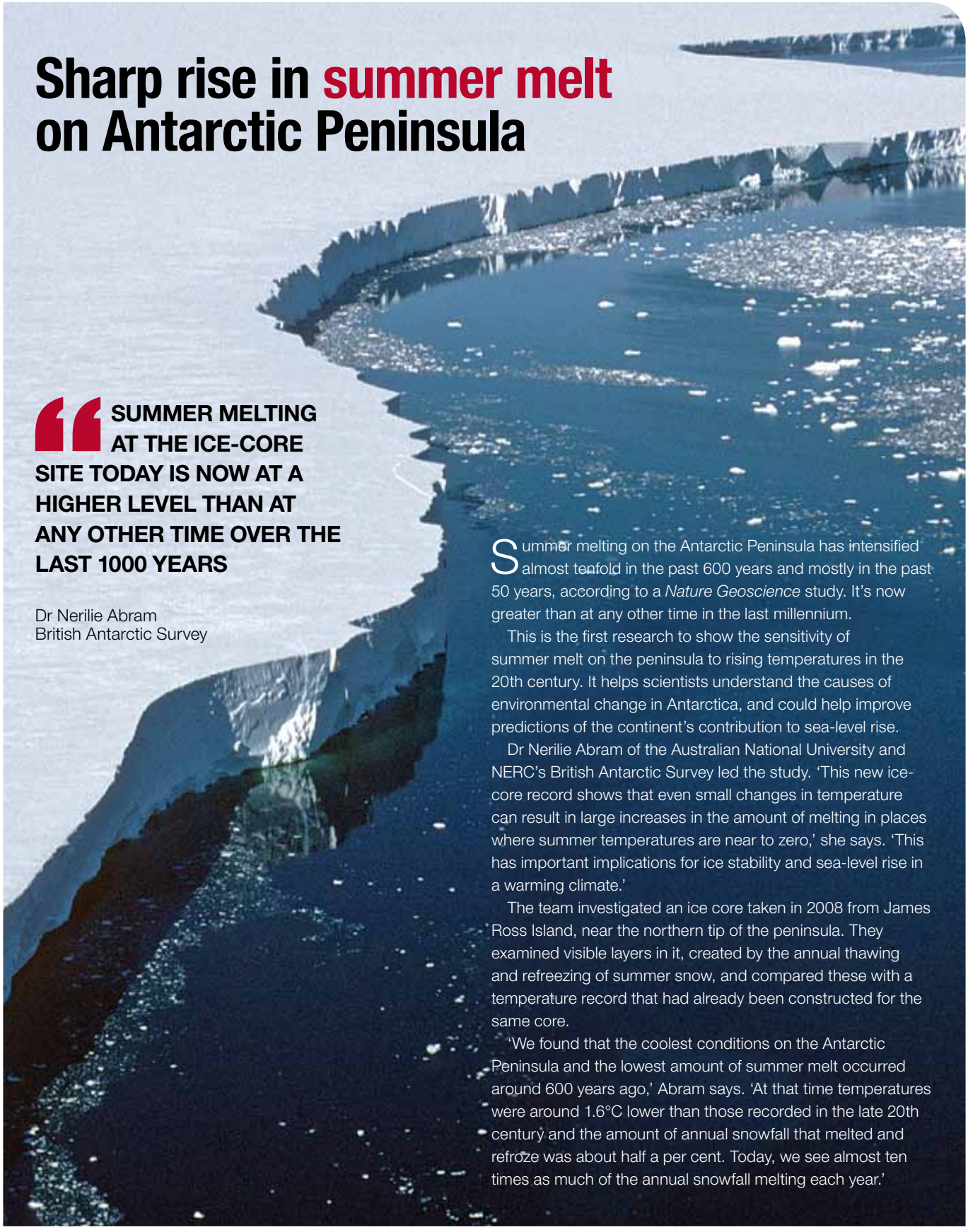
News

Sharp rise in summer melt on Antarctic Peninsula



"SUMMER MELTING AT THE ICE-CORE SITE TODAY IS NOW AT A HIGHER LEVEL THAN AT ANY OTHER TIME OVER THE LAST 1000 YEARS

Dr Nerilie Abram
British Antarctic Survey

Summer melting on the Antarctic Peninsula has intensified almost tenfold in the past 600 years and mostly in the past 50 years, according to a *Nature Geoscience* study. It's now greater than at any other time in the last millennium.

This is the first research to show the sensitivity of summer melt on the peninsula to rising temperatures in the 20th century. It helps scientists understand the causes of environmental change in Antarctica, and could help improve predictions of the continent's contribution to sea-level rise.

Dr Nerilie Abram of the Australian National University and NERC's British Antarctic Survey led the study. 'This new ice-core record shows that even small changes in temperature can result in large increases in the amount of melting in places where summer temperatures are near to zero,' she says. 'This has important implications for ice stability and sea-level rise in a warming climate.'

The team investigated an ice core taken in 2008 from James Ross Island, near the northern tip of the peninsula. They examined visible layers in it, created by the annual thawing and refreezing of summer snow, and compared these with a temperature record that had already been constructed for the same core.

'We found that the coolest conditions on the Antarctic Peninsula and the lowest amount of summer melt occurred around 600 years ago,' Abram says. 'At that time temperatures were around 1.6°C lower than those recorded in the late 20th century and the amount of annual snowfall that melted and refroze was about half a per cent. Today, we see almost ten times as much of the annual snowfall melting each year.'