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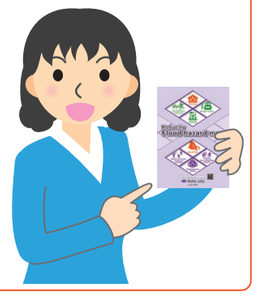
What is a flood hazard map?

According to the Flood Control Act, the national and prefectural governments shall mark-off flood inundation areas, and municipalities shall create flood hazard maps that describe flood forecast transmission methods and evacuation facilities on the flood inundation area map.

Inundation may occur outside the flood inundation area indicated on the flood hazard map, or the estimated inundation depth may differ from the actual inundation depth. However, in the heavy rains of July 2018, which became a record heavy rain mainly in western Japan, there are cases where its effectiveness was shown, such as the fact that the flood inundation area and the actual inundation area almost match in Mabi-ku, Kurashiki City, Okayama Prefecture.

Read this map and find out the predicted water level in your area in the event of flooding and identify the location of the nearest evacuation center.



1-1. About Kofu city flood hazard map

The "Kofu city flood hazard map" shows the flood-prone areas for each flood plain of the monitored rivers with the inundation depths and designated evacuation shelters superimposed on them. This map was created by assuming the worst-case scenario in which an area in the drainage basin of any of these rivers experiences the "estimated maximum rainfall" causing the river levees to break.

The city revised the Kofu city flood hazard map in 2022 to include 10 rivers predicted to be flood-prone and for which water level notifications are to be sent out. In light of the increasing frequency and severity of flooding across the country, the city has now added the "other rivers" shown in the table below, revising the map with the goal of relaying information to city residents regarding risk levels and evacuation in a worst case scenario even if the chances of flooding may actually be low.

This map	
Targeted rainfall	Estimated maximum rainfall
Rivers predicted to flood	The Kamanashi River, The Fuefuki River, The Arakawa River
River water level to be notified	The Aikawa River, The Nigori River, The Byodo River, The Takido River, The Sakai River, The Kamata River , The Kugawa River
Other rivers	The Nagare River, The Shibu River, The Ashi River, The Tera River, The Shichikaku River, The Miyazawa River and The Sawabata River, The Shichikaku Nishi River and The Yamanokami River, The Nishi River and The Shingyoji River, The Sori River and The Fudogawara River, The Ina River and The Asari River, The Makado River, The Kitsune River (Fuefuki City), The Imosawa River and The Asakawa River, The Obori River and The Kamata River, The Shibu River, The Numa River, The Hirusawa River, The Gowari River, The Shibu River (Shirai Town), The Byodo River (Upstream), The Dainibyodo River, The Juro River, The Daien River and The Oyamasawa River, The Takakura River, The Fuji River, The Aikawa River (Upstream), The Yukawa River, The Koyu River, The Arakawa River (Upstream), The Obina River, The Mitake River, The Samusawa River,

