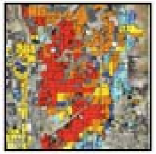
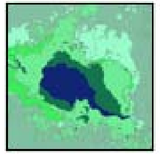
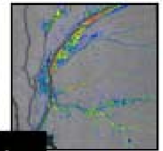
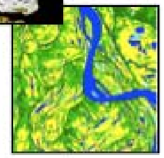
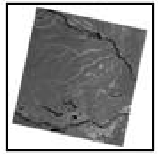
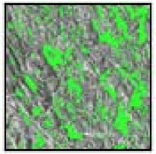
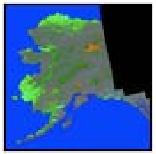
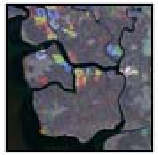
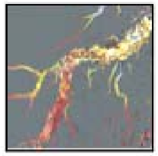
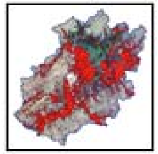
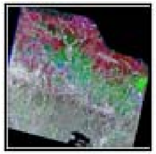
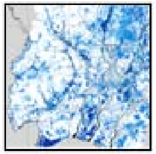
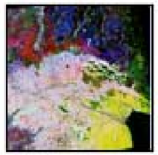





The K&C Wetlands Theme



Wetlands Theme Science Team members
Phase 1 & 2

Science Team:

- Laura Hess - UCSB, USA
- Maria Lisa Rebelo, IWMI, Ethiopia
- Richard Lucas - U. Wales Aberystwyth, U.K.
- Tony Milne - Horizon, Australia
- Maycira Costa - U-Victoria, Canada
- Kevin Telmer - U-Victoria, Canada
- Dirk Hoekman – U. Wageningen, The Netherlands
- Kyle McDonald - JPL, USA
- Bill Salas - AGS, USA
- Ake Rosenqvist - soloEO, Sweden
- John Lowry - ERISS, Australia

The Wetlands Theme Objectives

Aims to support the Ramsar Convention on Wetlands and Terrestrial Carbon Cycle science

Ramsar information requirements (conservation focus)

(1) Spatial and temporal characteristics of flooding patterns in Ramsar designated (and other) wetland areas

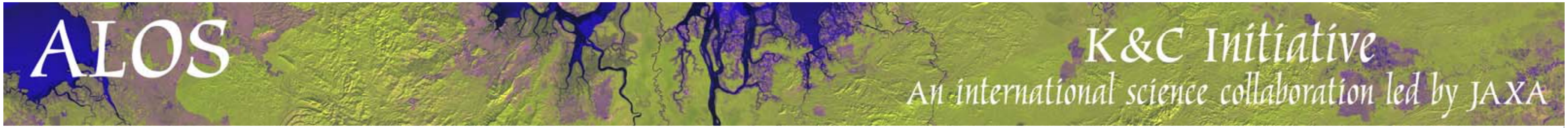
- Spatial extent;
- Temporal cycle (seasonal/annual/decadal…);

(2) Identification of natural- and human-induced disturbances in wetlands;

(3) Support to the Ramsar global wetlands inventory.

Relevance to Carbon Cycle Science (Wetlands as sources of CH_4)

(4) Monitoring of anthropogenic and natural sources of CH_4



Wetland Management and Wildlife Protection in the Pantanal

Science team member: Maycira Costa (U. Victoria, Canada)

Figure 1: Top: Aerial photograph over the Pantanal. Bottom: Abundant wildlife (Tuiui-the bird symbol of Pantanal; Caimans on the shore, Large Anteater)

図１：上　パンタナル湿原の空撮写真　下　豊富な野生生物（パンタナールを象徴するるジャビルし、ワニ、アリクイ）

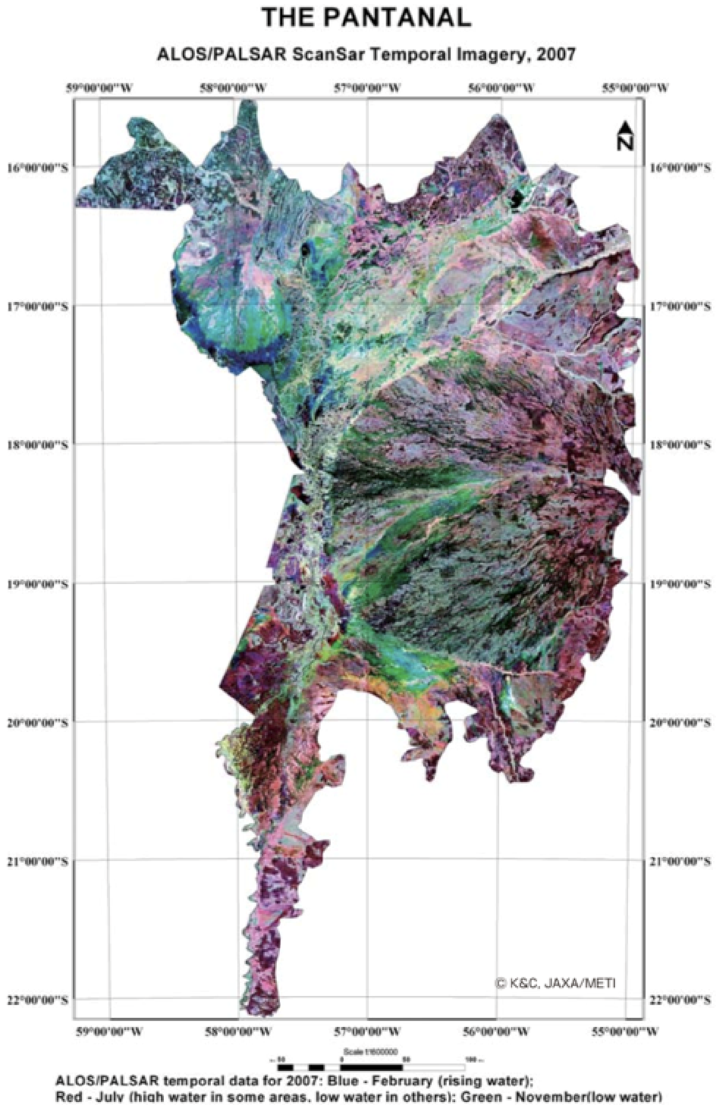
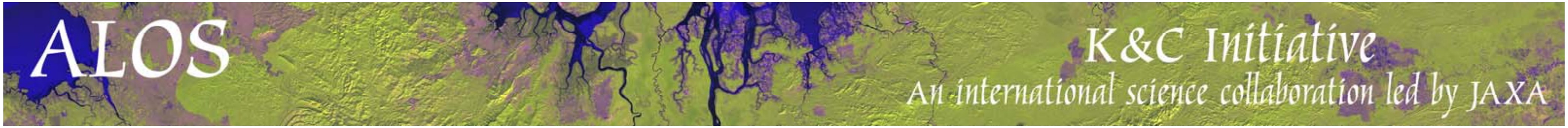


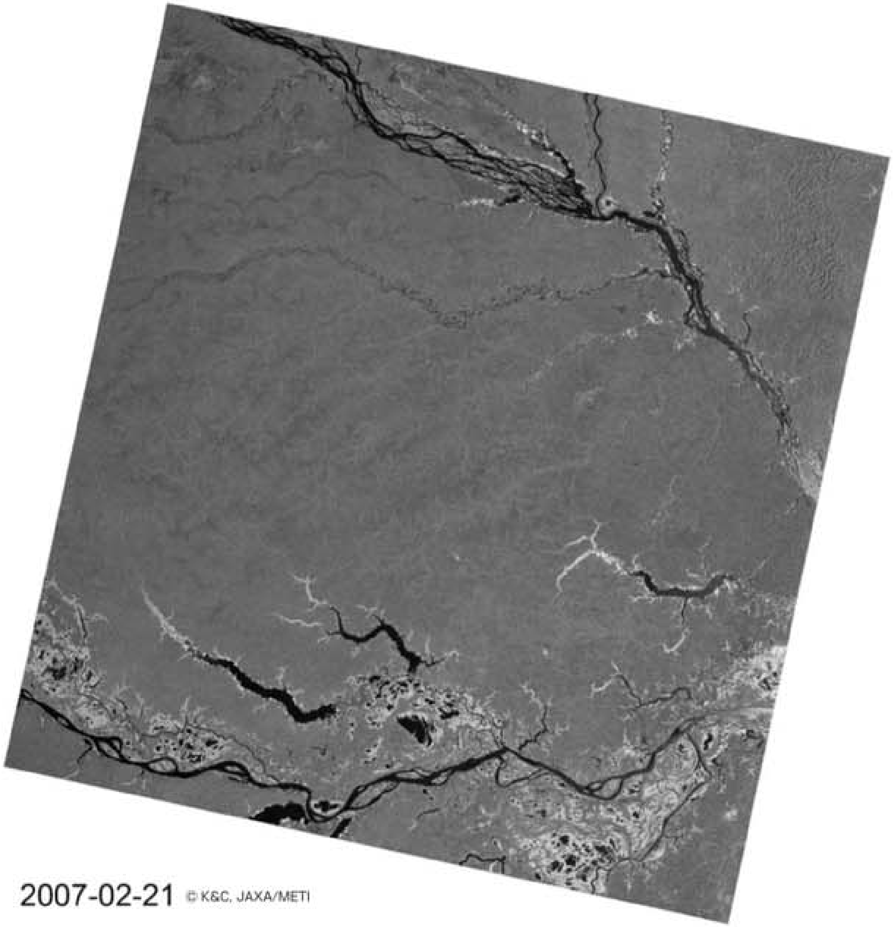
Figure 2: 2007 multi-temporal PALSAR ScanSAR mosaic over the Pantanal (Blue: February/rising water Red: July/mixture of high and low waters Green: November/low water)

図２：2007 年、PALSAR,SAR によるパンタナール（青：２月（増水期）赤：７月（増水と渇水の混合）緑：１１月（渇水期）



Regional-scale Effects of La Niña 2008 in the Central Amazon Basin

Science team member: Ake Rosenqvist (soloEO, Sweden)



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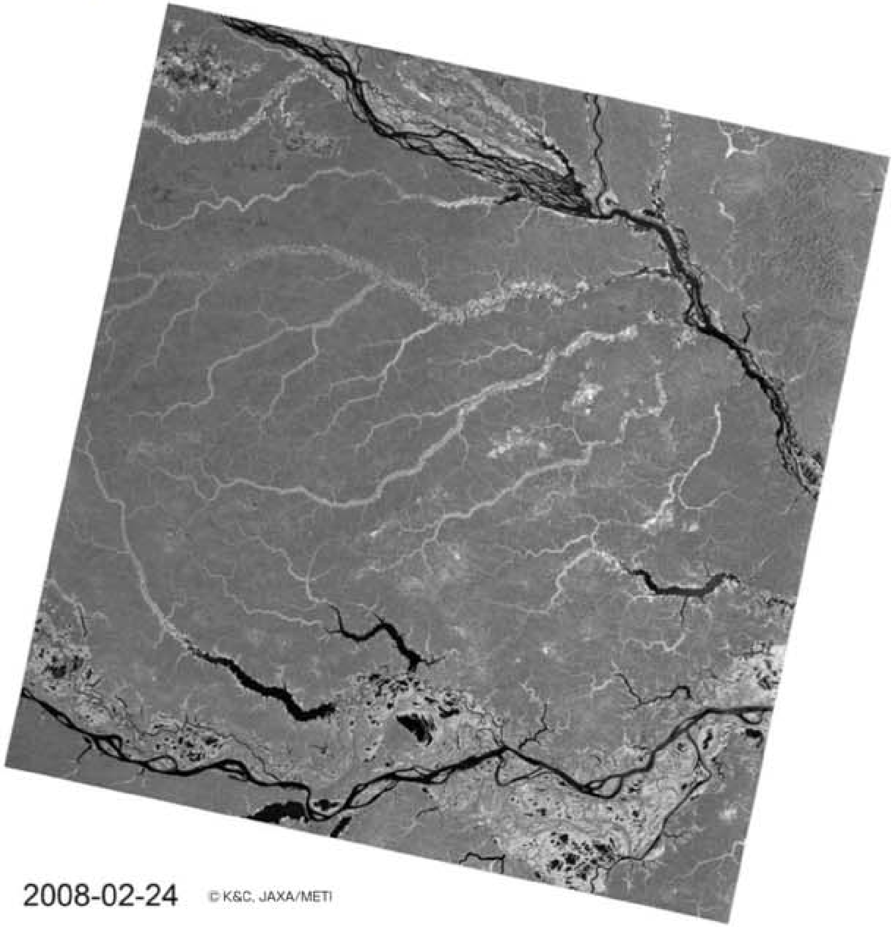

