

## Seasonal Mapping of Inundation and Vegetation in Wetlands of Northern South America - Mid-term results

### Project objectives



For ScanSAR Regions G1 (Northern South America) and F4 (Southeastern U.S.):

#### Produce maps of

- Wetland extent and vegetation (50m)
- Seasonal inundation and vegetation (100 m)

#### In support of

- Global wetlands inventory
- Carbon cycle science (CH<sub>4</sub>)
- Conservation (reserve location; management for critical species; water quality)
- Hydrologic modeling

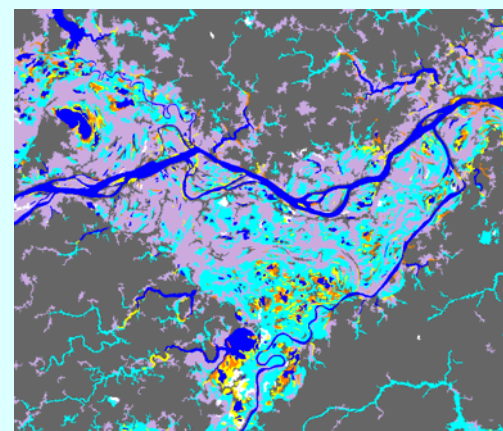
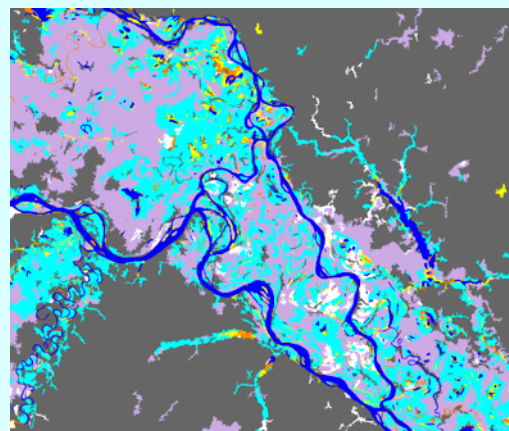
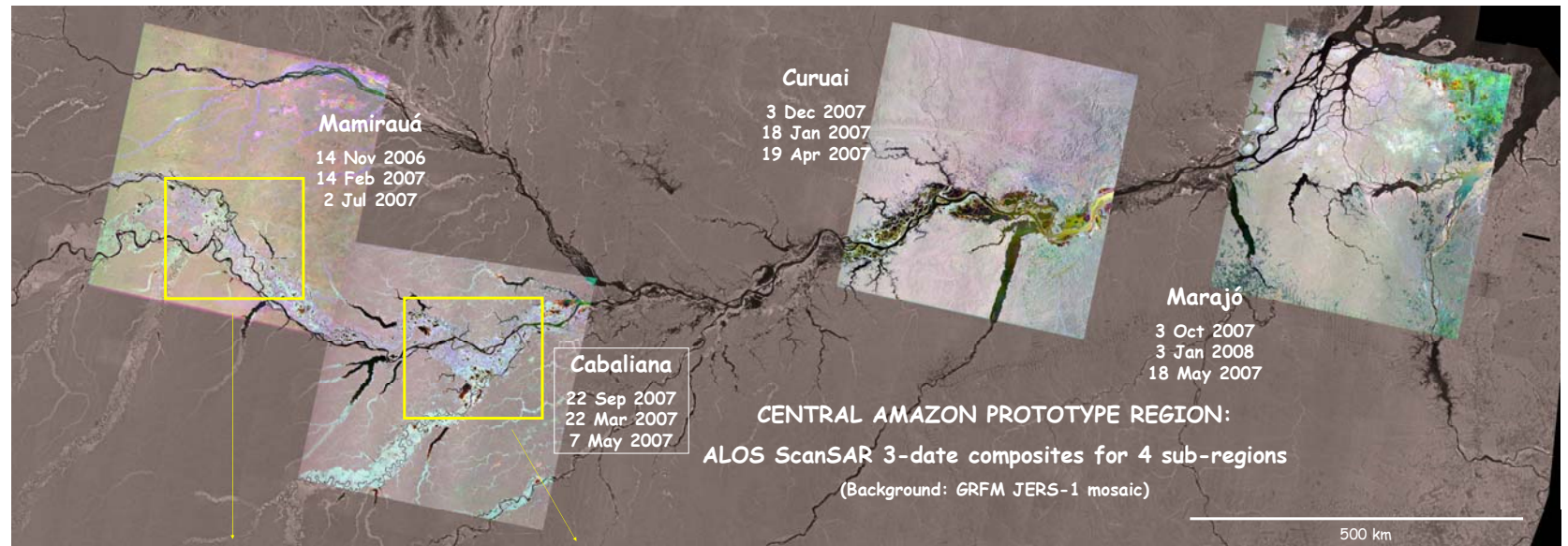
### Results

- Wetland extent for 4 sub-regions within central Amazon prototype area
- Inundation periodicity product for Mamirauá and Cabaliana sub-regions
- Launch of "TerraVárzea" project at INPE: software and database facilitating optical/PALSAR fusion and extension of algorithms to entire central Amazon prototype region

### K&C Product Team

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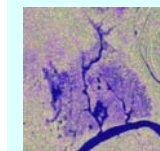
Detail of classified multi-date ScanSAR scenes for Mamirauá and Cabaliana focus areas: rules-based classification of image objects, performed in Definiens Developer. Rules developed for Mamirauá gave good results when directly applied to Cabaliana, indicating the basis for accurate large-region mapping based on limited training data.

### ALOS PALSAR data used

ScanSAR time series (6 to 12 dates) for 4 sub-regions  
 Fine-Beam Dual-Pol (2 to 3 dates) for 4 focus sites

### Other data sources

SRTM DEM and SRTM Water Bodies  
 MODIS; Soils Maps (Seyler-IRD)



Lakes and aquatic macrophytes are critical habitat for manatees, caimans, pirarucu, and other species at Mamirauá Reserve. Fine-beam Dual-pol PALSAR is being used to assess these habitats during months when optical imagery is not available. Shown here: 'chavascal' area adjacent to Mamirauá Lake, 14 June 2007 (RGB = HH, HV, HH/HV).



Photos: Eduardo Arraut