CIHEAM
MAI CHANIA

Research Highlights

FORESTRY

TREEADS

Identification of fire incidents and deployment of UAVs for real-time monitoring

StrategyMedFor

Development of a Strategy for Sustainable Management of Mediterranean Forests employing geospatial data, remote sensing, GIS & climate modelling

AGRICULTURE

CHAMELEON

Multi-purpose drone for monitoring livestock, vineyards and forests

Agrarian
Farming on the Edge

Agricultural DSS, integrating variable datasets and EO data with edge-computing analysis capacities

Transforming Agriculture In North Africa

NATAE
North African Transition to AgroEcology

Employing EO to supplement/replace in-situ land cover and crop types for evaluating agro-ecological practices in N. Africa

Current Research Priorities – Ongoing Projects

Developing a holistic, risk-wise strategy for European wildfire management

- Fuel mapping
- Fire danger index development

Digital Agriculture and Forestry: Understanding the Market to Forecast and Support Future Growth

- Data collection via forestry observatories
- Review of the current adoption and uptake level of technological solutions in forestry

National Observatory of Forest Fires

- Operational Burned Area Mapping Service

Remote Sensing Technologies Training

- Training material preparation

Greek Observatory of Forest Fires

- Post-fire vegetation monitoring

Greek National Forest Inventory

Formulation of a strategy for forests adaptation to climate change and its mitigation

- Vegetation species mapping at a national level

Current Research Priorities – Upcoming Projects

Community-Led Creation of Living Spaces in Shifting Landscapes for Climate-Resilient Land Use Management and Supporting the New European Bauhaus

Satellite-Based Services to Support Sustainable Land Use Practices Under the European Green Deal

Informed Decision-Making for Agroforestry Systems in Africa through a Network of Living Labs

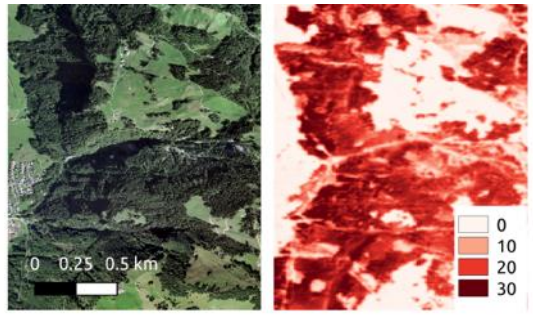
Greek National Satellite Space Project:
AXIS 3 Forest Monitoring Service

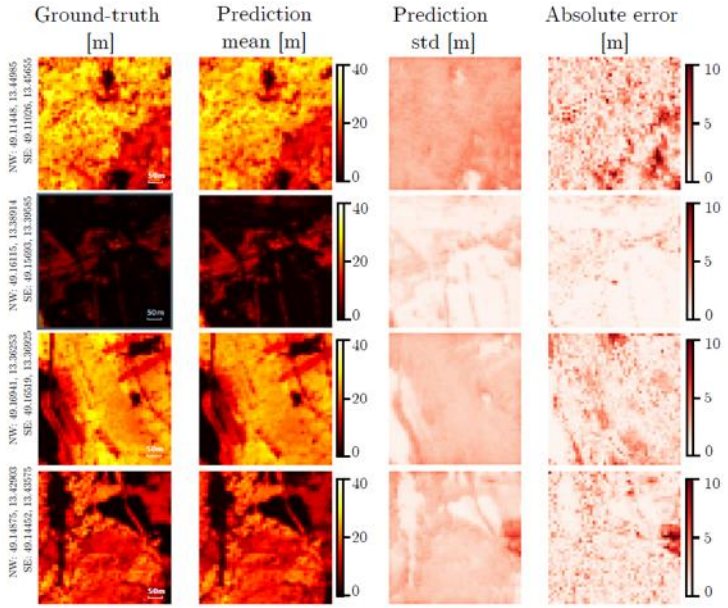
eos

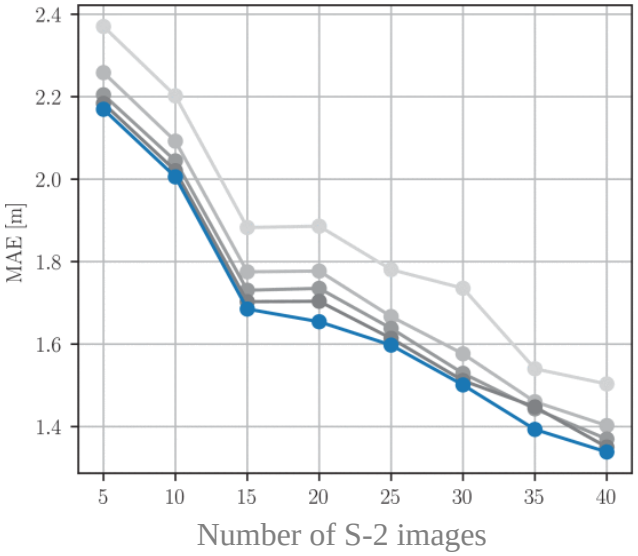
CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS

imaging life, planning the future

Canopy height service





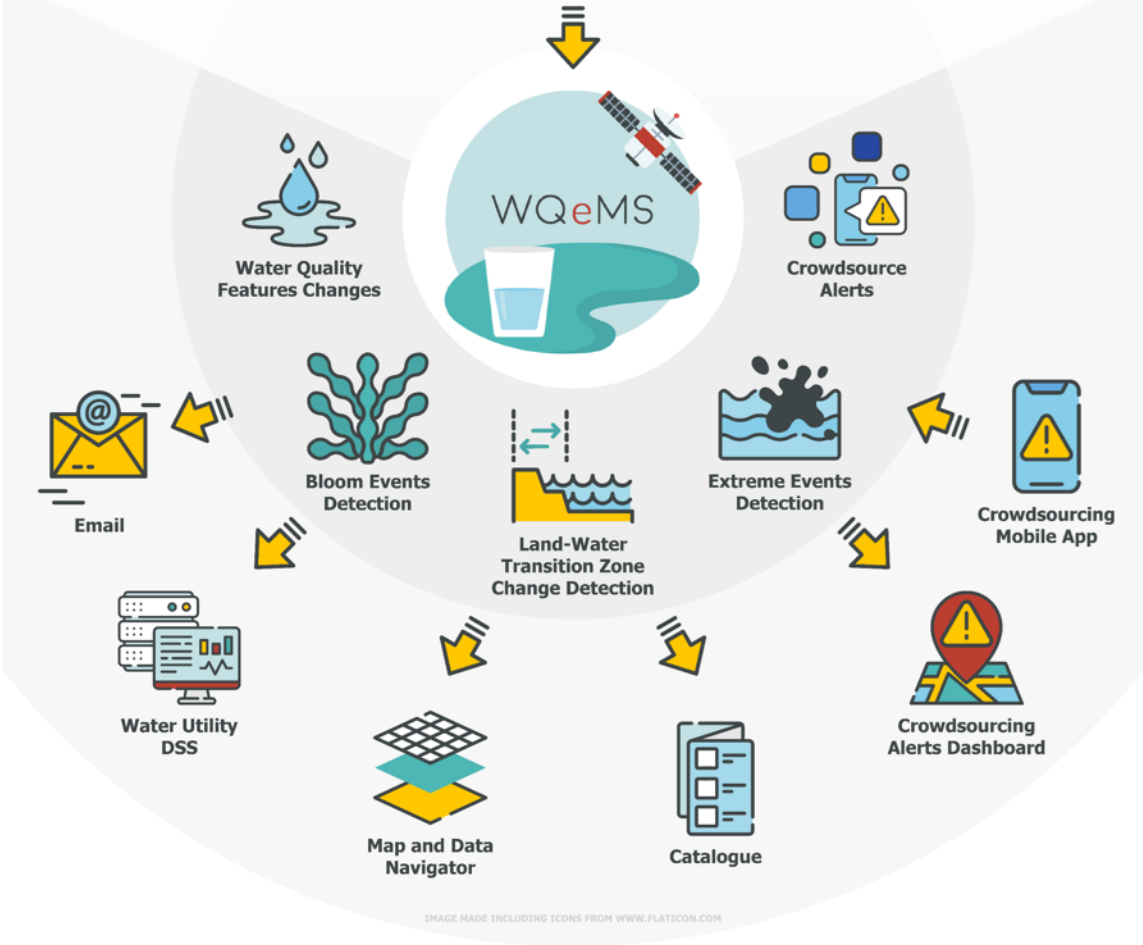


L. Alagialoglou, I. Manakos, M. Heurich, J. Cervenka, A. Delopoulos, A learnable model with calibrated uncertainty quantification for estimating canopy height from spaceborne sequential imagery, 2022, IEEE Transactions on Geoscience and Remote Sensing, DOI: 10.1109/TGRS.2022.3171407

Water quality monitoring

Copernicus
Europe's eyes on Earth

ONDA



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UNIVERSITY OF THESSALY

Monitoring and forecasting urban expansion with earth observation and geoinformatics using optical (day and night) remote sensing data

Machine Learning techniques

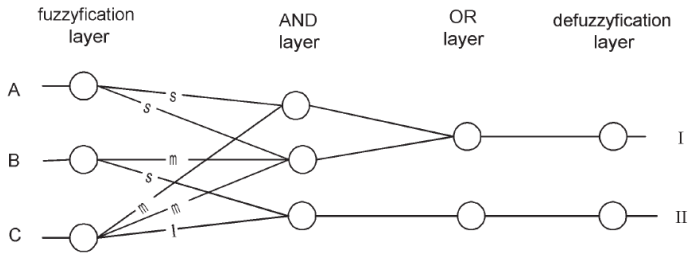

Figure 1. Conceptual skeleton of a simple GNN. A, B, and C are the input dimensions. I and II are the two output classes. Small letters on connections correspond to weights (i.e., small, medium, and large fuzzy sets).

