

Michael Stein, Ph.D.

April 6, 2018

4 p.m. - 5 p.m.

Carey Auditorium

Room 107

Climate Model Emulation and Future Climate Simulation

This talk considers two different statistical approaches to producing possible future climates. The first is climate model emulation, which seeks to develop a simple statistical model that can reproduce some of the outputs of a GCM (General Circulation Model) under conditions (forcing scenarios, parameterizations) for which the GCM has not been run.

Emulating GCMs is one thing, but producing accurate simulations of future climates is another and is of greater interest for at least some purposes (such as impact assessments). I will outline methods for modifying both the marginal distributions and temporal dependencies in observed daily temperatures. Extending this approach to precipitation at daily or higher frequencies is a major challenge and I will describe an important first step in this direction based on classifying all precipitation into discrete storm events that can then in principle be modified.

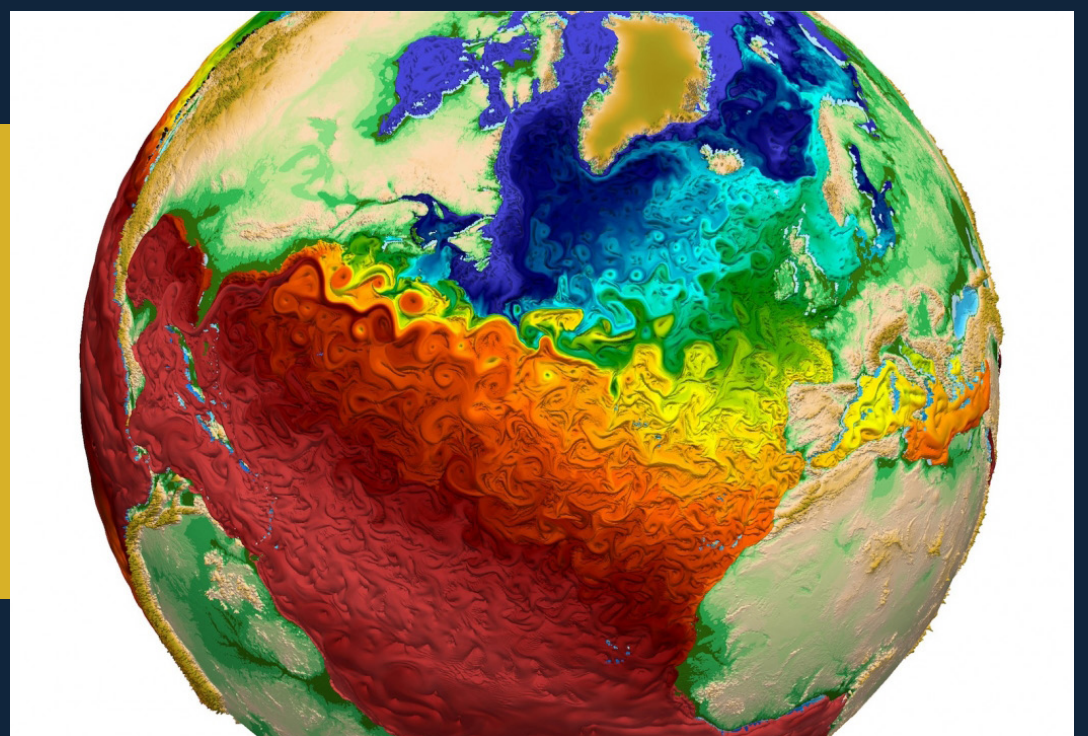
Reception

5:00 p.m. - 5:45 p.m.

Scholars Lounge (directly across from the 107 Carey Auditorium in the Hesburgh concourse.)

This talk represents joint work with:

Elisabeth Moyer, Stefano Castruccio, David McInerney, Robert Jacobs, Feifei Liu, William Leeds, Won Chang, Jiali Wang, Rao Kotamarthi, Matz Haugen, Ryan Sriver



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