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Sat4Φorest: Mapping and Monitoring of Greek Forests for the Greek National Satellite Space Project

Charalampos Kontoes[1], Ioannis Gitas[2], Dimitris Stavrakoudis[2], Vasiliki Betty Charalampopoulou[3], Dimitris Bliziotis[4], Christina Karakizi[4], Ana-Sofia Oliveira[5], Ariane Muting[5], Alkyoni Baglatzi[3], Georgia Galidaki[3] and Dimitris Sykas[3]

[1]*Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing, National Observatory of Athens, Athens, Greece 15236, Greece*
[2]*Aristotle University of Thessaloniki, School of Forestry and Natural Environment, Laboratory of Forest Management and Remote Sensing, Thessaloniki, Greece 54124, Greece*
[3]*Geosystems Hellas, Athens, Greece 11632, Greece*
[4]*Hellenic Space Center, Ministry of Digital Governance, Athens, Greece 15231, Greece*
[5]*European Space Agency, Noordwijk, 2200 AG, The Netherlands*

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Abstract

Sat4Φorest is the forest monitoring service developed under Axis 3 of the Greek National Satellite Space Project (GNSSP), an initiative of the Ministry of Digital Governance, which aims to develop of a fully Greek- owned microsatellite constellation of 13 satellites equipped with thermal, multispectral, hyperspectral, and SAR sensors. Sat4Forest is designed to maximise the added value of GNSSP for Greek forest by delivering timely, consistent, validated and regularly updated earth observation-based information to the national authorities. Sat4Φorest integrates multisource data derived from the multispectral and hyperspectral sensors to deliver products of forest species mapping, wildland fuel type mapping, forest health assessment, biodiversity mapping, and forest threats monitoring, including urbanisation, deforestation, forest diseases, and drought-related pressures. These products will be produced annually or biannually at national level and in high spatial resolution of 5 m or 10 m and be available to users through a central governmental hub. These products provide actionable information for forest management, wildfire prevention, and protection of natural resources, contributing to the advancement of Greek forest ecosystems' resilience and sustainability under growing climate-related challenges.

Keywords: Greek National Satellite Space Project (GNSSP), Earth Observation, Forest Mapping, Forest Monitoring, Micro-Satellites

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