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The Monash University Interactive Simple Climate Model

Dietmar Dommenget

Monash University, School of Mathematical Sciences, Atmospheric Science, Clayton, Australia
(dietmar.dommenget@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, which is a climate model published by Dommenget and Floeter [2011] in the international peer review science journal Climate Dynamics. The model 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 on a normal PC computer. Despite its simplicity the model simulates the climate response to external forcings, such as doubling of the CO_2 concentrations very realistically (similar to state of the art climate models).

The Monash simple climate model web-interface allows you to study the results of more than a 1000 different model experiments in an interactive way and it allows you to study a number of tutorials on the interactions of physical processes in the climate system. By switching OFF/ON physical processes you can deconstruct the climate and learn how all the different processes interact to generate the observed climate and how the processes interact to generate the IPCC predicted climate change for anthropogenic CO_2 increase. The presentation will illustrate how this web-base tool works and what are the possibilities in teaching students with this tool are.