Supplementary information for

A globally distributed dataset of coseismic landslide mapping

via multi-source high-resolution remote sensing images

This file includes:

Figure S1 to S10

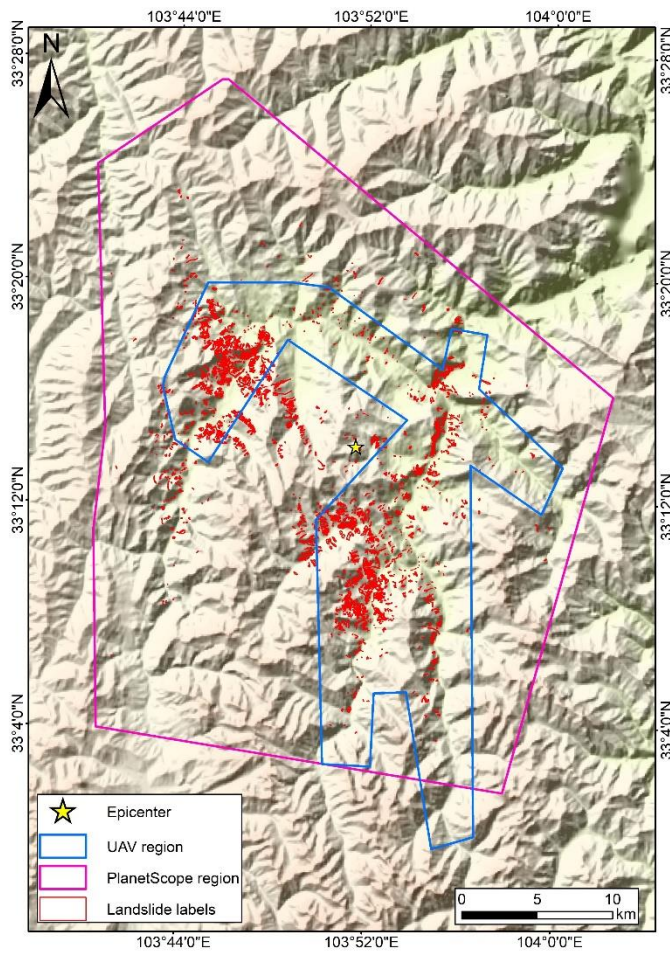GDCLD data description and usage instructions

Figure S1 to S9:

