ALOS

K&C Initiative

An international science collaboration led by JAXA

Mapping and monitoring of forests in Sweden using ALOS PALSAR data

Project objectives

To further develop and evaluate methods for large-scale mapping and monitoring of clear-cuts and possibly stem volume for the entire Sweden using ALOS PALSAR data

Results

The LN-GKIT algorithm is tested in combination with a Markovian data fusion approach for detecting changes in dual-pol SAR data. The method is robust for both detection and delineation of clear-cuts, thus representing a substantial improvement with respect to the simple thresholding method developed during Phase 1

K&C Science Team members

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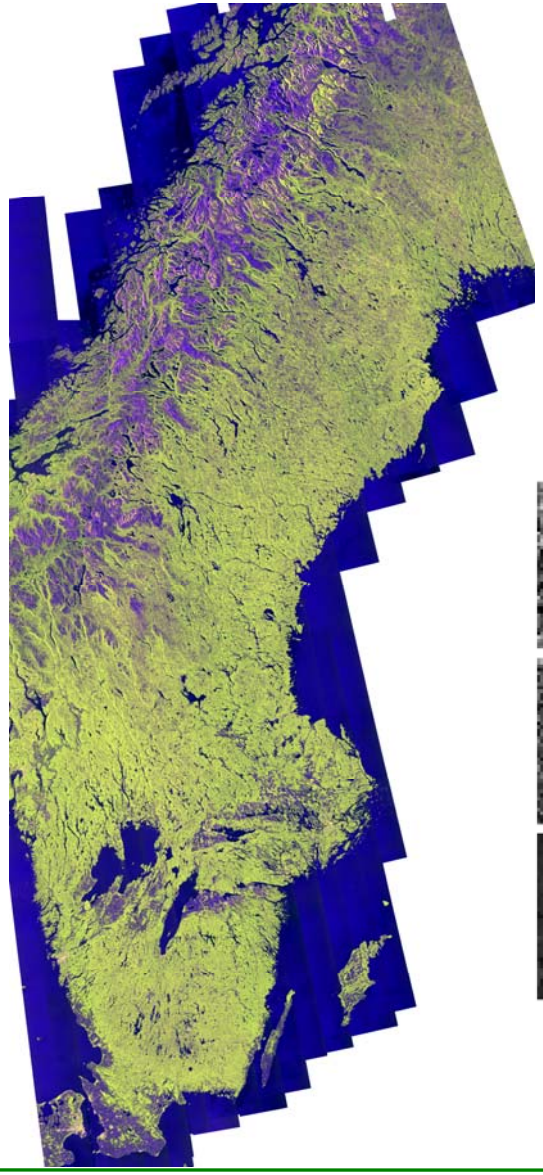


Mosaic of ALOS PALSAR strip data acquired over Sweden during summer and fall 2008 and 2009. Cycles: 21, 28 and 29 (R: HH; G: HV; B: HH/HV).

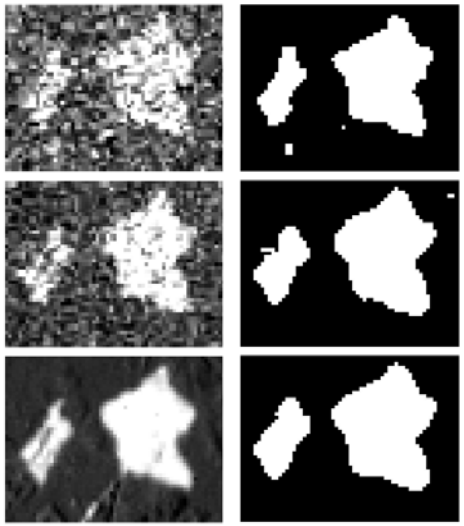
ALOS PALSAR data used

Single images: FBS 34.3° HH and FBD 34.3° HH+HV, since ALOS start

Strip data: FBS (1 x year) and FBD (2 x year) 34.3°

Other data sources

Forest inventory data, DEM



Performance of clear-cut detection method applied to a pair of FBD images acquired in 2007 and 2008 for a 1.2 × 0.9 km² area. Left column: HH ratio (top), HV ratio (middle) and SPOT-4 HRV-IR red band reflectance difference image (bottom). Right column: detected change from HH ratio (top), HV ratio (middle) and fused HH and HV data (bottom).

SLU

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