Using paleogeography to reconstruct paleotopography : a swiss contribution to TOPO-WECEP

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Several research projects actually in progress in the University Fribourg will contribute to understand the paleotopographic evolution of Tertiary basins included in the TOPO-WECEP project. The principal results already published or to be obtained within the next 3 years could be resumed as follows :

- **the Upper Rhine Graben** was studied during the last 5 years in the frame of the SNF-projects FN20-66935 and FN109457 with synthetic publications (Berger et al 2005 a & b , Roussé 2006, Pirkenseer 2007, PhD Hinsken in progress) presenting more than 20 paleogeographic maps from Middle Eocene to Late Pliocene. A new project (FN 200020-118025) is actually in progress, studying in detail the Middle URG (Pechelbronn Basin and relatives) to understand precisely the paleoecology, paleoclimate and paleogeography between Middle Eocene to Middle Oligocene (PhD Thibault Lavoyer).

- **in the Swiss Molasse basin**, a new project (FN200021-115995) is focussed on the paleoecological and paleoclimatic data provided by fossil mammals and plants, including palynology (PhD Bastien Mennecart and Laureline Scherler). These data will allow to reconstruct the paleotopography of the studied area as well as the paleoreliefs of the surrounding mountains (Vosges, Black forest, Alps). Combined with the paleogeographic maps already published by Becker (2003), Picot (2002), Berger et al (2005a et b), Picot et al. (2005 and 2008) and Pirkenseer (2007), with other paleontological (Schafer 2007) and isotopic analyses (see for example Kocsis et al 2007) these data will be very important to understand the dynamic evolution of the perialpine reliefs during the Oligocene and Miocene. Pioneer studies have been already published in this aspect (Becker et al 2001, Emery et al. 2007) . Recent unpublished discoveries by « the Section de Paleontologie du Jura » , as for example petrified forest associated with *Rhinoceros* and *Anthracotherium* fossils show the richness of the data to be studied in a short future.

- **in the South of the Alps,** a project dealing with marine and freshwater oligocene sediments of North Italy (PhD Andrea Storni) will complete our knowledge concerning the topography of the Alps during the Oligocene

The same method applied in other basins towards the SW (Bresse, Rhone-Valence and Limagne basin), toward the N (Lower Rhine Embayment, Hesse depression, Belgian basin) and toward the East (German Molasse) in collaboration with other WECEP-colleagues will certainly contribute to new understanding of paleotopography in Central and Western Europe.

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