

The background of the slide is a photograph of a satellite in orbit above the Earth. The satellite is a rectangular, gold-colored box with two large, dark solar panel arrays extending outwards. The Earth's surface is visible below, showing a mix of blue oceans, white clouds, and brownish-green landmasses. The horizon of the Earth is curved across the top of the image.

Space Agencies' Contribution to Tackling to the Climate Change

Kazuo Tachi

Associate Director General

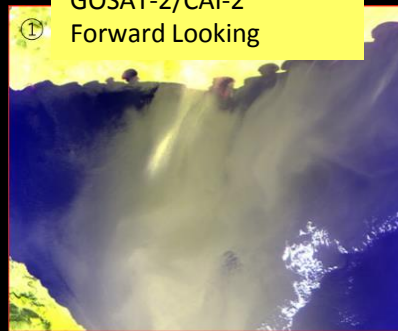
Space Technology Directorate I

Japan Aerospace Exploration Agency

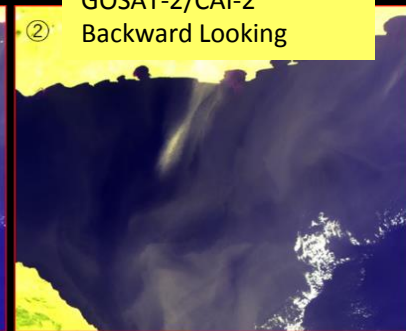
First Images from GOSAT-2



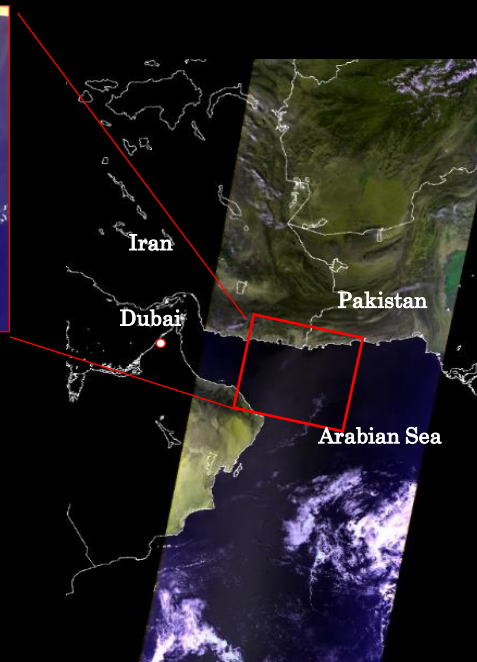
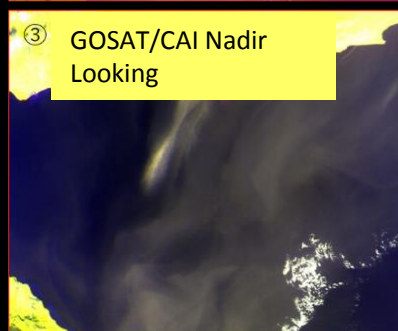
① GOSAT-2/CAI-2 Forward Looking



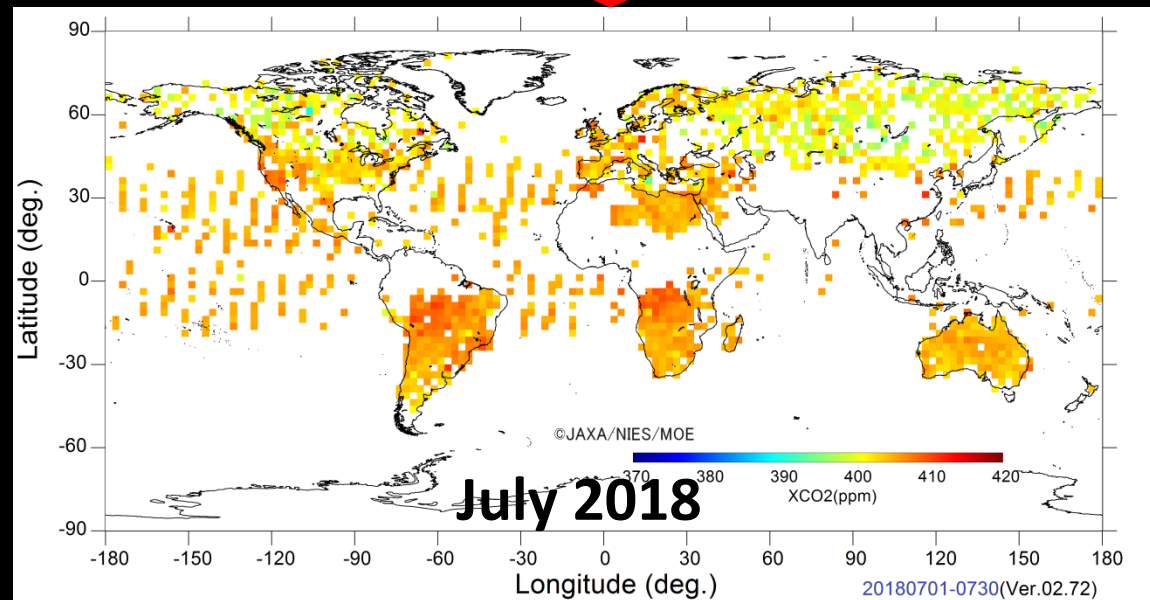
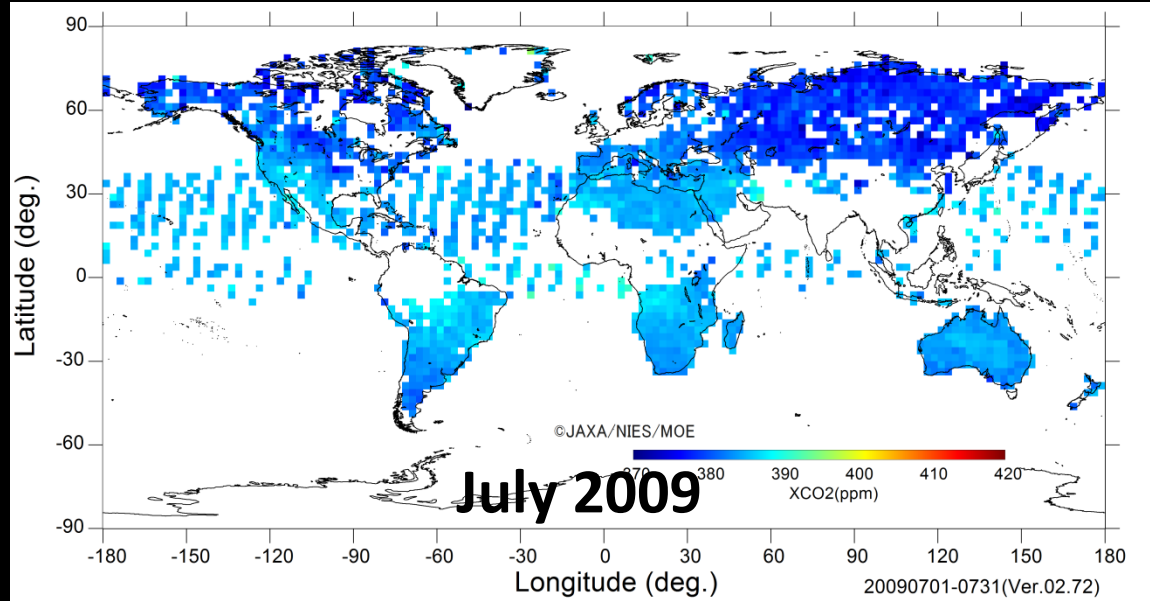
② GOSAT-2/CAI-2 Backward Looking



