

## Pre-conference Field trips:      Field Trip 1



### Field Trip 1

#### *Evolution of a Cretaceous epicontinental sea: from lacustrine via pelagic to turbiditic environments*

(2 days, Sept. 4 - 5, 2010)

**Field Trip leaders:** Prof. Jörg Mutterlose and Dr. Martin Hiss

The Cretaceous sediments of the northern Ruhrgebiet and the adjoining Münsterland, which are the subject of this field trip, overly coal bearing deposits of Carboniferous age with a thickness of up to 2000m. They reflect a wide variety of depositional environments, ranging from lacustrine-estuarine (Berriasian), marginal marine (Valanginian-Barremian) to hemi-pelagic (Cenomanian-Santonian), including finally the turbiditic infilling of an epicontinental sea (Campanian).

The field trip will demonstrate the origin, evolution and demise of an epicontinental basin, which was controlled by sea-level, palaeoclimate and subsidence. We will show to which extent each of these factors controlled the deposition. Both regional and global signals will be discussed in the field, including global palaeoceanographic turn-overs such as the Oceanic Anoxic Event 2, which is ideally exposed. The excursion will provide an overview of the Münsterland Cretaceous Basin and its southern (=northern Ruhrgebiet) and northern margins (Teutoburger Wald). Stratigraphical, sedimentological, and palaeoceanographical aspects will be addressed by exploring two transects through the basin. Driving distances between outcrops are moderate.

#### **Costs:**

The excursion fee is 170 € and includes bus charter from Bonn, field guide booklet, entrance fees, and hotel accommodation in double rooms with breakfast.

#### **Programme:**

**Saturday, September 4th:** Departure by bus from Bonn at 8:30 am. Stop 1: Geologischer Garten in Bochum (Cenomanian shallow water deposits on Carboniferous sandstones), Stop 2: Lessmoellmann pit in Castrop Rauxel (Santonian marls, basin facies; flora and fauna), Stop 3: Haltern pits, central Muensterland (Campanian shallow water sands), Stop 4: Baumberge, west of Muenster (Campanian turbidites; flora and fauna), Stop 5: Rueschhaus, west of Muenster (baroque county house, Baumberger Sandstein), Stop 6: Kröner quarry, Teutoburger Wald (Lower Cretaceous shallow water sandstones).

**Overnight:** Hotel in Brochterbeck

**Sunday, September 5th:** Departure by bus from Brochterbeck at 8:30 am. Stop 1: Museum in Borgholzhausen (giant ammonite scours, Cenomanian), Stop 2: Halle-Hesseltal quarry, west of Bielefeld (Cenomanian black shales, OAE 2, pelagic facies; flora and fauna), Stop 3: Beckum pits, central Muensterland (Campanian shallow water limestones, slumping), Stop 4: Soest (mediaeval town, Turonian glauconitic limestone). Journey back home to Bonn, arrival in Bonn around 15.00.

