



## RESCUE AND QUALITY CONTROL OF SUB-DAILY OBSERVATIONS: AN IBERIAN CASE STUDY

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Long-term, high quality instrumental meteorological observations are crucial to improve our understanding of past, present and future climate variability. Synoptic and hourly scale observations are particularly important for informing reanalysis products and shedding light on the fundamental behaviour of our atmosphere. While daily and monthly scale data are now available for much of the European region, many of these higher temporal resolution observations remain in archives or national meteorological services unable to be used for climate research.

To address this gap in data availability, Working Package 1 of the European Uncertainties in Ensembles of Regional ReAnalyses project (UERRA) has set out to identify European regions of poor hourly data coverage in the the post-1961 period and locate data within the archives of relevant organisations. Here we outline the process of hourly data identification, rescue, preparation and digitisation, as well as the quality control measures being used to ensure the highest possible data quality. Recovered temperature, wind speed and direction and relative humidity data from three weather stations in Catalonia are used as a case study.

A systematic process of checking data subsamples is employed before, during and immediately after digitisation. The aim of this step is to assess data source quality and continuity and reduce errors at the digitisation stage, in order to provide feedback to the digitisation team and improve future work. Following these initial subsample tests, a newly developed automatic quality control regime is used on each data source. The Universal Quality Control (UQC) suite tests for 13 different logical and physical errors in the data distribution, providing details on clear errors and data that need to be checked for their veracity.

Preliminary results indicate that the process of digitising recovered meteorological data can be improved by using these control measures.

**KEY WORDS:** Observational data, digitisation, quality control, temperature, wind, high resolution data