Space Agencies’ Contribution to Tackling to the Climate Change

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First Images from GOSAT-2

GOSAT-2/CAI-2
- Forward Looking
- Backward Looking
- GOSAT/CAI Nadir Looking

Iran
Dubai
Pakistan
Arabian Sea
Watching on Greenhouse gases

GOSAT Whole-atmosphere Mean CO2
April 2009 – April 2018

July 2009

July 2018

Exceeded 400ppm
December 2015

July 2018
405.6 ppm
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 CH$_4$ Emission Amount Estimation from Space

(June 2018)
In Arctic

In Antarctic

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

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

JICA-JAXA Forest Early Warning System in the Tropics

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
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.