

Preliminary results of rock-cut fish tanks evidence along the Tyre coast of Lebanon. Implication for ancient sea-level reconstruction.

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Human occupation in “*circum-Mediterranean*” during antiquity has left a rich heritage of archaeological structures along the coastline. Due to a precise relationship between their elevation and the past sea-level at the time of construction these coastline structures, especially fish tanks, are accurate indicators for sea-level variations through time. This study aims to revalue the former relative sea-level (RSL) rise, inferred from three recently discovered fish tanks located along the Tyre coastline. The first archaeological and chronological interpretations suggest at the latest to Roman or Byzantine times as presumable period of construction when such coastal structures were popular. The former sea-level has been obtained measuring the functional elevation of V-shape channels carved into the bedrock to insure the water exchange. Therefore, we provide a new hypothesis for the RSL rise of +0.2 m along the Tyre coastline. Accordingly of these estimations, only tectonic stability or uplift can be considered since the fish tank construction. This assumption disagrees with previous studies led in the area of Tyre suggesting a former RSL rise of + 2m to +3.5m since ancient times. These previous interpretations were based on 3 m subsidence of the Tyre during the late Roman period but 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 in the study area 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.