

# Humans were changing the planet earlier than we knew

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Hadrian's Wall in England's north was built nearly 2000 years ago. Credit: Lucas Stephens

Humans had caused significant landcover change on Earth up to 4,000 years earlier than previously thought, University of Queensland researchers have found.

The School of Social Sciences' Dr. Andrea Kay said some scientists

defined the Anthropocene as starting in the 20th century, but the new research showed human-induced landcover change was globally extensive by 2000BC.

The Anthropocene—the current geological age—is viewed as the period in which [human activity](#) has been the dominant influence on Earth's climate and environment.

"The activities of farmers, pastoralists and [hunter-gatherers](#) had significantly changed the planet four millennia ago," Dr. Kay said.

The ArchaeoGLOBE project used an [online survey](#) to gather land-use estimates over the past 10,000 years from archaeologists with regional expertise.

"The modern rate and scale of anthropogenic global change is far greater than those of the deep past, but the long-term cumulative changes that early food producers wrought on Earth are greater than many people realize," Dr. Kay said.

"Even small-scale, shifting agriculture can cause significant change when considered at large scales and over long time-periods."



Rice terraces in Bali ... farmers have been altering the Earth's surface for thousands of years. Credit: Andrea Kay

Fellow researcher Dr. Nicole Boivin said the innovative crowdsourcing-from-experts approach to pooling archaeological data had provided the project with a unique perspective.

"Archaeologists possess critical datasets for assessing long-term human impacts to the [natural world](#), but these remain largely untapped in terms of global-scale assessments," Dr. Boivin said.

Another researcher on the team, Dr. Alison Crowther, said the study could help plan for future climate scenarios.

"This research and the [collaborative approach](#) we used means we can better understand early land use as a driver of long-term global environmental changes across the Earth's system," Dr. Crowther said.

**More information:** ArchaeoGLOBE project:  
[globe.umbc.edu/archaeoglobe/](http://globe.umbc.edu/archaeoglobe/)

Provided by University of Queensland

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