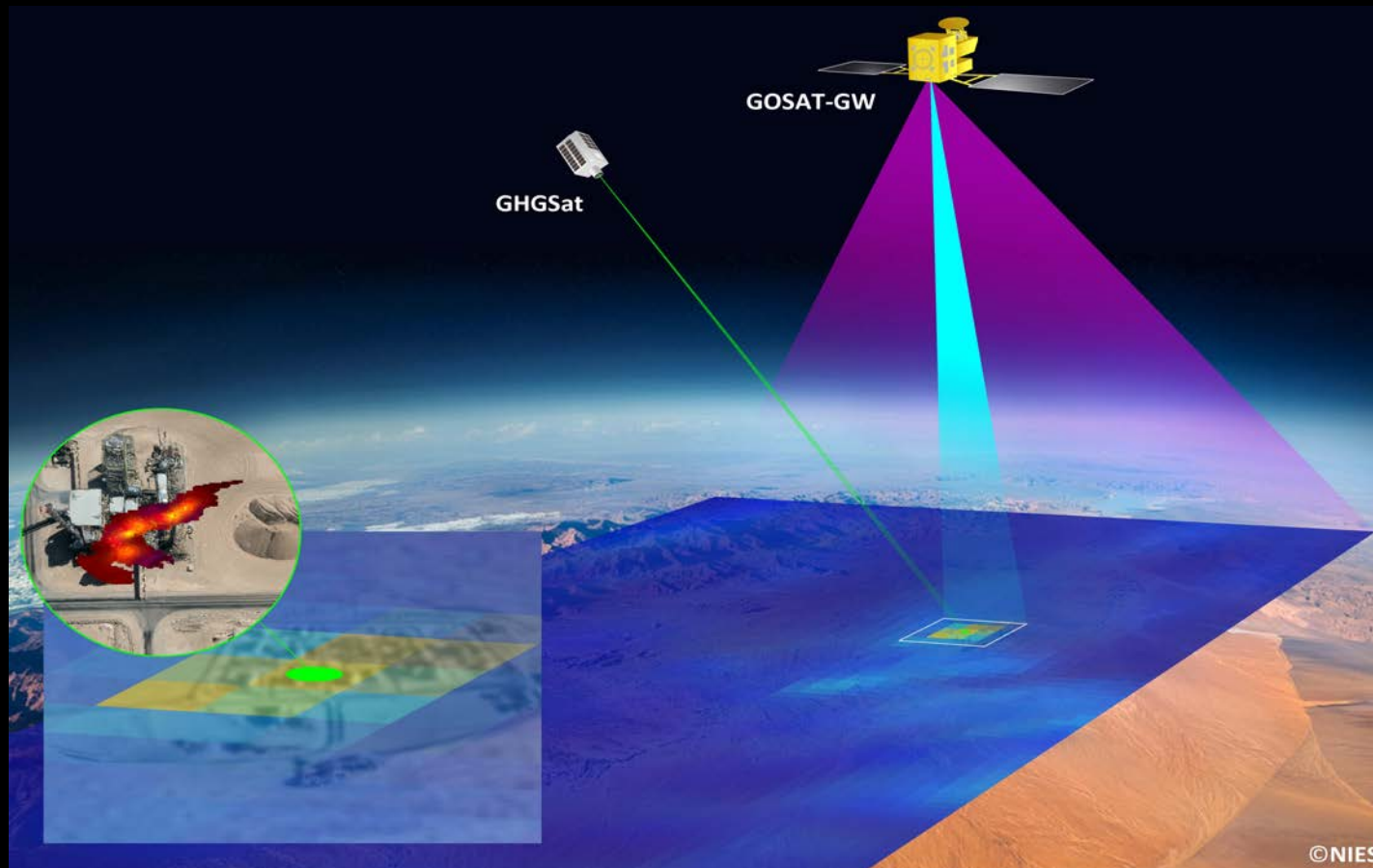


GOSAT-GW/TANSO-3: Tip-and-cue observations

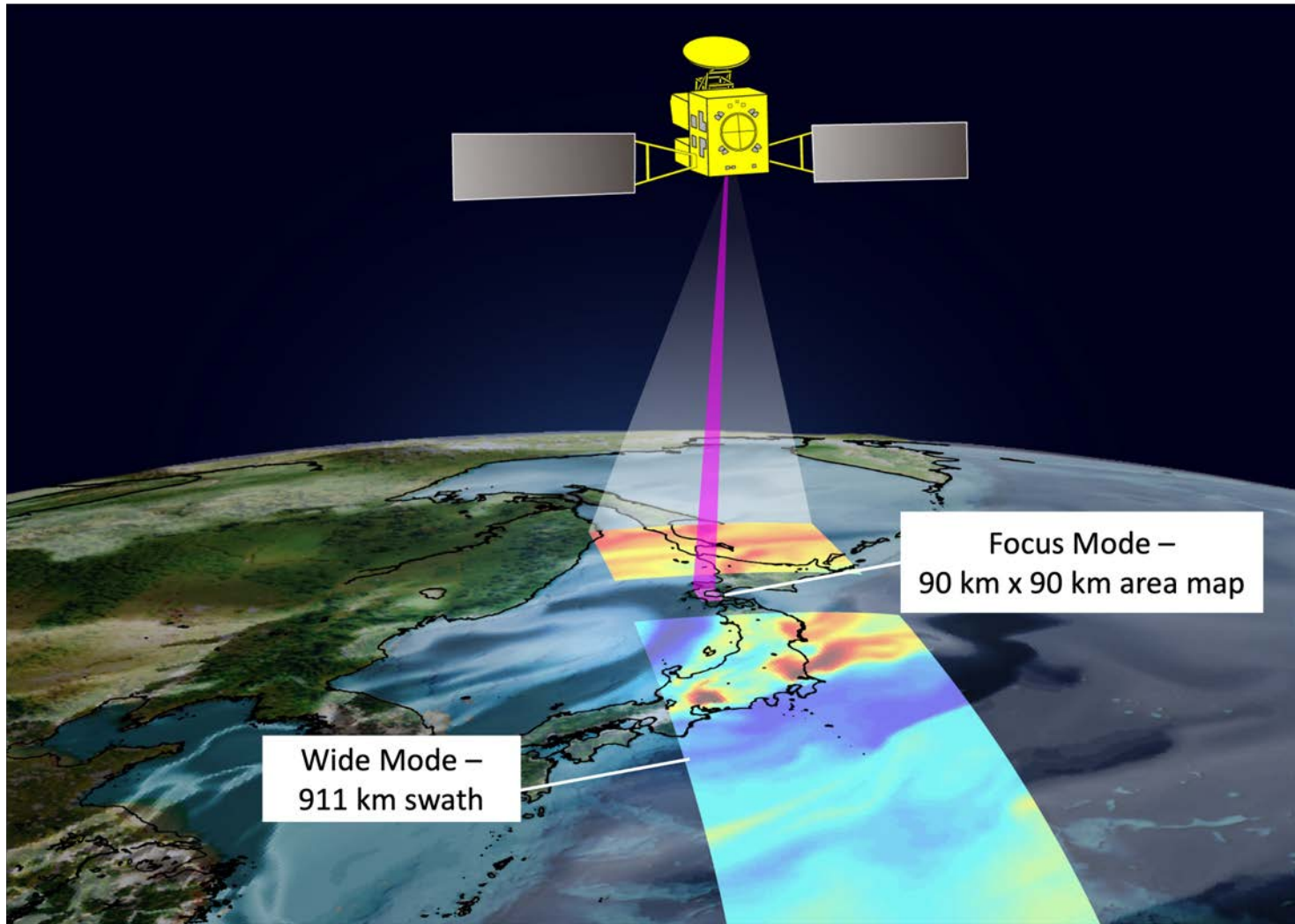


Hiroshi Tanimoto
National Institute for Environmental Studies, Japan

How can GOSAT-GW/TANSO-3 be useful for tip-and-cue obs.?

- To better identify and quantify hot spots – new sources, small emissions, accidental emissions, etc
- Wide mode, 911 km swath with 10x10 km² resolution
- Focus mode, 90x90 km² area with 1x1 – 3x3 km² resolution
