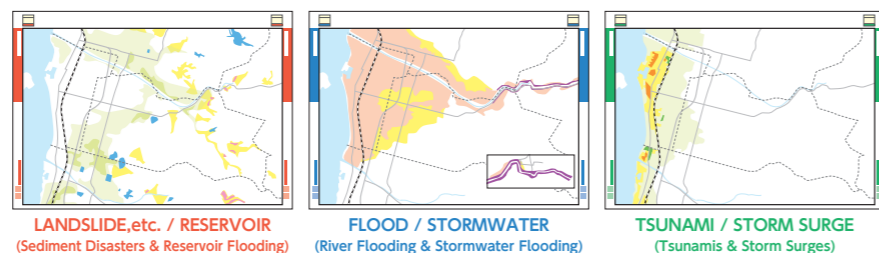


How to Read the Hazard Map

Color Coding by Category

Three types of hazard maps are included: **RED** for Sediment Disasters & Reservoir Flooding, **BLUE** for River Flooding & Stormwater Flooding, and **GREEN** for Tsunamis & Storm Surges. **BLUE/GREEN** maps are not included for zones where river/stormwater flood damage is not expected, or there is no tsunami/storm surge danger.



Projected Scenarios for Each Category

SEDIMENT DISASTER (Landslide, etc.) (Sediment Disaster Hazard Zones / Sediment Disaster Special Hazard Zones)

Boundaries of hazard zones designated by Ehime Prefecture in accordance with the Sediment Disaster Prevention Act are indicated for each category of sediment disaster. Sediment Disaster Hazard Zones (Yellow Zones) indicate areas where the lives and wellbeing of residents, etc. may be at risk in the event of a disaster such as the collapse of steeply sloped ground. Sediment Disaster Special Hazard Zones (Red Zones) indicate considerable risk to the lives and wellbeing of residents, etc. with buildings facing risks of damage or destruction.

RESERVOIR FLOODING (Key Reservoirs for Disaster Management / Expected Reservoir Flooding Inundation Zones)

Expected inundation zones in the event of reservoir collapse during times of flooding are overlaid, indicating zone boundaries and maximum inundation depths for key reservoirs for disaster management in 299 locations.
* To see inundation depths for specific reservoirs, check the Reservoir Hazard Map.

RIVER FLOOD (Expected Flood Inundation Zones / Maximum Inundation Depth)

Expected flood inundation zones in the event of rainfall at maximum expected levels (once-per-1,000-years levels) as announced by river administrators in accordance with the Flood Control Act are overlaid, indicating zone boundaries and maximum inundation depths.

River name	Shigenobu-gawa River	Ishite-gawa River	Ono-gawa River	Tateiwa-gawa River
River administrator	Japan Govt.	Japan Govt. Ehime Pref.	Ehime Pref.	Ehime Pref.
Expected 24-hr rainfall total	626mm	705mm	754mm	769mm

(Expl.) Expected Flood Zone with Destruction of Houses, etc.

Indicates zones where ordinary buildings are at high risk of being destroyed, swept away, etc. in the event embankments in the vicinity collapse due to an occurrence of the maximum expected level of rainfall. These zones fall into two categories: those due to direct risks of flowing flood waters, and those due to the erosion of riverbanks.

- Expected Flood Zone with Destruction of Houses, etc. (Due to Flood Flow) ... Zones where wooden houses are at risk of being swept away/destroyed due to flowing flood water
- Expected Flood Zone with Destruction of Houses, etc. (Due to Riverbank Erosion) ... Zones where houses are at risk of being swept away/destroyed due to flood-induced erosion of riverbanks

* To see detailed inundation depths and durations of inundation for specific rivers, check the Matsuyama Flood Hazard Map.

STORMWATER FLOODING (Expected Stormwater Inundation Zones / Maximum Inundation Depth)

Expected stormwater inundation zones in the event of an occurrence of heavy rain with total rainfall of 299 mm and maximum hourly rainfall of 83.5 mm are shown, indicating zone boundaries and maximum inundation depths.

* To see detailed inundation depths, check the Matsuyama Stormwater Hazard Map.

TSUNAMI DAMAGE (Tsunami Hazard Zones / Maximum Inundation Depth [Standard Water Level])

Tsunami hazard zones designated by Ehime Prefecture in accordance with the Act on Regional Development for Tsunami Disaster Prevention are shown, indicating zone boundaries and standard water levels.

STORM SURGE DAMAGE (Expected Storm Surge Inundation Zones)

Boundaries of expected inundation zones in the event of storm surges of the largest expected potential level as announced by Ehime Prefecture in accordance with the Flood Control Act are indicated.

* To see detailed inundation depths and durations of inundation, check the Matsuyama Storm Surge Hazard Map.

● Projections Based on Largest Recorded Typhoons

- Central pressure 900 hPa(Equiv. to 1934 Muroto Typhoon)
- Radius & velocity Radius of maximum cyclostrophic wind: 75 km* (Equiv. to 1959 Isewan Typhoon/Typhoon Vera)
Velocity: 75 km/h(Equiv. to 1959 Isewan Typhoon/Typhoon Vera)

* Radius of maximum cyclostrophic wind: Distance from the center of a typhoon to the point near the typhoon with the highest wind speed

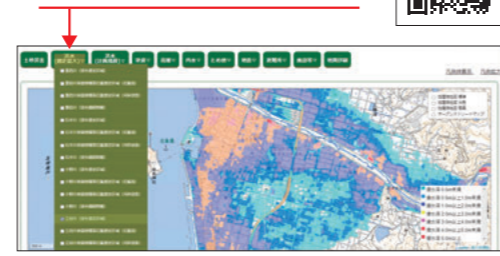
Check! View the Hazard Map Online

A Web edition of the Hazard Map is available on the Matsuyama City Disaster Management Portal. Use it to find more details on disaster risk.

