



The Monash Simple Climate Model: An interactive climate model for teaching

Dietmar Dommenges

Monash University, School of Mathematical Sciences, Atmospheric Science, Clayton, Australia
(dietmar.dommenges@monash.edu)

The Monash university interactive simple climate model is a web-based interface that allows students and the general public to explore the physical simulation of the climate system with a real global climate model. It is based on the Globally Resolved Energy Balance (GREB) model that simulates most of the main physical processes in the climate system in a very simplistic way and therefore allows very fast and simple climate model simulations. Despite its simplicity the model simulates the mean climate and its response to external forcings, such as doubling of the CO₂ concentrations very realistically.

The Monash simple climate model web-interface allows you to explore thousands of experiments, scenarios and tutorials in an interactive way. You can do some entertaining and educational puzzles about the interaction of climate dynamics. By turning switches OFF and ON you control physical processes in the climate system and see how the interaction of the processes builds up the climate. By testing a number of experiments you learn about the interactions in the climate system and thereby figure out which switch controls what process in the climate system. The presentation will illustrate how this web-base tool works and what are the possibilities in teaching students with this tool are.