Evaluating Growing Self-Organizing Maps for Satellite Image Time Series Clustering

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Mapping land use and cover changes of Earth is central to understand the agricultural dynamics on the Brazilian territory. Following the high availability of Earth observation satellite images, time series analysis provides new opportunities and challenges for land use and land cover change analysis. This approach usually needs a large set of field samples to be used by the training and clustering algorithms. In this context, analyze the samples quality is crucial, since it directly influence the clustering results. This work uses Self-Organizing Maps (SOMs) to address the clustering of satellite image time series. In order to simplify the sizing and parameterization of these algorithms, this work uses Growing Self-Organizing Maps (GSOMs) to evaluate land use and cover changes samples.