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**Developing Land Cover Classification Products In Monsoon Asia Over The Period Of 2004-2007 Through Integration Of Landsat And ALOS/PALSAR Images**

The Mid-Decadal Global Land Survey (MDGLS) project has assembled approximately 9,500 Landsat images (Landsat 5 & 7) over the period of 2004-2007. In Phase III, the MDGLS project aims to develop high-level land cover and biophysical products. The Phased Array type L-band Synthetic Aperture Radar (PALSAR) onboard the ALOS satellite has been in operation since October 2006. The science plan of the ALOS's Kyoto and Carbon Initiative lays out the global PALSAR acquisition strategy, which includes ScanSAR data acquisitions every 46 days in support of regional mapping and characterization of wetlands and paddy rice in Monsoon Asia from October 2006 to September 2009. This project will combine both Landsat (2004-2007) and multi-temporal PALSAR ScanSAR data (2006-2008) and develop land cover data products at 30-m resolution for monsoon Asia. The objectives of the project are (1) to develop prototypes of land cover products (the FAO Land Cover Classification System), using semi-automatic mapping algorithms and procedures that integrate Landsat and ScanSAR images; (2) to evaluate the resultant land cover products using data from in-situ observations (e.g., community-based Library for Geo-Referenced Field Photos), and available high-resolution images and their products (e.g., IKONOS); and (3) to support ongoing international projects (e.g., the Monsoon Asia Integrated Regional Study, the global irrigation area mapping project, the risk assessment of highly pathogenic avian influenza in Asia) through evaluating scientific uses of the resultant land cover data products. The expected deliverables include (1) geospatial datasets of land cover types in Asia from Landsat images (30-m spatial resolution); (2) geospatial datasets of biophysical products (including cropping intensity, crop calendar, inundation, hydroperiod) from PALSAR ScanSAR images (70-m resolution); (3) improved algorithms and procedures that integrate PALSAR and Landsat images for enhanced accuracy and efficiency of land cover classification; (4) a geospatial web system for data inventory, visualization and distribution.