2022 ForestSAT

SPECIAL SESSION 4

Remote sensing-based field-data supported countrywide forest attribute maps - nice to have or must haves?

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The goal of the session

Precise and regularly updated information on the state, change and distribution of forests for entire countries is essential for the forestry sector and beyond. High-resolution forest attribute maps such as area, biomass or species composition, based on a combination of remote sensing techniques and reliable ground truth information e.g. from National Forest Inventories (NFIs), are of great practical relevance and potentially useful for optimizing forest management and planning activities. In the last years, repeated airborne campaigns (aerial images, lidar) became standard for many countries or states, however, were not always freely available and were often not acquired during the vegetation period. New opportunities are meanwhile given by the freely available Sentinel-1/-2 data, big data solutions and deep learning approaches. Moreover, huge RS data archives enable retrospective estimation of forest attributes over large areas.

Contributions of this special session are motivated by the increasing need of spatially explicit information of forest attributes over large areas complementary to NFI based estimations. Up to now, forest research is still mainly focused on case studies and the lack of countrywide applications limits practical relevance. This special session aims to bring closer research and practice and wants to support harmonization initatives among national data products.

Potential Topics

- Filling the gap between researchers (case studies) and practitioners (area-wide products)
- Countrywide / statewide mapping approaches of forest attributes (area, biomass, tree species etc.)
- Potential of huge remote sensing data archives for wall-to-wall applications
- NFI products based on complementary data sources
- Harmonization of forest attribute maps in Europe and beyond