(TE), Edge Density (ED), Mean Patcht Tdge (MPE) and Shape Index (SI). The Patch Size Standard Deviation (PSSD) and Patch Size Coefficient Variation (PSCoV) translated the variety of structural components inherent to the urban landscape, wich is noted by the diversity of anthropic and natural elements that are responsible for the urban ecosystem functioning.

Ensuring sustainable management of trees- on-farms in the off reserve landscape through tree registration and climate smart farming systems in Ghana

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Ghana has a total land area of 238,540 km^2 made up of two major vegetation zones. Approximately 18% of the country has been set aside as forest reserves and wildlife parks and the remaining 82% is owned by stools, skins and individuals across the country. All naturally occurring trees in off reserve landscapes are vested in the state but they occur in individual and community lands and farms. In the past farmers destroyed these trees because their cocoa farms were destroyed by felling of trees for timber and they could not get compensation or any support from the state. To achieve Ghana's Forest policy goals and objectives of the forest Plantation strategy, Ghana is implementing a programme to provide legal support for farmers, optimize the productivity and sustainability of smallholder farming systems by developing appropriate technologies that involve trees (incorporation of trees-on farm within 3.75 million hectares) and enhances connectivity and biodiversity between the agricultural and forest landscapes. A pilot programme to register all planted and naturally occurring trees at the district level has began with recent support from Climate Investment Fundthrough Ghana's Forest investment programme(GFIP) to provide options for tree tenure regimes, tree ownership and benefit sharing mechanisms for farmers to plant more trees. This paper highlights the importance of trees on farm for landscape restoration, legal framework and the procedures for tree registration, identified strengths and weaknesses and potential for carbon stock enhancement

Historical tree cover percentage of trees outside forest: methods and challenges for urban tof when using landsat imagery

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Urban trees are a particular class of "trees outside forests" and they have particularly relevant functions in many urbanized regions and settlements. Accordingly, tree resources management increasingly demands relevant and updated information on urban trees, their cover, diversity, spatial configuration and functions. Even though remote-sensing satellite sensors have, in general, proven very useful for estimating forest and tree cover in many contexts, still many related methodological issues require a closer look, also when it comes to monitor changes in tree cover back in time. This study examines how spatial configuration and spectral reflectance of tree cover may affect the pixelwise tree cover estimation in an urban setting and in turn identifies methodological challenges for the estimation of historical tree cover when establishing time series. We give an example how a global tree cover product "struggles" when the focus is on urban tree cover. Our study area is the rural-urban gradient of the very fast-developing megacity, Bengaluru, India, where we cover a wide range of tree densities and tree spatial configurations. This study area is a perfect ground to shed lights on the issue when estimating continuous tree cover percentage from Landsat time series.

Mapping Trees Outside Forest and their contribution to the above ground biomass

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Trees in non forest setting are coined as Trees Outside Forest (TOF) which is considered as essential resource around the world. TOF provides different social, economic and ecosystem services including carbon and biomass storage. TOF shows unique property as it is part of another land class which makes it difficult in many places to access due to the ownership of private land. Moreover, it is also tedious and expensive to do inventory in a traditional plot based survey because of their spatial position in landscape level. But the method in combination of remote sensing and few ground data can be promising. In this study, we used remote sense based approach using very high resolution imagery to map TOF and their biomass potential in an agriculturally dominant landscape. Object based image analysis was used to delineate TOF cover from other land class and to model their biomass potential. The method shows feasibility for TOF and biomass mapping and it could be a potential supplement of ground inventory data.

Other lands with trees at Brazilian Forest Inventory (NFI-BR)

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National Forest Inventory (NFI-BR) is under development in many Brazilian states, aiming at generating information on forest resources, from natural areas and forest plantations and based on a 5-year measurement cycle. Besides field data collection, the program includes an initiative that comprises remote sensing and landscape scale spatial analysis, which consider aspects such as land use/land cover (LULC). Those are called landscape sample units (LSUs) which are established at each 40 x 40 km. The LSUs are 100km^2 wide areas with RapidEye satellite imagery coverage. A methodology for image classification and landscape analysis was developed based on 20 LSU pilot sample units. Object-oriented classification using a process tree was adopted, through which the size of the segments between 1,000 and 500m^2 was defined, in order to detect the presence of small forest fragments. The classification of LULC was based on FAO protocols for Forest Resource Assessment (FRA) 2015: a) natural forests; b) planted forests; c) other wooded land; and d) other lands with trees, the only one that is located in non- forestlands, as agricultural or urban areas. This LULC class covers part of the so called "trees outside forests (TOF)" concept, as defined by FAO. Through the methodology and considering the sensor with spatial resolution of 5 meters, it was possible to detect that this class corresponds on average to 38 hectares of each pilot area, with an average frequency of 171 polygons per LSU. They can be also considered as stepping stones in the connectivity process of the forest landscape.