Scientific Colloquium

March 21, 2018, 3:30 p.m.

Building 3, Goett Auditorium

JENS REDEMANN
AMES RESEARCH CENTER

"Aerosol-radiation-cloud Interactions in the South-East Atlantic: Model-relevant Observations and the Beneficiary Modeling Efforts in the Realm of the EVS-2 Project ORACLES"

Globally, aerosols remain a major contributor to uncertainties in assessments of anthropogenically-induced changes to the Earth climate system, despite concerted efforts using satellite and suborbital observations and increasingly sophisticated models. The quantification of direct and indirect aerosol radiative effects, as well as cloud adjustments thereto, even at regional scales, continues to elude our capabilities. Some of our limitations are due to insufficient sampling and accuracy of the relevant observables, under an appropriate range of conditions to provide useful constraints for modeling efforts at various climate scales. In this talk, I will describe (1) the efforts of our group at NASA Ames to develop new airborne instrumentation to address some of the data insufficiencies mentioned above; (2) the efforts by the EVS-2 ORACLES project to address aerosol-cloud-climate interactions in the SE Atlantic and (3) time permitting, recent results from a synergistic use of A-Train aerosol data to test climate model simulations of present-day direct radiative effects in some of the AEROCOM phase II global climate models.

About the Speaker:

Jens Redemann is a Physical Research Scientist in the Atmospheric Science Branch at NASA Ames Research Center. He received an MS in Physics from the Free University of Berlin in 1995, and an MS and PhD in Atmospheric Sciences from UCLA in 1996 and 1999, respectively (but he wishes he had a better understanding of Behavioral Psychology). He leads an obstinate, yet productive and hence tolerable, group of scientists and engineers, with the goal of making "model-relevant" observations of aerosol-cloud-climate interactions. He is currently the PI for the Earth-Venture-Suborbital-2 project ORACLES (ObseRvations of Aerosols above CLouds and their intEractionS), an aconym that could have been so much more.

Return to Schedule