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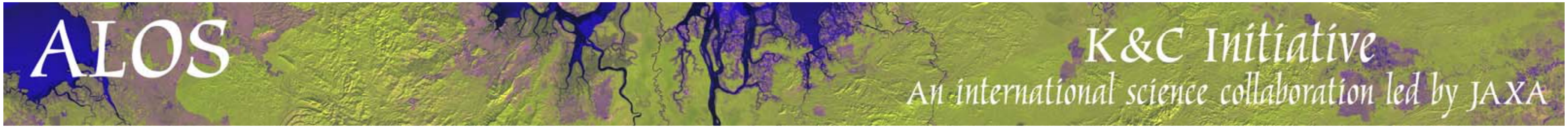
Figure 1: The effect of La Niña in the central Amazon river basin. as observed by ALOS PALSAR. The images cover an area of 350 km by 350 km. The Negro river is visible in the top, and the Solimões (Amazon) at the bottom of the images. The left image shows the basin in February 2007 (normal year) and the right image the region in February 2008 during La Niña. The exceptionally high water levels and extensive forest inundation in the northern tributaries are manifested as bright in the images.

図 1：ALOS/PALSAR により観測したアマゾン川中流域でのラニーニャ現象の影響。350km 四方の画像。画像上部にネグロ川が、下部にソリモンエス（アマゾン）が見えます。左の画像は、2007 年 2 月（通常年）、右の画像は、2008 年 2 月のラニーニャ現象発生中の流域の様子。画像中の明るい部分が水域で、北の支流が異常に高い水位を示し、広範囲にわたる森林の浸水が観測できます。ALOS K&C ©JAXA/METI



Habitat Mapping for Biodiversity and Conservation on the Amazon Floodplain

Science team members: Laura Hess (UCSB, USA) and Bruce Chapman (Jet Propulsion Laboratory, USA)

Figure 1: ALOS PALSAR Fine Beam multi-temporal composite, Mamirauá Sustainable Development Reserve, Amazon floodplain (2.8S, 65.0W). Red: HH, 14 June 2007; Green: HV, 14 June 2007; Blue: HH, 30 July 2007. The Mamirauá Reserve is bounded by the Amazon River to the southwest and the Japurá River to the northeast.

図 1：ALOS PALSAR 高解像度ビーム、多時期複合画像。アマゾン氾濫原、マミラウア自然保護区（2.8S、65.0W）赤：HH、2007 年 6 月 14 日　緑：HV、2007 年 6 月 14 日　青：HH、2007 年 7 月 30 日。マミラウア保護地は、南西のアマゾン川と北東のジャグラー川とで区画されています。

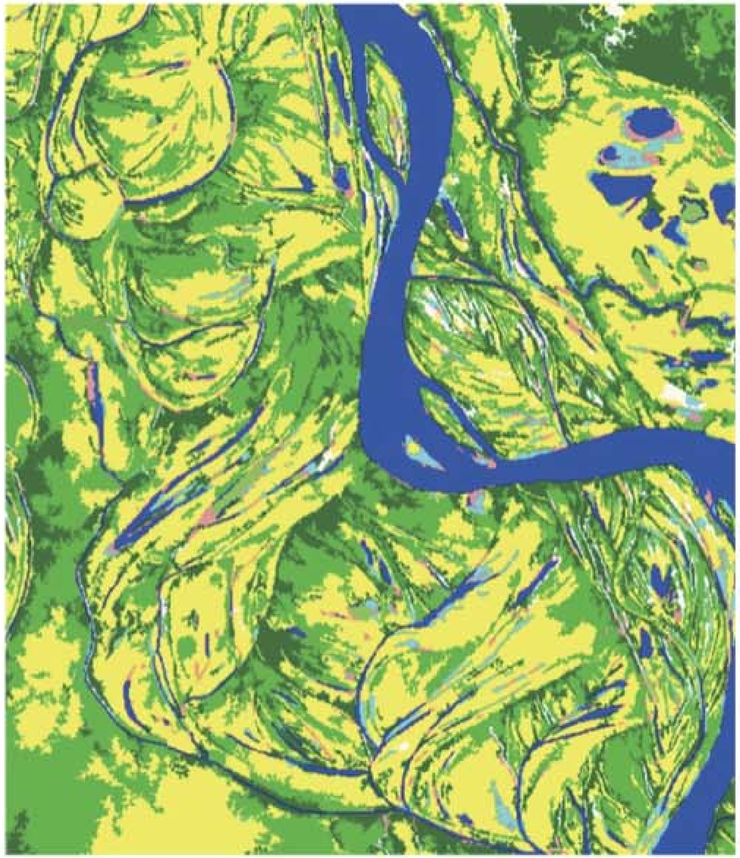
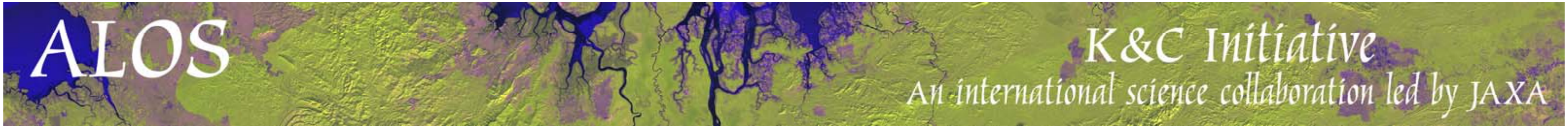


Figure 2: Classified image for subset (red box) of Figure 1, using three PALSAR dates as inputs (14 June, 30 July, and 30 October 2007). Between high-water stage in June, and low-water stage in October, the Amazon River fell 9.1 m. In June, nearly the entire floodplain was inundated. Várzea tree species are adapted to tolerate various degrees of flooding-on the lower parts of the floodplain, trees are largely submerged at peak flood stage, and fish swim through the treetops.

図 2：図 1 の部分拡大（赤枠の部分）の分類図。3 回の PALSAR データ（14/7、30/7、30/10/2007）を使用。6 月の水が多い時期と 10 月の少ない時期とでは、アマゾン川の水位は 9.1m の差があります。6 月の氾濫原はほぼ全体が水没します。氾濫原の樹木は水没に対応でき、氾濫原の下部では水位がピークに達する時期では、樹木はほぼ水没し、魚が木の梢を泳ぎます。

Structure	Inundation period		Local term
Woody-tall	0-1 months/year		High várzea forest
Woody-tall	1-2 months/year		High várzea forest
Woody-tall	2-6 months/year		Low várzea forest
Woody-tall	6-9 months/year		Chavascal
Woody-short	6-9 months/year		Chavascal
Herbaceous	9-12 months/year		Aquatic macrophyte
Non-vegetated	9-12 months/year		Open water

構成	浸水期間	色	現地用語
高い樹木	年間 0-1 ヶ月	濃緑	高氾濫原森林
高い樹木	年間 1-2 ヶ月	淡緑	高氾濫原森林
高い樹木	年間 2-6 ヶ月	黄	低氾濫原森林
高い樹木	年間 6-9 ヶ月	白	Chavascal
潅木	年間 6-9 ヶ月	ピンク	Chavascal
草	年間 9-12 ヶ月	水色	大型水生植物
植生なし	年間 9-12 ヶ月	藍	開水域



Regional Inundation Mapping for for Carbon Cycle, Hydrologic, and Climate Modelling in the Amazon Floodplain

Science team members: Laura Hess (UCSB, USA) and Bruce Chapman (Jet Propulsion Laboratory, USA)

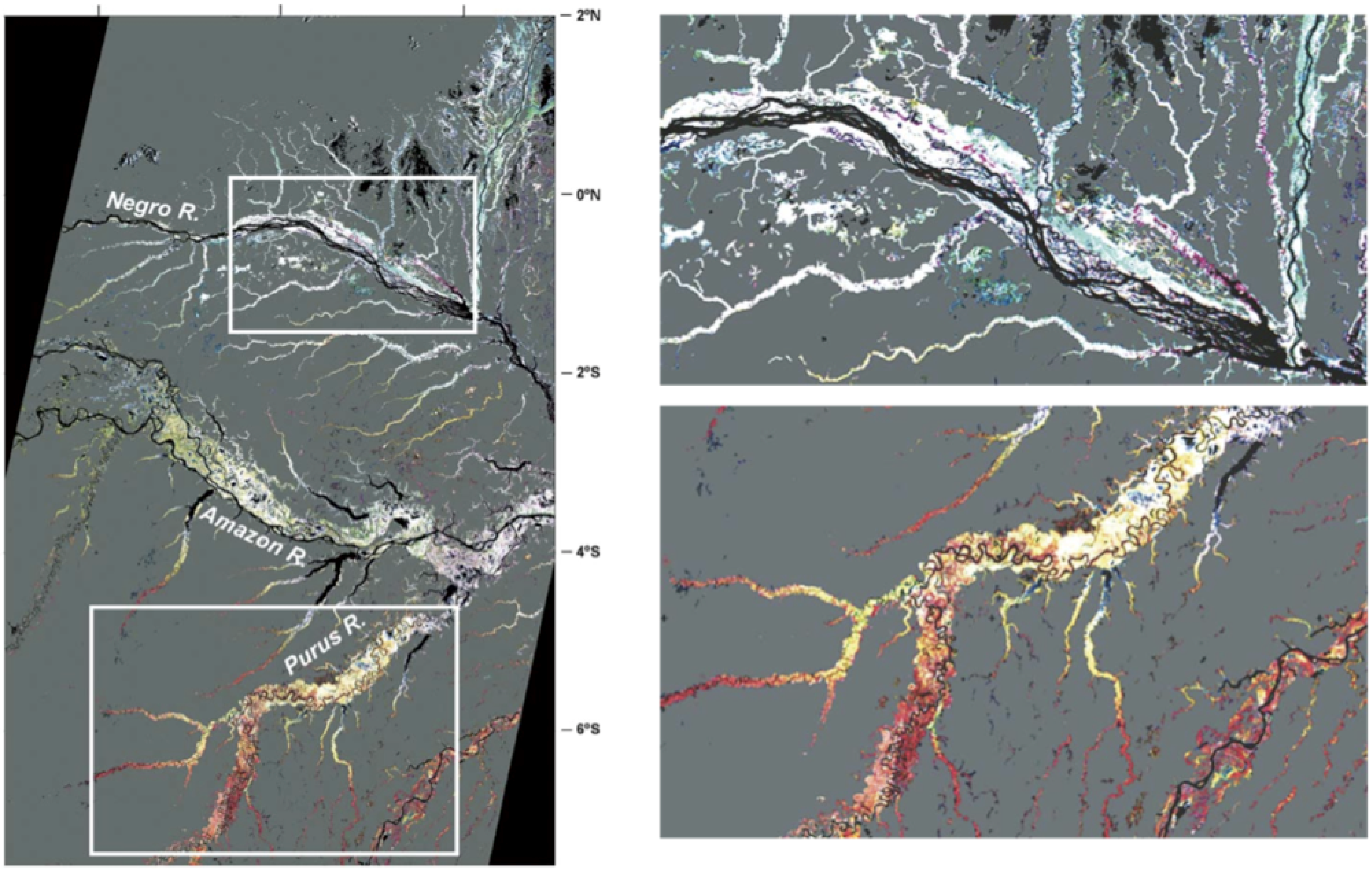


Figure 1: Three-date ALOS ScanSAR mosaic of the central Amazon, from May, June/July and August, 2007. Non-wetland areas are shown in gray. The remaining areas appear black (primarily open water or sparsely vegetated), white (forested areas that are flooded during all three imaging cycles), or in various colors (forested areas with changes in flooding between the months of May, June-July, and August 2007).

