

The Impacts of Global Warming on Texas

Foreword

Avoiding dangerous climate change will be one of the defining challenges for humanity in the 21st century. The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) documents compelling evidence that the climate is changing; human activities are the primary cause and the consequences are serious (IPCC, 2007). If we fail to act urgently and effectively to mitigate the causes and adapt to inevitable climate change, catastrophe looms for future generations of people, and the evolution of natural systems that support human society will change dramatically.

Climate experts agree that policymakers cannot wait until all the scientific questions are answered before they act, since by then it may be far too late to do so. We must approach climate change as a risk management problem. To do so requires three distinctly different but complementary types of responses.

First, scientists need to continue to work diligently to better understand how the climate system works, how it is likely to change in the future, how such changes may affect natural ecosystems and human society, and how we might adapt to these changes. Continuing scientific advances will be important to policymakers in the future as they deal with increasingly contentious and complex decisions on how to respond to the risks that a changing climate will pose.

Second, policymakers need to consider what measures can be taken now to reduce emissions of greenhouse gases and destructive changes in natural ecosystems which are projected to be the primary drivers for future climate change. Scientists project that greenhouse gases need to be reduced 80% below current emissions to avoid catastrophic impacts. Such measures would not put a halt to future climate change— we are too late for that — but hopefully they would buy some time for both ecosystems and societies to adapt to the changes that will occur. While initial measures can be modest, they will need to be strengthened as the scientific understanding improves and as the evidence for potentially dangerous changes in climate becomes more convincing.

The third response strategy is to anticipate the changes in climate that we expect to be unavoidable and to prepare for these through adaptation measures. Such measures can increase our resilience to change and reduce threats of harm to people, infrastructure, and ecosystems.

Global warming, which drives climate change, is a global matter requiring unprecedented cooperation among nations. Moving forward recognizes that a future international agreement must meet certain key objectives.

It must:

- Have broader participation with fair goals, including all industrialized and key emerging economies;
- Generate outcomes that will result in real progress on both mitigation and adaptation in all nations over the longer term;
- Provide incentives to invest in developing countries and share transformative environmental technologies;
- Maximize the deployment of existing climate friendly technologies; and
- Support the implementation of efficient carbon tax or market programs.

How can the individual American citizen influence the outcome of a global environmental issue that is already challenging the wisdom and resources of the world's governments and international agencies? The answer, simply put, is that it is the individual citizens who must create the environment of opinion which will encourage governments to act. And it is the individual citizens who can take actions themselves to reduce their personal emissions and who can support the policies that an effective response to the risks of climate change will demand.

The Impact of Global Warming on Texas provides a comprehensive and understandable assessment of what is currently known about the threats and opportunities posed by climate change in Texas. This book connects global climate change to the expected changes in local climates and impacts where we Texans live, work and play. I am pleased to recommend this book. It will inform policy, enrich climate science education in our colleges and universities, and provide the basis for individual and public policy actions on both mitigation and adaptation.

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