RR1. Burn severity and vegetation changes after east Siberian larch forest fire classified by field preliminary survey and IKONOS satellite images

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Abstract

We compared IKONOS satellite data with field-observed ground descriptions of vegetation data in an east Siberian forest fire, and based on the relationship, we classified the burn severity and vegetation changes. We chose 80-years-old larch-birch mixed forest that was burnt in 1km X 2km in 2002 as a field site, and investigated larch - birch mixing rate, tree height, and tree density before fire and burn severity, recovered vegetation ratio (fireweed, carex, birch, mosses and etc.), and recovered birch height and density after fire by visual observation in 46 points in July, 2005. The observation points were overlaid on IKONOS images taken 11 July 2001 and 31 July 2002. The former image was taken before the burn and the latter image was taken after the burn. As a result, we obtained classification of burn severity and vegetation changes on the image. The classified image can be used to evaluate the abilities of lower resolution sensors such as Landsat ETM+ and Terra MODIS for burn severity and vegetation changes.