



## **Historic sealevel variations in Caesarea, coastal Israel: climate changes during the I – XIII Centuries**

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Geodetic measurements of a Roman aqueduct in Caesarea, on the Mediterranean coast of central Israel, show that the massive structure preserved its original gradient of 0.05% in places where it was founded on rock, suggesting that that domain has been tectonically stable for the last two millennia. Consequently, since the land was stable, dated archaeological sealevel proxies that recorded their contemporaneous sealevels when the city was active, reflect global sealevel and their variations. The evidence suggests that sealevel was similar to the present some 2000 years ago, it was nearly 0.5 m higher than the present some 1300 years ago, and about 0.5 m lower nearly 800 years ago. These measurements match earlier climatological and oceanographic evidence of the early Mediaeval Warm Period and the early stages of the Little Ice Age, respectively. No sealevel evidence was encountered in Caesarea after the collapse of the Crusaders' kingdom in the late XIII Century.