Toyama City Tsunami Hazard Map

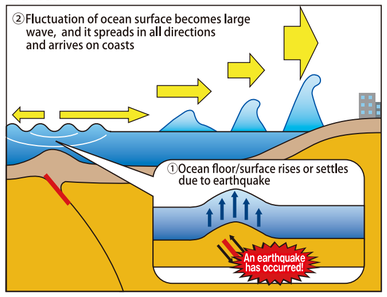
This Toyama City Tsunami Hazard Map contains an overall map of the scope anticipated to be flooded in the event of a tsunami. Please verify it along with the detailed area maps for your residential surroundings, etc. Tsunamis are disasters whose timing of occurrence is impossible to predict. Please ready yourselves for cases when they do occur, and decide in advance on areas such as sites to evacuate to from work and school and means of contacting your family.

Overall drawing

About Tsunamis

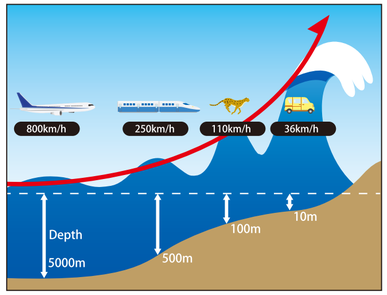
How Tsunamis Work

When a large earthquake occurs under the ocean floor, the movement in faults causes the ocean floor to rise or settle. Alongside this, the surface of the ocean fluctuates, creating a large, travelling wave. This wave is called a tsunami.
Depending on the inclination and direction of the underground faults that cause the earthquake as well as the location where the tsunami takes place and its positional relationship with the shore, a large wave may surge on the shore first without the tide going out. This means that tsunamis do not necessarily start with drawback. Please be cautious.



Travel speed and height of tsunamis

The nature of tsunamis is such that the deeper they are, the faster they travel. Their speed becomes lower when they have less depth. Because of that, as tsunamis approach land, tsunamis that come after it catch up with the ones in front of them, resulting in a taller wave height.
While tsunamis with a shallow depth might be slower, they cannot be escaped by man on foot. If you feel shaking from an earthquake near the shore or a tsunami warning is announced, please evacuate quickly even if you cannot actually see a tsunami.



Even 30 cm-tall tsunamis are dangerous

A tsunami constitutes a tremendous wave of energy through which the entire sea moves from its floor to its surface. This makes it different from high seas, a phenomenon through which the wind blowing causes sea waters close to the surface to move.
As tsunamis gain height, the movement of the entire sea also grows. Even a tsunami with a height in the range of 0.2 m to 0.3 m may sweep up people in their rapid current, and are therefore dangerous.
When a tsunami with a height of 0.2 m or more is announced, a tsunami advisory will be issued. Please get out of the ocean and promptly distance yourself from the shore.

History of Tsunamis (Toyama Prefecture)

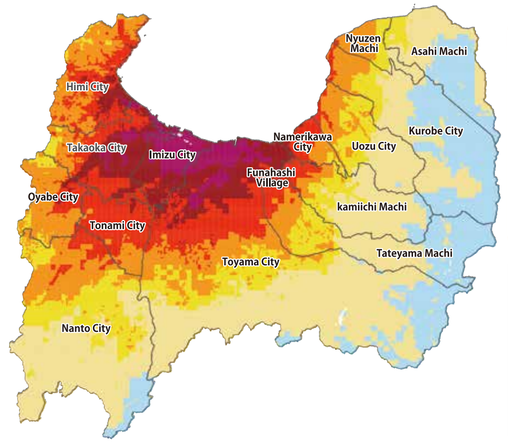
Tsunamis that have hit Toyama Prefecture in the past are shown below. Please ready yourself against tsunamis rather than rely on groundless speculations and superstitions.

1833	Yamagata Prefecture Offshore Earthquake（M7.8）
Record of Tsunami Himi 2m	
1964	Niigata earthquake（M7.5）
Record of Tsunami Fushiki 60cm, Uozu 56cm, Toyama 48cm, Toyamashinko 44cm	
1983	Sea of Japan Earthquake（M7.7）
Record of Tsunami Namerikawa 43cm, Toyama 20cm, Takaoka19cm, Shinminato17cm	
1993	Hokkaido southwest offshore earthquake（M7.8）
Record of Tsunami Toyamashinko11cm, Fushikikou11cm, Toyama10cm	

Source: Tohoku University International Research Institute for Disaster Science, etc. (Tsunami Trace Database)

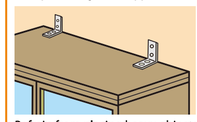
Be cautious of earthquakes as well

Tsunamis are caused by earthquakes. In Toyama City, the maximum seismic intensity resulting from an earthquake on the Kurehayama Fault Zone is assumed to be 7. It is therefore necessary for its citizens to safeguard against shaking from earthquakes in addition to tsunamis.



Safeguard against shaking

Secure tall furniture in place using L-shaped fittings and support stands.



Refrain from placing heavy objects or objects that are prone to breaking on top of furniture.

