

## **Ancient sea-level reconstruction inferred by GIS database of fish tanks along the Tyre coastline of Lebanon**

*Jean-Philippe Goiran<sup>1</sup>, Stoil Chapkanski<sup>1</sup> and Emmanuelle Regagnon<sup>1</sup>*

*<sup>1</sup> Centre National de la Recherche Scientifique (CNRS), Archéorient, UMR 5133, Maison de l'Orient et de la Méditerranée, Université de Lyon, 7 rue Raulin, 69007 Lyon, France*

Below is an abstract from the 2018-2019 Post-Fieldwork Report, the full report will be available soon.

“Circum-Mediterranean” human occupation during Antiquity has left a rich heritage of archaeological structures along the coastline. Tight relationships between sea-level and coastal structures elevation at the time of construction (especially fish tanks) allow accurate tracking of sea-level variations through time. Building upon field work conducted by Pierre-Louis Gatier and Jean-Baptiste Yon (Mission archéologique de Tyr, HiSoMA, Maison de l'Orient et de La Méditerranée, CNRS-Université de Lyon) and founded by the Honor Frost Foundation, this study aims to reevaluate the former relative sea-level rise (RSL), based on the archaeological coastal structures along the coastline near Tyre. To do this, a multidisciplinary approach involving archaeological, chronological and topographic investigations was performed. The expected results should provide new estimates of the former RSL along the Tyre coastline where the absence of accurate indicators does not allow the establishment of a precise sea-level curve. Provision of a new and reliable estimation of ancient sea-level will have a major impact on the scientific community, permitting new archaeological interpretations as well as a better understanding of landscape history and anthropogenic impact on coastal shaping. The new data can contribute to a broader reassessment of the archaeology of the region permitting to determine new steps for maritime archaeological excavations along the coastline of Tyre. Beyond the scientific purposes, this project will contribute to the valorisation of Lebanese cultural and historical heritage.

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A paper on the project is now in press, the reference is - Jean-Philippe GOIRAN, Stoil CHAPKANSKI, Emmanuelle RÉGAGNON, Kosmas PAVLOPOULOS, Eric FOUACHE, 2019, "Preliminary results of rock-cut fish tanks evidence along the Tyre coast of Lebanon. Implication for ancient sea-level reconstruction", *BAAL (Bulletin d'Archéologie et d'Architecture Libanaises)*, n°19, pp. 259–266



Fig1. Southern fish tank of Tyre during high tide



Fig 2. Southern fish tank of Tyre during low tide