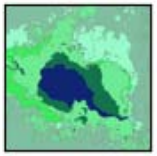
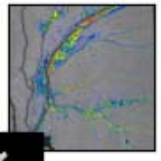
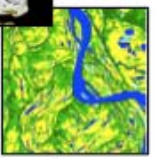
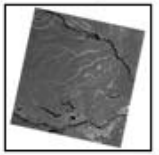
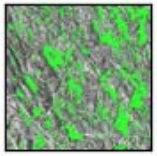
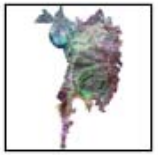
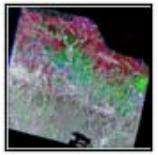
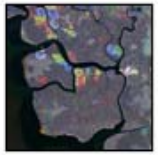
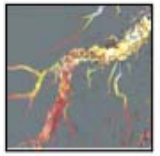









K&C Phase 3

Ake Rosenqvist
K&C Science Coordinator

Background

ALOS 2011: ALOS subject to a Public-Private Partnership (PPP) since April 2011. Stricter rules on PALSAR data distribution – data should primarily be made avilable through commercial channels.

Despite the PPP shift, JAXA management has approved K&C Phase 3 – with a modified structure and new key objectives that are in line with the recent changes at JAXA.

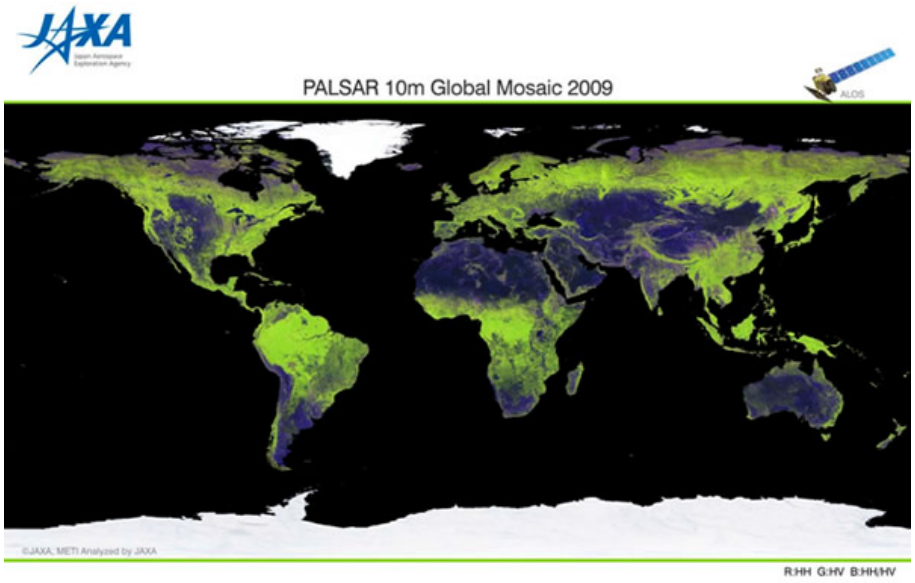
Some points to keep in mind...

• K&C Initiative is not PI/AO programme or a data opportunity, but a scientific collaboration between JAXA and the K&C science teams (=you!).

• Sharing of satellite and in-situ data between JAXA and the K&C teams is of key importance. There should be a balance between amount of data provided by JAXA and the contribution by the K&C team.

• To justify its existence, we must assure that K&C provides feed-back to JAXA and provides results on a continuous basis. Visibility is important for both the K&C and for JAXA.

Phase 3 – an opportunity



PALSAR global FBD (HH+HV) mosaics at 25 m pixel spacing for 2007–2010 completed.

ScanSAR mosaics 100 m to be generated for each 46-day cycle (7-40) over key wetlands.

An opportunity to step up and take the initiative in the generation of a number of global-scale key products and the development of SAR methodology standards to be made available to the international science community, national governments and NGO's.

