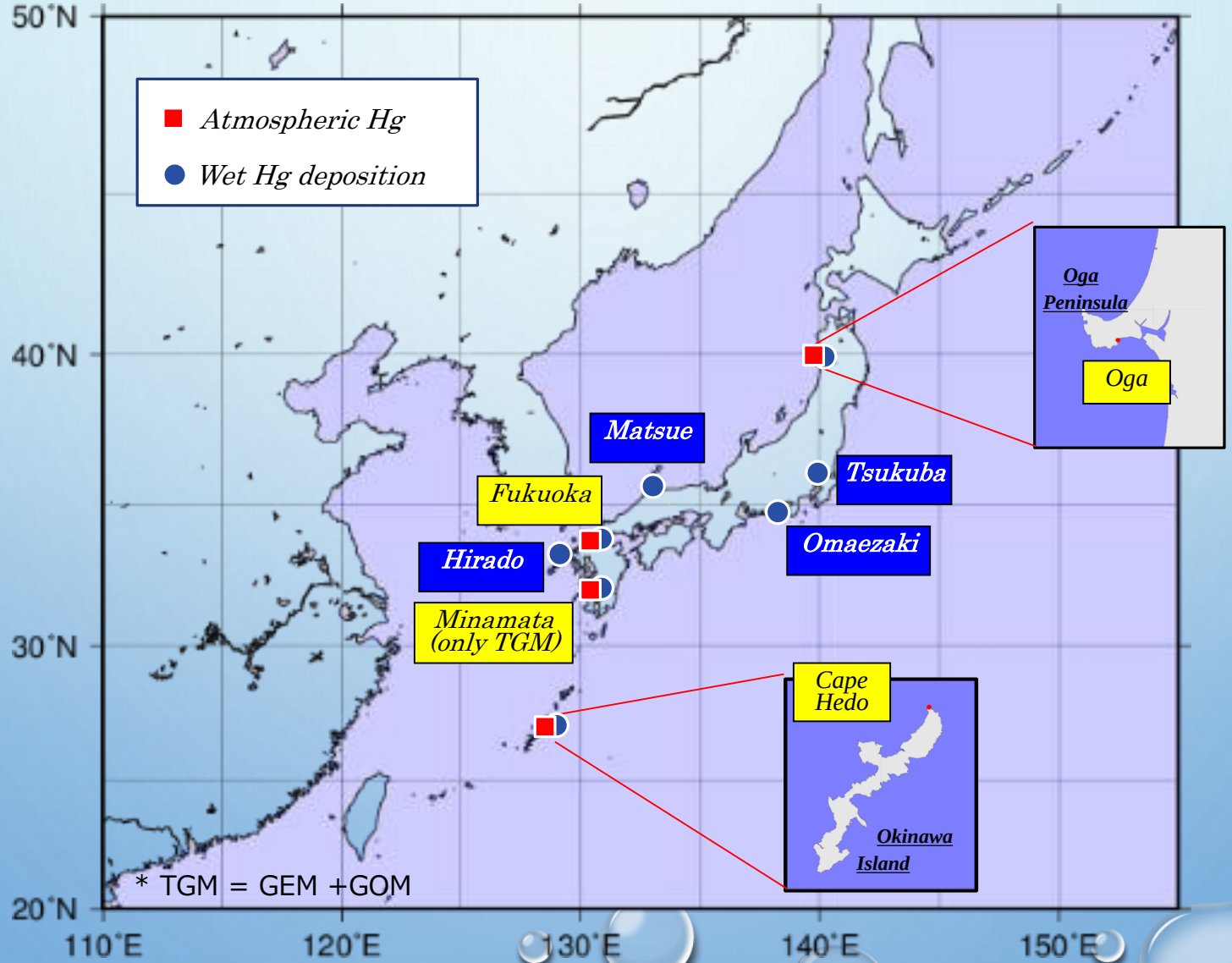
CONTINUOUS ATMOSPHERIC MERCURY MONITORING ACTIVITIES IN JAPAN 2021

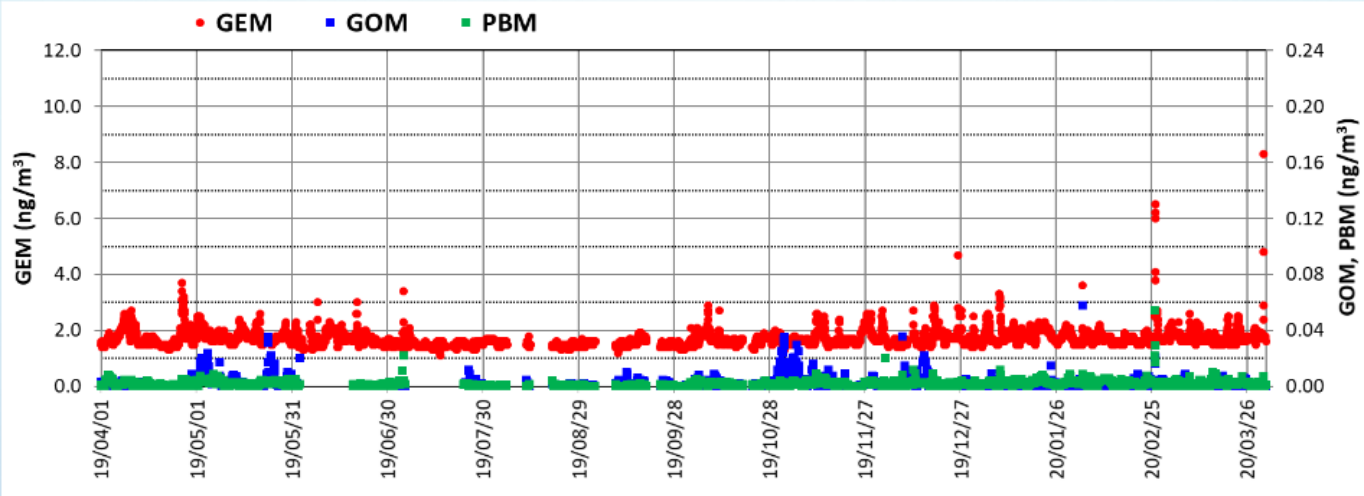
APMMN online meeting 2021

Japanese Atmospheric Mercury Monitoring Network (Monitoring sites)

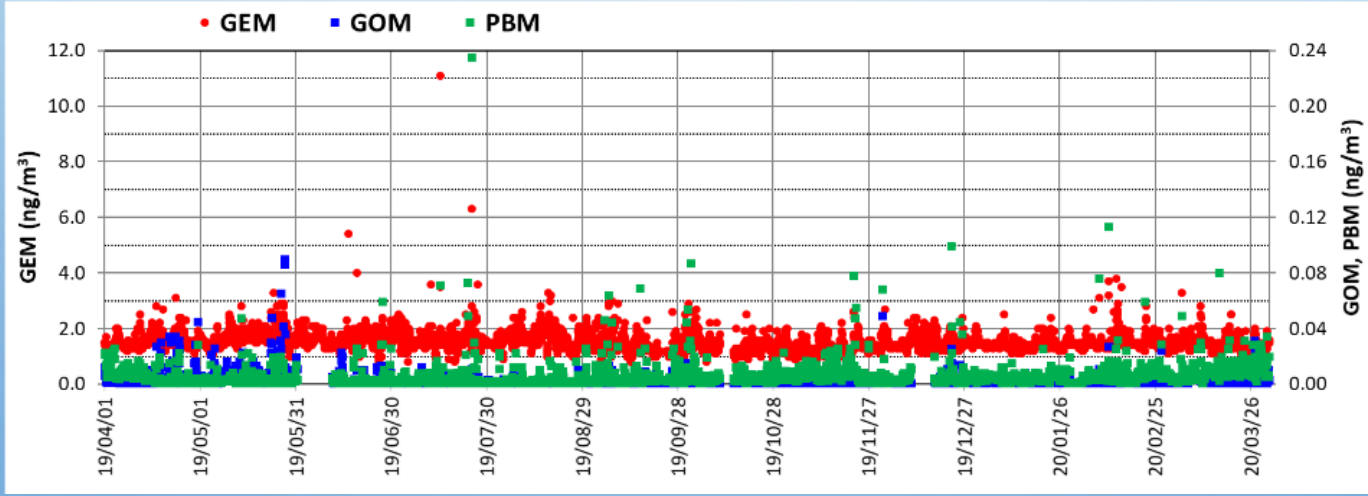


Observations of Mercury Species at Cape hedo and Oga, Akita

Cape Hedo, FY2019 (Apr 2019-Mar 2020)

