



## **Hiatuses and changes in clastic versus carbonate facies in Holocene riverine tufa deposits from the Iberian Range (Spain)**

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Calcareous tufa deposits are a type of terrestrial limestone formed by the precipitation of carbonate minerals in water bodies at ambient temperature. They represent an outstanding record of continental paleo-environmental information, as their frequent presence during interglacial periods of the European geological record is the result of warmer and more humid climatic conditions -. These climate phases favoured the development of forest vegetation in contrast to the steppe biome, rather predominant during glacial/stadial times. Commonly tufa deposits are selected to conduct detailed paleoclimatic reconstructions, using multiproxy approaches with: malacological and pollen spectra, trace elements, and  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  of calcite. Additionally, they can preserve a better record of the erosion episodes in relation to other fluvial sediments, constituting a type of non-continuous sedimentary archive. We document here the existence of ten previously-unknown Holocene tufa riverine deposits belonging to a wide area in the central and eastern Iberian Range (Spain). In order to establish their stratigraphy and chronology, these have been dated by means of the aminoacid racemization method, applied on ostracod valves extracted from carbonate facies. Geomorphologic, sedimentologic, and chronologic surveys have been carried out, having as a result a database that will be provided with the aim to compare its sedimentary environments and the synchrony of regional sedimentation and erosion. The evolution of these tufa sequences is described with special attention to the transitions between different sedimentary phases from carbonates to clastic. Climate drivers, rather than other plausible triggering factors such as tectonics, are considered the responsables of the tufa “erosion episodes” and the transitions between facies. The successive dissection episodes generally took place in the spotted area during transition climate conditions, from the relatively wet early Holocene to the more arid late Holocene.