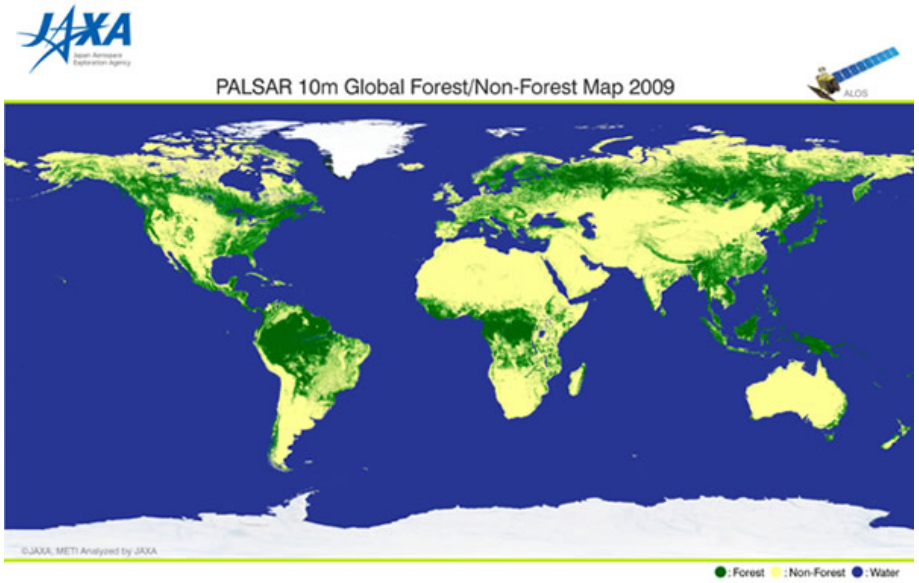
Phase 3 objectives – K&C continuation

The continuation – and new establishment – of projects by the K&C Science Team is a natural component of K&C Phase 3.

As before, the individual K&C projects should comply with the original objectives of the K&C:

- development of regional-scale applications – as far as possible based on 25m multi-annual mosaics
- support to the 3 C's – Carbon, Conventions and Conservation

Phase 3 goals
– support to the PALSAR global mapping effort



First version global FNF map, derived using decision tree classifier with -14 dB threshold (eCog).

Support EORC with refinement of methodology and adaption to regional forest types and definitions. Validation through the use of K&C member local knowledge and in-situ information.
Generation of "K&C certified" global forest cover and stratified biomass maps.

Phase 3 goals
– support to the PALSAR global mapping effort

Each Phase 3 K&C Science Team member group will be asked to focus on a certain region or country where they have local knowledge and in-situ data and work together with JAXA to improve and validate that part of the map.

Balanced sharing of satellite and in-situ data between JAXA and the K&C teams is of key importance. (Note: in situ data does not refer restricted NFI data, but can consist of field photos, own field data, fine resolution EO data, or other ground information that can be used for calibration of the classification algorithm)

Phase 3 goals
K&C Mangrove Watch

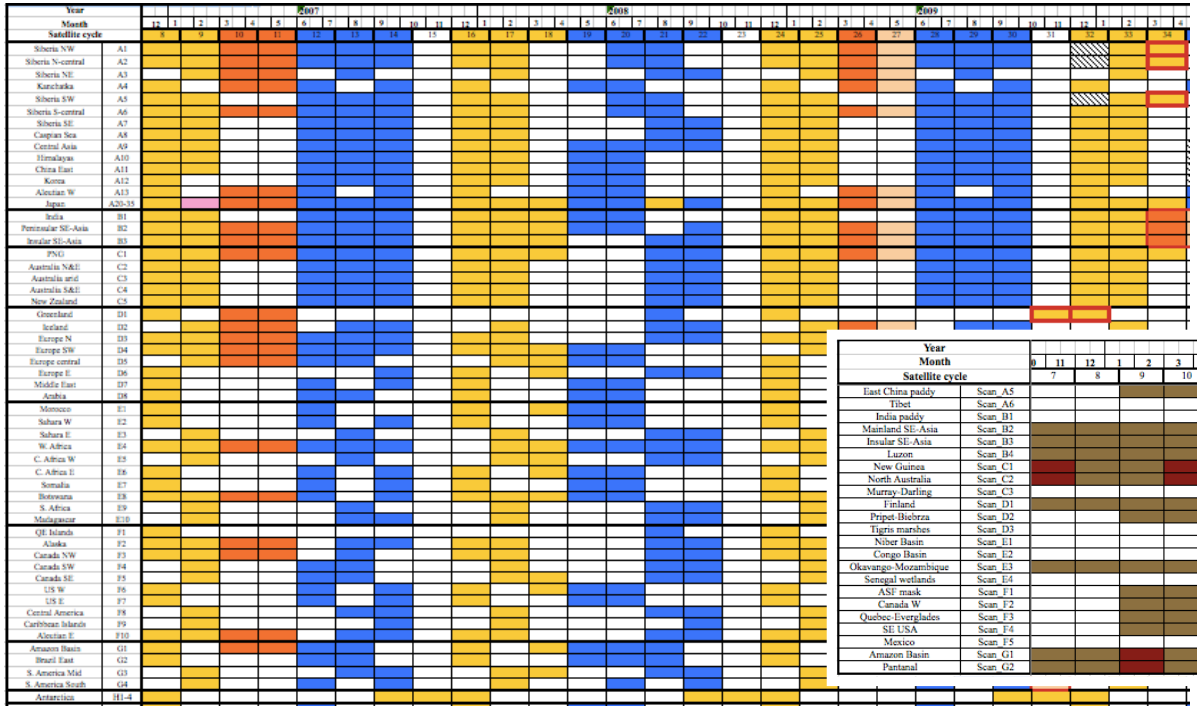
Use of ALOS PALSAR data for mapping the extent and annual changes inglobal mangrove cover.

