

**Preludes of the Oceanic Anoxic Event 1a along the northern Tethyan margin:
a progressive climatic destabilization
from the latest Hauterivian (Early Cretaceous) onward**

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The Hauterivian to latest Barremian is a key interval of underestimated environmental change in the Early Cretaceous. After a short recovery in the Hauterivian, the sedimentation is characterized by a considerable modification in palaeoceanographic and palaeoenvironmental conditions, which initiated with the Faraoni event, the first widely recognized OAE of the Cretaceous. The palaeoenvironmental conditions continued to fluctuate through the Barremian, with a succession of platform drownings and condensation processes, up to the early Aptian witnessing one of the major phases of palaeoenvironmental change of the entire Cretaceous – the Selli episode. The aim of this contribution is to highlight the importance and the evolution of these modifications on the northern Tethyan margin announcing the dense succession of anoxic events of the “Mid Cretaceous” period, and how there are linked to the turnover of the fauna and of the different type of carbonate-factories. In order to achieve this, two key areas, one in the Swiss Helvetic Alps (Alpstein), and one in the Languedoc (Gorges de l'Ardèche, SE France) were examined, sampled, and analyzed for their paleontology, microfacies, sequence stratigraphy, sedimentology, geochemistry (stable C & O isotopes, phosphorus content). Thus, the latest Hauterivian (*ohmi* Zone) Faraoni Episode is characterized by: a minor extinction event which affected marine life (SEPKOSKI, 2002), a major turnover event in the ammonites (COMPANY et al., 2005), an important platform drowning event (SB Ha6), a $\delta^{13}\text{C}$ whole-rock record evolving towards heavier values (BODIN et al., 2009). This episode marks a paleoenvironmental turning point, which in some places of the northern Tethyan margin (Helvetic and Central Jura domains) lasted up to the latest early Barremian (BODIN et al., 2006), associated to condensation (glauconite and phosphogenesis). In direct continuation, the Barremian record is characterized by a succession of events, associated to drownings, condensation processes, small $\delta^{13}\text{C}$ increases, and the deposition of pelagic organic-rich deposits. These events are stratigraphically situated in the: earliest Barremian (*hugii* Zone), early Barremian (*nicklesi* Zone), late early to middle late Barremian (*darsi* to *sartousiana* Zone, Mid Barremian Event), latest Barremian (*sarasini* Zone; Taxy Episode) with a strong $\delta^{13}\text{C}$ decrease with a negative excursion (FÖLLMI, 2012). The cause of this progressive climatic destabilization from the latest Hauterivian onwards may be sought in a possible increasing submarine volcanic activity during this time period, which up to now was not detected.

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