Title: Climate Change Modeling: Present and Future

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​Abstract:

We see in the Community Earth System Modeling (CESM) and other national and international climate modeling efforts the capability of generating realistic tropical storms and hurricanes as part of the overall atmospheric and ocean general circulation. This would not have happened without greatly enhanced supercomputer systems that allow for higher resolution component models and more complex physical processes. ​This presentation will concentrate on the scientific and computational challenges for "studies of future climate change." Clearly we will need enhanced computer systems, highly scalable numerical methods, and more realistic physical processes in our climate and Earth system models.