

ENAC-SIE, SIE Project, Fall 2018	Start: 18/09/2018
4 ECTS credits	End: 21/12/2018 (approx.)

Title	How much water can a vegetated soil evaporate?
Supervisors	Doct. Paolo Benettin, Prof. Andrea Rinaldo
Objective	Estimating 15-min evapotranspiration fluxes using data from high-precision weighed lysimeters.
Abstract	<p>Evapotranspiration (ET) is a crucial component of the water cycle, typically accounting for up to 50% of the annual water balance. Direct estimates of ET are difficult at the larger scales, but can be achieved at smaller experimental scales through high-precision lysimeters. High-frequency lysimeter data have been collected at EPFL campus in the last months and preliminary analyses have shown a number of interesting features including the plants “activation” in Spring. Accurate and creative analyses are then needed to estimate ET fluxes at high frequency and explore their temporal dynamics.</p>
Task description	<ol style="list-style-type: none"> 1. setup a routine to access and display the data 2. creative analysis of ET (estimates during day/night, differences among the vegetation regimes, dependence on temperature and solar radiation, etc...)
Required skills	<ul style="list-style-type: none"> • basic notions of hydrology • strong programming skills (e.g. Matlab, R or Python)
Location	EPFL campus, Lausanne (CH)
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