

**Development of downstream applications supporting Sectoral Information System under Copernicus Climate Change Service:**

# **System for automatic land use change detection**

**Online Workshop on 31<sup>st</sup> January 2022**

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# Agenda

- Land use/land cover change products available under Copernicus framework
- Proposed Land Use Change (LUC) application:
  - Novelty
  - Application schema
  - Polish case studies
  - Next steps

# Land use/land cover change products available under Copernicus framework



## Copernicus Climate Change Services:

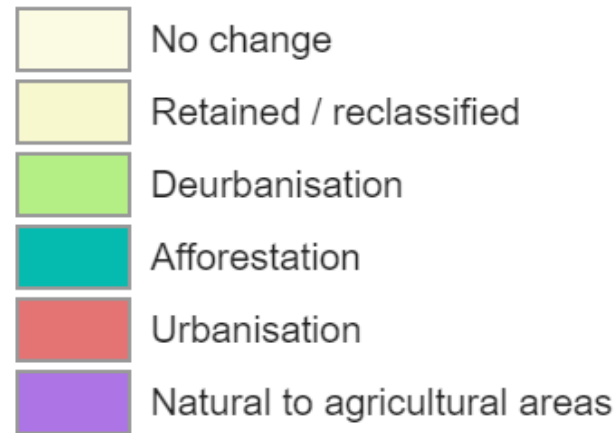
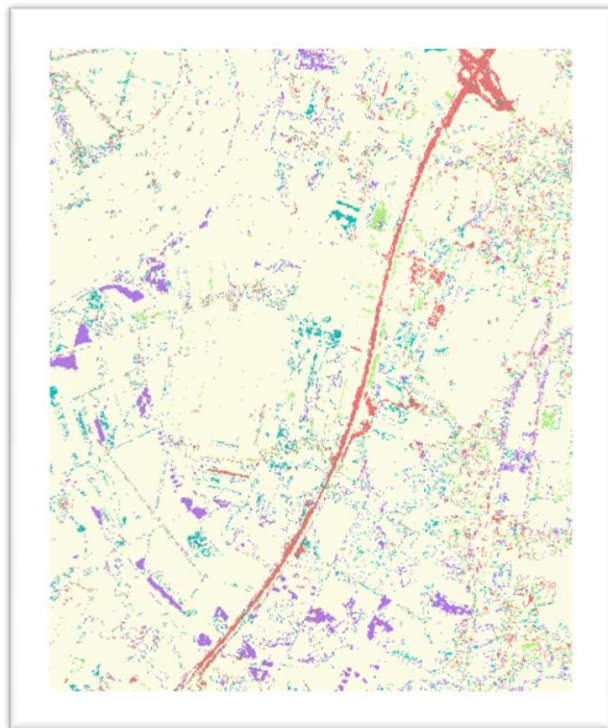
- Global:
  - The United Nations Food and Agriculture Organization's (UN FAO) Land Cover Classification System (LCCS) at **300 m** resolution. Land cover classification gridded maps are provided for the period **1992-2020, yearly**.

