Sustainable Bioenergy
Solutions for Tomorrow

Biomass Resource Assessment in Poland

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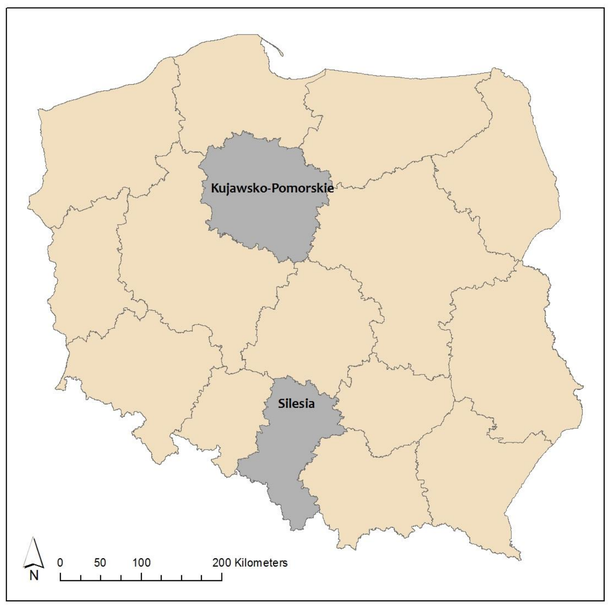
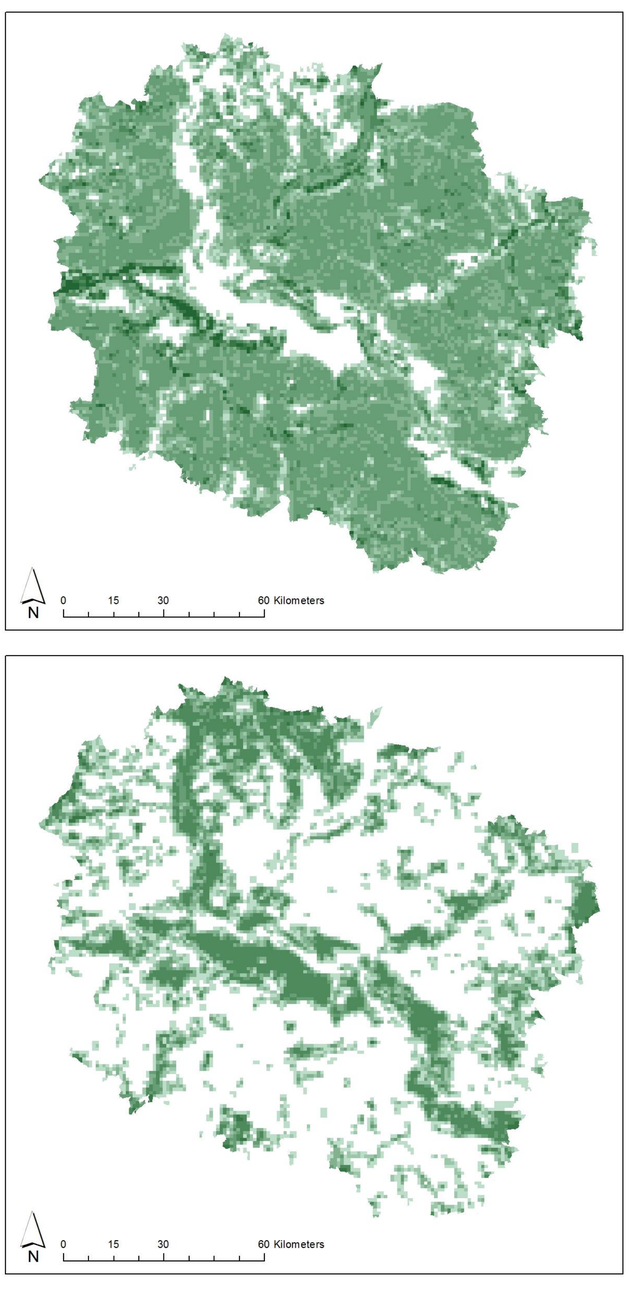
AIM

Main aim of the task was **the mapping of available biomass resources for bioenergy production**. The mapping was limited to agriculture and forest lands in two provinces in Poland, **Silesia and Kujawsko-Pomorskie**.

Silesia Is located in southern parts of Poland, and was representing an area with high coal potential. Kujawsko-Pomorskie is located in central Poland and was selected to represent an area with high renewable potential.





