



## Landslides induced by the 11 March 2011 Tohoku Earthquake, Japan

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After the 11 March 2011 Tohoku Earthquake offshore Sendai, The Japan Landslide Society (JLS) has launched research project on earthquake-induced landslides since 2009 and this team has started collecting information of landslides, immediately after the quake. This preliminary report aims to introduce various types of landslides using reports by air survey company, governmental institute, individual society's members and newspaper media. (1) Distribution of landslides induced by the main shock and aftershocks and identified by the member of the Japan Landslide Society. The Japan Landslide Society created portal site for collecting information of induced landslides. (2) A rapid and long runout fluidized landslide took place at a natural slope Hanoki-daira, Shirakawa City, Fukushima Prefecture. This landslide destroyed local community and claimed 13 residents lives. (3) A large-scale artificial fill landslide at Asahi-dai Danchi of Fukushima City, which was developed for constructing a residential in a valley. Slumping near the head scarp and displaced affected houses. In Sendai city of Miyagi Prefecture, hundreds of artificial valley fill in dozens of newly constructed residential towns moved and affected thousands of houses. These landslides are partly recovered by municipal governments, however, still most of the residents should suffer from further payment for reconstruction of their houses. (4) The Fujinuma reservoir dam breached and large scale flood took place. This flood ran at least 3 km. It gave damage to the downstream community. What we found that this earth dam had no clay core and it could be one of the reason why it failed. Similar small-scale earth dam for agriculture purpose may be distributed anywhere in Japan where another large-scale earthquake may hit in the near future. (5) Deep seated debris slides took place in Sakae village, Nagano Prefecture, triggered by the 12 March 2011 (next day of Tohoku EQ) large-scale earthquake. One slides mixed with snow induced a debris flow and it moved downstream for about 1 km.