## Copernicus Land Monitoring Service:

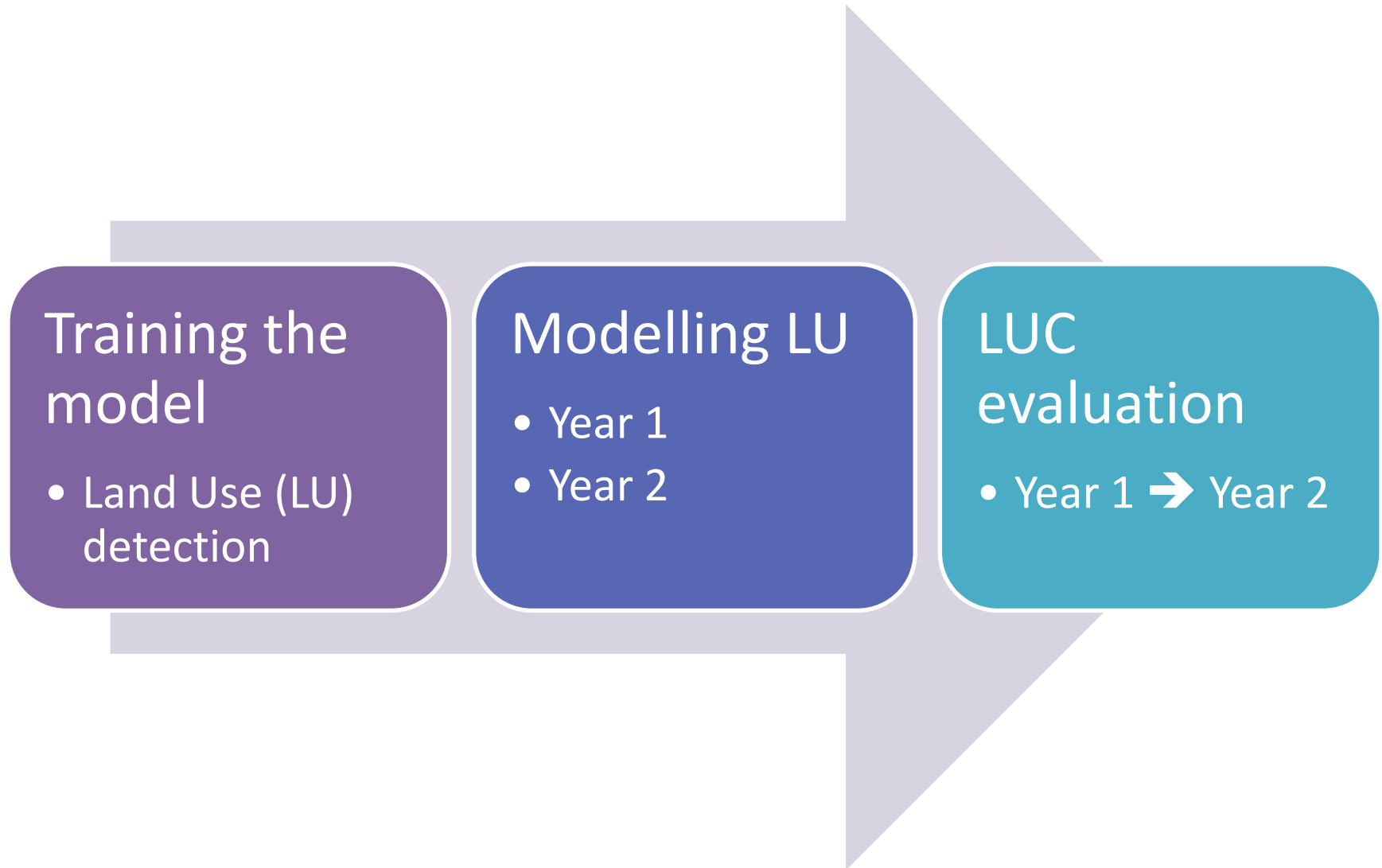
- Global
  - The Copernicus Global Land Service (CGLS) Dynamic Land Cover map at **100 m** resolution, provided for the period **2015-2019, yearly**.
- Pan-European:
  - The CORINE Land Cover (CLC) vector inventory produced in **2000, 2006, 2012, and 2018**
    - Land cover **changes** in European countries in **2000-2018**

