

SPACE OPPORTUNITIES FOR CLIMATE CHALLENGES

SATELLITE-BASED DATA FOR THE EUROPEAN GREEN TRANSITION



eurisy
ACTING COLLECTIVELY TO
BRIDGE SPACE AND SOCIETY

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Living Planet Symposium 2022



Members



Approach



Facilitator → EXPLORE

Raise awareness of satellite applications to help professional communities in many sectors: from transport to risk management, from habitat protection to energy, from climate change to the IoT.



Matchmaker → CONNECT

Support potential end users of satellite applications by leveraging its vast network among space and non-space communities; understanding patterns and links and/or creating them for mutual benefits.



Adviser → INFORM

Provide feedback to decision-makers on possible measures to overcome obstacles in diffusing space-derived innovation in society.



SPACE FOR ENVIRONMENT

- Contribute to identification of users' needs and challenges and favour their interaction with service providers;
- Contribute to the promotion of satellite-based solutions' benefits for the relevant community;
- Support the development of policy recommendations for a wider uptake of satellite-based solutions.

Space Opportunities for Climate Challenges



Climate Change Awareness



The Latest Satellite Applications



News, Funding Opportunities, Network



Monthly Recurring Webinar



Almost 600 registrations



50 attendees on average (majority from European SMEs, universities, governmental agencies and European institutions)



39 speakers over 17 countries

Multidisciplinary:

- Research: 11
- Business: 21
- Public: 7



DECEMBER
2020

Space for Plant Health

Space for Marine
Environment

JANUARY
2021



FEBRUARY
2021

Space for Energy

Space for Forestry

MARCH
2021



APRIL
2021

Space for Smart Mobility

Space for Water Resources

MAY
2021



JUNE
2021

Space for Smart Cities

Space for Sustainable Tourism

JULY
2021



Rooting for plant health

EU'S BIODIVERSITY STRATEGY FOR 2030

EARLY DETECTION OF PLANT STRESS



Policy brief to promote the operational use of satellite remote sensing to detect, monitor and fight plant pests.



MONITORING INVASIVE PLANT SPECIES

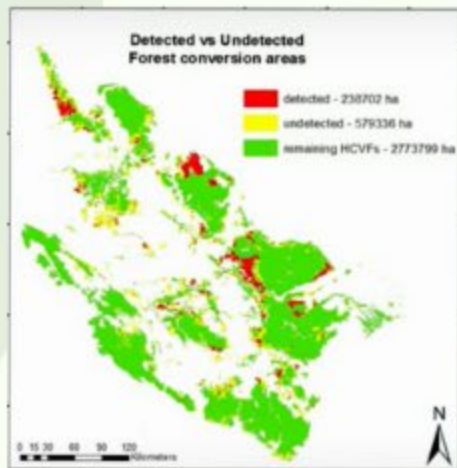


Development of invasion at the landscape scale of Hogweed in the Czech Republic from 1962 to 2006.

Satellite imagery: RapidEye



MAPPING ILLEGAL LAND CONVERSIONS



Oil palm plantations replacing high conservation value forests and vulnerable habitats in Indonesia. Satellite imagery provides objective information for law enforcement on the detection of illegal land conversions.

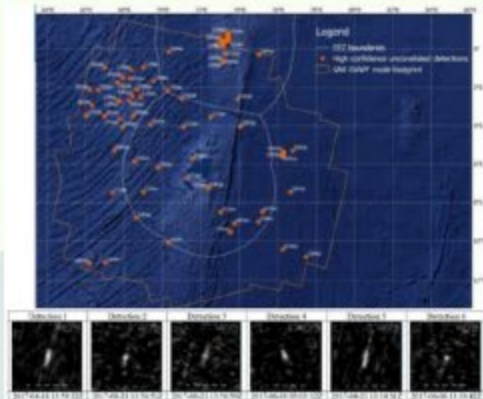
Setting course for sustainable maritime activities



THE EU BLUE ECONOMY



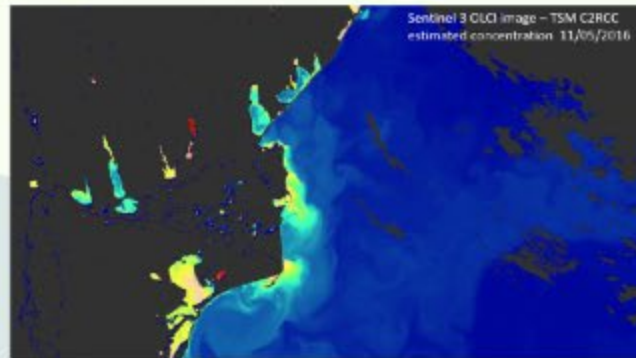
DETECTING DARK VESSELS & OIL SPILLS



With a combination of satellite images, automatic identification of shipping transmissions and AI analytics, so called “dark vessels” can be detected. These are vessels behaving suspiciously which can be an indicator for unlicensed catch.



