Geophysical Research Abstracts,
Vol. 11, EGU2009-2152, 2009
EGU General Assembly 2009

Evaluation of the present-day climatology of a new coupled chemistry-climate model CNRM-ACM: comparison with observations and others models

F. Borchi, D. Olivié, M. Michou, H. Teyssèdre, and F. Karcher
CNRM, Météo-France, Toulouse, France (borchi@hotmail.fr)

The purpose of the present study is to evaluate the present-day climatology in the stratosphere from the new coupled chemistry-climate model CNRM-ACM. This Chemical Climate Model (CCM) is composed of the General Circulation Model (GCM) ARPEGE Climat and the Chemical Transport Model (CTM) MOCAGE-Climat, both developed at Météo-France. This objective is achieved by comparing experiments from CTM forced by ECMWF reanalyses or by GCM outputs, and from the coupled CCM. The meteorological and chemical fields generated by our models are also compared with the data obtained from different models (results of the CCM Validation activity of the SPARC program) and from observational products (such as ERA-40 reanalyses, spatial instrument HALOE and the NIWA database). Results reveal that the CNRM-ACM model well reproduced the mean recent stratosphere for dynamics and for chemical species, i.e. methane, water vapour, HCl and ozone. However, the temperature and the mean age of air are too low in our model.