

ABSTRACT

Validating a General Circulation Model for Use within the Caribbean

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Climate models are attempts to simulate the many processes that produce climate. The simulation is accomplished by describing the climate system and its associated processes in terms of physical laws, equations and schemes, and then solving them by numerical analysis on sophisticated computers.

A general circulation model, the most rigorous and complex type of climate model, has recently been installed on the CONVEX mini supercomputer at the University of the West Indies, Mona.

The aim of the project is to validate the model for use within the Caribbean context, and to utilise the validated model in a preliminary test of a hypothesis. To achieve validation, the model was used to simulate climate conditions for March to May 1993, given appropriate boundary conditions. Numerous comparisons of the results were then made to determine the model's ability and performance, as well as the accuracy of the simulation with respect to the Caribbean region. The validated model was then used in a preliminary test of a hypothesis linking Caribbean rainfall in May to the El Niño - Southern Oscillation effect.