

Improving Data Quality of Cadastre Parcels Using Parcel Fabric Module and Evaluation of Dynamic Adjustment Approach:Rubber Sheeting and Least Squares Adjustment Methods Case Study: UQ Campus

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SUMMARY

Abstract

Accurate mapping that provides more accurate location information is a vital need in modern society to maintain essential services on the land. Providing a well mapped cadastral data is important in terms of reflecting and managing all activities in the world, as the cadastre is a basic information layer. In this context, the adjusting approach of cadastral parcels in Australia and New Zealand, one of the earthquake-prone countries, has been evaluated in two different ways as practical and theoretical.

In the first part of the study, a more systematic approach to increase the spatial accuracy of cadastral parcels was carried out in ArcGIS's Parcel Fabric module by selecting a small area in the St Lucia Campus of the University of Queensland (UQ) in Australia, using Least Square Adjustment(LSA) and Rubber Sheeting methods has been applied. The second part of the experimental study covers the introduction of the effects of earthquake-induced surface change on the cadastre in New Zealand, based on the current literature Grant(2015), and the evaluation of the results of the dynamic adjustment approach used to improve the accuracy of the coordinates.

This experimental research aims to answer the question “Can better maps be produced at lower cost and effort?”. It may be beneficial to integrate the basic approaches in the study into the cadastral studies of our country.

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