METHOD

Mapping was based on three main data sources:

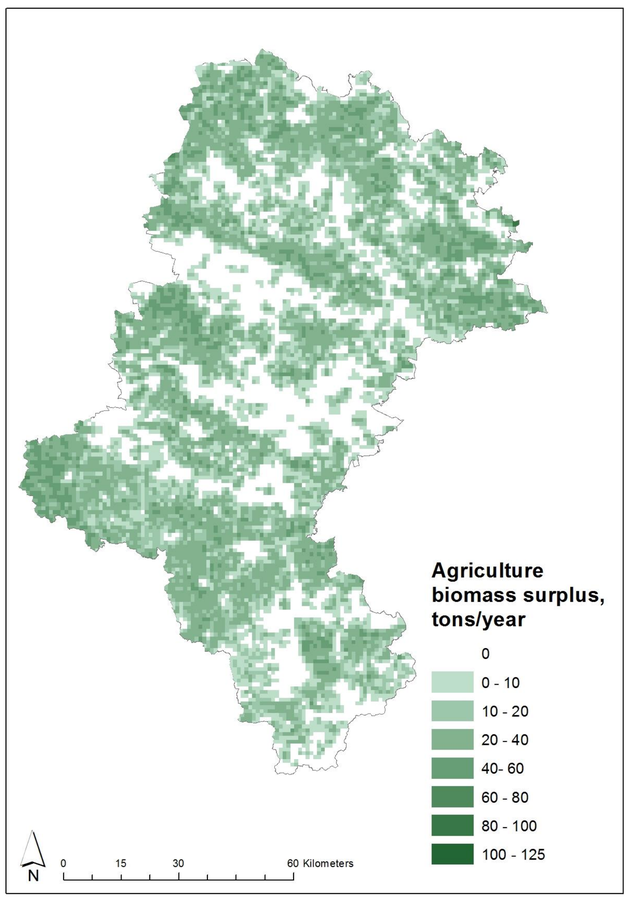
1. **Field survey** of ~100 farmers per province:
   - Average production and consumption of agriculture biomass.
2. **Existing statistics**:
   - Average aboveground non-stem biomass on forest lands.
3. **Land use/land cover** (LULC) **maps**, CORINE 2012:
   - Distribution of agriculture and forest in provinces.

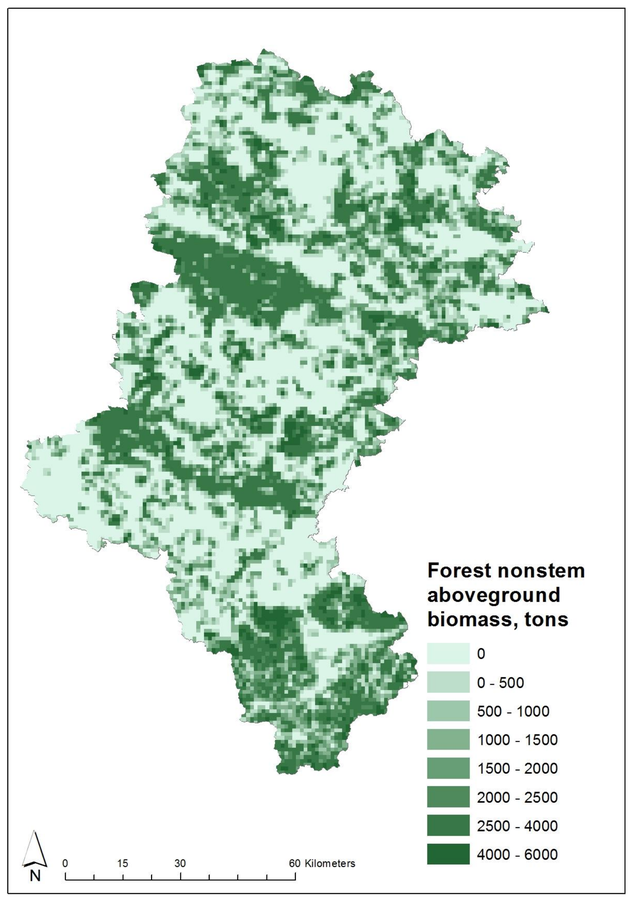
Validation sample plots were visually assessed to measure the accuracy of the LULC maps at provincial scale. Visual assessment was done using Google Earth imagery.

RESULTS

The data sources were combined producing **biomass availability maps** for agricultural lands and forest lands (**Figures 1-4**). Biomass values in maps are represented as **conservative biomass estimates**, which take into consideration the uncertainty arising from LULC accuracy. This was done to eliminate the possibility of overestimation of biomass.

LULC maps were validated on provincial level accuracy with 100 visually assessed sample plots on both provinces with overall accuracy of 79 % for five classes (settlement, agriculture, forest, wetlands and water).





COLLABORATION

This work was conducted by Arbonaut Oy and the University of Eastern Finland in collaboration with the Nicolaus Copernicus University, Lodz University of Technology, and University of Lodz, Poland.