図 1：アマゾン中央部の2007年5月、6／7月、8月の3時期でのALOS ScanSARのモザイクデータ。湿原以外の地域は灰色。黒は主に開水域か植生がまばらな地域。白は森林地域で3時期で、すべてで浸水していた地域。他の色は森林地域で、2007年5月、6／7月、8月では浸水が変化した場所です。

Mapping Threatened Wetlands along the Nile River (Sudd Wetlands, Sudan)

Science team member: Lisa-Maria Rebelo (IWMI, Ethiopia)

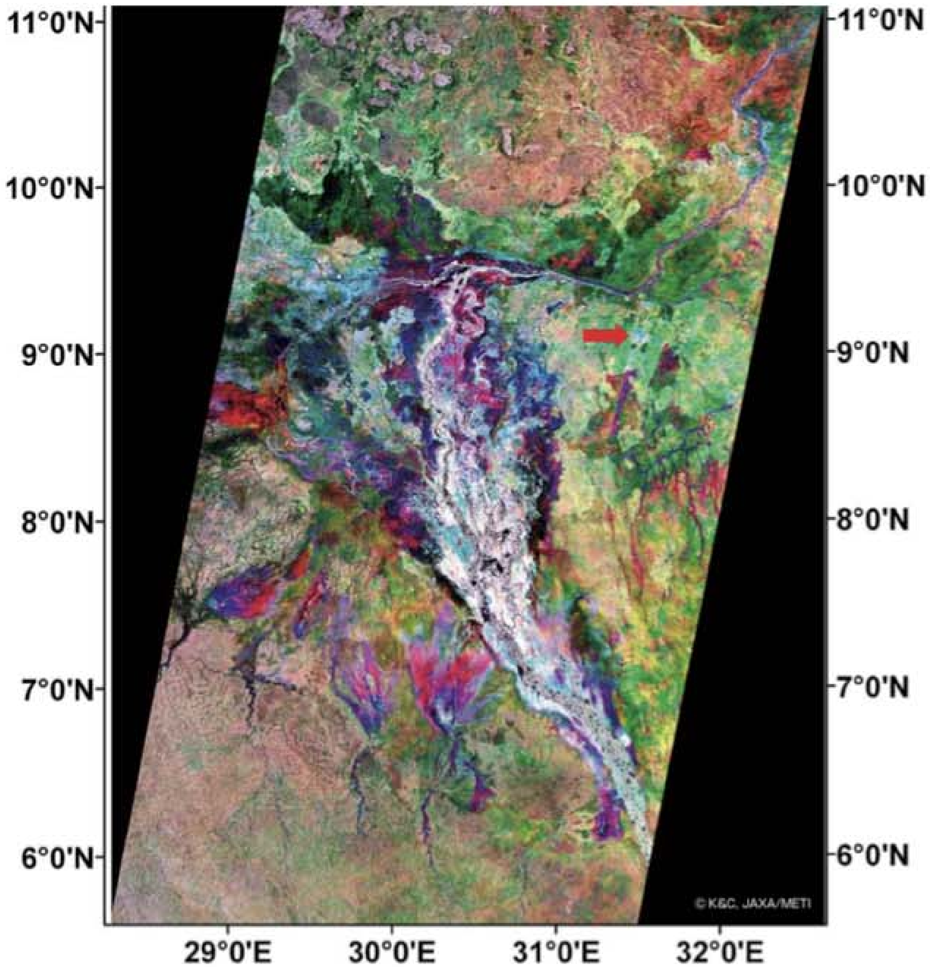
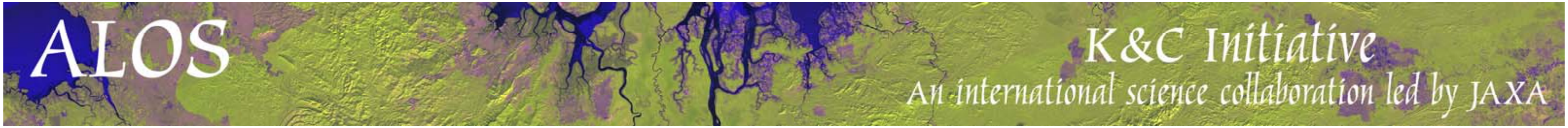


Figure 1: The Sudd Wetlands, Sudan. False colour composite image using PALSAR data from June, September and December, 2007. The Jonglei Canal is the linear feature running north-southwest direction on the right of the wetland (marked with red arrow).

図 1:スーダンのサッド湿地　2007 年 6, 9, 12 月のフォールスカラー画像　湿地帯の右側に北から南西に走る線状の部分（赤い矢印）がジョングレイ運河。



Mapping Wetlands in Africa to Improve Understanding of wetland-livelihood Interactions (Lake Urema, Mozambique)

Science team member: Lisa-Maria Rebelo (IWMI, Ethiopia)

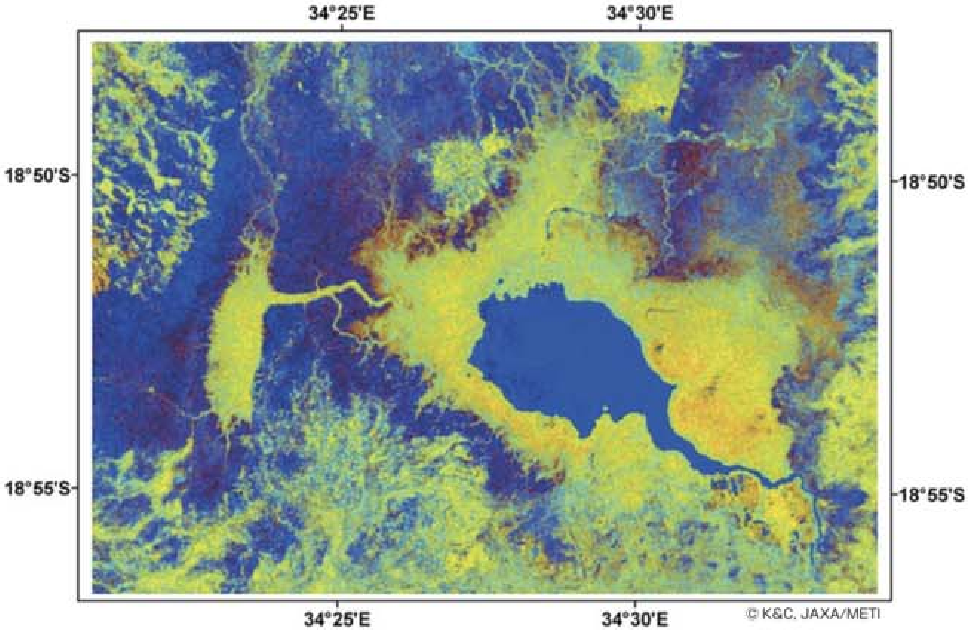


Figure 1: Lake Urema, Mozambique. Dual polarisation false colour ALOS PALSAR image acquired in 2007.

図 1：モザンビークのウレマ湖、2007 年に ALOS PALSAR が取得した二重偏波フォールスカラーの画像

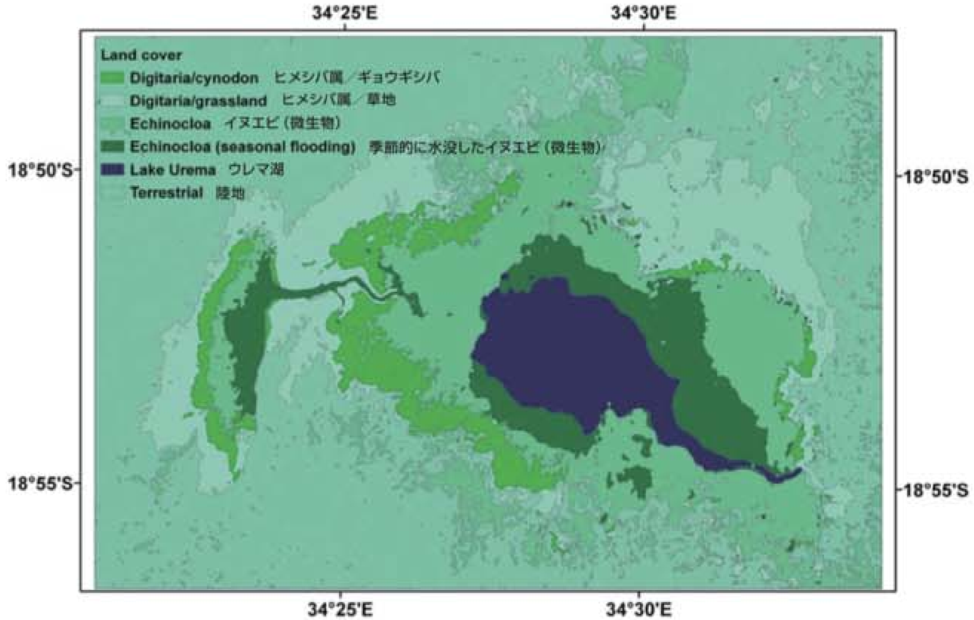
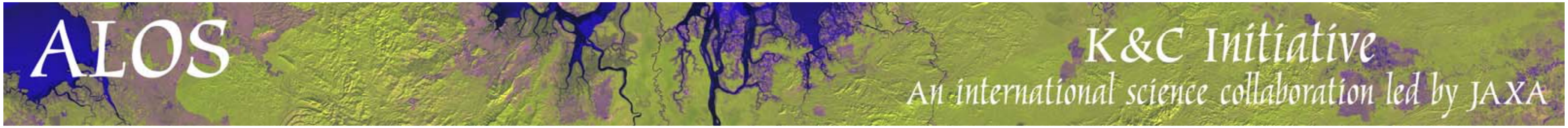


Figure 2: Identification of wetland types based on flooding regime, derived from multi-temporal PALSAR ScanSAR data.

図 2：多時期 PALSAR ScanSAR データから得て特定した洪水期間の湿地帯タイプ



Flood Duration Mapping in the Congo River Basin

Science team members: Ake Rosenqvist (soloEO, Sweden), Frank De Grandi (JRC, E.U.)

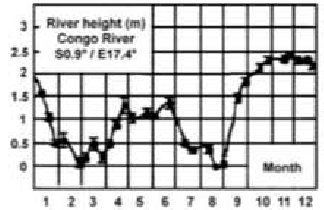


Figure 1: River height variations during one year in the Congo River. Note the characteristic two peaks of high waters of the river every year.

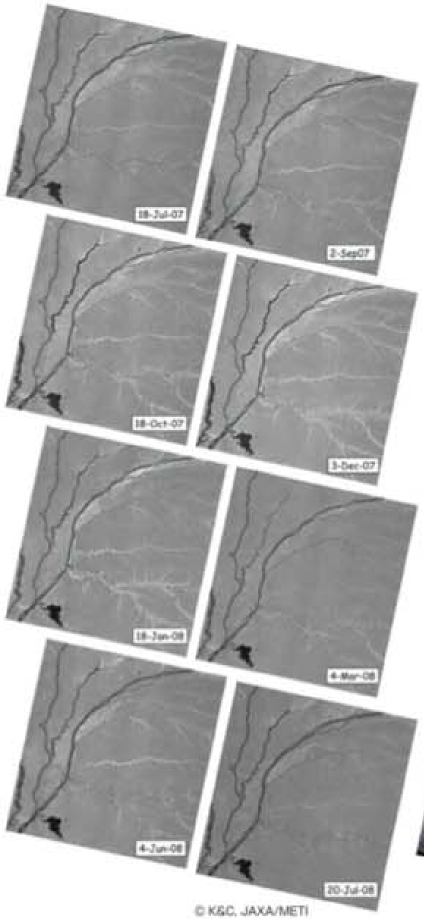
図 1：コンゴ川の 1 年間の水量変化。水量が高い時期が年に 2 回という特徴が留意点です。

Flood duration

- 1 ~ 45 days
- 46 ~ 91days
- 92 ~ 137 days
- 138 ~ 183 days
- 184 ~ 229 days
- > 229 days

凡例：浸水持続時間

- 1 ~ 45 日
- 46 ~ 91 日
- 92 ~ 137 日
- 138 ~ 183 日
- 184 ~ 229 日
- > 229 日



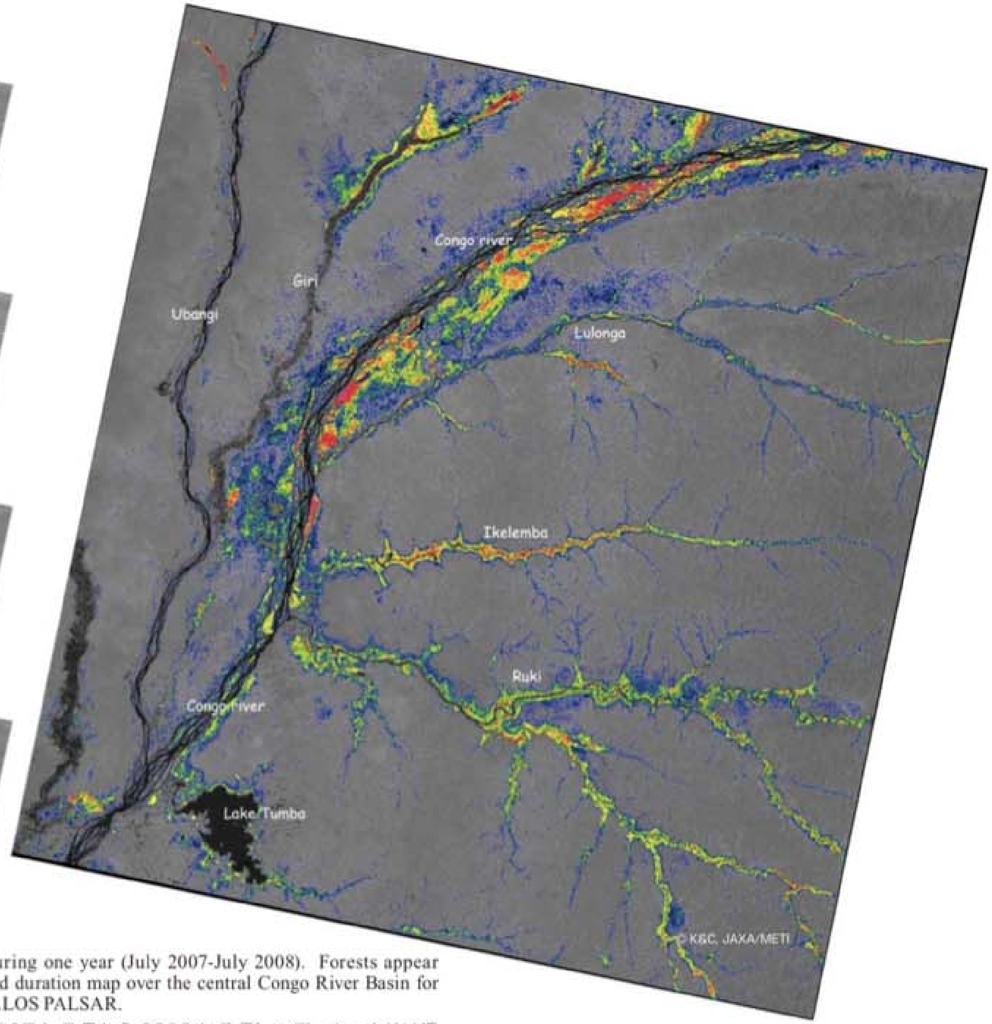


Figure 2: (Left) ALOS PALSAR time-series during one year (July 2007-July 2008). Forests appear bright in the images when flooded. (Right) Flood duration map over the central Congo River Basin for the period July 2007-March 2008, derived from ALOS PALSAR.

図 2：（左）ALOS PALSAR による 1 年間（2007 年 7 月から 2008 年 7 月）のデータ。森林は浸水している時期は明るく表示されます。（右）ALOS から取得した 2007 年 7 月から 2008 年 8 月のコンゴ川中流域洪水期間地図。

Structural Mapping of Australian Mangroves

Science team member: Richard Lucas (Aberystwyth Univ., Wales/U.K.)

	Low biomass mangroves	低バイオマス量のマングローブ
	High biomass mangroves	高バイオマス量のマングローブ
	High biomass mangroves with prop root systems	高バイオマス量の支柱根があるマングローブ
	Non-mangrove	マングローブなし

Figure 1: Hinchinbrook Island National Park (Queensland, Australia). Map of three biomass classes of mangrove obtained using a combination of ALOS PALSAR, Landsat and SRTM elevation data. Areas in red indicate mangroves with aerial root systems.

図１：ヒンチンブルーク島国立公園（オーストラリア、クイーンズランド州）。ALOS PALSAR、ランドサット衛星と SRTM 標高データを組み合わせて取得したマングローブ林のバイオマス量。赤の地域は支柱根を持つマングローブ。

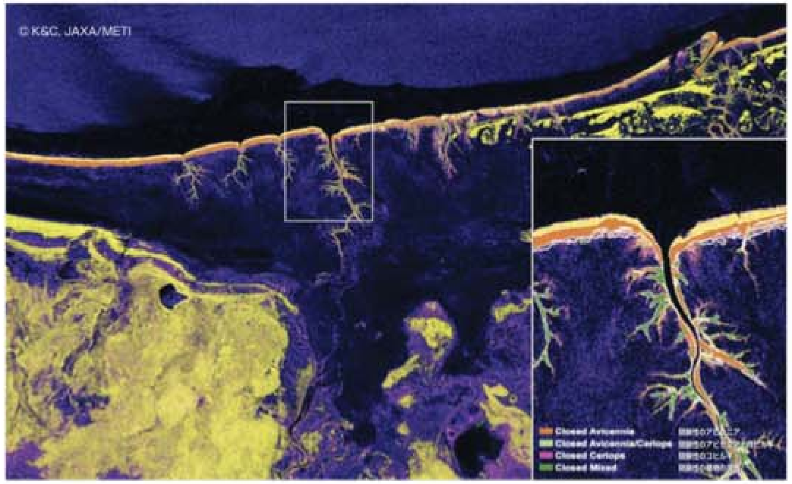


Figure 2: Gulf of Carpentaria (Queensland, Australia). Seaward extension of mangroves (yellow colour along the coast line) observed using ALOS PALSAR data.

図2：カーペンタリア湾（オーストラリア、クイーンズランド州）海上方向へ拡大するマングローブ（黄色　海岸線沿い）ALOS/PALSAR データで観測。

Monitoring of Mangrove Swamp Clearings and Regrowth (Perak, Malaysia)

Science team members: Ake Rosenqvist (soloEO, Sweden), Frank De Grandi (JRC, E.U.)

Figure 1: Matang Mangrove Forest Reserve in Perak, Malaysia. ALOS PALSAR composite from June 2006, October 2008 and March 2010. Mangrove forest logged between the 2006 and 2010 satellite acquisitions appear in red and yellow, while regrowth appears in blue.

図 1：マレーシア、ペラ州のマタン・マングローブ林保護区。2006 年 6 月、2008 年 10 月、2010 年 3 月の ALOS 合成画像。2006 ～ 2010 年に伐採されたマングローブ林は赤と黄色で表わされ、再生林は青で表示しています。

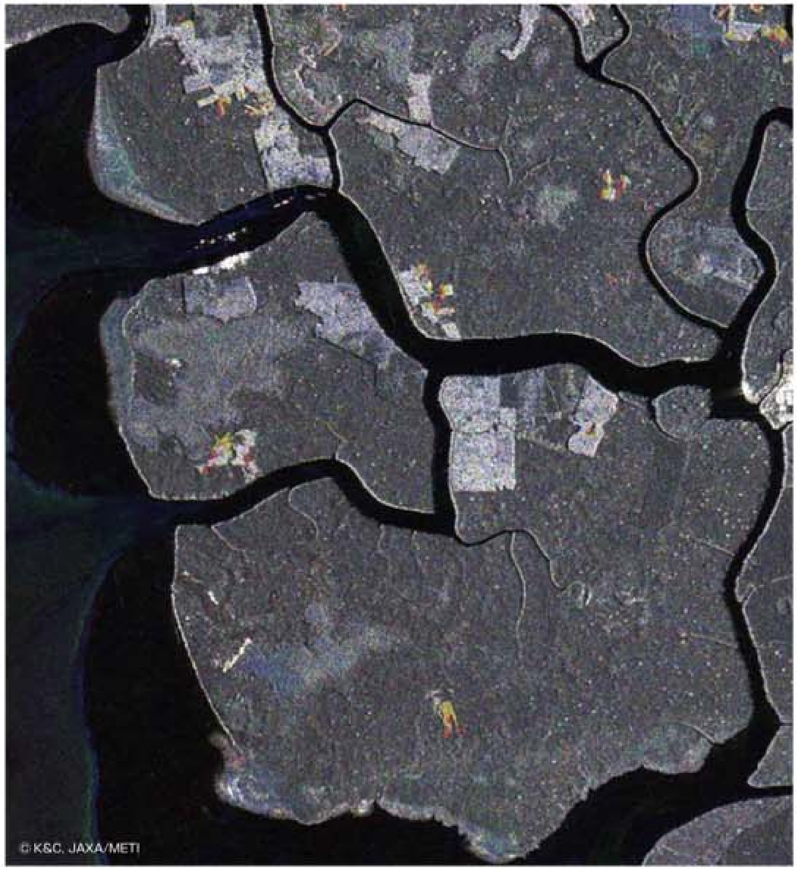
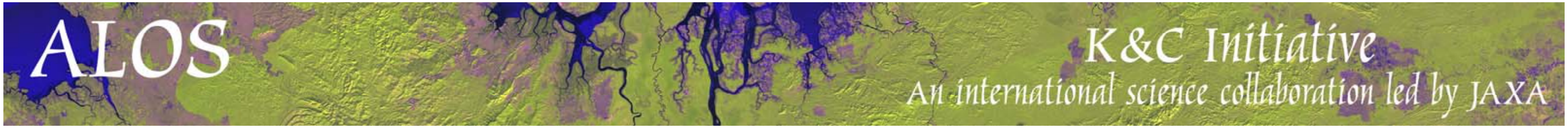


