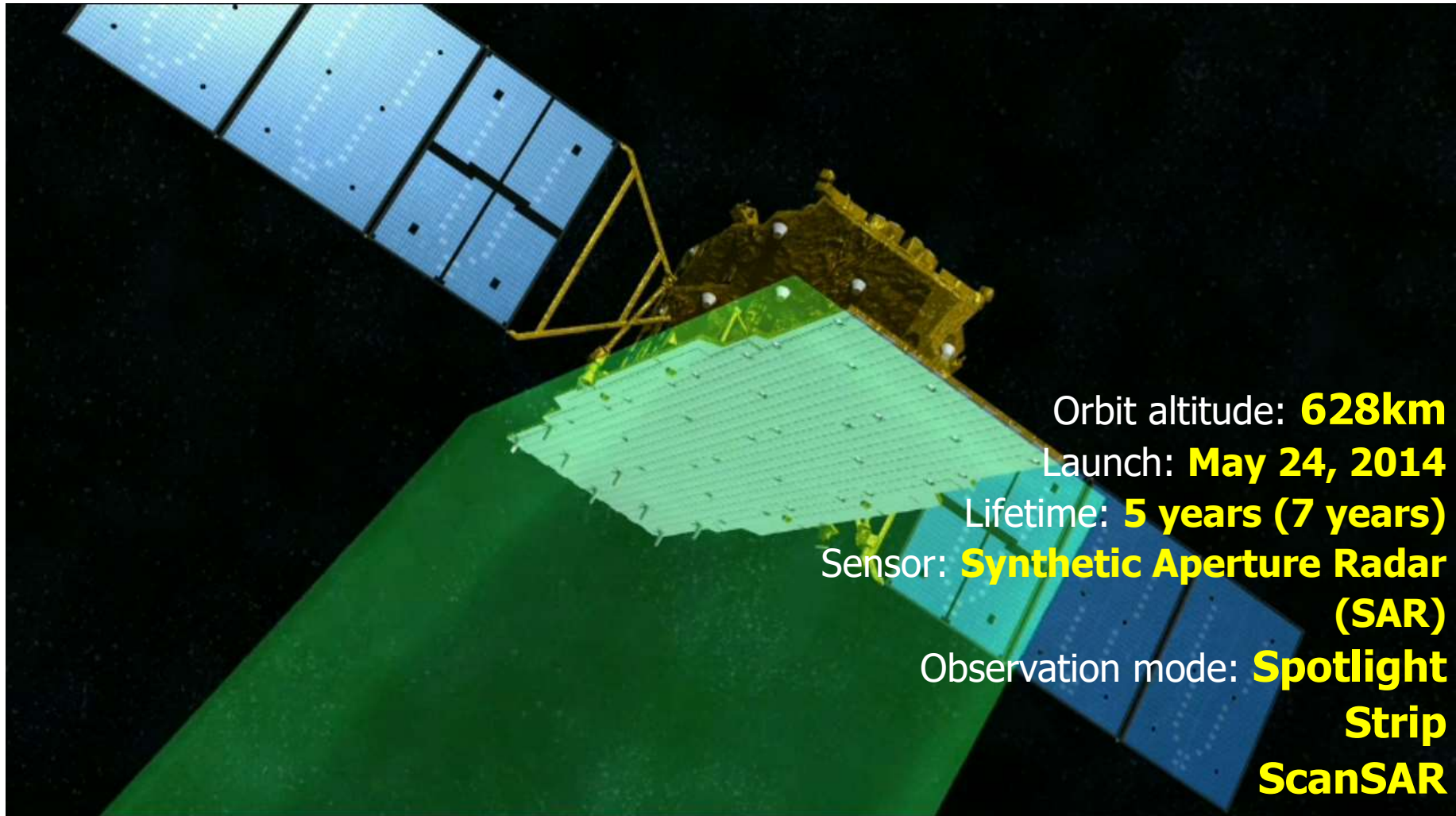


A satellite with large blue solar panel arrays is shown in orbit above a view of Earth from space, showing green land and white clouds. The satellite is positioned in the center-left of the frame, with its solar panels extending outwards.

