

ALOS Utilization in JICA's Activities

~ Focusing on Nature Conservation

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Application of Satellite Technology in JICA Projects



Forest Monitoring



- Early Warning System for deforestation
- Forest Management

Water Resource Management



- Integrated Watershed Management in Sefidrud River in Iran (2007-2010)
 - Land Utilization Map (by crop/season)
 - Assessing Water Requirement

Disaster Risk Management



- Satellite Information sharing in ASEAN Region for DRM (2013-2016)
 - Monitoring Disaster
 - Analyzing Flood and Run off

Digital Mapping



- Digital Map Project in Burkina Faso (2013-2014)
 - Base Map utilizing ALOS2
 - Capacity Development

CASE 1 : Utilization of ALOS images to support the Protection of the **Brazilian Amazon Forest** and Combat against Illegal Deforestation (May, 2009~July, 2012)

Implementing Organization

- **IBAMA** (Brazilian Institute of Environment and Renewable Natural Resources)
- **DPF** (Federal Police Department)

Project Component

Output 1: Detection and forensic reports

Output 2: Strengthening IBAMA/DPF Information sharing system, INDICAR/SISCOM and INteli GEO

Output 3: Training



Expansion of Logging in Amazon



June 4, 2009



June 21, 2015

Optical Satellite Images in Dry Season

**Forest Density Difference by ALOS
Between 2009 and 2011**



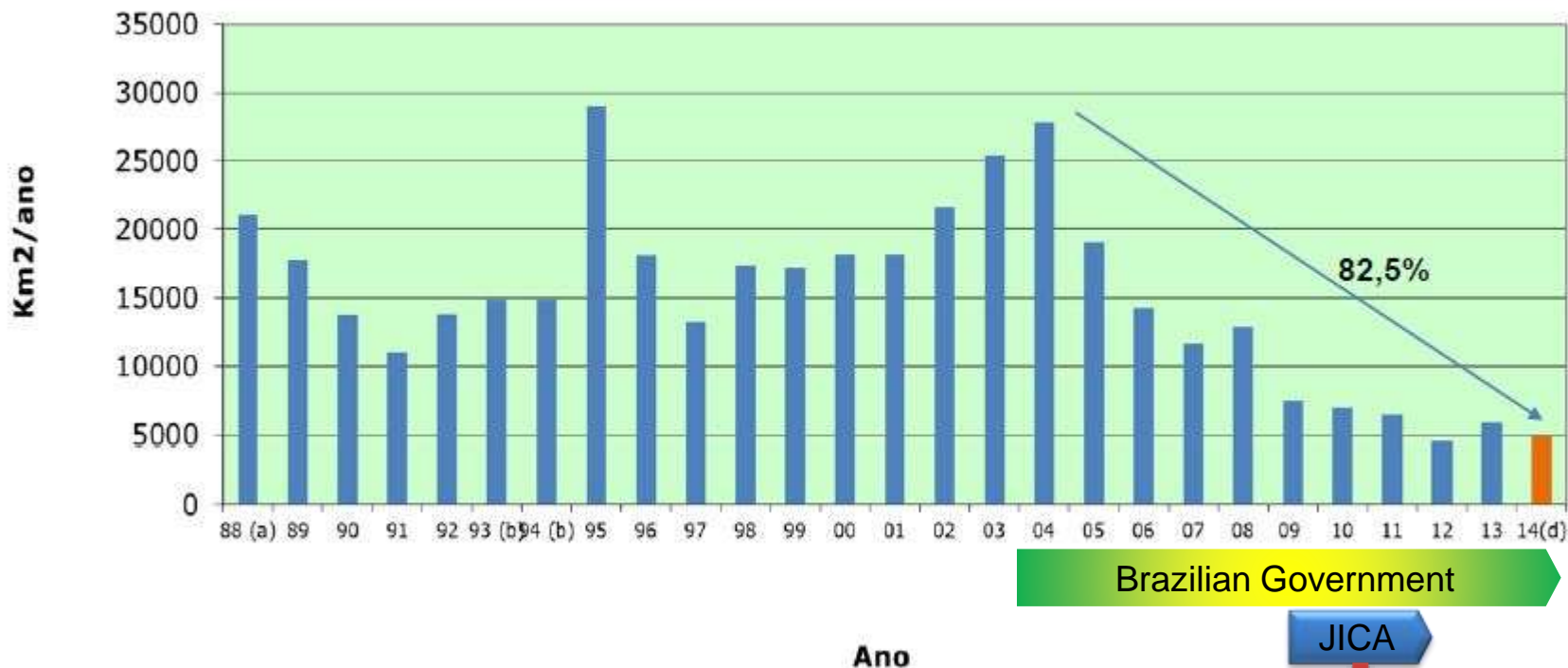
Almost the half period of the year, Amazon Forest is covered with Cloud.
ALOS SAR sensor can detect deforestation even in rainy season or night time.

SAMPLE

Landsat 5 Image on 2011/09/07

Annual Deforestation in Legal Amazon

Taxa de Desmatamento Anual na Amazônia Legal



Detection by ALOS

Source: INPE

Year	Detection of Deforestation	Illegal Logging
2010	1,007	140
2011 (stopped at April)	176	11

CASE 2 : Establishment of Forest Monitoring System in Gabon & DRC (2012 ~ 2017)

Project Purpose

Development of National Forest
Resources Monitoring System

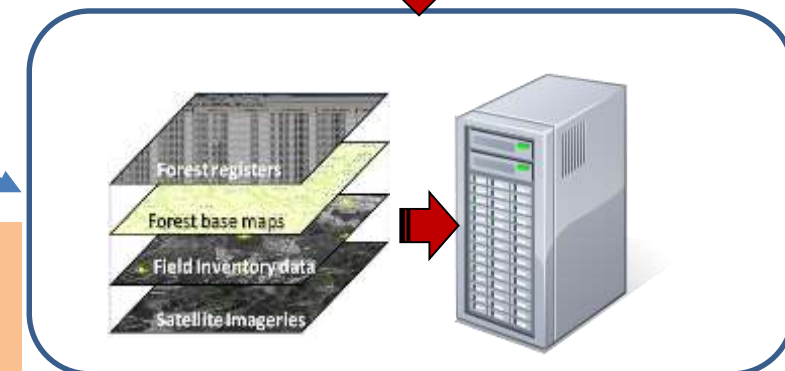
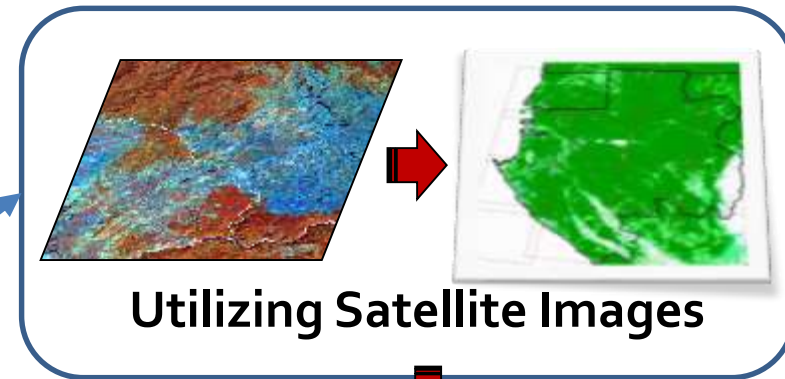
Project Component

Output 1: Development of forest base
map of target area

Output 2: Development of ground
survey methodology

Output 3: Establishment of national
forest resources database

Forest Carbon map will be used for Climate
Change (REDD+)Project in each countries



JAXA-JICA Cooperation



- Knowledge and Information on Developing Countries
- Advise on Collaboration w/ DCs
- Dispatch of Japanese Expert and Lecture



- Providing Satellite Images for JICA Project
- Capacity Development Program (Nominating Experts, Providing Training Program etc.)

MOU signed on Apr. 23, 2014



What to do ? Both side will collaborate for following purposes;

- (1) To support **JICA's activities** in order to tackle Global Issue and Development in Developing countries.
- (2) To organize **Seminar, Symposium** and **International Conference** on extension Space Technology in Developing Countries
- (3) To expand **Grand Station/System** related to Space System and Satellite Data Utilization in/for Developing Countries

Conclusion

- ALOS Rader Images are useful for forest monitoring, particularly in tropical countries...

Contributing to improve forest governance in each countries

Challenges

- **Cost for satellite images is crucial problem for developing countries to continue forest management activities**
- New methodology to measure forest carbon...
- Continuous free images should be provided...

Thank you for your attention !
ありがとうございました。