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# Human-Environment interactions in Northern Greece since the Early Bronze Age: Rapid Climate Changes and social dynamics consequences onto Mediterranean landscapes. A palaeoenvironmental and multiscalar approach.

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## Résumé

The research conducted in the southern part of lower Strymon Valley in Northern Greece show up to 15 m of fluvio-lacustrine deposits for the last 5 millennia. Two terrestrial cores, located into a favorable and regional context to palaeoenvironmental records, between the Tenaghi-Philippon former marsh, 50 km to the east, the Ohrid or Prespa Lake, 250 km to the west, and the Dojran Lake, 100 km to the northeast, were carried out. Precisely, the two cores spaced from 2 km each other, are situated on the riverbank of two contemporary large river systems (Strymon and Angitis) into the former Achinos Lake. These cores drilling also take place close to marine cores, 100 km from the M2 and 130 km from the SL152, which constituted key references for the Eastern Mediterranean Basin.

These sedimentary archives describing the interval between 3000 to 400 cal BC (Early Bronze Age-Antiquity in this region) and the regional archaeological knowledge offer a significant potential for high-resolution palaeoenvironmental studies. The reconstruction of environmental changes is based on cores with respectively 17 and 10 consistent AMS. Multi-proxy sedimentological (size particle analysis, LOI, Carbonate content, electrical resistivity tomography and magnetic susceptibility) as pollen and non-pollen palynomorphs analyses have been conducted. Palaeobotanical proxy gives an overview of climate variability in the Eastern Mediterranean and Balkans regions and particularly for some Rapid Climate Change episodes (around 2200 cal BC, 1600 cal BC and 800 cal BC) and thereafter a comprehensive view of anthropogenic responses and impacts on the vegetation cover.

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This case study highlights the interest to (1) combine geomorphological data with palynological evidence and multiscale approach to develop discussion on the Climate/environment/Society interactions particularly around the aforementioned climatic events and their extent impacts to compare with other regional records. (2) It points out the necessity to assess the effects of specific farming and herding practices as of the Climate Change on the dynamics of mosaic landscapes in Mediterranean areas. This long term analysis about landscape dynamics provides (3) new data in order to discuss the timing of the anthropogenic impact and (4) food for thought to fill the archaeological shortcoming for this period, guiding the future investigations.

**Mots-Clés:** Palynology, geomorphology, sedimentary archives, mediterranean landscape, rapid climatic changes, social dynamics, multiscale approach