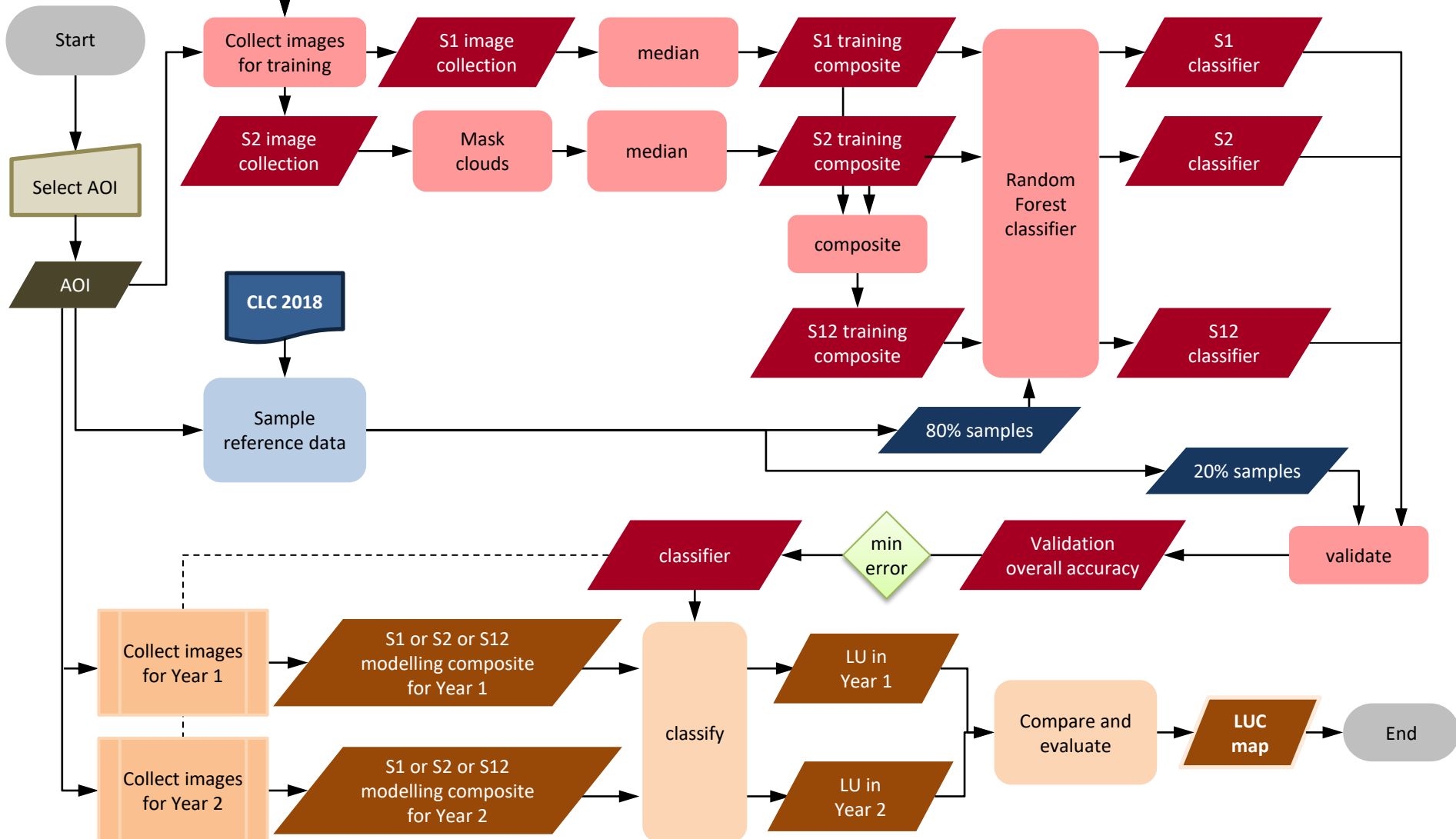
# Proposed application: Novelty

- Satellite input: **Sentinel-1 SAR GR, Sentinel-2 MSI Level-1C and Level-2A**
- Spatial resolution: **10 m**
- Temporal resolution: **yearly, 2015 (2019) – 2021**
- **Evaluation** of Land Use Change:



# Application schema: main workflow





# Polish case studies

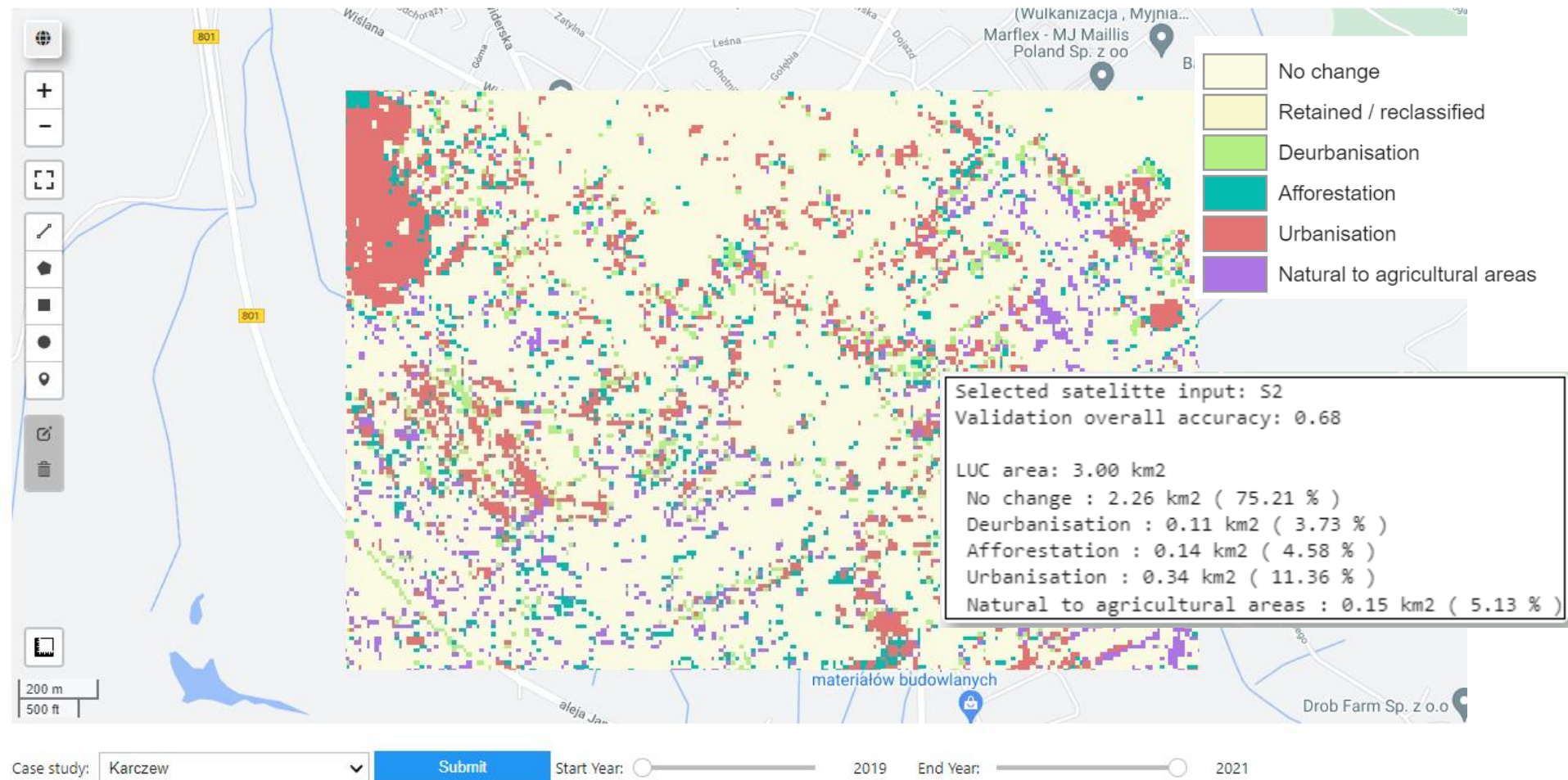


# Presentation



