

THE CHALLENGE OF CLIMATE SIMULATION AND PREDICTION

A. Navarra, CMCC, Bologna

Abstract

The recently acquired capability of mankind to change our environment is posing unprecedented issues for complexity and outreach. Climate change is also strongly science-based. The base for this debate is rooted in sophisticated scientific arguments derived by using advanced numerical methods and techniques. This fact poses a special responsibility on the climate scientific community: we have to respond to society demands for information that has to be accurate, honest and timely. We can easily convince ourselves of the extreme complexity of the climate system, a system that contains unknown or poorly known processes, strong nonlinear interactions that enhance sensitivity to small perturbation. How is it possible a quantitative scientific consideration of such a system? This is the great challenge that climate science is facing today, to obtain a scientific method that will produce assessments that will be reliable, consistent and quantitative. The numerical approach to climate will be presented with a review of recent results and a critical assessment of its potential and limitations.

**SUBMISSION NOT
RECEIVED**