Figure.S1 Multi-source image range and landslide distribution of Jiuzhaigou earthquake
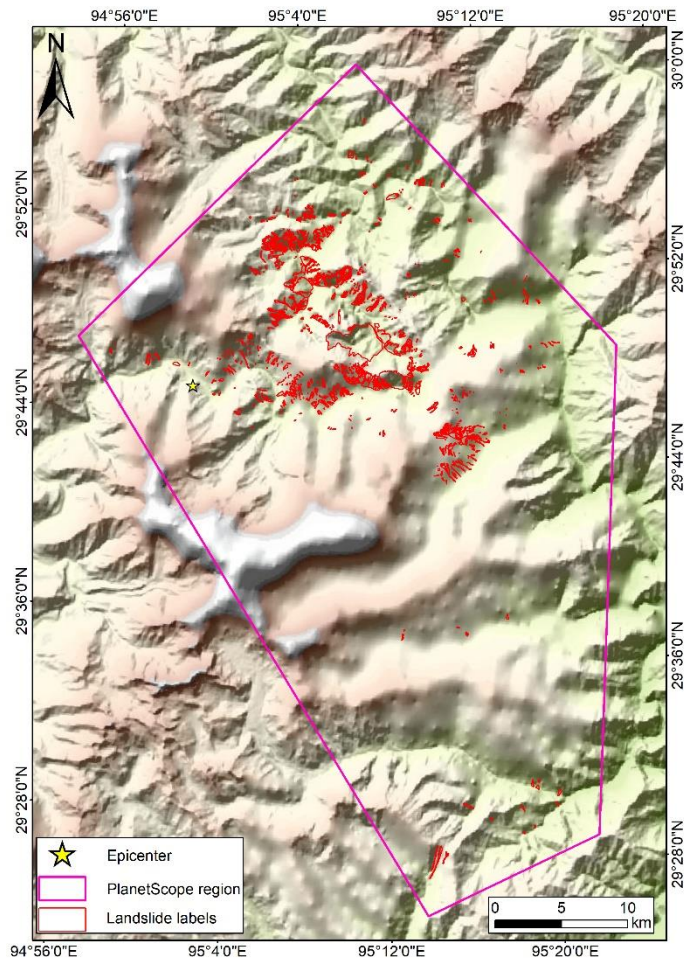
Figure.S2 PlanetScope image range and landslide distribution of the Mainling earthquake
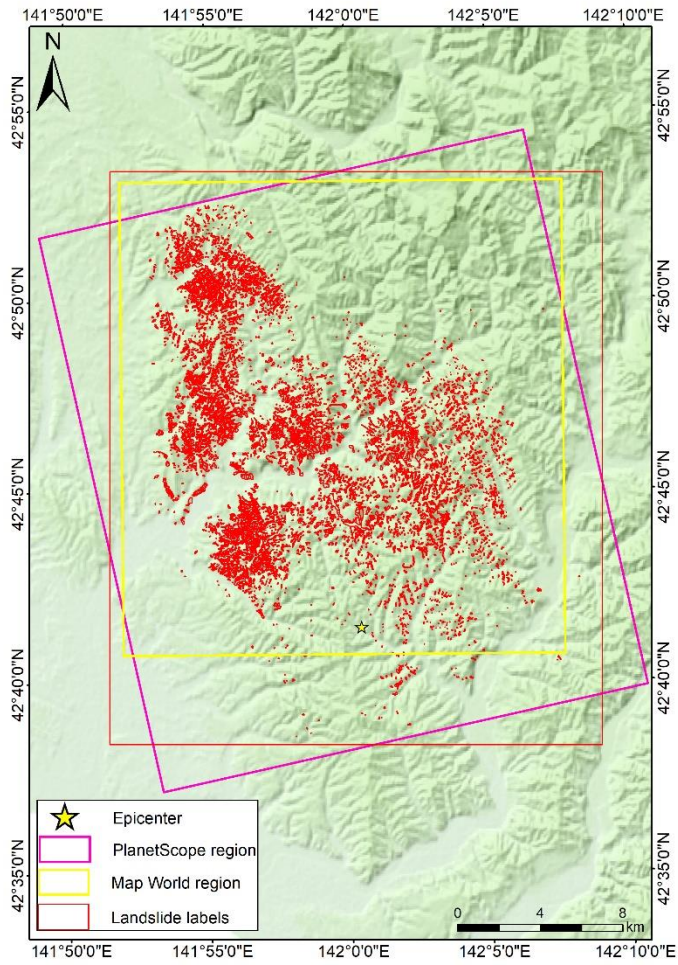
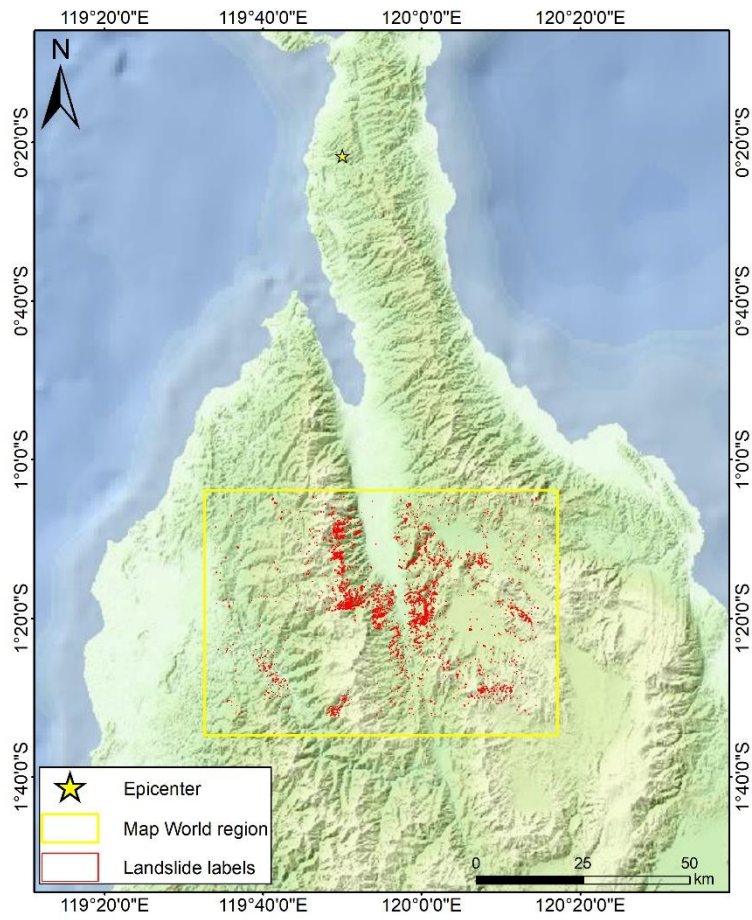**Figure.S3** Multi-source image range and landslide distribution of Hokkaido earthquake

Figure.S4 Map World image range and landslide distribution of the Palu
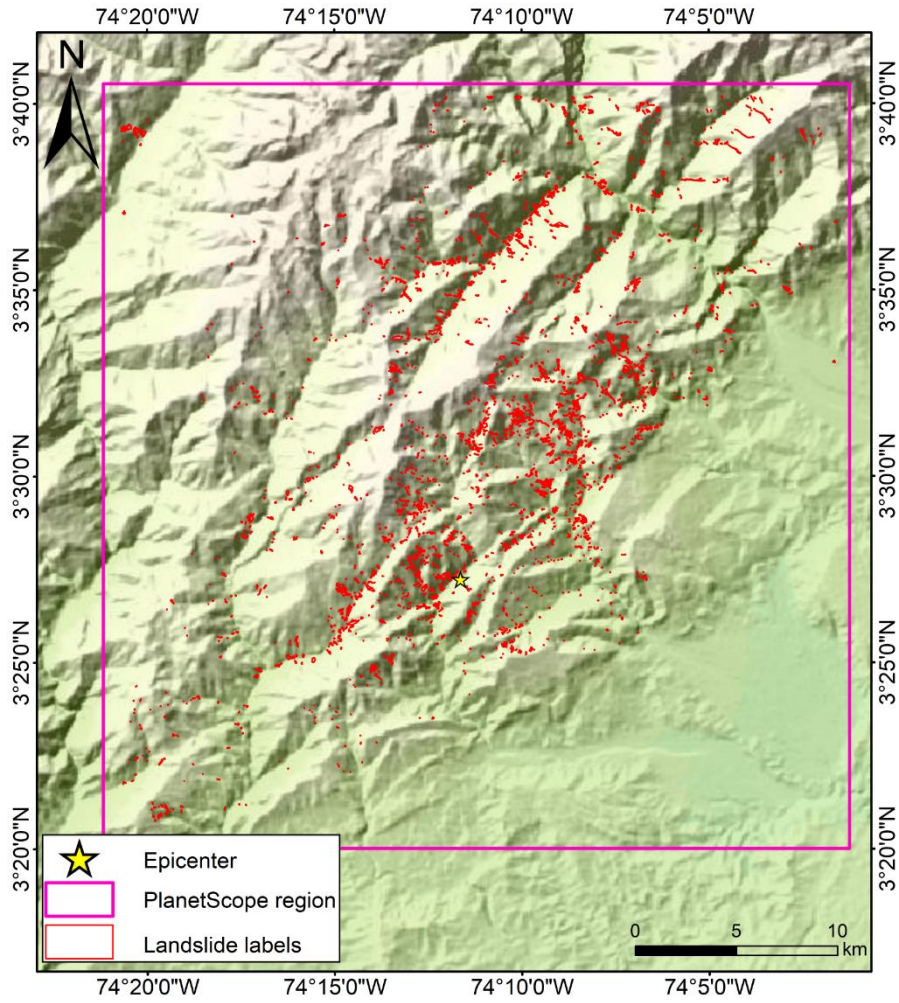
Figure.S5 PlanetScope image range and landslide distribution of the Mesetas earthquake
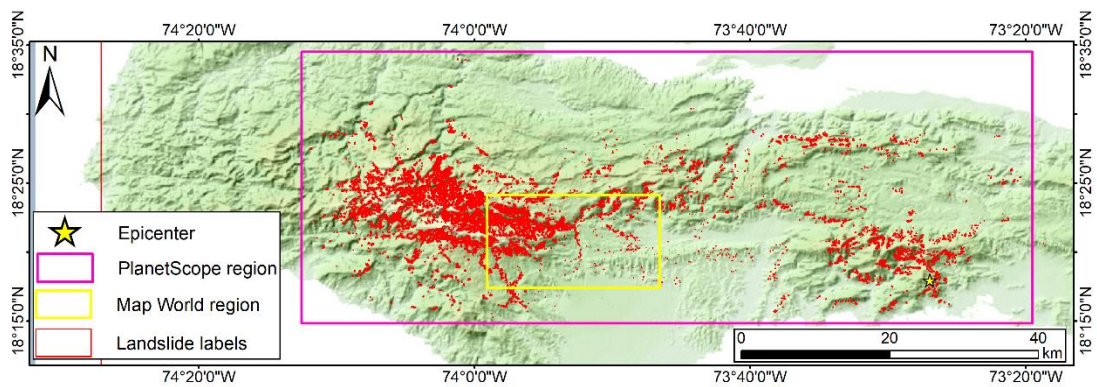

Figure.S6 Multi-source image range and landslide distribution of Nippes earthquake.
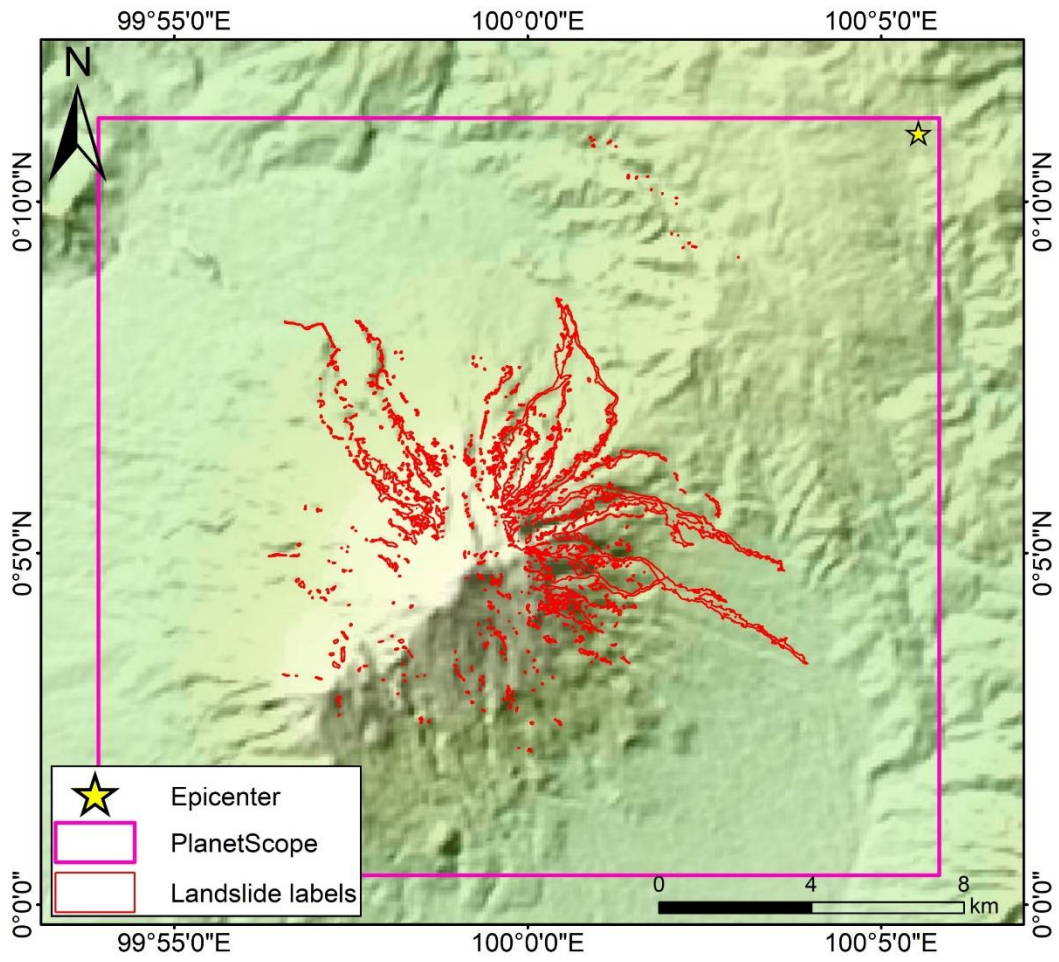
Figure.S7 PlanetScope image range and landslide distribution of the Sumatra earthquake
