Development of a 30 m spatial resolution 2010 land cover of Canada

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ABSTRACT

Land cover is needed for a large range of environmental applications regarding climate impacts and adaption, emergency response, wildlife habitat, air quality, water yield, etc. In Canada a 2008 user survey revealed that the most practical scale for provision of land cover data is 30 m, nationwide, with an update frequency of five years (Ball, 2008). In response to this need the Canada Centre for Remote Sensing has generated a 30 m land cover of Canada for the base year 2010 as part of a planned series of maps at the recommended five year update frequency. This land cover is also the Canadian contribution to the North American Land Change Monitoring System initiative, which seeks to provide harmonized land cover across Canada, the United States, and Mexico. The methodology developed in this research utilized a combination of unsupervised and machine learning techniques to map land cover, blend results between mapping units, and process certain thematic attributes with specific features sets. Accuracy assessment with available field data shows it was on average 76% for the five study areas assessed. In this presentation an overview of the unique processing aspects, example results, and initial accuracy assessment will be discussed.