

ANALYSIS OF RAPIDEYE IMAGERY FOR ANNUAL LANDCOVER MAPPING AS AN AID TO EUROPEAN UNION (EU) COMMON AGRICULTURAL POLICY

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ABSTRACT:

The Common Agricultural Policy (CAP) was established by the European Union to maintain balance between farming industries and the environment as well as to provide economic sustainability within rural areas. EU Regulations for agricultural and rural development adopted by countries upon entry into the European Union (EU), allow payments to farmers for each eligible hectare of agricultural land (CAP reform), under different payment schemes. Remote sensing data is currently used as an efficient tool for determination of potential eligible payment areas, through land cover identification and mapping. Launched in August 2008, RapidEye consists of five constellation multispectral sensors with a ground sampling distance (GSD) of 6.5m and a daily overpass. The satellite has a predicted lifespan of 7 years and with the target application of the sensor being agriculture; contains a high potential for the application of agricultural monitoring, necessary to some new Member States, such as Bulgaria and Romania. A research project was initiated by the MARS Unit of the European Commission, Joint Research Centre, to extract and analyse potential land cover eligible for SAPS (Single Area Payment Scheme) payments in Bulgaria. Analysis of RapidEye imagery, combined with local ancillary data over pre-selected test zones lead to determination and classification of landcover features which had potential or no potential to be eligible under SAPS. This classification was completed using object oriented analysis and was run concurrently alongside a pixel based (SOM) analysis for comparison.

TOPIC: Land cover classification

ALTERNATIVE TOPIC: Remote sensing applications