① Access the Matsuyama City Disaster Management Portal

the Matsuyama City Disaster Management Portal Search

- Click on Matsuyama Hazard Map Web Edition
- Select the type of disaster risk you wish to check

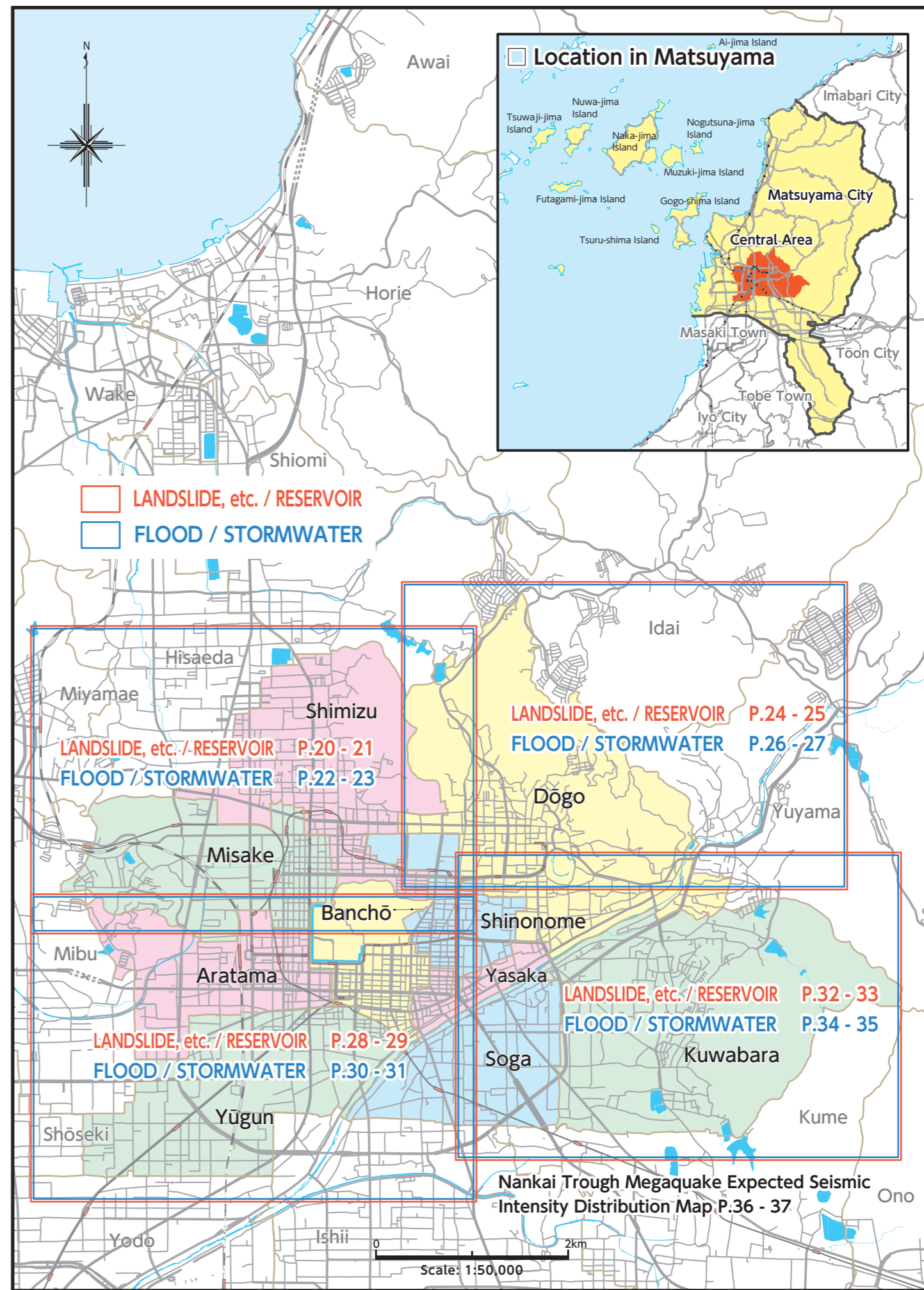


⚠ While all projections are made on the basis of current knowledge, disasters may potentially exceed projected levels.

While this Hazard Map has been created based on the latest digital map data (basic national geospatial data) published by the Geospatial Information Authority of Japan (GSI), please be aware that certain locations may not correspond with actual current conditions due to changes over time. With regard to hazard information for sediment disasters, etc., the map is meant to serve as an approximate general reference only, and is by no means representative of exact or specific limits of the boundary, scope, etc. of hazard zones, etc. Please also note that listed disaster management information, including evacuation shelters, etc. is current as of Jan. 2022, and may be subject to change in the future. Please refrain from reproducing or reprinting this publication's cover, contents, or maps without the consent of Matsuyama City.

INDEX MAP

[Banchō / Shinonome / Yasaka / Soga / Yūgun / Aratama / Misake / Shimizu / Kuwabara / Dōgo]



- Designated Emergency Evacuation Site*
- Designated Evacuation Shelter*
- Welfare Evacuation Shelter
- City Hall / Branch Office
- Fire Station / Branch
- Civilian Firefighters' Pump Storage
- Police Station Koban / Chūzai-sho
- Emergency Medical Facility
- Emergency Broadcast System (Announcement / Siren)
- Emergency Helicopter Landing-pad
- Underground Shopping Center / Underpass
- Payphone (outdoors)
- Emergency Transportation Route
- Major Evacuation Route
- Intersection Name
- National Road
- Bank / Shinkin Bank
- Post Office
- Prefectural Road

(Sediment Disaster Hazard Zones / Sediment Disaster Special Hazard Zones)

