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The ancient city and the rising sea. Using archaeogeosites to convey climate awareness.

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The interaction between human societies and the physical landscape is deep and widespread since the dawn of civilisation. The development of different cultures always had to take into account their physical and geological surrounding, in order to adapt to their features and exploit them in the most efficient fashion. Cultural and geological heritage are therefore often tightly linked in a relationship enhancing the meaning of both to society in many ways. Tapping into these cultural archives can provide a useful way of communicating geoheritage to the wider public through the history of human-landscape interactions. Such landmarks would effectively act as witnesses of Earth history from a human point of view and become beneficial in spreading knowledge about past and current geological processes such as climate change. With the help of archaeogeosites, integrated reconstructions where the geological and geomorphological evidence with the elements of archaeological heritage could provide an effective way of communicating to the larger public sea level dynamics at a longer scale and the effects of climate change in the present and near future.

As a case study, the late ancient city of Nora is particularly effective. Located in southwestern Sardinia (Italy), it was a seaport of great importance during the Punic and Roman periods. Its surrounding landscape is deeply influenced by the marine transgression happening since the Last Glacial Maximum. Along the coast, many landforms and stratigraphic sequences bear evidence of sea level fluctuations and the related changes in the landscape revealing the larger context in which the city was developed. Beach deposits dated to MIS5 are buried by fluvial deposits and soils indicating a much lower sea level during later stadial periods. Since the passage to the Holocene the area, dominated by fluvial and slope dynamics, is interested by the progressive rise of the coastline and the consequent land loss. The city itself was not spared from this process. While its strategic coastal position was instrumental in its rise to prominence, the exposure to a rising sea level had a great impact on its history, both during its development and later as an abandoned settlement and an archaeological site. Several human structures possibly show the necessity of shielding against a progressively more damaging wave action.