

Climate Sensitivity from the Silurian to the Future

PAUL J VALDES AND DAN LUNT

School of Geographical Sciences, University of
Bristol. UK
P.J.Valdes@bristol.ac.uk

Climate sensitivity is one of the most important parameters related to future climate change, and for which there are many attempts for estimating it from past climate data. However, the value of such work depends on whether climate sensitivity is constant through time. We present a large series of simulations with a version of the Hadley Centre model, HadCM3. The simulations cover warm and cold climates, ranging from the Aeronian (440Ma BP) through the Mesozoic and Cenozoic, and the Late Quaternary. The results show that climate sensitivity is not constant in time, but can vary by about 30-40% depending on the starting climate state. Some causes of this variability is related to the amount of ice in the climate system, and others causes will also be discussed.