

Climate change may have toppled Hittite Empire: study

February 12 2023, by Juliette Collen



A sculpture from the Hittite Empire, which suddenly crumbled around 1200 BC during the 'Late Bronze Age collapse'

Three years of extreme drought may have brought about the collapse of the mighty Hittite Empire around 1200 BC, researchers have said,

linking the plight of the fallen civilization to the modern world's climate crisis.

The Hittites dominated Anatolia in modern-day Turkey for nearly 500 years, even rivaling the power of the Egyptian Empire for a period.

They were one of several influential ancient civilizations in the Eastern Mediterranean and Near East which were all toppled or severely weakened at around the same time, bringing the curtain down on the Bronze Age.

The Hittites mysteriously abandoned their capital and religious center Hattusa around 1200 BC, when the royal line died out and written [historical documents](#) dried up.

The empire's centuries-old political and cultural structures ended "quite rapidly," Sturt Manning, an archaeologist at Cornell University in the United States and lead author of a new study, told AFP.

There are several theories for what was behind the "Late Bronze Age collapse", including attacks from naval raiders called the "Sea Peoples", epidemics and famines—as well as a 300-year change to a drier, cooler climate.

But exactly what triggered the demise of these empires has remained unclear.

'Existential threat'

Now, for the Hittites at least, the answer may have come inscribed in the rings of ancient juniper wood.



A dam built by the Hittites, whose power rivalled the Egyptian Empire before mysteriously collapsing.

The juniper comes from one of the world's oldest wooden structures, found at the Phrygian capital of Gordion in central Turkey as part of the excavation of a king's tomb in the 1950s.

By analyzing the rings of the juniper wood, the researchers were able to reconstruct climate conditions more than 3,000 years ago.

In semi-arid Central Anatolia, "the major threat to growth for most plants in the region is a lack of water," Manning said.

Narrower tree rings indicate drier years, when a lack of water meant the trees did not grow much.

The rings showed three-straight years—1198 BC to 1196 BC—with "unusually" low growth, suggesting a prolonged and particularly [severe drought](#), according to the study published in the journal *Nature* on Wednesday.

The researchers suggested that the drought caused severe food shortages, particularly for the land-locked parts of the central Hittite kingdom, which depended on grain and livestock.

The food shortages could have led to political, economic and social unrest, ultimately bringing about the end of the empire.

Manning warned that current global warming means the [modern world](#) could face a "multi-year [existential threat](#)" similar to the one that affected the Hittites.

Muge Durusu-Tanriover, an archaeologist at Temple University in Philadelphia who was not involved in the study, hailed it as "groundbreaking".

"Now that we know a major climate event might have tipped the Hittite empire beyond its point of no return, there are more questions to ask about [climate](#) change, its impact on states and society and, most crucially, what can be learnt from the past during our current [climate crisis](#)," she said in a *Nature* comment piece.

More information: Sturt Manning, Severe multi-year drought coincident with Hittite collapse around 1198–1196 bc, *Nature* (2023). [DOI: 10.1038/s41586-022-05693-y](https://doi.org/10.1038/s41586-022-05693-y).
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