

Water-Rock Interaction WRI-17 Applied Isotope Geochemistry AIG-14 In SENDAI 2023

# Matsushima-Ishinomaki field excursion

20 August 2023

#### **Overview**

We will visit the Shiogama Marine Gate (the departure and arrival point for ships and sightseeing boats), cruise Matsushima Bay (one of Japan's three most scenic views) which is dotted by over 200 small islands, Zuiganji Temple which originally founded in 828, and the Okawa elementary school where more than 80 pupils and teachers lost their lives in the 2011 tsunami (Great East Japan Earthquake).



## Schedule

8:00 - 8:30 International center in Sendai city

8:30 – 9:20 Sendai city to Shiogama Marine Gate (Stop 1)

### Matsushima Bay cruise

9:30 - 10:50 Shiogama Marine Gate to Matsushima by ship (Stop 2)

11:00 – 12:00 Zuiganji Temple (Stop 2)

12:00 - 13:00 Lunch

13:00 – 15:00 The Matsushima to the Tsunami disaster area of 11<sup>th</sup> March 2011 (**Stop 3**: Okawa elementary school).

15:00 - 16:30 Return to back Sendai city.



Marine Gate Matsushima Ba





Zuiganji Temple Okawa elementary schoo







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Matsushima and Ishinomaki areas at Miyagi prefecture consists of mainly pre-Tertiary rocks, and are located in the South Kitakami terrane (SK). The SK is a large domain of dominantly continental Paleozoic rocks and is an important source of information concerning Japan's geological links to the east Asian continental margin. Pre-tertiary rocks composes mainly of Neogene (23-2.58 Ma) Matsushima (pumice tuff, sandstone, and siltstone), Ajiri (tuffaceous sandstone, tuff, conglomerate, sandstone, and siltstone), and Sauramachi Formations (andesite volcanic breccia and tuff breccia).

**Stop 1:** The Shiogama marine gate is the departure and arrival point for ships that travel between Shiogama and Urato Islands, remote islands off of Shiogama, and it is also where sightseeing boats go to and from Mastushima, one of Japan's three most scenic spots, making it the gateway to sightseeing in Matsushima. In the Shiogama marine gate, Neogene (Ajiri formation) tuffaceous sandstone, tuff, conglomerate, and alternating sandstone and siltstone are dominant.

**Stop 2:** During ship trip from Shiogama to Matsushima, we will observe Ajiri formation and Neogene Matsushima formation (Mt: pumice tuff with andesite fragments) as well as group of islands. At Matsushima, we will observe Neogene pumice and Holocene sand, and visit the Zuiganji Temple. Zuiganji is one of the Tohoku Region's most famous and prominent Zen temples and the family temple of masamune Date, a famous feudal lord of the Age of Civil Wars of the 15<sup>th</sup> and 16<sup>th</sup> centuries. The temple was originally founded in 828.



**Stop 3:** The Okawa elementary school where more than 80 pupils and teachers lost their lives in the 2011 tsunami is located about 4 kilometers from the coast and has exhibits to remember the calamity that beset the are on March 11, 2011, as well as an area where visitors can pray for the victims.



