

Tectonic processes of the Omagari fault and Kita-Kawaguchi anticline, northern Hokkaido

Nobuto Morishita[1]

[1] Geography Sci., Tohoku Univ.

In order to clarify the tectonic processes of the Omagari fault and the Kita-Kawaguchi anticline, I carried out the aerial photographic interpretation and topographical and geological investigations.

Marine and fluvial terraces distributed between Teshio coastal area to Onoppunai basin are classified into Higher terraces group (H1-H3 surface), Middle terrace (M surface) and Lower terrace (L surface), respectively. They unconformably overlay coarsening upward Pliocene-Pleistocene basin-fill successions, which named the Koetoi, Yuchi and Sarabetsu Formation in ascending order.

Omagari fault is NS-trending reverse fault and affects the Yuchi and Sarabetsu Formation a west dip in the footwall. Terraces distributed around the Omagari fault indicates anticlinal deformation. Therefore, the Omagari fault may have ceased their activity before the H1 surface formed and after deformation appears to be related to subsurface fault movement.

North-striking Kita-Kawaguchi anticline in length 10km is an asymmetric fold with the steeper western limb than eastern one. Western part of the anticline, Yuchi Formation has up to 30 degrees dip to the west and M and H2 surfaces tilt westward. Taking account of the cumulative displacement between two terraces, Kita-Kawaguchi anticline has started to grow when the deposition of the Early Pleistocene Yuchi Formation and is still active Late Pleistocene time.