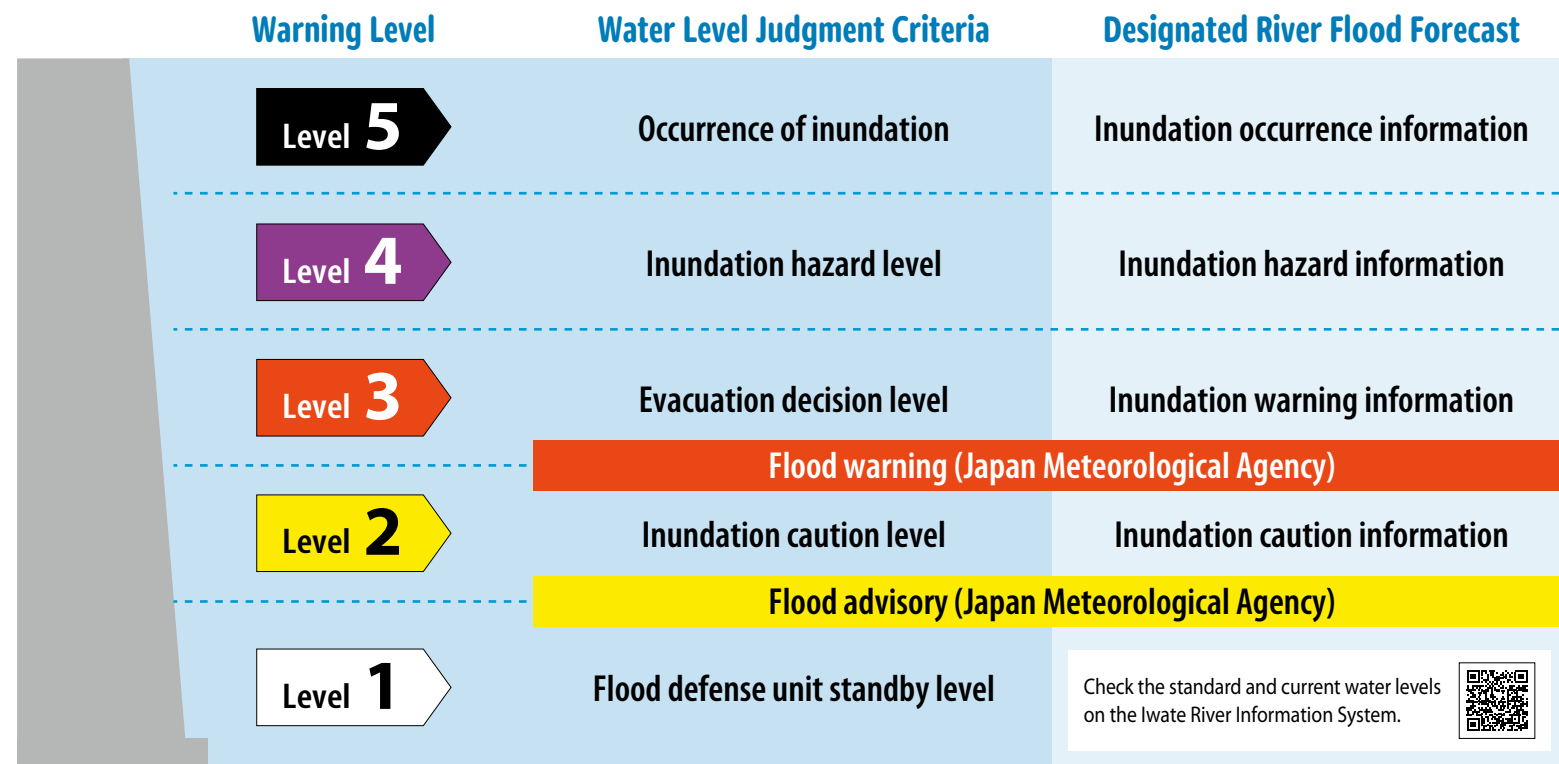


# River Flood Forecast

The Iwate Rivers and National Highways Office manages the Kitakami River, Isawa River, Hitokabe River, and Koromo River. Based on the precipitation predicted by the Morioka Regional Meteorological Observatory, they predict the degree of water level danger and issue designated river flood forecasts.



