NUTS Averaging Guide - Using Python Scripts

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1. Copy the nuts area average file into a folder containing NetCDF files.
   (nuts0 or nuts2 scripts available in VM data/private/resources depending on desired resolution)
   nuts0_area_average_lsm.py
   nuts2_area_average_lsm.py

2. Open the file in vim (or your preferred text editor):
   vim nuts2_area_average_lsm.py

3. Change directory line to your current directory (where the NetCDF files are located) and save file:
   directory_in_str = '/data/private/wemc/10WS/10WS_nc/10WS'

4. Activate Conda environment:
   source activate c3s_wemc

5. Run python script (using no hang-up command):
   nohup python nuts0_area_average_lsm.py &
   - NUTS0 processing will take roughly 1 day per variable (1979-2017, Europe Region)
   - NUTS2 processing will take roughly 3 days per variable (1979-2017, Europe Region)

6. The script will generate processed .csv files in the same folder, appending the relevant NUTS code to the beginning of each filename:
   TR_H_ERA5_ECMW_TL639_WS-_0010m_Euro_025d_S201601010000_E201612312300_INS_MAP_01h_NA-_noc_org_NA_NA---_NA---_NA---.csv

7. Copy the csv_merge file into the folder containing the processed CSV files.
   (nuts0 or nuts2 merge scripts available in VM data/private/resources)
   csv_merge_nuts0.py
   csv_merge_nuts2.py

8. Open vim and change path line to your current directory (where the CSV files are located):
   path = r'/data/private/wemc/10WS/10WS_nc/'

9. Run the csv_merge script to merge all the csv files, this will output yearly files (due to the volume of data produced).
   nohup python csv_merge_nuts0.py &

10. Finally run the csv_append script to join these into one fil. This step will also add the metadata, so ensure this is updated and relevant to the variable data in the file.
    nohup python csv_merge_nuts0.py &

11. Example of output merged filename:
    H_ERA5_ECMW_TL639_WS-_0010m_Euro_nut0_S197901010000_E201712312300_INS_MAP_01h_NA-_noc_org_NA_NA---_NA---_NA---.csv