Various geo-ecological maps of Shirakami Mountain Area

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The authors had developed various types of geo-ecological maps of Shirakami Mountain area. Basic legend of geo-ecological maps consists of the combination of vegetation classification and landform classification. By the airborne laser survey in summer and autumn, the authors had gotten 2m grid DEM and vegetation height data. Vegetation classification was done using hyper spectral sensor data compared with ground troth data, especially the difference between Pterocarya rhoifolia and Fagus Crenata. Landform classification was done by two methods. One is automatic landform classification using 2m grid DEM, combined three categories, such as sloop degree, texture and convexity. Another is interpretation of 2m interval counter line produced by 2m grid DEM. The authors produced five type of geo-ecological maps combined with vegetation classification and landform classification as follows:

1.Combined the vegetation classification using early autumn hyper spectral sensor data, and the automatic landform classification by DEM analysis.

2.Combined the vegetation classification using early summer hyper spectral sensor data, and the landform classification by counter line interpretation.

3.Combined the landform classification by counter line interpretation, and vegetation height data using airborne laser survey, not use hyper spectral sensor data.

4.Combined the landform classification due to mass movements, and the relationship between vegetation and mass movements.

5.Combined the landform classification due to mass movements, and the relationship between vegetation and mass movements, with vegetation height data.