

Home

Online Library CP

- Recent Final Revised Papers
- [Volumes and Issues](#)
- Special Issues
- Library Search
- Title and Author Search

Online Library CPD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper

Impact
Factor
1.450

ISI
indexed



[Volumes and Issues](#) [Contents of Issue 1](#)

Clim. Past, 1, 19-33, 2005

www.clim-past.net/1/19/2005/

© Author(s) 2005. This work is licensed under a Creative Commons License.

Seasonal mean pressure reconstruction for the North Atlantic (1750–1850) based on early marine data

D. Gallego¹, R. Garcia-Herrera², P. Ribera¹, and P. D. Jones³

¹Departamento de Ciencias Ambientales, Universidad Pablo de Olavide, Sevilla, Spain

²Departamento de Fisica de la Tierra II, Universidad Complutense, Madrid, Spain

³Climatic Research Unit, University of East Anglia, Norwich, UK

Abstract. Measurements of wind strength and direction abstracted from European ships' logbooks during the recently finished CLIWOC project have been used to produce the first gridded Sea Level Pressure (SLP) reconstruction for the 1750–1850 period over the North Atlantic based solely on marine data. The reconstruction is based on a spatial regression analysis calibrated by using data taken from the ICOADS database. An objective methodology has been developed to select the optimal calibration period and spatial domain of the reconstruction by testing several thousands of possible models. The finally selected area, limited by the performance of the regression equations and by the availability of data, covers the region between 28° N and 52° N close to the European coast and between 28° N and 44° N in the open Ocean. The results provide a direct measure of the strength and extension of the Azores High during the 101 years of the study period. The comparison with the recent land-based SLP reconstruction by Luterbacher et al. (2002) indicates the presence of a common signal. The interannual variability of the CLIWOC reconstructions is rather high due to the current scarcity of abstracted wind data in the areas with best response in the regression. Guidelines are proposed to optimize the efficiency of future abstraction work.

[Final Revised Paper](#) (PDF, 1201 KB) [Discussion Paper](#) (CPD)

Citation: Gallego, D., Garcia-Herrera, R., Ribera, P., and Jones, P. D.: Seasonal mean pressure reconstruction for the North Atlantic (1750–1850) based on early marine data, *Clim. Past*, 1, 19-33, 2005. [Bibtex](#) [EndNote](#) [Reference Manager](#)

Copernicus Publications
The Innovative Open Access Publisher

Search CP

Library Search [»](#)

Author Search [»](#)

News

- [TWO editors of Climate of the Past funded by ERC](#)
- [Financial Support for Authors](#)
- [New Service Charges](#)

Recent Papers

01 | CP, 03 Nov 2008:
Forced and internal modes of variability of the East Asian summer monsoon

02 | CPD, 27 Oct 2008:
The 8.2 ka cooling event related to extensive melting of the Greenland Ice Sheet

03 | CP, 21 Oct 2008:
Anticyclonic atmospheric circulation as an analogue for the warm and dry mid-Holocene summer climate in central Scandinavia

04 | CPD, 21 Oct 2008: