عنوان مقاله:

Introducing correctness coefficient as an accuracy measure for sub pixel classification results

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خلاصه مقاله:

After each classification its results must be evaluated and their accuracy must be assessed. In respect of the result's type (thematic map/fraction map), an adequate strategy for accuracy assessment must be chosen. Methods of accuracy assessment for traditional pixel-based classifications are not fully suitable for sub pixel classifications. Because, training and ground truth data are pixel-based and they can not be used directly for accuracy assessment of the sub pixel classification results (fraction maps).Generally there is no common and standard sub pixel accuracy assessment method for evaluation of the sub pixel classification results. Very few methods and measures such as entropy and cross entropy have been proposed for the sub pixel accuracy assessment. These have some limitations to be used in accuracy asseement of the sub pixel classiifcation results. Cross entropy needs to a fuzzy ground truth data set, the matter that is not available simply. For this purpose, we introduce the correctness coeffient parameter for the sub pixel accuracy assessment. Correctness coeffient expresses the matching rate of the results of subpixel classification (fraction maps) with the ground truth data. Correctness coefficient is one of the efforts to ensure the flexibility and consistency of the sub pixel accuracy assessment regarding the type of the available data and classification methods. The proposed method for the accuracy assessment of the sub pixel classifiers make possible to inspect the classes individually. Additionally each class can be investigated individually in respect of the corresponding commission and omission errors. An experiment using the real data has been implemented in order to show the ability of the new accuracy measure.

کلمات کلیدی:

Accuracy assessment, Classification, Fraction maps, Pixel based, Sub pixel classifier

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