Past perspective
Alicia Newton


Periods of relative coolness or warmth in the Earth's past can be used to garner clues about future climate change. One such episode, dubbed the Medieval Warm Period, saw a spell of mild weather in Europe from the 900s through to the 1300s and was followed by a drawn-out dip in temperature known as the Little Ice Age.

Michael Mann of Pennsylvania State University and colleagues have now analysed global surface temperature over the past 1,500 years in unprecedented spatial detail. Using more than a thousand proxy records, including tree ring, ice core, cave deposit, coral and sedimentary data, they show that the climate was not globally uniform during these anomalous events. During the Medieval Warm Period, for example, southern Greenland may have been as warm as today, but a large area covering much of the tropical Pacific was unusually cold owing to the prevalence of La Niña conditions, which cause extensive cooling of the Pacific Ocean.

The researchers conclude that regional variations in past climate were largely the result of natural factors such as volcanic activity and climatic cycles. The results may help to refine regional climate model projections, they say.