

Visualizing the difference between the geometric and administrative surface area of the Cadastral Map of the Netherlands.

Matthijs Hoogmoed, Peter van Oosterom and Eric Hagemans (Netherlands)

Key words: Cadastre; Digital cadastre; Education; Parcel legal/administrative area, Parcel geometric/map area

SUMMARY

The research explored the differences between the cadastral parcels' geometric and administrative surface area in the cadastral map and was done on behalf of the Dutch Cadastre.

The research employed a literature study, different methodologies, and different tests and used feedback from the Dutch Cadastre to visualise and analyse the surface area discrepancy of parcels. To better understand the differences between the computed geometrical surface area of parcels and the administrative surface area of the complete Dutch cadastral map.

The research primarily used data from the Basisregistratie Kadaster (BRK) and other open data sources like the Basisregistratie Topografie (TOP-10nl) and the Basisregistratie Adressen en Gebouwen (BAG). While the analysis was done using open-source tools like PostGIS, QGIS and GeoDa. These tools were used to visualise the differences at individual parcel levels and aggregated levels like cadastral municipalities and sections. The difference amount was visualised (relative/absolute sizes, acceptable/not acceptable), and the direction of change (smaller, bigger). This difference is relevant for many organisations: apart from Dutch Cadastre, also the owners, municipalities, water boards and provinces, as a change in the area may imply a change in value and change in taxation.

The current results show a significant preliminary difference in the area difference between parcels in rural and built-up areas in the Netherlands. Furthermore, clusters of parcels with the most considerable relative difference can be found in the natural areas of the Netherlands, which exceed the limits set by the Dutch cadastre. Furthermore, new-urban and agricultural areas with their land

Visualizing the difference between the geometric and administrative surface area of the Cadastral Map of the Netherlands. (12345)

Matthijs Hoogmoed, Peter van Oosterom and Eric Hagemans (Netherlands)

FIG Commission 7 & 2 Annual Meeting 2023
Digital Transformation for Responsible Land Administration
Deventer, the Netherlands, 2–4 October 2023

consolidated show a high correlation between the registered and calculated surface area of parcels. The research also showed multiple ways to visualise surface area size differences.

Visualizing the difference between the geometric and administrative surface area of the Cadastral Map of the Netherlands. (12345)

Matthijs Hoogmoed, Peter van Oosterom and Eric Hagemans (Netherlands)

FIG Commission 7 & 2 Annual Meeting 2023

Digital Transformation for Responsible Land Administration

Deventer, the Netherlands, 2–4 October 2023