1-2. Past disasters in Kofu City

Isolated heavy rains September 11 and 12, 2000	The rain front which stayed over Honshu from September 11 to 12, 2000, became active due to warm and moist air of Typhoon No. 14 and it caused heavy rain over a wide area throughout the country. This torrential rain caused the 24-hour precipitation amount of rain in Kofu City to reach 294.5 mm, which was the highest record since the observation started by the Kofu Local Meteorological Office. (The rainfall total reached 311 mm since the 11th) (Kofu City Disaster Control Teams were set up on September 12 and 13)	Completely destroyed houses: 1 house Partially destroyed houses: 4 houses Inundation above floor level: 106 houses; Inundation below floor level: 273 houses Flooding above floor level in non-residential building: 58 buildings Flooding below floor level in non-residential building: 26 buildings Flooded field, etc.: 91ha; Forest damage: 18 sites Damage to woodland paths: 9 paths, 16 locations Flooded roads: 18 locations Evacuated households: 16 households, 51 people, etc.
Typhoon no. 23 October 20 and 21, 2004	Typhoon No. 23 made landfall in Kochi Prefecture on the afternoon of October 20th, moving north. It passed Kofu City around 11:30 pm on the same day. When the typhoon approached the city around 3:00 pm, it caused heavy rains. The rain stopped around 10:00 pm on the 20th. The rain fall total reached 192 mm between 7:00 am on the 19th to 9:00 am on the 21st. The heavy rain caused landslides in Zenkojimachi area, and caused flooding above and below floor level in Satogaki and Tamamoro areas. (Kofu City Disaster Control Teams were set up on October 20 and 21)	Half-destroyed houses: 1 house Inundation above floor level: 58 houses; Inundation below floor level: 228 houses Flooding above floor level in non-residential building: 22 Flooding below floor level in non-residential building: 21 Submerged rice fields, etc.: 4.89 ha; Forest damage: 3 locations Damage to woodland paths: 1 location Evacuated households: 75 households, 170 people, etc.
Typhoon no. 19 October 12 and 13, 2019	Typhoon No. 19, which occurred near Minami-torishima Island on October 6, turned into a violent storm on October 7. After it made landfall in the Izu Peninsula before 7:00 pm on the 12th, it passed the Kanto region, and escaped toward east in Tohoku region in the early morning of the 13th. It started raining in Yamanashi Prefecture from the night of the 10th. In Furuseki, the rain turned into extremely violent. The rain fall total reached 52.4 mm per an hour. Also, its maximum sustained wind speed recorded 21.2 m/s, causing a stormy rain in Kofu City. (Kofu City Disaster Control Teams were set up on October 12 and 13)	Partial destruction: 15 buildings Evacuated households: 571 households, 1,270 people, etc.



Concentrated heavy rains on September 12, 2000
(Flooding of The Fujikawa River, a tributary of The Nigori River)



Typhoon No. 23 on October 21, 2004
(Flooding of The Takakuragawa River, a tributary of The Nigori River)

※Check the past inundation record here.

1-3. Inland flooding and river flooding

The flood-prone areas in Kofu City Flood Hazard Map shows the predicted affected areas when the rivers bursts their banks. This is called "River flooding". On the other hand, Inland flooding can occur when the volume of water on land exceeds the capacity of drainage systems and sewer systems.

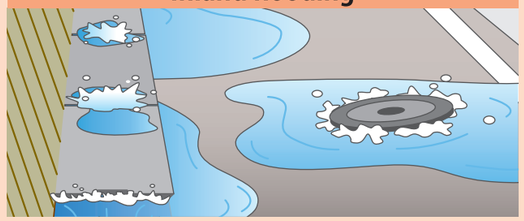
Even in such case that neither a river bursts its banks nor breaks its banks, water overflowing from waterways or sewer systems can cause flood damages. Not only areas near a river, also lowland areas, depressions and underground malls are, especially, at high risk of flood damages. Check the height above sea level of your current location to protect yourself from flooding.

River flooding



River flooding can occur when the water overflows its bank or the water bursts its bank from longer-lasting rainstorms.

Inland flooding



Inland flooding can occur when the volume of water on land exceeds the capacity of natural and built drainage systems when there is a heavy rain in a short time of period.

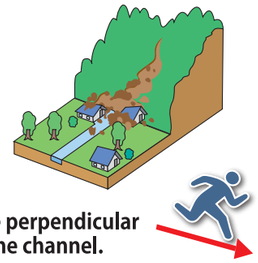
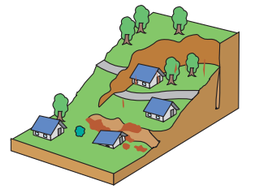
1-4. Areas that require early evacuation

If you live in an area, where may have a risk of house corruptions due to flooding, a risk of a river erosion or if you live in an area, where entire house may be under water, you must take an early evacuaion. Staying inside of a building in this area could cause you a life-threatning danger. Immideately evacuate to a safe place following evacuation information.