Figure 2: Mangrove clearings in Matang duing a 4.5-month period between December 5, 2009 and March 7, 2010. ALOS PALSAR (R: Mar. 2010, G: Jan. 2010, B: Dec. 2009). Areas logged between Dec. 2009 and Jan. 2010 are visible in red, while yellow indicates clearings undertaken during the first two months of 2010. ©JAXA/METI

図 2：マタンのマングローブの 4 ～ 5 ヶ月の伐採。2009 年 12 月 5 日から 2010 年 3 月 7 日までの ALOS PALSAR 画像（赤：2010 年 3 月、緑：2010 年 1 月、青：2009 年 12 月）2009 年 12 月と 2010 年 1 月に伐採された地域は赤、黄色は 2010 年の 1、2 月に伐採された地域。©JAXA/METI



Mapping Rice Agro-Ecological Conditions to Track Avian Influenza

Science team member: William Salas (Applied Geosolutions, USA)

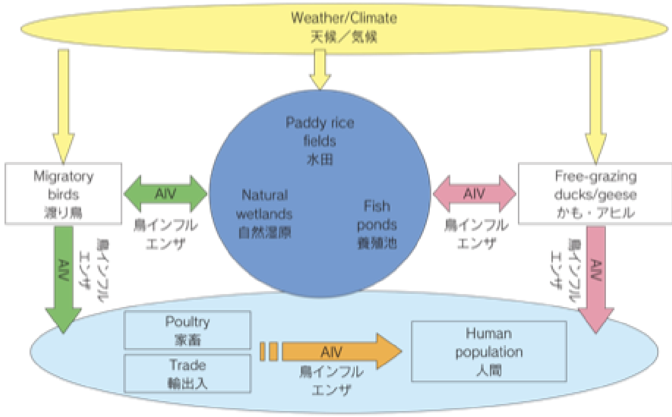


Figure 1: Ecology and epideminology of Highly Pathogenic Avian Influenza H5N1 (AIV) in a nature-human system. (Figure by X. Xiao)

図１：自然と人間の関わりの中での病原性の高い鳥インフルエンザの生態学と疫学（作成者 X.Xiao）

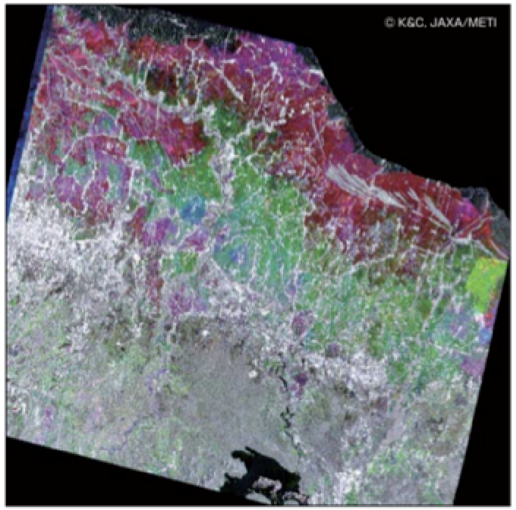


Figure 2: Rice agriculture dynamics in Java, Indonesia, from three ALOS PALSAR ScanSAR scenes (Red: 12/30/2008, Green: 02/14/2009, Blue: 05/17/2009). Green, red and purple areas are rice fields with different cultivation dates. Areas of aquaculture (fish and shrimp ponds) are also visible along the coast (dark areas with low SAR backscatter).

図２：３つの ALOS/PALSAR ScanSAR データによる、インドネシア、ジャワ島での米作農業動態。（赤：2008年12月30日　緑：2009年２月14日　青:2009年５月17日）緑、赤、紫の地域は異なった栽培時期の水田。養殖（魚と海老の池）の地域は海岸（後方散乱が低い地域）に沿って見られます。

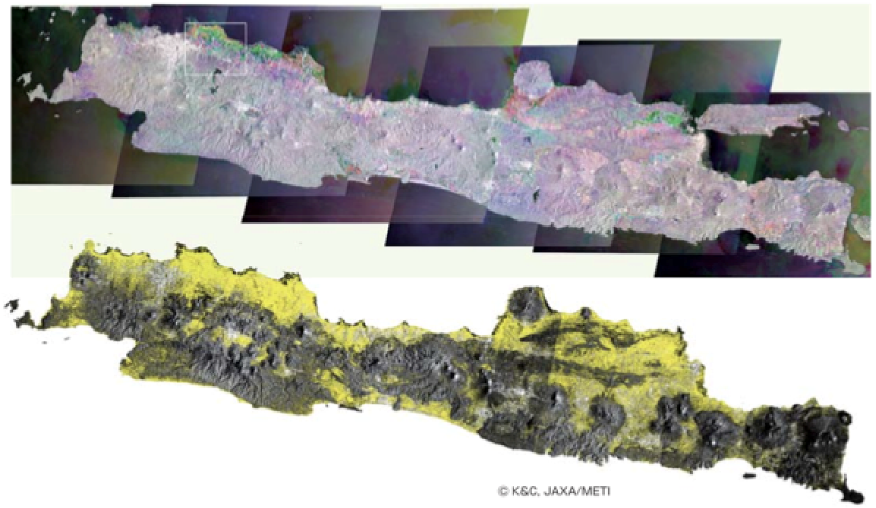
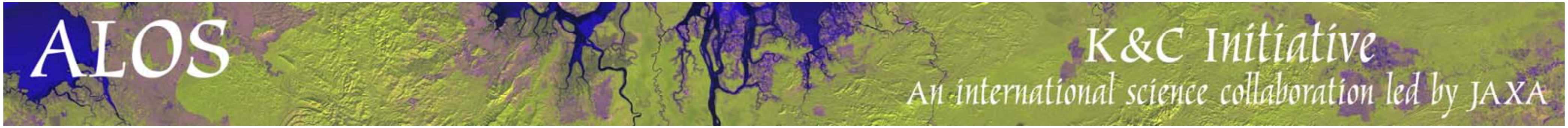


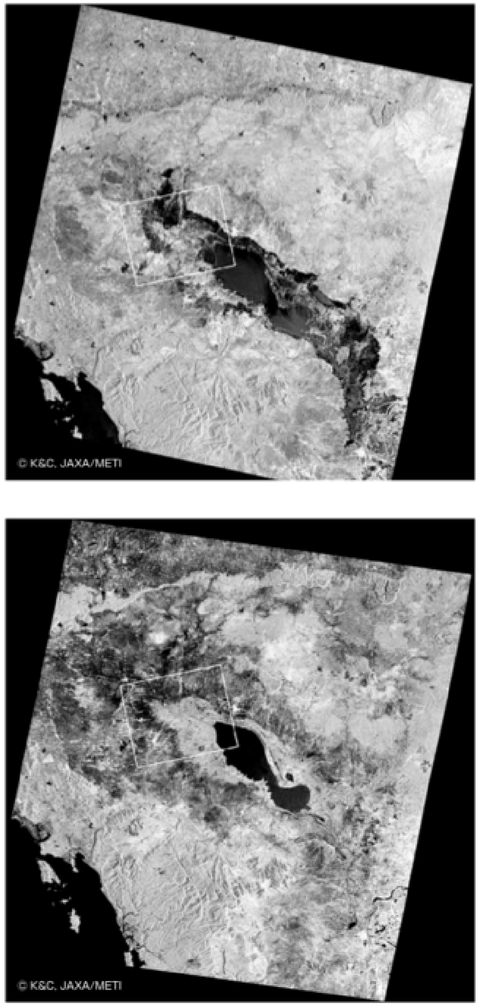
Figure 3: Java, Indonesia. Top: PALSAR ScanSAR multi-temporal mosaic. White box indicates location of figure 2. Bottom: Extent of rice paddy cultivation, derived from the ScanSAR mosaic.

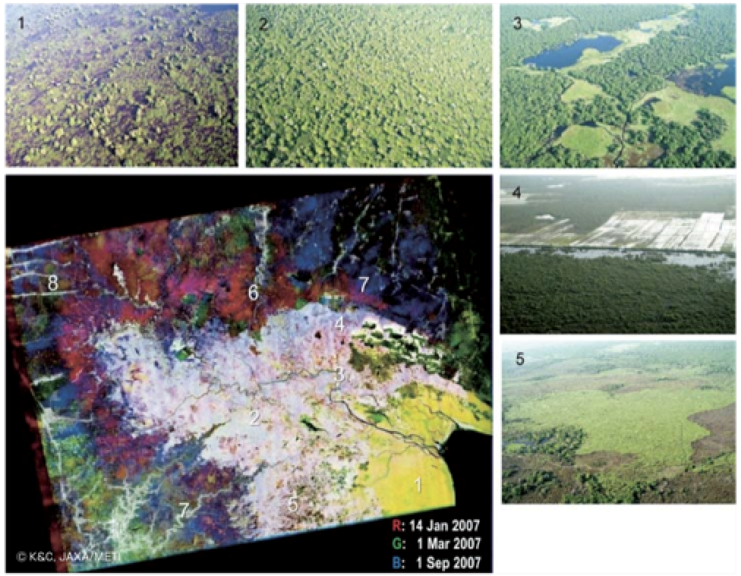
図３：インドネシア、ジャワ島。上図：ALOS PALSAR ScanSAR 多時期モザイク画像。白く囲まれているのは図2の場所。下図：水田耕作の広がり（黄色）を ScanSAR モザイク画像で示しています。



Wetland Extent, Inundation Patterns and Vegetation Change in Tonle Sap, Cambodia

Science team member: Anthony Milne (UNSW, Australia)





1. Submerged forest within Prek Toal Biosphere Reserve
2. Flooded forest and shrub
3. Macrophytes
4. Constrained surface water beneath shrub
5. Permanent areas of open water and grasslamds
6. Surface water drainage
7. Irrigated rice-fields
8. Villages along roads

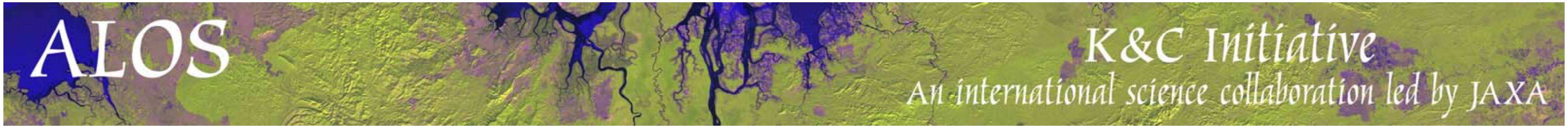
1．プレクトオール生物圏保護区内の浸水した森林
2．浸水した森林と潅木
3．大型底生植物
4．潅木の下の人工水面
5．残っている開水と草地の地域
6．地表水の排水
7．灌漑田
8．道に沿った集落

Figure 1: Tonle Sap Lake, Cambodia. ALOS PALSAR wide-swath ScanSAR data acquired during the wet (left: November 2006) and dry (right: March 2007) seasons. The white rectangle indicates the location of figure 2.

図1：カンボジア　トン・レ・サップ湖。雨期（左 2006年11月）と乾季（右　2007年3月）に得た（ALOS/ PALSAR の広幅 ScanSAR データ。白い長方形は図2の場所。

Figure 2: Three-date colour composite image of the Prek Toal Nature Reserve, in the northwestern part of Tonle Sap Great Lake, Cambodia, and corresponding aerial photographs of typical land cover types in the area. The colour and hues in the PALSAR composite are in response to changing backscatter conditions that occur as a result of falling water levels and crop phenology.

図2：カンボジア、トン・レ・サップ湖の北西にあるプレクトオール生物保護区の3時期のカラー複合画像。その地域の典型的な土地被覆の種類が空撮にも対応しています。
PALSAR 画像の色と色調は落水の規模や穀物の季節により後方散乱の変化に呼応しています。



Mapping Peat Swamp Forests in Indonesia

Science team member: Dirk Hoekman (Wageniungen Univ./SarVision, The Netherlands)

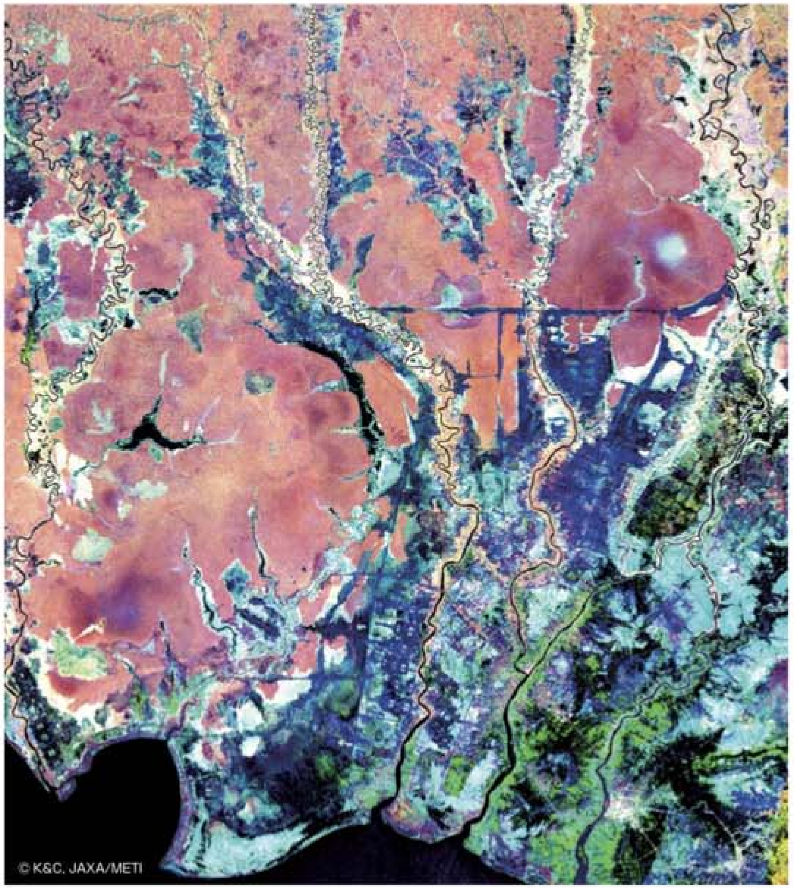


Figure 1: PALSAR colour composite image of South Kalimantan, Indonesia. Region of major conversion of peat swamp forest to rice cultivation. Canals built to drain water from the swamps are visible as blue linear features.

図１：インドネシア、南カリマンタンの PALSAR カラー複合画像
泥炭湿地林が稲作に転換した地域。青い線は湿原から水を排出する運河です。

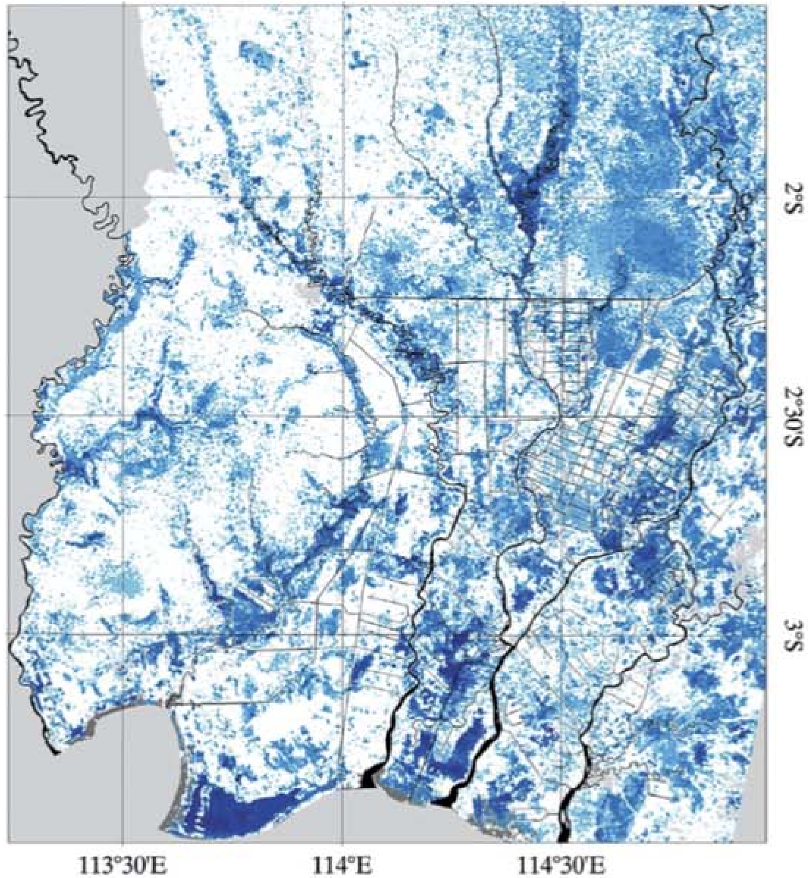
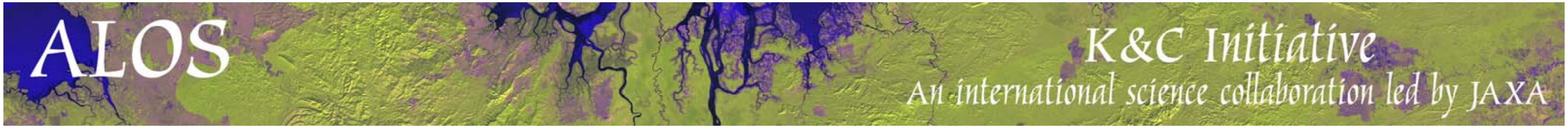


Figure 2: Map derived from PALSAR ScanSAR time-series showing flooding frequency in 2007.

図２：PALSAR ScanSAR で得られた 2007 年の時系列の浸水頻度マッピング
洪水頻度は図の中の青が濃くなるほど高く灰色は不明を意味しています。



Mapping and Monitoring Rice Agriculture in China with ALOS ScanSAR

Science team member: William Salas (Applied Geosolutions, USA)

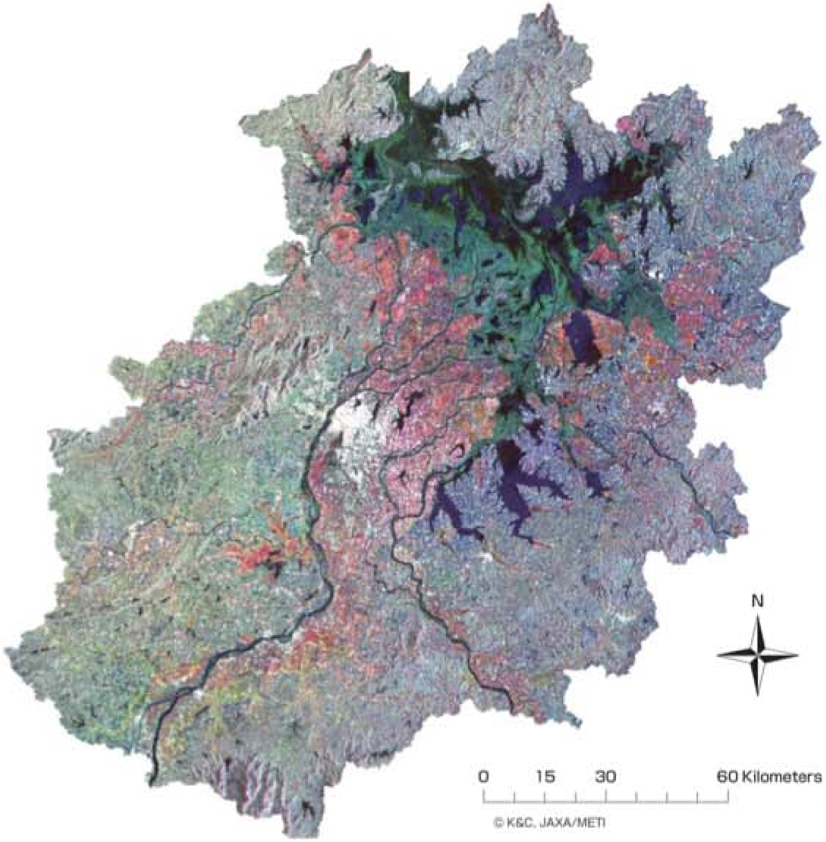


Figure 1: Poyang Lake region, Jiangxi Province, China, is the largest freshwater lake in China. Multi-temporal 2007 ScanSAR data (Red: August 29, Green: May 29, Blue: April 13) highlights rice paddies (red), wetland/water (black-green) of the lake, and urban land uses (white) in the region.

図１：江西省のポーヤン湖は中国最大の淡水湖です。2007 年の ScanSAR データ（赤：８月 29 日　緑：５月 29 日　青：４月 13 日）は水田（赤）、湖の湿地／水（黒一緑）とその地域の土地利用（白）を際立たせています。

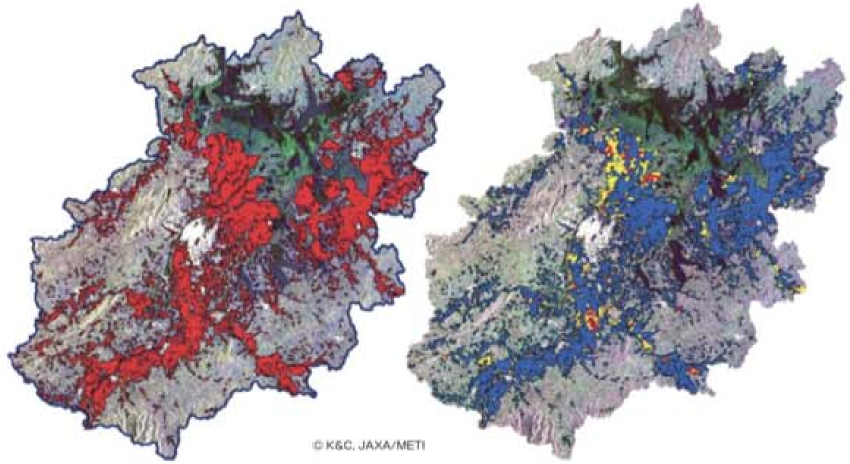
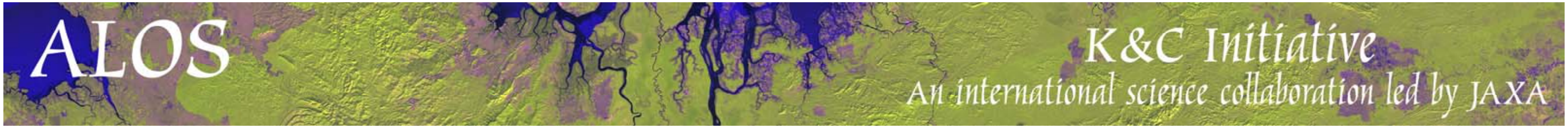


Figure 2: Left: Rice (red) classification for the Poyang Lake watershed using multitemporal ALOS PALSAR ScanSAR and Landsat water mask. Right: Map of rice cropping intensity (# of crops) and rice paddy hydroperiod for Poyang lake watershed (right). Approximately 85% of rice paddies were identified with two distinct inundated periods indicating double crop paddies.