- 3-day repeating cycle with a global coverage
- Focus mode - <90 obs. request within 3 days
- Products - Full Physics, Proxy CH₄, Matched Filter CH₄
- Latency – ...
- We initially put 10-25 sites, then added more per feedback from SRON and EDF

Wide mode and Focus mode of GOSAT-GW/TANSO-3



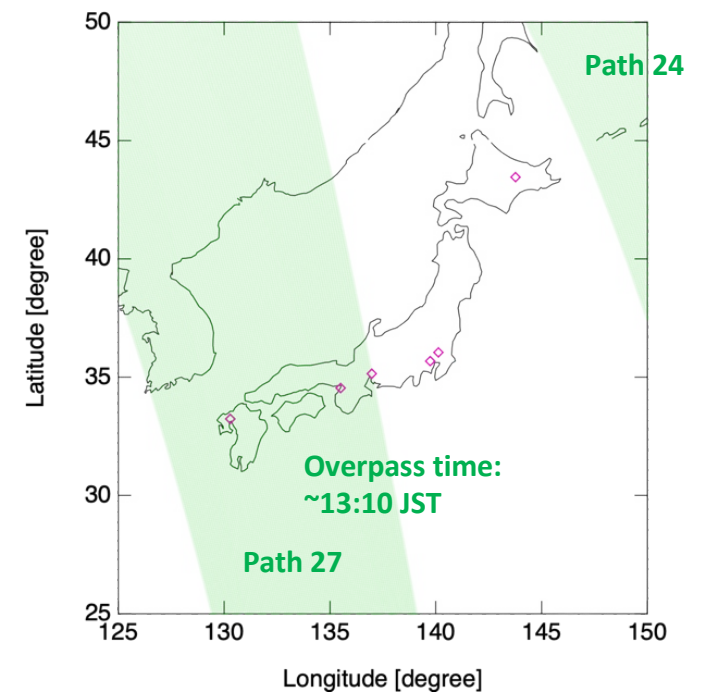
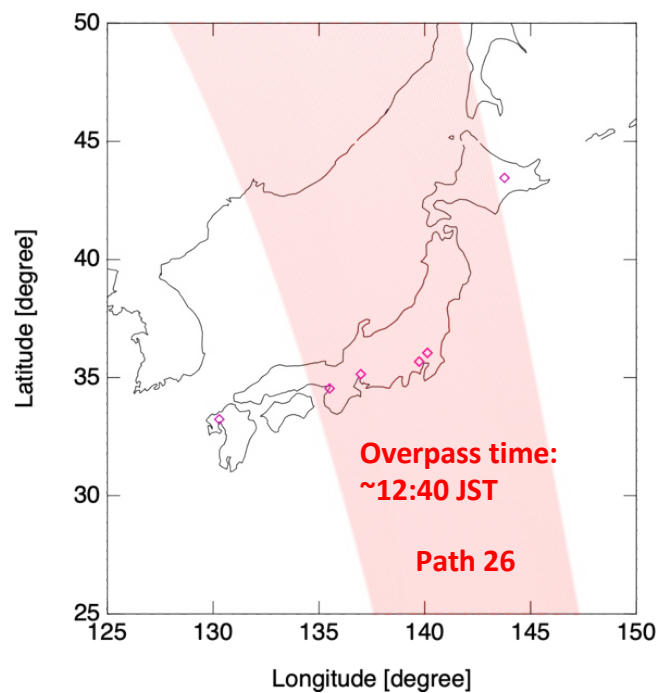
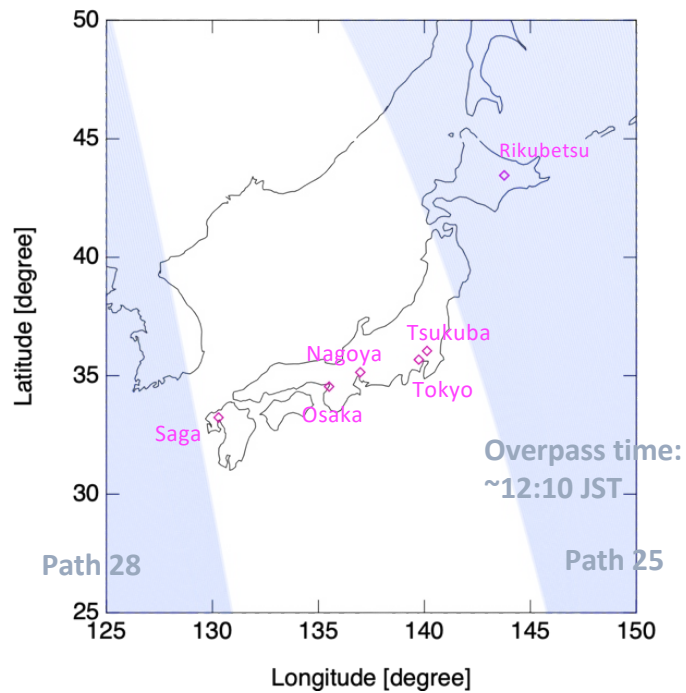
Focus Mode

