



## Recovering Upper Air and Surface Atmospheric data from Portuguese FFCUL sources for ERA-CLIM – Work Package 1

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This work will present the current state of the process of inventorying, imaging, digitising and quality control of sub-daily data found in the Portuguese sources of FFCUL, covering upper air and surface data. The work is mainly focused on data observed after 1900 and registered in logbooks containing mainland data as well as the adjacent isles of Madeira and Azores and former Portuguese territories. For upper air data, our sources start in 1939 for Lisbon and in 1947 for the former colonies. For surface data, long time (centennial) series have been obtained for Lisbon, Porto and Coimbra. The former Portuguese colonies in Africa (Angola, Mozambique, Guine-Bissau, Cape Verde, São Tomé) and in Asia (Nova Goa – India and Macau) have data for the period of 1915-1946. Other mainland and isles data have been recovered for the 1906-1946 period. Additionally, in straight collaboration with ACRE, a dataset of South China Sea surface pressure from 1893-1932 has been dealt with. Our goal is to supply all these datasets to ERA-CLIM to be used as input in reanalyses being developed by the project.

So far our group has managed to image all datasets contained in the FFCUL project inventories, while digitisation is nearing its final stages. Collection of metadata is being done in conjunction with the task of Quality Control, as well as Homogeneity testing (a WP4 task). Digitised upper air data has been sent to the University of Bern (WP1 coordination) before Quality Control is applied. A Fortran algorithm has been implemented by FFCUL to apply Quality Control to the surface digitised data, as well as to format them according to the ERA-CLIM standard and the ISPD (in the case of surface pressure) database, which is one of the basic ERA-CLIM data sources. The whole set of surface pressure for the former Portuguese colonies for 1915-1946 has been sent to ISPD (NCDC), as well as the South China Sea 1900-1932 set and the Lisbon, Porto and Coimbra centennial series of pressure.

The group has been lately expanding its activities to formatting marine data, in conjunction with ACRE. A large set of Indian Shipping data for 1893 to 1898 will serve as a training ground for future collaborations with ACRE in order to send marine data to ICOADS, another ERA-CLIM database source.