



Using spectral and thermal UAV data to infer the influence of contrasting urban green space on ET and heat fluxes

**Remotely-sensed
evapotranspiration
HS6.6 | 26.05.2022**

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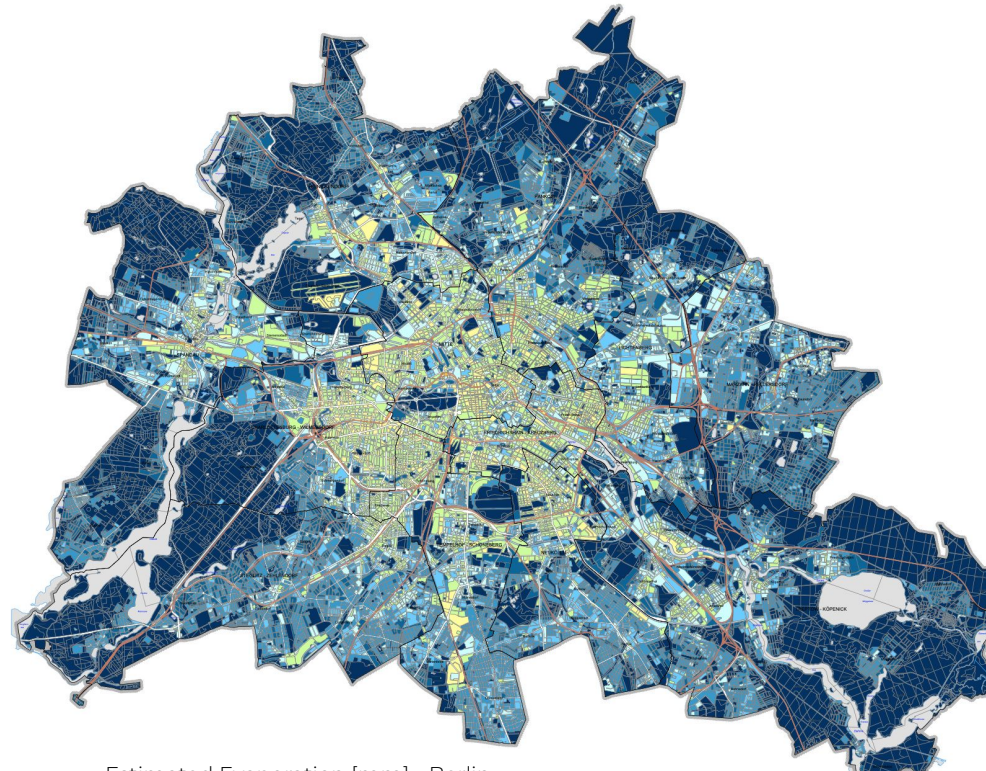
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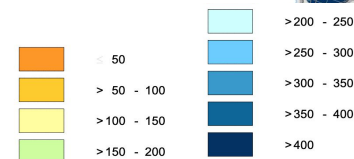
Motivation & Aims

Aims:

1. assess ET and LST through remote sensing (**MS & Thermal**) validate through in situ biophysiological parameters (sap flow, LAI, soil moisture, stomatal conductance)
2. determine the **daily and seasonal development of ET** for vegetation classes
3. Determine the **effect of shadows** on LST and ET



