HEDGES AND TREE ROWS DETECTION WITH E-COGNITION FOR THE USE OF THE FRENCH NATIONAL FOREST INVENTORY

N. Stach [a], C. Barnerias [a], A. Dommanget [a]

[a] IFN; nstach@lyon.ifn.fr; (cbarnerias, adommanget)@caen.ifn.fr

The French National Forest Inventory (IFN) was created in 1958 to assess French forest resources. It carries out a permanent inventory of national forest resources, independently of all ownership issues. Among its missions, it evaluates the hedges length and maps forest resource. The mapping of forest resource is for the moment limited to forest patches larger than 2,25 ha. The parameters related to all other smallest features, globally designed as "trees out of forest", and including isolated trees, hedges, tree rows and "bosquet," are estimated by a statistical mean. Mapping trees out of forest is a key issue to evaluate environmental impacts of agriculture policy. As to improve its hedges monitoring IFN has undertaken a project aiming at extracting (semi-)automatically the hedges from its own digital aerial infrared orthophotos. For that purpose, it was decided to design and test a new method based on multiscale segmentation and object oriented classification as available in the eCognition software. The test site is the french sub-region of "Ille-et-Vilaine", in northern-west of the country, which is rich of hedges.

The work is now in progress. The methods and the results will be presented and discussed. In particular, the study will compare the results of this extraction with NFI sampling method estimations. A further step in the project will be to test the methods on RGB orthophotos from the french National geographic institute (IGN), that are currently available all over the Country and to analyse the impact of near Infra-red in segmentation and classification results.