

Climate data: Technical documentation

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Introduction

This document describes the climate data provided with 2020-08 SERL Observatory data release which originates from the Copernicus/ECMWF ERA5 hourly reanalysis data.

More variables will be provided in future releases, but at the moment only temperature at 2 metres is included in the dataset. It can be linked with SERL participants using the 'gridCell' variable. The filename of this dataset is *SERL_climate_data_v2020_08.csv*. This documentation will be expanded in future as more climate variables are provided with SERL datasets.

Overview

The climate data has 5 columns and 26,966,520 rows. This is reanalysis data based on recorded data from many weather stations across GB, at a horizontal resolution of 0.25 x 0.25 degrees latitude and longitude (approximately 28 sq. km). More information about spacial resolution is available [here](#). ERA5 documentation is available [here](#).

The fields provided in the current SERL climate dataset are described in Table 1.

Table 1: Climate data fields.

<i>Field</i>	<i>Description</i>	<i>Units</i>	<i>Class</i>	<i>Example value</i>
gridCell	Grid cell for linking to participant data	NA	character	38_31
analysisDate	Date the data refers to	NA	Date	2018-08-01
utcDateTime	Time and date of the data in UTC	%Y-%m-%d %H:%M:%S	POSIXct, POSIXt	2018-08-01 00:00:00
temperature_2_metres_K	Temperature at 2 metres from the surface	deg K	numeric	285.12
temperature_2_metres_C	Temperature at 2 metres from the surface converted into Celsius	deg C	numeric	12.12

Table 2 provides some basic information and statistics about the data. More recent data will be provided with future SERL Observatory data releases.

Table 2: Data statistics

<i>Statistic</i>	<i>Value</i>
Number of grid cells	1845
Earliest read date	2018-08-01
Latest read date	2020-03-31
Lowest temperature (deg C)	-12.69
Highest temperature (deg C)	39.29
Mean temperature (deg C)	9.83