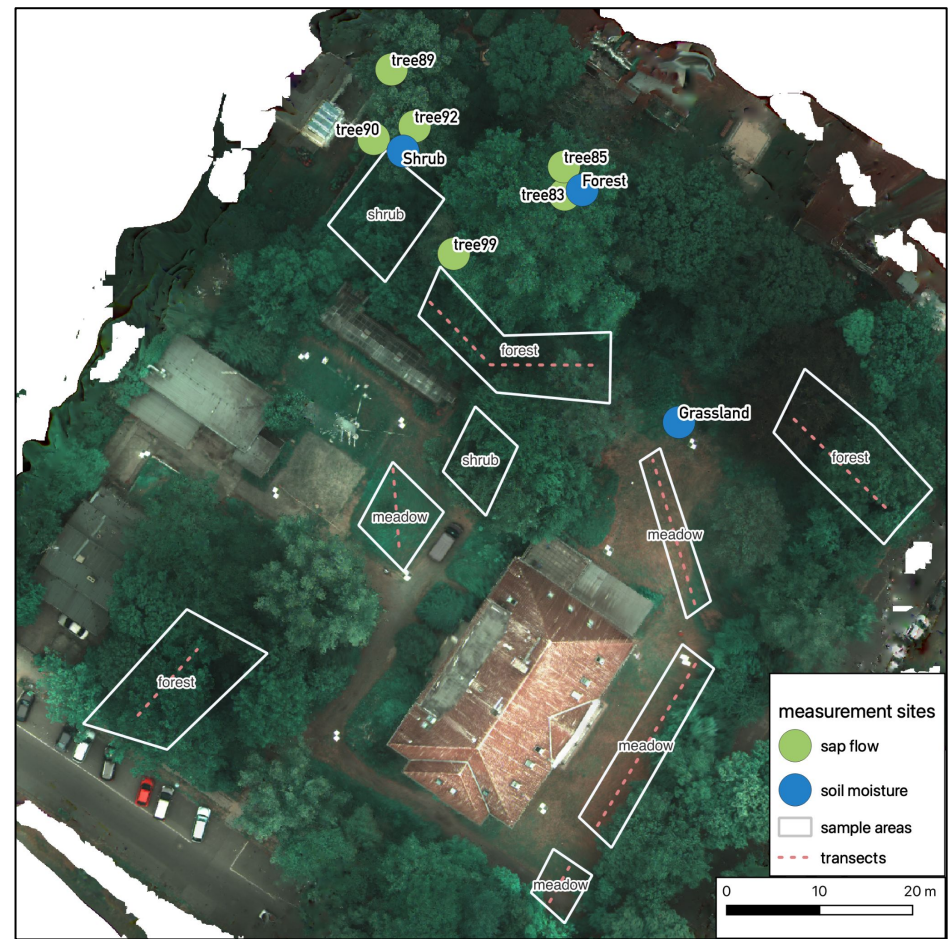
Estimated Evaporation [mm] - Berlin



study site

TU Berlin - urban research garden
Rothenburgstraße 12, 12165 Berlin

Norway Maple (*Acer platanoides*) - tree **89, 90, 92**
Elm (*Ulmus spec.*) - tree **85**
London plane tree (*Platanus x hispanica*) - tree **83**
European Oak (*Quercus robur*) - tree **99**



