

Remote Sensing Data for Monitoring of Intact Forests of Russia

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In 1998 Forest Watch Russia Project started in Russia in frames of Global Forest Watch (www.globalforestwatch.org) that is an initiative of World Resources Institute (www.wri.org). In 1999-2002 the Forest Watch Russia, a joint group of non-governmental and scientific organizations from different regions of the Russian Federation, prepared an atlas of intact forest landscapes of Russia. This atlas includes maps of natural forestlands (more than 50 hectares) with a very low antropogenic influence. The Atlas consists of maps on 1:1,500,000 and 1:3,000,000 scales (depending on the region) for the whole territory of Russia. The intact forest landscapes were revealed based on space images of various resolution and, first and foremost, on those obtained from the Resurs-O1 series satellites providing 150-m resolution cloudless images for almost the whole territory of Russia. Landsat TM and ETM+ images covering some Russian regions were also used. In addition a map of the main types of forest ecosystems was compiled for the largest intact forestlands. Additionally the forest types classification inside the selected intact forest landscapes was prepared using the neuron network ScanEx NeRIS package for raster images processing developed at the R&D Center ScanEx. Within 2002-2004 space images of various resolution were used for monitoring changes in the intact forest landscapes boundaries caused by various types of economic impact, including road construction, logging and mining. Timely estimation of large-scale changes was made based on the MODIS images (250-m resolution) acquired mainly in late-winter periods of different years. Further analysis in more details was based on the Indian satellites IRS-1C and IRS-1D images. (This analysis was done for Russia's European part only). Rather few images from the Russian Meteor-3M satellite covering very restricted area with a 45-m resolution were used. To present time (December, 2004) the map of Intact Forest Landscapes of Northern European Russia was published in Russian and English languages. The map reflects changes from 2000 through 2004 years. For further monitoring purposes new sources of RS data will be used such as Resourcesat-1, RADARSAT-1, etc. now available for users within Russia and CIS countries. It is planned to compile a map of the Russian forests (mainly boreal landscapes of Russia's European part) with the main types of natural and antropogenic dynamics in the forest ecosystems and landscapes, as well as their present condition and type of economical usage. More details about this work you can find at the websites of the organizations participating in the Global Forest Watch project: www.scanex.ru (R&D Center ScanEx), www.greenpeace.ru (Greenpeace Russia), www.seu.ru (International Social-Ecological Union), www.biodiversity.ru (Biodiversity Conservation Center).