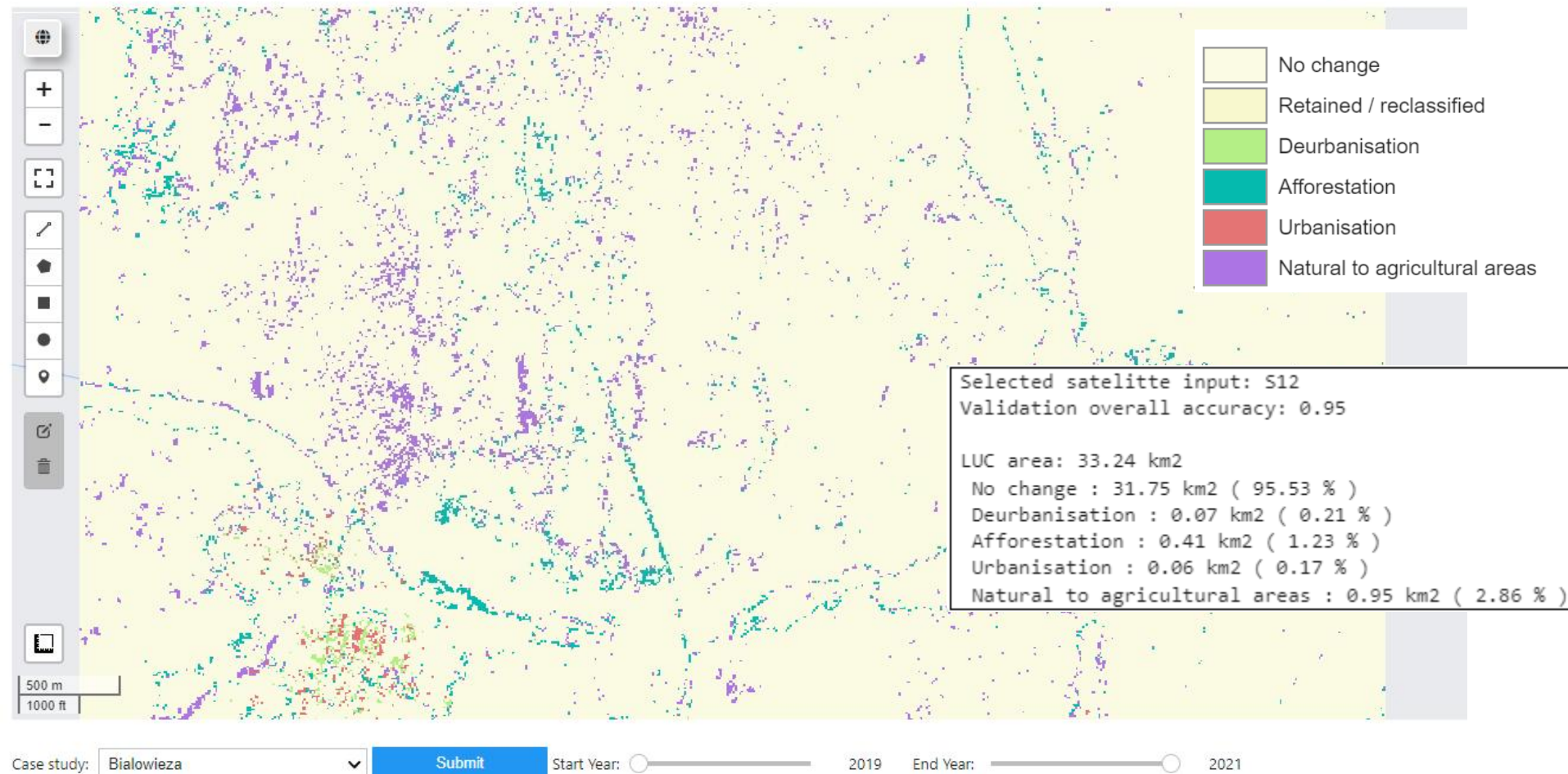
# Polish case studies: Karczew

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# Polish case studies: Białowieża