- Target area $\approx 90 \text{ km} \times 90 \text{ km}$
- Footprint $\approx 1 - 3 \text{ km}$
- Push-broom, AT/CT Pointing Func.
- Optional, upon request

Wide Mode

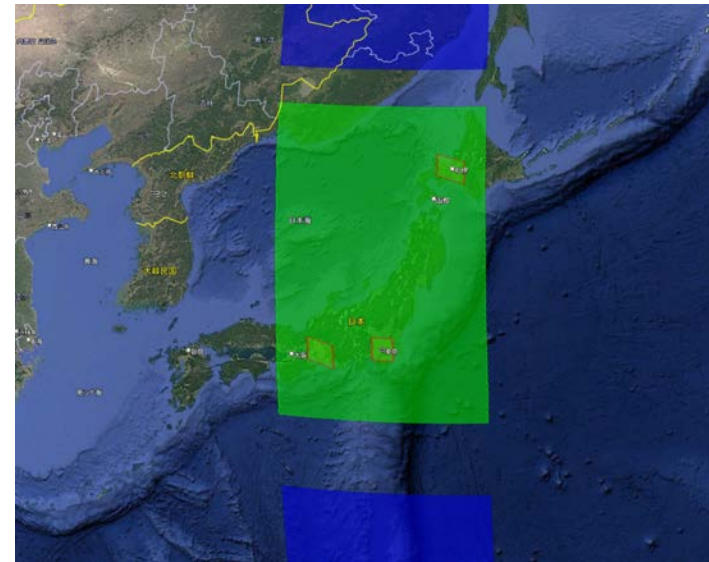
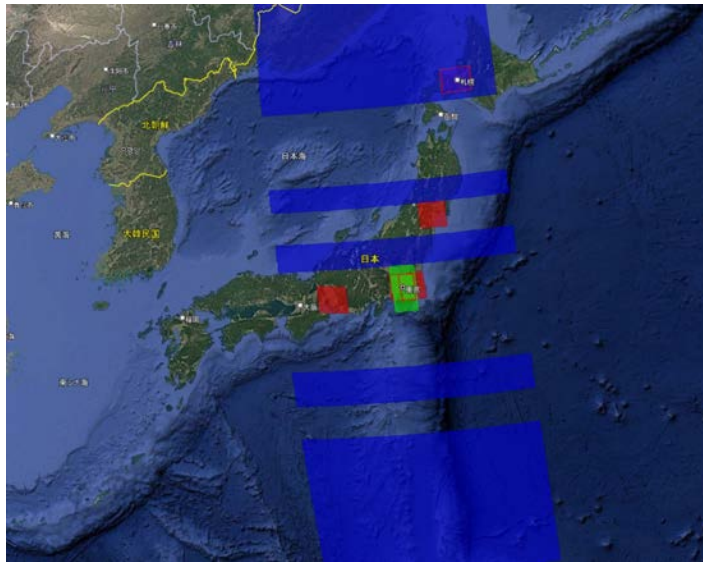
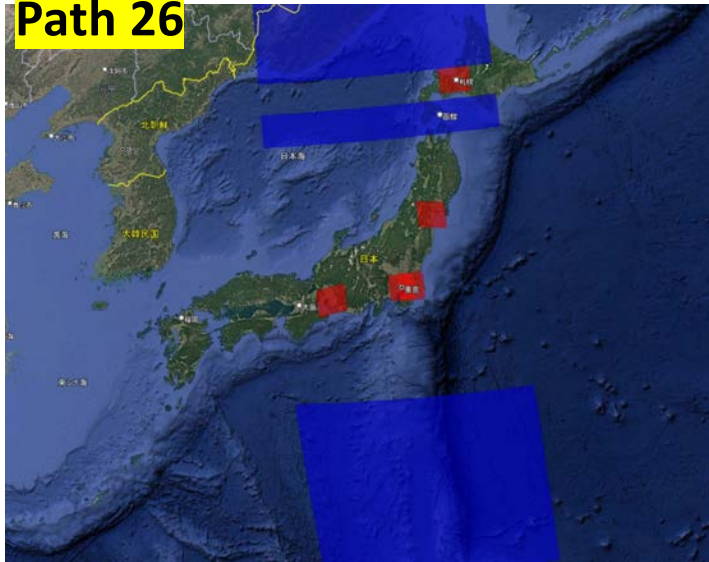
- Wide swath $\approx 911 \text{ km}$
- Footprint $\approx 10 \text{ km}$
- Push-broom, No AT/CT Pointing
- Standard operation

