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A new finer resolution land-use mpping method using time series of NDVI from HJ-1/CCD data

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It is very difficult to have remote sensing data with both high spatial resolution and high temporal frequency; thus, two categories of landuse mapping methodology have been developed separately for coarser resolution and finer resolution data. The first category is using time series of data to retrieve the variation of land surface for classification, which are usually used for coarser resolution data with high temporal frequency; the second category is using fine spatial resolution data to classify different land surface. With the launch of Chinese satellite constellation HJ-1in 2008, four 30m spatial resolution CCDs with about 360km coverage for each one onboard two satellites made a revisit period of two days, which made it happened that the data have both high spatial resolution and high temporal frequency. Therefore, by taking the spatial and temporal advantage of HJ1 CCD data we propose a new method for finer resolution landuse mapping using time series of HJ1 CCD data, which can greatly improve the landuse mapping accuracy. In our study areas, the very high resolution remote sensing data within Google Earth are used to validate the landuse mapping results, which shows a very high mapping accuracy of 96.5489 percent and a high Kappa coefficient of 0.9558.