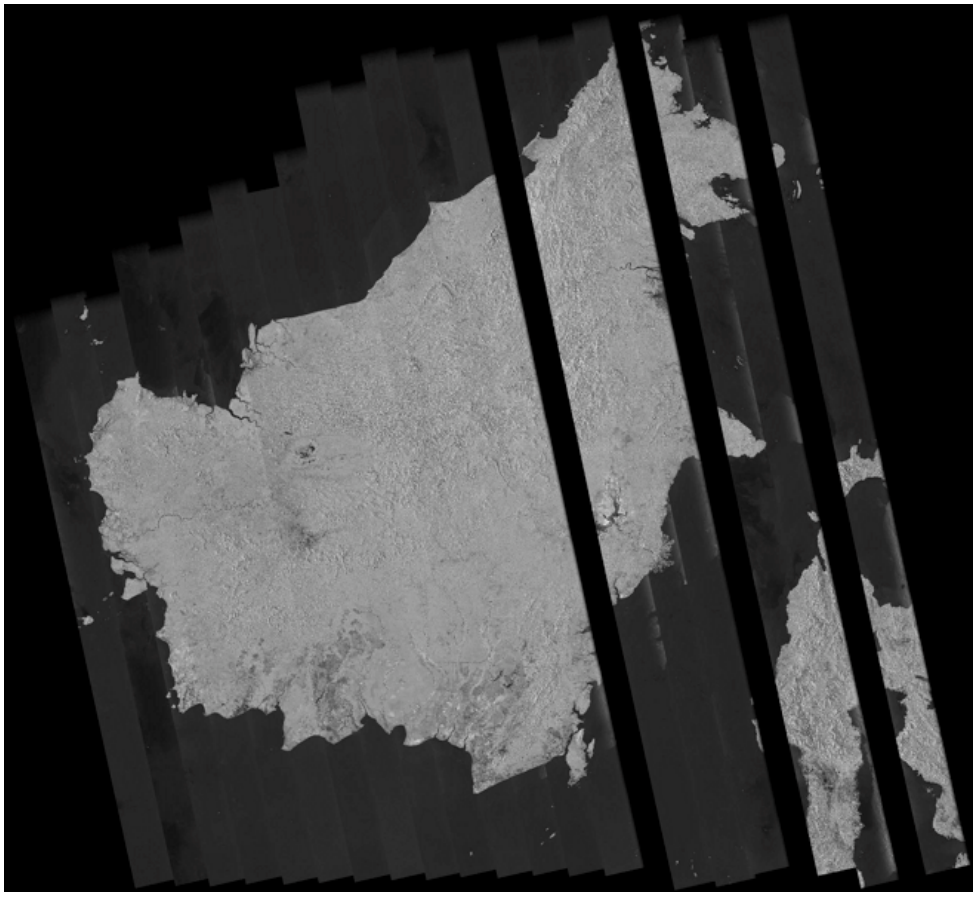
Dear K&C Science Team members.

September is here and I assume that most of you are back to work again after the summer (& winter) holidays. I hope that you have had the time to relax and recharge, as a busy autumn is waiting! JAXA and RESTEC have been busy upgrading the SigmaSAR processor and product generation of the PALSAR strip data resumed in late August.

Here follows a brief summary of some recent issues and a follow-up of some of the topics discussed in the previous newsletter.

Best regards,
Ake Rosenqvist



50 m pixel spacing test mosaic over Borneo, generated by JAXA EORC. Derived from PALSAR FBS data (41.5°) acquired during the cal/val phase between August and October, 2006.

Processing status

The EORC processor is up and running again, and JAXA presently are processing data from satellite cycle 13 (July 23 – Sept. 6). Some tuning of the processor remains and the product generation is presently limited to your requests for Dual-pol (FDB) products at slant range (SLT). Other product levels and ScanSAR will according to JAXA commence as soon as the upgrade is complete.

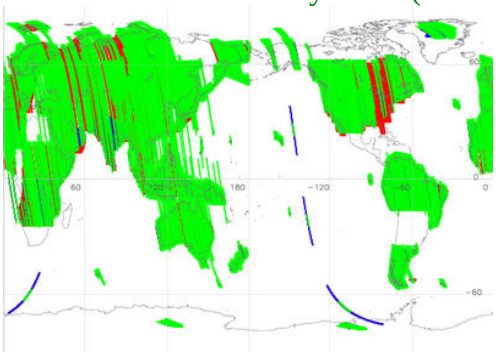
Several hundreds of strips have been processed thus far, so do check your FTP and ASPERA directories for new data. Work can begin!

PALSAR acquisition results - Cycles 12 & 13

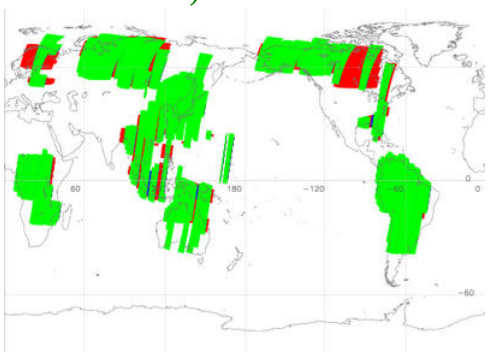
In accordance with the PALSAR Observation Strategy, ascending cycles 12, 13 and 14 are scheduled for acquisitions in dual-polarisation (FBD) mode.

The results for cycle 12 indicate a success rate of 78% for the ascending FBD passes (41,000 scenes acquired), and 65% for descending ScanSAR (1500 scenes). Although the success rates are lower than anticipated, we are hopeful to be able fill many of the gaps, as most regions are scheduled more then once during these three cycles. In ScanSAR mode, the large overlap between neighbouring passes (49% at the Equator) partly compensates for the lower success rate. The results for cycle 13, which ended last week (Sept. 6), are not yet available.

Cycle 12 (2007.06.07 – 2007.07.22)

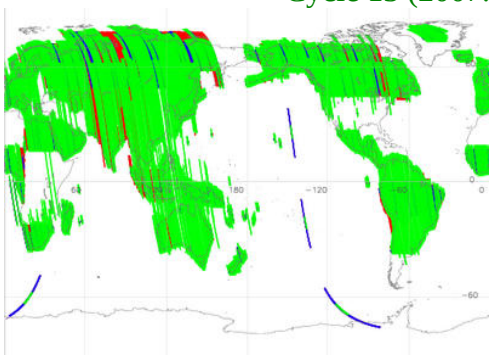


Ascending obs. (FBD)

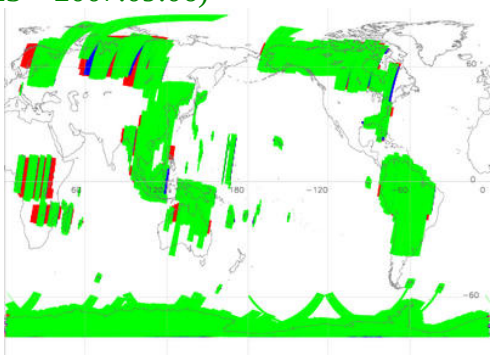


Descending obs. (ScanSAR)

Cycle 13 (2007.07.23 – 2007.09.06)



Ascending obs. (FBD)



Descending obs. (ScanSAR)

The AGAP maps above illustrate the acquisition results for cycles 12 and 13, where green indicate paths which have been acquired, red requested but not scheduled paths, and blue - status not available.

Image characteristics

Please note an update to the product characteristics table published in the last news letter, where the range pixel spacings indicated for the FBS and FBD slant range (SLT) products were incorrect. The correct figures (18.75 and 37.50 m) are given in the revised table, which follows at the end of this newsletter.

