

Preliminary active fault mapping of Mongolia by interpretation of ALOS 30 DEM image

*Takashi Nakata¹, Yasuhiro Suzuki², Mitsuhisa Watanabe³

1. Hiroshima University, 2. Nagoya University, 3. Toyo University

Mongolia has experienced huge earthquakes generated from extensive active faults in the 20th Century, namely 1905 Tsetserleg (M7.9), 1905 Bulnai (M8.4), 1931 Fu-Yun (M8.0), 1857 Gobi-Altai (8.1) and 1967 Mogod (M7.1). These earthquakes were generated from pre-existing active faults that have been studied in detail. However most of the other extensive active faults were mapped mainly based by 2D satellite and Google Earth imageries, and they are commonly delineated along distinctive topographic boundaries sometimes without enough evidence for late Pleistocene activities. In order to map active faults throughout Mongolia, we employ stereoscopic interpretation of anaglyph images processed from ALOS 30 DSM images to obtain topographic evidence such as fault scarps across late Pleistocene and Holocene topography and lateral stream offset for late Quaternary activities, and we compiled a preliminary active fault map of Mongolia.

Keywords: Mongolia, active fault, ALOS 30