

Nowadays, efficient urban planning cannot be conceived without carefully considering its ecological footprint. In particular, the smart design and monitoring of urban green areas is an important challenge in modern cities to promote human well-being and to mitigate other linked issues, such as urban heat, rainwater infiltration, and native biodiversity loss. The analysis of land use and land cover evolution oriented to green areas in cities is a key task in this direction, which entails the integration and management of large volumes of earth observation spatial data from remote sensors, near sensor web technologies, as well as geositioned information collected by citizens. These geospatial sensing data should be duly integrated, analysed, visualised and shared to enable citizens to take advantage of them as they cannot deal with them as raw data. Therefore, the generation and deployment of big data computational platforms are crucial to support advanced services for urban environmental monitoring, which provide citizens with the means to harness satellite and spatial information. In this work, we present Green-Senti, a spatial big data framework oriented to urban green area monitoring, which is based on the acquisition and processing of Sentinel-1/2 images. This also includes incorporating services for the collection, integration, analysis and sharing of additional data, such as geositioned land tastings, web visualization and linked open data repositories. The architectural design and implementation of the proposal are described, with special emphasis on the services and APIs generated to allow interoperability with external platforms. This proposal takes advantage of MongoDB and HDFS to organize and distribute all the integrated data in a Hadoop Cluster. Data analysis provided includes the calculation of several monitoring indicators, such as NDVI, NDWI and GVMi.