Holocene activity of the Northern Marginal Faults of the Saga Plain

*Haruka Yoshida[1], Kyoko Kagohara[2], Toshifumi Imaizumi[3]

1.Fukuoka Prefectural Yame High School, 2.Yamaguchi University, 3.Department of GeoEnvironmental Science, Graduate School of Science, Tohoku University

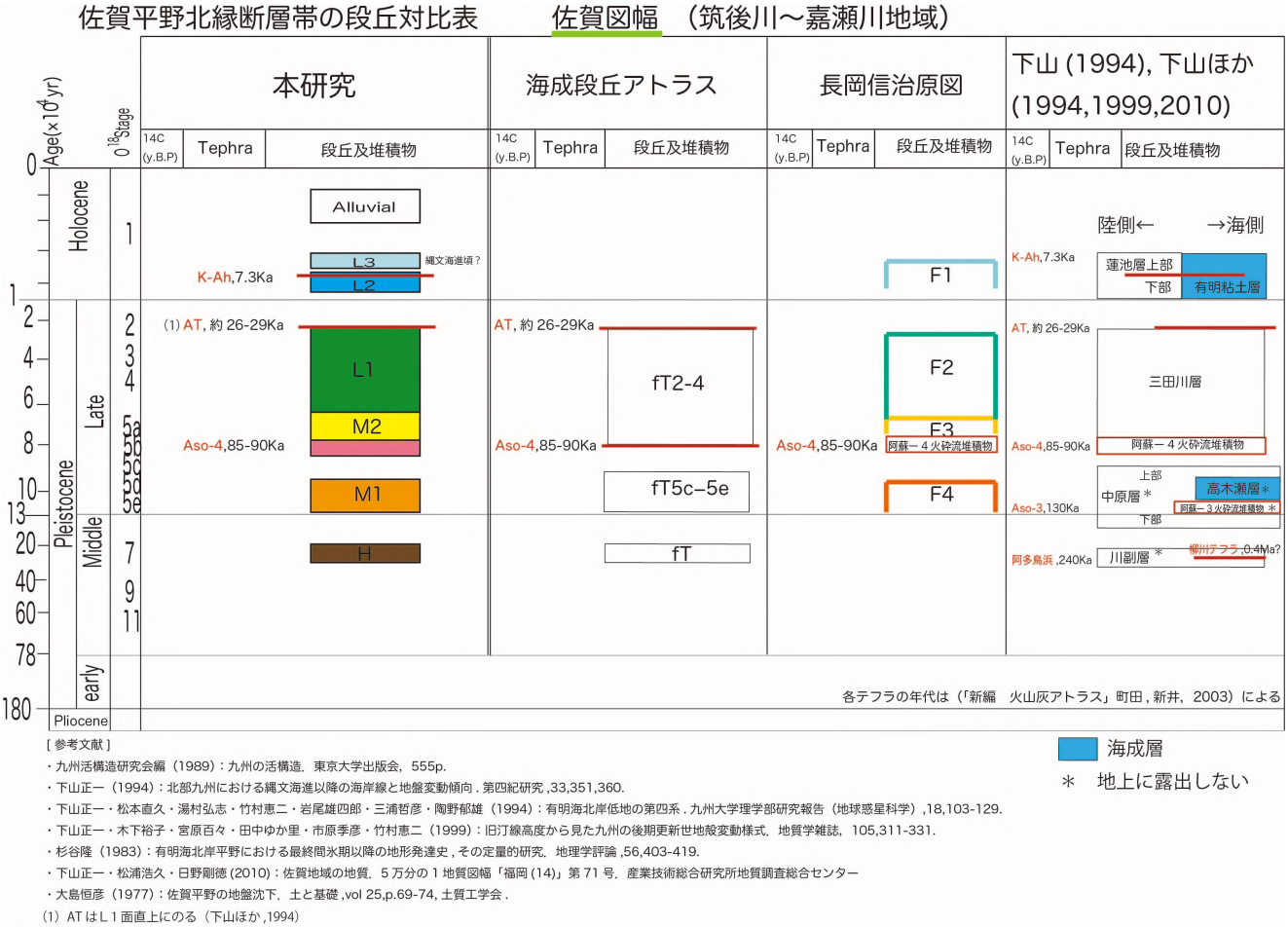
Kyushu of active faults is divided into three zones. Active faults of the central Kyushu, mainly extends to east-west direction. A study area the Northern Marginal Faults of the Saga Plain is located in the central Kyushu. Most of these active faults are normal faults by the force extended to north-south direction (Headquarters for Earthquake Research Promotion, 2012). The faults are normal faults, it is estimated that the south side is down (Headquarters for Earthquake Research Promotion, 2013). The distribution forms of these active faults are linear trace that extends east to west. Regarding the Northern Marginal Faults of the Saga Plain, Research Group for Active Tectonic Structures in Kyushu ed. (1989) and Nakata-Imaizumi ed. (2002) has certified the active faults along the boundary of the plains and mountains on the North side of the Ariake Sea. AIST (2014) reported that fault scarp of about 0.7~2.5m were observed intermittently along the south portion of the Saga plain. However, such as average vertical slip rate and the age of the latest activity of the Northern Marginal Faults of the Saga Plain are unknown because information of the trench survey poor. We have already done reports by the present study, Kagohara et al. (2014, 2015) and Imaizumi et al. (2014), Yoshida et al. (2015). In this report, F3~F7 fault be discussed on the basis of the average vertical slip rate of the faults for the activity in the Quaternary the Northern marginal faults of the Saga plain. H surfaces were MIS7 equivalent, M1 surface were located in the lower Aso-4 pyroclastic flow deposition surfaces, it were MIS5e equivalent of last interglacial period, Aso-4 pyroclastic flow deposits surfaces were 8.9ka and M2 surfaces were MIS 5a equivalent the formation age from such were covered discordance Aso-4.And we estimated to that L1 surfaces were MIS2-4 because AT (26-29ka) were included in the upper part of L1 sediments. L2 surfaces were estimated to MIS1 because K-Ah (7.3ka) was included in the upper part of L2 sediments.

