

# The strategic role of Earth Observation for Territorial Planning in Veneto Region



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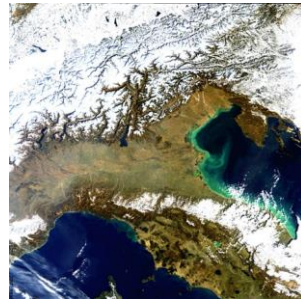
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# The strategic role of Earth Observation Data at regional level

## TECHNICAL DRIVING FACTORS

- Technologic development
- Data availability, increasing number of satellites
- Spatial and radiometric resolution
- Downstream applications



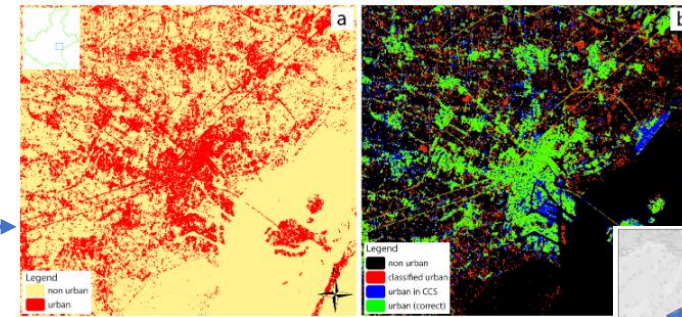
## DATA CONTRIBUTION AT REGIONAL LEVEL

- Fast, evolving territory dynamics
- Increased availability and quality of EO data, Integration with Regional SDI
- Spatial information as decisions support tool
- Data-driven decisions and more efficient territory policy management
- Positive effects on citizens and business, greater attractiveness

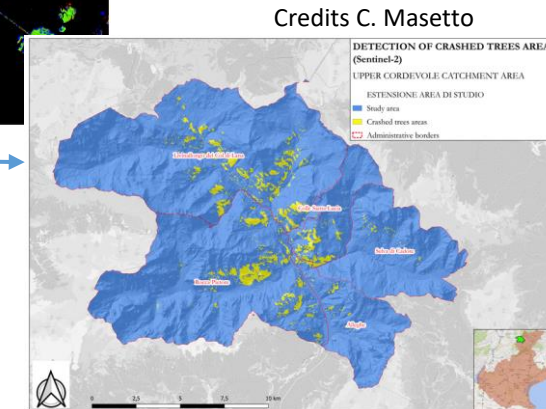
# Some applications of Veneto Region in the domain of Earth Observation (1)

During the years, several practical applications of earth observation and space technologies have been deployed. Some examples:

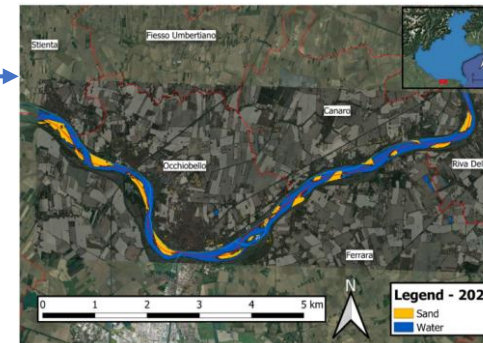
- **Urban planning:** urbanized areas (change detection), land cover map
- **Emergency:** Crashed trees areas detection
- **Land Monitoring:** Monitoring of soil deformations
- **Land Monitoring:** Impact of seasonal drought on Po river
- **Spatial Data Infrastructures:** remote sensing webGIS (IDT Veneto Region)
- **Emergency:** Wildfires detection
- **Positioning:** Regional GNSS Network