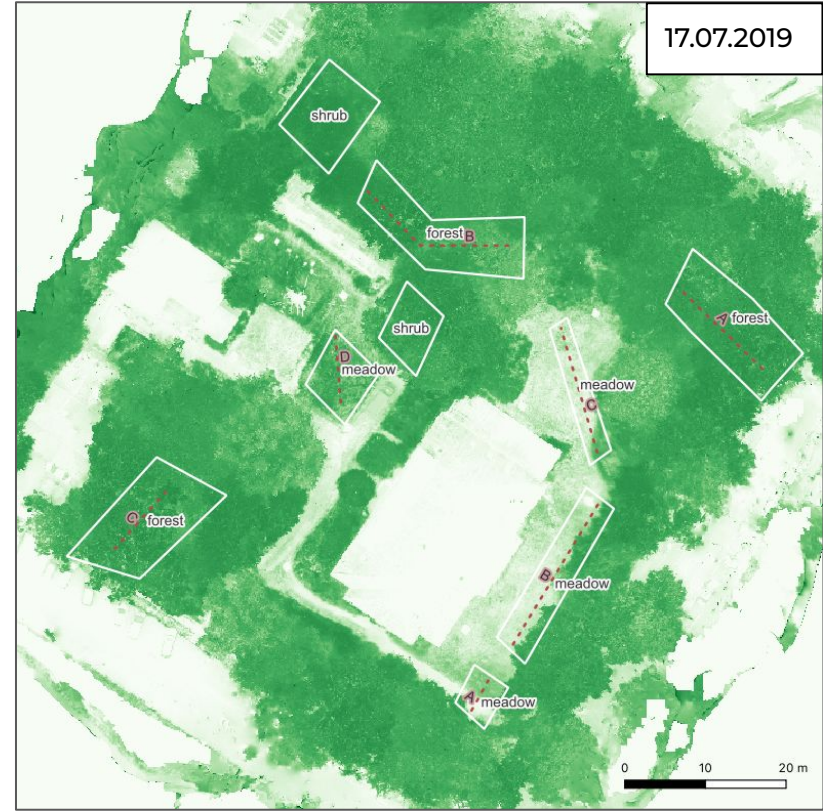
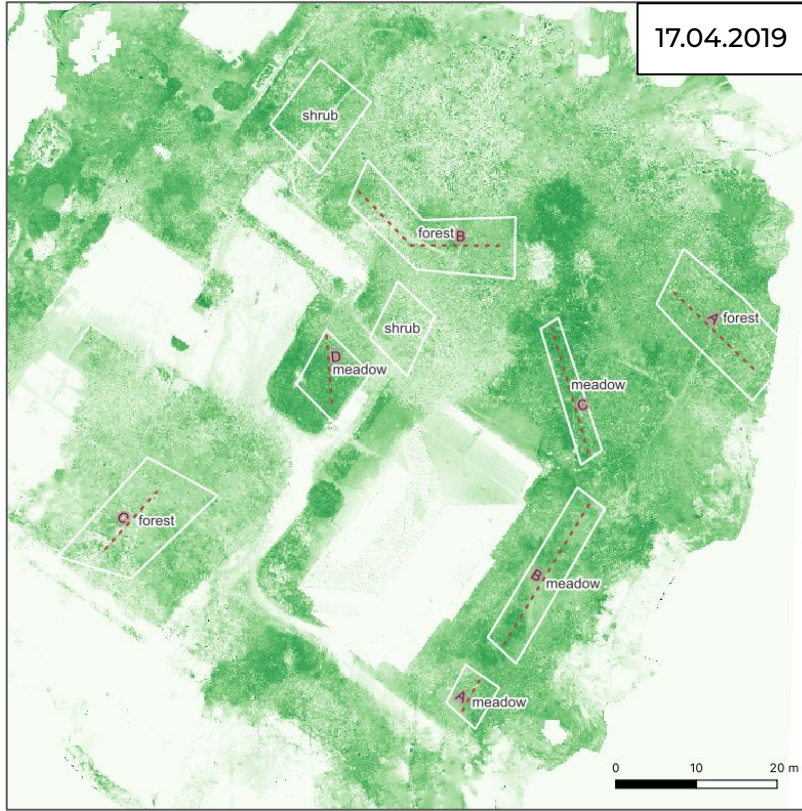
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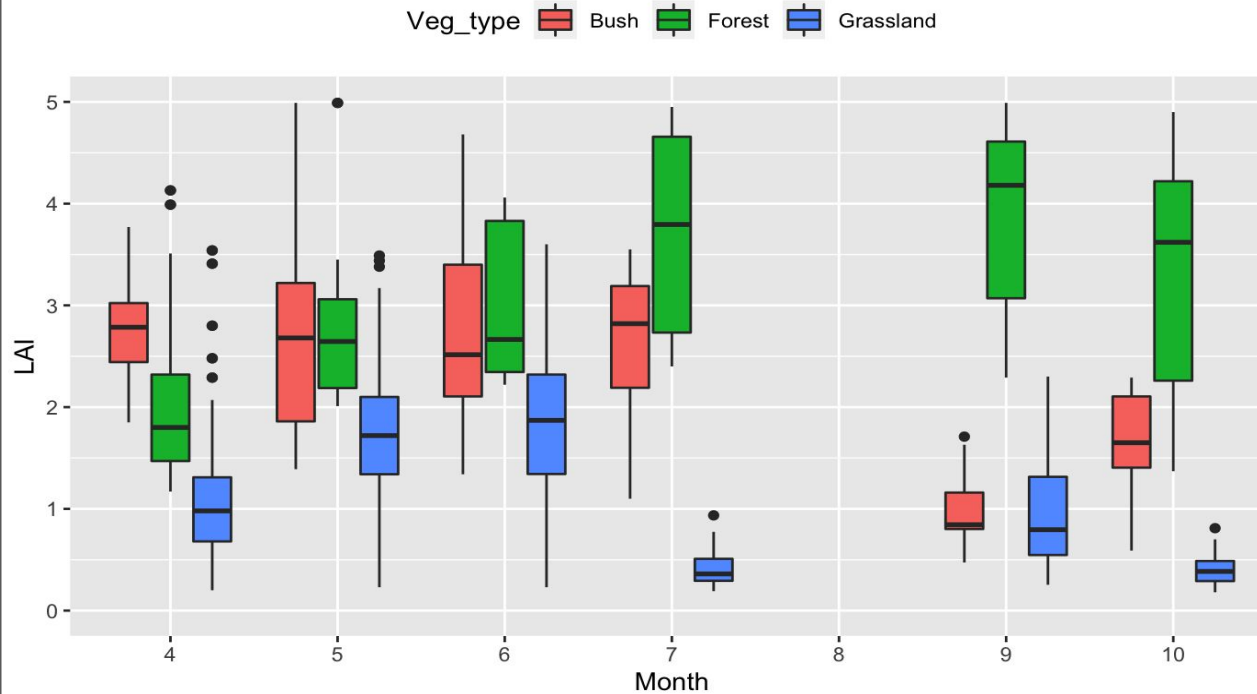