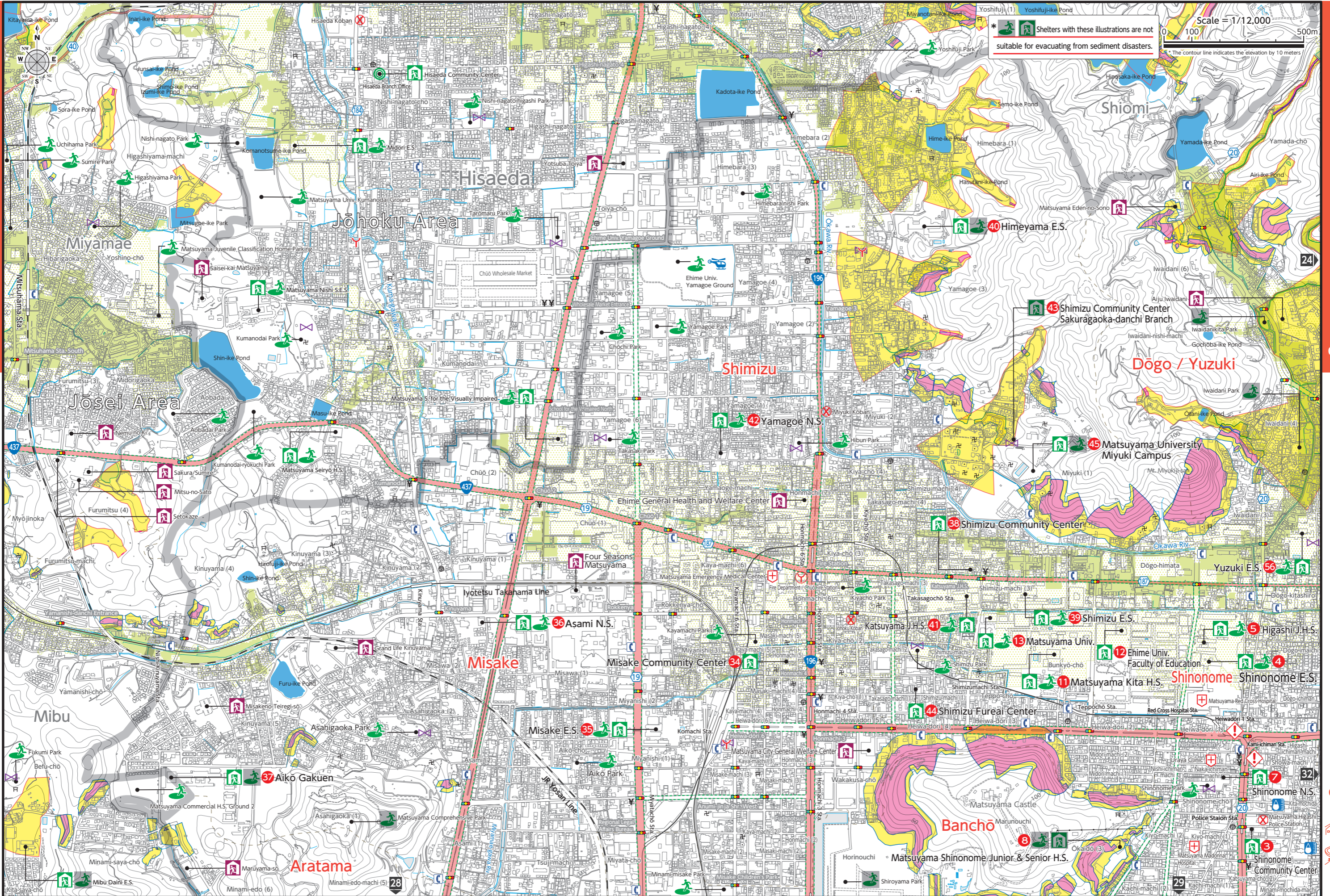
- Hazard zone (steep slope)
- Hazard zone (debris flow)
- Hazard zone (landslide)
- Extreme hazard zone (steep slope)
- Extreme hazard zone (debris flow)
- (Not applicable)

(Caution Required Reservoirs / Expected Reservoir Flooding Inundation Zones)

- Caution Required Reservoir
- Reservoir that could flood homes, etc. in case of a breach
- 0.5m and over
- Under 0.5m

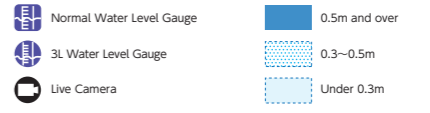
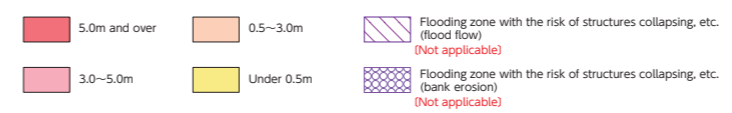
Aratama / Misake / Shimizu

