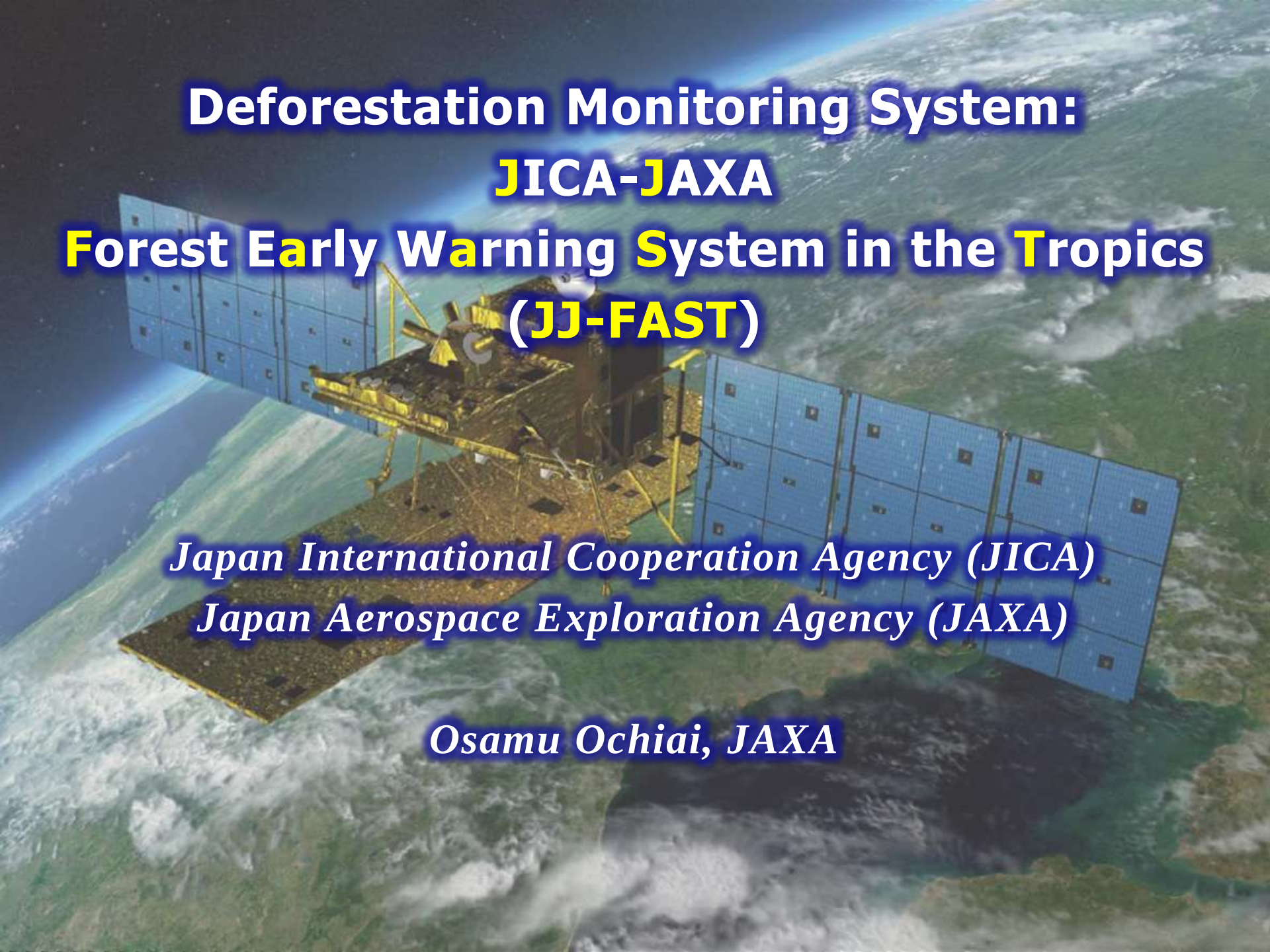
