

Causes and Effects of Global Warming

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The talk will begin with a brief tutorial on the physics of climate and will present the evidence that has led climate scientists to conclude that increasing greenhouse gas content has led to a measureable increase in global surface temperature and to other changes, such as retreat of mountain glaciers and summer sea ice. The strengths and limitations of global climate modeling will be discussed together with the problem of assessing and conveying the rather large and perhaps irreducible uncertainty in projections using such models. Finally, we will discuss possible implications of anthropogenic climate change for southern New England weather.

PRESENTER'S BIO

Dr. Kerry Emanuel is a professor of atmospheric science at the Massachusetts Institute of Technology, where he has been on the faculty since 1981, after spending three years as a faculty member at UCLA. Professor Emanuel's research interests focus on tropical meteorology and climate, with a specialty in hurricane physics. His interests also include cumulus convection, and advanced methods of sampling the atmosphere in aid of numerical weather prediction. He is the author or co-author of over 100 peer-reviewed scientific papers, and two books, including *Divine Wind: The History and Science of Hurricanes*, recently released by Oxford University Press and aimed at a general audience, and *What We Know about Climate Change*, published by the MIT Press.