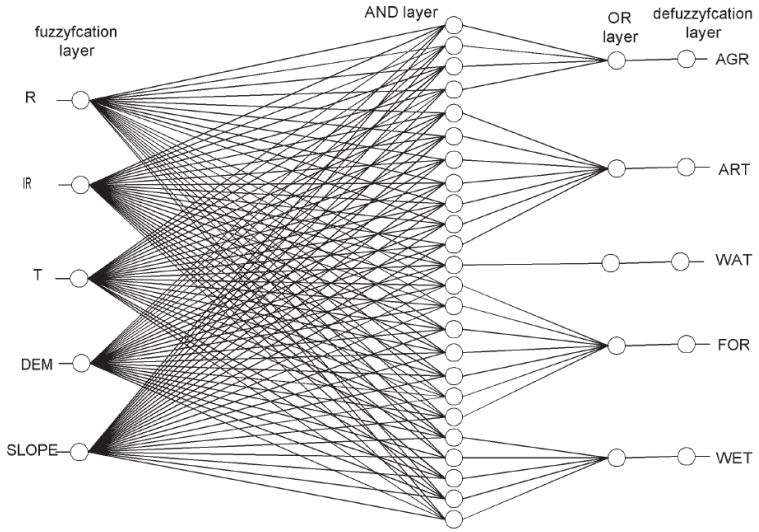

Figure 3. Resulting GNN skeleton after pruning.

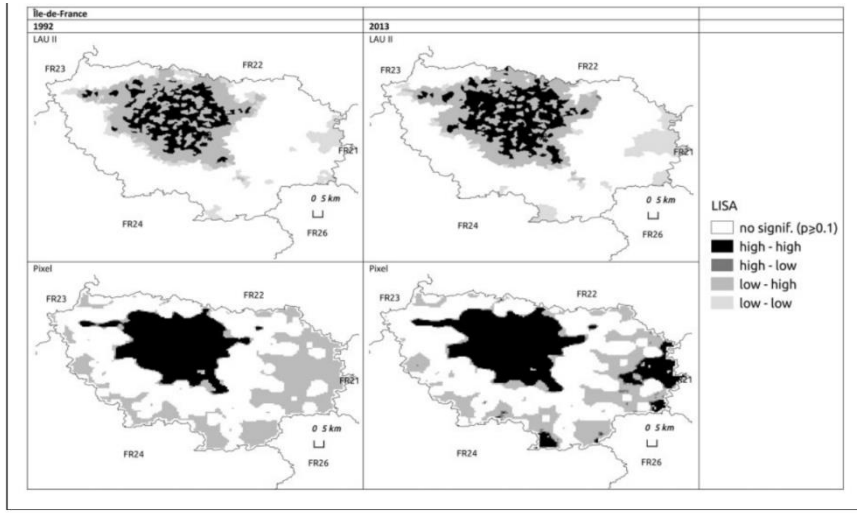

Figure 2. LISA cluster map of lighting for the regions of London and Île-de-France in 1992 and 2013.

D. ... LISA: Local Indicator of Spatial Association. 3–141

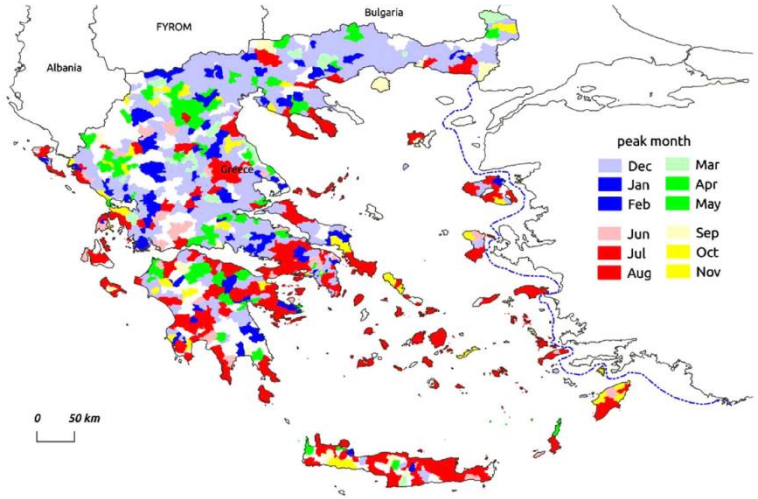

Fig. 5. Peak month.

FORTH
FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS

RSLab

urbisphere

coupling dynamic cities and climate

urbisphere is a Synergy Project funded by the European Research Council (ERC-SyG) that aims to forecast feedbacks between weather/climate and cities.

With new synergies between four disciplines (spatial planning, remote sensing, modelling and ground-based observations), city dynamics and human behaviour - including human vulnerability - are incorporated into weather and climate forecasts/projections.

The analysis couples urban form (e.g. building structures) and function (e.g. housing, work, recreation), and hence helps understanding of where and when vulnerable people are exposed.