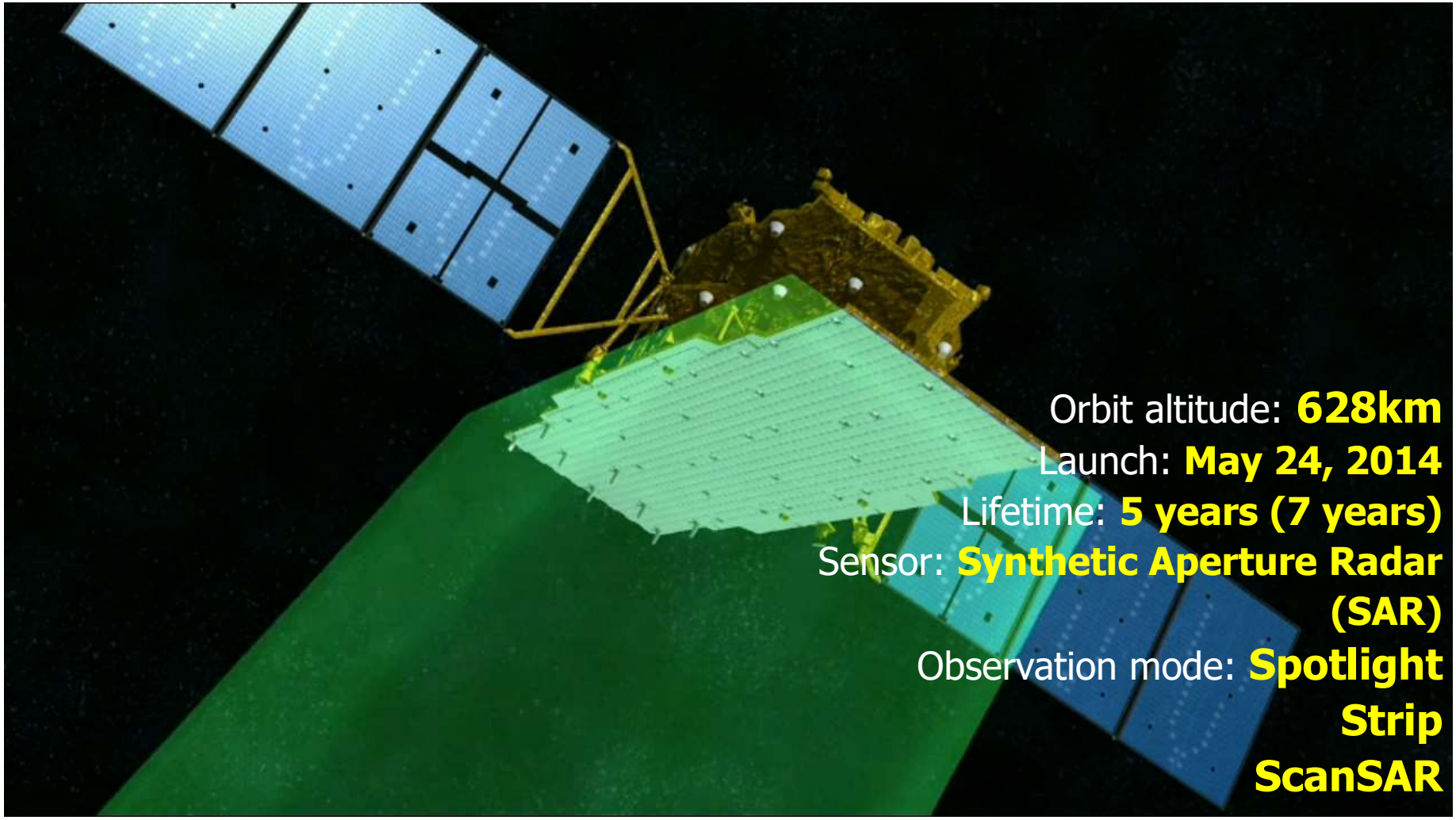