Credits: A. Semenzato



Credits C. Masetto

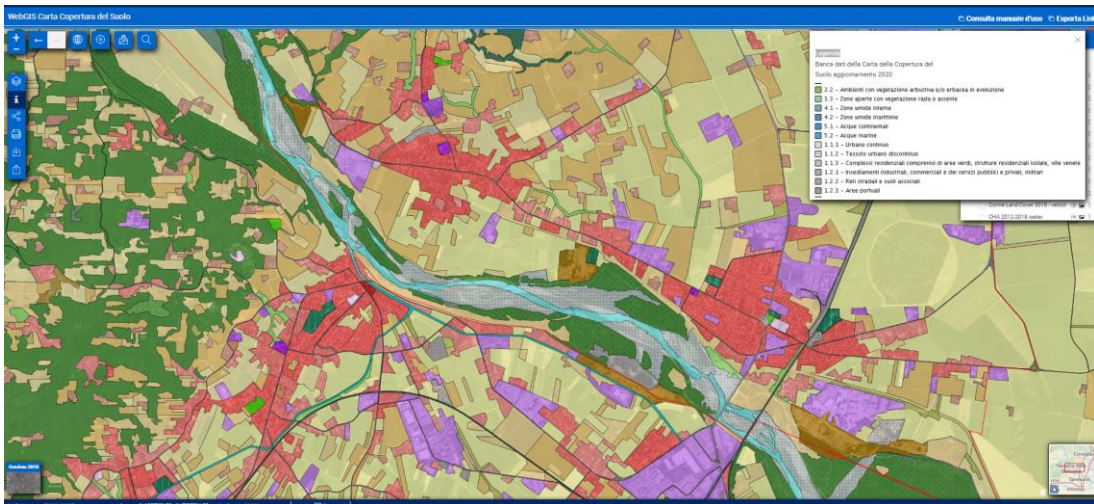


Credits: L. Mora, L. Toma



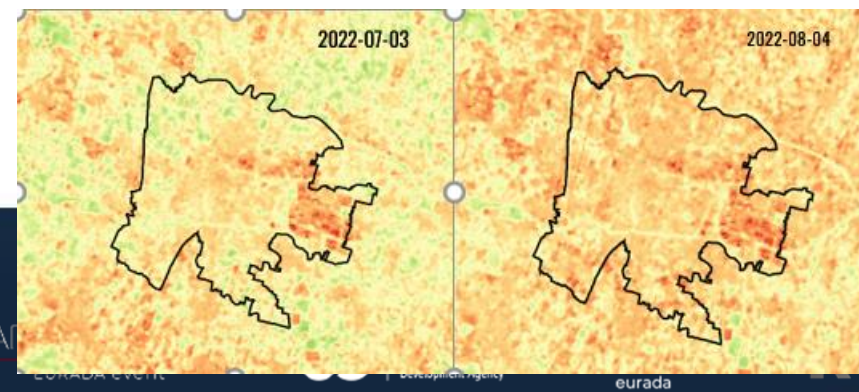
# Some applications of Veneto Region in the domain of Earth Observation (2)

- **Urban planning:** land cover map update (based on EO data)



- **Forestry:** monitoring of wood damages caused by bark beetle (vegetation health monitoring with EO data)
- **Heat islands monitoring:** temperature time-series analysis for urban heat-island detection (City of Padua)

Credits: D. Piccolo





# Benefits deriving from the combined use of Earth Observation Data and SDI

Most of EO applications in territorial planning have real positive impacts for public sector, citizens and private companies, in terms of sustainability, costs reduction, socio-economic development.



## HOW?

1. An updated information on territory implies a **better and reliable spatial planning, at different scales** (e.g. reducing soil consumption, prevention of building abuse, environmental monitoring..)
2. More and updated information → **better, more efficient policy management**
3. The availability of satellite and positioning data **can bring to the creation of new services and businesses** (e.g. GNSS positioning and health vegetation for agriculture, forestry management..)
4. Analysis of time-series data can **highlight regional phenomena and spatial correlations** (e.g. heat island, land monitoring...)
5. The use of satellite data can lead to a **strong reduction in** costs for monitoring actions, eliminating or reducing on-site inspections (e.g. land surveys, environment, but also cadastre, agriculture payments...)
6. Active contribute to the **disaster prevention** and to the **achievement of Sustainable Development Goals** (Agenda 2030)
7. From the experience of the Veneto Region, the use of EO data can be an important **driving force for synergies** between the public and private sectors



# Thank you.

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