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Two Volcanoes trigger Crises of the Late Antiquity International team of climate researchers reconstructs global cooling in the reign of emperor Justinian

19 April 2016/Kiel . **Contemporary chronicles, archaeological studies and physical evidence all point to severe climatic changes and ensuing social crises in the middle of the 6th century. New data from ice cores suggest that these events were caused by two major volcanic eruptions. An international team led by scientists at the GEOMAR Helmholtz Centre for Ocean Research Kiel and the Centre for Earth Evolution and Dynamics at the University of Oslo have reconstructed the effects using state-of-the-art climate models. As they present now in the international journal Climatic Change and at the annual meeting of the European Geosciences Union (EGU) in Vienna, the volcanic double event was likely the strongest volcanic driver of Northern Hemisphere climate over the past one and a half millennia.**

Contemporary chroniclers wrote about a “mystery cloud” which dimmed the light of the sun above the Mediterranean in the years 536 and 537 CE. Tree rings testify poor growing conditions over the whole Northern Hemisphere – the years from 536 CE onward seem to have been overshadowed by an unusual natural phenomenon. Social crises including the first European plague pandemic beginning in 541, are associated with this phenomenon. Only recently have researchers found conclusive proof of a volcanic origin of the 536 solar dimming, based on traces of volcanic sulfur from two major eruptions newly dated to 536 CE and 540 CE in ice cores from Greenland and Antarctica.

An international team of climate scientists led by Dr. Matthew Toohey at the GEOMAR Helmholtz Centre for Ocean Research Kiel and Prof. Dr. Kirstin Krüger of the University of Oslo (UiO), with financial support from

