



Human contribution to recent trends in climatic extreme indices

N. Christidis (1), P. A. Stott (1), S. Brown (1) and J. Caesar (1)

Met Office, Hadley Centre for Climate Prediction and Research, (Contact Email: nikos.christidis@metoffice.gov.uk)

Optimal fingerprinting provides a formal statistical framework that has been widely used to detect external influences on the climate and attribute them to possible causes. While many studies have focused on the mean temperature, the same methodology can also be applied to analyse changes in climatic extreme indices, which are more useful in assessing societal impacts of climate change. The warming in temperature extremes and the lengthening of the growing season provide two examples of early signal detection in the observations that will be presented here. Anthropogenic emissions of greenhouse gases are found to be necessary in order to explain the emergence of both signals. Future projections indicate a manifold intensification of the signals during the 21st century.