Deforestation Monitoring System: JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)

Japan International Cooperation Agency (JICA)
Japan Aerospace Exploration Agency (JAXA)

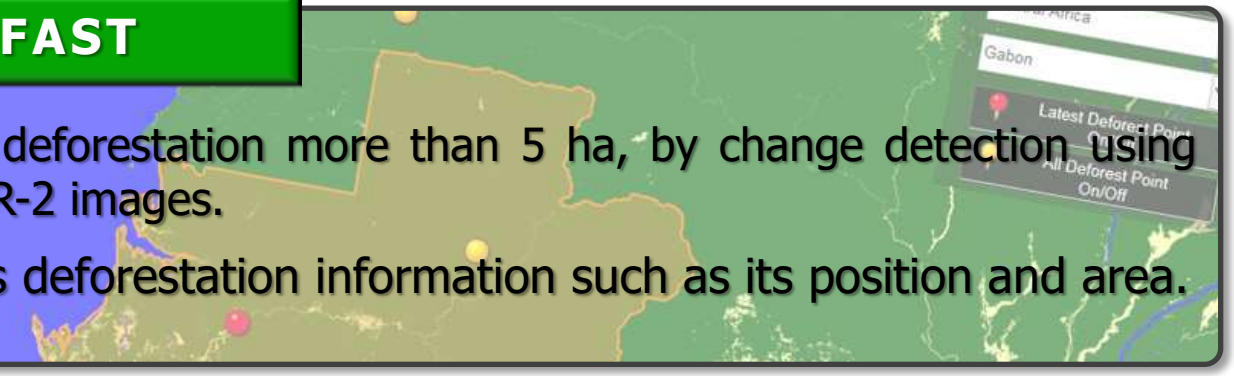
Osamu Ochiai, JAXA

ALOS-2/PALSAR-2



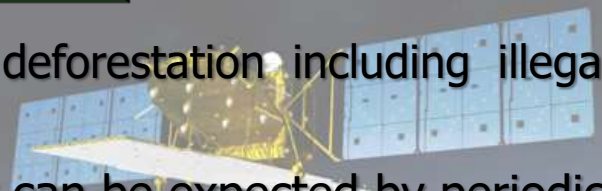
New monitoring system: JJ-FAST

What is JJ-FAST



- It detects deforestation more than 5 ha, by change detection using two PALSAR-2 images.
- It provides deforestation information such as its position and area.

