"Assessing Future Drought and Megadrought Risk"

Jonathan Overpeck
Department of Geosciences, University of Arizona

Tuesday, January 28, 2014
4:00 to 5:00 p.m.
295 FASB (Sutton Bldg.)
Abstract
Increased drought risk is (and will be) arguably one of the most certain and troubling aspects of anthropogenic climate change for many parts of the world. At the same time, it is emerging in the scientific literature that state-of-the-art climate and Earth system models are not able to simulate the full range of drought, whether decade-scale droughts like seen recently in both the SW US, and Australia, or multidecadal “megadroughts” that eclipse droughts of the instrumental era in both duration and severity. Evidence for this assertion will be examined, particularly as it comes from the paleoclimatic record of several continents, in both semi-arid and wetter regions. The implications for decision-making will also be discussed, including the on-going operational use, in the United States, of no-regrets drought planning strategies that incorporate paleoclimatic data. Fortunately, because droughts will still occur for natural reasons as well as anthropogenic, increased drought preparedness is a clear “no-regrets” climate change adaptation strategy.

Bio
Jonathan Overpeck is a climate scientist and co-director of the University of Arizona’s Institute of the Environment. He is the Thomas R. Brown Distinguished Professor, and is a Professor of Geosciences and also of Atmospheric Sciences. He received his BA from Hamilton College, followed by MSc and PhD from Brown University. Jonathan has written over 170 papers on climate and the environmental sciences, and recently served as a Coordinating Lead Author for the Nobel Prize winning UN Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment (2007). Other awards include the US Department of Commerce Bronze and Gold Medals, a Guggenheim Fellowship, and the Walter Orr Roberts award of the American Meteorological Society. Overpeck has active climate and paleoclimate research programs on five continents, and is also the lead investigator of the Climate Assessment for the Southwest and the Southwest Climate Science Center – two programs focused on regional climate adaptation. He has appeared and testified before Congress multiple times, is a Fellow of the American Association for the Advancement of Science, and recently served a Visiting Fellow of the Victorian Centre for Climate Change Adaptation Research, as well as a Visiting Scientist with the Australian Research Council’s Centre of Excellence For Climate System Science. He tweets about climate-related issues @TucsonPeck.