MONITORING COASTAL CHANGES



Sentinel-3 imagery of water and sediment fluxes transfer to the Black Sea and its effects on the coastal zone. This enables scientists to improve climate change analysis in transitional areas.



MARITIME AWARENESS



The MARINE-EO cloud platform for the provision of Earth observation services, such as monitoring the marine environmental status, detecting fish farm threats, and the detection of vessels and icebergs in the Arctic zone.

Powering the renewable energy transition



EU CLIMATE-NEUTRALITY BY 2050



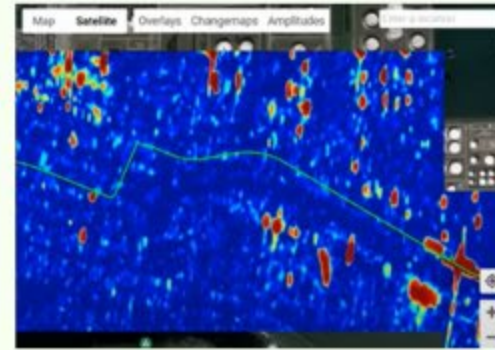
OFFSHORE WIND



The Maritime Spatial Planning Challenge provides an engaging tool to draw offshore planning for windfarms. The app offers multiple layers such as wind speed, wave height, and sediments with information derived from Earth observing satellites and other in-situ data.



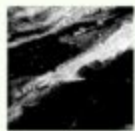
ENERGY CORRIDORS



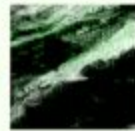
Orbital Eye uses satellite remote sensing (optical and radar) combined with AI to monitor ongoing activities and changes around the energy grid to identify leakages, prevent accidents, and to reduce harmful emissions.



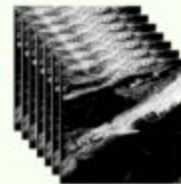
Raw Meteosat-10 images converted into radiance (2012-06-16 12:00 and 12:15)



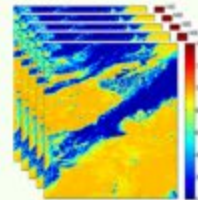
Cloud index images



Cloud motion vector fields computed using topological flow analysis



Forecasted maps of cloud index



Forecasted maps of irradiance



FORECASTING SOLAR IRRADIANCE

Reuniiwatt's offers solar resource assessment and forecasting services. Using satellite archives and real-time data, the company provides site assessments about solar yield for solar plant optimisation, and forecasting services for grid management.

Sustainable tourism: Destination Earth



DIGITAL & GREEN TRANSFORMATION OF THE TOURISM ECOSYSTEM



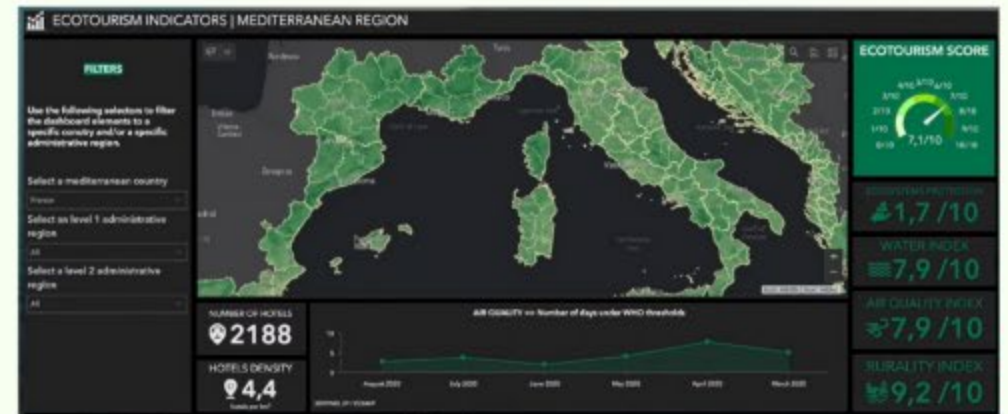
PUBLIC PARTICIPATION GEOGRAPHIC INFORMATION SYSTEMS

Eco-heritage trail drafted on digital satellite-based maps by local communities in Malta connecting sites of interest and safeguarding green areas and blue open spaces.



GREEN-TECH FOR SUSTAINABLE TOURISM

Flockeo, a dedicated sustainable tourism web platform developed by Murmuration, is helping local authorities and territories to understand and reduce the impact of tourism on the environment thanks to indicators calculated from Earth observation data.



CONCLUSIONS

- **Satellite solutions can contribute to the green transition in different domains**
- **Untapped potential when it comes to the deployment of satellite-based services**
- **Operational solutions bear a variety of cases from the local city level to a global scale**

Publications

Rooting for Biodiversity
From monitoring alien plant species to detecting oil spills

WEUGreenDeal

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Groundstation
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Space to drive the smart and green mobility transition

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Setting course for sustainable maritime activities

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Space data for urban green spaces

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Satellite applications for sustainable forestry

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Satellite data streams for Europe's freshwater

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Powering the renewable energy transition

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Space data to make the tourism industry sustainable

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