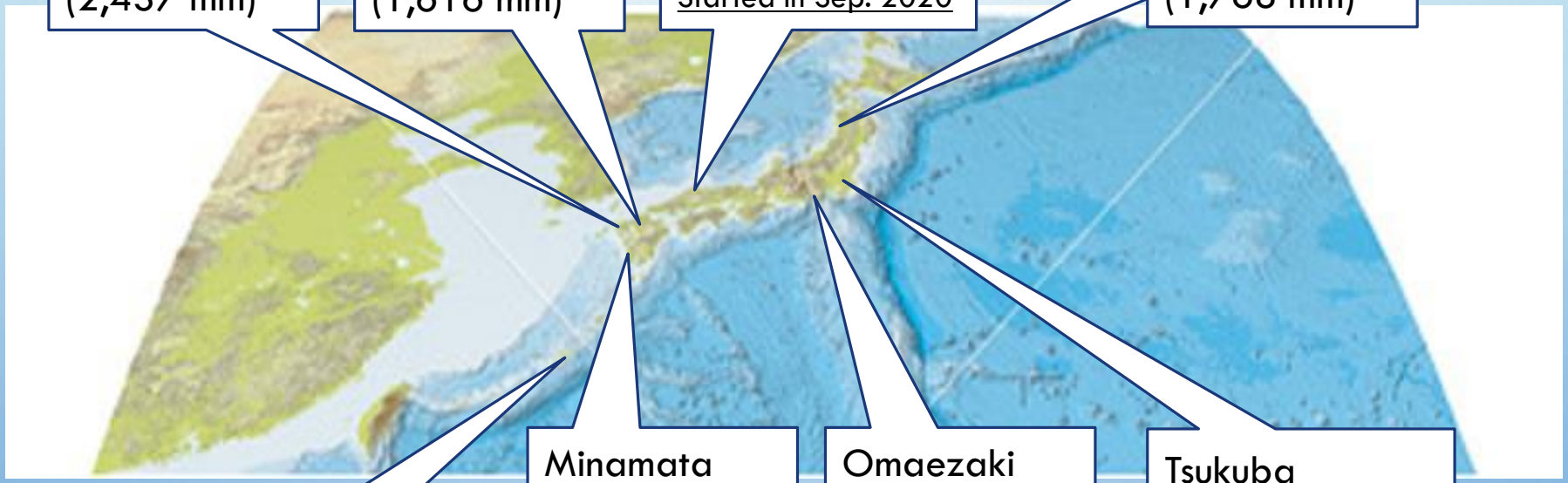


Oga, FY2019 (Apr 2019-Mar 2020)



Annual average total Hg concentration in wet deposition at all sites in Japan

FY2019 (Apr 2019-Mar 2020)



