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| **Protocol**  Meeting Bachelor Thesis, FS 2024 | | | | | | | | | | | |
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| **Protocol-No.:** | 04 | | | | | **Project name:** | Bachelor Thesis | | | | |
| **Meeting type:** | Discussion | | | | | **Location:** | GIUB, Bern | | | | |
| **Date / Time:** | 22.04.2024 / 15:00 | | | | |  |  | | | | |
| **Topic / Goals:** | Modelling for one Gridpoint | | | | | | | | | | |
| **Lead:** | Benjamin Stocker | | | | | **Logger:** | Patricia Gribi | | | | |
|  | | | | | | | | | | | |
| **Participants** | |  |  | | **E-mail** | | | **Present** | **Excused** | **Distribution** |
| Prof. Benjamin Stocker | |  | GECO-Group | | benjamin.stocker@unibe.ch | | | x |  |  |
| Patricia Gribi | |  | Unibe | | patricia.gribi@students.unibe.ch | | | x |  |  |
|  | | | | | | | | | | | |
| **Items discussed:** | | | | | | | | | | | |
| 1 Modelling for one Gridpoint | | | | | | | | | | | |
| **Next meeting:** | | | | **Attachments:** | | | | | | | |
| * 6.05.22/10.00 | | | |  | | | | | | | |

| *(Legend for type: D = Decision, P = Pending, I = Information)* | Typ | Resp.: | Date: |
| --- | --- | --- | --- |
| Server Access |  |  |  |
| * Got access to server (Workstation 2). With ubuntu login remotely to workstation 2. Use command: ssh -L 9090:localhost:8787 [patricia@130.92.119.132](mailto:patricia@130.92.119.132) and then my password I set. Username for R server: patricia and same password as before, http://localhost:9090/. The data on the workstation 2 is found here: /data/scratch/CMIP6ng/cmip6-ng/pr/day/native/ | I |  | 7.03 |
| Proposal |  |  |  |
| * **Timeline:** Leave the daily resolution? One week planned for presentation preparation. |  |  |  |
| Modelling |  |  |  |
| * **Gridpoint extraction:** Now it is easily understandable which gridpoint is extracted. The function extract\_gridpoint was expanded, so that longitude and latitude can be given as parameters to the function. | I |  | 09.04 |
| * **Potential evapotranspiration calculation:** PET = EET \* 1.26 (units: mm d-1). EET = Rnet \* f(T), where f(T) is a temperature-dependent function that converts Rnet (in units W m-2) into mass units (mm d-1) according to Eq. 19 in Davis et al. The function is implemented by convert\_et(). | I |  | 12.04 |
| * Problem: PET at some points higher than ET! |  |  |  |
| * **Calc\_patm:** Function for the calculation of the atmospheric pressure. As 'elv' (height above sea level) it would be ideal to use the information from the model grid. Is not available, the only thing found was the pressure at top level of the land model, corresponding to 2.25 millibars. Used 0 m for now. For a gridpoint same height, but when global then different heights. | I |  | 16.04 |
| * Potential evapo : alle energie in verdunstung, meteorologische dürre mit radiation verbunden, wie viel kann potentiell verdunsten. |  |  |  |
| Literature Research |  |  |  |
| * In the paper you published you take this mass balance approach. So you take the CWD as an indicator for rooting-zone water-storage capacity. In the CWD-estimation section you explain your approach and how you calculated the CWD with an algorithm. Would it be enough to cite your paper and how you calculate the CWD? Or do I have to go a step further and find a source, where there is described why I can actually take the CWD as an indicator for rooting-zone water-storage capacity? |  |  |  |
| Next Steps: Modelling cwd and pcwd globally |  |  |  |
| * Write function which takes as parameters et and prec and returns the cwd and pcwd timeseries. The function should be scalable. |  |  |  |
| Workflow |  |  |  |
| * Readme on infos about data download needed in the repo? I put it under data raw although it’s not the actual data |  |  |  |
| * **Move data to data scratch directory:** data/scratch/CMIP6ng/cmip6-ng. Could not do it permission denied to create new folder and without does not work because some variables have the same name. |  |  |  |