

Gerald Meehl summary points/grand challenges arising from EESM workshop, Friday, Aug. 9, 2024:

1. What is the nature of the interplay between internally generated modes of variability and the response to external forcings like aerosols and GHGs, and how will those processes change in the future?
2. Given that we are already committed to a certain amount of warming over the next few years no matter what, and that even under optimistic projections, emission reductions will take at least 10 years to have an effect, human societies and ecosystems are in adaptation mode for the next 10 years. Thus, it is imperative that we have information on what we will have to adapt to. The urgent challenge to our field of climate science is to be able to credibly predict the time evolution of regional climate over the next 10 years. This is a tremendous scientific and intellectual challenge, but the stakes are high and it demands from us the wherewithall to make significant advancements in Earth system prediction to address this challenge, the most compelling of our generation.