## Reservoir hazard information

It is very difficult to predict the collapse of a reservoir in advance. Be prepared on a daily basis in case of an emergency, and once an evacuation order is issued, do so quickly and ensure safety.

### Regular maintenance is important!

Thoroughly maintain reservoir embankments by mowing grass and cleaning floodgates. Make efforts to keep the water level low when heavy or long-term rain is expected.

# Inundation Level Guidelines

We have included inundation levels, and information on how far water is expected to reach regarding buildings. **Flood-prone areas listed on this hazard map are only for the Kitakami River, Isawa River, Hitokabe River, and Koromo River.**

## Inundation Level Guidelines

5.0m or over	2F inundated, 3F inundation up to floor level
3.0 – Less than 5.0m	2F inundation up to floor level
0.5 – Less than 3.0m	1F above floor inundation
Less than 0.5m	1F below floor inundation



### Protecting Yourself

- Turn off electrical appliances and unplug them from outlets
- When leaving your home, turn off the circuit breaker
- After power is restored, make sure it is safe before using electrical appliances

Be aware that even in areas that are not designated as flood zones, flooding may occur, and estimated water depth may differ from actual depth.

## Estimated Heavy Rain Scale

**Kitakami River** (Meiji Bridge downstream: total rainfall for 2 days in the Kitakami River basin: 264mm / Meiji Bridge upstream: total rainfall for 2 days in the Kitakami River basin: 313mm)

**Isawa River** (total rainfall for 2 days in the Isawa River upper basin: 675mm)

**Hitokabe River** (total rainfall for 2 days in the Hitokabe River basin: 347mm)

**Koromo River** (total rainfall for 2 days in the Koromo River basin: 466mm)

## Fire during flooding and after recovery

Along with flood damage, prolonged power outages can also occur. When restoration work is complete and power is restored, be aware of the risk of electrical fires starting from appliances or wiring.

# Typhoon Strength and Rain Patterns

When checking weather information, refer to the table below to understand the degree of typhoon / rain intensity and expected impact.

Typhoons				
Average Wind Speed (m/s)	Wind Strength (forecast terms)	Speed Approximation	Impact	Approximate Instantaneous Wind Speed (m/s)
30 or higher	Violent wind	Express train	House collapse risk.	50+
25 – 30	Very strong wind	Cars on highways	Unable to stand, outdoor activities are extremely dangerous. Trucks may overturn while driving.	40+
20 – 25			Failure to secure the body will result in a fall. Road signs may tilt.	30+
15 – 20	Strong wind	Cars on regular roads	Cannot walk against the wind, risk of falling over.	20+
10 – 15	Slightly strong wind		Walking against the wind becomes difficult, umbrellas cannot be used.	Up to 20

Rain			
1-hour Rainfall (mm)	Forecast Terms	How it Seems	Impact
Over 80	Torrential rain	Feels like a pressure that makes it hard to breathe	High risk of large-scale disaster caused by rainfall, strict vigilance is required.
50 – 80	Very heavy rain	Continuous downpour falling like a waterfall	Water sprays out of manholes, debris flow is likely, many disasters occur.
30 – 50	Heavy rain	Like buckets of water pouring	Slope collapses are more likely to occur, preparation for evacuation is necessary in dangerous areas.
20 – 30	Strong rain	Heavy rain with a pelting sound	Difficult seeing even with wipers on high; gutters, sewers, and small rivers overflow.
10 – 20	Moderate rain	Heavy rain with a rushing sound	Difficult to hear conversation over the sound of rain.

# Torrential Rain

Torrential rain (also called "guerrilla rain") is a heavy rain that falls suddenly and over a short time in a limited area, often occurring at the end of the rainy season. Since predicting its occurrence is very difficult, it is necessary to pay close attention to weather information and take all possible precautions.

## Do not go through underpasses!

An underpass is a road that passes under intersecting railways or road, and is lower than the surrounding ground. Due to risk of vehicles being submerged during flooding, please do not pass through these locations, and take a detour instead.

Depth 30cm

Car can't move



Depth 50cm

Doors won't open



Depth 1m

Car floats and is swept away



### Protecting Yourself

- Avoid going out during sudden heavy rain
- Take shelter if you are already outside
- If driving, temporarily park in a lot or other safe area