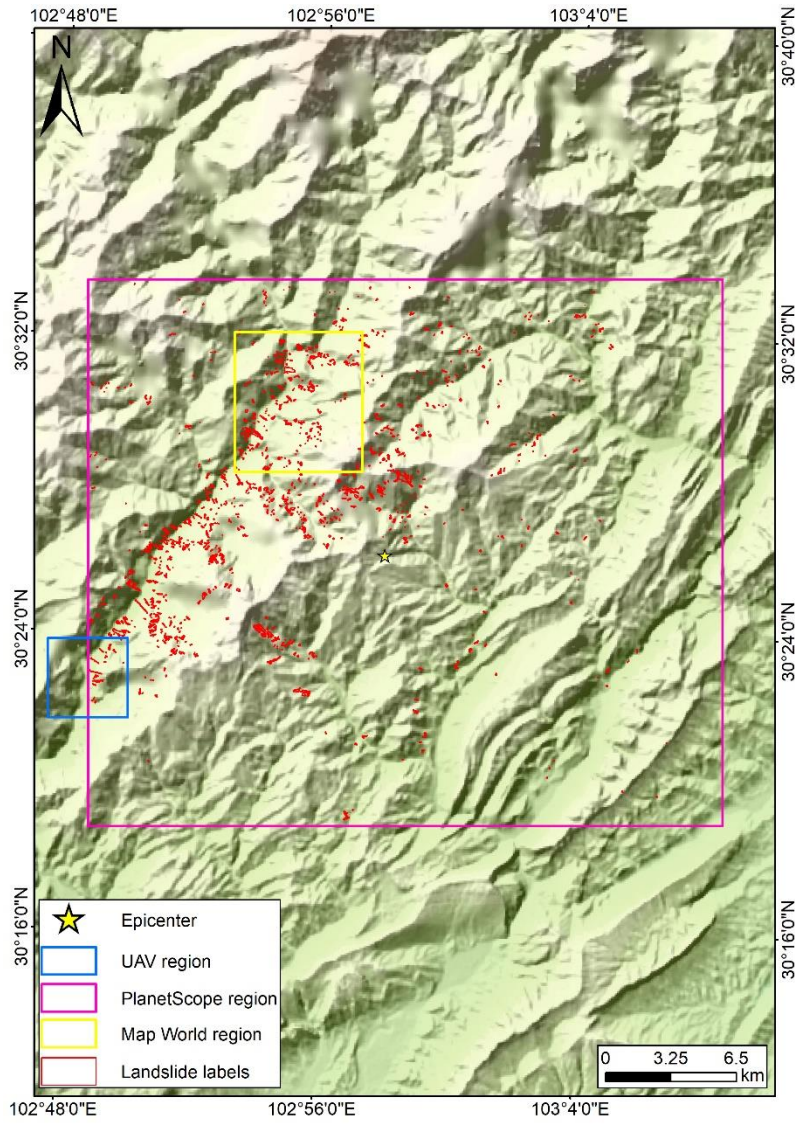
Figure.S8 Multi-source image range and landslides distribution of Lushan earthquake.
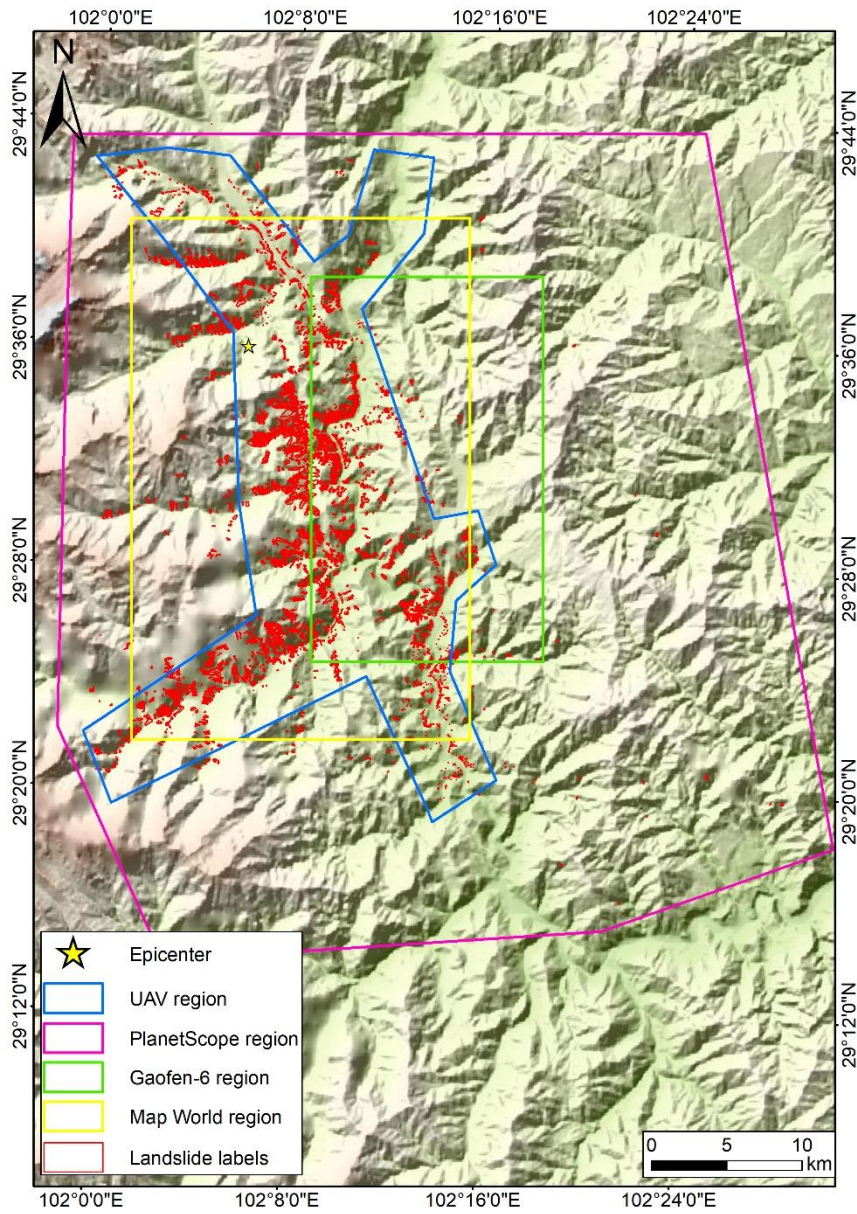
Figure.S9 Multi-source image range and landslide distribution of Lushan earthquake.

