

Relationship between active fault landform and surface rupture accompanied with 2016 Kumamoto Earthquake

*Yasuhiro Kumahara¹

1. Graduate School of Education, Hiroshima University

On 16 April 2016, a $M_w=7.0$ ($M_{jma}=7.3$) earthquake hit from Kumamoto city to the Aso volcanic Caldera in central Kumamoto Prefecture, central Kyushu. Prior to the 16 April earthquake, the 14 April $M_w=6.2$ ($M_{jma}=6.5$) earthquake was also generated at close to the epicenter of the 16 April Earthquake in east of Kumamoto City. It is well known that there is a north part of the Futagawa-Hinagu fault system (FHFS), mapped by previous studies (e.g. Research group for active tectonics in Kyushu ed, 1989; Nakata and Imaizumi ed, 2002) in the epicentral area. The photo-interpretation method is common to map the fault trace in Japan. Because the traces of the FHFS run below the dense forest and village, the cumulative offset along the FHFS was not mapped sufficiently. The 2 m-grid Digital Elevation Model along the FHFS acquired by the GSI provided us the firm evidences of cumulative right-lateral strike-slip along the FHFS, and also Idenokuchi fault, parallel to the Futagawa fault. Here we show the relationship between tectonic landform and surface rupture accompanied with Kumamoto Earthquake.

Keywords: Kumamoto Earthquake, Surface rupture, Active fault

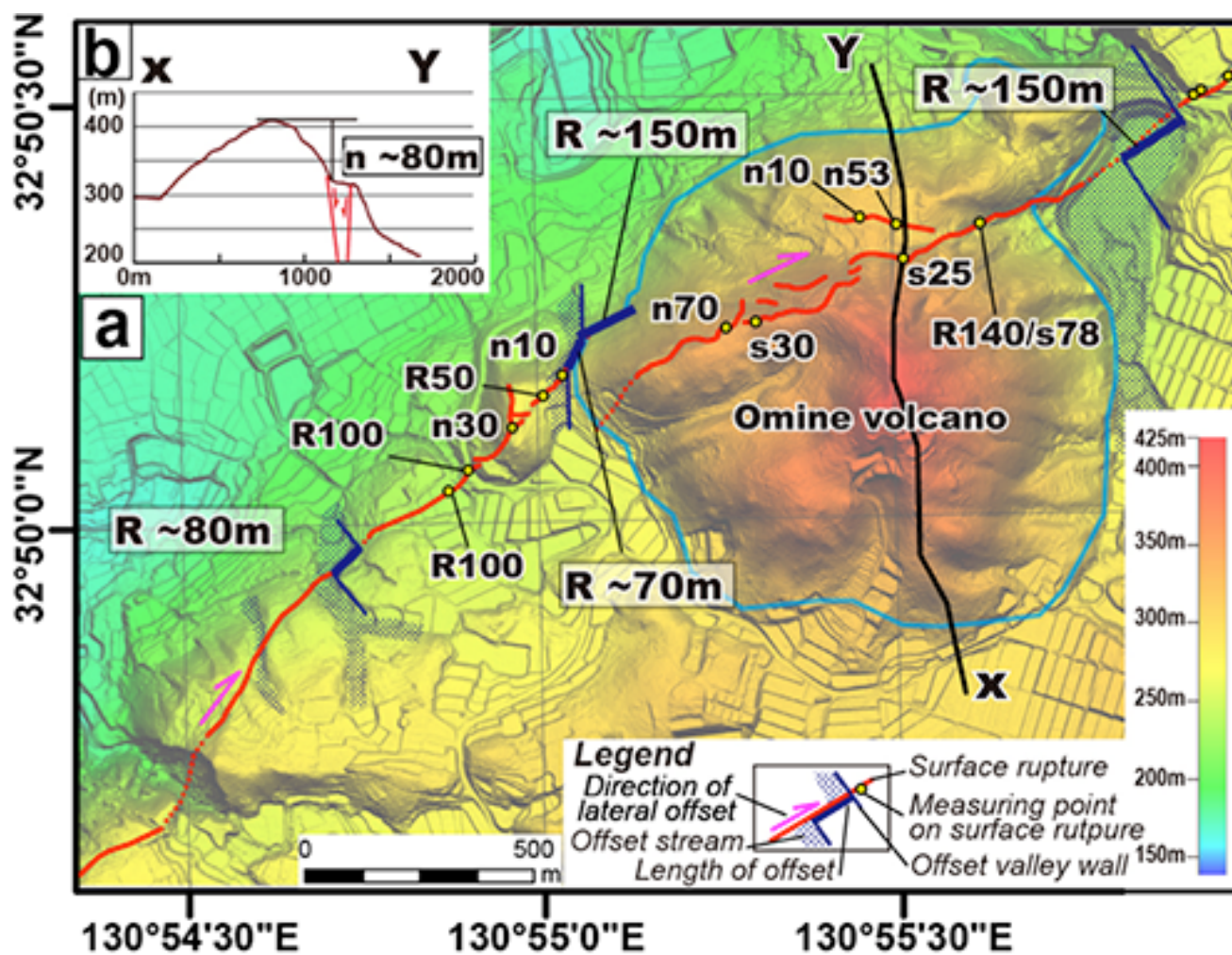


Figure 1 surface rupture with displacement and cumulative offset on the rupture in Oomine, Nishihara.