1. **Raw data (.nc)**

* Downloaded from EURO-CORDEX (<https://esgf-data.dkrz.de/search/cordex-dkrz/)>
* REMO regional climate model to downscale Max Planck Institute Earth System Model (MPI-ESM)
* CMIP5 ensemble r2i1p1
* Location of raw files: ‘srh110/CORDEX\_no\_bc\_May\_2017/MPI\_r2\_EUR44’
* Sample file name ‘huss\_EUR-44\_MPI-M-MPI-ESM-LR\_historical\_r2i1p1\_MPI-CSC-REMO2009\_v1\_day\_19500102-19501231.nc’

TO DO:

* Download wind speed (sfc)

1. **Converting to (.mat)**

* ~~Code to process: ‘CORDEX\_input\_file\_creator\_europe\_heatwave3.m’???~~
  + ~~Need ‘Danube\_coords.mat’ for some reason (or do I???)~~
* Code to process: ‘CORDEX\_MVAREOF\_files/CORDEX\_create\_nobc\_data.m’
* Function required: ‘CORDEX\_MVAREOF\_files/CORDEX\_fiveyear\_filereader\_ehw\_r.m’
* Output: ‘CORDEX\_no\_bc\_May\_2017/MPI\_r2\_EUR44’. Currently appt, tas, tasmax, huss, e.g. ‘appt\_MPI-M-MPI-ESM-LR\_rcp45\_r2i1p1\_MPI-CSC-REMO2009\_v120712100.mat’

TO DO:

* ~~Figure out how to get from the output to the input files for CLaGARMi in ‘CORDEX\_nobc\_clagarm\_input’, of form ‘<VAR>\_MPI\_nobc\_<SCEN><YS><YE>.mat’~~
  + ~~Answer:~~ **~~Manually moved E.g:~~**
    - ~~‘appt\_MPI-M-MPI-ESM-LR\_rcp45\_r2i1p1\_MPI-CSC-REMO2009\_v120712100.mat’ = ‘appt\_MPI\_nobc\_4520712100.mat’ but Steve had just copied and pasted it.~~

1. **Input for CLaGARMi**

* Files for CLaGARMi location: ‘CORDEX\_nobc\_clagarm\_input’

TO DO:

* ~~Edit ‘CORDEX\_create\_nobc\_data.m’ to process tas, huss, sfc~~

1. **Running CLaGARMi**

TO DO:

* Fix files referred to in ‘run\_euro.sh’ to point to correct data

1. **Plotting results**

* Folder ‘Paper\_10k’ may be of interest
* Examine ‘run\_CLARGARM.m’ again for clues to output type
* Steve’s original CLaGARMi runs (‘run\_CLaGARM.m’) output with ‘10k\_’,scenario\_years,’tasmax\_s’
* - Check out ‘sim\_data\_py\_file\_Creator\_p1.m’ etc. in ‘European Heatwave Analysis’
* ‘European Heatwave Analysis/nobc\_output’ contains files of the form ‘**tasmax\_o\_nobc\_MPI\_4520212050.mat’** which are the observation values to plot, along with ‘**tasmax\_s1\_nobc\_MPI\_4520212050.mat’**, which are the simulated value series. **I currently think that these are the processed ones not the direct output of the original CLaGARMi run.**
* ‘load\_mat\_var.py’ is an important tool (but looks like it’s an old version?)
* For some reason, using o[‘var\_o’] works for the ‘10k’ versions but not for mine
* Figure 1: Already accounted for

Figures 2-4 in ‘monthly climatology.py’?

* Figure 2: ‘daily\_mean\_tmax\_months.png/ ‘daily\_mean\_tapp\_months.png’
* Figure 3: ‘monthly\_sd\_tmax\_months.png‘/‘monthly\_sd\_tapp\_months.png’
* Figure 4:
* Figure 5:
* Figure 6:
* Figure 7:
* Figure 8:
* Figure 9:
* Figure 10:
* Figure 11:
* Figure 12:
* Figure 13:
* Figure 14:
* Figure 15:

TO DO:

* ~~Make plotting functions above use the locations established for output of CLaGARMi~~
* Use load\_clag\_output.py created in 02\_plotting\_CLaGARMi to then figure out how to plot figures 2/3/4 for tomorrow