Objective of JJ-FAST

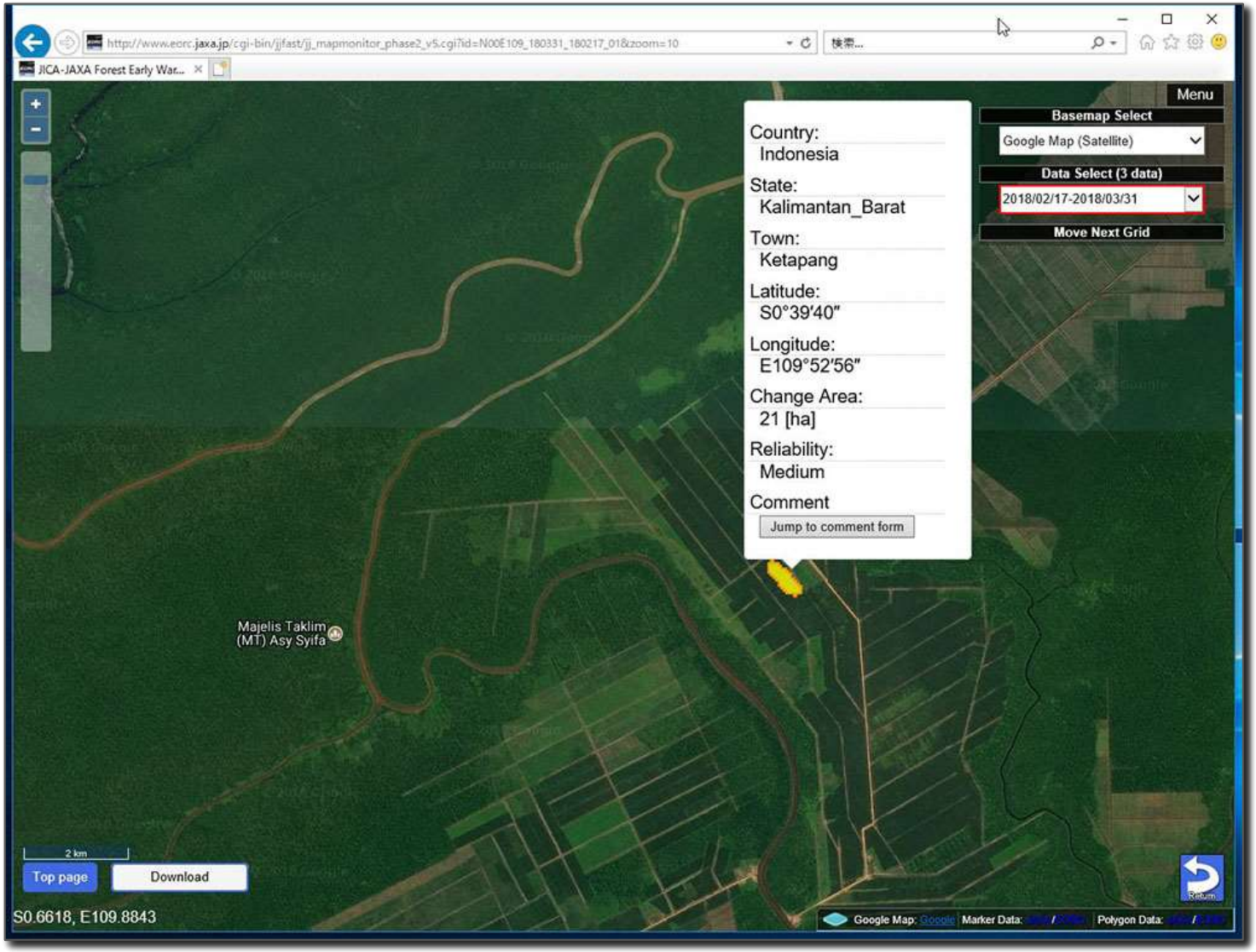


- Early warning of deforestation including illegal activity (every 1.5 months).
- Suppression effect can be expected by periodic open information.

Usage of JJ-FAST

- User can download deforestation polygon.
- He can identify illegal activity by GIS analysis using land-use map or concession map.

Outline of JJ-FAST



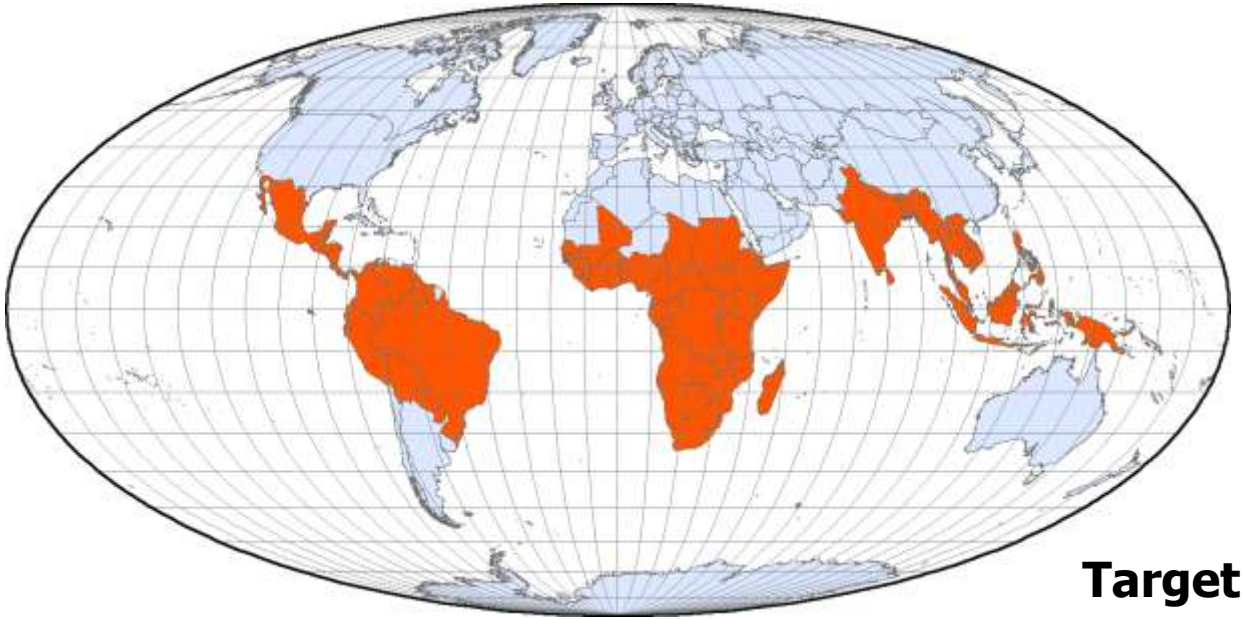
JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)

http://www.eorc.jaxa.jp/jjfast/

Released in November 2016!

