Assess forest types

Forest type map

Forest Type maps are in depth examination of the forests, subdividing forest inventories into different forest classes. For well-known & managed forests typically 2–4 volume classes within deciduous and coniferous forests can be distinguished. For tropical forest typically the classes are customised to the area of interest by distinguishing e.g. broadleaved forest, bamboo, palm forest, mixed forest or forest plantations on a case by case basis.

Maps are typically produced locally or regionally on a 3 to 5 year basis with a resolution (spatial accuracy) of 10–30 meters. In tropical rain forest areas frequent cloud cover can be an issue for the production of the maps but may be mitigated by combing radar and optical satellite images.

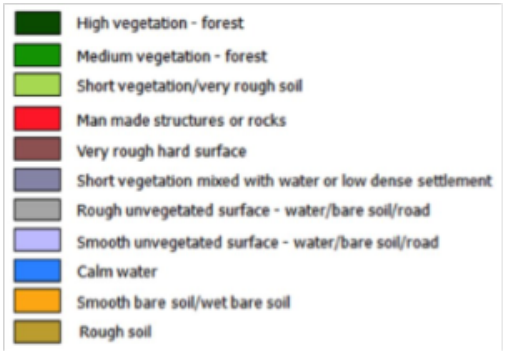
The accuracy of the maps is related to the topography of the forests, the biodiversity of the forest as well as the possibility to use ground data to validate and update the map contents. The geometric accuracy is less than 1 pixel which in the case of forest type maps is on the order of 10–30 m and typically accuracies of 80–90% are reached for the classifications.

A spatial examination of forest types and forest density is useful for forest managers/natural resource managers for assessing the general state and biodiversity of the forest. A forest type map can be used for ecoystems valuation, forest certification/audit and general forest stock management.

Sentinel-1 and 2 will provide high-resolution optical and radar images of all global forests with a very high frequency (days to weeks). The spectral characteristics of the sensor are directly useful to forest type mapping and will allow classifying forests with high frequency, high thematic accuracy, high precision (down to 10m) at a lower cost due to the foreseen free data price.

ALOS PALSAR Forest classification ~15 m resolution in Mondi Syktyvkar Russia.

Credits: Sarmap



References:

ESA 2013, Earth Observation for Green Growth: An overview of European and Canadian Industrial Capability