

## **Forest Dragon 2 Annual Report from Chinese Partners, 2011**

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The three objectives of the 'FOREST DRAGON 2' project are 1) to further develop, improve and extent the products of the FOREST DRAGON 1 project, 2) to serve the observational priority of ESA's Living Planet Programme for the land surface and specifically ecosystem structure, and 3) to include new and innovative topics, i.e. exploration of synergistic EO data from radar, optical and hyper-spectral satellites and investigation of multi-temporal and multi-scale options. In this report, we will present the joint work carried out since last May, consisting of two parts: 1) Forest change monitoring of Northeast China between 1996 and 2005 by the synergistic use of ERS tandem coherence and ENVISAT ASAR HH/HV images at single-date acquisition to further develop the Forest Dragon 1 product; 2) Forest biomass estimation using multi-parameter data to explore the capability of radar, Lidar and optical remote sensing techniques. For the forest change mapping in Northeast China, the ENVISAT ASAR HH/HV data were classified to forest and non-forest using object based image analysis techniques implemented in eCognition software. The ratio of HH and HV images was used as the feature for classification rule setting. The overall accuracy of the produced forest/non-forest map was over 80%. This work was done within the 2-month visit of two young scientists from Chinese Forest Dragon team to the Earth Observation department at the University of Jena.