nuclear weapons. The effects may be less dramatic in the short term than the destruction that could be wrought by nuclear explosions, but over the next 3-4 decades," – in the lifetime of these students – "climate change could cause drastic harm to the habitats upon which human societies depend for survival. This deteriorating set of global affairs leads the board of directors to move the minute hand of the doomsday clock from seven to five minutes to midnight in 2007."

For years there has been growing concern within the religious community about the spiritual and ethical dimensions of climate change. The number of synagogues and churches and mosques, etc., making statements or committing to action on climate change is vast. It is not just the compelling numbers of voices that have been raised, but because all across the religious



spectrum, theologically conservative to liberal, they have all agreed on the seriousness of the climate change problem. They accept the science and address the religious implications of that science. They allow the scientists to speak on the science; the religious leaders speak about the religious and moral implications of that science.

Most of the religious statements, first and foremost, strive to put to rest the idea that the representative organization has any doubt about the science of climate change. Instead, these documents argue that enough evidence exists to take serious action to avoid dangerous anthropogenic interference with the climate system. The Evangelical Climate Initiative calls for federal legislation in the United States to reduce carbon emissions. In the UK a similar church-based campaign is named “Operation Noah.” The U.S. Conference of Catholic Bishops’ statement draws heavily on the social justice tradition in Catholic thought, noting that many of the greatest victims of climate change are likely to be the poor. There are also powerful statements by H.H. Ecumenical Patriarch Bartholomew, by David Hallman of the World Council of Churches, by the Church of the Brethren and the Coalition on Environment and Jewish life to the National Interfaith Training on Global Warming. The Presbyterian Church, USA has asked its 2.3 million members to “make a bold witness by aspiring to carbon neutral lives.”

Just last week, the National Association of Evangelicals, representing 45,000 churches, hosted a “Global Leaders Forum” and UN Secretary General Ban Ki-moon addressed them. He said: “A world with a billion people living on less than a dollar a day cannot be just, nor stable.” I believe, as Secretary Ban Ki-moon does, that climate change could pose the biggest environmental injustice issue yet, as the poorest among us will suffer the most. Indeed achieving the Millennium Development Goals, which the world set in 2000, will require a sustainable environment. Those goals include eradicating poverty and hunger, reducing child mortality, improving maternal health, combating malaria and other diseases. Achieving these goals will not be possible without a sustainable environment.

The statements of the religious groups are powerful calls for action and they are signs of the growing momentum to confront climate change. Religious organizations are also influencing the shaping of climate change policy through the organization of educational and outreach programs, and we are going to hear about a number of those today. In the United States, the anti-slavery movement and the civil rights movement were both driven in great measure by a morally aroused religious community. If similar fervor builds about the moral importance of averting catastrophic climate change and the threats it poses to vulnerable humans and countless species, U.S. political leaders could soon be vying to show that the world’s leading generator of greenhouse gases will also be the leading solver of this problem.

At the Clinton Global Initiative in September, I had the honor to serve on a panel with Jane Goodall, who first taught us that chimps can use tools, and who has become an eloquent spokesperson for preservation of the environment. She had just come from an Arctic Peoples’ Conference and one of the elders said to her, “You think we in the North don’t know what you in the South are doing. We know what you are doing every day. Our ice is melting under us. What will it take to melt the ice in your hearts?”



In 2004, I was very proud to be asked to sign a “Plea from Religion and Science for Action on Global Climate Change” as one of 16 science leaders joining 16 religious leaders. We called our statement “Earth’s Climate Embraces Us All.” We concluded that “principles of stewardship, of justice, protection of the weak, intergenerational duty, and prudence are universal values when responsible scientific study has identified grave environmental risk. Global warming is a universal moral challenge.”

I believe that, you believe that, let’s confront this together. Thank you for coming today and sharing your wisdom with us. We have a lot of work to do. Thank you very much.

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**Dr. Rosina M. Bierbaum** is Dean and Professor of Natural Resources and Environmental Policy, School of Natural Resources and Environment, University of Michigan since she was appointed in October 2001. Before joining the University of Michigan, Dr. Bierbaum served both the U.S. Congress and the U.S. President through twenty years of science policy leadership in Washington, D.C. As Acting Director of the White House Office of Science and Technology Policy, she was the Administration’s senior scientific advisor on environmental research and development, with responsibilities for scientific input and guidance on a wide range of national and international environmental issues. She currently serves on the boards of the University Corporation for Atmospheric Research; the American Association for the Advancement of Science; the National Research Council’s Board on

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