

Quick report of preliminary reconnaissance of the 2024 Noto-hanto Earthquake in Japan —No.3—

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Outline of Reconnaissance Work

Team member (JGS team):

Masakatsu Miyajima (Member of Residential Land Group of JGS)

Takao Hashimoto (Group leader of Residential Land Group of JGS)

(JGS: Japanese Geotechnical Society)

Survey Period: 2024.2.4-2.5

Survey area: Suzu City, Ananizu Town, Himi City, Takaoka City and Itoigawa City

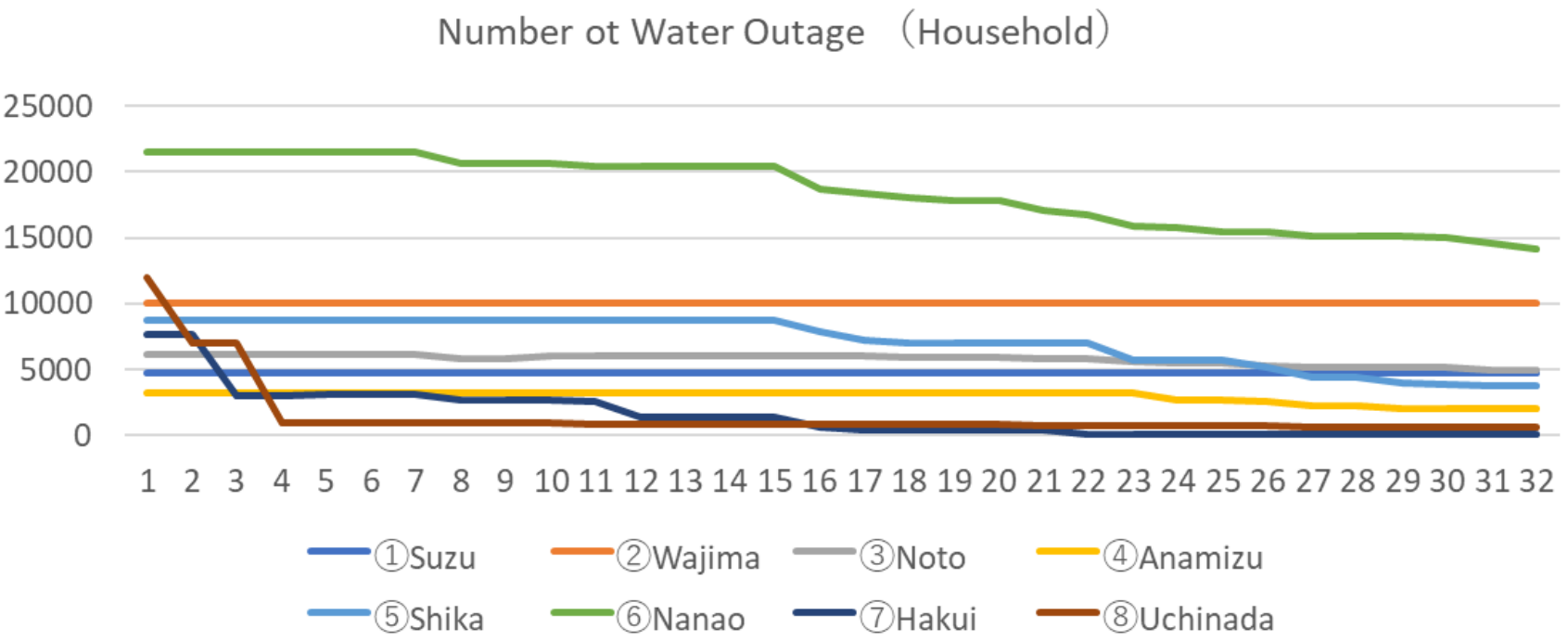
Outline of Personal Damage

(As of 31st of Jan. (One month after the event))

