33. Forest degradation estimation using remote sensing: *a case study on Central African Republic*

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Human activities within tropical rain forests provoke perturbations and degradation. The capacity to measure the extent of these damages is essential for calculating carbon emissions under the REDD+ process. Remote sensing is a powerful tool to provide such information (logging, mining, infrastructure building). Various techniques to identify and quantify forest degradation have been used so far. One step further is to link in-time degradation and past-time degradation to document the recovery of ecosystems after logging. For this, we propose a processing chain adapted to Landsat and Spot imageries. Post-processing is devoted to extract degradation information using specific algorithms. A spatial index, sized to low resolution radiometer, is implemented to render the actual and past degree of degradation. It is then related to continental land cover maps to get insight in the actual state of particular forest categories. This tool is developed in the framework of the CoForChange program (http://www.coforchange.eu/project) which general objective is to predict changes in forest and tree species distribution in the Congo Basin due to global change and to elaborate decision-making tools. The presentation is focused on an example in real time and in real size. It covers all the moist forest of Central African Republic at a yearly time-scale during ten years of Landsat images archive.

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