Marine terraces correlation in Northern Hokkaido along Japan Sea coast and activity of Teshio fault zone

Nobuto Morishita[1]

[1] Geography Sci., Tohoku Univ.

In northern Hokkaido, late Cenozoic compressional processes have produced N-S trending fold-and-thrust belts. The recent tectonic activity of the Teshio fault zone partly contributes to the uplifting history in Japan sea coastal area of Northern Hokkaido.

In Haboro, 3 levels of marine terraces, which named the Tomamae, Chikubetsu and Horobetsu terrace in descending order, are well preserved close to the coastline (Sakaguchi, 1959). Tephrochronologically, the Tomamae terrace is correlated with MIS 5e (Koike and Machida ed, 2001). Northern part of the study area, however, there exists a different opinion of the marine terraces correlation. In order to elucidate the uplift rate of the study area, the author reexamines the age determination and correlation of marine and fluvial terraces by interpretation of aerial photographs and geological investigation. Terraces are classified into Higher terraces group (I-III), Middle terrace (IV) and Lower terraces group (V-VI). II and IV terrace corresponds to the Chikubetsu and Tomamae terrace, respectively, and VI terrace has formed in Holocene time (Yanagi and Hirakawa, 1998).

Teshio fault zone, situated 5-10 km west of the coastline between Teshio and Haboro town, is characterized by flexural deformation. According to Hydrographic Department, Maritime Safety Agency (1992, 1994), Early-Middle Pleistocene basin-fill successions have thickly deposited in the west of the flexure. In consideration of the uplift of the coastal area as suggested by marine terraces formation, the Teshio fault zone has continued to develop during Quaternary time.