



Faculty of
Science and
Technology
Tokushima University

Research for tectonics with special focus on exhumation mechanism of high-P/T metamorphic rocks

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Fig.1: Eclogite (from Ehime)

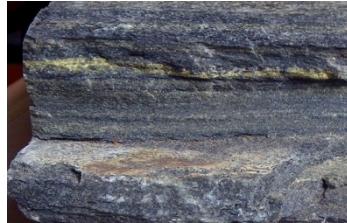
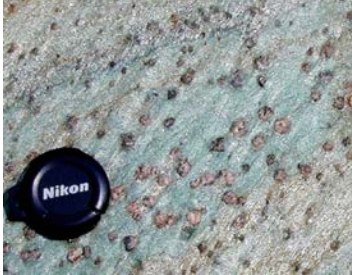


Fig.2: Blueschist (from Tokushima)

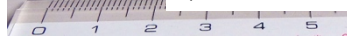


Fig.3a: Metamorphic zonation map of central Shikoku with localities of ultramafics (mantle materials)↓

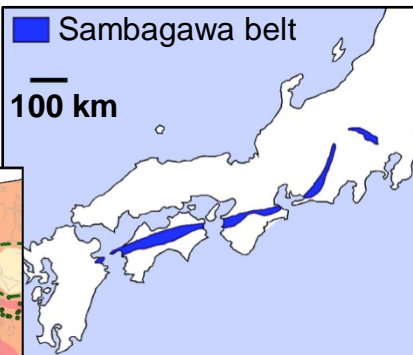
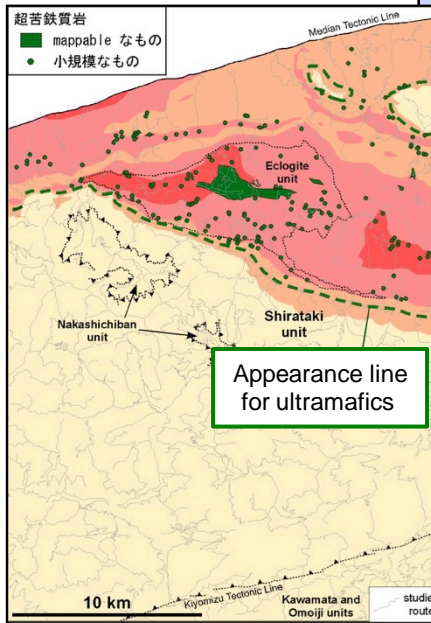
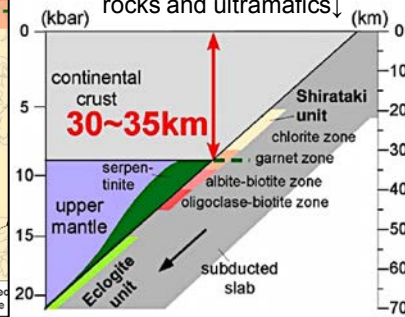


Fig.3b: Original spatial relationship between subducted rocks and ultramafics↓



Content:

Metamorphic rocks generate through solid-state chemical reactions under high-pressure (P) and high-temperature (T) conditions at depths of the earth. Tokushima is located on a high-P/T metamorphic belt, the Sambagawa belt, which contain rocks that formed at depths of several 10s km in a subduction zone (such as eclogite and blueschist: Fig.1&2). The exhumation mechanism of such metamorphic rocks is still unclear and is a main research interest of our laboratory.

We usually carry out field studies for metamorphic rocks mainly focusing on deformational structures and also take rock samples. We make thin-sections of the samples to study mineral assemblages and their microstructures under polarizing microscope. Thus far, for example, we recognized a chronologically close association of ridge subduction with exhumation of the Sambagawa metamorphic rocks, and an evidence for trapping and bringing-up of hanging-wall mantle material by subducted metamorphic rocks (Fig.3a,b).

Keywords: Earth & planetary science

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