

Sunday Afternoon, November 12, 2006

Energy Science and Technology Topical Conference Room 2000 - Session EN-SuA

Energy Science and Technology Topical Conference

Moderators: R. Ahrenkiel, University of Denver, L. Kazmerski, NREL

3:00pm **EN-SuA1 Twenty-first Century Climate and Dangerous Anthropogenic Interference**, *J. Hansen, R. Miller*, NASA Goddard Institute for Space Studies **INVITED**

During the past three decades, Earth's surface warmed by 0.6 C, representing a majority of the warming observed during the twentieth century. The current temperature is among the warmest (if not the warmest) since the end of the last Ice Age. The recent warming is consistent with trends calculated by computer models of climate forced by increasing concentrations of greenhouse gases and industrial aerosols. Here, we present projections of twenty-first century climate. We consider what level of warming represents 'Dangerous Anthropogenic Interference' (a phrase coined by the United Nations Framework Convention on Climate Change in 1992), defined as climate change that causes severe economic and societal disruption. This warming identifies a reduction in greenhouse gas emission necessary to avoid this threshold. We also discuss projections of continental ice sheets and hurricanes that are central to the warming response but are poorly represented in current climate models.

3:40pm **EN-SuA3 Meeting the Renewable Energy Challenge**, *D. Arvizu*, National Renewable Energy Laboratory **INVITED**

4:20pm **EN-SuA5 Beyond Petroleum: Toward Alternative Energy**, *S. Westwell*, BP Alternative Energy Program **INVITED**

5:40pm **EN-SuA9 Rising Above the Gathering Storm**, *R. Zare*, Stanford University **INVITED**

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