

## **MILANCOVITCH CYCLICITY IN EARLY CRETACEOUS SEDIMENTS FROM THE NEUQUEN BASIN, ARGENTINA**

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MILANCOVITCH CYCLICITY IN EARLY CRETACEOUS SEDIMENTS FROM THE NEUQUEN BASIN, ARGENTINA1SAGASTI, GUILLERMINA. 1Centro de Investigaciones Geológicas UNLP-CONICETThe marl-limestone bedding couplets of the Upper Agrio Formation (Upper Hauterivian-Lower Barremian, Neuquen Basin, Argentina) were analysed by applying spectral techniques to the couplets thickness from two sections: Cienaguitas Creek and Cinta Roja. The oscillation in carbonate and clay content give rise to the marl-limestone cycles, and sets (bundles) of such cycles are characterised by a thinning upward trend denoted by the thickness variation of the marl interval. Four hierarchical rhythmicities (17.3 m; 4.7 m 5.8 m; 2.2-2.4 m and 0.7-1.0 m) were defined in the Cienaguitas Creek section, while in the Cinta Roja section there were recognised two orders of cyclicity: 3.3-3.7 m and 0.5-0.9 m. Using the thickness of the sections (133 m and 99 m respectively) and considering a 3 Ma span, the average bulk sedimentation rate (non corrected for compactation) yields a value of 44 m/Ma in the Cienaguitas Creek section and 33 m/Ma in the Cinta Roja section. The resulting periodicities (393 ka, 107-132 ka, 50-54 ka and 16-23 ka, 100-112 ka, 15-27 ka respectively) match those of Milankovitch orbital parameters. Though the Upper Agrio Formation shows a complex cyclicity, the dominant signal recorded in bedding couplets is precession (19-23 ka) and signals corresponding to obliquity (41-54 ka) and eccentricity (400 and 100 ka) are also observed.