Forest monitoring

Large-scale monitoring, vitality assessment and deforestation detection

Challenge

Large-scale forest monitoring using remote sensing data is crucial for effectively managing and protecting forests, especially in the face of challenges such as climate change, pest infestations, and rapid environmental changes. Remote sensing provides up-to-date, accurate, and comprehensive information on forest health, growth, and structure, enabling timely identification of plant stress, pest outbreaks, or deforestation.
Our forest monitoring service allows for the rapid detection of such issues over vast areas in a cost-effective and scalable manner.

Method

Our service uses satellite data from the Copernicus Programme which allows for dense time series of observations with 10 m spatial resolution. We automatically remove clouds from all imagery and use the infrared spectral information to derive indices on vegetation health. The evolution of these indices over time combined with environmental data then provides early insights into plant stress or deforestation.

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Solution

We offer an automatic forest monitoring service using Copernicus Earth Observation data. It allows for a routine vitality assessment and vegetation change detection on forest plot level or continuous grids with 10 m resolution.
We are happy to tailor our service to your needs, for example regarding update frequency, spatial resolution or desired forest variables. The service has been successfully implemented to monitor the state-owned forests in Ireland for the Irish forestry authority Coillte.