Figure.S10 Example of instance landslide label (2022 Luding earthquake-triggered landslides)

Globally Distributed Coseismic Landslide Dataset (GDCLD): https://doi.org/10.5281/zenodo.13612636.

Data description：

The training dataset and the validation dataset are composed of UAV, PlanetScope, Gaofen-6 and Map World images of the 5 earthquake regions of Luding, Nippes, Hokkaido, Jiuzhaigou and Mainling. There is no overlapping

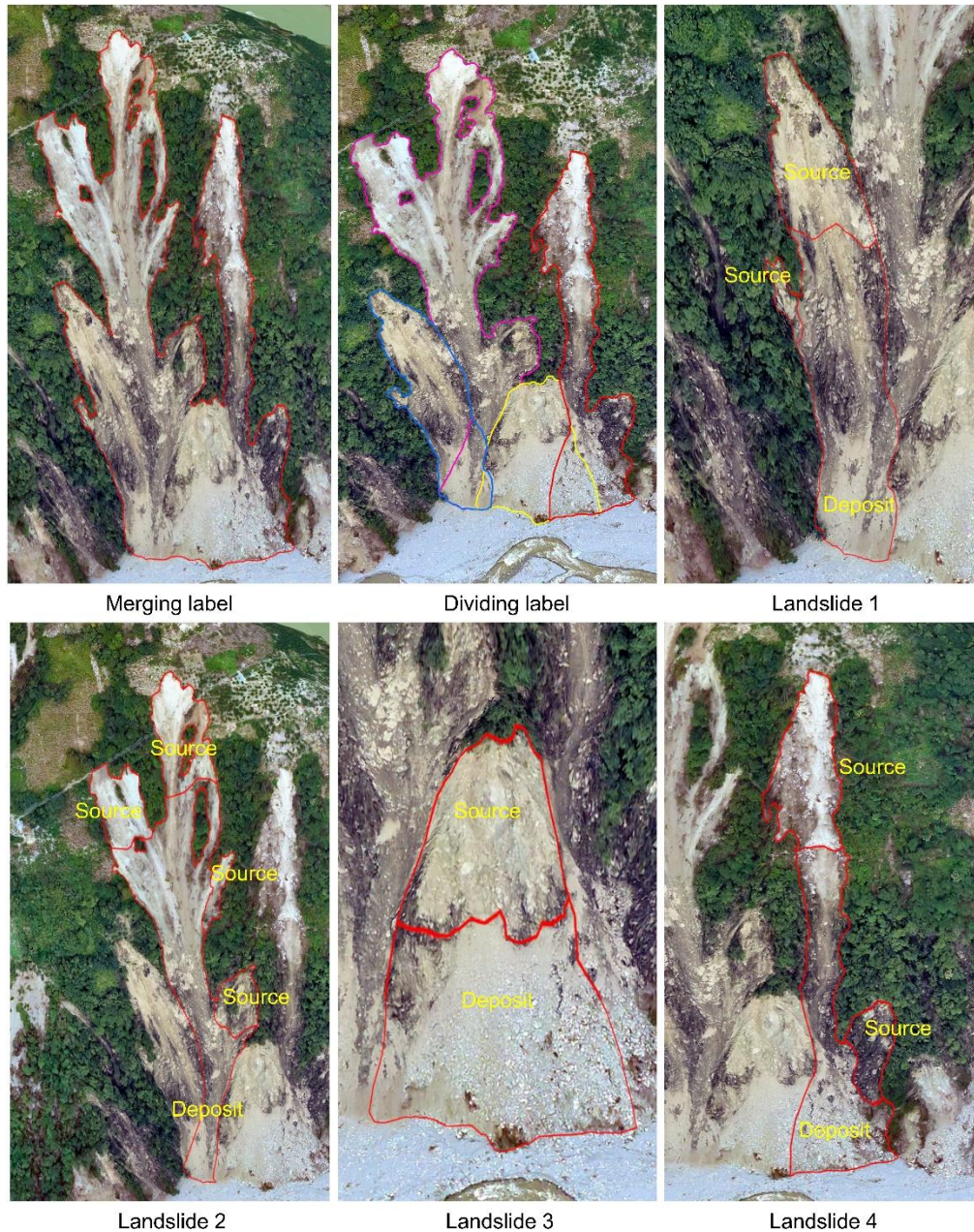area in each TIFF. The training dataset and the validation dataset are randomly divided at a ratio of approximately 0.75:0.25.

train_dataset:
train_data: The train dataset part of the GDCLD data set contains 11162 data matrices (TIFF), and the shape of the matrix is (1024, 1024, 3) (TIFF).
train_label: The train dataset part of the GDCLD data set contains 11162 data matrices (TIFF), and the shape of the matrix is (1024, 1024, 1) (TIFF).

Validation_dataset
val_data: The validation dataset part of the GDCLD data set contains 4459 data matrices (TIFF), and the shape of the matrix is (1024, 1024, 3) (TIFF).
val_label: The validation dataset part of the GDCLD data set contains 4459 data matrices (TIFF), and the shape of the matrix is (1024, 1024, 1) (TIFF).

Test_dataset (Lushan, Sumatra, Mesetas and Palu dataset)
This package contains the original files of remote sensing images from three sources: UAV, Map World, and PlaneScope belonging to the Lushan, Sumatra, Mesetas and Palu earthquake regiones, which are used to display the test area.

Future work (Gansu, Meizhou, Huailian)
This package contains the original files of PlanetScope images belonging to the Meizhou and Huanlian regions. The landslides in Meizhou area were induced by rainfall, while those in Hualien area were induced by earthquake. The Meizhou folder contains two tif data sets, Meizhou_1 is a PlaneScope image after a rainfall event (2024.05.14), and Meizhou_result is the landslide result automatically identified by the model. The Hualian folder contains two tif data sets, Huanlian_1 is a PlaneScope image after an earthquake event (2024.04.17 and 2024.04.29), and Hualian_result is the landslide result automatically identified by the model.