Outline of JJ-FAST

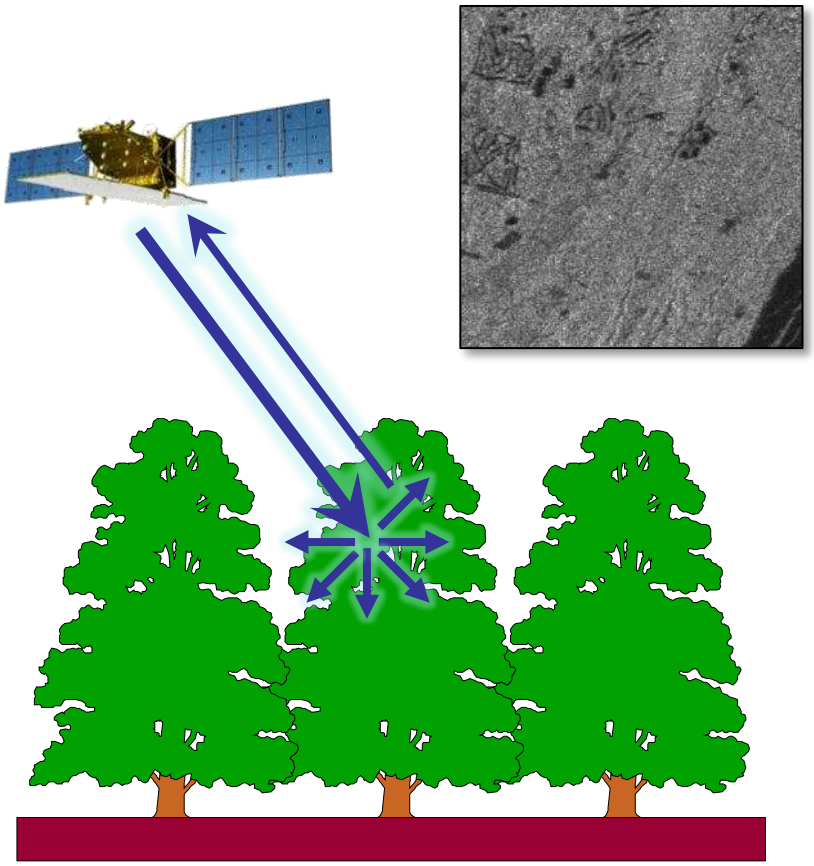
Data source	**ALOS-2/PALSAR-2** (ScanSAR mode)
Target area	**77 countries**
Update	Every **1.5 months**
Characteristics	- **Global coverage**: almost all tropical forests. - **Cloud-cover area observation**: even in rain season. - **Fast web-page**: forester can use it in the field.



