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Guided by
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The 2nd International Association of Geochemistry (IAGC) Conference
Water-Rock Interaction WRI-17
Applied Isotope Geochemistry AIG-14
in SENDAI 2023

WRI-17/AIG-14 Mid-session geological field trip
Mt. Zao (蔵王)

Overview

Mount Zaō (蔵王連峰) is a 1,841-meter-high active volcano between Yamagata Prefecture and Miyagi Prefecture in Japan, having a crater lake called "Okama". It is one of Tohoku's most famous attractions, offering spectacular views from the top. It is possible to access the top by car. You will enjoy the volcanic excursion on the top of Zao mountain. Zao fox village is an open contact area for visitors and foxes, where foxes can walk freely and live in nature.



A sketch of 27thSep1895 eruption (Kochibe, 1896)



Younger products

altered lavas

↑Robanomimiiwa

Stop 2

Schedule

Meeting & Dismissal :
Sendai International Center

8:30-10:00 Sendai city to Mt. Zao

Stop 1: Daikokuten
(10:00-10:30)

Stop 2: Kattadake
(11:00-12:00)

Lunch @Zao peak rest house

12:45-13:45 Mt. Zao to Zao Fox Village

Stop 3: Zao Fox Village

15:30-16:30 Return back Sendai city



Geological overview of Zao volcano

Zao volcano is situated in the central part of the Quaternary volcanic front of the NE Japan arc. Volcanic activity commenced at about 1 Ma, and has continued to the present day. The youngest stage of Zao volcano began at about 35 ka, when the horseshoe-shaped Umanose caldera (1.7 km in diameter) was formed.

Numerous small to medium-sized eruptions have occurred since then. A small cone, Goshikidake, which emerged during those 2 kyr, has been formed in the inner part of the caldera. The Crater Lake Okama is located in the cone. The newest eruption of the crater Okama occurred in AD1895.

Stop 1 Daikokuten

View of eruption products in different ages. Old lavas altered to whitish color widely distribute, which are covered by younger age products.

Robanomimiwa is composed of ca. 1 million years aqueous eruption products.

Stop 2 Kattadake

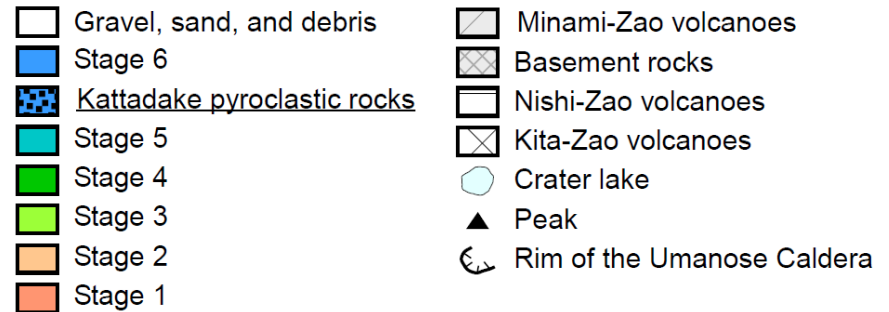
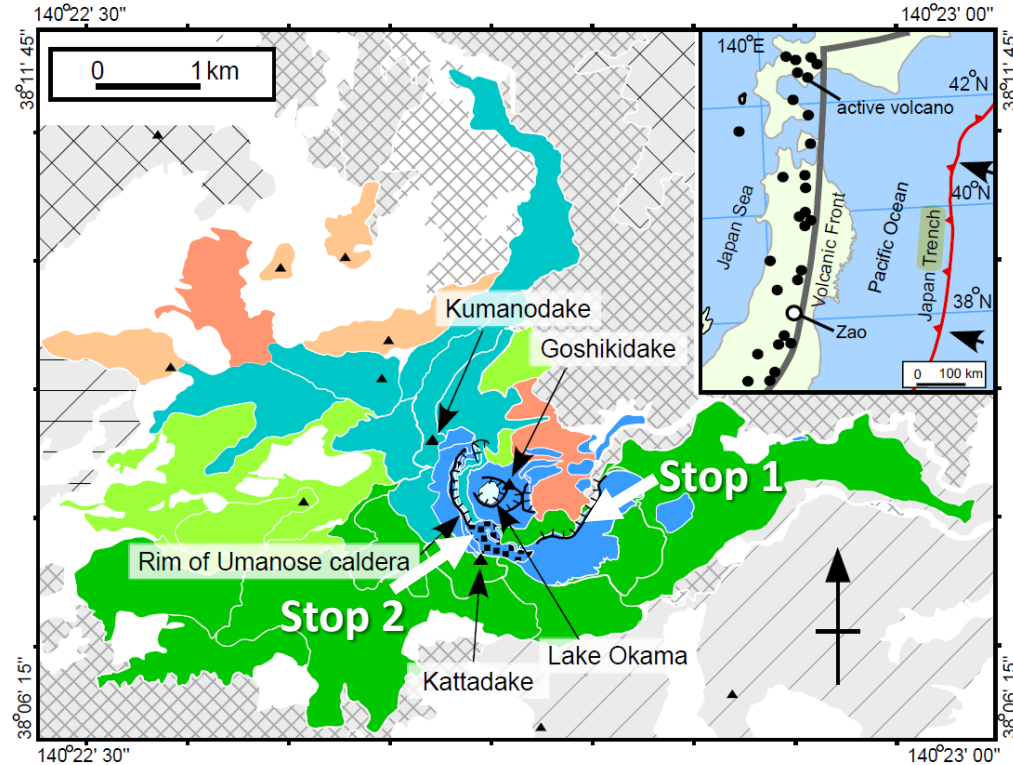
Great view of inner part of Umanose caldera. Lavas and associated pyroclastic rocks of ca. 130-40 ka are well exposed in the main part of the caldera wall. Pyroclastics of youngest stage drape these older products.

Whitish gray deposits covering Goshikidake and Umanose area were formed by the 1895 eruptions.

Stop 3 Zao Fox village

Being a 'village' that is filled with over 100 animals and 6 different types of foxes, Zao Fox Village is one of the best places in Japan to go and see foxes. The foxes freely roam a preserve which visitors can enter.

Zao volcano



Geological map of Zao Volcano

after Ban et al.(2015), redrawn by Takebe et al. (2021)