

## **K&C Product Delivery Report and Schedule for 2010**

**Anthony K Milne**

**University of New South Wales, Sydney, Australia, and**

**Ian J Tapley**

**Horizon Geoscience Consulting Pty Ltd, Perth, Australia,**

Science Team meeting #13

JAXA TKSC/RESTEC HQ, Tsukuba/Tokyo, January 18-22, 2010

## K&C deliverables

### Papers and Reports

#### 1. Published

Milne, A.K., I.J.Tapley., *Wetland monitoring of flood-extent, inundation patterns and vegetation, Mekong River Basin, Southeast Asia*, Horizon Geoscience Consulting Pty Ltd. (K&C Phase-1 report)

Milne, A.K., I.J.Tapley., *Wetland monitoring of flood-extent, inundation patterns and vegetation, Mekong River Basin, Southeast Asia, and Murray-Darling Basin, Australia*. (Significant finding" on K&C Wiki)

Milne, A.K., and Tapley, I.J., 2007. 'Assessment of wetland ecosystems and change in the Tonle Sap Basin, Cambodia, using AIRSAR and JERS-1 radar data'. *Asian Journal of Geoinformatics*, 7, 2: 21-29.

Lucas, R.M., Lee, A. and Milne, A.K., 'The role of Synthetic Aperture Radar (SAR) for forest cover assessment in Australia'. Proceedings, 13th Australasian Remote Sensing and Photogrammetry Conference, Canberra, Australia, November 2006.

Rosenqvist, A., Shimada, M., and Milne, A.K., *ALOS Support to Conservation, Carbon Science and Environmental Conventions - Activities in Asia and the Pacific*, Proceedings, 13th Australasian Remote Sensing and Photogrammetry Conference, Canberra, Australia, November 2006.

Rosenqvist, A., Shimada, M., Milne, A.K., *The ALOS Kyoto & Carbon Initiative*, IGARSS 2007 Proceedings. 23-28 July 2007 p3614 – 3617.

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### Papers and Reports

Milne, A.K and Mitchell, A.L. *Remote sensing requirements of Riverbank: monitoring environmental water flows and their effects*. Research report prepared for the Department of Environment and Conservation, Sydney, August 2006, pp99.

Mitchell, A., Ge, L., Hsing-Chung Chang and Milne, A.K., *Airborne Laser Scanner and Radar Interferometry for Digital Topographic Modelling in Coastal Environments of NSW: Wollongong Local Government Area*, Report to NSW Department of Lands and Wollongong Council, March 2007, pp123.

Milne, A.K., Mitchell, A.L., Tapley, I.J. and Powell, M.J. *Use of L-band radar to interpret inundation patterns in the Macquarie Marshes and Gwydir wetlands*. Unpublished report submitted to the NSW Department of Environment and Climate Change (DECC), Sydney, November 2007, pp77.

Milne, A.K., Tapley, I., Mitchell, A.L., and Powell, M.J. *Trial of L-band radar for mapping inundation patterns in the Macquarie Marshes*, Volumes I, II and III, Consultancy Report Prepared for the NSW Department of Environment and Climate Change (DECC), Sydney, December, 2008, pp280

## K&C deliverables

### Papers and Reports

Williams, M.L., Milne, A.K., Tapley, I.J., Carson, T., Reis, J., Sanford, M., Kofman, B., Hensley, S. *Tropical Forest Biomass Recovery Using Geosar Observations*, IGARSS09, Cape Town, July, 2009.

#### 2. Submitted/in preparation

Anthea L. Mitchell, A.L., Milne, A.K., Tapley, I.J., Lowell, K., Caccetta, P., Lehmann, E., and Zhou, Z. *Wall-to-wall Mapping of Forest Extent And Change In Tasmania Using Alos Palsar Data*. IGARSS 2010, Hawaii, July, 2010.

Milne, A.K. Williams, M.L., *Forest Mapping, Inventory And Biomass Estimation Techniques from Remote Sensing: An Overview*, IGARSS 2010, Hawaii, July, 2010.

Fox, J.C., Williams, M.L., Milne, A.K., Keenan, R.J. *Protocols for Field Sampling of Forest Carbon Pools for Monitoring, Reporting and Verification of REDD*, IGARSS 2010, Hawaii, July, 2010.



## K&C deliverables

### Data sets and Thematic products (mosaics, classification maps etc.)

#### 1. Completed and Delivered to JAXA

- Individual maps of flood extent, duration and inundation patterns over a twelve month period in the Mekong River Basin (Tonle Sap Basin)

#### 2. Completed, but not yet delivered (please deliver ASAP)

- Validate geometric co-registration and radiometric consistency of a single regional scale SCANSAR mosaic.

## K&C deliverables

### Data sets and Thematic products (mosaics, classification maps etc.)

#### 3. To be completed during 2010

- *K&C Booklet contribution with latest results (during KC#13)* (Done Two Examples)

***Old Task** Detecting changes in the magnitude and frequency of flood events in selected wetland sites in the Lower Mekong Basin using PALSAR FB time series. Identification of land cover changes over time.(?)*

1. *Design and implement automated change detection techniques to map changes in flood extent as depicted on seasonally different mosaic imagery.*
2. *Validate geometric co-registration and radiometric consistency of a time sequence of regional scale SCANSAR mosaics.*
3. *Generate regional scale seasonally based flood maps of the Mekong River Basin*

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***New Task Australian Murray-Darling Basin (MDB) Investigating the use of PALSAR for Wetland Assessment in a Semi-arid Environments*** (Jan 2011)

- 1. Methods for detecting and characterisation vegetation, soil and water-class in semi- arid wetland environments.***
- 2. Development of an operational system using PALSAR data for monitoring wetlands and assessing the effect of environmental flows on vegetation and soil response in semi-arid wetland environments.***
- 3. Evaluation of SCANSAR efficiency in detecting and mapping the regional distribution of semi-arid wetland distribution In the MDB***