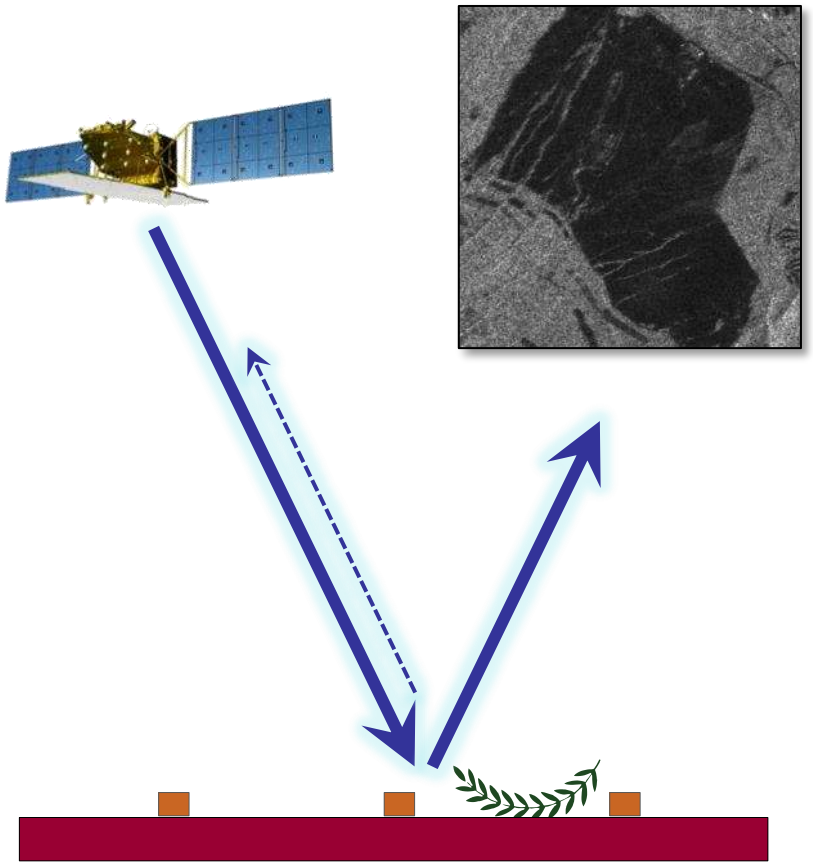
Target countries

Feature of Radar Data

Forest: Bright

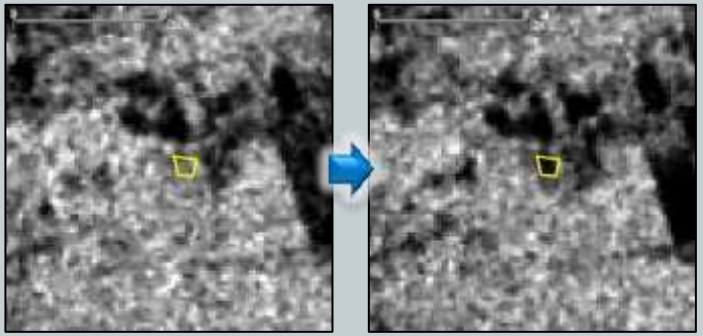


Non-Forest: Dark

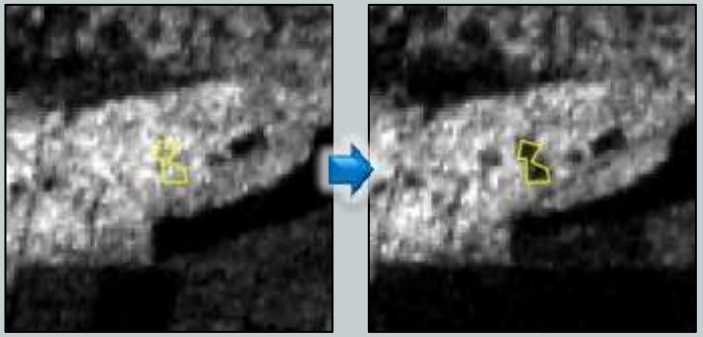


Field survey for validation

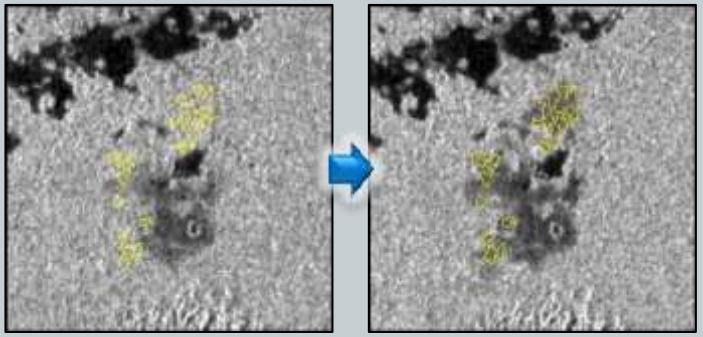
Peru



Botswana



Gabon



User's accuracy = 83.3%

Effectiveness of JJ-FAST System

Future plan

Algorithm improvement

- Reducing detection errors.
- Small area detection: less than 3 ha.

Accuracy assessment

- Field survey in more countries.
- Interpretation of high-resolution image.
- Feedback report from each country.

