23-25 August 2023

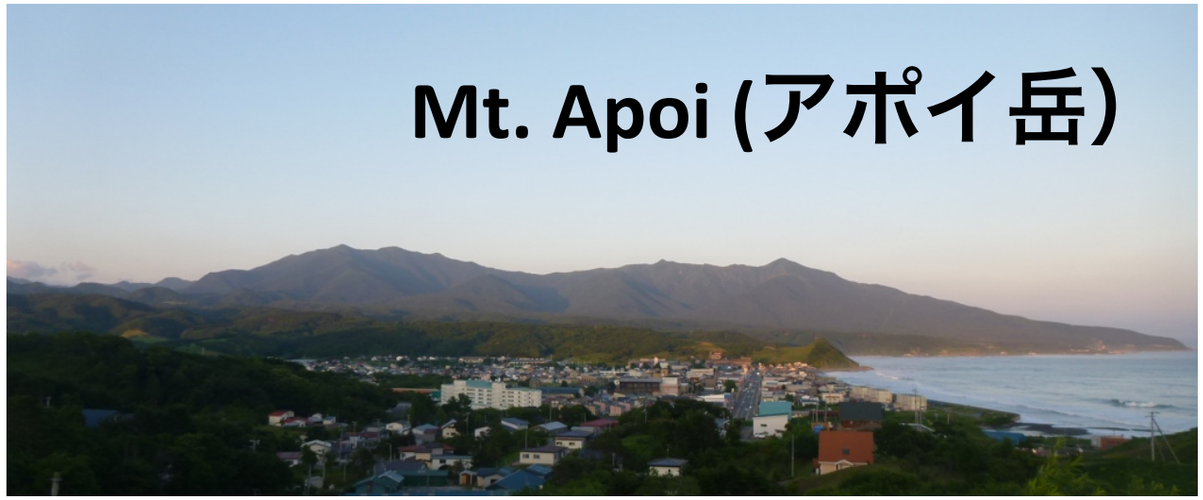
Horoman Peridotite Field Excursion

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

Guided by Morishita, T.
(Kanazawa Univ)

The diversity of peridotite in the mantle

Ultramafic rocks, i.e., peridotites and pyroxenites, occur in a variety of tectonic settings on Earth. The origin and history of ultramafic rocks are expected to provide information on the processes of partial melting and melt migration/extraction in the mantle. The Horoman peridotite is famous for its low serpentinization and the variety of peridotite and mafic rock types. The Horoman field trip will allow you to see the petrological variations and their systematic distribution. This will be a long hike with an elevation gain of c.a. 800 meters. Hike is not difficult, but you need to be in good physical condition.



Schedule

Schedule may change due to weather conditions.

Meeting: Shin-chitose Airport, 11:00, 23rd Aug
Dismissal: Shin-chitose Airport, 12:00, 25th Aug

Day 1, (23rd Wed.) Moving to Samani

Stop 1 Peridotite Plaza in front of Samani Town Hall
https://www.apoi-geopark.jp/english/file/pdf/apoi_kodou_en.pdf

