

Carbon Isotope Record of the Precambrian-Cambrian Transition in the Anti-Atlas Mountains of Morocco

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During the Precambrian and Cambrian, the Earth's climate and environment underwent significant changes linked to the evolution of the biosphere and biogeochemical carbon cycle. The end-Ediacaran extinction, for example, coincided with the second largest negative $\delta^{13}\text{C}$ excursion in Earth's history.

Our study area is in the Ighrem Inlier, Anti-Atlas, Morocco. The sedimentary succession in this area consists of a series of different lithologies with the Ediacaran to Paleozoic ages. The oldest unit is the late Ediacaran to Lower Cambrian Taroudant Group, which is subdivided into the lower Adoudou and upper Lie de Vin formations. The Adoudou Formation has been formally subdivided into two members [2], the Tabia Member (previously called "Série de Base" [1]), consisting of volcanoclastic, siliciclastic and carbonate deposits with local peperite occurrences, and the upper carbonate unit, the Tifnout Member (previously known as "Calcaires inférieurs" [1]), overlying several ashbed levels. The Lie de Vin (previously called as "Taliwinian") Formation consists of purple-red pelites interlayered with carbonate beds.

A chemostratigraphic study has been initiated on the Adoudou Formation carbonate units. Our preliminary carbon and oxygen isotope results show an oscillating, but generally negative carbon isotope trend with oxygen isotope values supporting primary, seawater signature consistent with previously reported data [2]. Further, our section contains the late Ediacaran calcifying metazoans such as *Namacalathus* and probable sponge spicules as well as tubular small shelly fossils in the Tabia Member carbonate intervals.