GOSAT-GW Overpasses

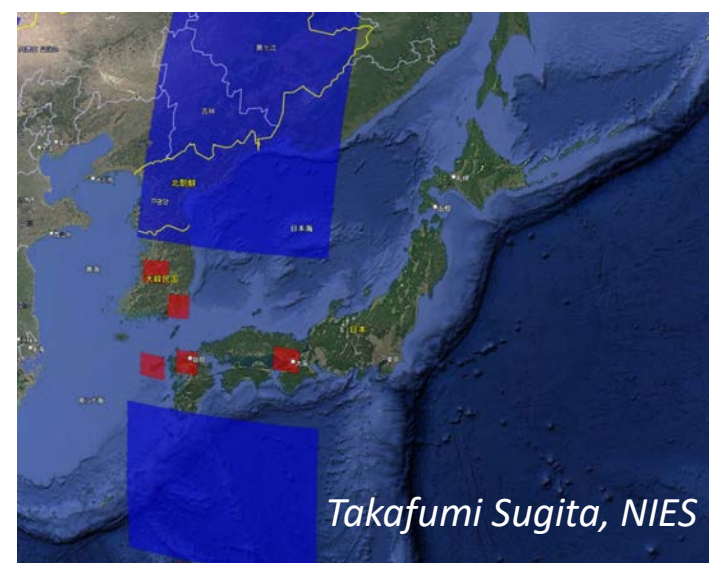
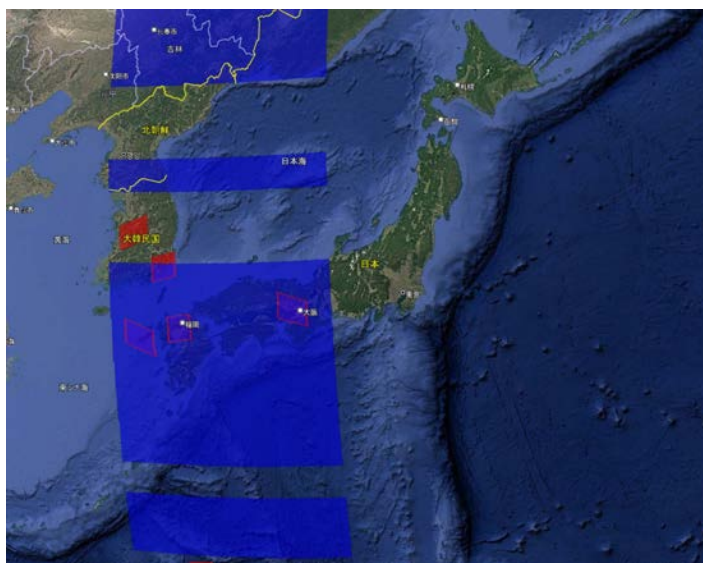
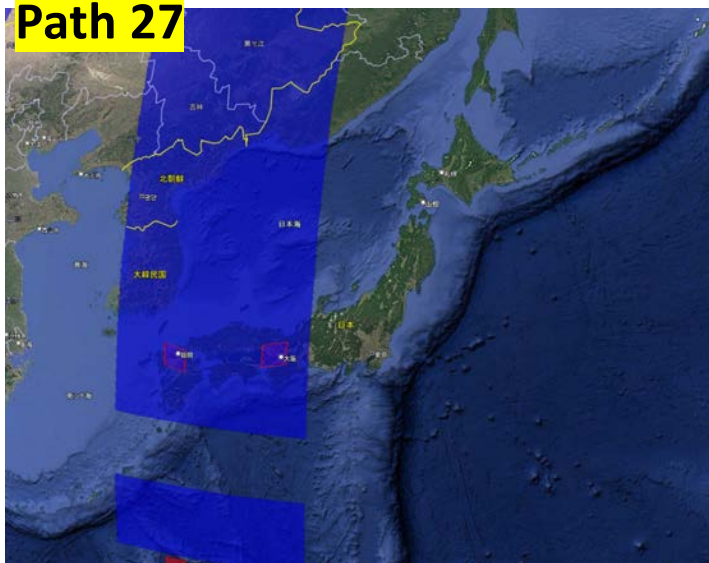


Sun	Mon	Tue	Wed	Thu	Fri	Sat
3/1	3/2	3/3	3/4	3/5	3/6	3/7
3/8	3/9	3/10	3/11	3/12	3/13	3/14
3/15	3/16	3/17	3/18	3/19	3/20	3/21
3/22	3/23	3/24	3/25	3/26	3/27	3/28
3/29	3/30	3/31	4/1	4/2	4/3	4/4

Path 26



Path 27



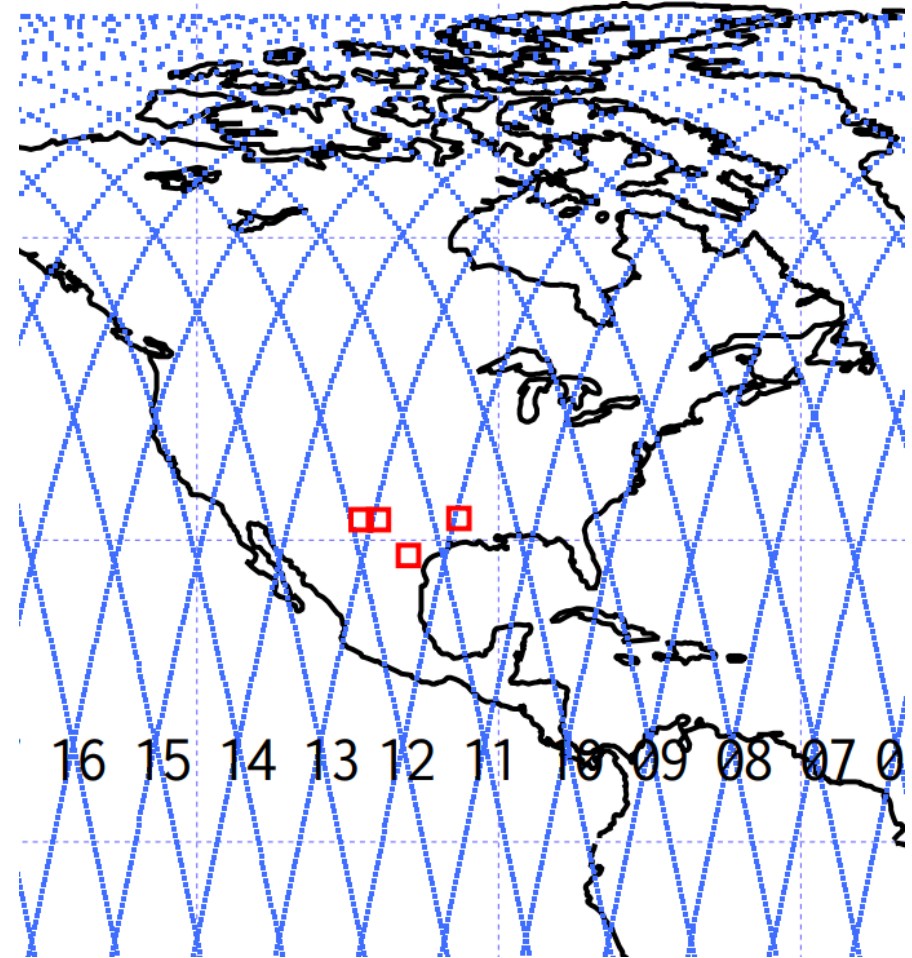
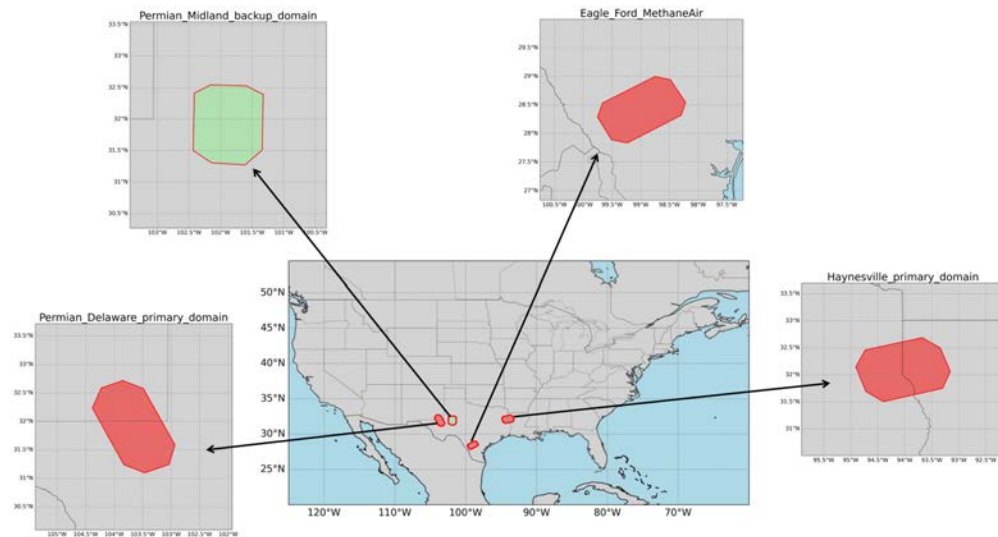
Takafumi Sugita, NIES

