

عنوان مقاله:

Comparing the accuracy of four kernels in supervised SVM classification with examining changes using VGI data and showing some climatic changes in Tabriz city

محل انتشار:

سومین کنفرانس ملی داده کاوی در علوم زمین (سال: 1401)

تعداد صفحات اصل مقاله: 11

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خلاصه مقاله:

While many changes are happening on the planet and their identification is very important, high accuracy image classification using machine algorithms is very effective for identifying changes. Our study area, Tabriz city, was selected between ۲۰۱۶ and ۲۰۱۹. For this purpose, we made a principal component analysis map using Sentinel-۲ multispectral images, which increased the accuracy and classification was done with five classes including soil, vegetation, road, building and water. In addition, we compared the classification accuracy by using the support vector machine algorithm and by comparing four kernels (Sigmoid, RBF, Polynomial, Linear). Then, the changed map was created and using it, the VGI data map was prepared, which is collected as a point. In addition to the changes caused by humans, climate changes are important parameters that must be continuously checked. For this purpose, we investigated several climatic parameters, including the time series of EVI, NDVI, surface and subsurface moisture, rainfall, and NDBI index. The results showed that the linear kernel classification performed better than the others with an accuracy of ۹۸%. And by VGI data, you can have strong evidence of the changes made in the study area that were collected by people. Also, climatic parameters have faced slight changes due to urban changes

کلمات کلیدی:

Change Detection, SVM classification, Kernel, Climate change, VGI data

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