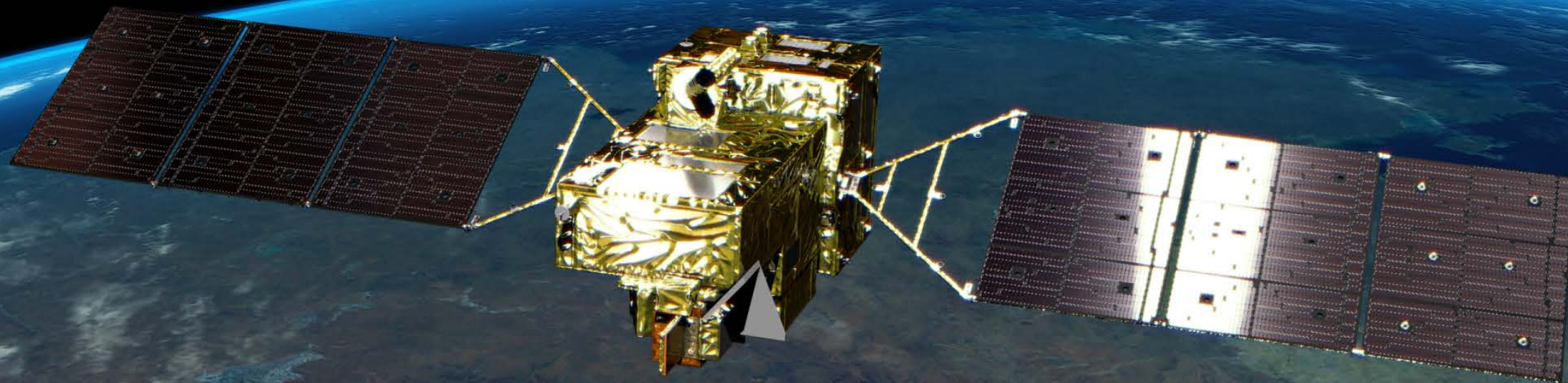


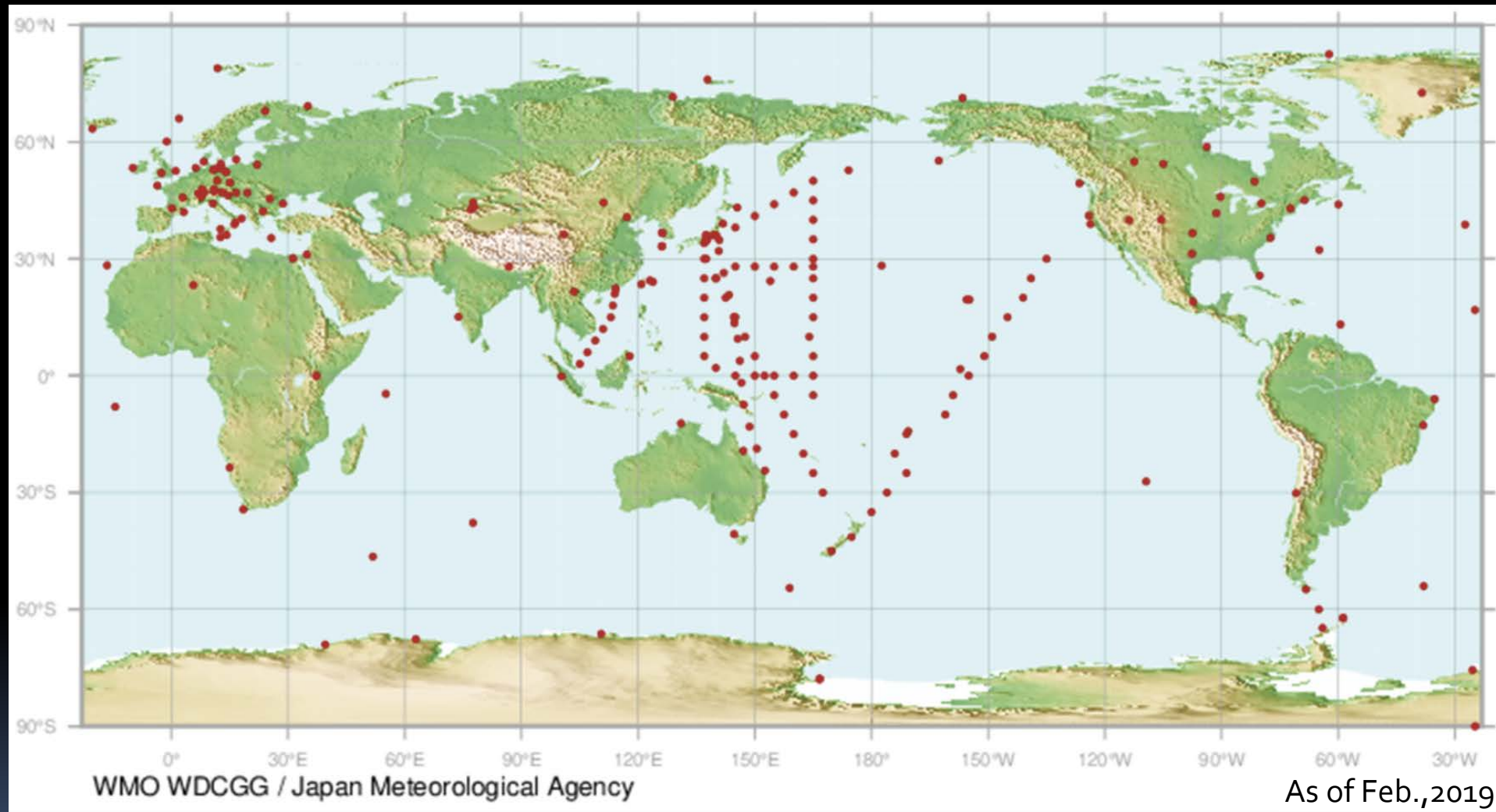
Latest results of the Greenhouse Gases Observation by Satellites



5 December, 2019 @ Madrid, Spain

JAXA

World Data Center for Greenhouse Gases (WDCGG)

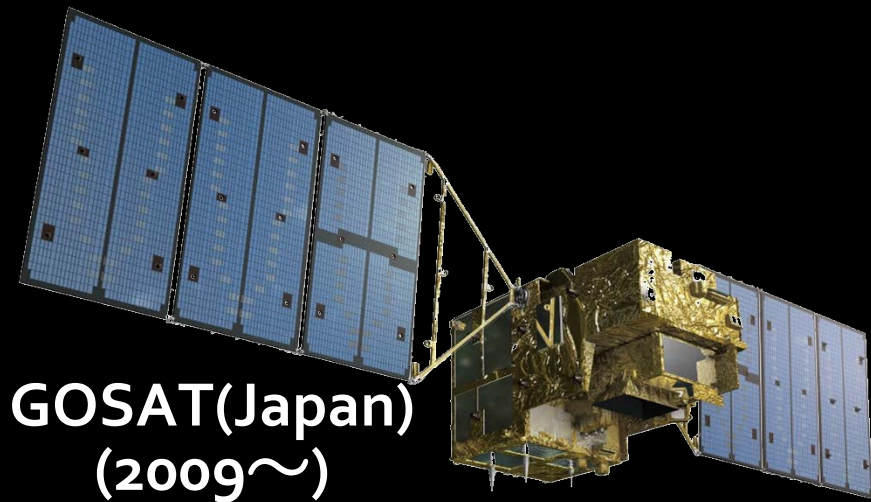


The points which provide observation data to WDCGG

- CO₂ : 253 points
- CH₄ : 216 points

From Japan Meteorological Agency web site

Satellites which are observing Greenhouse Gases (in Shortwave Infrared wavelength region)



GOSAT(Japan)
(2009~)



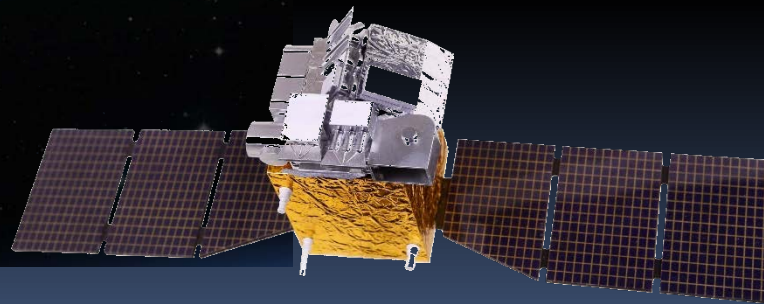
Sentinel-5P(EU)
(2017~)



GOSAT-2(Japan)
(2018~)

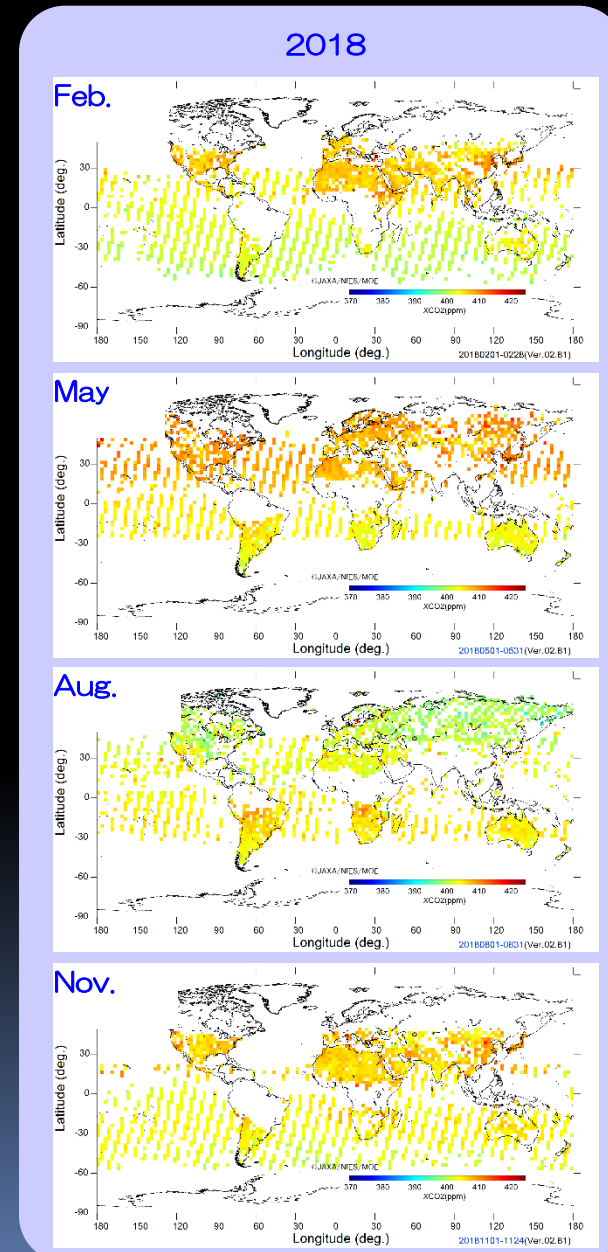
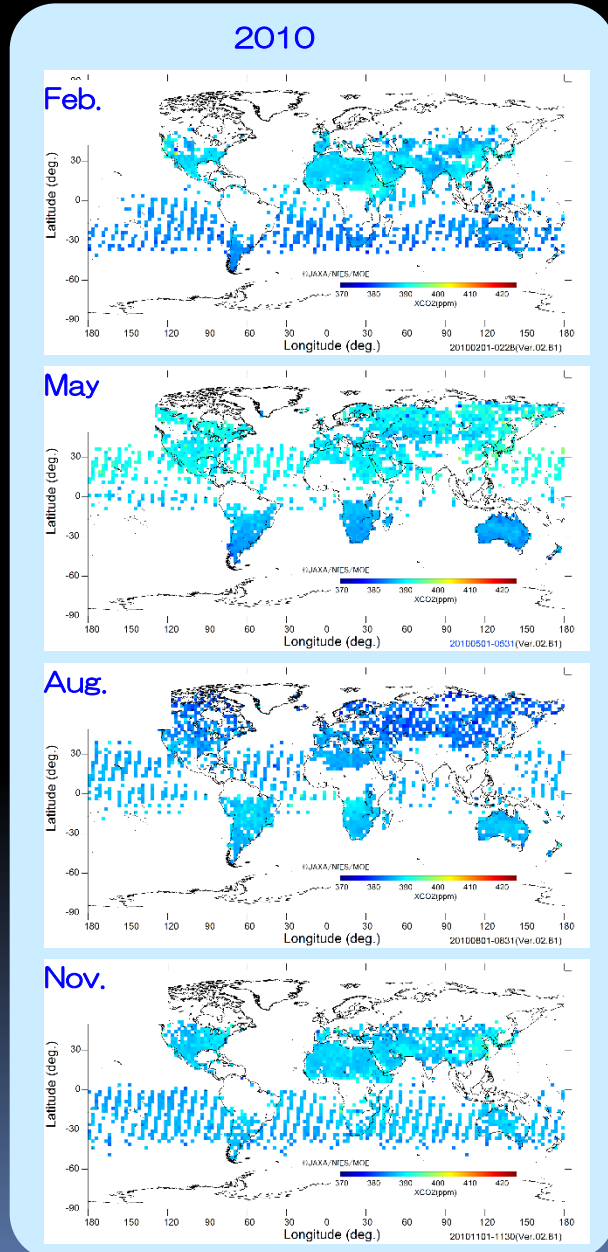


OCO-2(USA)
(2014~)

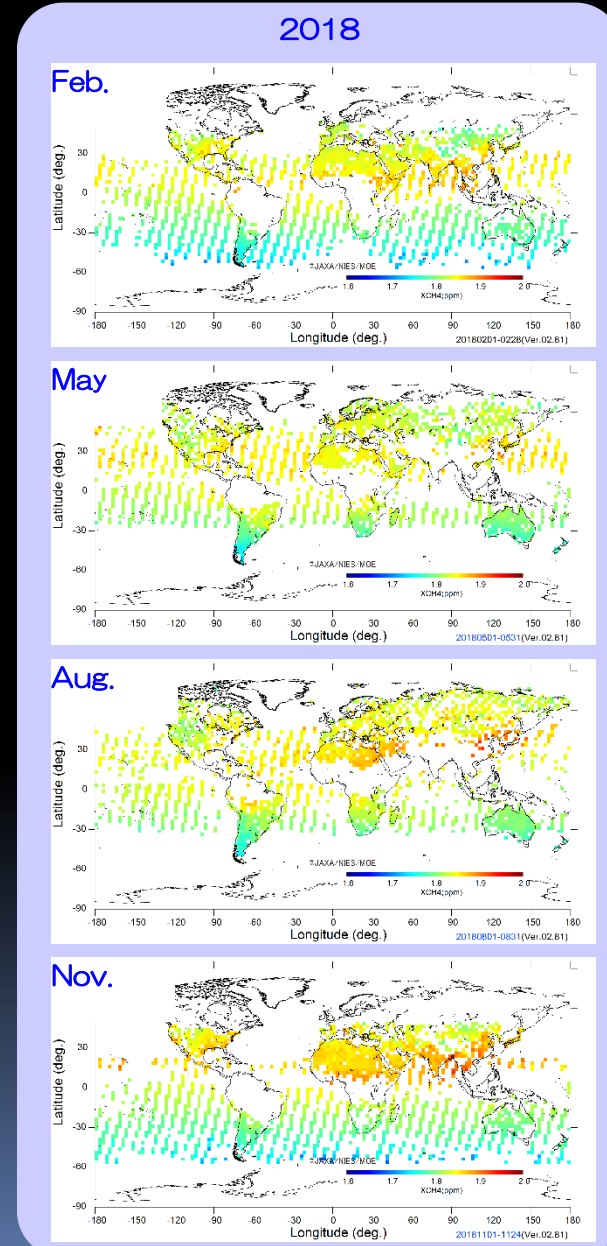
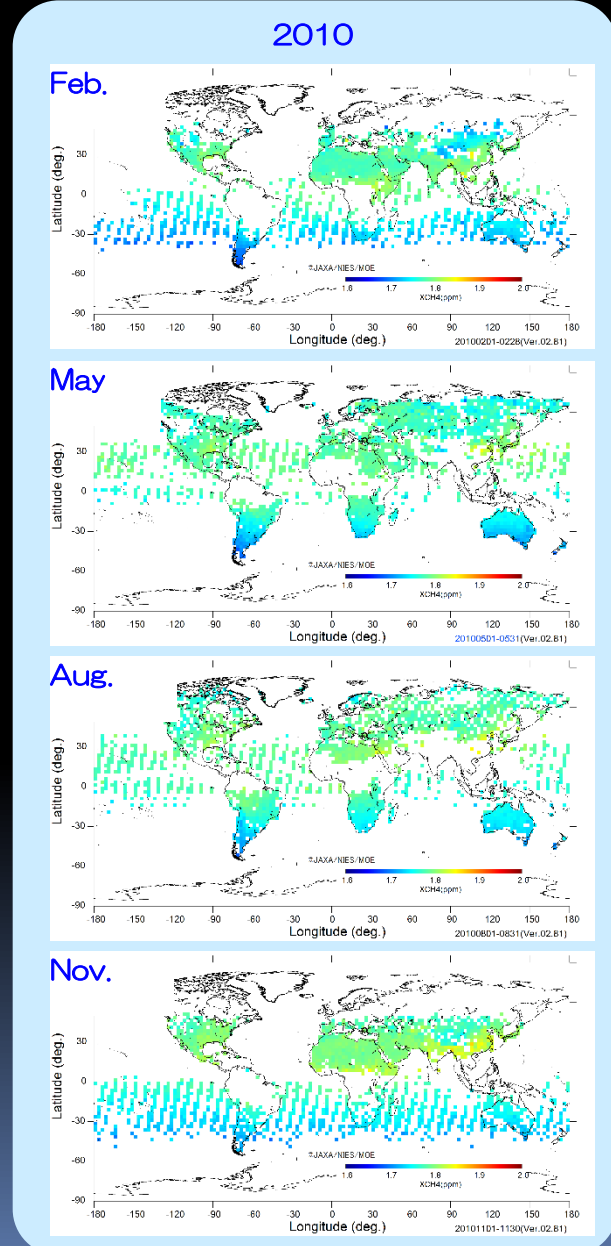


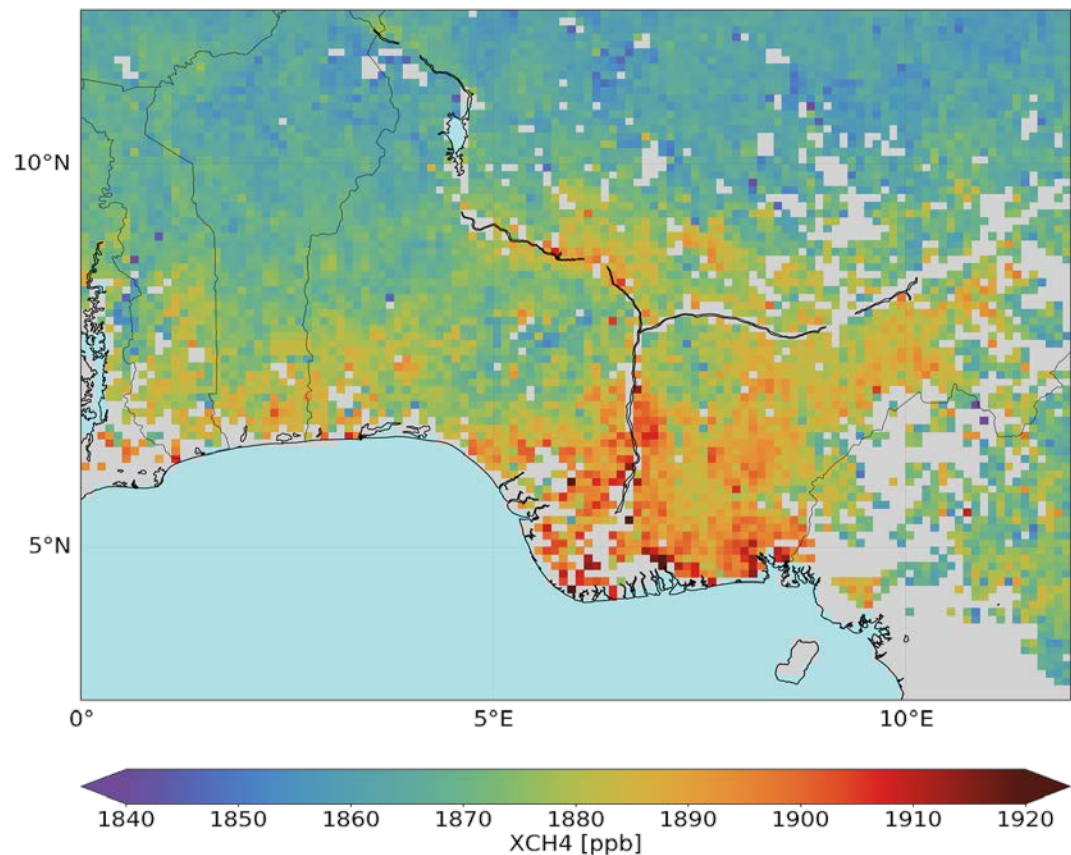
TanSat(China)
(2016~)

GOSAT-captured CO₂ Global Map (Monthly mean map in every 2.5 degrees mesh)



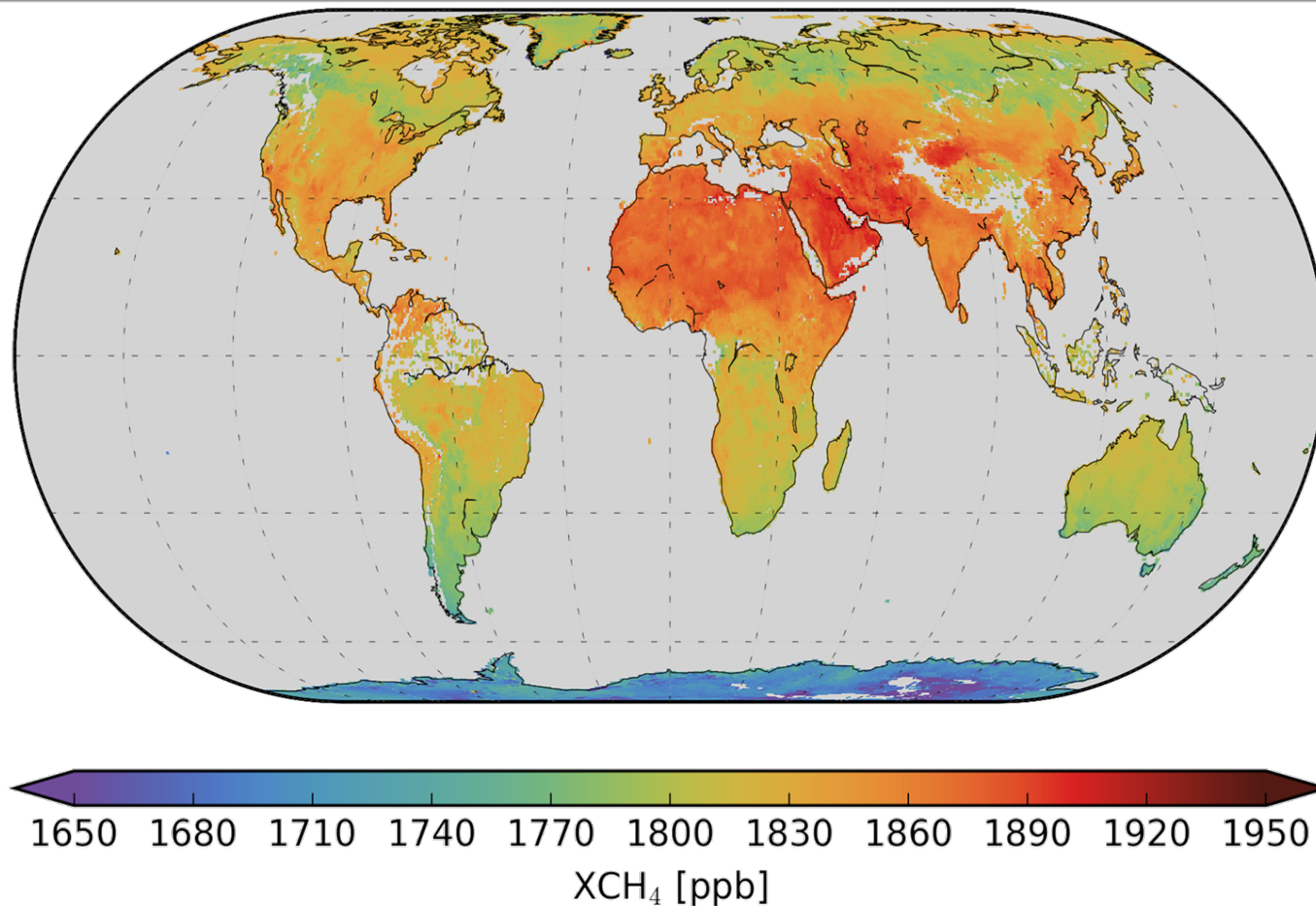
GOSAT-captured CH₄ Global Map (Monthly mean map in every 2.5 degrees mesh)





Methane over wetlands in Nigeria between November 2018 and February 2019

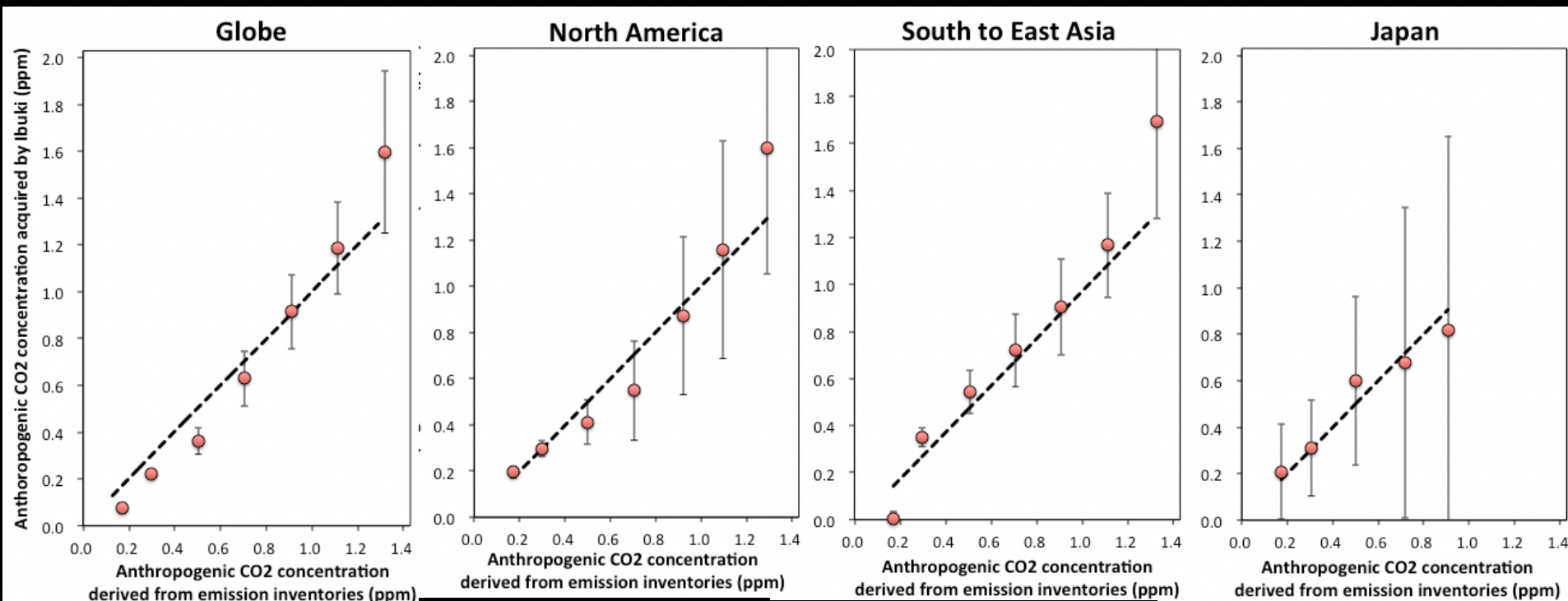
ESA UNCLASSIFIED - For Official Use



November, 2017 to September 2018

(This slide was provided by ESA)

Relationship between anthropogenic CO₂ concentrations derived from emission inventories and those acquired by GOSAT



Estimation of the anthropogenic CO₂ concentrations in Japan

- GOSAT data
 - data on fossil fuel emissions (inventory)
- ➔ Generally agreed

➔ Observation from space will be able to contribute to the estimation of the anthropogenic emission.

Thank you !