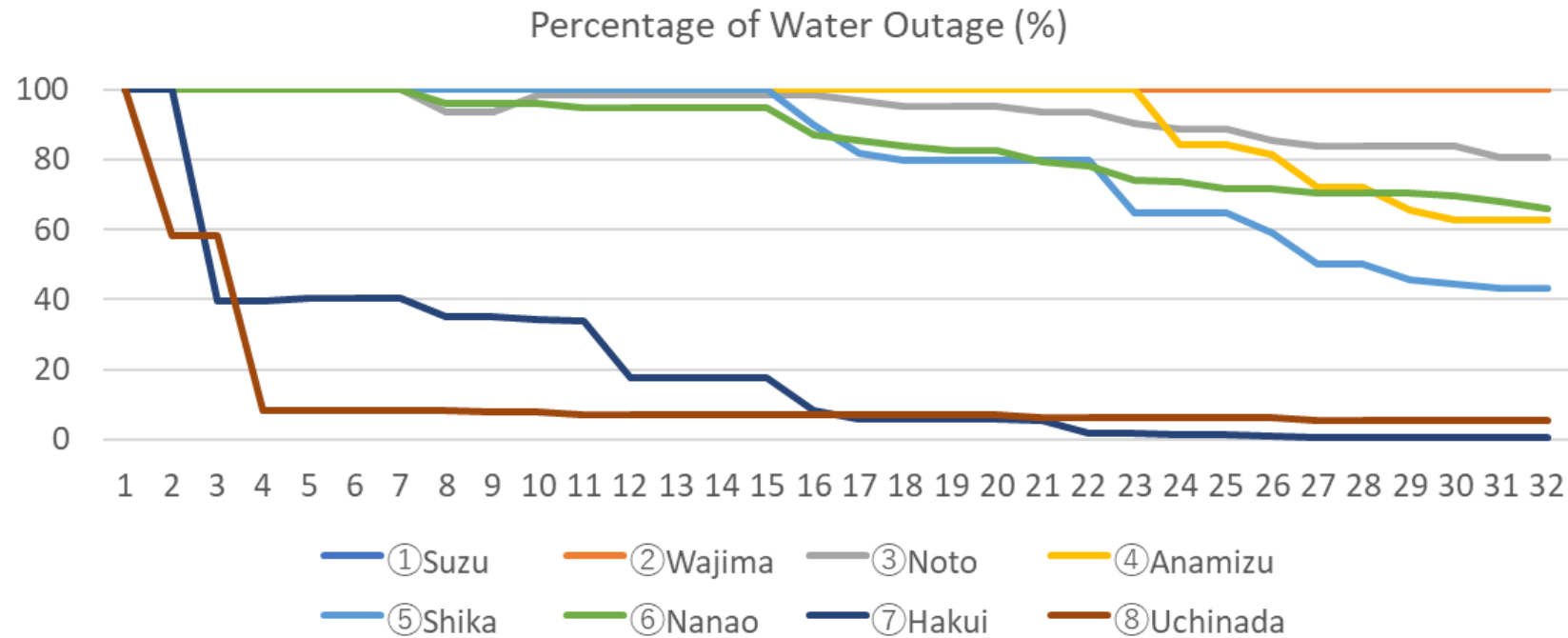
	Place	Dead	Refgee	Population
①	Suzu city	101	1,520	12,610
②	Wajima city	101	2,833	23,192
③	Noto town	8	957	15,524
④	Anamizu town	20	936	7,360
⑤	Shika town	2	957	18,267
⑥	Nanao city	5	1,172	48,352
⑦	Hakui city	1	67	19,893