Table 1: PALSAR strip product characteristics (corrected)

MODE (file name)	RANGE spacing [m]	AZIMUTH spacing [m]	N_{looks}	Image orientation
Slant Range: SLT				
FBS sar.Q16_64_HH	**18.75**	~51±20% (dep. on PRF and satellite ground speed)	64	North at image bottom East-West reversed
FBD sar.Q16_64_HH/HV	**37.5**	~51±20% (dep. on PRF and satellite ground speed)	64	
WB1 sar_Q16.dat_HH	37	70	12 (Near Rg) to 20 (Far Rg)	North at image top East-West reversed
WB2 sar_Q16.dat_HH	18.5	70	4 NR -> 8 FR	
Ground Range: GRD (GRS80 datum)				
FBS sar.Q16_64_g_range_HH	50	~51±20% (dep. on PRF and satellite ground speed)	64	North at image bottom East-West reversed
FBD sar.Q16_64_g_range_HH/HV	50	~51±20% (dep. on PRF and satellite ground speed)	64	
WB1 sar_Q16_g_range_HH	50 (100*)	70	12 (Near Rg) to 20 (Far Rg)	North at image top East-West reversed
WB2 sar_Q16_g_range_HH	50 (100*)	70	4 NR -> 8 FR	
Orthorectified Ground Range: ORT-GEC (path product)				
FBS sar.Q16_64_ac_g_HH_path	50	~51±20% (dep. on PRF and satellite ground speed)	64	North at image bottom East-West reversed
FBD sar.Q16_64_ac_g_HH/HV_path	50	~51±20% (dep. on PRF and satellite ground speed)	64	
WB1 sar_Q16_ac_ g_HH_path	50 (100*)	70	12 (Near Rg) to 20 (Far Rg)	North at image top East-West reversed
WB2 sar_Q16_ac_ g_HH_path	50 (100*)	70	4 NR -> 8 FR	
Projected browse product				
WB1 sar_Q10_ g_ref_HH	100	100	12 (Near Rg) to 20 (Far Rg)	Mercator projection North at image top Non-reversed
WB2 sar_Q10_ g_ref_HH	100	100	4 NR -> 8 FR	

* Azimuth pixel spacing is 100 m for ScanSAR GRD and ORT products processed up to June, 2007.

Meetings and conferences

K&C Special Session at ALOS PI Symposium

As mentioned in the previous newsletter, a K&C special session will be organised at the large **ALOS PI Symposium,** which is to be held in Kyoto on November 19 – 23, 2007. Incidentally, marking the 10-year anniversary of the establishment of the UNFCCC Kyoto Protocol, the ALOS symposium will be held in the very same conference hall!

The K&C session is presently planned for the morning of November 20 (Tuesday), and the objective is to inform PI's and other ALOS users about our activities. Tentatively, the session will feature summary presentations by the Theme Coordinators, and another 4-6 individual project presentations by science team members.

To help planning the session, I would appreciate if each of you in the science team could let me know whether or not you plan to participate at the Kyoto Symposium, and if so, if you would be willing to present your K&C plans. Thank you in advance.

K&C Mid-Term meeting

The **K&C Mid-Term Science Team meeting**, or K&C #9, is tentatively planned for 4th week of January, 2008; on **January 22-25** (Tue – Fri). Please mark your calendars.