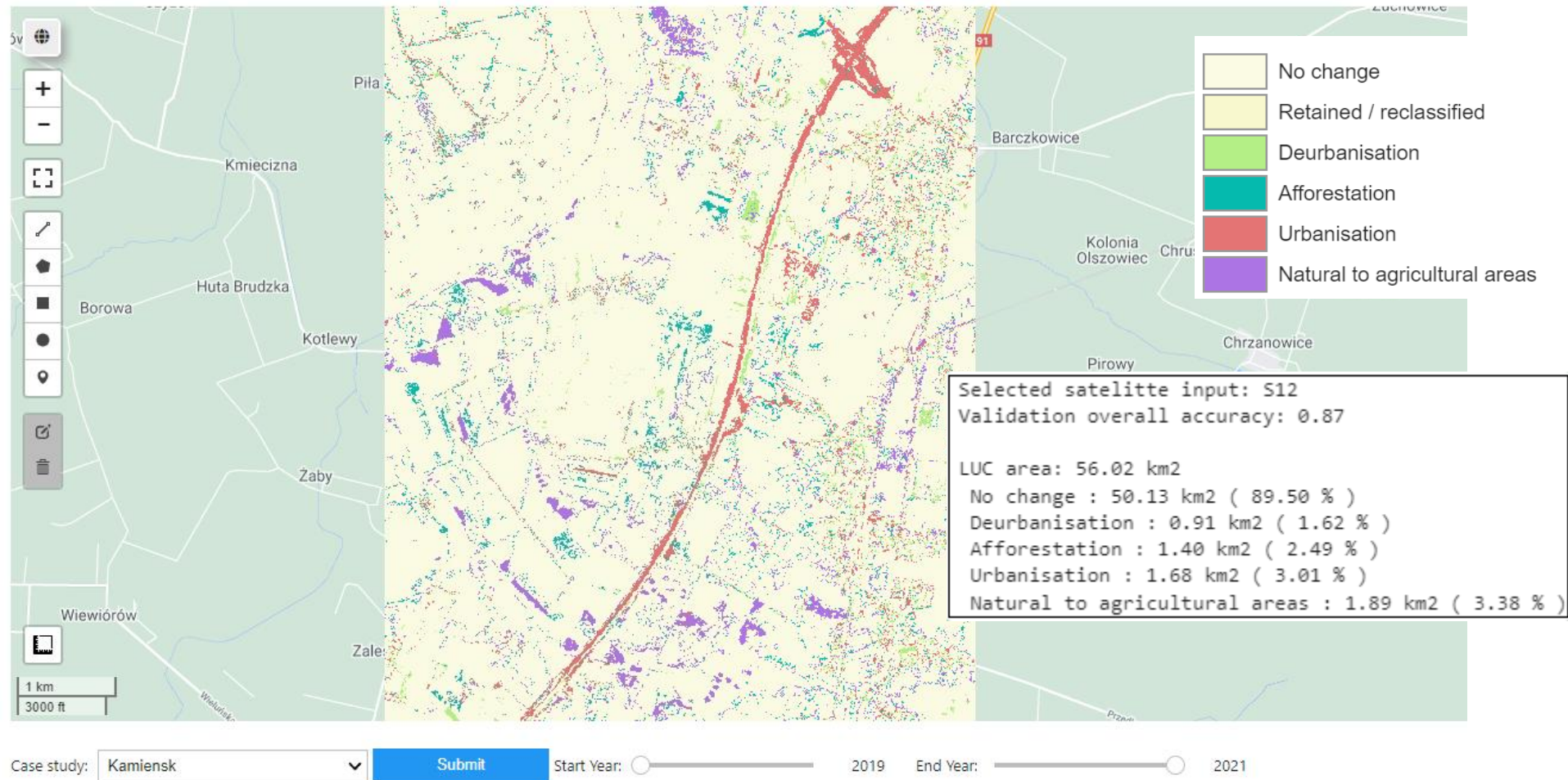
FPCUP: Development of downstream applications supporting Sectoral Information System under Copernicus Climate Change Service





# Polish case studies: Kamieńsk

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# Next steps

- New functionalities:
  - Adding Sentinel-2 Level 1C input images
  - Deliniation of „clumped” LUC areas
  - Improved User Interface
- Consultation with Users
- Preparing the application for sharing in open-access

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# **Thank you!**

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