Remote Sensing of National Park Utrechtse Heuvelrug

Evaluating impacts and recovery of the extreme 2018 and 2022 summer droughts

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Project description

In this project we will use remote sensing data to analyze vegetation dynamics in the National Park Utrechtse Heuvelrug. This forest ecosystem is affected by human factors, including pollution, nitrogen deposition and climate change. In particular, the extreme summer droughts of 2018 and 2022 had large impact, with water stress leading to reduced photosynthetic activity and increased mortality.

Using high-resolution remote sensing data we can observe impacts of these extreme droughts and analyze its recovery. We want to map the spatial variations to understand how various factors, including groundwater levels, soil conditions and species composition affect the sensitivity to drought. Here we will make use of a large dataset that has been collected over many years.

We are planning to use the results for a scientific publication and the BMA-student will be offered co-authorship for this publication. You will be working with a team enthusiastic staff and student researchers during the project.

Figure 1: *Mixed landscape of the Utrechtse Heuvelrug (left) and artist impression of Sentinel-2 satellite (right). Sources: NPUH and ESA.*

Job requirements

Some affinity with remote sensing data or Python is helpful. Also understanding of biological systems and interactions is valuable. Most important is a positive attitude and willingness to learn new skills.