



## **Late Bajocian – Early Bathonian environmental changes in the Central High Atlas, Morocco**

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The Late Bajocian – Early Bajocian as received far less attention than other Jurassic time intervals. Nonetheless, available evidences suggest that it has experienced several rapid sea-level fluctuations and potentially the coolest climate of the Jurassic. The aim of this study is to strengthen our understanding of this time interval by studying well-exposed neritic carbonate deposits from the Central High Atlas of Morocco. We present several stratigraphic sections along with sequence stratigraphic interpretations and geochemical analyses in order to reconstruct the environmental changes during the Late Bajocian to Early Bathonian in the Moroccan Central High Atlas and inscribe them within a refined chronostratigraphic framework. The field observations and samples were acquired during a 3-week fieldwork in September 2017. A total of 4 sections was logged bed by bed, among which 2 were sampled. The geochemical analyses of the sampled sections are combined to a multi-proxy geochemical analysis consisting of carbonate content, stable carbon isotope analyses on organic matter, and bulk rock phosphorus content. Furthermore, one of the sections is analysed for total organic carbon.

The sequence stratigraphic interpretation reveals several medium and high order transgressive regressive cycles that correlates to previous work done in the area. The sections therefore complement the sequence stratigraphic model in the area. Our observations reinforce the notion that relatively high frequency – high amplitude sea-level fluctuations have occurred during this time interval. The geochemical analyses are a work in progress. Organic matter carbon isotopes ratio will be used for chemostratigraphic purposes as well as for better constraining changes in the carbon cycle during the Middle Jurassic. Phosphorus data will serve for tracing concomitant changes in seawater nutrient levels and assess their impact on the neritic carbonate factory changes observed in Morocco. This dataset is anticipated to shed new light on the evolution of the carbonate neritic systems along the southern Tethyan margin during the Middle Jurassic and better apprehend the conditions having paved the way for the Late Jurassic reef climax.