Feeds directly in to the EORC Forest/Non-forest mapping effort

K&C Mangrove Watch special session on Friday

Phase 3 goals
– support to ALOS-2 mission development

Similar to the case for ALOS, provide scientific support for the definition of the ALOS-2 systematic acquisition scenario.



Main PALSAR data sources

- 25 m PALSAR FBD mosaics (2007-2011)
- 25 m JERS-1 SAR mosaics (~mid 1990's)
- Full resolution data via AUIG (50 scenes/year)
- ScanSAR strip data
- 50 m strip data

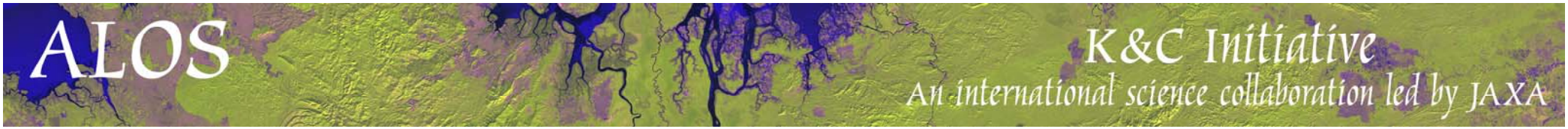
NOTE: EORC processing capacity for 50 m strip data reduced. Special justificaion required for provision.

K&C Science Team Phase 3

Name	Institution	Country	Proposal Title
Lola Fatoyinbo	NASA Goddard Space Flight Center	USA	Mangrove extent, change and structure in Africa and the Americas
Jenny Hewson	Conservation International	USA	Contribution to the Evaluation of the JAXA ALOS-derived Global Forest Products
Josef Kellndorfer	Woods Hole Research Center	USA	ALOS PALSAR Data Use in multi-source Fusion Modelling for C Flux Assessments in Forest and Wetland Ecosystems
Kyle McDonald	City College of New York	USA	Mapping Global Wetlands and Boreal Freeze/Thaw with ALOS PALSAR
Bill Salas	Applied Geosolutions, LLC	USA	Application of PALSAR for regional assessments of forest disturbance, agriculture and wetland habitats
Paul Siqueira	Univ. Massachusetts	USA	Combined Use of SAR, InSAR and Lidar for Measuring Forest Biomass and Structure in the Northeastern United States

35 members from 17 countries

Research institutes (6); Universities (10)
National agencies for space/geo-spatial info (6)
National forest mapping agencies (6)
NGO’s (5); Private companies (3)

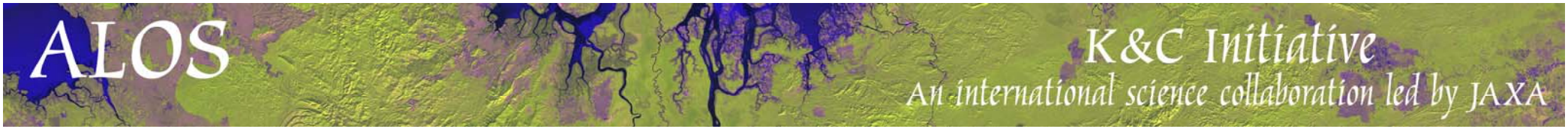


K&C Science Team Phase 3

Name	Institution	Country	Proposal Title
Anthony Milne	University of New South Wales	Australia	Using multi-temporal ALOS PALSAR to investigate flood dynamics in semi-arid wetlands: Murray Darling Basin, Australia
Humberto de Mesquita	Brazilian Forest Service	Brazil	Mapping the Public Forests in Brazil
Bruce Forsberg	Instritute for Amazonian Research (INPA)	Brazil	The use of ALOS imagery to investigate the carbon dynamics of the Amazon river system
Edson Sano	Institute of Environment and Natural Renewable Resources (IBAMA)	Brazil	Validation of JAXA´s forest/non-forest and forest cover change maps from Amazonia and Cerrado
Dalton Valeriano	National Institute for Space Research (INPE)	Brazil	ALOS-PALSAR application in Brazilian major carbon cycle issues
André Beaudoin	Canadian Forest Service	Canada	Evaluating the potential of JAXA PALSAR FBD mosaic data to classify presence/absence of forest and estimate forest biomass towards generating joint CFS/JAXA PALSAR-based map products across the boreal forest biome of Canada
Maycira Costa	University of Victoria	Canada	Mapping habitat suitability for the Pantanal jaguar and marsh deer using ALOS/PALSAR, RADARSAT- 2 and ENVISAT/ASAR Imagery
Jorge Léon Sarimento	The Nature Conservancy	Colombia	Measuring Effective Conservation in The Northern Andes and South Central America Conservation Program
Lisa Rebelo	International Water Management Institute	Ethiopia	Wetlands in the Nile and Zambezi Basins