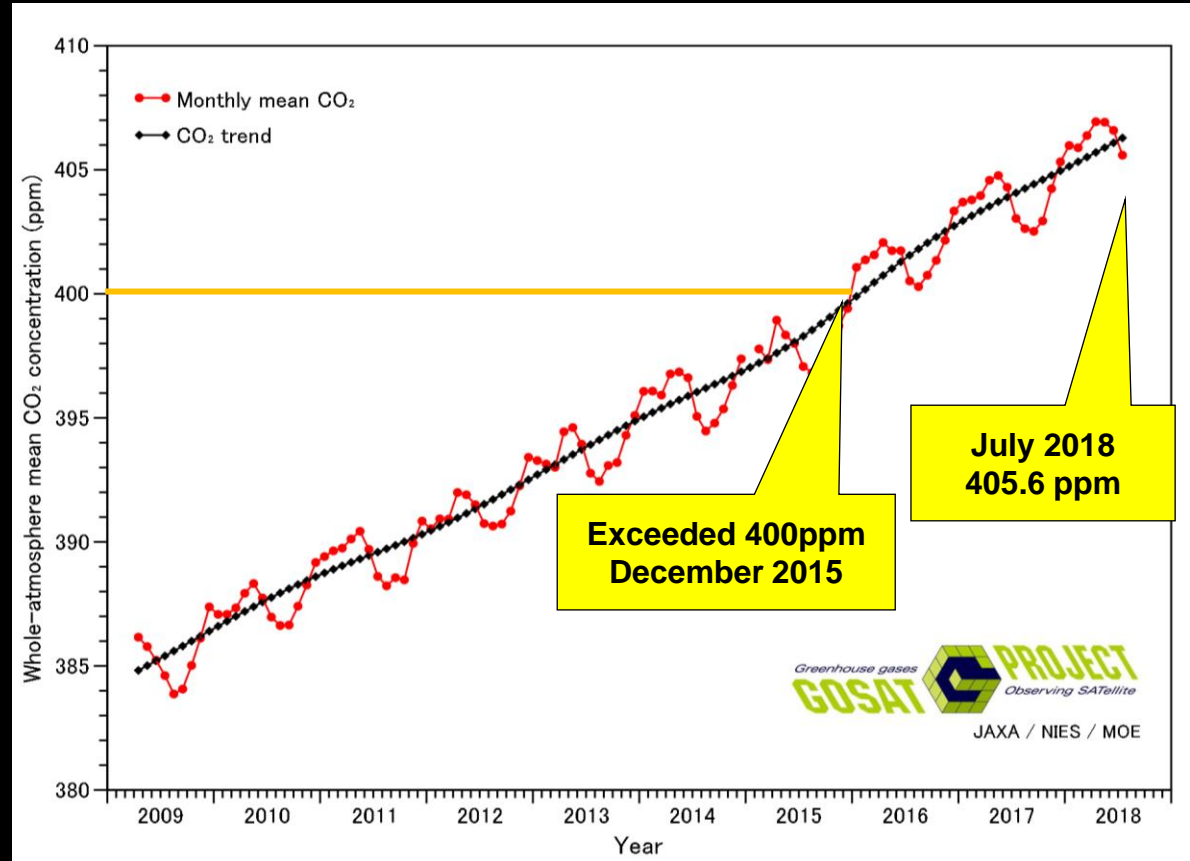
③ GOSAT/CAI Nadir Looking



Watching on Greenhouse gases



**GOSAT Whole-atmosphere Mean CO2
April 2009 – April 2018**



Paris Agreement and IPCC Guidelines

Paris Agreement

- ❑ Parties will account for anthropogenic emissions and removals corresponding to their nationally determined contributions
- ❑ Parties will provide national inventory reports under the transparency framework

Task Force on National Greenhouse Gas Inventories (TFI) is refining 2006 IPCC Guidelines for National GHG Inventories.

⇒ Refined guidelines will be adopted in May 2019



Towards the refinement of Inventory Guidelines, Japan aims that satellite data utilization is to be included for evaluation of GHG emission reporting.



Space Agencies Cooperation for Cal/Val of satellite GHG data



- Provision of reliable and consistent satellite GHG data for governments, UN organizations and scientists for effective implementation of Paris Agreement;
- Promotion of satellite GHG data utilization and cooperation with governmental agencies/research institutes responsible of environment.



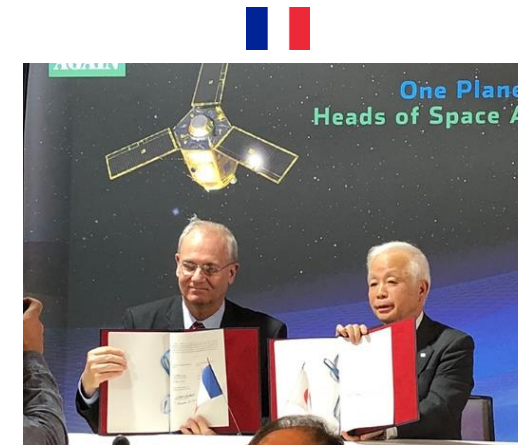
NASA-JAXA/NIES: Vicarious Calibration in Railroad Valley, Nevada



JAXA/NIES: GOSAT/GOSAT-2
DLR: MERLIN



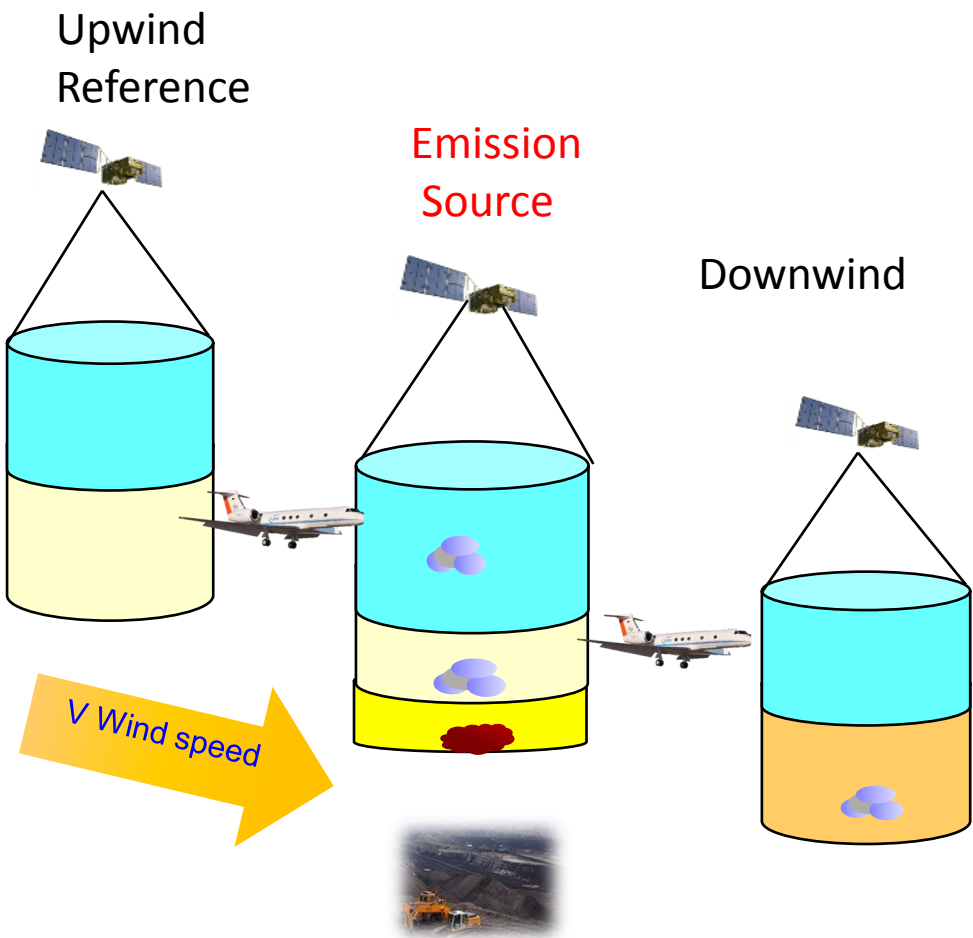
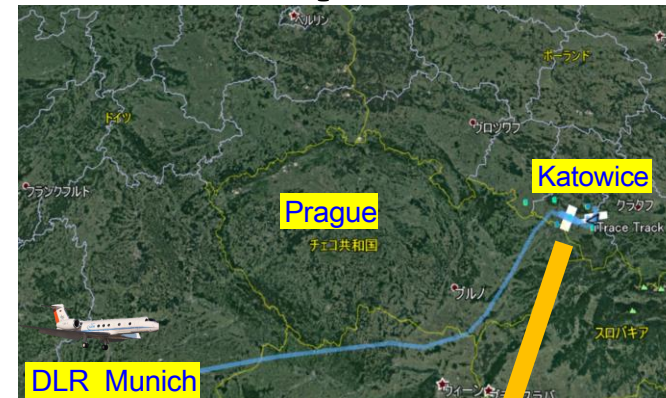
JAXA/NIES: GOSAT/GOSAT-2
ESA: Sentinel-5P, FLEX



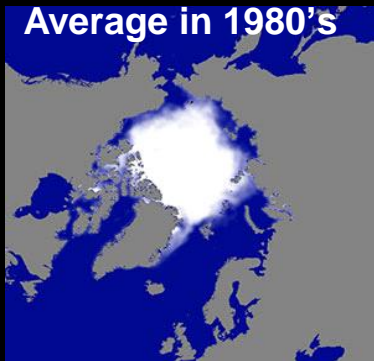
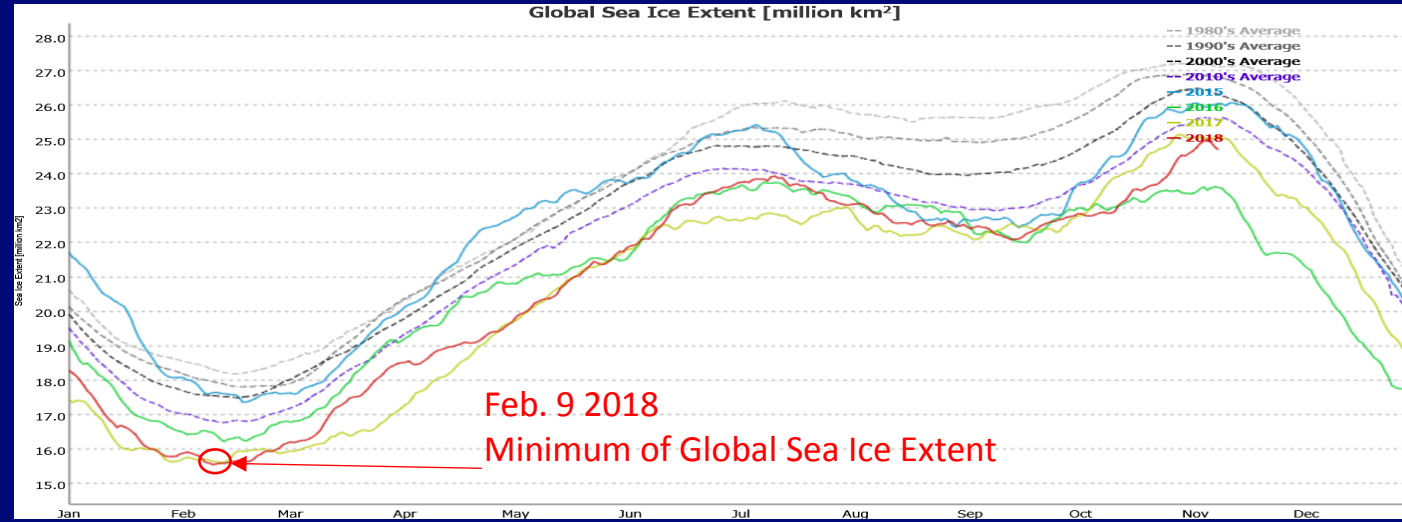
JAXA/NIES: GOSAT/GOSAT-2
CNES: IASI, MERLIN, MicroCarb

DLR-JAXA Cooperation for Demonstration of CH₄ Emission Amount Estimation from Space

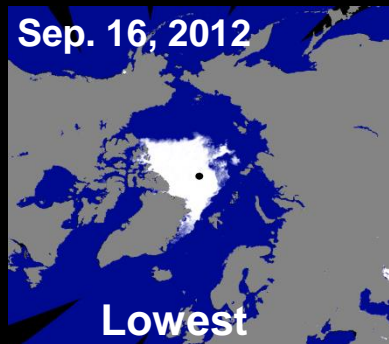
(June 2018)



Global Sea Ice Extent



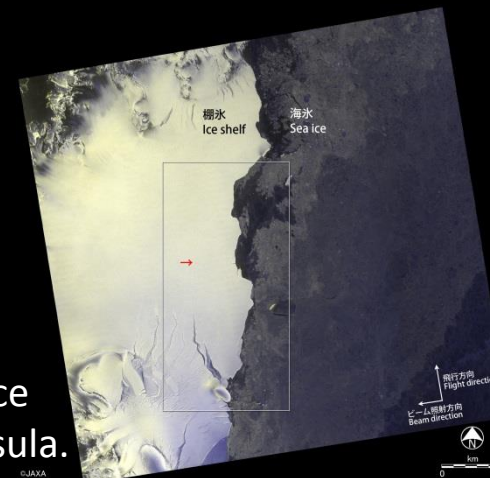
◀ In Arctic



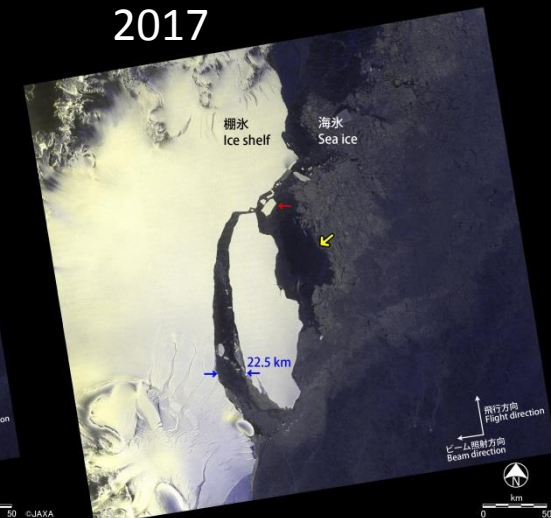
In Antarctic ▶

ALOS-2/PALSAR-2
 Observation results on
 detachment of a large
 iceberg from Larsen-C Ice
 Shelf in Antarctic Peninsula.

August,
 2016

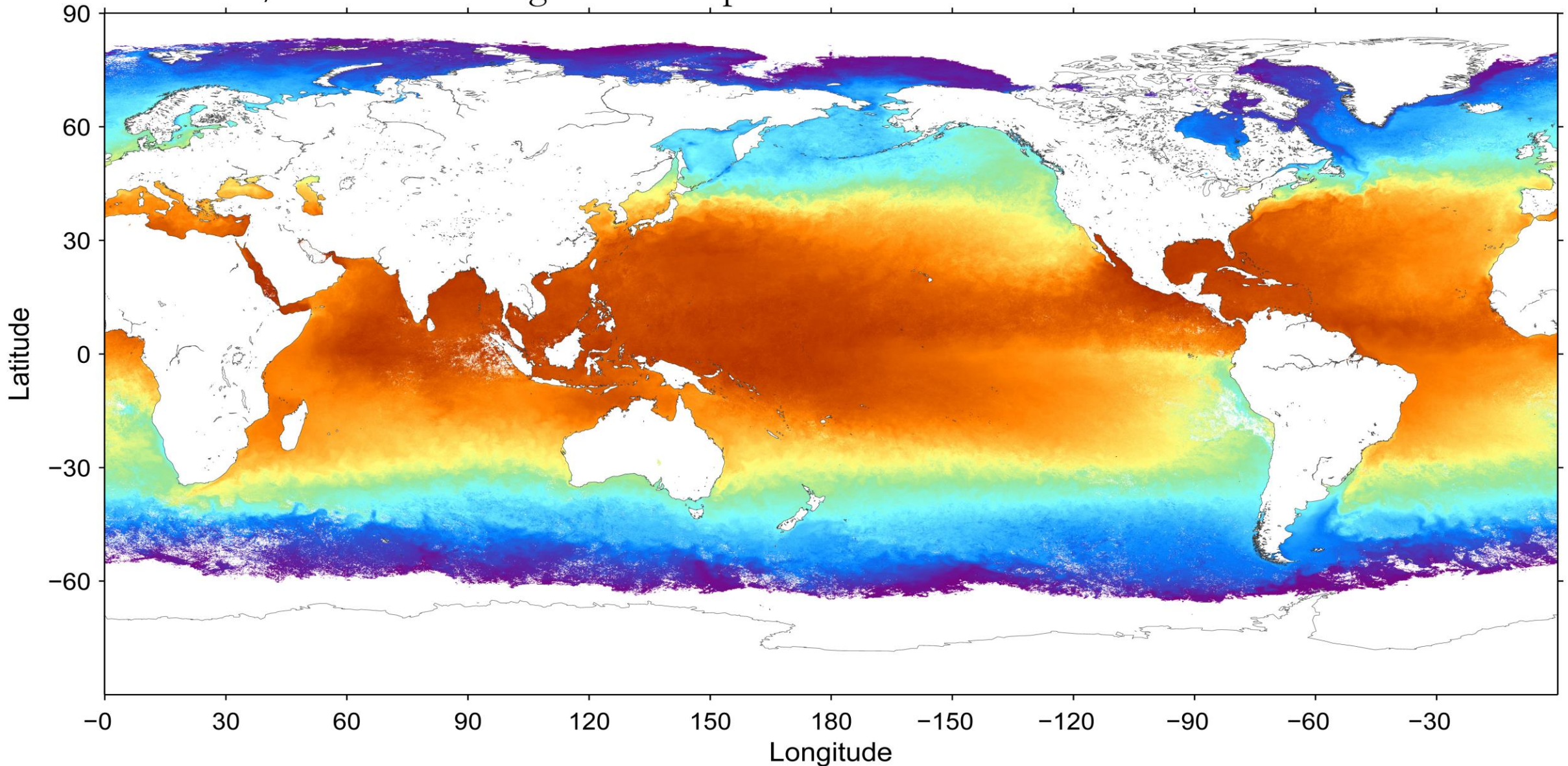


September,
 2017



Watching on the Climate Change

GCOM-C/SGLI SST average from 6 Sep. to 7 Oct. 2018



Watching on Deforestation



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

JICA-JAXA Forest Early Warning System in the Tropics

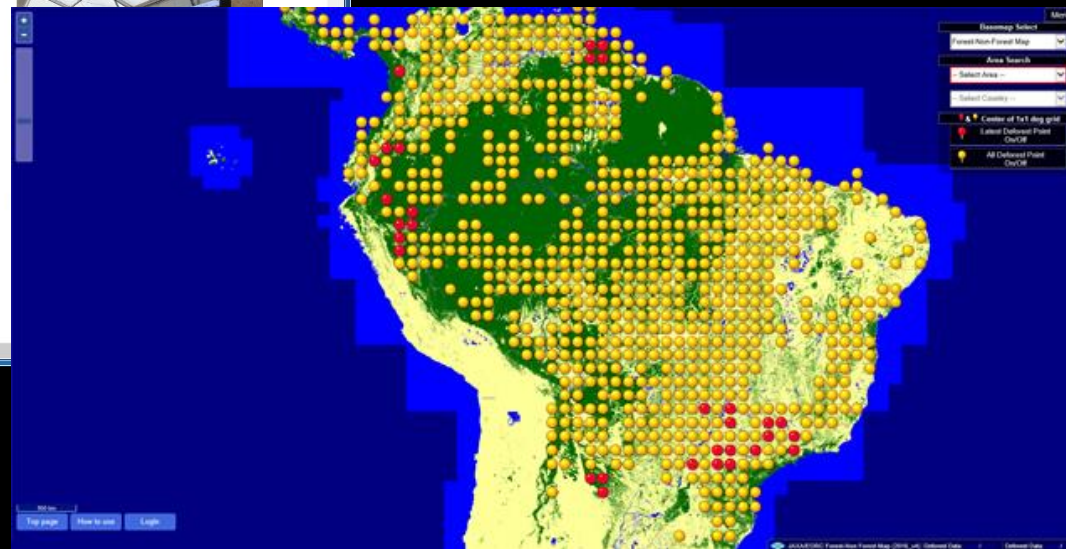
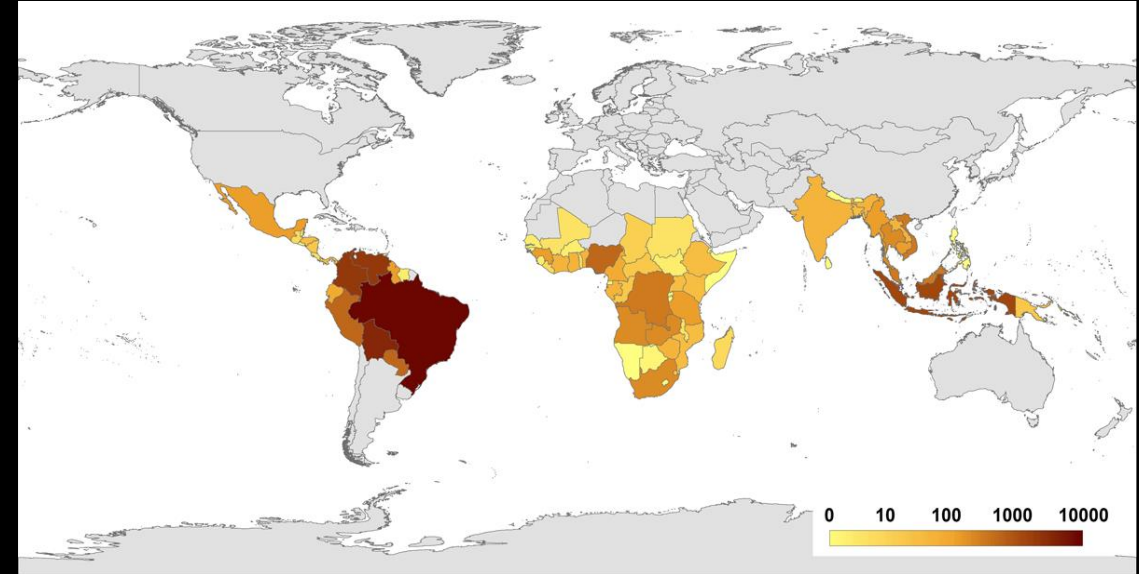
home map system initiative topics

Watching on Deforestation

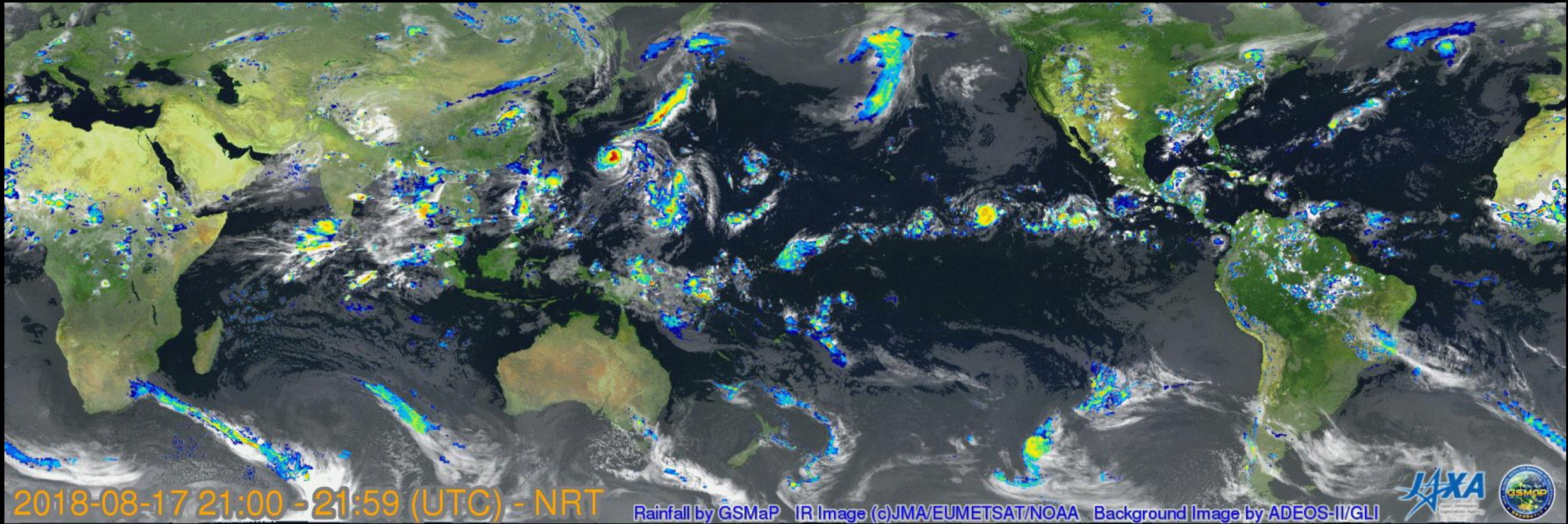
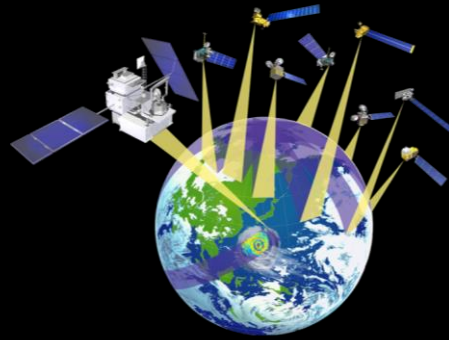
Map
See the Forest Cover Change Map and download the deforested area data.

System
See the JJ-FAST features and system details.

Initiative
The Forest Governance Initiative calls for a global partnership to use satellite technology to fight against tropical deforestation and climate change.



Watching on Global Rainfall



2018-08-17 21:00 - 21:59 (UTC) - NRT

Rainfall by GSMaP IR Image (c)JMA/EUMETSAT/NOAA Background Image by ADEOS-II/GLI





Images of the Earth about 340,000 km from the center of the Earth took by the Hayabusa2 after the swing-by on December 4, 2015. Australian continent on the upper right, and Antarctica on the lower right.

Thank you for your attention.

