

Scientific & Digital Briefs

By Shopper Editor Dave Bunting

Dec. 27, 2022



22,000 year-old human footprints at White Sands National Park, New Mexico

Image: Matthew Bennett/Bournemouth University

From Aeon magazine, by [Jennifer Raff](#), University of Kansas.

Who were the first Americans?

The debate over how people first arrived in the Western Hemisphere continues to roil archaeology in the United States – and to capture public attention. Today, the scientific community is contending with significant amounts of new genetic and archaeological data, and it can be overwhelming and even contradictory. These data are coming from new archaeological excavations but also from the application of newly developed tools to re-analyse prior sites and artefacts. They're coming from newly sequenced genomes from ancient peoples and their contemporary descendants, but also from re-analysis of prior sequence data using new modelling tools. The generation of new data at times feels as though it's outpacing efforts to integrate it into coherent and testable models.

Did humans first populate the Americas 100,000 years ago, 30,000 years ago, 15,000 years ago, or 13,000 years ago? Did they come by boat or by an overland route? Were the ancestors of Native Americans from one population or several? The answers to these questions would help us understand the grand story of human evolution. We [know](#) that the Americas were the last continents that anatomically modern *Homo sapiens* – humans like us – entered, but we don't know exactly how this happened. These long-ago movements give us hints about the challenges ancient peoples across the world had to contend with during the Last Glacial Maximum (LGM), a prolonged period of coldness and aridity, when animals, plants and humans retreated to environmental 'refugia' for several thousand years. How did we survive this Ice Age? What technological and biological adaptations arose as the result of these environmental conditions? These questions capture the popular imagination and challenge the scientists working to uncover the details of individual lives thousands of years in the past.

To their Indigenous descendants, the stories we tell about these First Peoples of the Americas are highly relevant for additional reasons. Their deep ties and claims to the lands have often been ignored or expunged by governments, media and corporations across North and South America in order to make room for narratives that are more palatable, exciting or convenient to certain non-Native groups. The historical exclusion of Indigenous peoples from making decisions about research on their own ancestors and lands has caused significant harms to Native communities and individuals; when Native scientists and community members are full participants in the [research](#) process, the stories that emerge are not only more respectful but also more [accurate](#). Native scientists' research was included here.

As a rule, an archaeological site won't gain widespread acceptance as legitimate unless there is clear evidence of human activity, that evidence can be securely dated, and it is found in an undisturbed geological context. For example, a hearth containing

the remains of charred animal bone fragments and stone tool fragments at the Dry Creek site in Eastern Beringia (near the present-day Denali National Park in Alaska) was [dated](#) to 13,485–13,365 years ago from wood charcoal pieces taken from within the hearth. The stone tools – resharpened blades, flakes, end scrapers, and the byproducts of manufacturing them – and repeated controlled fires used to cook animal bones clearly indicate a human presence. The intact stratigraphy and multiple independent radiocarbon dates from the hearth tell us when people were using this particular part of the site. To archaeologists, this is uncontroversial. In contrast to the Dry Creek site, there is no consensus that the very early sites discussed above have met that standard; critics argue that the stone 'artefacts' and 'butchering' marks could be the result of natural phenomena (or even, in some cases, left by modern construction equipment). There simply hasn't been any uncontroversial physical evidence of a human presence in the Americas more than 15,500 years ago.

Then, in 2021, a team of archaeologists dropped a bombshell into this debate: they'd found footprints – unquestionable evidence of a human presence – at White Sands National Park in New Mexico, [dating](#) to between 23,000–21,000 years ago.

The White Sands Locality 2 site was once the shore of an ancient lake. For more than 2,000 years, humans and animals visited it. As they walked along the muddy surface, their feet mashed tiny seeds of ditch grass into the ground, leaving a vital organic trace that archaeologists can use for carbon dating. (Some archaeologists have criticised the dating methods used, but there is general agreement that the presence of human tracks with fauna known to have gone extinct around 11,000 years ago dates these to – at minimum – the end of the Pleistocene which ended 12,700 years ago.) If the find holds up to scrutiny, physical evidence of a human presence in the Americas during the LGM would be a paradigm-changing event, pushing back the date of the earliest migrations to sometime before 25,000 years ago.

The White Sands Locality 2 site was once the shore of an ancient lake. For more than 2,000 years, humans and animals visited it. As they walked along the muddy surface, their feet mashed tiny seeds of ditch grass into the ground, leaving a vital organic trace that archaeologists can use for carbon dating. (Some archaeologists have criticised the dating methods used, but there is general agreement that the presence of human tracks with fauna known to have gone extinct around 11,000 years ago dates these to – at minimum – the end of the Pleistocene.) If the find holds up to scrutiny, physical evidence of a human presence in the Americas during the LGM would be a paradigm-changing event, pushing back the date of the earliest migrations to sometime before 25,000 years ago.

When European settlers and explorers first encountered the Native peoples of the Americas, they sought to force the fact of the Native people's existence into a Biblical worldview. The First Peoples, who built the impressive earthworks, monuments, temples and pyramids throughout the Americas, were recast as members of a lost tribe of Israelites, Irish sailors, or possibly [Vikings](#), for the ideological convenience of settlers.

By the end of the 19th century, the US government funded an investigation of mounds throughout North America to identify their creators. The evidence persuaded researchers that the mounds were built by the ancestors of contemporary Indigenous Americans, not some mysterious, lost race. The resulting *Twelfth Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution* (1890–91) marked a new era in archaeology. In time, the archaeological, cultural and biological [evidence](#) all pointed to shared ancestry with Asians, [suggesting](#) that the ancestors of Native Americans came to the continents via a land bridge between Siberia and Alaska.

The question of when did this migration begin remained. Poorly understood geological and cultural chronologies made it a difficult matter to address.

To get the answer as it is known now, you readers are strongly encouraged to read the entire article by clicking the title, "[Who were the first Americans.](#)"

Dave Bunting, Jan. 3, 2023 Credits are in links behind item titles.

Want a challenge? Listen to C.S. Lewis' "[Mere Christianity](#)"

See these columns on my blog [daverant.com](#)