Table 2: Event schedule

Dates	Event	Theme
Sept. 10-17, 2007	Int'l WS on Environmental Changes and Sustainable Development in Arid and Semi-arid Regions. Inner Mongolia, China. (Philippe P. attending) http://www.iggcas.ac.cn/iw07/index.htm	D
Sept. 17-20, 2007	SAR processing course at Gamma Remote Sensing, Bern, Switzerland	All
Sept. 25-28, 2007	5th Int'l Symposium on Retrieval of Bio- and Geophysical Parameters from SAR Data for Land Applications. Bari, Italy http://www.congrex.nl/07c07	All
Oct 30-Nov 2, 2007	Symposium on Radio Wave Propagation and Remote Sensing, Rio de Janeiro, Brazil. (Dalton in programme committee) http://wwwusers.rdc.puc-rio.br/ursif	FW
TBD	Deadlines for proposing a special session at INTECOL (20-25 July 2008, Cuiaba, Brazil) http://www.intecol.pakmultimidia.com.br/	W
TBD	Deadline for proposing an AGU special session	
Oct/Nov, 2007	Deadline for proposing a special session at the Australasian Remote Sensing and Photogrammetry Conference (ARSPC)	
Nov 12-14, 2007	2nd Space for Hydrology Work shop. Geneva, Switzerland. http://www.congrex.nl/07m19	W
Nov 19-23, 2007	**First Joint PI Symposium for ALOS Data Nodes and the ALOS Science Program International Conference Center, Kyoto, Japan**	**ALOS PI's**
December (TBD)	AGU Meeting (10-14 Dec 2007, San Francisco)	
January 22-15, 2008 (TBD)	K&C Mid-Term Science Team meeting. (RESTEC HQ, Tokyo – TBC), Japan	All

Miscellaneous issues

New K&C members

A short 2-day K&C meeting was held at EORC in Tsukuba on August 29-30, 2007, to welcome some new members/collaborators of the K&C Science Team. Present were Flavio da Rocha and Humberto de Mesquita from the Brazilian Environmental Agency (IBAMA) and Lisa Rebelo from the International Water Management Institute (Sri Lanka), collaborator with Wetlands International and the Ramsar Convention Bureau.

IBAMA will in collaboration with INPE use PALSAR ScanSAR 100 m browse products to undertake near-real time monitoring of deforestation in the Brazilian Amazon and the east coast Atlantic Forest. The establishment of the K&C agreement between JAXA and IBAMA is considered high-level, and it was recognised by the Brazilian Minister of Environment, Marina Silva.

Presentations by the new members are (or will soon be) uploaded on the K&C website;
http://www.eorc.jaxa.jp/ALOS/kyoto/aug2007_kc8b/kyoto_meeting_2007aug.htm

New in the team is also Yumiko Uruy from WWF-Japan, who is becoming a collaborator with Shaun Quegan. Yumiko-san participated at K&C#7 in January where she presented the WWF forest watch activities in Sumatra. Her presentation is available at
http://www.eorc.jaxa.jp/ALOS/kyoto/jan2007/kyoto_meeting_2007jan.htm

JAXA Press Release

The IBAMA collaboration and the start of the data dissemination phase of the K&C prompted the JAXA Public Affairs Office to issue a press release last week (attached below). I am not sure who actually authored it, but as you can see, the K&C Initiative is considered to be a very high-profile project at JAXA and the expectations are high on Shimada-san and ourselves to adequately demonstrate the utility of the tens of thousands of scenes made available to us. The fate of the K&C extension phase beyond 2009, the systematic observation strategy, as well as to a large extent the follow-on mission to ALOS, all depend on the success of the K&C. With the processor running now, let's get started with the analysis and make sure we have spectacular results to demonstrate by January 2009…

Appeal (repeated…)

Finally - in an effort to optimise processing at EORC, I asked you in the previous newsletter to assess your own processing requests and to let me know whether there were any requests for cycles which you no longer needed and which we could cancel. About half of the science team kindly responded to me, some with proposed cancellations and some with confirmations that all requests made indeed would be used. Thank you for letting me know. Those of you who have *not* responded to me yet, please do so ASAP, even if to confirm that you indeed will be using all data requested.

