

# An earlier changing climate: Humans had to adapt in ancient warming world

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Photo: Kris Snibbe

(PhysOrg.com) -- Human societies in Europe at the end of the last ice age expanded north across a harsh but changing environment, as glaciers melted and the world got warmer and more humid.

Humans living at the end of the last ice age endured their own version of [climate change](#), one where a harsh, bitterly cold Europe gradually warmed to become the forested continent that exists today.

Lawrence Straus, Distinguished Professor of Anthropology at the University of New Mexico, described life for people of the Magdalenian culture, who in many ways were like us, but endured the difficult living conditions of the Upper Paleolithic, which stretched to 10,000 years ago.

Straus, who on Thursday (March 11) delivered the annual Hallam L. Movius Jr. Lecture, sponsored by the Peabody Museum of Archaeology and Ethnology, said humans had nearly been pushed out of Europe by the time of the last glacial maximum, 20,000 years ago, when the enormous sheets of ice had pushed furthest south.

At that time, people were clustered along the coast of the [Iberian Peninsula](#), which today contains Spain and Portugal. They were likely living away from the modern coast, he said, because the sea level was 425 feet lower than now. Some residential sites undoubtedly exist along now-drowned riverbanks and coastlines under today's [Mediterranean Sea](#).

It was a time of enormous environmental stress, Straus said, when [glaciers](#) not only chilled the world, they bound up moisture, resulting in a “polar desert,” barren and treeless, across much of Europe that was not covered in ice.

But as the world slowly warmed, the Magdalenian people expanded northward and away from the coast into the peninsula's mountains, where they hunted ibex. As they made their way into France and further northwest across Europe to the Vistula River, they hunted the abundant reindeer and horse herds, as well as bison and red deer. They caught rabbits by the hundreds in large drives, likely using nets, and developed harpoon tips to spear the day's enormous salmon and other fish. During hard times, they consumed shellfish.

“This was a world of re-expansion. It was a world in which humans are on the rebound after a very severe crisis during the last [ice age](#),” Straus said.

In such a harsh environment, Straus said, shelter was a constant concern. People would march deliberately across open areas, fearful of getting

caught in a storm, and settled in caves across the region. They were not only hunters, but artists, creating cave drawings in wide caverns that were likely public gathering places, and in deeper, hidden areas that may have been for specific rituals. They crafted statues, baskets, and elaborately decorated clothing. They conducted rituals, played music on bone flutes, and created many kinds of blades for their weapons. They even engaged in construction, paving areas that might become muddy, and may have built stonewalls.

Because stone is so durable and scientists can trace its origin, it provides a particularly good way to track the travels of the Magdalenian people, Straus said. What stones — which were used for weapon points and other artifacts — tell researchers is that they were a people who tended to stay in a set range, but who had contact and trade with nearby groups.

The further north people journeyed, he said, the more they traveled to find game, and the more critical it was that they maintain ties with groups to the south, since it was harder to eke out a living on the harsher landscape.

Ironically, as that landscape became less harsh and forests gradually pushed north, Straus said, the richness of the culture seems to have dissipated as environmental changes gathered steam and [people](#) were forced to learn new ways to survive, and new patterns of their prey's travel and behavior.

“It was a world in very rapid evolution,” Straus said.

Provided by Harvard University

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