

Getting the Data Required to Run SCORES

For simple runs on the UK system, the open access version can be run without raw data, only using saved results. However, for complete functionality, and for to use SCORES for systems outside the UK the following steps will need to be taken.

1 Weather Data

Hourly wind speed and solar irradiance data are required to produce generation estimates.

1.1 Getting Raw Data

The SCORES model runs using the NASA Merra 2 data. This is available for download here: <https://disc.gsfc.nasa.gov/datasets?project=MERRA-2> Although you will need to apply for a login stating your purpose before downloading.

You need to download hourly solar irradiance and the U/V components of wind speed at 50m.

There is a tool which you can use to select a geographic area and the period of time (1985-now is available). It is recommended that you download only the data you need to minimize the size of your download.

There is a script *getNASA.py* in the *data/getting data* folder which will help download bath scripts once you fill in your login details.

1.2 Reformatting for SCORES

In the *data* folder there are separate files named *wind* and *solar*

SCORES assumes a data format of one file per site (in this case, data point). Each site will have an integer number.

In order the run the data you will need one file *site_locs.csv* which contains the latitude and longitude of each data site (an example is provided in the code), and one file per site called *#.csv* (the format is demonstrated in the file *example.csv*).

These files can be produced using the *NASA_solar.py* and *NASA_wind.py* scripts in the *getting data* folder.

2 Demand Data

A single file *demand.csv* is required with the total system load per hour, an example is provided in the repository