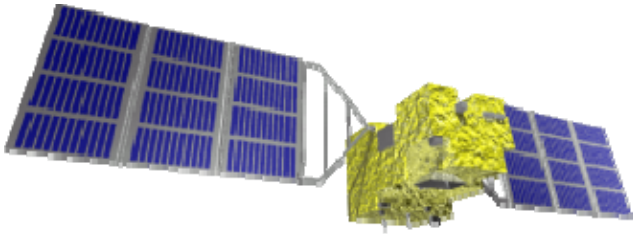

Japan's initiative to establish monitoring system on national GHG emissions with satellite

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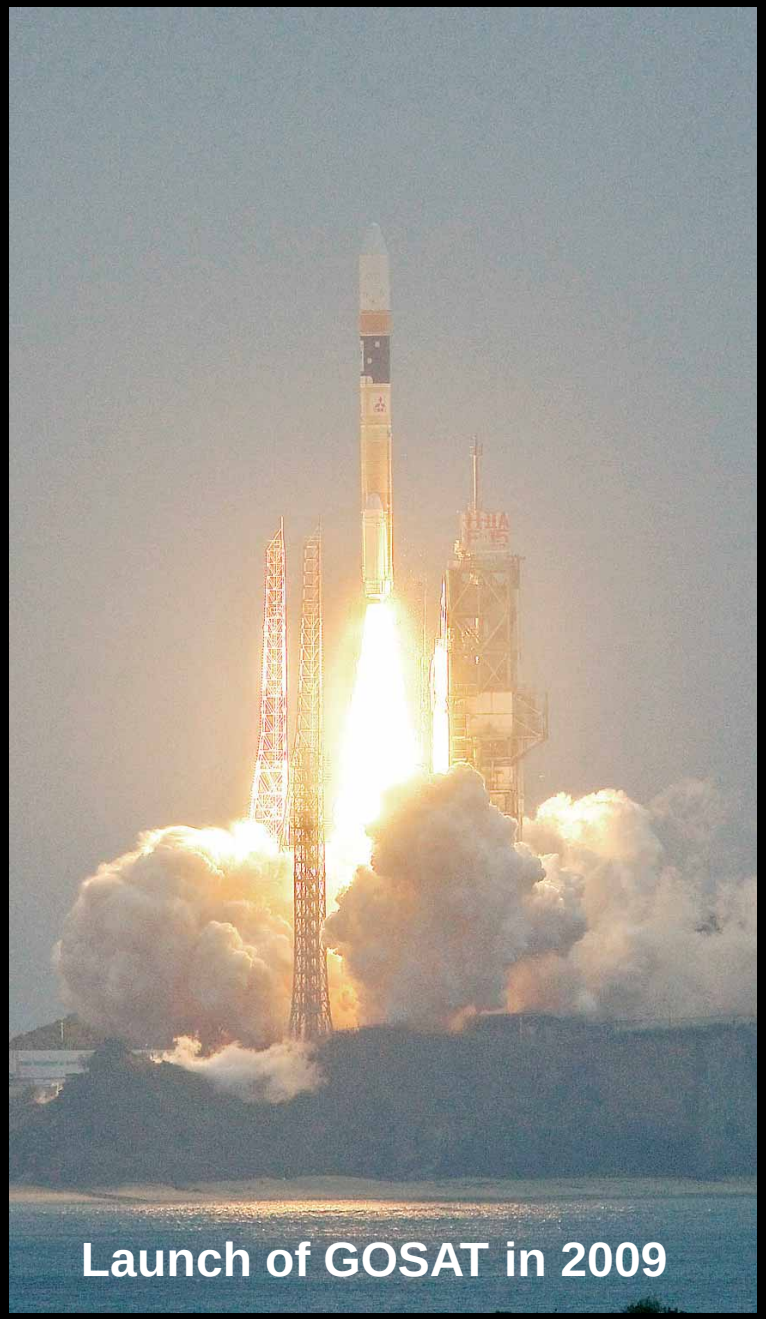
Nov 14th, 2016

COP22 Side Event at JAPAN pavilion



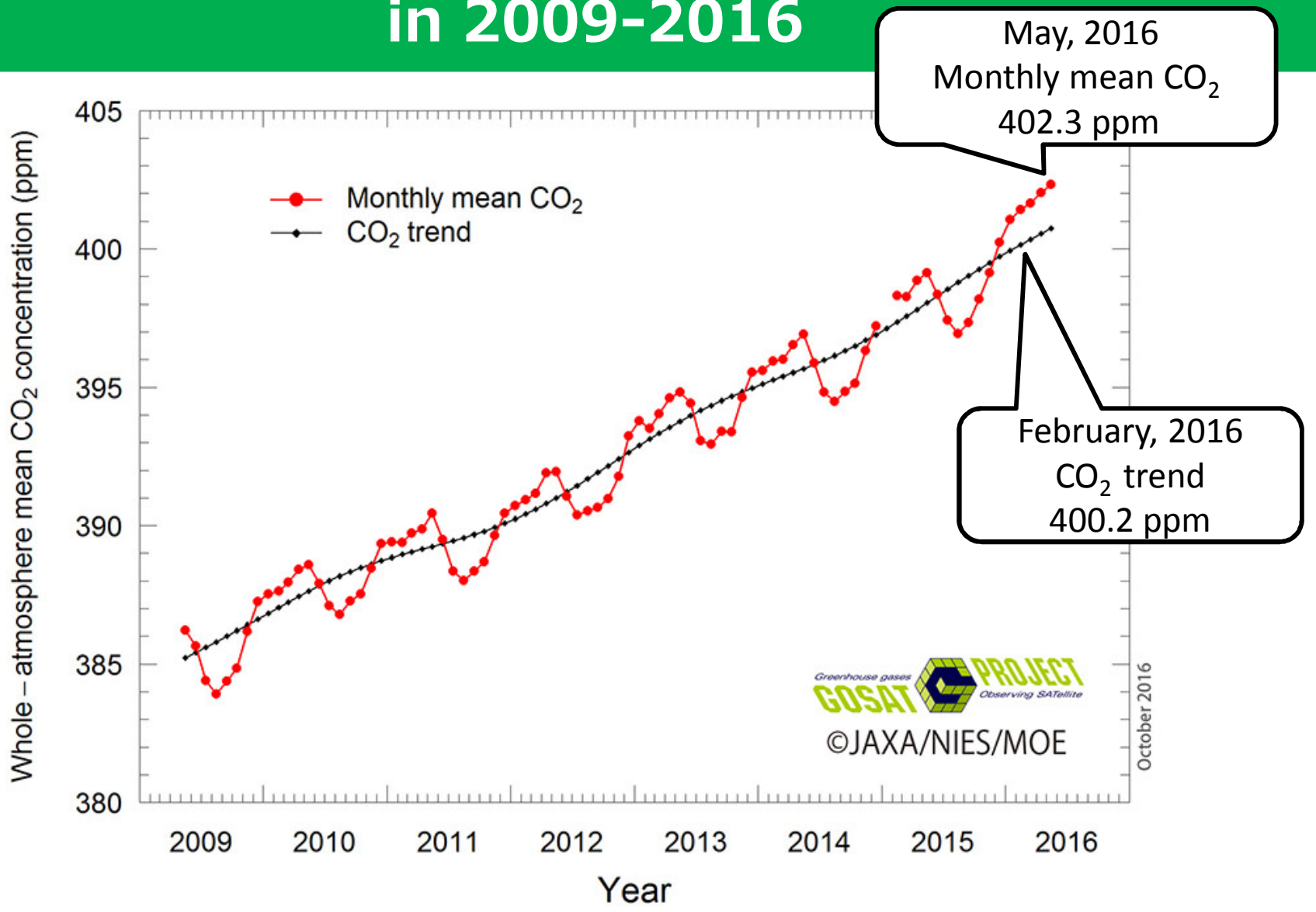
Launch of GOSAT in 2009

GOSAT (Greenhouse gases Observing Satellite) is the world's first satellite dedicated to greenhouse gas monitoring from space.

GOSAT was successfully launched in 2009, and has been monitoring the Earth's atmosphere and distributing data for more than seven and half years.

The successor, GOSAT-2, will be launched in FY2017 with more earth observation capabilities than GOSAT.

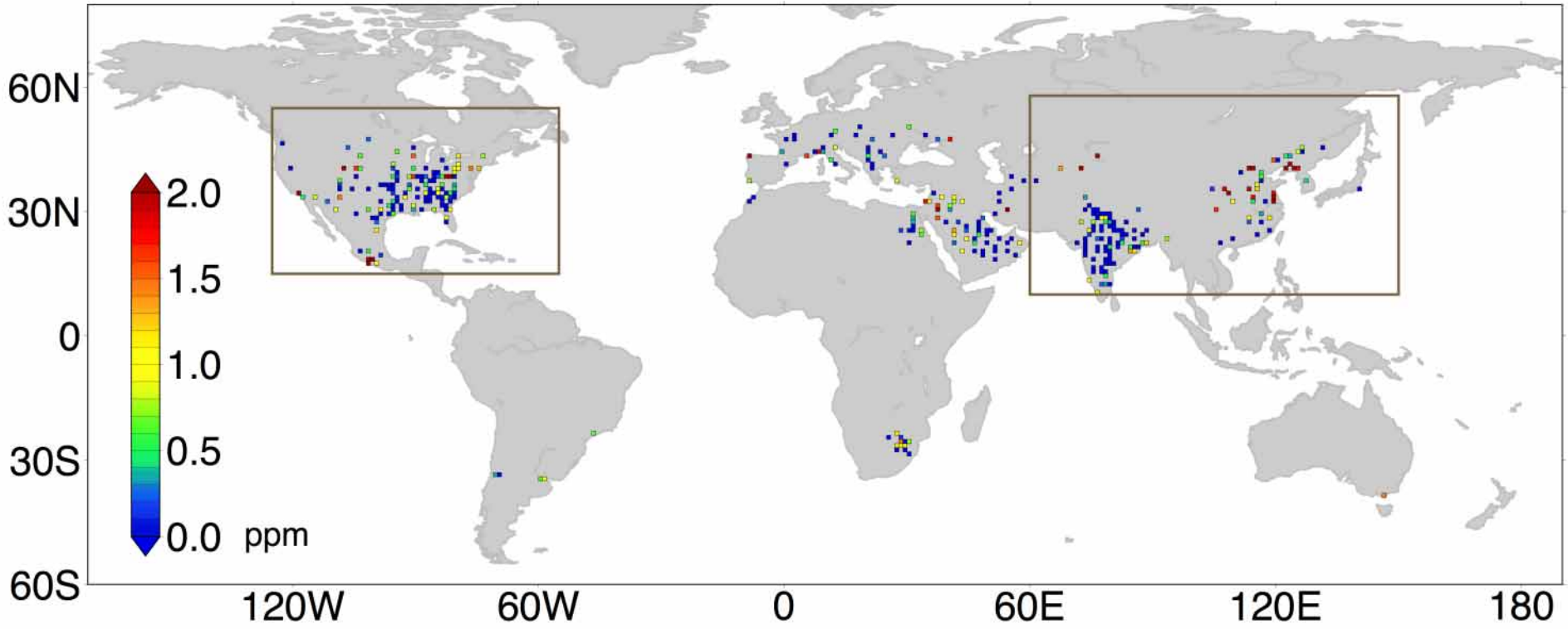
Whole-atmospheric CO2 concentrations in 2009-2016



◆ <u>The monthly average CO2 concentration exceeded 400 ppm in Dec 2015.</u>

Observation of anthropogenic CO2 concentration over Mega-Cities

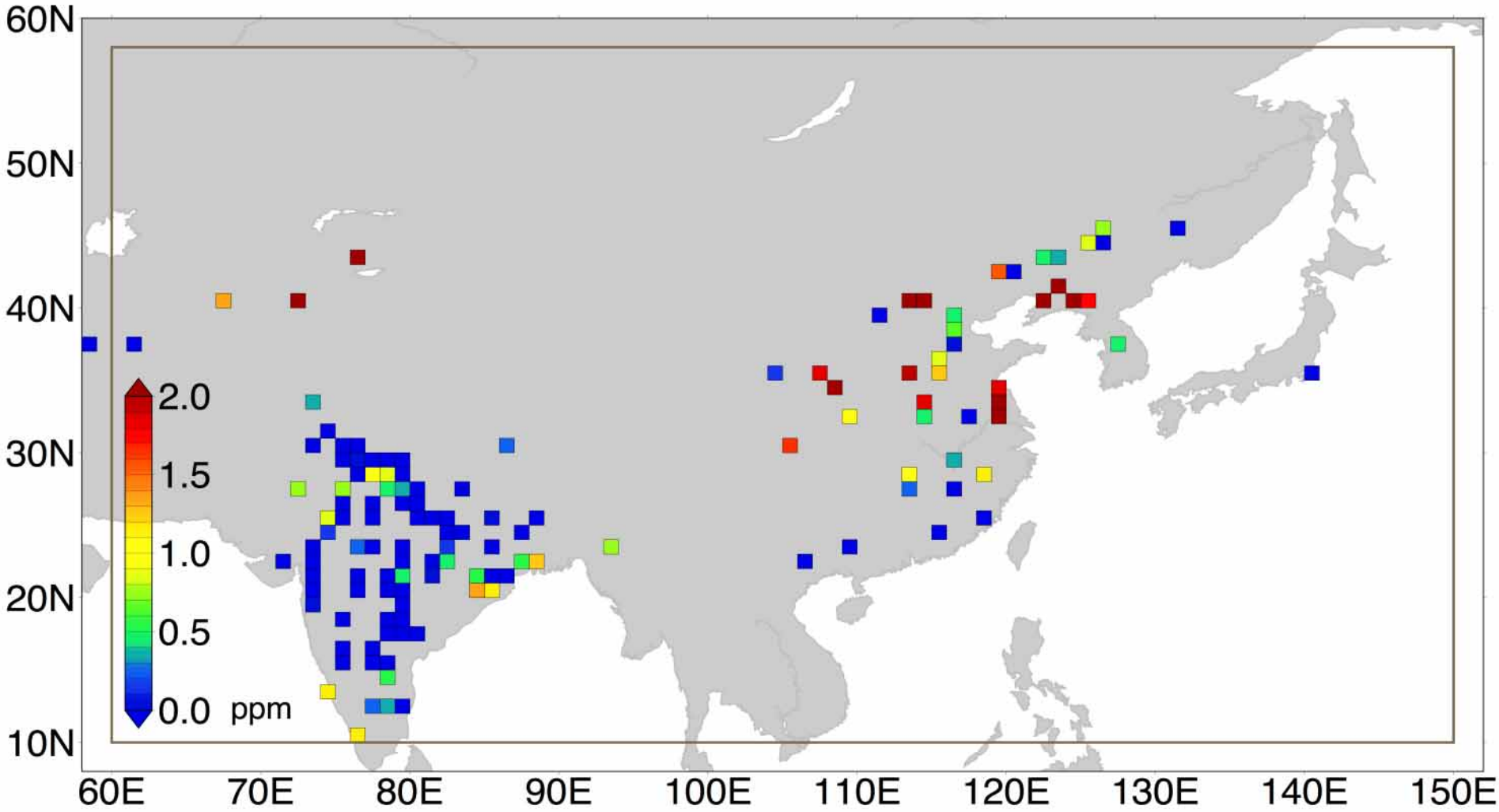
(data used from 2009 to 2014, analyzed 1deg. grid resolution)



- Distribution of anthropogenic CO2 concentrations estimated from observational data acquired by GOSAT.

Observation of anthropogenic CO2 concentration over Mega-Cities in Asia

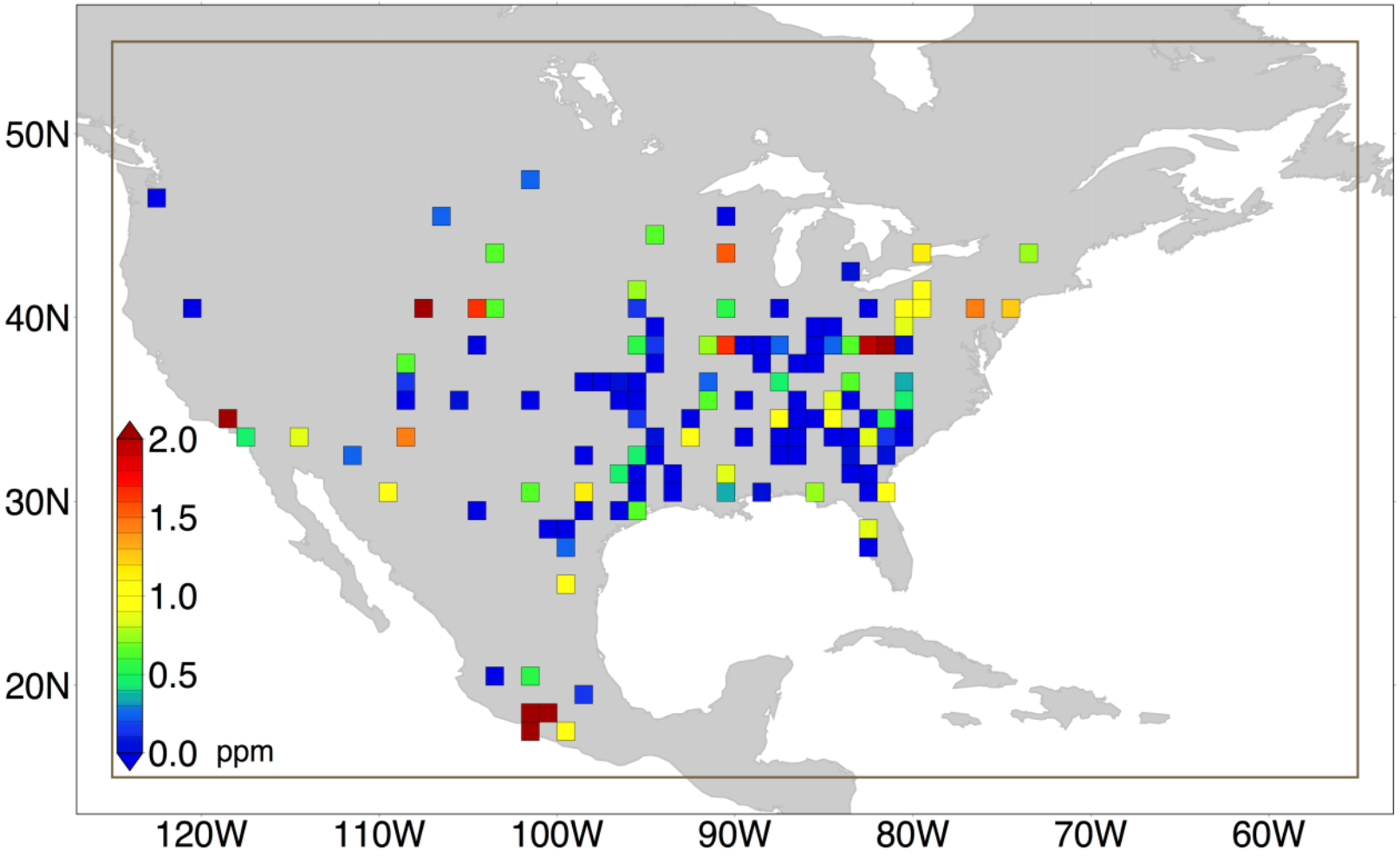
(data used from 2009 to 2014, analyzed 1deg. grid resolution)



◆ Distribution of anthropogenic CO2 concentrations estimated from observational data acquired by GOSAT.

Observation of anthropogenic CO2 concentration over Mega-Cities in Asia

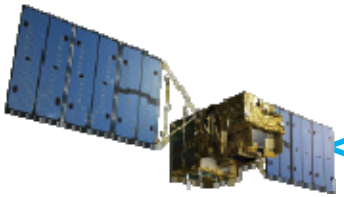
(data used from 2009 to 2014, analyzed 1deg. grid resolution)



- Distribution of anthropogenic CO2 concentrations estimated from observational data acquired by GOSAT.

Paris Agreement and GHG emission monitoring with satellite

- ✓ Parties will account for anthropogenic emissions and removals corresponding to their NDCs.
- ✓ Parties will provide national inventory reports under the transparency framework



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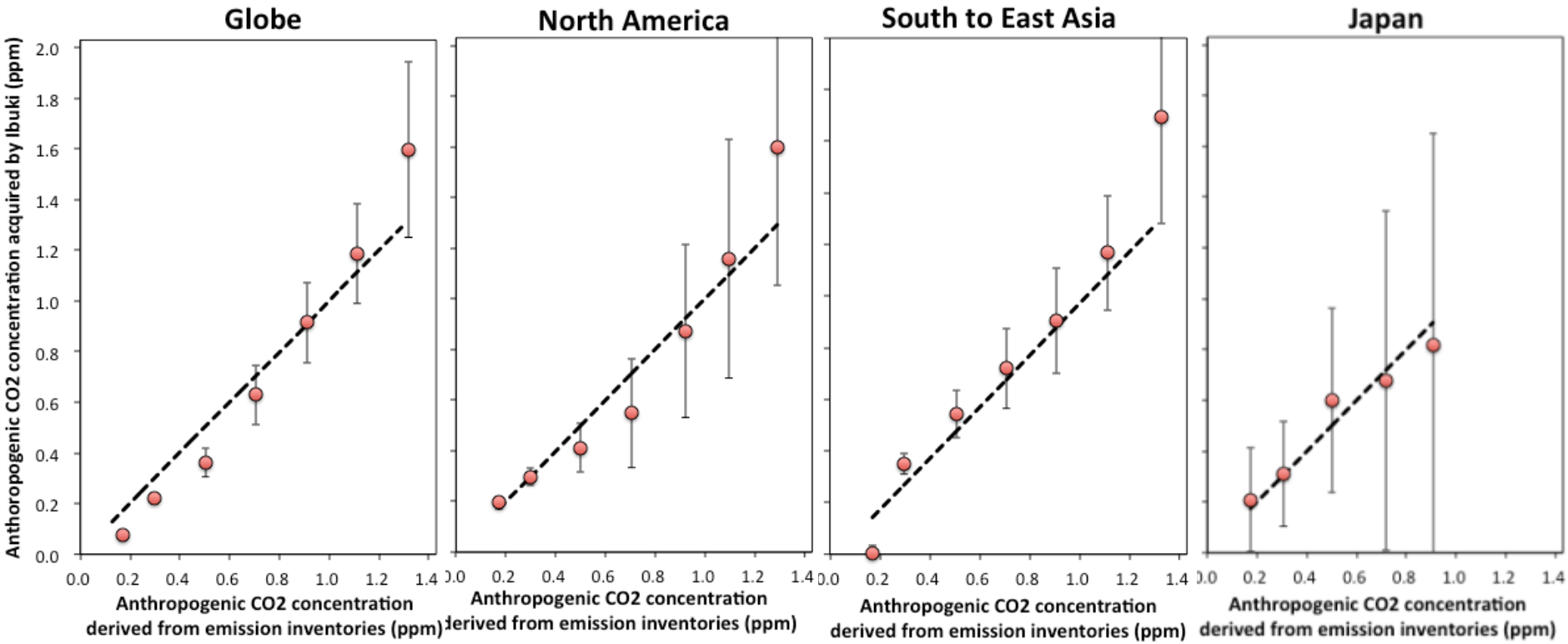
- Satellite can monitor the whole earth in the same way

- ✓ Verifying GHG emissions and removals with satellite date will be a key to verify accounting for anthropogenic GHG emissions and removals in more transparent way, which will contribute to promoting Paris Agreement.

GOSAT data vs Inventory data

- Estimate anthropogenic CO_2 concentrations over mega-cities in the world using GOSAT data.
- in Japan, this estimation roughly matches with estimation from inventories.



Press release Sep 2016

Way Forward

- ✓ GOSAT-2 will be launched in 2018
  - ✓ Data acquisition with higher resolution
- ✓ Will develop methodology to estimate anthropogenic GHG emissions and removals with satellites
- ✓ Will input to IPCC GHG Inventory Guidelines to enable all countries utilize GOSAT data for validating national reports on GHG emissions
  - ✓ Work for refinement of IPCC GHG inventory guidelines will be completed in 2019.
- ✓ Will promote training practitioners engaged in GHG inventories and accounting in developing countries with the guidebook.
- ✓ Will collaborate with other countries for monitoring GHG emissions