GAUSS
GENERATING ADVANCED USAGE OF EARTH OBSERVATION FOR SMART STATISTICS

EXTENT AND CONDITION OF GREEN AREAS
IN POLAND

Green areas, particularly in urban agglomerations, play a crucial role at the local level by providing recreational and bioclimatic regulation functions. These green spaces offer opportunities to enhance the physical and psychological health, foster community cohesion, and make cities and neighbourhoods more appealing places to live and work, thus improving the overall quality of life for urban residents.

Statistics Poland is actively involved in improving the quality and timeliness of regional well-being statistics. Their specific focus is on collecting data related to the extent and quality of vegetation at the commune level (Local Administrative Units, LAU). Currently, national-level information on green areas is characterized by heterogeneity, obsolescence, and incompleteness, as it is generated individually by local governments with significant time gaps. This poses challenges in integrating quality-of-life indicators, such as health status, with information on the impact of green areas.

To address this, the project has developed a service that utilizes data from the European Sentinel-2 spacecraft, the High-Resolution Vegetation Phenol-ogy and Productivity product provided by the Copernicus Land Monitoring Service, and in-situ data. Topographic Objects Database (BDOT10k) is employed to determine the characteristics of green areas, particularly in urban agglomerations. Annual statistics on green areas are supplemented with a raster preview covering the entire territory of Poland. This empowers end-users to monitor the green areas generated by the system and modify the delineation procedure at each stage of data processing.

The results of this GAUSS project part are dedicated to Statistics Poland's Department of Innovation. The extent and condition of green areas from 2017 to 2022 will be published on the experimental portal of Statistics Poland, accessible at the following link: https://smup.gov.pl/. The purpose of the Public Services Monitoring System (SMUP) is to provide local government entities, businesses, and the general public with comprehensive information for evaluating services at the local level. This information is based on resources from public statistics and data collected by the administration from various sources. The system aims to organize and provide access to high-quality data on public services, presenting indicators at the municipal level to all interested users of the system.

Results from subsequent years will be promptly uploaded as HR-VPP data becomes available in the Copernicus Land Monitoring Service. The data obtained in this project are experimental and will be incorporated into Polish official statistics in the future, aligning with the concept of integrating Earth Observation data into the creation of smart statistics.