図２：左：多時期 ALOS PALSAR ScanSAR と Ladnsat water mask を使用したポーヤン湖の米（赤）区分図　右：ポーヤン湖周辺には米作地が非常に多いこと、水田の冠水時期を示した図。水田の約 85%は際立って冠水する２つの時期が認められ、二期作の水田と推定できました。



Assessing Climate Change and GHG Emissions from Rice Crops (CA, USA)

Science team member: William Salas (Applied Geosolutions, USA)

Figure 1: PALSAR dual-polarisation image (Red:hh, Green: hv, and Blue HH-HV) of rice fields in California, USA.

図１：米国、カリフォルニア州の米作地の二重偏波画像（赤：hh 緑：hv 青：HH-HV）

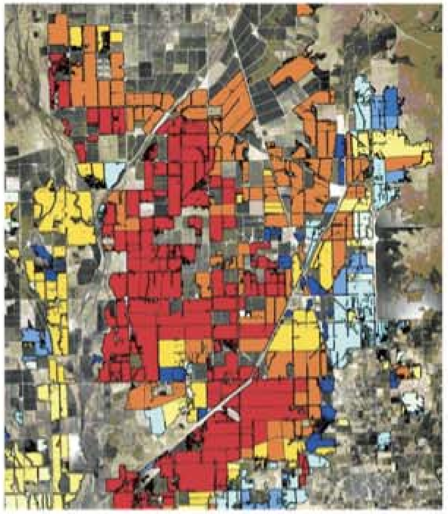


Figure 3: PALSAR imagery was used to map rice paddies and flood cycles to model the amount of greenhouse gases (GHG) and understand how humans influence climate changes. Bluish colors show locations of high methane emissions, while red rice fields have lower methane emissions.

図３：温室効果ガス (GHG) の量をモデル化し、人間が気候変動にどのような影響をあたえるかを理解するために、PALSAR 画像を用いて水田と浸水サイクルの地図を作成しました。青味がかった色はメタンガス排出量が多い場所です。白、赤の水田はメタンガス排出が少ない場所です。

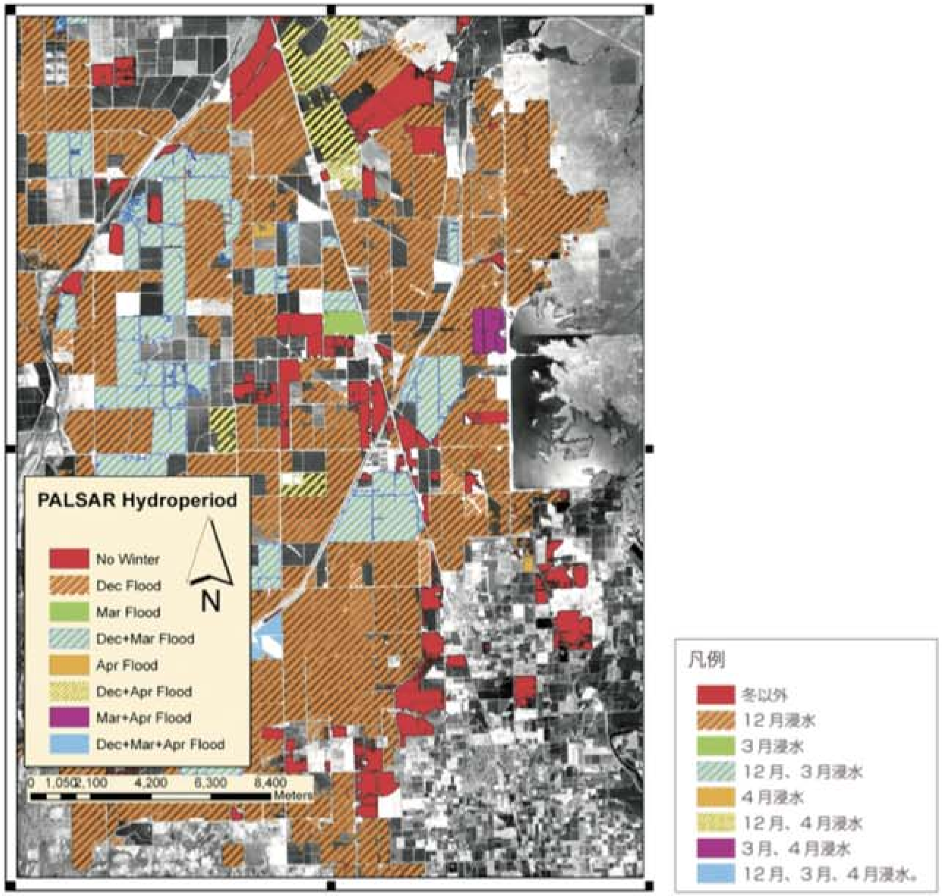
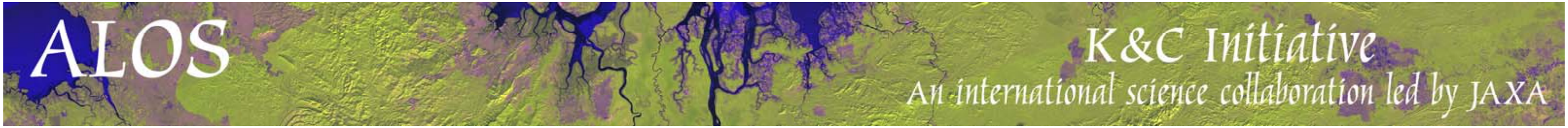


Figure 2: Map of rice paddies and rice paddy hydroperiod generated from ALOS PALSAR FBS/D (HH: 12.5m) and ScanSAR WB1 (HH:100m), respectively. In this example approximately 75,000 hectares of rice paddies were cultivated in the rice growing season of 2007 in the Sacramento Valley, California, USA. Of these, approximately half (47%) were identified as flooded only during the December temporal window.

図２：ALOS PALSAR FBS/D(HH:12.5m) と ScanSAR WB1(HH:100m) で作成された水田とその水量。この画像では、カリフォルニア州サクラメント渓谷の約 75,000 ha の水田が、2007 年の成長期に耕作されており、約半分の 47%は 12 月と冬の一時期にのみ浸水しています。



Mapping Wetland Ecosystems across Alaska

Science team members: Kyle McDonald and Bruce Chapman (Jet Propulsion Laboratory, USA)

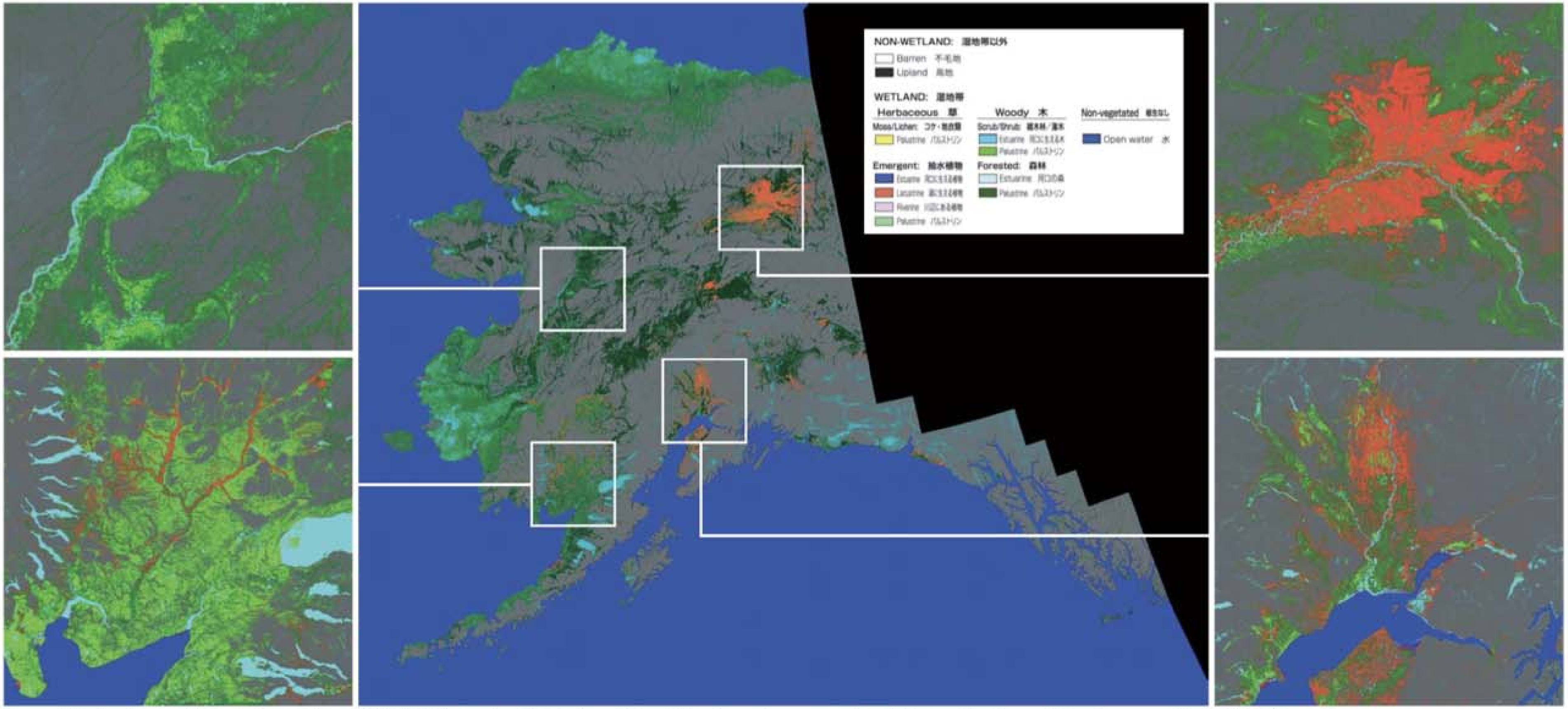
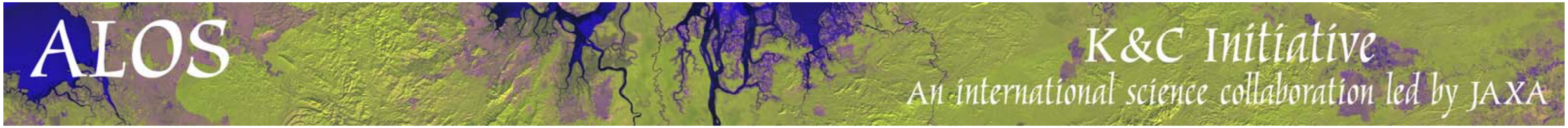


Figure 1: Wetlands map of Alaska derived from JERS-1 SAR mosaic. Original resolution 100 metres. As many as nine distinct wetlands vegetation classes are identified in this map.

