

ASSELIN, HUGO [S15-P61]

Mapping the potential for indigenous interest on the land

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Several indigenous communities around the world are largely dependent on land and resources to be healthy and thriving. However, traditional lands are affected by the activities of resource extraction industries (e.g., forestry, mining). It is often difficult to conciliate indigenous and industry needs, in part because readily usable information is lacking on land-use by indigenous people. Communities possess the information, but are sometimes reluctant to share it because of legitimate concerns regarding intellectual property and site profanation or destruction. In collaboration with two indigenous communities from eastern Canada, we developed an easy-to-use tool to map the potential for indigenous interest on the land. This tool is based on traditional knowledge and can be used by indigenous communities to further their development and to ease communications with other stakeholders. The locations and characteristics of sites of interest are used as inputs in a Geographical Information System (GIS). Sites of interest represent various land uses and cultural activities (e.g., hunting camp, sacred grove, sepulture, medicinal plant habitat, etc.) and are positioned on the landscape by local people using a Global Positioning System (GPS). Sites locations are overlain on a digitized forest map to obtain characteristics (e.g., tree species, elevation, slope, drainage, distance to water, distance to road, etc.) which are then compared to the characteristics of an equal number of random locations. This allows to determine the site characteristics that are sought-after or avoided, which can then be statistically extrapolated to the whole landscape to produce a map of potential for indigenous interest. Precise site locations are removed from the final map in order to preserve this sensitive information. We found marked differences between the two communities under study (i.e., tree species of interest were different, and distance to a road was important for one community but not the other). These differences are consistent with how both communities view and use the land, a clear indication that these singularities were adequately captured by the mapping tool. This easy-to-use mapping tool will be largely automatized in a widely-used GIS software. It will be useful for indigenous and other local communities worldwide to generate valuable information to identify opportunities for forest conservation and development. Industrial activities will be more optimally distributed in the landscape from an indigenous/local standpoint. Forest governance will benefit from enhanced dialogue between stakeholders.