

Antarctica: Research at the Polar Extremes

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Antarctic ice sheet retreat is projected to cause global sea-level to rise tens of meters over the next few decades. To understand how ice sheets will change in the future, we need to understand how these have changed in the past, and the climate conditions that contributed to this. Over the last two years, together with a team of international polar scientists, we collected an exceptional dataset that provides new evidence for past and modern-day ice sheet sensitivity to climate change around Antarctica. This data includes a range of marine geophysical data of the seafloor and sub-seafloor that uncover huge submarine canyons and channel systems. Data also includes a range of oceanographic measurements used to map the ocean heat distribution, shallow sediment cores to understand the recent geological history, and this year, using the scientific drill ship JOIDES Resolution, we collected sediment cores >1 km beneath the seafloor. This data will be used to understand how the Antarctic ice sheet has changed over millions of years, and what this can tell us about future changes to come.



Jenny Gales is a research scientist and lecturer in Hydrography and Ocean Exploration at the University of Plymouth. She has worked for the British Antarctic Survey, British Geological Survey and National Oceanography Centre and has just returned from her third Antarctic research expedition to understand how and why our ice sheets are changing.