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Reconstruction of El Niño Southern Oscillation using data from ships' logbooks, 1750-1855

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The logbooks from ships which historically travelled the World's oceans contain a vast amount of meteorological information useful for studies of historical climate. They provide daily, marine-based weather observations from the pre-instrumental era. The Climatological Database for the World's Oceans (CLIWOC) and digitised English East India Company (EEIC) logbooks have been used to investigate the climate during the period 1750-1855. A statistical-based reconstruction of El Niño Southern Oscillation (ENSO) has been carried out using these databases, focusing on observations from the Indo-Pacific region. The coherency between previous ENSO reconstructions and this new, logbook ENSO reconstruction has been assessed. By uncovering the potential uses of ships' logbook data, and establishing methodologies to reconstruct climate indices, it is hoped that further efforts will be made to digitise ship logbook. Further digitisation would make this unique data source even more valuable to historical climatology.