Land surface – atmosphere interactions

Final exercise

WiSe2024/2025

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Exercise 1.1

The files sfcFluxes_*_2010-2013.csv contain the surface energy fluxes at different locations. Since the partitioning of the irradiance into the surface energy fluxes gives insight into characteristics of the landscapes, e.g. dry / wet location a mean diurnal cycle can be used for interpretation.

- Calculate the mean diurnal cycle of H, LE and G for each location if given.
- Calculate the net-radiation Rn or if required the respective surface flux.
- Make a plot, where all surface fluxes are displayed.

Exercise 1.2

- Describe and characterize the location by means of the surface energy fluxes.

Exercise 2.1.

- Pick four climate stations on four different continents and create climatic diagrams for all of them.
- Analyse these climate stations and describe the differences and the similarities of the stations you have picked.

Exercise 2.2

- Design a map with the locations you picked.

Due data is the 31. March 2025