Number of Water Outage

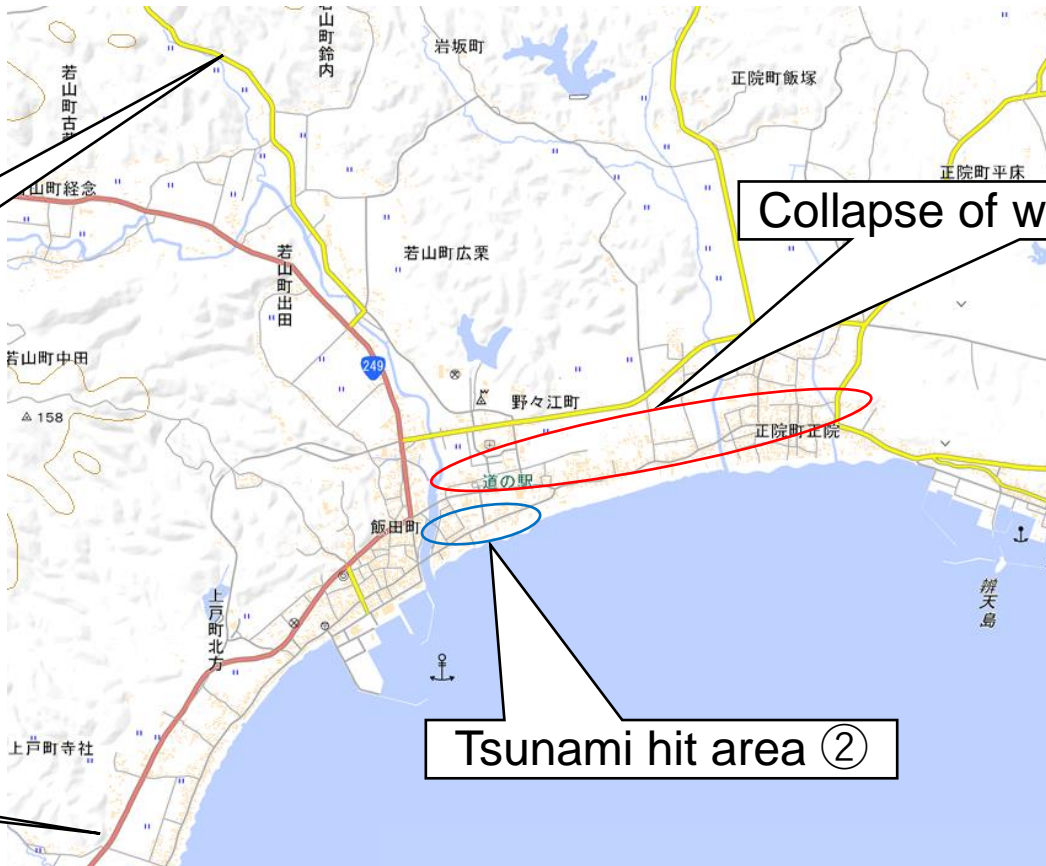


Percentage of Water Outage



100% of water supply is still cut off in Suzu City and Wajima City.

Damage Site Map of Suzu City (JMA Seismic Intensity:6+)



Suzu City



Collapse of wooden house (Map ①)

The Japanese building code was upgraded in 1981. About 65% of the residential house was build before 1981 in Suzu City. This number is largest in Japan. These old houses were collapsed so much.

Suzu City



Collapse of wooden house (Map ①)

Suzu City



Tsunami hit area (Map ②)

A tsunami occurred immediately after the earthquake, and Suzu City is estimated to have been hit by a tsunami of 2.9 to 4.3 meters.

Suzu City



Uplift of manhole



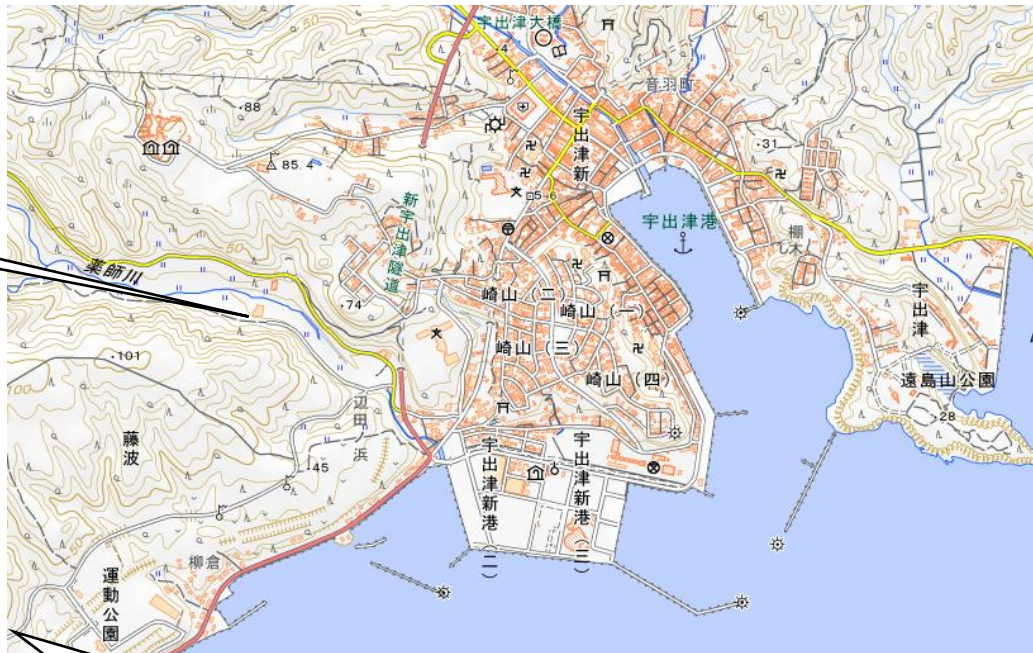
Landslide (Map③)