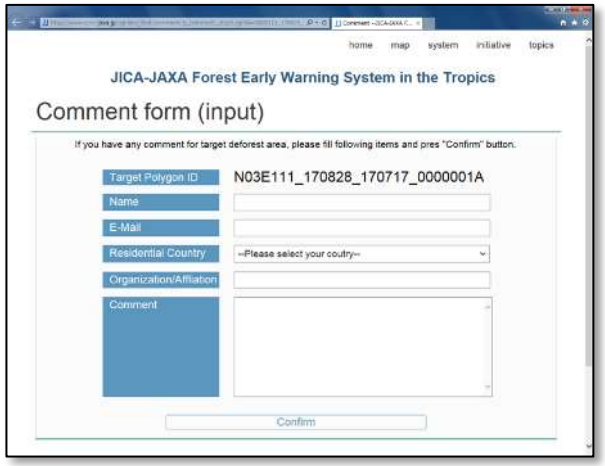
Practical usage

- Supporting each country's situation.
- Burnt area detection, forest change map, fusion with existing monitoring system…
- Collaboration with other platforms

Focused Countries

- Peru
- Cambodia
- Brazil
- Cameroon

Web Comment form



Conclusion

Deforestation monitoring system JJ-FAST ...

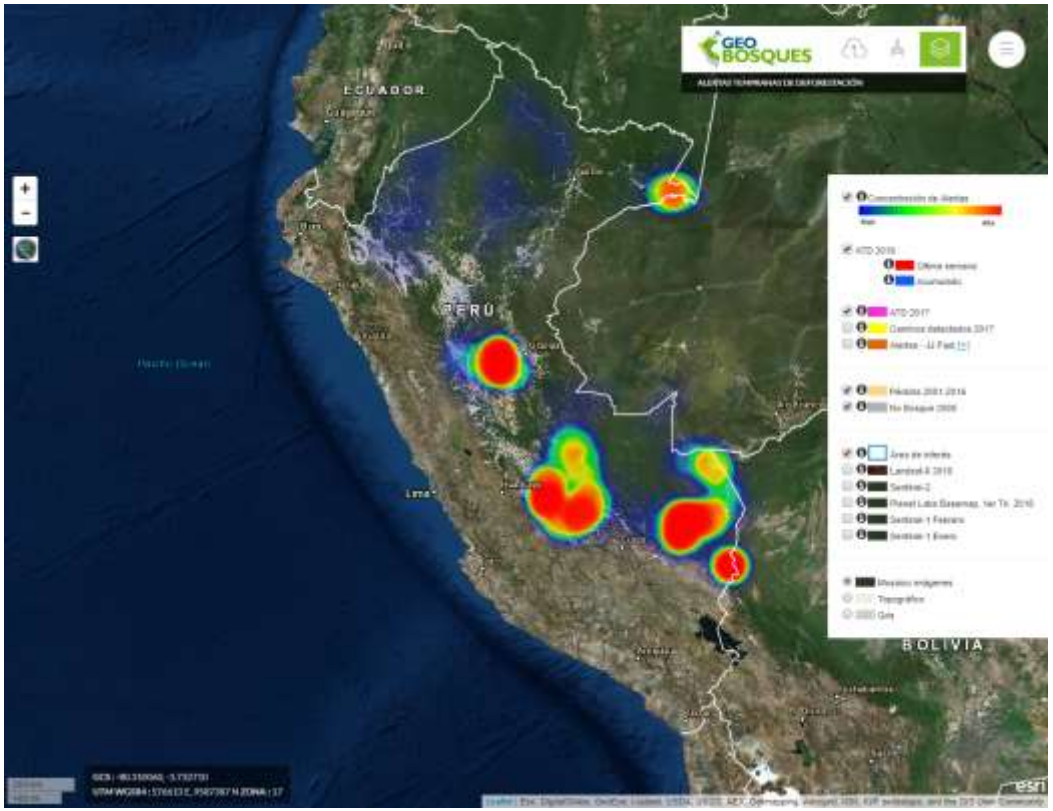
- **provides up-to-date information for global tropical forests.**
- **is not influenced by cloud cover, even in rain season.**
- **strongly supports your forest management!**

JJ-FAST

JICA-JAXA Forest Early Warning System in the Tropics

GeoBosques

http://geobosques.minam.gob.pe/



GeoBosques is early warning system of deforestation in Peruvian amazon area. The alert is based on Landsat (optical sensor).

In 2018, GeoBosques integrate JJ-FAST. JJ-FAST helps GeoBosques especially in rainy season