**Actual ET of Hupsel – step 3 + 4  
Answer sheet**

|  |  |
| --- | --- |
| Student (name) |  |

First collect some of your insights from Step 1 and Step 2 here, just to have them in one place (i.e. these were the outcomes from the last questions in step 1 and step 2).

# Preparation

## Step 1: crop factors for grass – 2014 Hupsel data.

What is the overall magnitude the crop factor? Is the crop factor constant over time, and if not, can you explain the variations (or at least bring forward a hypothesis)?

|  |  |
| --- | --- |
|  | **Comment** |
| **Typical values** |  |
| **Variability** |  |
| **What determines the variabililty** |  |

In the table below, indicate a few conditions: give the typical value for the ‘crop factor’ for grass evapotranspiration, and the variables that characterize that condition (e.g. when no rain and high temperatures -> crop factor = ...). It is up to you to see how many conditions you distinguish (i.e. how many rows you fill) and how many variables you need to describe a given condition (how many columns you need).

|  |  |  |  |
| --- | --- | --- | --- |
| **Crop factor** | **Variable: ...** | **Variable: ...** | **Variable: ...** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## Step 2: crop factors for bare soil – 2009 Transregio data.

What is the overall magnitude the crop factor? Is the crop factor constant over time, and if not, can you explain the variations (or at least bring forward a hypothesis)?

|  |  |
| --- | --- |
|  | **Comment** |
| **Typical values** |  |
| **Variability** |  |
| **What determines the variabililty** |  |

In the table below, indicate a few conditions: give the typical value for the ‘crop factor’ for bare soil evaporation, and the variables that characterize that condition (e.g. when no rain and high temperatures -> crop factor = ...). It is up to you to see how many conditions you distinguish (i.e. how many rows you fill) and how many variables you need to describe a given condition (how many columns you need).

|  |  |  |  |
| --- | --- | --- | --- |
| **Crop factor** | **Variable: ...** | **Variable: ...** | **Variable: ...** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Characterize conditions in the May 2024 dataset

In the table below describe the weather conditions in the 3-week period in broad terms. Insert graphs of some of the variables, and describe in words the variation that you observe (keep it concise).

|  |  |  |
| --- | --- | --- |
| **Variable** | **Graph** | **Description** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Based on your analysis above, try to identify a number of periods of similar weather and concisely describe them. Indicate them with the start and end day (day in May 2024). The number of rows in the table is arbitrary

|  |  |  |
| --- | --- | --- |
| **Start** | **End** | **Characterize in words** |
| 01 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# Reference evapotranspiration

Include your values below and/or include a graph that shows the time series of reference ET for May 2024.

Provide some comments on the values you obtained: are the values reasonable, how do they compare to the values you computed for 2014?

|  |
| --- |
| Data/graph |
| Comments/remarks: |

# Day-to-day crop factor for grass

In the table below explain how you constructed your time series for the crop factor for grass (if you clearly explained it un the preparation section above, just refer there) and give the values and/or include a graph.

|  |  |
| --- | --- |
| **Explanation of method** |  |
| **Values / graph** |  |

# Day-to-day crop factor for bare soil

In the table below explain how you constructed your time series for the crop factor for grass (if you clearly explained it un the preparation section above, just refer there) and give the values and/or include a graph.

|  |  |
| --- | --- |
| **Explanation of method** |  |
| **Values / graph** |  |

# Actual ET for grass and bare soil

In the table below explain how you constructed your time series for the actual ET of grass and bare soil and give the values and/or include a graph.

|  |  |
| --- | --- |
| **Explanation of method** |  |
| **Values / graph** |  |

# Actual ET of the Hupsel catchment

In the table below explain how you constructed your time series for the actual ET of the Hupsel catchment and give the values and/or include a graph.

|  |  |
| --- | --- |
| **Explanation of method** |  |
| **Values / graph** |  |

# Prepare and upload the Excel file with actual ET data

See the notebook:

* Prepare the Excel file with data
* Upload it to the appropriate assignment in Brightspace

Also upload *this* file to the appropriate assignment in Brightspace