Modelling Miocene vegetation in Europe: New results of the CARAIB model

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The aim of this study is to present a new simulation of the vegetation with the CARAIB (CARbon Assimilation In the Biosphere) dynamic vegetation model for the Miocene in Europe. During this period, subtropical and tropical species were present in this area due to warmer climatic conditions. In order to better take in consideration these kinds of vegetations, we propose in this work a new classification of 26 groups.

This adapted classification and the corresponding climatic tolerance parameters are based on the study of Dubois-Laurent et al. (J. Veg. Sci., 15, 739-746, 2004) for the tree types currently present in Europe, on the distributions of analogue species in south-eastern Asia and on some species distributions around the world. In the new classification 3 groups are devoted to herbs and 15 for trees including cold/cool/warm temperate, subtropical and tropical types. The 8 remaining groups are new ones and concern shrubs from arctic to tropical conditions.

The new classification with the addition of shrubs will be used to improve the vegetation simulations with CARAIB for past, present an future periods.