



Progresses on Cretaceous Chronostratigraphy and status of GSSPs' definition

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A wealth of data on various aspects of Cretaceous stratigraphy had continued to be published up to now providing a continuous amelioration of the multiple stratigraphic framework that today spans most of the Cretaceous frequently in high resolution. If so, why out of the 12 stages of the Cretaceous System only three stages have a ratified GSSP plus a fourth one now waiting for ratification by the IUGS Executive Committee?

The extensive recovery of continuous pelagic successions by the DSDP-ODP projects in all oceans posed several problems of correlation with the classical sections, stratotypes included, frequently of limited exposures and affected by numerous discontinuities. In addition, the biostratigraphy of these classical sections is based on macrofossils, frequently of limited geographical distribution, that are absent in deep-sea sediments, primarily dated by calcareous plankton. To overcome such a bias, biostratigraphies have been integrated with magneto- and isotope stratigraphies. However, the "Long Magnetic Normal" prevents the calibration of the bioevents in most Upper Cretaceous, and not all the lithologies are suitable for magnetic investigations. The $\delta^{13}\text{C}$ -based major isotope events proved to be a reliable stratigraphic tool in some intervals, allowing to correlate sections from different basins and settings and to detect even minor hiatuses. The interdisciplinary approach, imperative for defining the Cretaceous chronostratigraphy, resulted in slow progresses in term of GSSP definitions. Few case studies will be presented.