multispectral - monthly variation

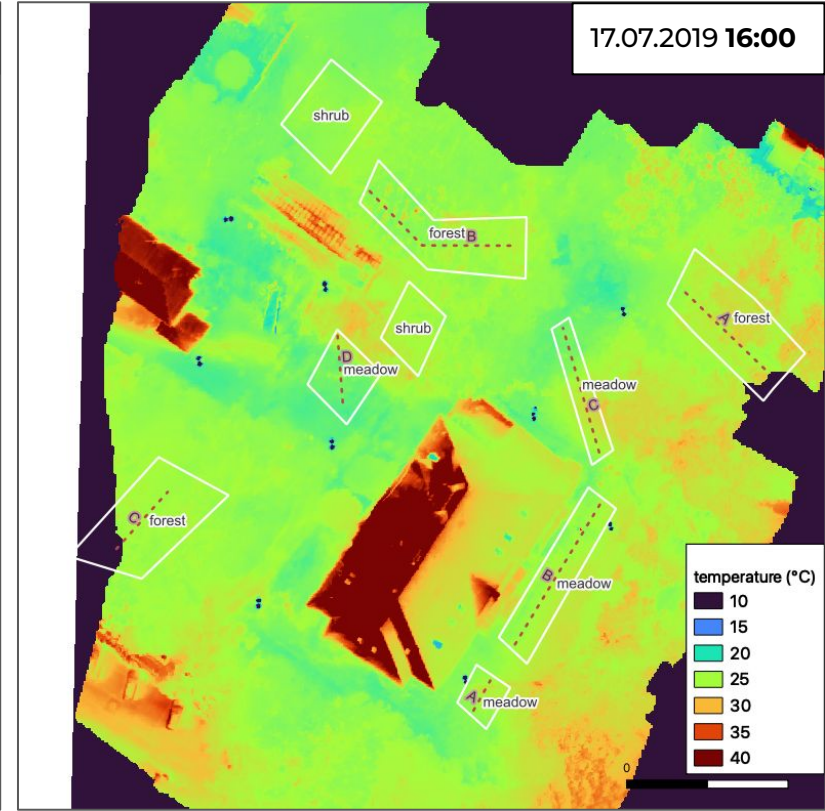
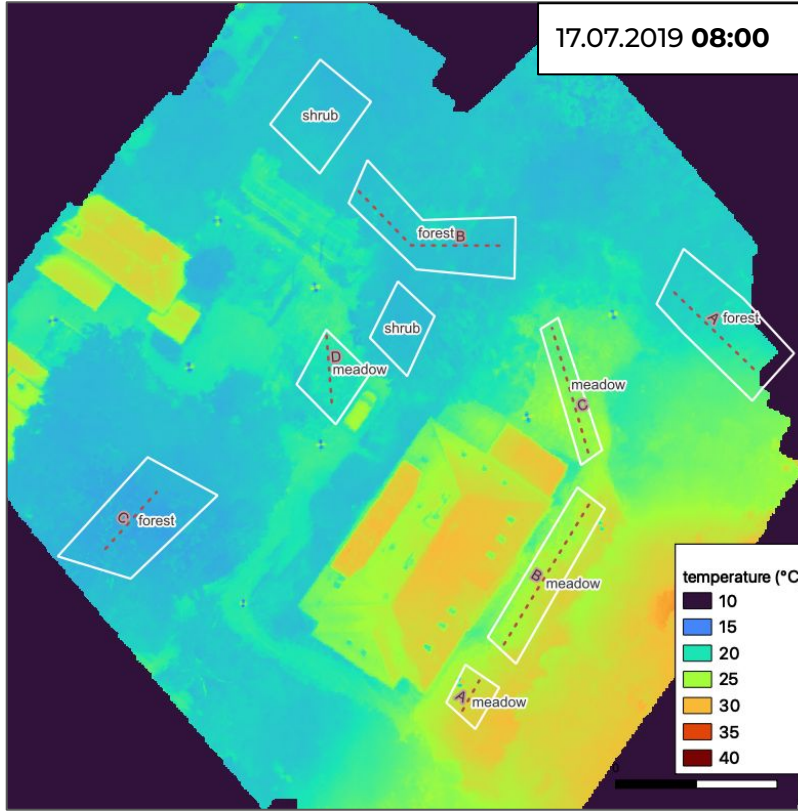