Thanks again - Ake

Subject: [JAXA:0133] Start of "ALOS Kyoto & Carbon Initiative" by the Advanced Land Observing Satellite "Daichi"
Date: Thu, 06 Sep 2007 17:50:41 +0900
From: JAXA Press Release Mail Service <jaxapr@jaxa.jp>

*** JAXA MAIL SERVICE ***
Japan Aerospace Exploration Agency

Start of "ALOS Kyoto & Carbon Initiative"
by the Advanced Land Observing Satellite "Daichi"

September 3, 2007 (JST)
Japan Aerospace Exploration Agency (JAXA)

The Japan Aerospace Exploration Agency (JAXA) has been working on the establishment of the "ALOS Kyoto & Carbon Initiative"* since 2003. The Initiative is being carried out as cooperative research with 20 international research institutions including the University of California Santa Barbara (UCSB,) USA. On August 23, 2007, we finalized the conclusion of the agreements with all 20 international research institutions following the signing of Brazilian Institute of Environment and Renewable Resources (IBAMA.) With the completion, we began our full-scale operation of the project on September 3.

JAXA and IBAMA will specify the area of deforestation including illegal activities using images acquired by the onboard equipment "PALSAR"*2 of the "Daichi."

Figure 1 is an example image that will be provided to the IBAMA without a time lag. Figure 2 is a clip (10 km x 10 km area) of the image. Figure 3 is a high resolution mosaic image (combination of several scenes) of the Londonia region of the Amazon. An image like Figure 3 is being created within three months after receiving images from around a continent.

*1: ALOS Kyoto & Carbon Initiative

The purpose of this project is to study the relationship between changes in the global environment and changes in forests, their surrounding areas, swamplands and deserts, which account for about 30% of the global land area, by observing their long-term and seasonal changes in a broad scope through the onboard synthetic aperture radar of the "Daichi." The study is based on the analysis of the observation data as well as a site survey. For this purpose, JAXA will carry out global observations including on tropical rain forests in South America (Amazon,) Southeast Asia, and Central Africa, and the boreal forests in Siberia, Canada, and Alaska. Acquired data will be transmitted to each institution via exclusive online networks within three months after it is received at the Earth Observation Center (Hatoyama-machi, Saitama) of JAXA. In the case of data from the Amazon area, it is converted to images immediately, and provided to the IBAMA within 10 days.

JAXA reference URL: http://www.eorc.jaxa.jp/ALOS/kyoto/jun2007_kc8/kyoto_meeting_2007jun.htm

(Participated research institutions in no particular order) The University of Wales (UK), Borneo Orangutan Survival Foundation (Indonesia), Centre de Etudes Spatiales de la Bisphere (France), German Aerospace Center (Germany), Friedrich-Schiller University Jena, Institute of Geography (Germany), National Institute for Space Research (Brazil), University of Massachusetts (USA), Joint Research Center of the European Commission (EU), University of Boudreaux (France), Sarmap (Switzerland), Swedish University of Agricultural Sciences (Sweden), University of California Santa Barbara (USA), Horizon Geoscience Consulting pty Ltd. (Australia), University of Victoria (School of Earth and Ocean Science) (Canada), University of Victoria (Department of Geography) (Canada), Wetland International (Netherlands), Applied Geosolutions, LLC (USA), Helsinki University of Technology (Finland), Sheffield Center for Terrestrial Carbon Dynamics (UK), Brazilian Institute of Environment and Renewable Resources (Brazil)

*2 PALSAR

The Phased Array type L-band Synthetic Aperture Radar (PALSAR), is a microwave sensor receiving radio wave reflections transmitted from the satellite. It can acquire image data regardless of the weather and time of day. One of the characteristics of the L-band microwave is that it can partially penetrate through a forest to the ground; therefore, it is suitable to observe a lower part of a forest.

Figure 1 Example image provided to IBAMA
http://www.jaxa.jp/press/2007/09/20070903_daichi_e.html#pict1

Figure 2 Clip of the above photo (10 km x 10 km area)
http://www.jaxa.jp/press/2007/09/20070903_daichi_e.html#pict2

Figure 3 High-resolution Amazon mosaic image
http://www.jaxa.jp/press/2007/09/20070903_daichi_e.html#pict3

This page URL:
http://www.jaxa.jp/press/2007/09/20070903_daichi_e.html

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