Banchō / Shinonome / Misake / Shimizu / Dōgo



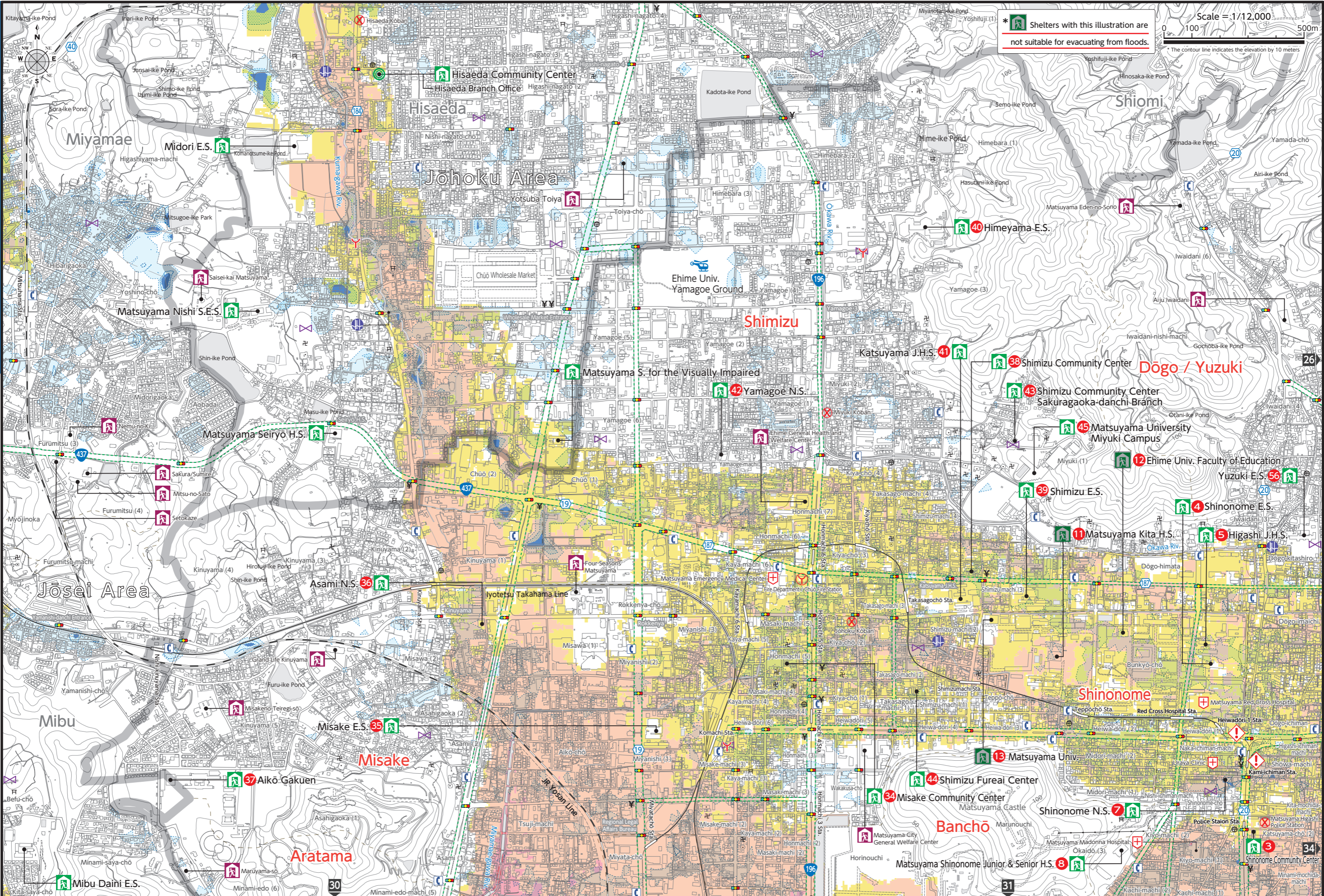
Sediment Disasters / Reservoir Flooding

Sediment Disasters / Reservoir Flooding



Aratama / Misake / Shimizu

Banchō / Shinonome / Misake / Shimizu / Dōgo



River Flooding / Stormwater Flooding

River Flooding / Stormwater Flooding

- Designated Emergency Evacuation Site*
- Designated Evacuation Shelter*
- Welfare Evacuation Shelter
- City Hall / Branch Office
- Fire Station / Branch
- Civilian Firefighters' Pump Storage
- Police Station Koban / Chuzai-sho
- Emergency Medical Facility
- Emergency Broadcast System (Announcement / Siren)
- Emergency Helicopter Landing-pad
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- Emergency Transportation Route
- Major Evacuation Route
- Intersection Name
- National Road
- Bank / Shinkin Bank
- Post Office
- Prefectural Road
- Shrine
- Temple

(Sediment Disaster Hazard Zones / Sediment Disaster Special Hazard Zones)

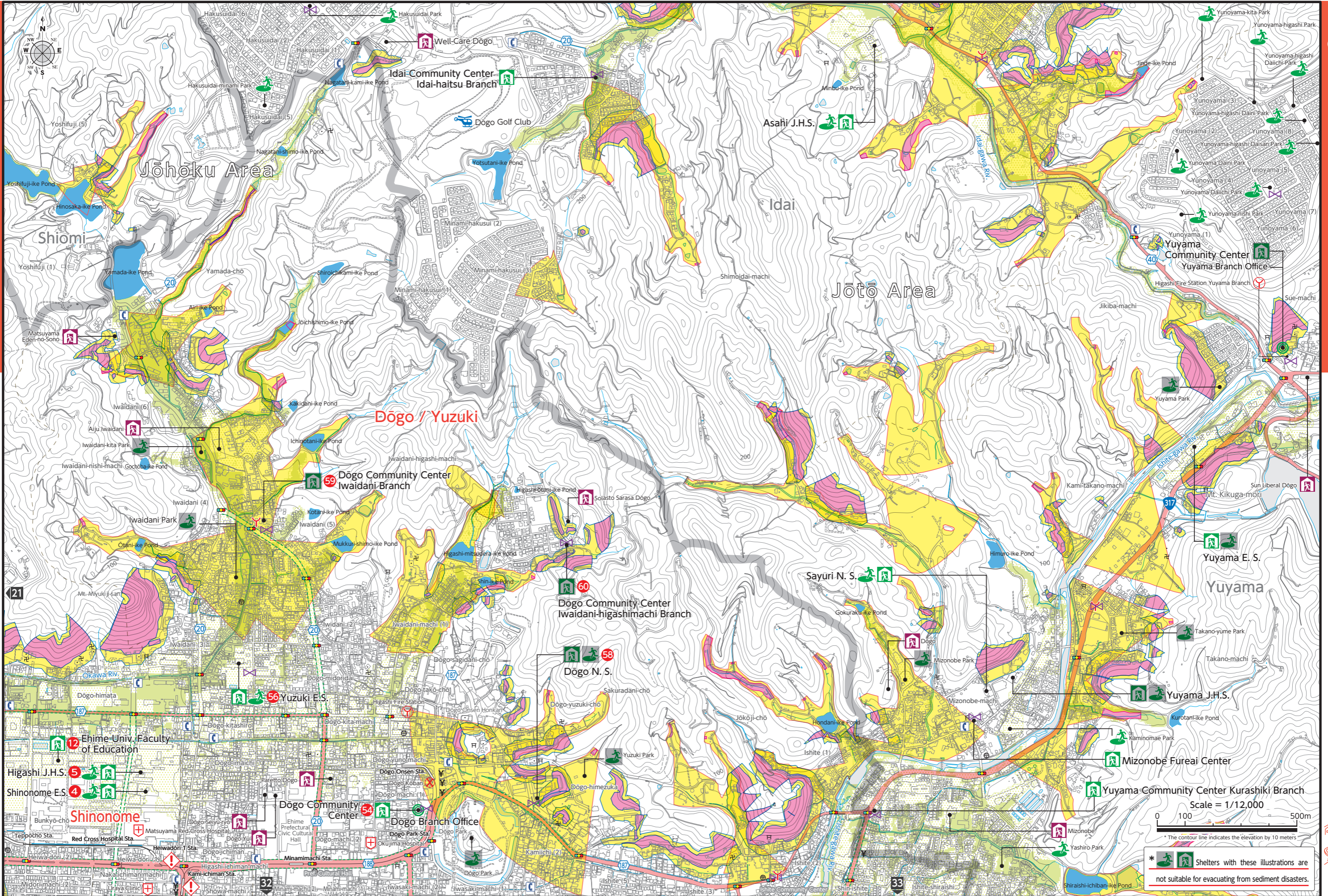
- Hazard zone (steep slope)
- Hazard zone (debris flow)
- Hazard zone (landslide)
- Extreme hazard zone (steep slope)
- Extreme hazard zone (debris flow)

(Caution Required Reservoirs / Expected Reservoir Flooding Inundation Zones)

- Rain Gauge
- Caution Required Reservoir
- Reservoir that could flood homes, etc. in case of a breach
- 0.5m and over
- Under 0.5m

Shinonome / Dōgo

Dōgo



Sediment Disasters / Reservoir Flooding

Sediment Disasters / Reservoir Flooding

Scale = 1/12,000
0 100 500m

* Shelters with these illustrations are not suitable for evacuating from sediment disasters.