K&C Science Team Phase 3

Tuomas Häme	VTT Technical Research Centre of Finland	Finland	Forest Degradation and Change Monitoring in the Tropical Zone
Thuy Le Toan	Centre d'Etudes Spatiales de la Biosphère (CESBIO)	France	Forest Cover Change and Biomass Mapping using ALOS PALSAR data
Kostas Papathanassiou	German Aerospace Centre (DLR)	Germany	ALOS-PALSAR & TanDEM-X Acquisitions for Forest Disturbance & Degradation Mapping
Christiane Schmullius - Christian Thiel	Friedrich-Schiller-University Jena	Germany	PALSAR Intensities and Coherence for Forest Cover and Forest Cover Change Mapping and Biomass Retrieval
Aurelie Shapiro	World Wide Fund for Nature (WWF-Germany)	Germany	Quantifying forest degradation and associated drivers in the Congo Basin
Francisco Tavora	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Gernamy	Climate-relevant Modernization of the National Forest Policy and Piloting of REDD Measures in the Philippines
Darmawan-Nurwadjedi	Bakosurtanal	Indonesia	(1) Land Cover Mapping of Sulawesi using ALOS PALSAR (2) Carbon Stock Measurement In Coastal Wetland Ecosystem Using ALOS PALSAR Data
I Nengah Surati Jaya	Bogor Agricultural University	Indonesia	Application of ALOS PALSAR for Above Ground Biomass: Estimation in several types of wetland vegetation (peat swamp, swamp and mangrove), dryland forest and plantation forest in Indonesia
Orbita Roswintiarti	National Institute of Aeronautics and Space (LAPAN)	Indonesia	Collaborative research for forest carbon tracking in Sumatra



K&C Science Team Phase 3

Yumiko Uryu	WWF-Indonesia	Indonesia	Developing the best independent PALSAR based MRV system for REDD+ in Sumatra, Indonesia
Director	Kenya Forest Service	Kenya	Forest Resources Mapping and Monitoring in Kenya
Khali Hamzah	Forest Research Institute Malaysia (FRIM)	Malaysia	Aboveground Biomass and Carbon Stock Mapping and Changes Monitoring in the Forest of Peninsular Malaysia Using L-Band ALOS PALSAR and JERS-1
Renaud Mathieu	Council for Scientific and Industrial Research (CSIR)	South Africa	Assessing woody structural properties of semi-arid African savannahs from multi-temporal L-band ALOS PALSAR data
Johan Fransson	Univ. of Agricultural Sciences	Sweden	Advances in forestry applications using satellite ALOS PALSAR images
Francesco Holecz	sarmap	Switzerland	Forest Mapping and Monitoring in Malawi
Maurizio Santoro	Gamma Remote Sensing	Switzerland	Coupling radar-based estimates of forest information with biosphere models for improved carbon flux estimation
Dirk Hoekman	Wageningen University	The Netherlands	Wide area forest monitoring in Insular SE Asia and Guiana Shield
Richard Lucas	Aberystwyth University	U.K.	(1) Australian R&D Support to Global Forest and AGB Mapping (2) K&C Mangrove Watch
Shaun Quegan	Univerity of Sheffield	U.K.	Optimising the use of ALOS-PALSAR data for tropical deforestation monitoring and carbon accounting
Bruce Chapman	Jet Propulsion Laboratory/Caltech	USA	Mapping inundation with ALOS SCANSAR data

Phase 3 agreements

- 35 proposals were selected by JAXA
- Agreements presently in prep by the JAXA contracts dept. (Ms. Iwaki)
- Contract duration 2.5 years (until March 31, 2014)
- Phase 3 report (called “Summary report” in contract)

- In case you have any specific questions regarding your agreement, Ms Iwaki and her team is available for discussions during Monday and Tuesday here in Tsukuba.

JAXA Travel Support Regulations

JAXA will support

- the air travel for K&C Science Team members
  - one member per project
  - project leader or representative
- Support provided *every second* Science Team meeting *attended*.

Please note that members representing other national space agencies cannot be covered and are kindly asked to bear their own costs for the travel.

Finally - a reminder

KC#16 project presentations

- 20+5 minutes
- Please be sure to include the template slides