Day 2, (24th Thu.) Mt. Apoi

Stop 2 The fifth station: Fertile plagioclase peridotite

Stop 3 The sixth station: Depleted harzburgite and exotic ultramafic block

Stop 4 The seventh station: Cumulus peridotite and meta-gabbro

Stop 5 Uma-no-se: Overview

Option 1: If all conditions permit, layered mafic-ultramafic sequence

Stop 6: Aoidake Geopark Visitor Center

Option 2 : Cape Erimo

Day 3, (25the Fri.) Moving to Shin-Chitose Airport

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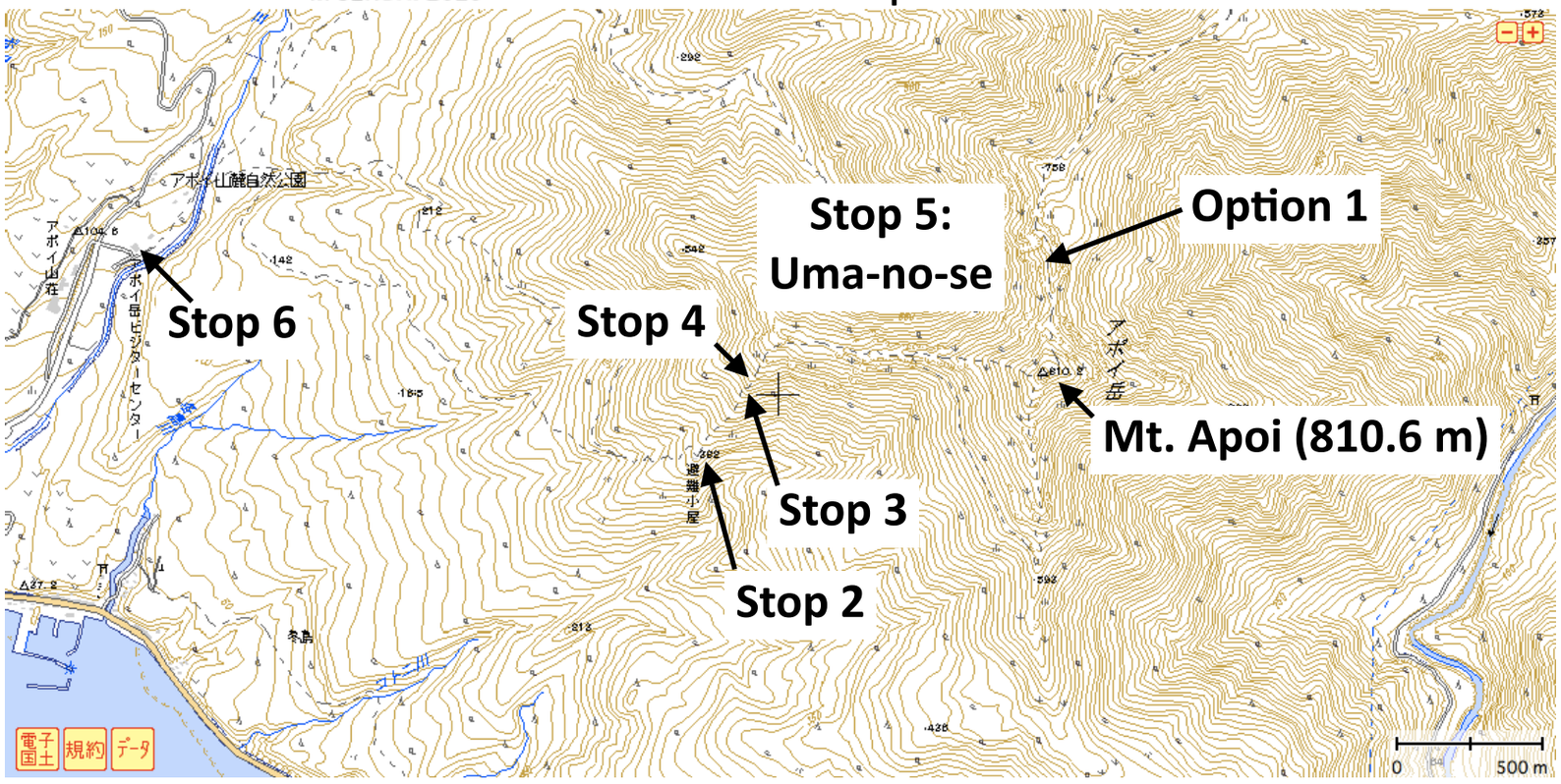
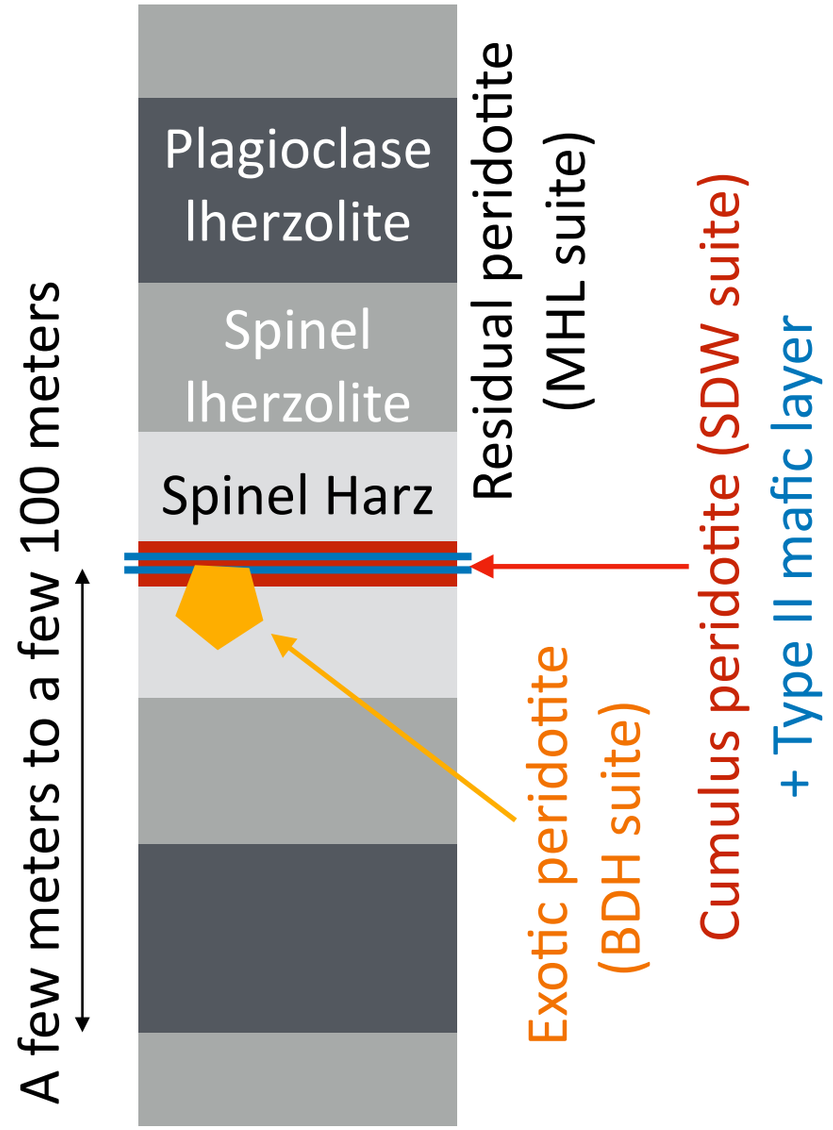
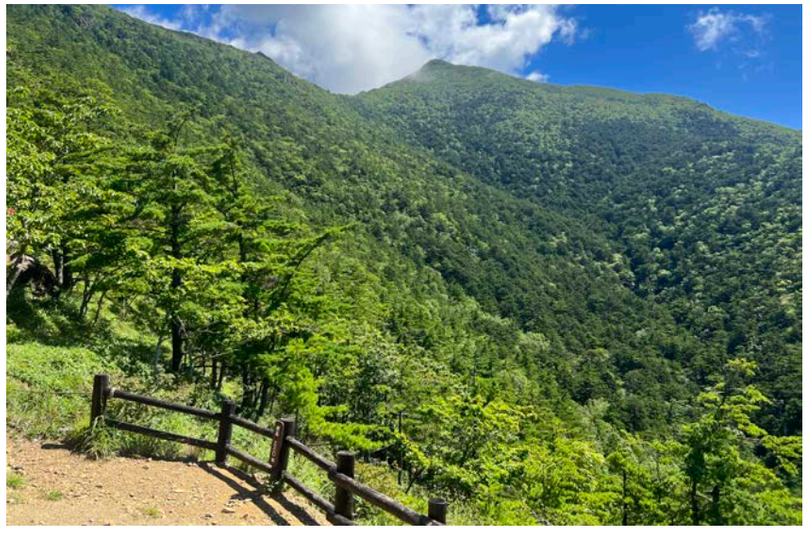
The Horoman Peridotite Complex is located at the southern end of the Hidaka metamorphic belt. The Horoman Complex has two main important petrological features: 1) the variety of peridotite and mafic rock types, and 2) symmetrical distribution of peridotites.