図 1：JERS-1 SAR 解像度 100m モザイクから得られたアラスカの湿地帯地図。9 種類の植生が確認できます。



Estimates of Lake Size Distribution and Carbon Burial across Canada

Science team member: Kevin Telmer (U. Victoria, Canada)

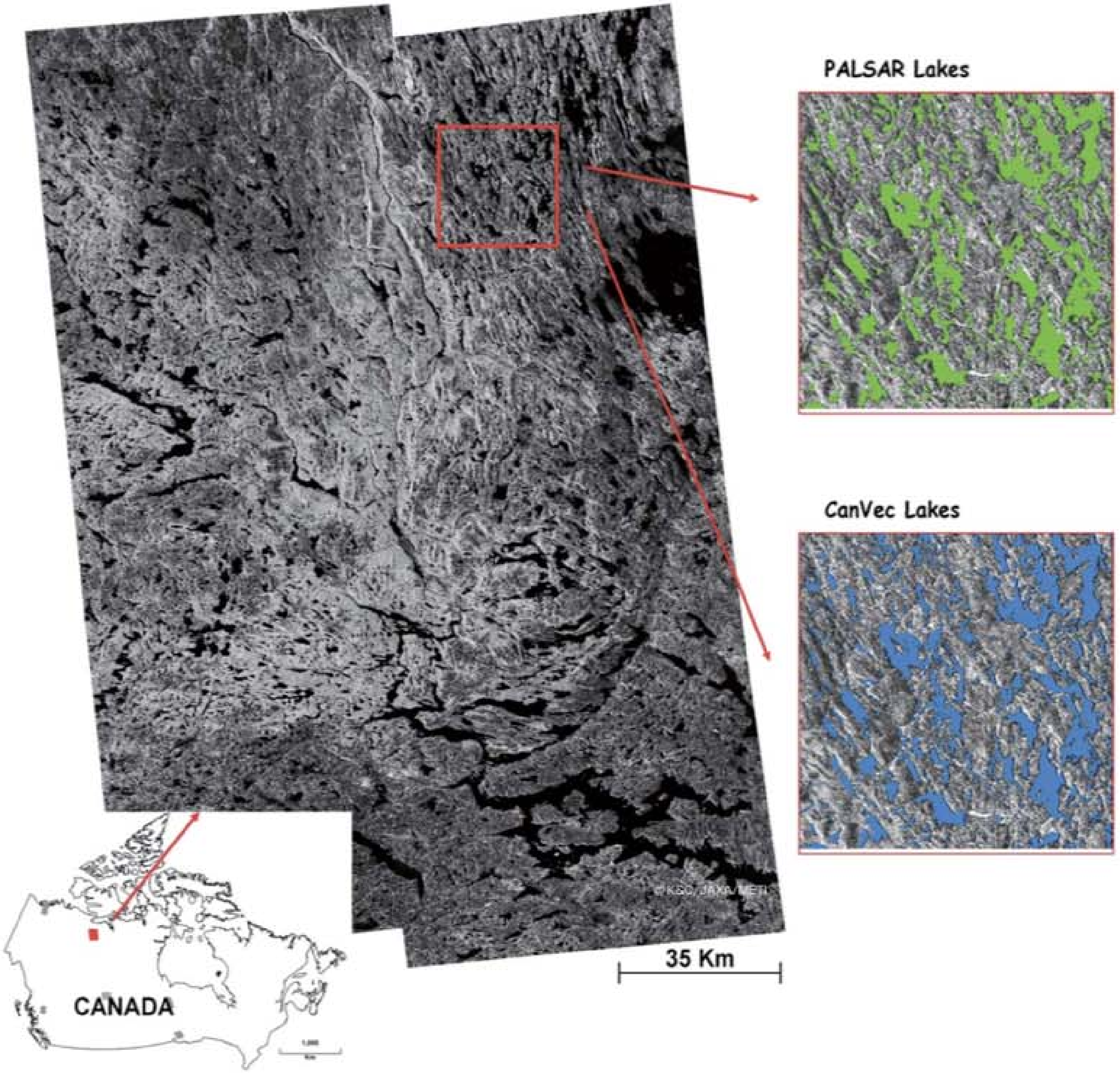


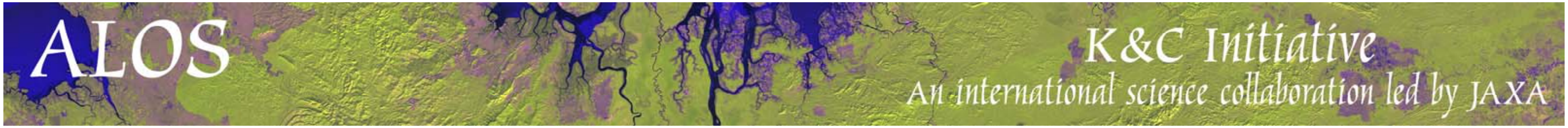
Figure 1: Northwest Territories (NWT), Canada. Left: ALOS PALSAR data showing one of the ecozone test sites used to test the lake classification for a Canada wide assessment of lakes. The ecozones (boreal, southern arctic, and northern arctic) were used to scale carbon accumulation rates before they were applied to the PALSAR dataset. Top right: lakes derived from ALOS PALSAR. Bottom right: the corresponding CanVec reference data base.

図１：カナダ北西部。左：カナダの湖の広範囲な評価のために分類試験に使われた７つのエコゾーンの一つを ALOS/PALSAR で示しています。針葉樹林帯、南半球、北半球のエコゾーンは、ALOS/PALSAR のデータを使う前に炭素蓄積量が測定されていました。右：ALOS/PALSAR から得られた湖の画像。右下：Can Vec データベースと合致したしたことを示しています。

Wetlands Theme Science Team members
Phase 3

Science Team:

- Maria Lisa Rebelo, IWMI, Laos **(Theme Coordinator)**
- Richard Lucas - U. Wales Aberystwyth, U.K. **(Theme Coordinator)**
- Tony Milne - Horizon, Australia
- Maycira Costa - U-Victoria, Canada
- Dirk Hoekman – U. Wageningen, The Netherlands
- Kyle McDonald - CUNY, USA
- Bruce Chapman, JPL, USA
- Bill Salas - AGS, USA
- Bruce Forsberg, INPA, Brazil
- Lola Fatyinbo/Naiara Pinto/Marc Simard – GSFC/UMD/JPL
- Kix Tavora/José Don De Alban/Enrico Paringot – GIZ/FFI/U.Philippines
- Khali Hamzah – FRIM, Malaysia
- Thuy Le Toan – CESBIO, France
- Masanobu Shimada & EORC Team, Japan



The Wetlands Theme Objectives
Phase 3

Aims to support the Ramsar Convention on Wetlands and Terrestrial Carbon Cycle science

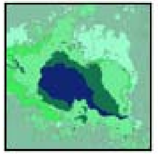
<u>Ramsar information requirements (conservation focus)</u>

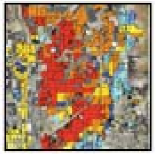
(1) Spatial and temporal characteristics of flooding patterns
  – Spatial extent;
  – Temporal cycle (seasonal/annual/decadal…);

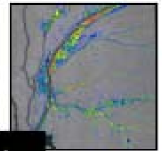
(2) Identification of natural- and human-induced disturbances in wetlands;

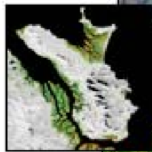
(3) Monitoring of anthropogenic and natural sources of CH_4

(4) New major activity: **The K&C Global Mangrove Watch**

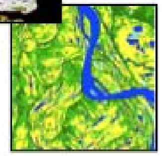


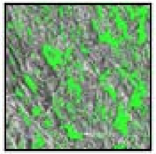


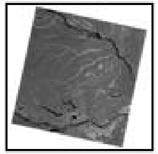


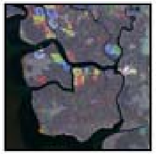


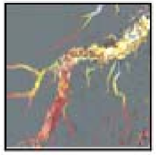
Wetlands issues

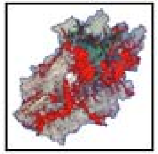


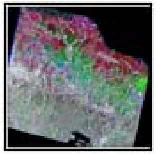


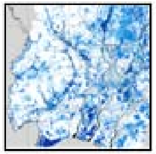


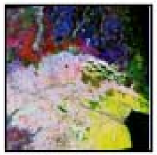






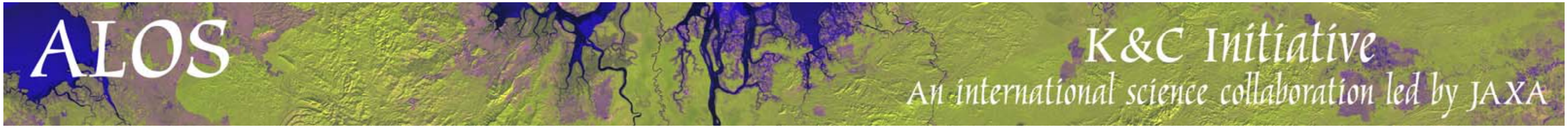






Key data sets

- ScanSAR 46-day mosaics key for inundation mapping applications
  - *Every cycle (46-days), not gap-filled*
  - *Not all ScanSAR areas need to be processed. JAXA processing “on demand” based on the data request input from the K&C science team members*
  - *JAXA time schedule for the ScanSAR mosaic generation?*



9th INTECOL International Wetlands Conference
Orlando, Florida, US, 3-8 June, 2012

Special session: *Mapping and Monitoring Large Wetland Systems and their Biophysical Properties with Earth Observation Satellite Imagery*

Organised by: Maycira Costa, Lisa Rebelo and Thiago Silva

Special journal issue now part of INTECOL?
More info from Lisa

Journal of xx
Special Issue

- Paper status 2010
  - Lucas et al*: Recent response of mangroves to climatic and sea level change, Gulf of Carpentaria, Australia   [ready by September]*
  - *Rebelo, Seyoum, El Mograhby: Future changes to the Sudd wetland: the potential impacts of upstream interventions [ready by September]*
  - Maycira: Spatial distribution of geochemically different lakes in the Pantanal (by end of 2010) Maycira 2: Climatic driven spatio-temporal variabilty of aquatic vegetation in the lower Amazon floodplain (late 2010)
  - Bill Salas: Methane inventory for California using PASAR and MODIS [ready within 2 months)
  - Bill: Java avian influenza risk mapping with PALSAR [by Nov]
  - John Lowry: Wetlands health of the Alligator rivers region [by Jan/Feb 2011]
  - Ake: K&C Mangrove Watch intro paper

The 11th Meeting of the Conference of the Contracting Parties (COP11), 6-13 July 2012, Bucharest, Romania

RAMSAR
BUCHAREST 2012

Joint events with ESA (GlobWetland)

- Side-event, and/or
- Shared Exhibition booth

- K&C Global Mangrove Watch is our showcase for the COP. Plan to be discussed this afternoon.