F3 faults correspond to the active fault that has been pointed out in Research Group for Active Tectonic Structures in Kyushu ed. (1989) and Nakata-Imaizumi ed. (2002). The F3 faults were recognized as distinct scarps of about 1.8m on alluvial fan surface (L1 planes). These faults were intermittently until Jobaru-river from Saga City Yamato-cho, but could be clearly tracked. The average vertical slip rate of F3 faults in L1 planes were estimated to 0.07mm/yr. F6 faults could be tracked continuously lineament from the Kase-river to the Jobaru-river on L2 surfaces. F6 faults has tectonic bulge that may be low fault scarps or about 50cm low fault scarps on the L2 planes. These were observed the slopes of the terrace surfaces by field observations and topographic profile. The average vertical slip rate of F6 fault in L2 planes were estimated to 0.07mm/yr. F7 faults were located on the south side of the F6 faults. F7 faults could be tracked continuously from the Kase-river to the Jobaru-river on L2 planes. In Saga-city Kuboizumi-cho Shimoizumi, we made simple boring survey in the hanging wall and footwall side of the border the F7 faults. As a result, AT was confirmed in the deposits of L1 planes that were buried terraces. F7 faults of average vertical slip rate were estimated to be at least 185cm or more. Thus, average vertical slip rate of F7 faults were estimated to 0.07mm/yr.

Tectonic geomorphology that were estimated to scarps that were observed continuously on the L2 planes of the North portion of the Saga plain. Because of texture on the L2 surfaces were observed, Holocene activity of this fault zone was active at least once after L2 planes formation (7.3ka). L3 planes were observed scarps about 50cm, but it's issues there were also the possibility of

artificial modification.

Keywords: Northern Marginal Faults of the Saga Plain, normal fault, large-scale geographical map, tectonic bulge, average vertical slip rate



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