Details of figures done with the Matlab Scripts provided

Figures of Hernández et al., 2020 (submitted to Scientific Reports)
Matlab version: 2019b
Author: Laia Comas-Bru (ORCID: https://orcid.org/0000-0002-7882-4996
Date: June 2020
See metadata in .m files for further information
All data files are available in the "Data" folder. Please, cite their corresponding sources (see references below)

Fig.1. (a) Spatial display of the first eigenvector for the gridded winter (December – February) monthly sea-level pressure anomalies (in mb) for the North Atlantic domain—calculated using the Twentieth Century Reanalysis data set (20CRv2c; Compo et al., 2011). Location of the proxy-based records (ice cores, lake sediments, speleothems, tree rings, and marine sediments) employed in this study, using symbols and colours to represent the different types of archives and the reconstructed climate variables. (b) Correlation distribution maps between the winter precipitation and temperature (wPre and wTmp) datasets and the NAO, for the boreal winters (December – February) between 1901 and 2016, calculated using the CRU-TS4.1 global climate dataset (Harris et al., 2014) and the NAO and EA indices from Comas-Bru and Hernández (2018). Positive Spearman rank correlations are shown in red and negative correlations are shown in blue. Location of record used for NAO_{IP} is indicated.

Fig 5. Correlation between winter (a) precipitation and (b) temperature at the site of NAO_{IP} (grey square) and each of the other grid cells to see how representative is the site for regional winter climate between 1901 and 2016, calculated using the CRU-TS4.1 global climate dataset (Harris et al., 2014). Positive Spearman rank correlations are shown in red and negative correlations are shown in blue.

Fig.6: Teleconnectivity maps of the winter (DJF) monthly sea-level pressure field in the North Atlantic region for the period 1872 – 2009 and different linear combinations of the NAO-EA: a) winters with the NAO and the EA of the same sign; b) all winters; c) winters with the NAO and the EA of the opposite sign. Shaded areas represent Spearman correlations as per the colour bar. Black crosses indicate the location of the highest correlated grid cells. The NAO and the EA indices are the 1^{st} and 2^{nd} empirical orthogonal functions calculated from monthly SLP anomalies over a confined N. Atlantic sector using the Twentieth Century Reanalysis data set (20CRv2c; Compo et al., 2011).

Fig. 7: Correlation distribution maps of winter NAO and (a, b) temperature and (c, d) precipitation. (a) and (c) are correlations for the subset of winters where NAO and EA are of opposite sign, whereas (b) and (d) are correlations for the subset of winters where NAO and EA are of the same

sign. NAO and EA indices from Comas-Bru and Hernandez (2018) and climate data from the CRU-TS4.01 dataset (Harris et al., 2014). Location of NAO_{IP} is shown as a grey square.

References

Comas-Bru, L. & Hernández, A. Reconciling North Atlantic climate modes: revised monthly indices for the East Atlantic and the Scandinavian patterns beyond the 20th century. Earth Syst. Sci. Data 10, 2329–2344 (2018).

Compo, G. P. et al. The Twentieth Century Reanalysis Project. Q. J. R. Meteorol. Soc. 137, 1–28 (2011).

Harris, I., Jones, P. D., Osborn, T. J. & Lister, D. H. Updated high-resolution grids of monthly climatic observations – the CRU TS3.10 Dataset. Int. J. Climatol. 34, 623–642 (2014).