multispectral - monthly variation

monthly leaf area index (LAI) for different vegetation classes

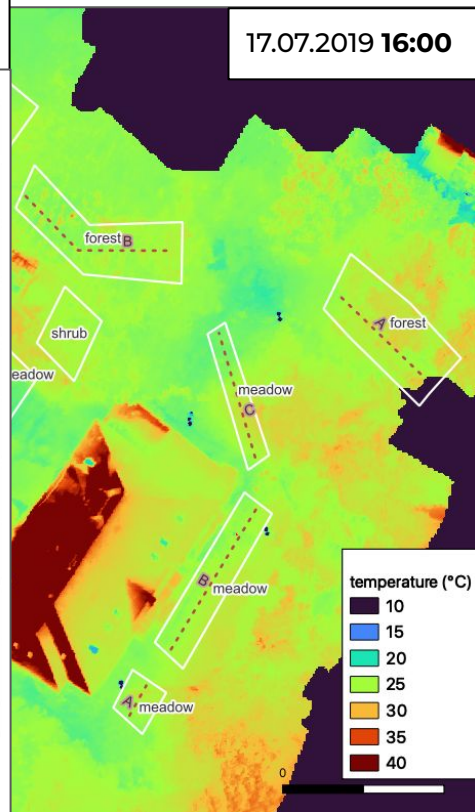
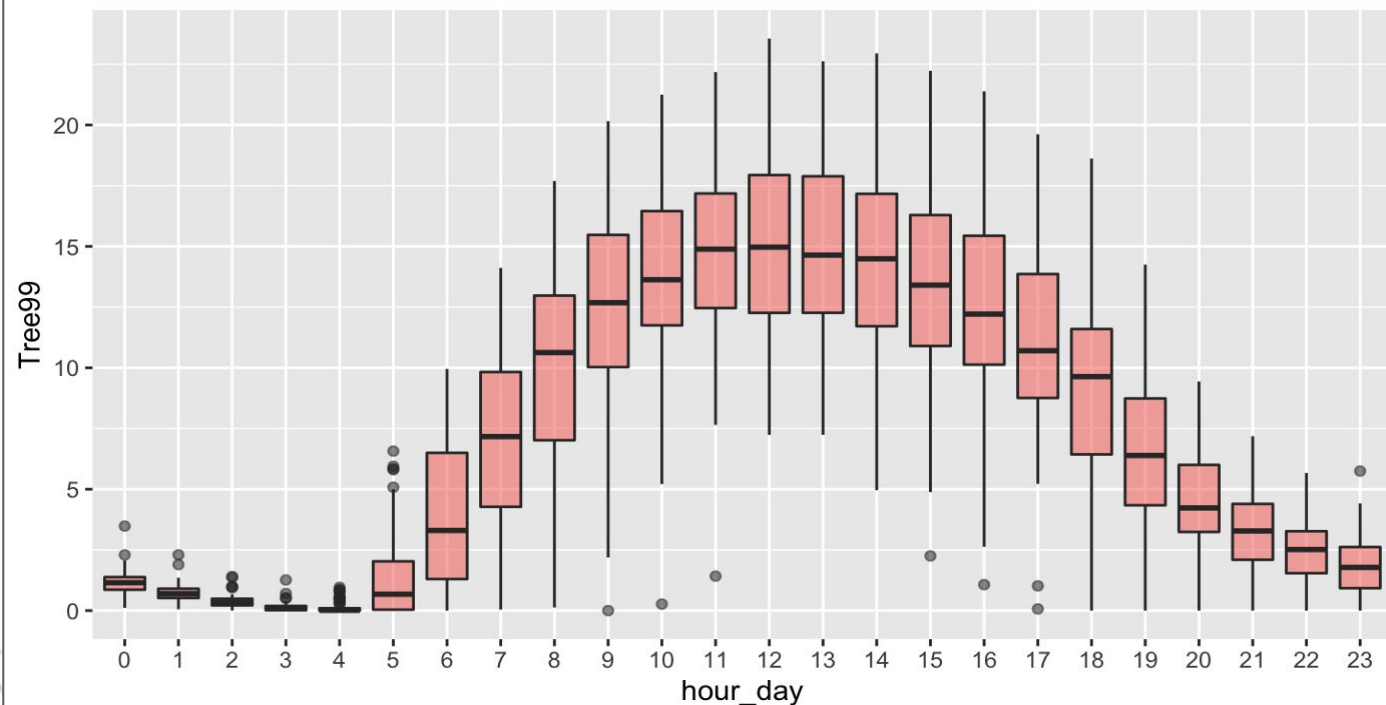


