**Additional methods for ETref + effect of averaging – step 5**

**Answer sheet**

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

**At the end of this practical, upload this document to the Brightspace assignment**

# Complete the functions: Priestley Taylor, aerodynamic resistance and Penman-Monteith

The main work needs to be done in the notebook. In the table below you can briefly document your progress (did it work at once, or after some iterations, what were the hurdles)

|  |  |  |  |
| --- | --- | --- | --- |
| **Function** | **Progress** | | |
|  | **OK at once** | **OK some tries** | **Challenges** |
| f\_PT(....) |  |  |  |
| f\_ra(...) |  |  |  |
| f\_PM(...) |  |  |  |

# Compute ETref with different methods (2011 data)

Include your values below and/or include a graph that shows the time series of reference ET with the three methods (include them in one plot, and please give the series a name so that it is clear which line represents which method).

|  |
| --- |
|  |

# Explore the different methods (2011 data)

|  |  |
| --- | --- |
| How do each of the methods vary, and can you link those variations to the meteorological conditions.  Include graphs to illustrate your point. |  |
| How do the three methods differ (in which direction, at which moments) and which properties of the different methods could explain those difference?  Include graphs to illustrate your point. |  |

# Compare the different methods to actual ET of grass (2011 data)

|  |  |
| --- | --- |
| Are the results of Priestley-Taylor or Penman-Monteith closer to the actual ET than Makkink? |  |
| On which moments?  Include graphs to illustrate your point. |  |
| What could be the explanation? |  |

# Compare the different methods to actual ET of grass (2011 data: 30 minute average fluxes)

|  |  |
| --- | --- |
| How do the three methods compare to each other. |  |
| On which moments?  Include graphs to illustrate your point. |  |
| What could be the explanation? |  |

# Does the order of averaging matter (fluxes based on daily mean data, or daily mean fluxes based on 30-minute data) (2011 data)

|  |  |
| --- | --- |
| How do the Penman-Monteith fluxes with the two averaging methods compare? |  |
| When do they differ, when are they close? Or is the difference/correspondence consistent?  Include graphs to illustrate your point. |  |
| What could be the explanation? |  |