GAUSS Polish Use Case Application for End-User – verification phase
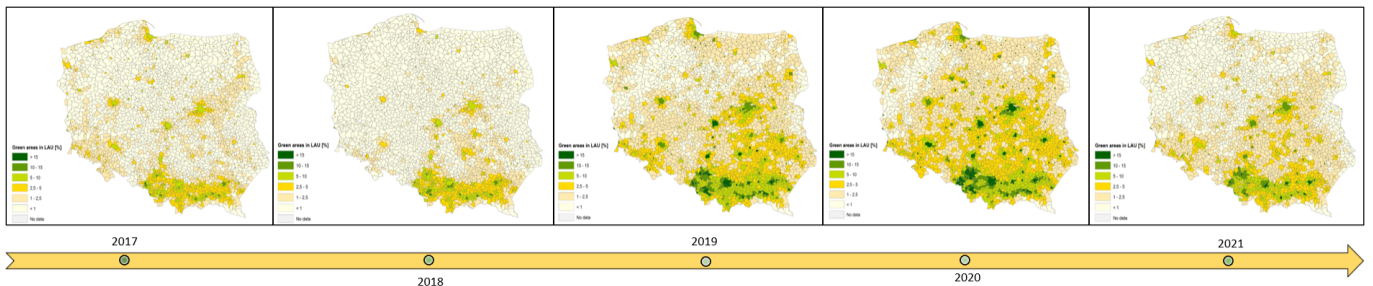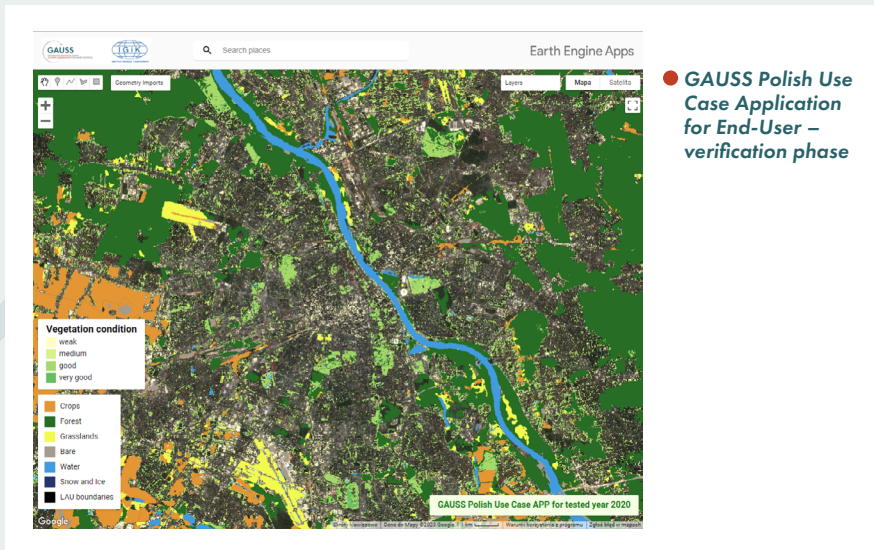
● Extent of green areas for LAU units (2017-2021)
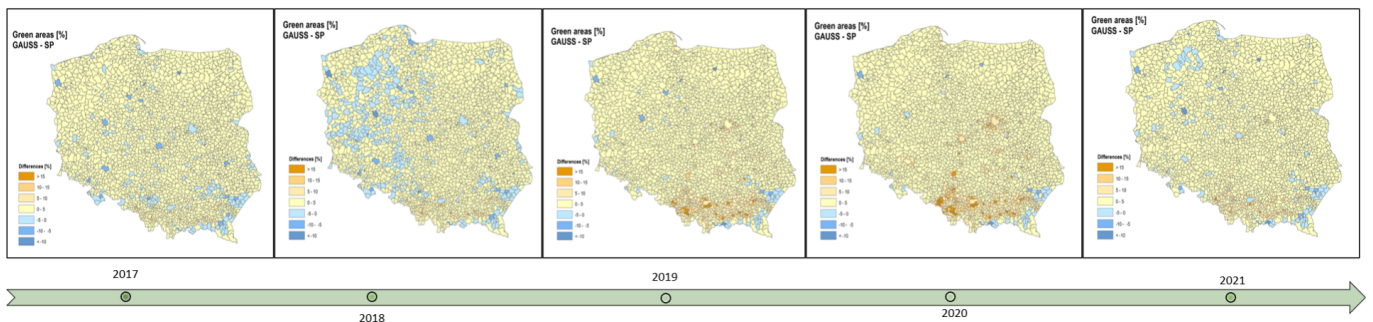
● Difference in the extent of green areas for LAU units and Statistics Poland data collected by governmental units (2017-2021)
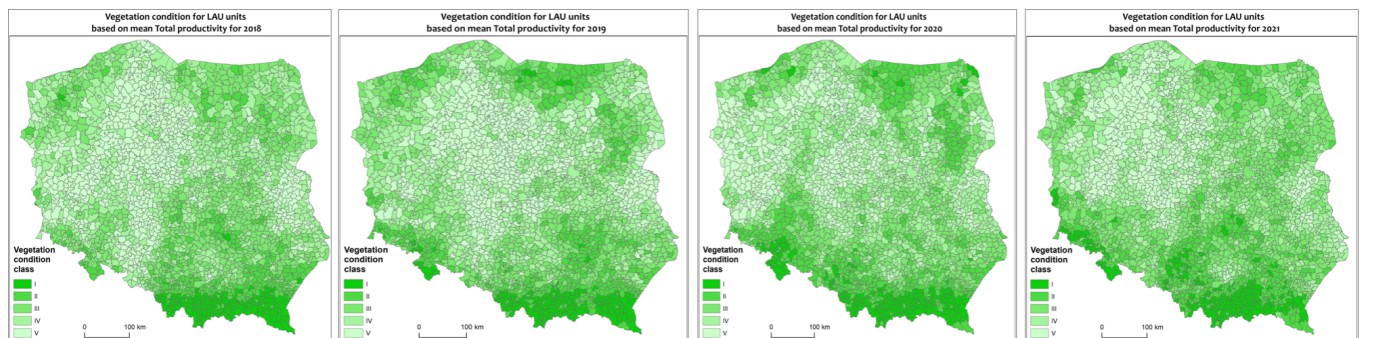
● Vegetation condition for LAU units (2018-2021)