Publications, based on the use of the database for any type of topics (syntheses, transfer functions (paleoclimate, paleoreliefs, paleovegetation maps, biodiversity, etc.) will associate the authors of the pollen data as co-authors (or "C.P.C. members" in the case of a large number of pollen records).

Some of the pollen data that will be available in the database have already been used to reconstruct the Pliocene climate of the West Mediterranean region (Fauquette *et al.*, 1999 and Fauquette and Bertini, in prep.) using the "Climatic Amplitude Method" (Fauquette *et al.*, 1998 a and b) based on the study of modern climatic requirements of plants to interpret fossil data.

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Fauquette S., Guiot J. and Suc J.-P., 1998 b: A method for climatic reconstruction of the Mediterranean Pliocene using pollen data. *Palaeogeogeography, Palaeoclimatology, Palaeoecology*, 144 (1-2), 183-201.

Fauquette S., Suc J.-P., Guiot J., Diniz F., Feddi N., Zheng Z., Bessais E. and Drivaliari A., 1999: Climate and biomes in the West Mediterranean area during the Pliocene. *Palaeogeogeography, Palaeoclimatology, Palaeoecology*, 152, 15-36.

VEGETATION RECONSTRUCTIONS WITH THE CARAIB MODEL: EXAMPLES OF APPLICATIONS TO THE LAST GLACIAL MAXIMUM AND THE LATE MIOCENE

FRANÇOIS, Louis[1], OTTO, Dominique[1] and FLUTEAU, Frédéric[2]

1) Laboratoire de Physique Atmosphérique et Planétaire, Université de Liège, 5 avenue de Cointe, B-4000 Liège, Belgium, e-mails: francois@astro.ulg.ac.be, otto@astro.ulg.ac.be
2) Institut de Physique du Globe de Paris, 4 Place Jussieu, F-75252 Paris Cedex 05, France, e-mail: fluteau @ ipgp.jussieu.fr

The CARAIB (CARbon Assimilation In the Biosphere) model is a global terrestrial biosphere model which was originally developed to study the biosphere contribution to the global carbon cycle. The primary purpose of the model is hence the calculation of the CO_2 exchange flux between the vegetation-soil system and the atmosphere. The model is composed of 5 main modules describing (1) soil hydrology, (2) stomatal regulation and photosynthesis, (3) carbon allocation, growth and autotrophic respiration, (4) litter/soil carbon storage and heterotrophic respiration, and (5) competition of plant functional types (PFTs) and biomisation (biogeography). The latest module implemented into CARAIB is the biogeography module. To simulate the competition of trees and grasses, two vegetation storeys have been introduced in the canopy submodel. This allows us to determine the light available to grasses as a direct function of the leaf area index (LAI) of the tree canopy. Both of these storeys are potentially composed of several PFTs. The cover fraction of each PFT within each storey is estimated according to its respective net primary productivity (NPP). A biome is assigned to each grid cell on the basis of three physiological criteria: (1) the cover fraction of most abundant PFTs, (2) the grid cell and tree NPP, and (3) the grid cell and tree LAI, and two climatic constraints: (1) yearly total of growing degree-days with a threshold at 5°C (GDD5), and (2) the absolute minimum temperature reached during the cold season (T_{min}), which are well-known indices of vegetation expansion boundaries.

The model is able to reproduce the broad-scale patterns of the modern distribution of potential vegetation. It has been applied to reconstruct the vegetation distribution and the biospheric carbon stock at the last glacial maximum (LGM, 21 ka). In this reconstruction, CARAIB has been forced with eight LGM climatic scenarios from the Paleo Modelling Intercomparison Project (PMIP) corresponding to four general circulation models (MRI2, UGAMP, LMD4, and GEN2) using prescribed (CLIMAP) and computed sea surface temperatures (SSTs). It is planned to use this model to reconstruct Neogene vegetation. Preliminary results for the late Miocene (10 Ma) will be presented.

THE NEOGENE FLORAS OF ARMENIA AND NAKHICHEVAN

GABRIELYAN, I.G.

Institute of Botany of Armenian National Academy of Science, Yerevan 375063, Armenia, e-mail: igabriel@ysu.am

In spite of the small territories of Republic of Armenia and Nakhichevan Republic, (approximately 30,000² km and 5,000² km), here are founded more than 20 rich Neogene floras. 13 Miocene and 8 Pliocene floras are covering all Neogene stages.

The Miocene floras all are located on Central and North Armenia, only one Upper Miocene flora exists in South Armenia.

The Dilijanian Late Oligocene-Early Miocene megaflora contains 28 species of subtropic humid mountain vegetation.

The profile of Hoktemberyan includes 5 sequences which cover the time slices of Lower Miocene (59 taxa), Langhian (150 taxa), Serravallian (58 taxa), Lower Serravallian (57 taxa), and Tortonian (67 taxa) with palaeopalynological data.

For the Sarmatian age (Upper Serravallian-Tortonian) there are macrofossil samples of Hrazdan1 (37 species), Mangyus (13 species), Nakhichevan (29 species), and palynological data of Hrazdan2 (45 taxa), Sevan (7 taxa).

Pontian (Messinian) age is covered by the Maisyan (36 taxa) and Agarak-Meghry1 (17 taxa) localities with palynofloras.

During Miocene the vegetation changed from humid subtropical to dry subtropical and contemporary appearance.

The Pliocene floras of Armenia are best of all represented in Southern Armenia, in the basins of the left tributaries of Arax river. Megafloras are: Early Pliocene floras of Agarak-Meghry3 (7 species) and Hortun (25 species), Middle Pliocene flora of Koturvan (14 species), Late Pliocene-Early Pleistocene floras of Sisian1 (43 species) and Sisian2 (33 species). Palynofloras are: Early Pliocene flora of Agarak-Meghry2 (8 taxa), Late Pliocene flora of Sevan2 (Sarikaya) (16 taxa).

In Northern Armenia the Lower Pliocene is represented by the Jajur palynoflora (47 taxa).

General review of Pliocene climate of Armenia allows us to reveal the following objective laws of its development. The dry climate of the Upper Miocene period changed to humid climate on the border of Miocene and Pliocene. Evergreen mesophyllous plant species appear, and disappear again in the Lower and Middle Pliocene. Some climate xerisation is revealed in the Upper Pliocene. This process begins to alternate with humid, cold climate depending on the periods of glaciation and rise in temperature.

A detailed climatic analysis of all sites with the coexistence approach will be presented to quantify the observed climatic development.