thermal - diurnal change



thermal - diurnal change

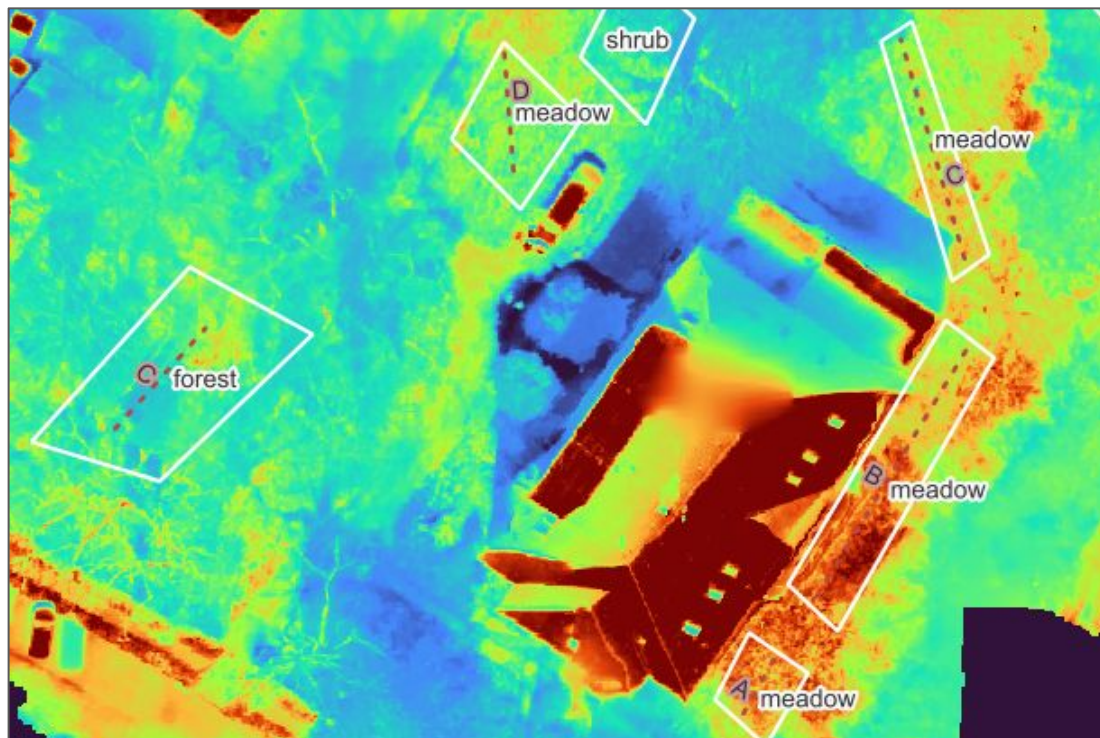
mean diurnal sap flow - June to August



Outlook

evaluate different spectral indices for stomatal conductance estimation properties

validate observations against Penman-Monteith derived ET





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Thank you for your attention!

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