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



Orbit altitude: **628km**

Launch: **May 24, 2014**

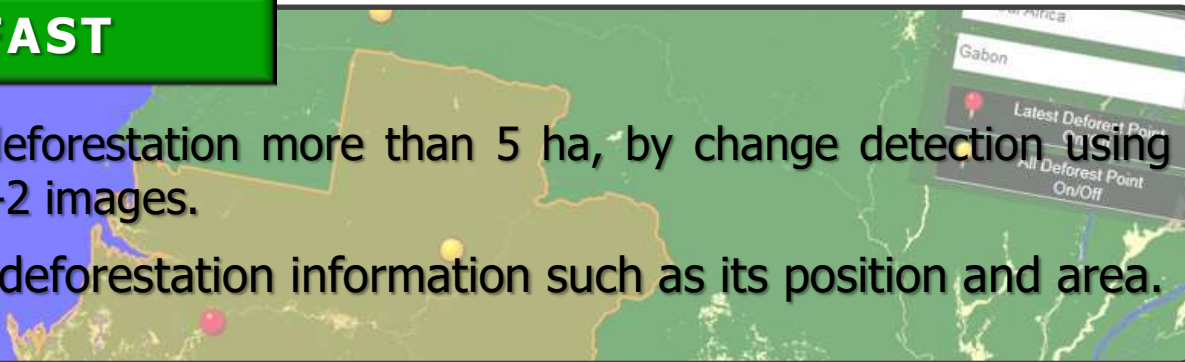
Lifetime: **5 years (7 years)**

Sensor: **Synthetic Aperture Radar
(SAR)**

Observation mode: **Spotlight
Strip
ScanSAR**