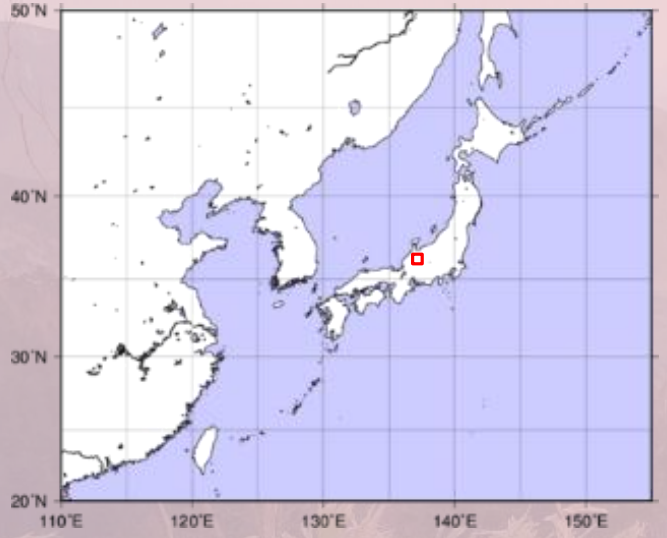
OTHER ACTIVITIES

- **CONTINUING**
  - CONTINUOUS ATMOSPHERIC MERCURY MONITORING IN HIGH ALTITUDE (MT. NORIKURA)
    - SITE RELOCATION
  - MONITORING OF ATMOSPHERIC MERCURY IN LARGE PARTICLE MATTER

- **NEW CHALLENGE**
  - COMPARISON OF THE 3 TYPE OF METHOD (CONTINUOUS ACTIVE, MANUAL ACTIVE, PASSIVE SAMPLING)

ATMOSPHERIC MERCURY MONITORING ON HIGH-ALTITUDE SITE

- NORIKURA MONITORING STATION (36.17 N, 137.52E, 1950M A.S.L.) IN 2019-2020

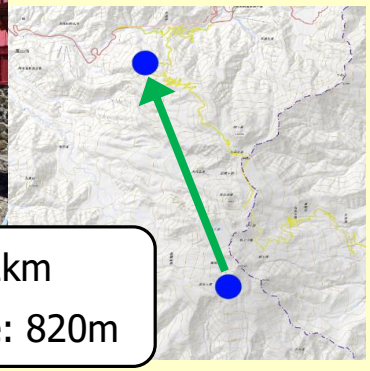


Monitoring in 2019
24 Jun 2019 – 1 Oct 2019 (3 months)

Monitoring in 2020
12 May 2020 - 8 Jul 2020

(Blackout caused by heavy rain → Suspended)

In 2021,
Norikura Observantly
(Institute for Cosmic Ray Research, University of Tokyo
(36.11 N, 137.55"E, 2770m a.s.l.)



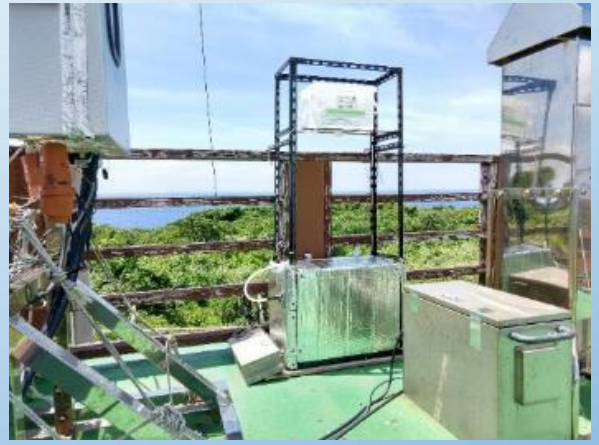
Distance: 6.52km
Altitude Difference: 820m

Map tile Source: Geospatial Information Authority of Japan
(https://cyberjapandata.gsi.go.jp/xyz/std/{z}/{x}/{y}.png)

Monitoring in 2021
8 Jul 2021 - 3 Aug 2020

(The observatory was closed by spreading of COVID-19)

MONITORING OF MERCURY IN LARGE PARTICLE MATTER OF ATMOSPHERE



PBM by Tekran 1135 indicates the particle smaller than 2.5μm.
To obtain the information of mercury in large particle (>2.5μm) and calculate its dry deposition flux, mercury in total particle matter sampled by filter pack method has been measured in speciated mercury monitoring sites (Cape Hedo, Fukuoka and Oga).

COMPARISON OF THE 3 TYPE OF METHOD
(AUTOMATED ACTIVE, MANUAL ACTIVE, PASSIVE SAMPLING)

Automated active sampling

Manual active sampling

Passive sampling

Four seasonal methodological comparison is on-going at 2 monitoring sites,

- Automated continuous (Tekran)
- Manual Active: 24h sampling x 28days
- Passive: 28days sampling

Thank you for your attention