Symmetrical distribution of peridotite

Mt. Apoi seen from the fifth station



Mt. Apoi seen from Uma-no-se

Stop 1: Peridotite plaza

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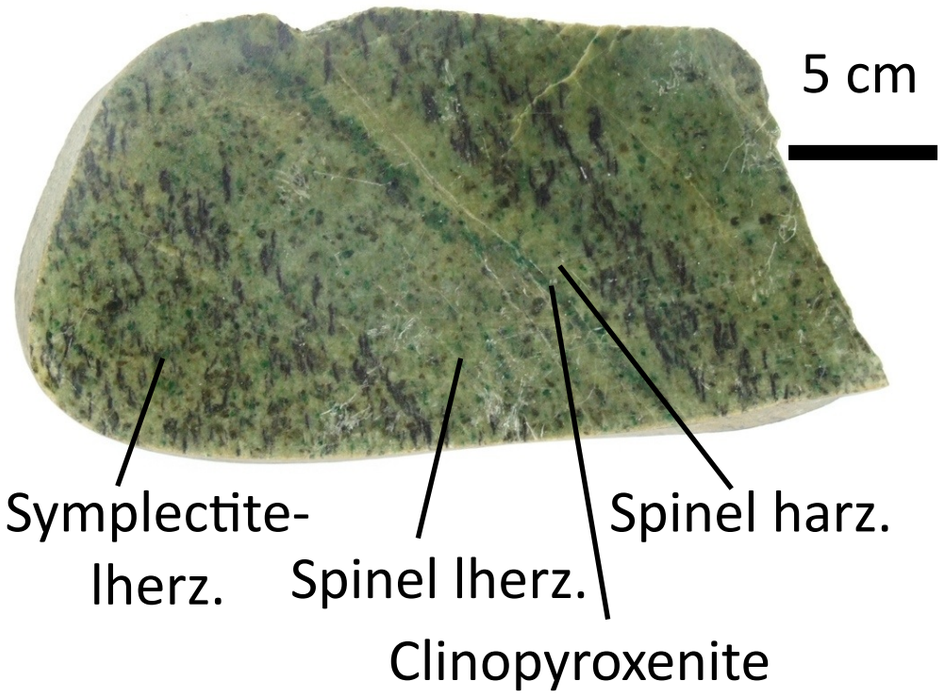
Further mantle diversity and its scale

The ultramafic rocks and associated mafic rocks in the Horoman body record a very complex evolutionary history from the mantle to crustal conditions.



Layered magic-ultramafic sequence (option 1)

Landscape formed by active plate tectonics

Cape Erimo (option 2)