

Spacial distribution of vegetation at taiga-tundra boundary ecosystem in eastern Siberia

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Vegetation types, species compositions were observed with physical environment such as micro topography and soil moisture at taiga-tundra boundary ecosystem in lowland of Indigirka river in north eastern Siberia near Chokurdahk village(70°N,148°E)in July 2012 and 2013. There are 4 types of plant communities: driest Tree mound(*Larix gmelinii* etc.), Shrub(*Betula nana* etc.), Sphagnum(*Sphagnum* sp. etc.), wettest Hollow(*Eriophorum angustifolium* etc.). Large area is also covered by Willow(*Salix udensis* etc.) along the river. Soil moisture is the most important factor controlling vegetation and other biogeochemical cycles, such as methane emission. Thus, it is necessary to make a vegetation map with a classification as a key for estimating methane emission.

The objective of this study is classify land cover vegetation using remote sensing approach on satellite images and photographs. In remote sensing approach we used high resolution satellite multispectral image(GeoEye-1, WorldView-2) and aerial photo by radio-control helicopter. Supervised classification was conducted for spacial distribution of vegetation based on aerial photos. This vegetation map will be used for upscaling of biogeochemical cycle process such as greenhouse gases.

Keywords: Taiga-Tundra boundary, vegetation map, remote sensing, Siberia