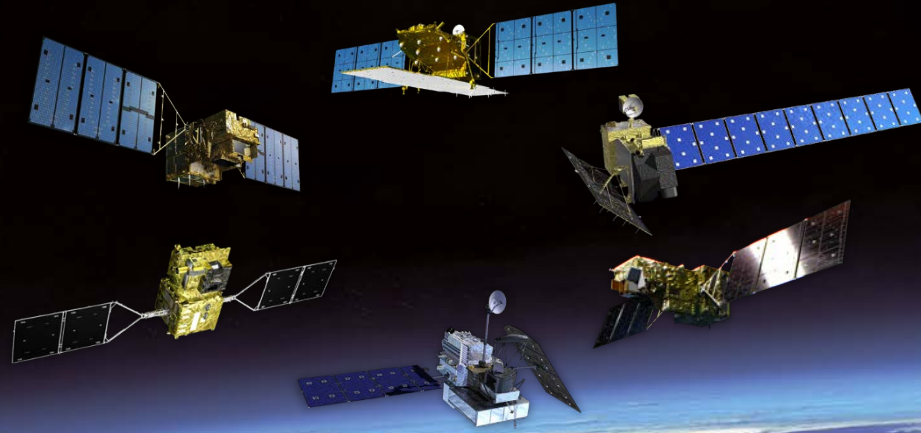


# JAXA's Earth Observation Activities on COVID-19



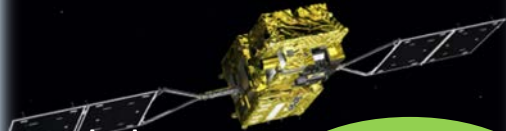
May 5, 2020

Space Technology Directorate I  
Japan Aerospace Exploration Agency

# Current JAXA Earth Observation Satellites

## Climate Change

**GCOM-C**



Launched:  
**23 December 2017**

Cloud/  
Aerosols/  
Vegetation

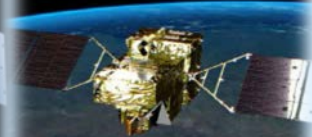
**GOSAT**



Launched: 2009

Greenhouse  
Gases

**GOSAT-2**



Launched:  
**29 October 2018**

**GCOM-W**



Launched: 2012

Water  
Cycling

**GPM**



DPR:  
Dual Frequency  
Radar

Launched: 2014

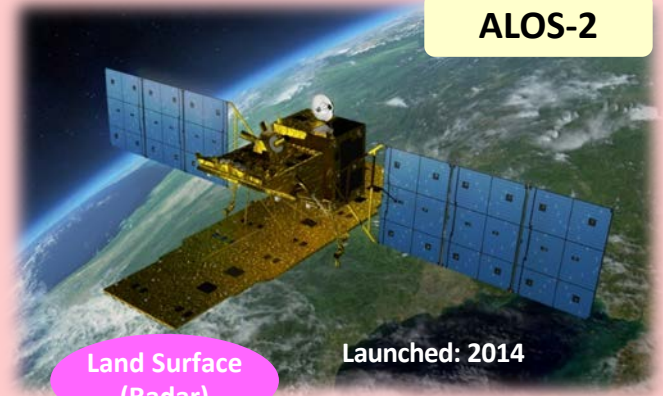
Precipitation



Courtesy of NASA

## Disaster Risk Management

**ALOS-2**



Land Surface  
(Radar)

Launched: 2014



# Watching on Greenhouse gases



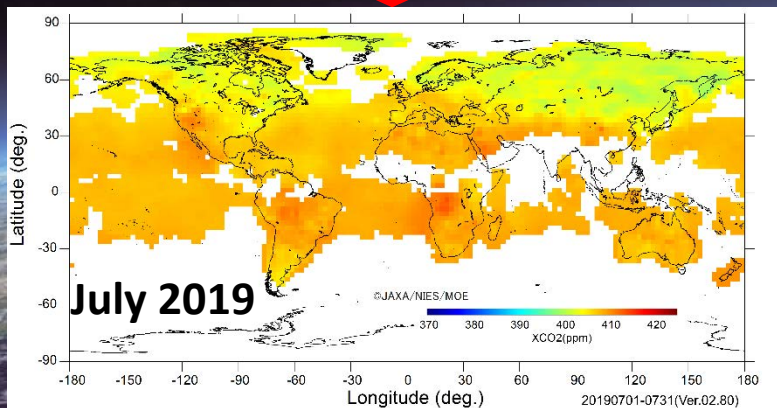
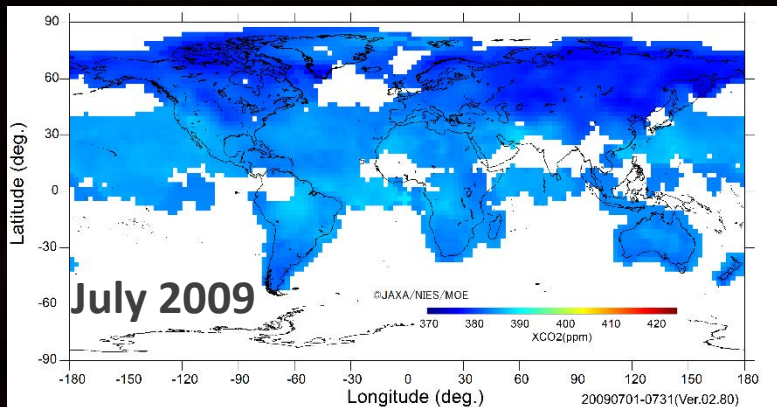
Whole-atmosphere monthly mean CO<sub>2</sub> concentration based on GOSAT observations — Recent data —

<http://www.gosat.nies.go.jp/en/recentglobalghg.html>

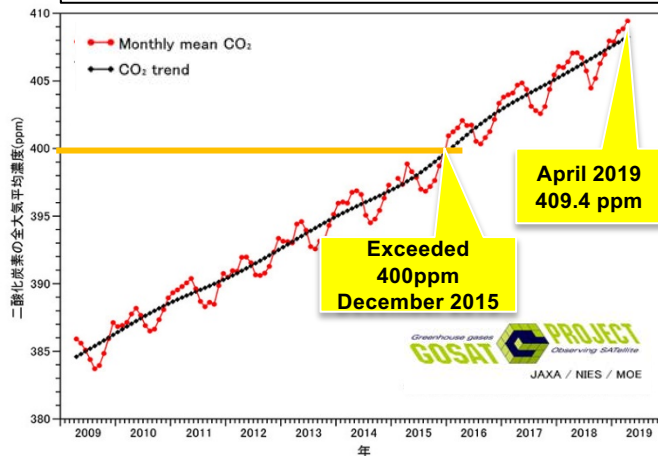
Monthly mean CO<sub>2</sub> August 2019 (August 2018) **407.2 ppm(404.5 ppm)**

CO<sub>2</sub> trend August 2019 (August 2018) **409.0 ppm(406.6ppm)**

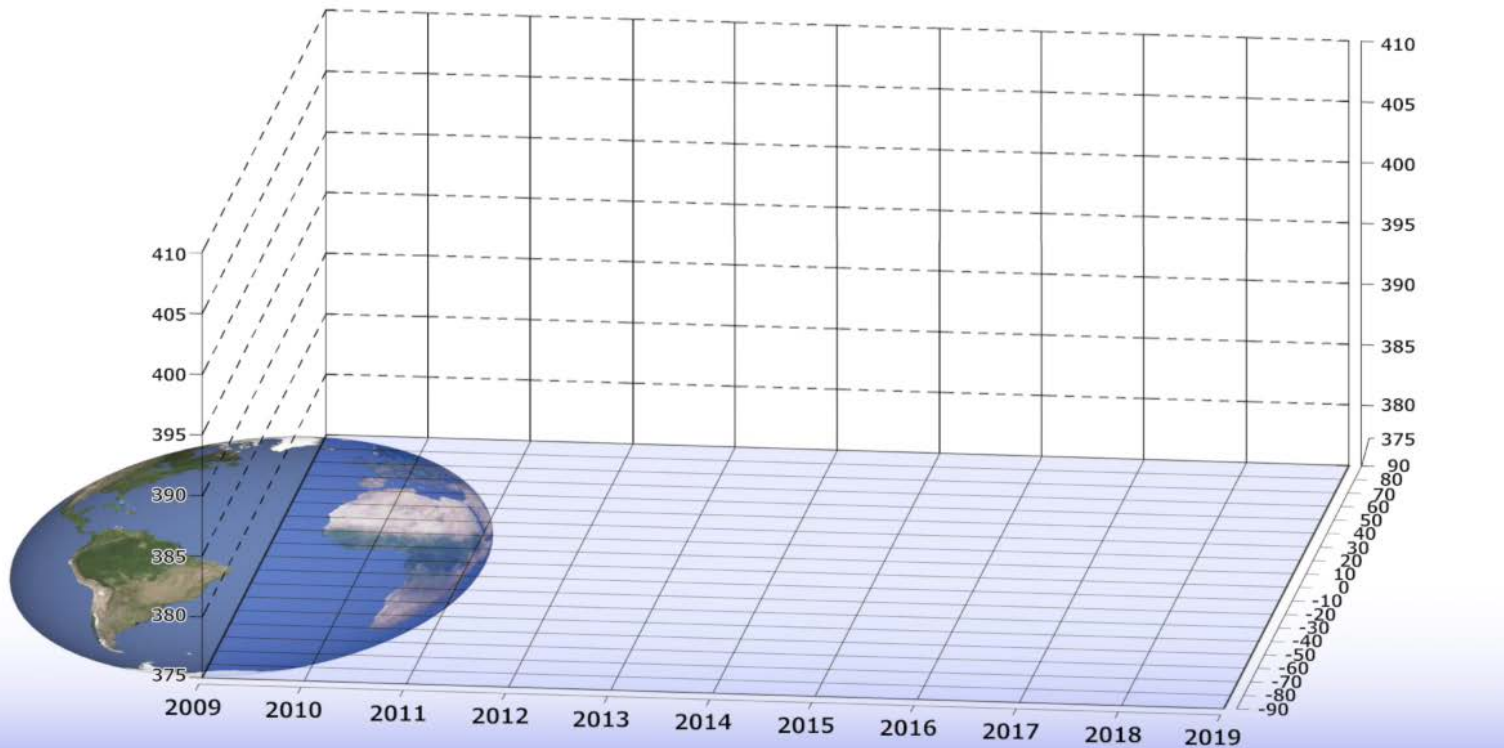
CO<sub>2</sub> growth in the past one year August 2019 - August 2018 **2.4 ppm/year**



**GOSAT Whole-atmosphere Mean CO<sub>2</sub> April 2009 – April 2018**



# A Decade-Long Global GHG Observation by GOSAT



Monthly mean column-averaged CO<sub>2</sub> [ppmv]

©JAXA/NIES/MOE







## JAXA for Earth

- Earth Data Collection by JAXA Satellites -

To watch over the global environment and human society from space...

This site introduces various aspects of the earth using JAXA's research results and data.

Last Update : 2020-05-01

Satellite ▾

Research Field ▾

Area ▾

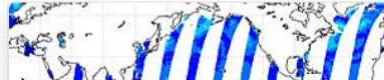
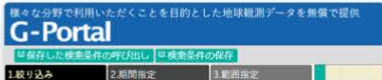
Application ▾

Others...

For Beginners

JAXA Sites **50**

Partner's Sites **15**



# Global Space Apps COVID-19 Challenge



- ✓ NASA, ESA and JAXA are inviting coders, entrepreneurs, scientists, designers, storytellers, makers, builders, artists, and technologists to participate in a virtual hackathon May 29-31 dedicated to putting open data to work in developing solutions to issues related to the COVID-19 outbreak.
- ✓ JAXA provides earth observation data to the hackathon.

<https://www.nasa.gov/press-release/nasa-partners-launch-virtual-hackathon-to-develop-covid-19-solutions>



Join us

May 30-31, 2020

Tackle COVID-19 using data from NASA, ESA, and JAXA in this global, virtual hackathon!

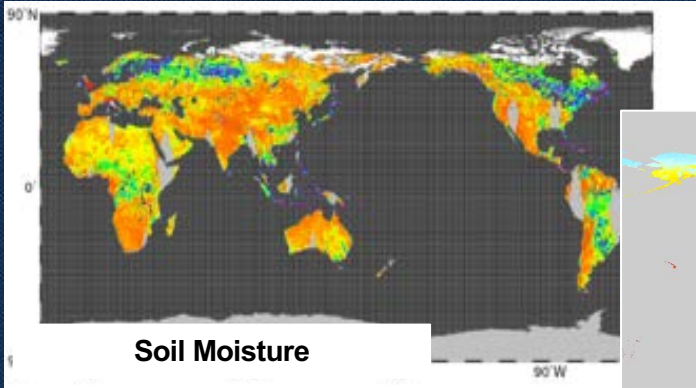
<https://covid19.spaceappschallenge.org>



**Back up**

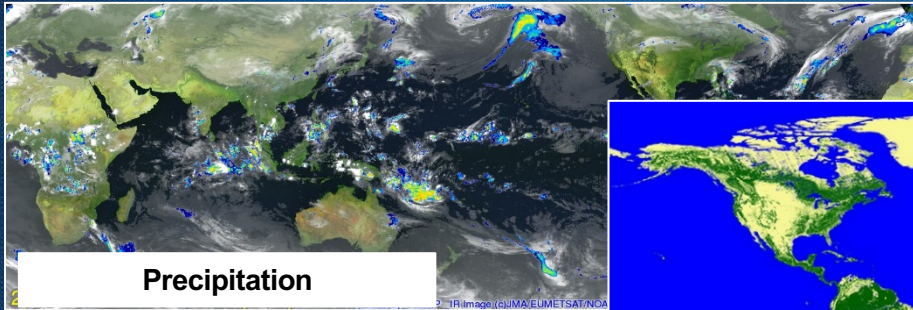
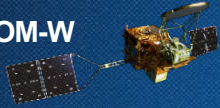


# Global Datasets by Earth Observations



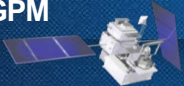
Soil Moisture

GCOM-W

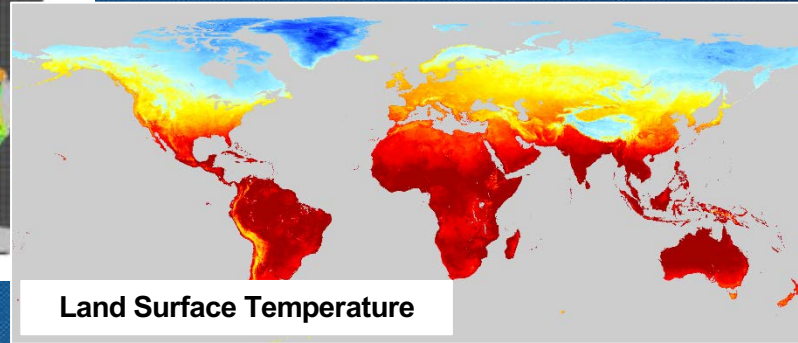


Precipitation

GPM



+ other satellites

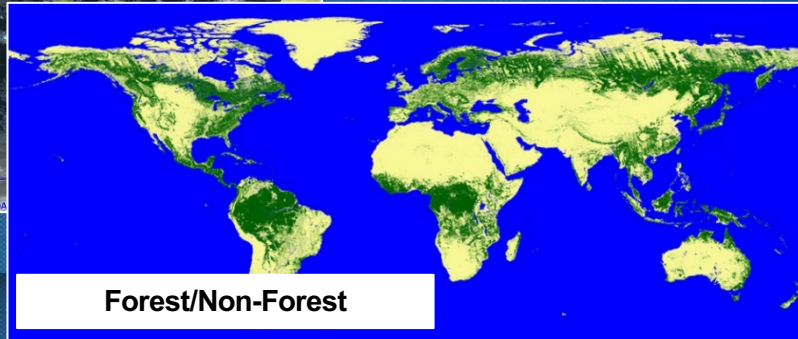


Land Surface Temperature

GCOM-C



ALOS-2



Forest/Non-Forest



# JAXA's Data distribution system: G-Portal



https://gportal.jaxa.jp/gpr/

G-Portal  
Globe Portal System

First of all, search the data you seek (no registration required)  
\* Registration required for download.

Physical quantities  
precipitation, ocean color, etc.

Spacecraft  
spacecraft, sensor, level, etc.

Direct download  
How to download via FTP, etc.

INFO: [2019/04/24] (\* Resumed) GPM and GSMaP products are not available temporarily.  
All GPM products and GSMaP Near Real-Time Products were not available for about 10 hours from 18:30(UTC) April 23rd. The service has been resumed from that period.

Use cases  
Drift Ice in the Okhotsk Sea

- Atmosphere
  - Precipitation
  - Cloud
  - Water Vapor
  - Radiation Balance
  - Aerosol
  - Radiance
  - Atmospheric Corrected Reflectance
- Cryosphere
  - Sea Ice
  - Snow Pack
- Terrestrial
  - Snow Pack
  - Soil Moisture
  - Radiance/Reflectance
  - Vegetation
  - Radiance
- Ocean
  - Sea Surface Temperature
  - Sea Surface Wind
  - Ocean Color
- Others
  - Radiance/Brightness Temperature
  - Radar/Lider
  - Geometric Information
  - Environment Auxiliary

<https://gportal.jaxa.jp/gpr/>