



## **Temporal Variations of 12 sets (2001-2012) of MODIS Land-Cover Data over East Asia**

Ji Yeol Park and Myoung Seok Suh  
Korea, Republic Of (madras1@kongju.ac.kr)

MODIS land cover data sets are one of the widely used data in the various application studies, such as the land cover changes, desertification, and bottom boundary conditions for the numerical simulation models (NWP, RCM, GCM). In this study, we investigated the temporal variations of land cover over East Asian region using the 12 sets (2001-2012) of MODIS land cover data. The main issues addressed in this study are where and what kind of land cover type show frequent temporal variations. Because the frequent changes of land cover at the given location can be caused by the real changes of land cover or the erroneous classification. In general, there were increases in the evergreen broadleaf forest, deciduous needleleaf forest, and mixed forest. Whereas, the coverage of the woody Savannas and barren were significantly reduced. And land cover changes were reported in the 44% of total land area. In some pixels (about 26% of the land area), more than 4 times of land cover changes were found. The frequent changes of land cover types at the given location can be caused by the erroneous classification because the temporal variation of land cover is relatively slow. Among the 44% of land cover changed area, about 8.20 and 10.55% showed one and two times of land cover changes, respectively. This area can be caused by the real changes of land cover. The frequent changes in the land cover are mainly occurred at the Korean Peninsula, southern part of Shanghai, and the northern region of Beijing. Detailed analysis results on the temporal variations of MODIS land cover data will be presented.