Suzu City



Landslide (Map ④)

Damage Site Map of Noto Town (JMA Seismic Intensity:6+)



Landslide ①

Collapse of road embankment ②



Noto Town

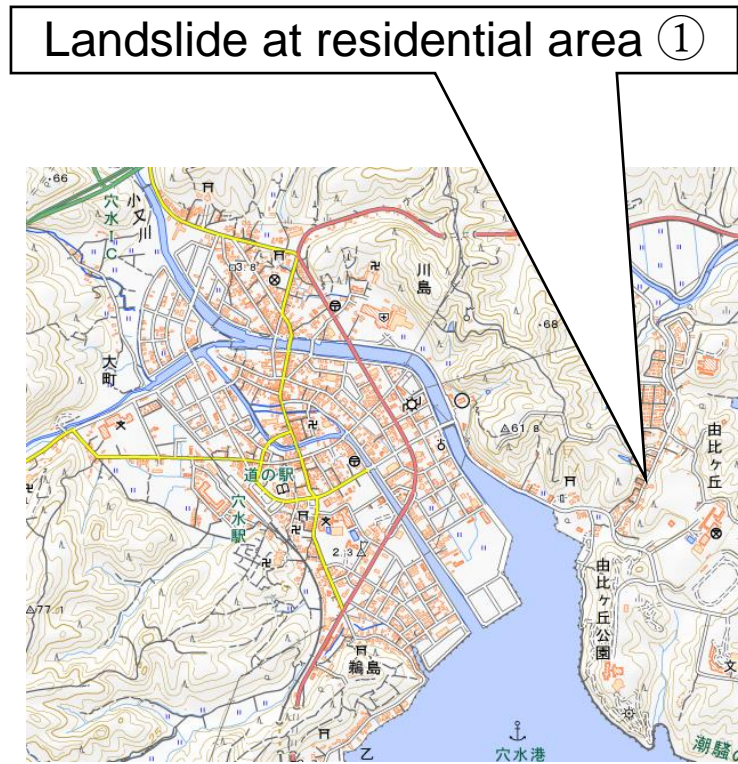


Landslide (Map ①)



Collapse of road embankment (Map②)

Damage Site Map of Anamizu Town (JMA Seismic Intensity:6+)



Anamizu Town



Collapse of wooden house by landslide (Map ①)



Landslide in residential area (Map ①)

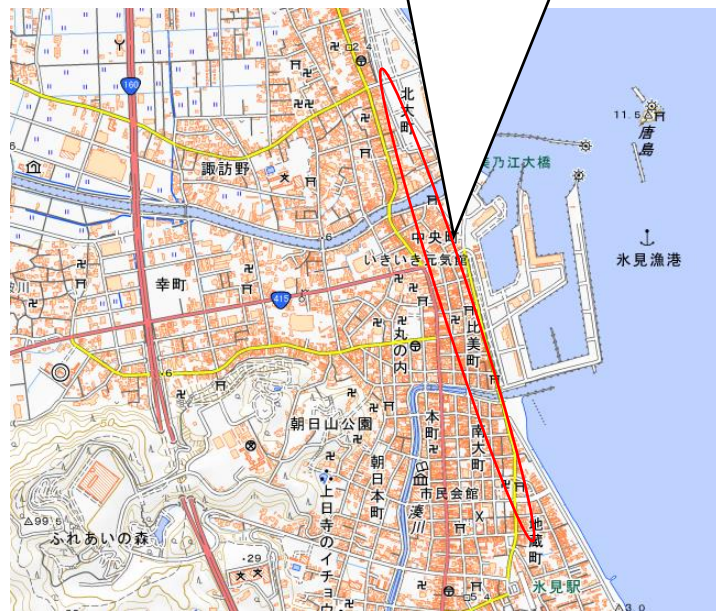
Anamizu Town



Collapse of wooden house by landslide (Map ①)

