

Advertisement

FEEL GIFTED
Discover more this holiday season.
Give as a gift and save up to 73%
SUBSCRIBE NOW >

New Scientist
Give Smarter

Reinventing Energy Summit: Meet the people shaping the future of energy - 25 November in London
[Access Site](#)

[Home](#) | [News](#) | [Earth](#) | [Humans](#)

Cookies on New Scientist

Our website uses cookies, which are small text files that are widely used in order to make websites work more effectively. To continue using our website and consent to the use of cookies, click away from this box or click 'Close'

[Find out more about our cookies and how to change them](#)

Close

Race to save hidden treasures under threat from climate change

Advertisement



Ancient human treasures face threat of being eroded away at sites such as Walakpa Bay, Alaska
Courtesy of Anne Jensen

By Aisling Irwin

Thousands of ancient treasures that have been unearthed by climate change could soon be lost to humankind forever, as they are eroded by weathering and eaten by pests. The crisis is so extreme that some archaeologists are urging colleagues to abandon their current field

sites and focus instead on these newly exposed relics before they vanish.

Rising seas, raging storms, melting ice and forest fires are revealing artefacts that have much to tell us about our history on Earth – from sunken shipwrecks in Svalbard to the ancient waste dumps filled with bones, shoes and carvings emerging all over the Arctic and further south, including in Scotland.

“This material is like the library of Alexandria. It is incredibly valuable and it’s on fire now,” [George Hambrecht](#), an anthropologist at the University of Maryland, College Park, told *New Scientist* at the Anthropology, Weather and Climate Change conference held in London last month.

Window on time

“Archaeology provides the longest record of humans on Earth,” said Robert Kelly, an anthropologist at the University of Wyoming, Laramie, at the meeting. “These sites matter because they contribute to understanding how ancient societies coped with climate change.”

Recent scientific techniques can extract immense detail from old artefacts about the lives, economies and environments of ancient peoples. For example, [analysing chemical isotopes of dental plaque](#) can reveal an individual’s diet and where they travelled. And sequencing [ancient DNA](#) can uncover the genetic histories of crops and livestock – information that could show us how to help the species we rely on to adapt to climate change.

“The archive is being destroyed just as we are able to read it,” says [Thomas McGovern](#), an archaeologist at the City University of New York.

Crumbling histories

McGovern gives the example of Walakpa Bay in northern Alaska, where a frozen collection of artefacts spanning 4000 years of history of the native [Alaskan Iñupiat](#) people is thawing, its contents crumbling into the sea.

A single storm in 2014 washed away half the site. Now, a 3000-year-old stash of stored meat, including a frozen walrus, has emerged and archaeologists are [racing to retrieve it on a shoestring budget](#). Isotope studies of lead in the walrus’s teeth could, for example, reveal its diet and foraging routes, and help build a detailed picture of the ecosystem that existed at the time.

The ability to track ancient animals' distributions has only started in the past year, says McGovern. Such studies are providing ancient baseline data that can help us better understand creatures that are economically important today, [such as cod](#), and how they lived before Earth's habitats were hugely affected by human activities.

Hundreds of shipwrecks

In Norway's Svalbard archipelago, receding sea ice has meanwhile opened up inaccessible areas.

This has helped [Øyvind Ødegård](#), a marine archaeologist at the Norwegian University of Science and Technology in Trondheim, to start investigating an estimated 1000 shipwrecks that date from 1596 to the mid-20th century. Ødegård has been working with engineers to build an autonomous robot to probe these wrecks, only one of which has ever been examined before.

In January, however, he was alarmed when they pulled a piece of driftwood out of Rijpfjorden Bay. It was infested with what he thinks is shipworm (*Teredo navalis*), a mollusc that is voracious in its consumption of wood but was thought to be absent from such cold waters.

"We don't know if this is climate-related," he says. "It's kind of a race now because if the shipworm is suddenly present due to climate change, it is a new threat to the cultural heritage on the seabed. It would be a complete disaster if we came too late."

Inland troves

A similar archaeological bonanza is emerging inland from thawing mountain-ice patches. Unlike glaciers, which pulverise their contents as they flow, ice patches are static. This means that artefacts, often dropped by hunters over thousands of years, are better preserved in them.

[Brit Solli](#), an archaeologist at the Museum of Cultural History in Oslo, Norway, told the conference about ice patches that are receding fast in the mountains of central Norway. At one patch on Norway's highest mountain, Galdhøpiggen, she said, hundreds of artefacts have been found: "It goes on melting and additional objects are coming out".

Researchers have found numerous "scare sticks" – slender posts with flags on top to help hunters direct reindeer. They have also found arrows and horse dung, in addition to earlier

finds, including a 1300-year-old ski and a 1700-year-old woollen tunic.

Race against time

Some archaeologists are calling upon their peers to postpone their work on better-preserved sites and focus on such disappearing treasures before it is too late.

Efforts are under way to collaborate on retrieving as much of the material as possible and storing it in warehouses to be studied by, as McGovern puts it, “PhD students who are not yet born”.

“We should concentrate our efforts in the places where we are losing the evidence,” says [Tom Dawson](#), an archaeologist at the University of St Andrews, UK, who has fought to save thousands of crumbling sites along the coasts of Scotland. “It’s a no-brainer.”

Read more: [Defrosting history: Lost lives thaw from glaciers](#)

More on these topics:

archaeology

climate change

environment

A shorter version of this article was published in *New Scientist* magazine on 25 June 2016



DOWNLOAD

BUY IN PRINT

SUBSCRIBE

Advertisement



MORE FROM NEW SCIENTIST



This is why Apple got rid of the headphone jack on the iPhone 7



One idea explains all the weird coincidences in the universe



How much water should you drink a day? Your throat will tell you



Mice fall for rubber hand illusion just like us

PROMOTED STORIES



These 18 Items Found On Earth Cannot Be
(CyberBreeze)



19 of The Weirdest Animal Sounds Ever
(Animal Mozo)



What One Longevity Scientist Discovered
(Scientific American)



Only 1 in 10 People Can Name All These
(Offbeat)

Recommended by  **Outbrain**

Sign up to our newsletter

Enter your email address to get started

JOIN

[Contact us](#)

[FAQ](#)

[About us](#)

[Who's who](#)

[Advertise with us](#)

[Advertise jobs with us](#)

[Privacy and terms](#)

[Write for us](#)

[Science jobs](#)

[Dating](#)

[Shop](#)

[RSS feeds](#)

[Syndication information](#)

[Events](#)

[Travel](#)

[Subscribe](#)

[Account settings](#)

[Gift subscriptions](#)

[Student subscriptions](#)

[Educational subscriptions](#)

[Corporate subscriptions](#)



 RELX Group™

© Copyright Reed Business Information Ltd.

[Back to top](#)