Designated Evacuation Shelter*
Welfare Evacuation Shelter
Please refer to page 24, 25 for the designated emergency evacuation sites

City Hall / Branch Office
Fire Station / Branch
Civilian Firefighters' Pump Storage

Police Station / Koban / Chuzai-sho
Emergency Medical Facility
Emergency Broadcast System (Announcement / Siren)

Emergency Helicopter Landing-pad
Underground Shopping Center / Underpass
Payphone (outdoors)

Major Evacuation Route
Intersection Name
Please refer to page 24, 25 for the emergency transportation routes

National Road
Prefectural Road
Bank / Shinkin Bank
Post Office
Shrine
Temple

(Expected Flood Inundation Zones / Maximum Inundation Depth) *Ishite-gawa River

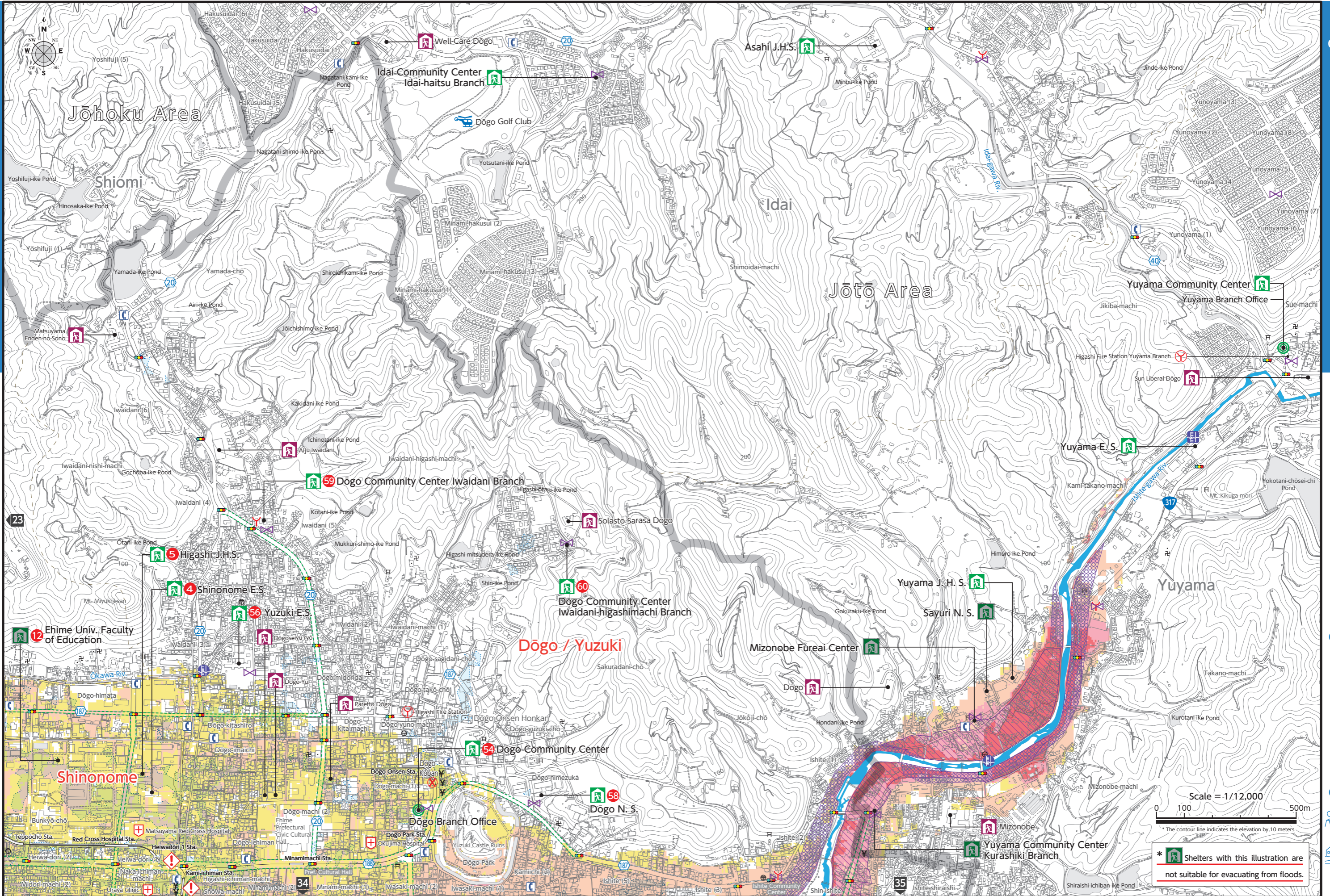
5.0m and over
3.0~5.0m
0.5~3.0m
Under 0.5m
Flooding zone with the risk of structures collapsing, etc. (flood flow)
Flooding zone with the risk of structures collapsing, etc. (bank erosion)

(Expected Stormwater Inundation Zones / Maximum Inundation Depth)

Normal Water Level Gauge
3L Water Level Gauge
Live Camera
0.5m and over
0.3~0.5m
Under 0.3m

