

Continuous Land Cover Change Detection in Subtropical Thicket Ecosystems

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Abstract : The Subtropical Thicket Biome has been in peril of transformation. Estimates indicate that as much as 63% of the Subtropical Thicket Biome is severely degraded. Agricultural expansion is the main driver of transformation. While several studies have sought to document and map the long term transformations, there is a lack of information on disturbance events that allow for timely intervention by authorities. Furthermore, tools that seek to perform continuous land cover change detection are often developed for forests and thus tend to perform poorly in thicket ecosystems. This study investigates the utility of Earth Observation data for continuous land cover change detection in Subtropical Thicket ecosystems. Temporal Neural Networks are implemented on a time series of Sentinel-2 observations. The model obtained 0.93 accuracy, a recall score of 0.93, and a precision score of 0.91 in detecting Thicket disturbances. The study demonstrates the potential of continuous land cover change in Subtropical Thicket ecosystems.

Keywords : remote sensing, land cover change detection, subtropical thickets, near-real time

Conference Title : ICRSIAI 2022 : International Conference on Remote Sensing, Image Analysis and Interpretation

Conference Location : Rome, Italy

Conference Dates : March 03-04, 2022