MAR07-2006-000429

Abstract for an Invited Paper
for the MAR07 Meeting of
the American Physical Society

Counting the Clouds[1]

DAVID RANDALL, Colorado State University

Cloud processes are very important for the global circulation of the atmosphere. It is now possible, though very expensive, to simulate the global circulation of the atmosphere using a model with resolution fine enough to explicitly represent the larger individual clouds. An impressive preliminary calculation of this type has already been performed by Japanese scientists, using the Earth Simulator. Within the next few years, such global cloud-resolving models (GCRMs) will be applied to weather prediction, and later they will be used in climate-change simulations. A "multi-scale modeling framework" can be used as a bridge between current low-resolution climate models and future GCRMs.

[1]This work is sponsored by the National Science Foundation.