The R package "ReadObsHistWeaDat" (Reading Observational Historical Weather Data")

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Abstract

This work presents a set of R functions included in an R package called ReadObsHistWeaDat ("Reading Historical Observational Weather Data) to handle the automatic Weather Stations Network of the Spanish Agency of Meteorology (AEMet). Currently, these weather network contains 95 stations that cover the period from 1920 to 2012 (although this number could vary depending on the time period) and cover 10 meteorological variables. The aim of these R functions are to read efficiently large amount of data, to tackle, i.e, to get the meteorological variables by stations or to get variables by similar time periods, to transform from daily time resolution to weekly, monthly, seasonally and yearly averages, to save the meteorological variables of the stations (choosing the variables required) as uni or multivariate time series (in ASCII, CVS or NetCD format), to plot (as PDF, EPS, JPG or PNG formats) and to compute basics statistics for the meteorological variables by station. The functions have been programed as general as possible to be used and modified by other users of this type of data in other places around the world. Moreover, we have included a historical climate data set spanning the period from 1920 to 2012.

Keywords: software development, observational data, R project, NetCDF

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