Shinonome / Dogo

Dogo



River Flooding / Stormwater Flooding

River Flooding / Stormwater Flooding

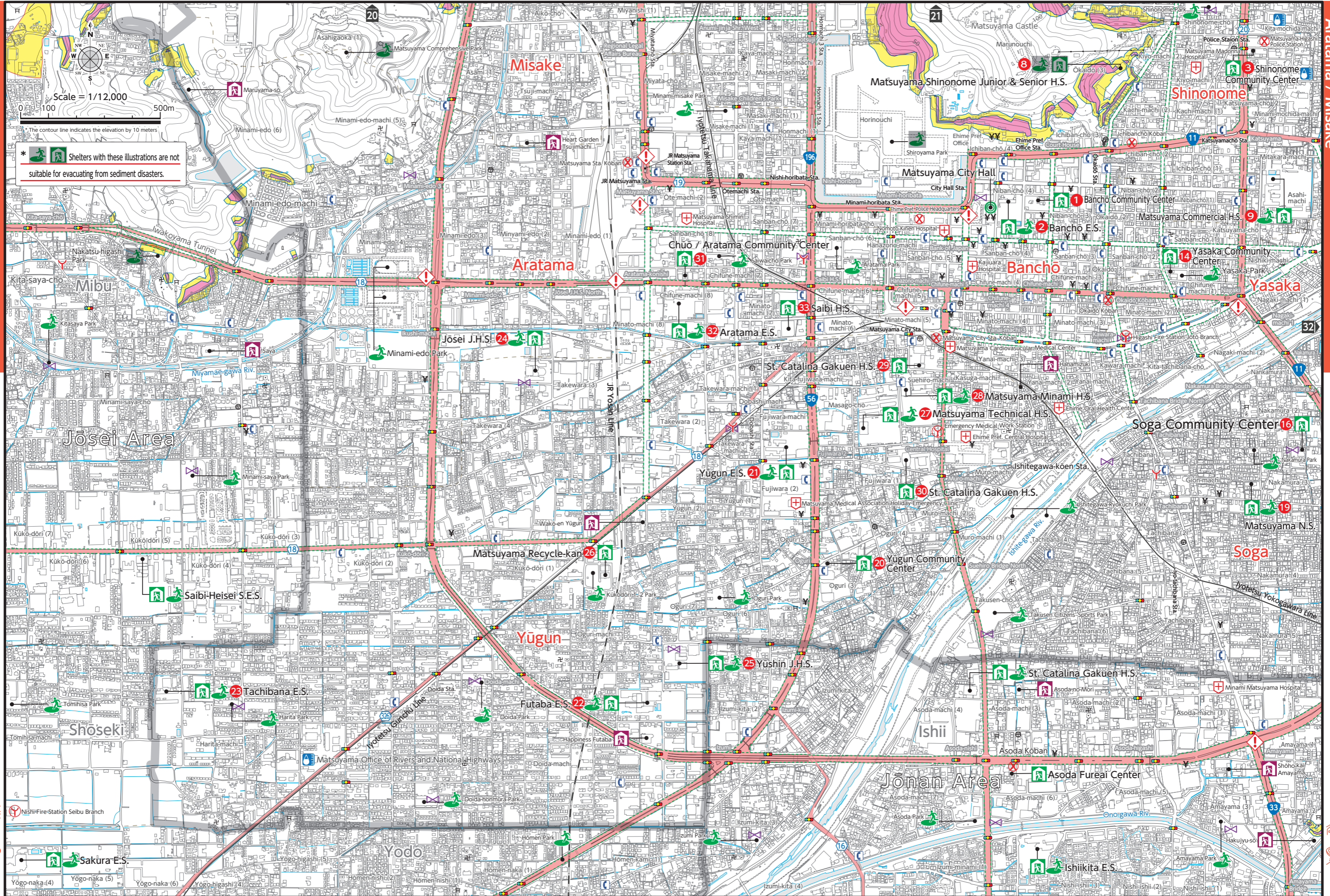
- Designated Emergency Evacuation Site
- Designated Evacuation Shelter
- Welfare Evacuation Shelter
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- Temple

(Sediment Disaster Hazard Zones / Sediment Disaster Special Hazard Zones)

- Hazard zone (steep slope)
- Hazard zone (debris flow)
- Hazard zone (landslide)
- Extreme hazard zone (steep slope)
- Extreme hazard zone (debris flow)
- Extreme hazard zone (landslide)

(Caution Required Reservoirs / Expected Reservoir Flooding Inundation Zones)

- Rain Gauge
- Caution Required Reservoir
- Reservoir that could flood homes, etc. in case of a breach
- 0.5m and over
- Under 0.5m