Damage Site Map of Himi City (JMA Seismic Intensity:5+)

liquefaction on flat ground ①



Himi City



Subsidence and tilting of houses due to liquefaction on flat ground (Map①)

Himi City



Collapse of wooden houses (Map①)



Ejected sand due to liquefaction on flat ground (Map①)

Damage Site Map of Takaoka City Fushiki (JMA Seismic Intensity:5+)



Takaoka City Fushiki



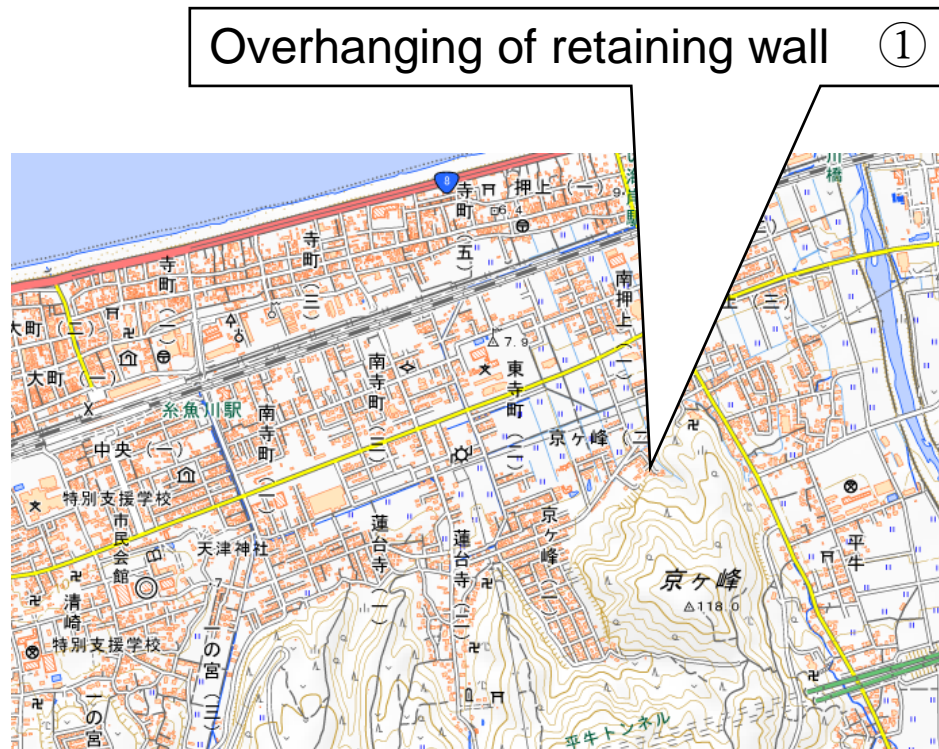
Subsidence and tilting of houses due to liquefaction on flat ground (Map①)

Takaoka City Fushiki



Subsidence and tilting of houses due to liquefaction on flat ground (Map①)

Damage Site Map of Itoigawa City (JMA Seismic Intensity:5+)



Itoigawa City Kyogamine Housing Complex



Overhanging of retaining wall (Map①)

Itoigawa City Kyogamine Housing Complex



Collapse of retaining wall (Map①)

Concluding remarks

- The massive earthquake that struck a depopulated and aging area is revealing a variety of issues.
- 100% of water supply is still cut off in Suzu City and Wajima City, and many residents are still living as displaced.
- The Japanese building code was upgraded in 1981. About 65% of the residential house was build before 1981 in Suzu City. This number is largest in Japan. These old houses were collapsed so much.
- The ground motion itself was very large, but it became clear that the effects of ground deformation induced by liquefaction and landslide were also large in the affected area.
- A tsunami occurred immediately after the earthquake, and Suzu City is estimated to have been hit by a tsunami of 2.9 to 4.3 meters.

The reconnaissance work was conducted as an activity of the residential land group of JGS (Japanese Geotechnical Society). We express sincere appreciation to the group members.

We would like to express our deepest sympathies to those affected by the disaster and pray for the repose of the souls of those who lost their lives. We pray for the earliest possible recovery of the affected areas.