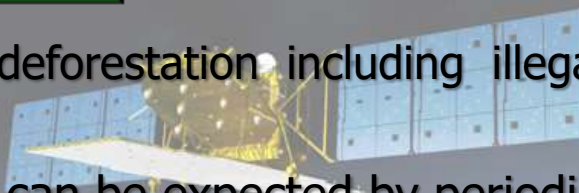
What is JJ-FAST

- 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

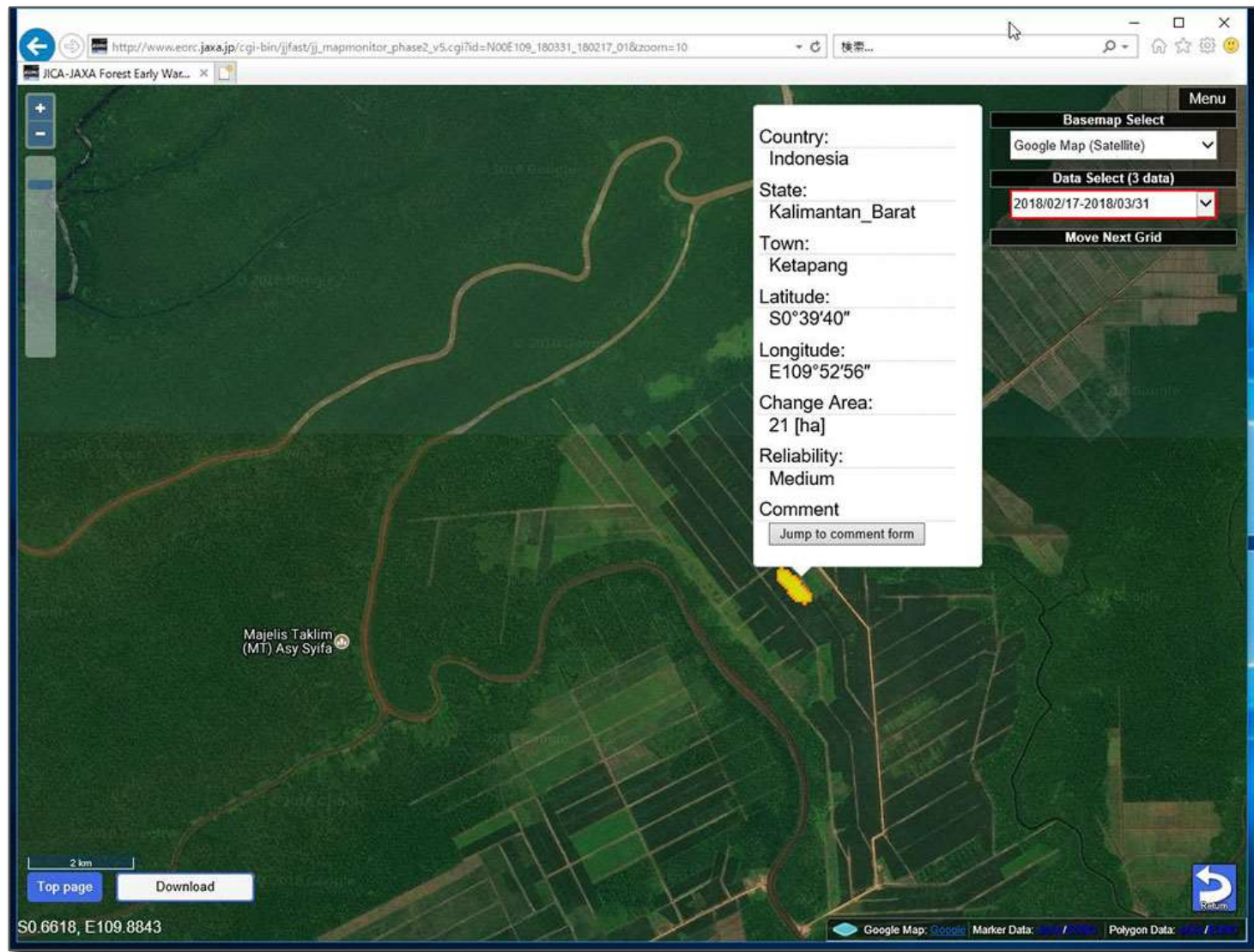
- Early warning of deforestation including illegal activity (every 1.5 months).
- Suppression effect can be expected by periodic open information.



Usage of JJ-FAST

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



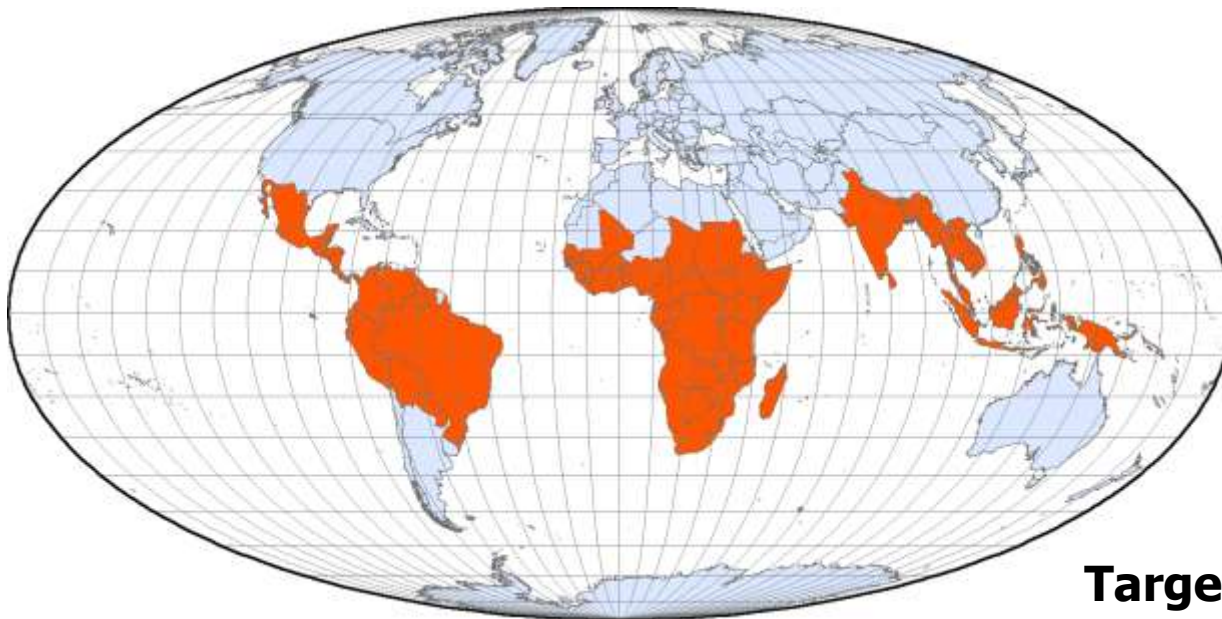


JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)

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

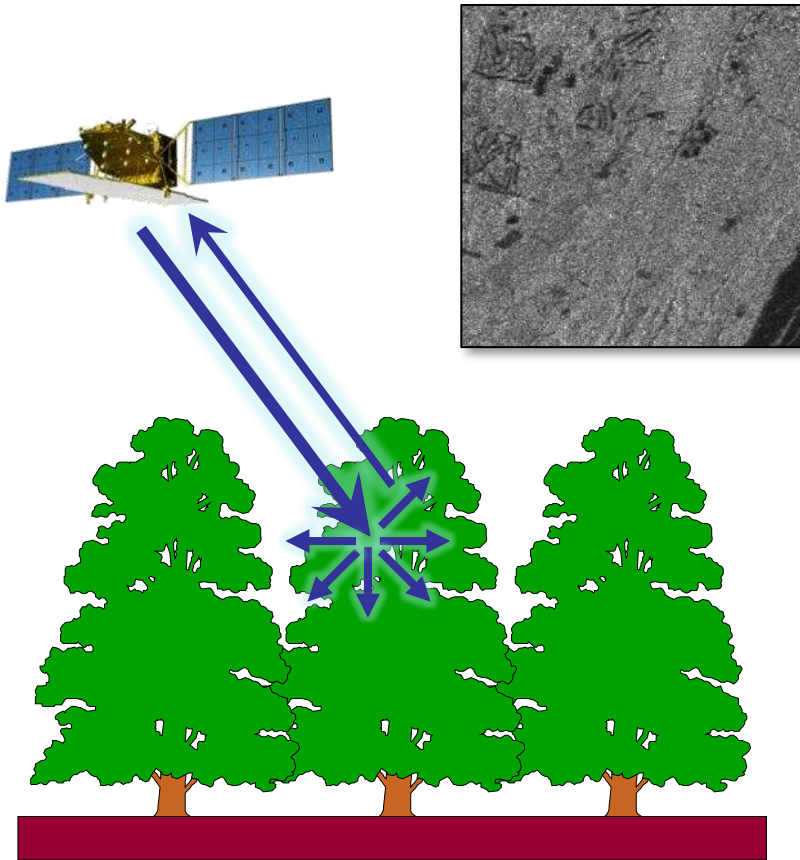
Released in November 2016!

Data source	ALOS-2/PALSAR-2 (ScanSAR mode)
Target area	77 countries
Update	Every 1.5 months
Characteristics	<ul style="list-style-type: none">- Global coverage: almost all tropical forests.- Cloud-cover area observation: even in rain season.- Fast web-page: forester can use it in the field.

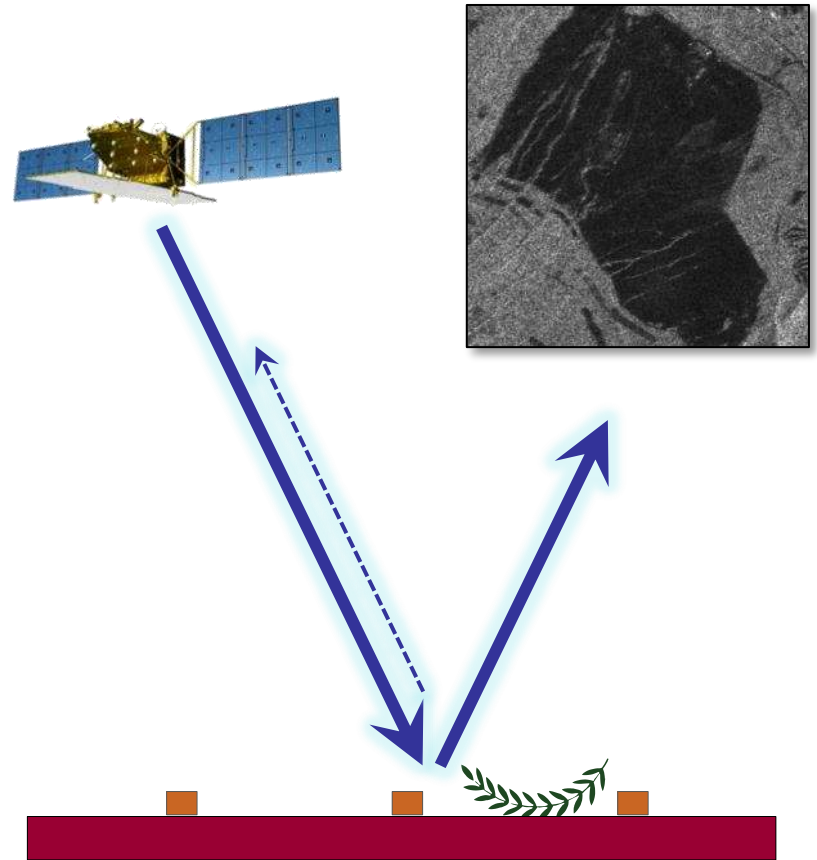


Target countries

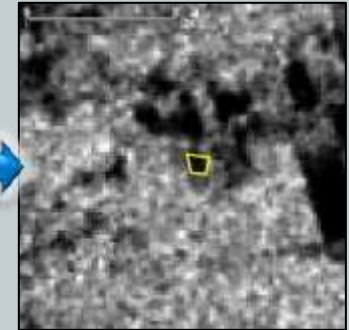
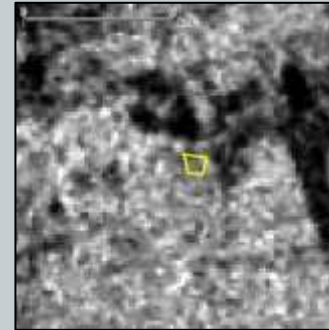
Forest: Bright



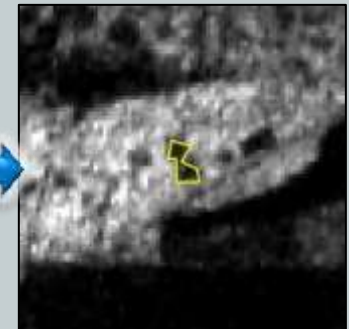
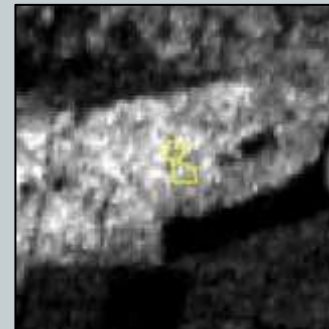
Non-Forest: Dark



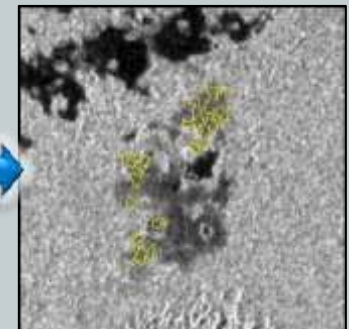
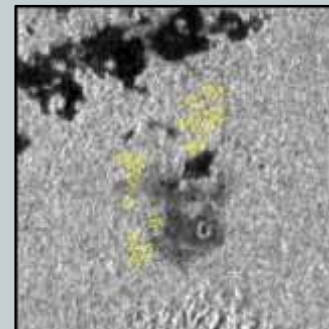
Peru



Botswana



Gabon



User's accuracy = 83.3%



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

The screenshot shows a web browser window displaying the 'JICA-JAXA Forest Early Warning System in the Tropics' comment form. The form is titled 'Comment form (input)' and includes a small instruction: 'If you have any comment for target deforest area, please fill following items and press "Confirm" button.' The form fields are as follows:

Target Polygon ID	N03E111_170828_170717_0000001A
Name	<input type="text"/>
E-Mail	<input type="text"/>
Residential Country	--Please select your country--
Organization/Affiliation	<input type="text"/>
Comment	<input type="text"/>

At the bottom of the form is a 'Confirm' button.

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!

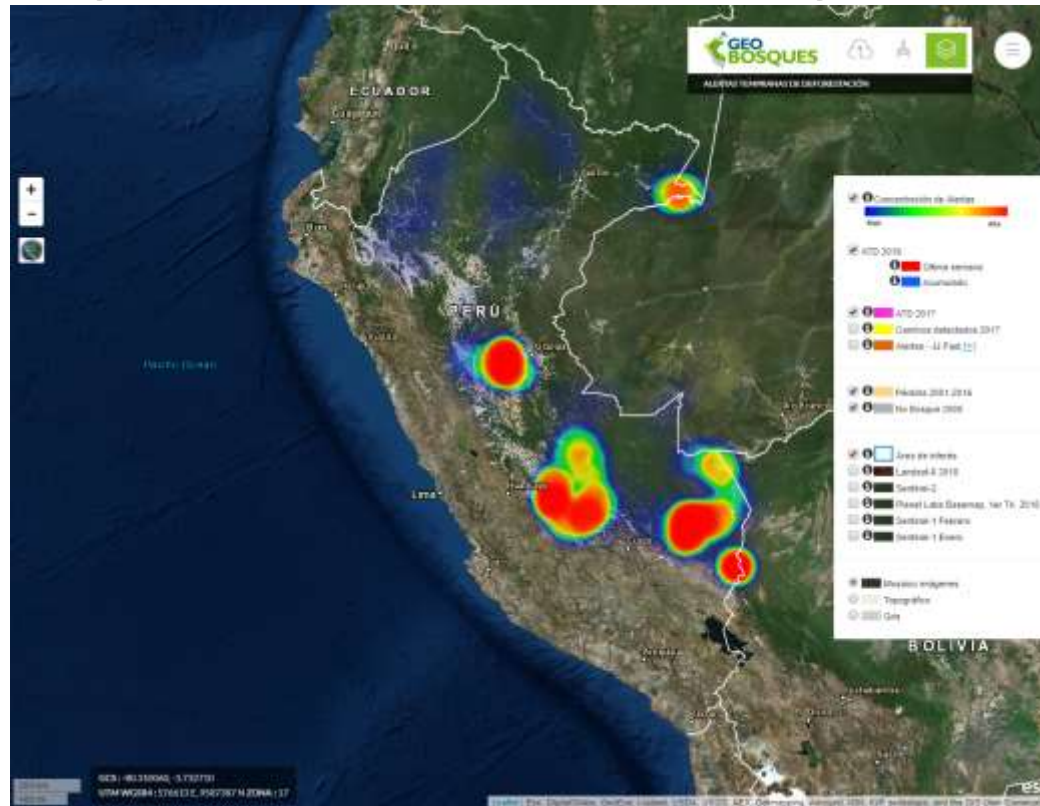


JICA-JAXA Forest Early Warning System in the Tropics



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