ACCURACY ASSESSMENT OF GLOBCOVER, GLOBAL LAND COVER AND CORINE IN THE IBERIAN PENINSULA

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ABSTRACT:

Accurate and reliable global land cover data sets are essential information required for various global change research studies including sustainable development, climate change, biodiversity conservation, ecosystem assessment and environmental modelling. Currently, a number of global and regional land cover exists. The most commonly used land cover datasets in the Iberian Peninsula are GLOBCOVER, GLOBAL LAND COVER (GLC2000) and CORINE. These products are built using different data sources, classification systems, methodologies and resolution that causes important differences between them. Given the current lack of interoperatibility between datasets this paper provides an assessment of accuracy of these datasets. This validation exercise includes the comparison with detailed reference data (direct validation) as well as the intercomparison between products (indirect validation). The three datasets were compared at a country-level, with emphasis in the Iberian Peninsula area, with the aim of evaluate discrepancies and similarities. Comparisons were performed on both areal and per-pixel bases. In addition, a methodology is applied to translate legends into the Land Cover Classification System (LCCS). In general, CORINE and GLC2000 products showed a noticeable better agreement than any comparison involving GLOBCOVER. Legend aggregation and spatial heterogeneity are the most significant factors affecting overall accuracy.

TOPIC: Land cover classification
ALTERNATIVE TOPIC: Image processing and pattern recognition