

Automatic Change Detection Methods in the Updating of the Finnish Land Parcel Identification System (FLPIS)

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The Finnish Land Parcel Identification System (FLPIS) is a nationwide register maintained by the Agency for Rural Affairs (Mavi). It is used for the payment of farming subsidies, and it includes about 1 150 000 field parcels. The current update process is based on visual change detection and manual digitising of the changes. Mavi is interested in studying the feasibility of automated methods in the updating of the system, especially in the change detection stage. Research on the topic began at the Finnish Geodetic Institute (FGI) in 2009 with a preliminary study. In 2010 and 2011, the research has continued. The objective is to develop a method that could find parcels for updating automatically. The primary input data for the method are aerial ortho images, but the feasibility of using laser scanner data has also been studied. The method under development is based on segment-based interpretation of aerial ortho images inside existing parcels. If land cover other than agricultural fields is detected inside a parcel, the parcel possibly needs updating. Test results show that many errors in the parcels can be detected automatically, but there are also many challenges in the method development.