1. Title

Quantifying Evaporative Fluxes from Terrestrial Surfaces

2. Type

Commission Symposium: Comm. 2.1-Soil Physics

3. Organizer(s) & Convener

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4. Rationale

Evapotranspiration rates and patterns drive the hydrological cycle, affect water reservoirs available for plants, and the energy balance of terrestrial surfaces. Quantitative description and predictions of evaporation losses from land and transpiration from vegetated areas remain a challenge affecting hydrological, agronomical and climate models.

5. Objectives

We invite contributions addressing theoretical and experimental aspects of evaporation from biological and soil surfaces including transport mechanisms, porous media and plant properties, energy considerations, and atmospheric exchange at all scales (from soil pores and stomata to watersheds)

6. Description

Evapotranspiration rates and patterns affect energy balance of terrestrial surfaces and drive the hydrologic cycle. Evaporative losses define plant physiological function, and affect available water for biological activity in soil. Despite its importance, the prediction of evaporative drying rates from land and plant surfaces remains a challenge due to complex interactions between external conditions (radiation, humidity, temperature, air velocity), internal transport mechanisms and surface properties. We invite theoretical and experimental contributions addressing evaporation from biological and earth surfaces including transport mechanisms, porous media and plant properties, energy considerations, and atmospheric exchange at all scales (from soil pores and stomata to watersheds)