



Evaporation – Micro-Lysimeter

(Resource ID: 207)

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This teaching resource is allocated to following University:

BOKU – University of Natural Resources and Life Sciences Vienna

Institution:

Institute of Meteorology (BOKU Vienna)

<http://www.sustainicum.at/en/modules/view/207.Evaporation-Micro-Lysimeter>



Individual work

Work in pairs

Group work



Independent of

the number of

students



Up to 3 lecture

units

up to 1 semester



English, German

This building block illustrates the effect of microclimate factors on potential and real evaporation (with plants).

The amount of water that can evaporate depends greatly upon the localized microclimatic conditions. By simply weighing objects, the effect of microclimatic factors on potential and real (with plants) evaporation can be illustrated.

Plastic containers filled with water or plants are placed in various microclimates. By weighing them over time (hours or days) the evaporation and/or evapotranspiration (for plants) can be calculated from the loss in weight. The results are discussed, comparing the relative differences between the microclimates' characteristics.

Measuring the weight changes (using a simple kitchen scale) should be

conducted over the course of multiple hours (ideally over the course of one day). Potted plants can be observed over a longer time frame.

Aha effect

The significance of water and micro-climate conditions from one location to the next is made clear.

Teaching Tools & Methods



Mini-project



Reflection



formteaching_experiment

Contact details for borrowing physical devices

Email to author

Learning Outcomes

Understanding the effect of various microclimate conditions on evaporation as part of the water and energy cycles.

Relevance for Sustainability

Microclimates are a significant determining factor for life. Regardless of location, water acts as an energetic moderator and is therefore of essential significance for sustainability considerations.

Related Teaching Resources

No specific previous knowledge / related resources required

Teaching Methods

 [Methods for a qualitative spatial analysis](#)

Preparation Efforts

Low

Access

Free

Sources and Links

Häckel, H., 2012: Meteorologie. 7. Auflage, UTB.

Oke, T.R.: 2001: Boundary Layer Climates. 2ed, Cambridg Univ. Pr.

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