Legend

- Intensity of 7
- Intensity of upper 6
- Intensity of lower 6
- Intensity of upper 5
- Intensity of lower 5
- Intensity of 4
- Intensity of 3 or under

Source: National Seismic Hazard Maps (Earthquake Research Committee, Headquarters for Earthquake Research Promotion)

The Toyama Municipal Government has also prepared hazard maps for disasters other than earthquakes.
富山市 ハザードマップ 検索

Contact: Disaster Countermeasures Dept., Construction Div., Toyama City Hall
TEL.076-443-2181 FAX.076-443-2039

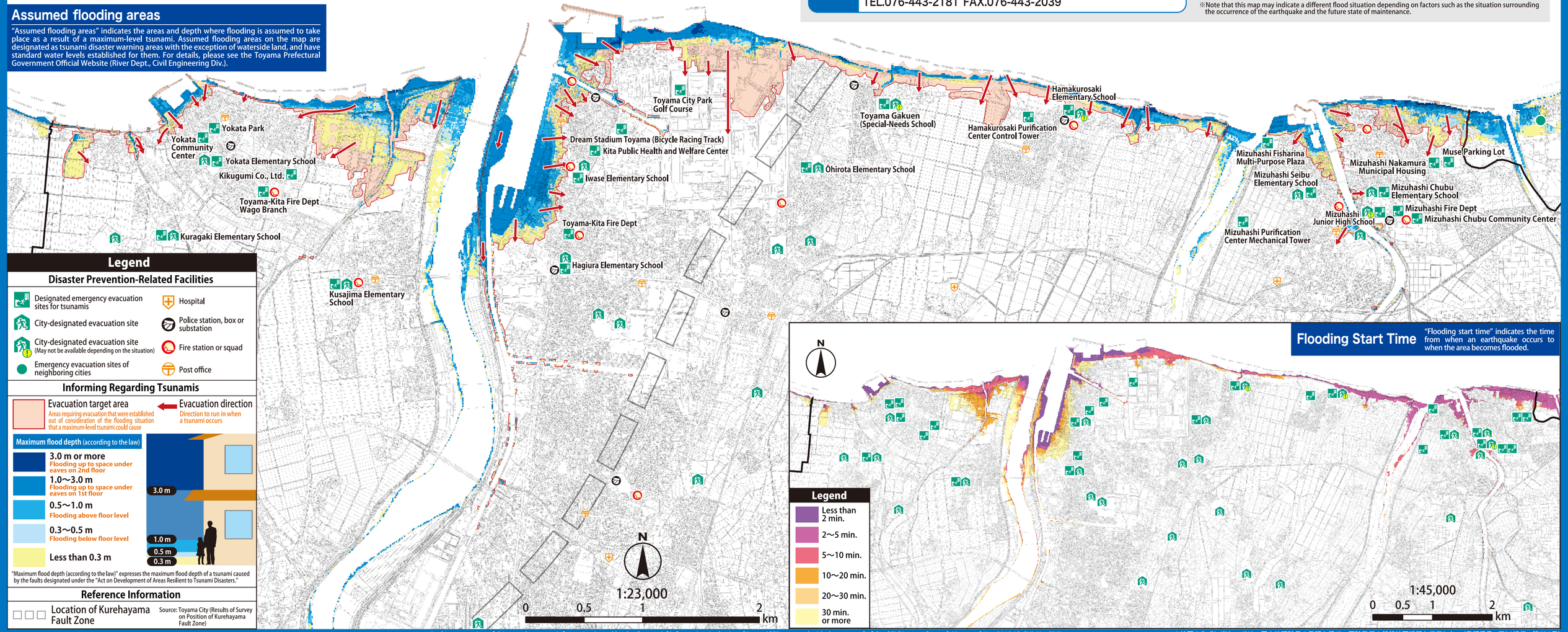
The below conditions are assumed for assumed flooding caused by tsunamis as indicated on this Toyama City Tsunami Hazard Map.

- When levees, breakwaters and other structures have broken and are not functioning
- When the tide level at high tide is at an average level

※Note that this map may indicate a different flood situation depending on factors such as the situation surrounding the occurrence of the earthquake and the future state of maintenance.

Assumed flooding areas

"Assumed flooding areas" indicates the areas and depth where flooding is assumed to take place as a result of a maximum-level tsunami. Assumed flooding areas on the map are designated as tsunami disaster warning areas with the exception of waterside land, and have standard water levels established for them. For details, please see the Toyama Prefectural Government Official Website (River Dept., Civil Engineering Div.).



Legend

Disaster Prevention-Related Facilities

- Designated emergency evacuation sites for tsunamis
- City-designated evacuation site
- City-designated evacuation site (May not be available depending on the situation)
- Emergency evacuation sites of neighboring cities
- Hospital
- Police station, box or substation
- Fire station or squad
- Post office

Informing Regarding Tsunamis

- Evacuation target area — Areas requiring evacuation that were established out of consideration of the flooding situation that a maximum-level tsunami could cause
- Evacuation direction — Direction to run in when a tsunami occurs

Maximum flood depth (according to the law)

- 3.0 m or more — Flooding up to space under eaves on 2nd floor
- 1.0～3.0 m — Flooding up to space under eaves on 1st floor
- 0.5～1.0 m — Flooding above floor level
- 0.3～0.5 m — Flooding below floor level
- Less than 0.3 m

"Maximum flood depth (according to the law)" expresses the maximum flood depth of a tsunami caused by the faults designated under the "Act on Development of Areas Resilient to Tsunami Disasters."

Reference Information

- Location of Kurehayama Fault Zone

Source: Toyama City (Results of Survey on Position of Kurehayama Fault Zone)

Flooding Start Time

"Flooding start time" indicates the time from when an earthquake occurs to when the area becomes flooded.

Issued date：2019.3

In the preparation of this map, base map information issued by the Geospatial Information Authority of Japan (GSI) was used with the approval of the GSI Director-General. (Approval No.: 2018 JO-SHI, No. 530)
この地図の作成に当たっては、国土地理院長の承認を得て、同院発行の基盤地図情報を使用した。（承認番号　平30情使、第530号）