

EVALUATION OF THE SYNTHETIC APERTURE RADAR IMAGES FOR THE LAND COVER MAPPING

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After creating the land cover data base of Europe in the scale 1:100 000 by application of Landsat TM data in the framework of CORINE Programme, it will be necessary to take into account its up-dating for the near future. One of the new potential source of information which can be used for this up-dating besides satellite images acquired in the optical part of spectrum, there are images acquired by the ERS-1 Synthetic Aperture Radar (SAR). An important advantage of the radar images is its small dependance on atmospheric conditions (use of imaging radars is independent of solar radiation so that imagery can be obtained at any time during day/night and through cloud cover). For the creation of the most topical land cover data base from the Czech and Slovak Republics were inevitable to use cloud free scenes even from 1989-1992. For these reasons it is necessary to consider also radar data for the operational land cover mapping on basis of satellite remote sensing data.

The aim of the paper is to document the results of comparison of CORINE land cover classes, identified by application LANDSAT TM data and SAR data on one map sheet in the scale 1:100 000 from south-western part of Slovakia, and also to hint the possibilities for up-dating of CORINE land cover data base in the Slovak and Czech Republics by application of SAR data.

LANDSAT TM and SAR scenes were interpreted by the methodology of CORINE Land Cover Project. A result of this methodology are represented by two interpretation schemes of land cover. Results of comparison are evaluated from two aspects:

- contribution of SAR data to the precision of the interpretation of land cover classes in the scale 1:100 000, primarily identified by application of remote sensing data obtained in the optical part of spectrum,
- identification of the CORINE land cover classes by application of SAR data.

On the conclusion of the paper experimental results of the quoted comparison for one map sheet in the scale 1:100 000 are presented a preliminary possibilities for the use of SAR data while up-dating CORINE land cover data base are suggested. CORINE land cover data base represent an important information source of land cover mapping on the level of individual countries, as well as the whole Europe.