



Integrated high resolution chronology of lower Paleocene continental successions in Canada

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A new refined Paleogene time scale is one of the aims of the GTSnext project (www.gtsnext.eu).

New high-precision $^{40}\text{Ar}/^{39}\text{Ar}$ (sanidine) and U-Pb (zircon) data will be integrated with the astronomical tuning of ODP records and the Zumaia section in Spain to arrive at a better constrained time scale.

Here we studied the upper Cretaceous-lower Paleocene Frenchman River and the lower Paleocene Ravenscrag Butte sections (Saskatchewan, Canada), both hosting the Cretaceous-Paleogene boundary (K-Pg). The sections consist of clastic continental fluvial and fluvial floodplain deposits appearing as alternations of coal beds with marl and sands. Five air fall ashes have been sampled from the K-Pg boundary interval at the Frenchman River and Ravenscrag Butte sections. One air fall ash within the Ferris Coal which is associated with the K-Pg boundary has been sampled at seven different sites, two times in the Ravenscrag Butte and five times in the Frenchman River sections. The first preliminary $^{40}\text{Ar}/^{39}\text{Ar}$ and U-Pb ages integrated with new magnetostratigraphic data will be presented here.

To integrate the Canadian sections with the Zumaia (Spain) section and ODP records, we attempt to improve the existing magnetostratigraphic data of Lerbekmo et al. (1985, 1987, 1996). An ash layer north of Gubbio (Italy), 1.2 m above the K-Pg boundary has been sampled for additional correlation. Furthermore, we explored the potential of astronomical forcing in a fluvial sedimentary succession, using colour and magnetic susceptibility measurements.

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