Yūgun / Aratama / Misake

Banchō / Shinonome / Yasaka / Soga / Yūgun / Aratama / Misake

Sediment Disasters / Reservoir Flooding

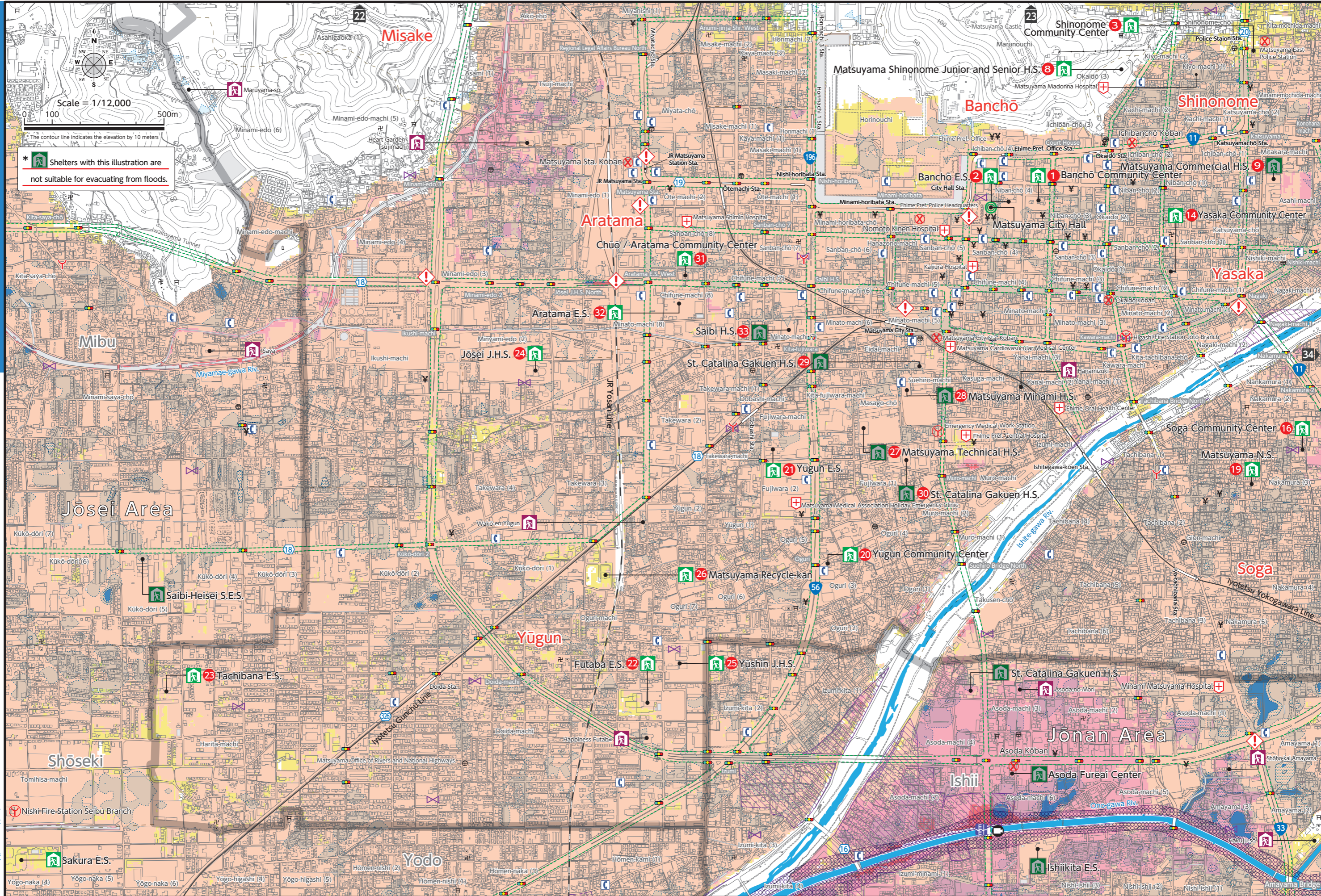
Sediment Disasters / Reservoir Flooding

Yūgun / Aratama / Misake

Banchō / Shinonome / Yasaka / Soga / Yūgun / Aratama / Misake

River Flooding / Stormwater Flooding

River Flooding / Stormwater Flooding



- Designated Emergency Evacuation Site *
- Designated Evacuation Shelter *
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- Temple

(Sediment Disaster Hazard Zones / Sediment Disaster Special Hazard Zones)

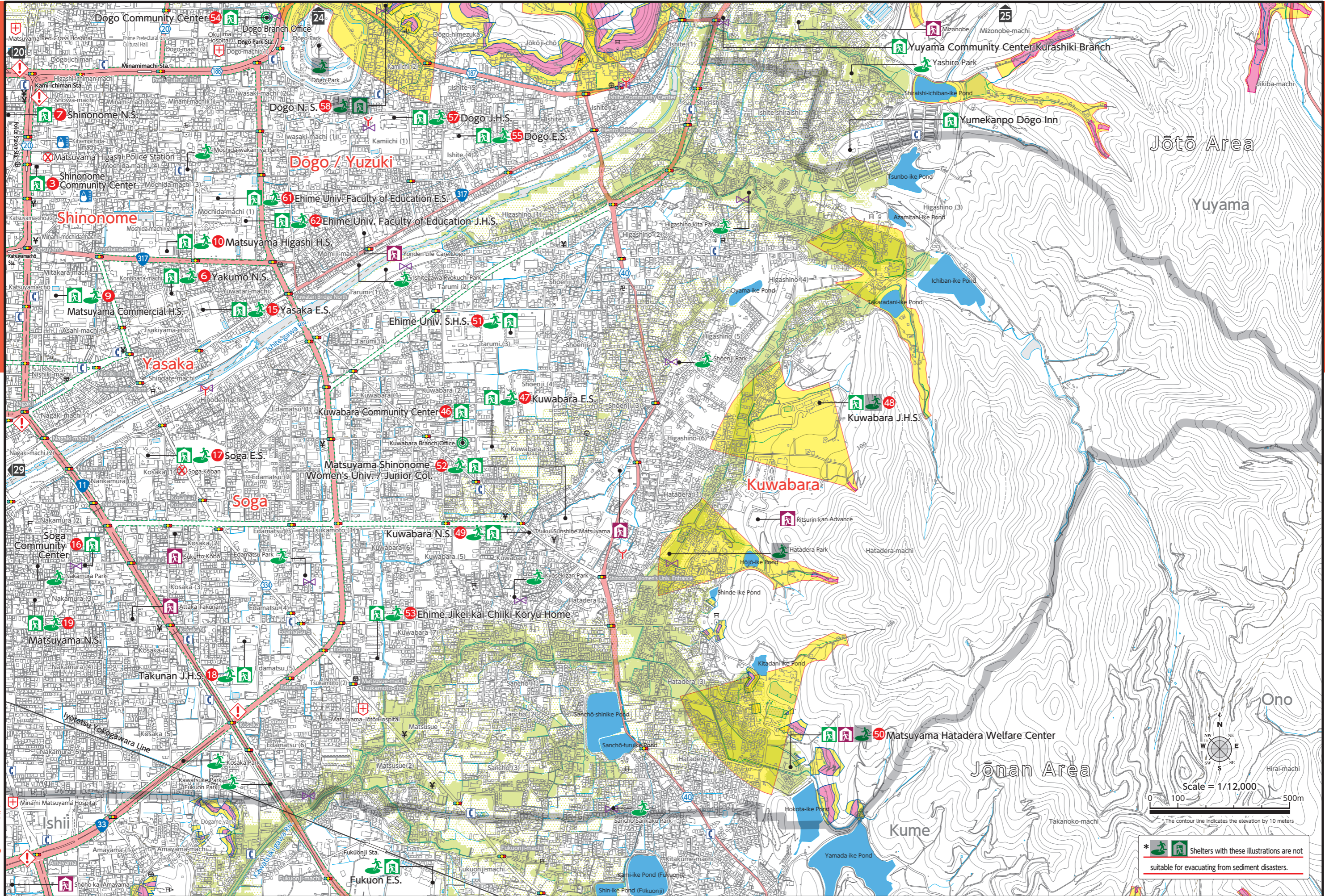
- Hazard zone (steep slope)
- Hazard zone (debris flow)
- Hazard zone (landslide) (Not applicable)
- Extreme hazard zone (steep slope)
- Extreme hazard zone (debris flow)

(Caution Required Reservoirs / Expected Reservoir Flooding Inundation Zones)

- Rain Gauge
- Caution Required Reservoir
- Reservoir that could flood homes, etc. in case of a breach
- 0.5m and over
- Under 0.5m

Shinonome / Yasaka / Soga / Kuwabara / Dōgo

Kuwabara / Dōgo



Scale = 1/12,000

0 100 500m

The contour line indicates the elevation by 10 meters

* Shelters with these illustrations are not suitable for evacuating from sediment disasters.