Focus mode observation plan for April 2026

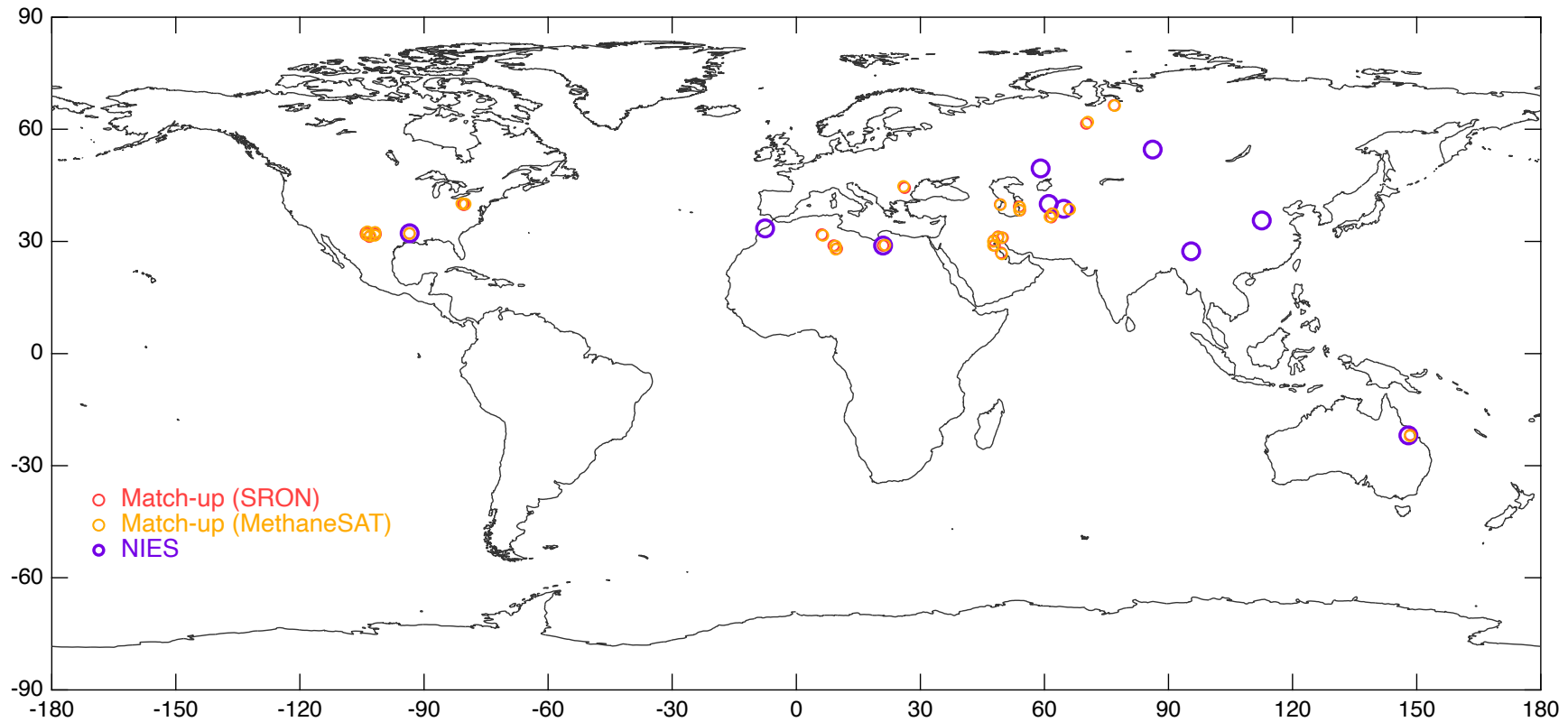


GW – MethaneAIR coordinated observations

- Hiroshi Tanimoto - Ritesh Gautam
- Takafumi Sugita - James Williams
- Successfully coordinated on 2025/9/21, 9/26, 9/29, 10/3 (MM/DD)



Focus mode observations for methane hot spots



TexAQS field campaign

- Chia-Hua coordinates with Brian McDonald, NOAA
- Laura Judd in contact with Carsten Warneke, NOAA
- The NASA G3 (with GCAS) will be flying from June 3-13th in the Texas area (draft flight tracks in blue and yellow attached as an image to show the general area). AVIRIS3 will also be collecting data on a King Air. Areas would include Houston, Dallas, San Antonio/Austin, and the Permian Basin.
- NOAA will also be flying their P-3 but with a wider flight date throughout Texas, I believe May 29-June 21st (Carsten and Sunil can correct if it's more dates than that).

 Chemical Sciences Laboratory

 TexAQS 2026

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TexAQS

Texas Air Quality Study



Where: Texas and New Mexico from Houston, Texas

When: May - June 2026

How: NOAA CSL will utilize the [NOAA WP-3D aircraft](#), equipped with a state-of-the-art chemical payload designed to measure a comprehensive suite of trace gases, greenhouse gases, and meteorological parameters. Staging from Houston in May 2026, the mission plans for approximately 55-80 flight hours.

Two decades after the landmark [TexAQS 2000](#) and [TexAQS 2006](#) campaigns, the [NOAA Office of Oceanic and Atmospheric Research \(OAR\)](#) in collaboration with the [NOAA National Environmental Satellite, Data, and Information Service \(NESDIS\)](#) will lead TexAQS 2026 to investigate the evolving atmospheric landscape of Texas air quality. While U.S. air quality has seen decades of improvement, more recent trends in ground-level ozone and fine particulate matter (PM_{2.5}) have improved only slowly or even degraded in some regions. Major Texas metropolitan areas, including Houston and Dallas, are in serious nonattainment of the 8-hour ozone standard. This study aims to update scientific understanding of these challenges in the context of shifting emission sources, influence of wildfires, transboundary air pollution, and progress made in the petrochemical sector.

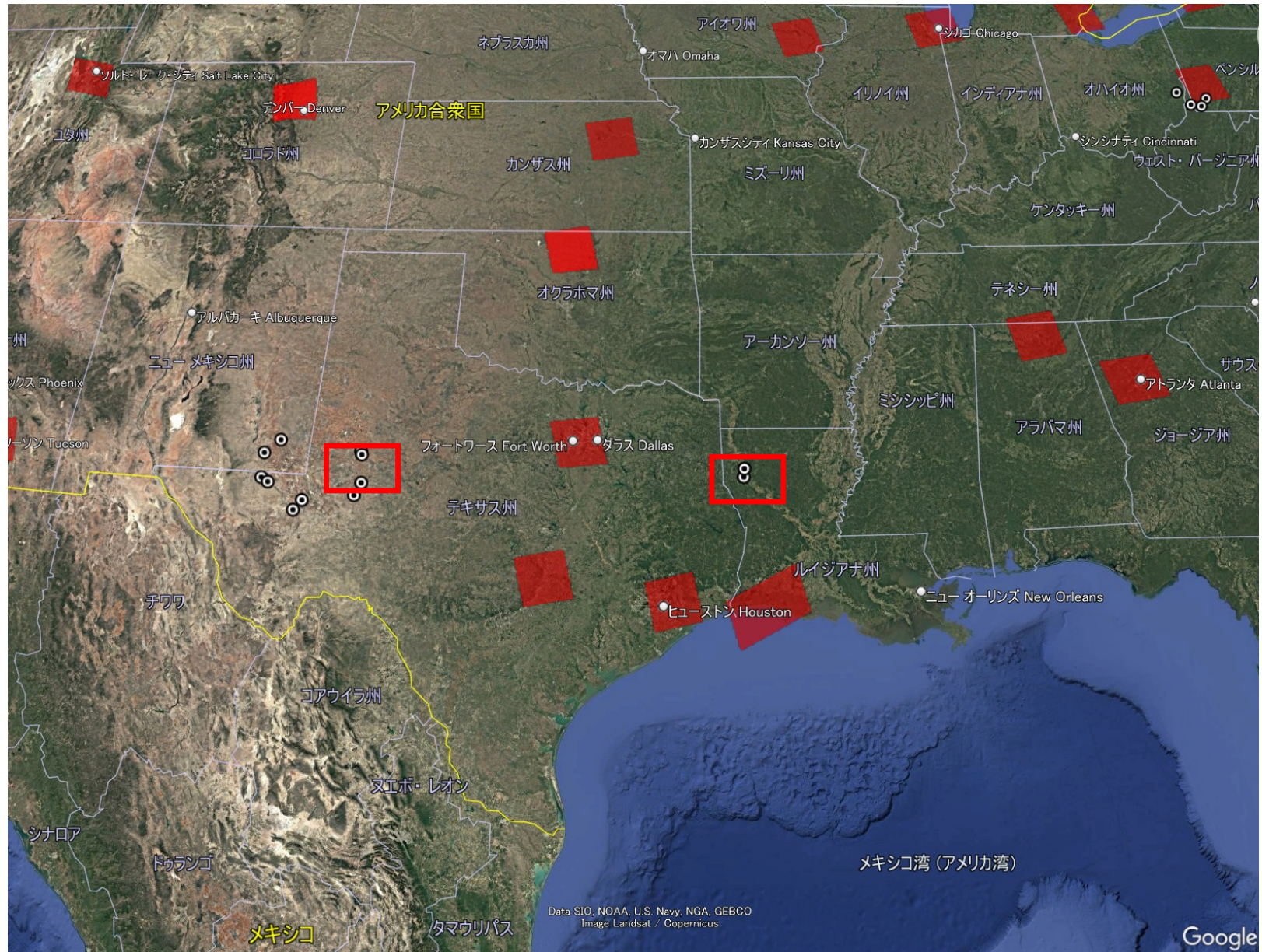


Houston, Texas skyline on a smoggy day. Photo: iStockphoto

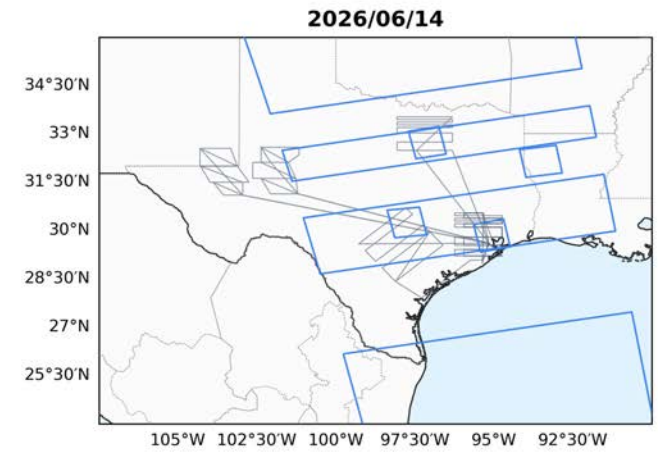
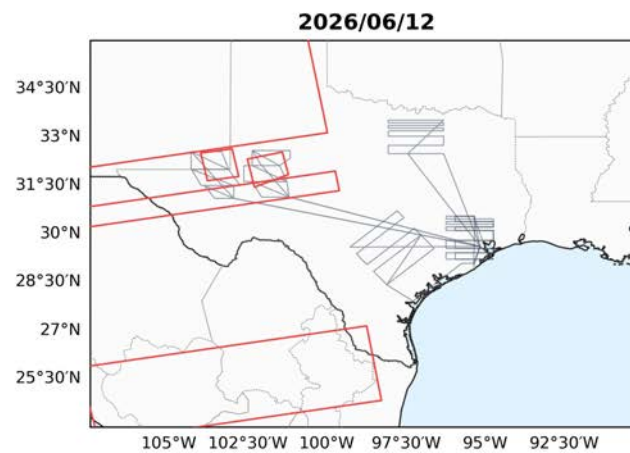
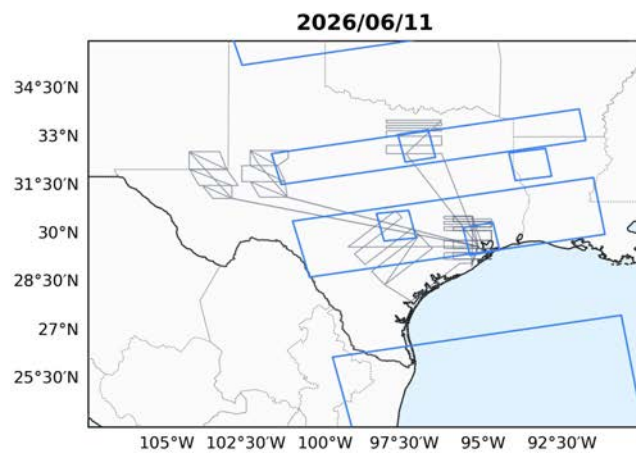
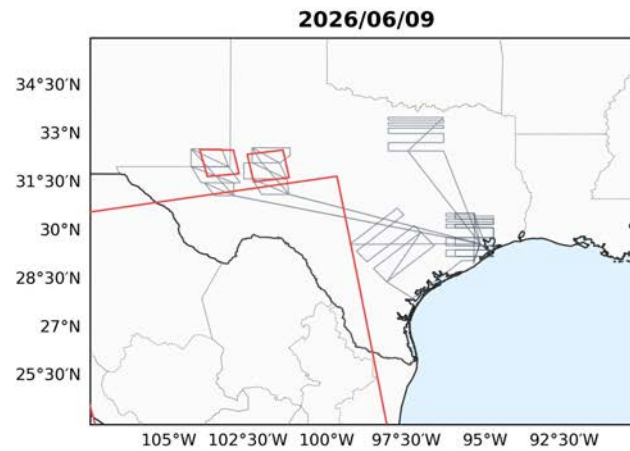
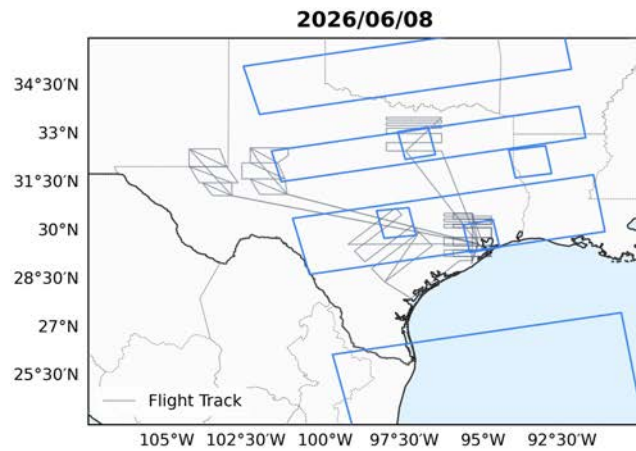
Continental US

-  Validation sites
-  May 25 week

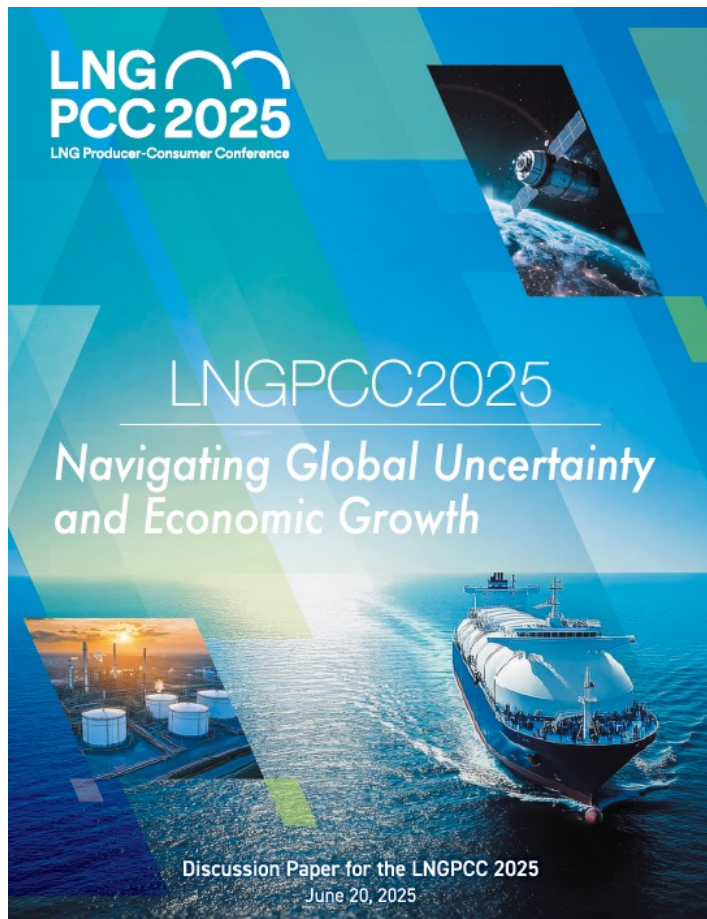
Takafumi Sugita, NIES



TexAQS field campaign



Japan's inter-agency collaboration with IMEO on methane



Joint Statement on Technical Collaboration and Data Transparency on Methane Abatement from LNG Value Chain by

Ministry of Economy, Trade and Industry of Japan (METI)

Ministry of Environment of Japan (MOE)

Japan Organization for Metals and Energy Security (JOGMEC)

National Institute for Environmental Studies (NIES)

“MOE, NIES and UNEP’s IMEO will collaborate on the usage of data from GOSAT-GW when it becomes available, and IMEO will integrate the data from GOSAT-GW into IMEO’s Methane Alert and Response System (MARS), which notifies government and industry stakeholders of large emissions to enable swift mitigation.”



METI
Ministry of Economy, Trade and Industry

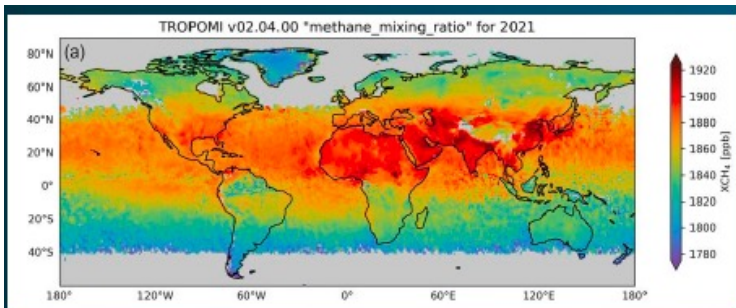


Ministry of the Environment
Government of Japan

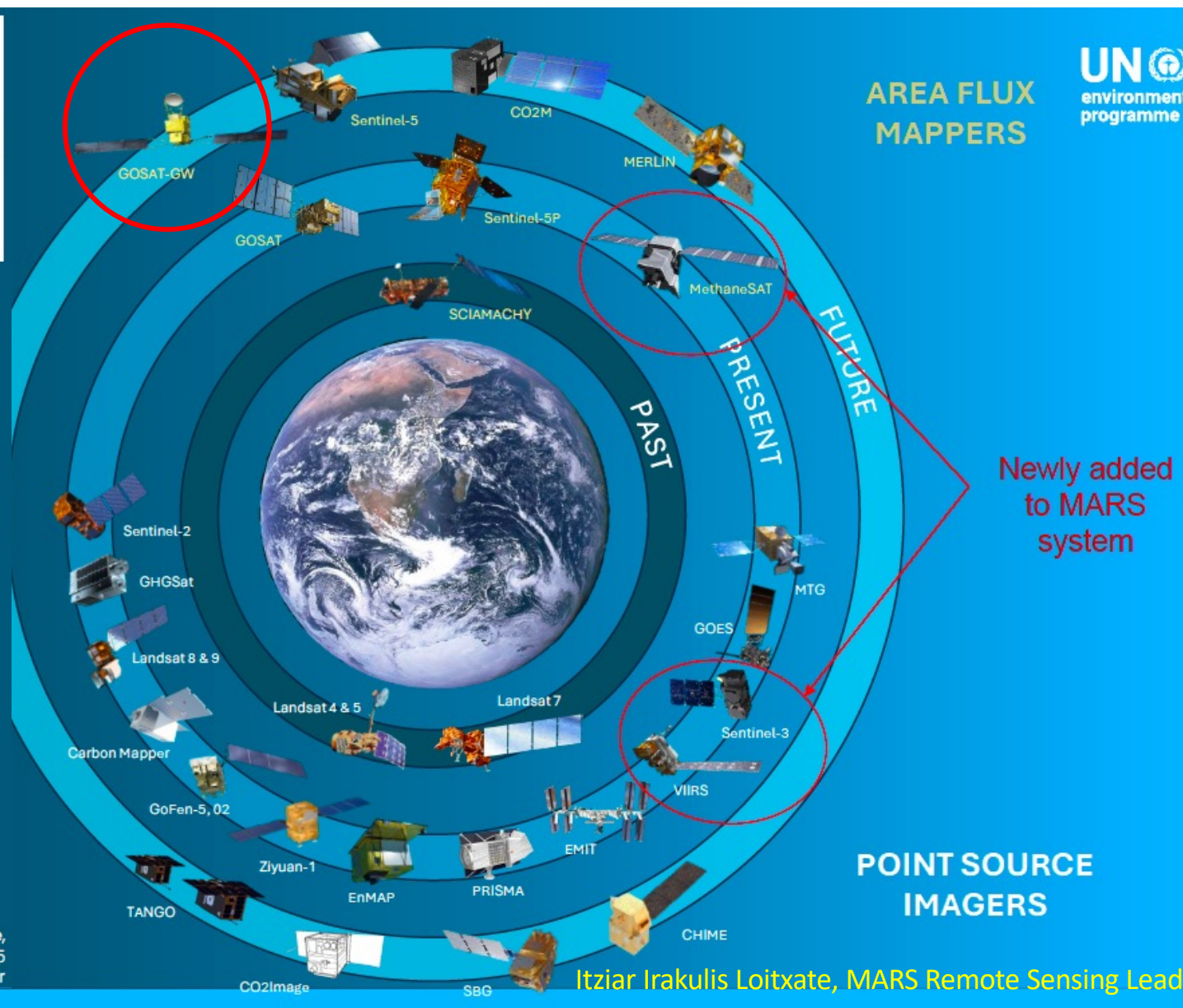
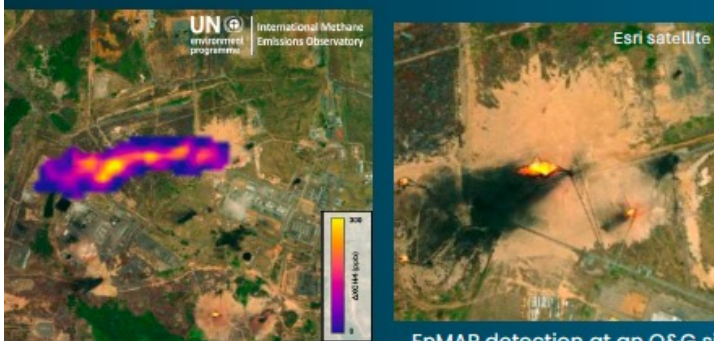
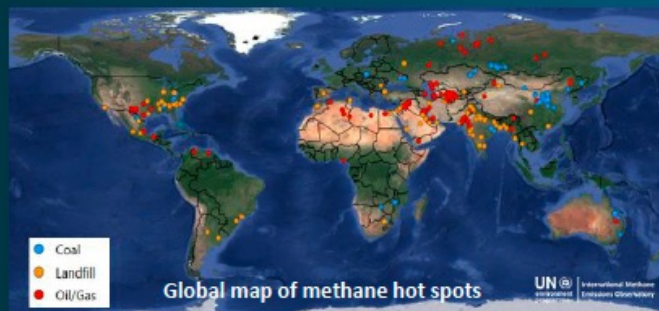


JOGMEC





TROPOMI+GOSAT blended product. Balasus et al. 2023. AMT



TROPOMI-detected Methane Plumes 21/02/2026 - 27/02/2026

43 Plumes

• 10 tons hr^{-1}

• 100 tons hr^{-1}

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Methane
plume maps



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