

# 45000 YEARS OF KORNATI ISLANDS' CLIMATE CHANGE – PALYNOLOGICAL AND GEOCHEMICAL INVESTIGATION

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The Kornati islands is an archipelago of 150 karst islands, isles and rocks scattered in a 320 km<sup>2</sup> area, making it the densest of its kind in the Mediterranean Sea [1]. Its specific morphological setting that consists of barrier seamounts and sills along a fault line makes this area a good candidate for studying Late Quaternary paleoenvironmental changes in relation to sea-level variability. This aspect led to the formation of different environments from lacustrine to marine during the Quaternary glacial-interglacial cycles. In addition, the islands current sparse vegetation is due to anthropogenic influence that has been present since Neolithic. The vegetational dynamics offers a unique insight into islands' climate change driven by human population. The project titled QMAD - Sediments between source and sink during a Late Quaternary eustatic cycle: The Krka river and the Mid Adriatic Deep (MAD) System, funded by the Croatian Science Foundation, is studying the paleoenvironmental evolution of the area from the Lake Prokljan in the Krka River estuary to MAD. A variety of climate and environmental proxy data will be obtained that will shed a new light onto the Late Quaternary submerged landscapes and their impact on human migration along the eastern Adriatic coast. The Kornati Channel has been extensively studied during the project as well. During several field campaigns, detailed high resolution bathymetric and backscatter maps were obtained together with high resolution seismic profiles with a total length of 96.5 km. Seven sediment cores were drilled. Two sediment cores (KOR-1a and KOR-5) were sampled with extensive geochemical analyses underway. Palynofacies analysis, <sup>14</sup>C dating and magnetic susceptibility measurements have been completed so far. Sediment samples are being analyzed for grain size, total and organic carbon and nitrogen concentrations. A multiproxy based research provides a more complete overview of the intricate relations that shaped the studied area fostering a better response for future climate change.

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## REFERENCES

[1] V. Skračić, *Kornati*, Forum, Zadar, 2003, 1-80.