Sediment Disasters / Reservoir Flooding

Sediment Disasters / Reservoir Flooding

- Designated Evacuation Shelter*
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- National Road
- Prefectural Road
- Shrine
- Temple

Please refer to page 32, 33 for the designated emergency evacuation sites

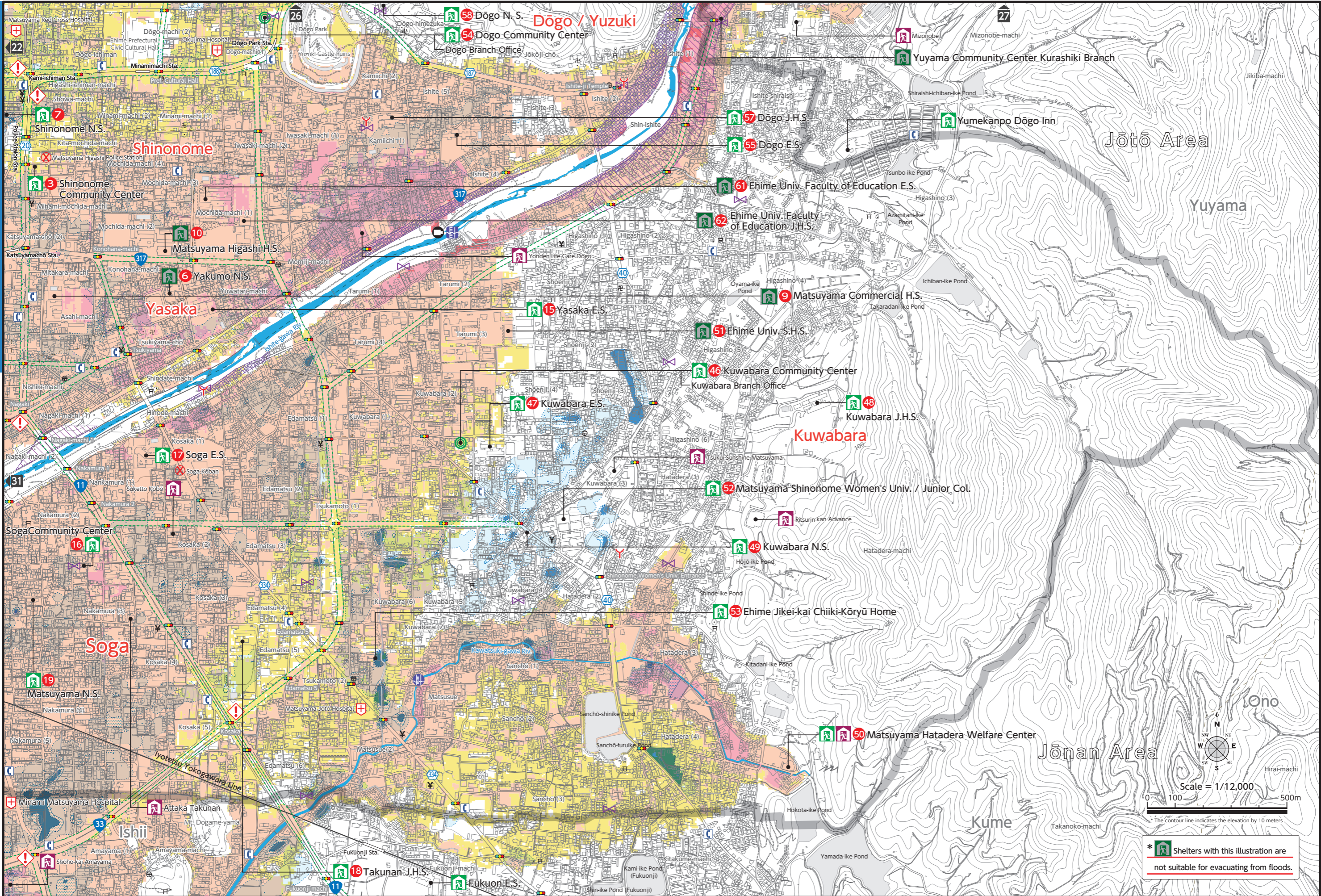
Please refer to page 32, 33 for the emergency transportation routes

- (Expected Flood Inundation Zones / Maximum Inundation Depth)
*Ishite-gawa River / Ono-gawa River
- 5.0m and over
 - 3.0~5.0m
 - 0.5~3.0m
 - Under 0.5m
 - Flooding zone with the risk of structures collapsing, etc. (flood flow)
 - Flooding zone with the risk of structures collapsing, etc. (bank erosion)

- (Expected Stormwater Inundation Zones / Maximum Inundation Depth)
- Normal Water Level Gauge
 - 3L Water Level Gauge
 - Live Camera
 - 0.5m and over
 - 0.3~0.5m
 - Under 0.3m

Shinonome / Yasaka / Soga / Kuwabara / Dōgo

Kuwabara / Dōgo



River Flooding / Stormwater Flooding

River Flooding / Stormwater Flooding

* Shelters with this illustration are not suitable for evacuating from floods.

Nankai Trough Megaquake Expected Seismic Intensity Distribution Map (Cases overlaid)

Source: Results of 2013 Ehime Prefecture Earthquake Damage Projection Survey (Initial Report)

< JMA Seismic Intensity Scale >



Designated Emergency Evacuation Site
 Designated Evacuation Shelter

Banchō / Soga / Yūgun / Aratama / Misake / Shimizu

Shinonome / Yasaka / Soga / Kuwabara / Dōgo

Seismic Intensity: 7

- Wooden houses with low earthquake resistance are even more likely to lean or collapse.
- Even wooden houses with high earthquake resistance may lean in some cases.
- Reinforced-concrete buildings with low earthquake resistance are more likely to collapse.



Seismic Intensity: 6 Upper

- It is impossible to move without crawling. People may be thrown through the air.
- Most unsecured furniture moves and is more likely to topple over.
- Wooden houses with low earthquake resistance are more likely to lean or collapse.
- Large cracks may form in ground. Large landslides and mass collapses may be seen.



Seismic Intensity: 6 Lower

- It is difficult to remain standing.
- Many unsecured pieces of furniture move and may topple over. Doors may become wedged shut.
- Wall tiles and windows may sustain damage and fall.
- Wooden houses with low earthquake resistance may lean or collapse, and tiles may fall.



Seismic Intensity: 5 Upper

- Walking is difficult without holding on to something stable.
- