

APPLICATION OF VEGETATION INDEXES IN THE ANALYSIS OF ARABLE LAND USE (ON THE EXAMPLE OF UINSKY DISTRICT OF PERM KRAI)

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Analysis of arable land use is an urgent task for many regions of Russia due to the lack of objective data on their areas and location. Determination of arable land boundaries by existing methods allowed to identify significant inconsistencies in their claimed area. However, such methods require a lot of expert participation. The article considers the applicability of such indexes as NDVI, ASVI, SAVI, BI, UI. The results of the study demonstrate that none of the indices used provides identification of arable land with an accuracy of more than 90 %. At the same time, the indexes give significant errors in the classification of uncultivated lands, identifying them as cultivated. The NDVI and ASVI indexes with the percentage of identified arable land in 72.37 % and 70.84 %, and the error of identification of deposits in 6.58 and 7.41 % of the total area of arable land and deposits, respectively, are optimal for solving the task. Thus, the use of these indexes without making any additional conditions does not allow to estimate the area of arable land with appropriate accuracy.

Key words: thematic spatial data processing, agriculture, arable land, agricultural land use, space survey data, Landsat, vegetative indexes.

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