Areas that require early evacuation

Types of designated zones		Phenomena and evacuation measures to be taken
Areas with inundation that might destroy houses The areas where houses may be washed away are marked with ▨ in the maps on pages 15 to 34.	**Flooding**	 These are areas where there is a risk of "flood flow" with fast flow rate due to the bursting of banks. Early evacuation to a different location is required as there is a risk of wooden houses being destroyed.
	Riverbank erosion	 These are areas that are at a risk of "riverbank erosion" that may cause houses to be destroyed. Early evacuation to a different location is required as ground surface may be scraped and houses may collapse building after building.
Areas where houses may be submerged in water		 These are areas at a risk of flooding enough to submerge even the top floors of buildings. Early evacuation to a different location is required as staying indoors may be life-threatening.

1-5. Characteristics and warning signs of landslides

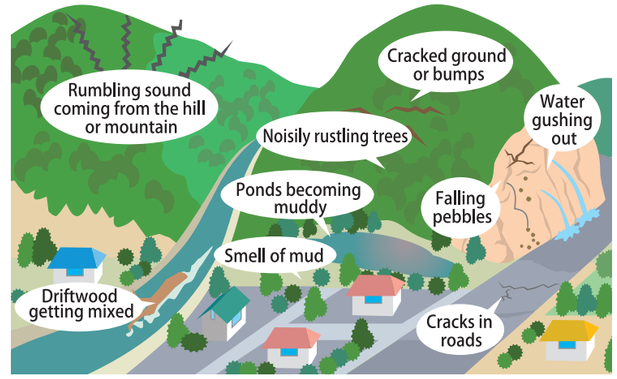
	Rock fall	Debris flow	Landslide
Different types of sediment disasters	 **Stay away from slopes.**	 **Flee perpendicular to the channel.**	 **A slow-moving landslide occurs much more slowly than a regular landslide. Evacuate very early before one occurs.**
Warning signs	● Cracks on the cliff ● Water springing out from the cliff ● Small rocks falling from the cliff ● Sound of tree roots tearing apart or a similar sound coming from the cliff	● Rumbling sound coming from the hill or mountain ● River water suddenly turning murky or filling with driftwood ● Falling river water level despite of continuous rain ● Soil has a rotten odor	● Water bodies such as wells and swamps becoming murky ● Cracked ground ● Water gushing out from a slope ● Formation of cracks in the walls of houses, retaining walls, or in other structures ● Houses, retaining walls, trees, power poles and other structures start to lean to one side

When you notice any warning signs, immediately evacuate to a safe place and inform the city, the police station or the fire department.

Even if "Sediment disaster warning information※", which warns you the possibility of a sediment disaster has not been issued, evacuate immediately.

※**Sediment disaster warning information**:
This information is announced by Yamanashi Prefecture in collaboration with the Japan Meteorological Agency (JMA) when there is high risk of sediment disasters due to a heavy rain. An announcement of this information indicates a sediment disaster could easily occur.

Examples of warning signs



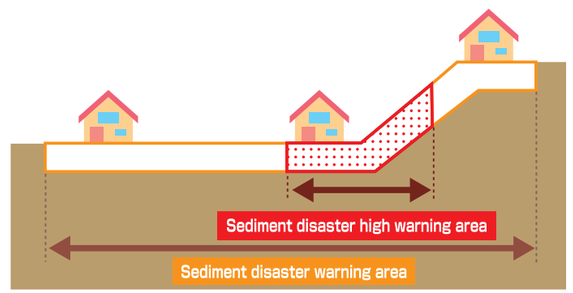
1-6. What is a sediment (high) warning area?

Yamanashi Prefectural Government has designated some areas as sediment disaster prone areas. The areas are classified into two types according to the risk level: "Sediment disaster warning areas"" and Sediment disaster high warning areas"

Sediment disaster (high) warning area

Sediment disaster warning area
The warning and evacuation system shall be established for the sediment disaster prone areas. The warning and evacuation system includes public dissemination of danger and creating a warning and evacuation manual.
※ Regulations will be issued for some development projects.

Sediment disaster high warning area
A licensing system for specific development projects, structural control for building as well as building relocation advisories and supporting measurements shall be introduced to the sediment disaster prone area, which may cause massive damage to the residents due to building corruption.



※In the event of a mudslide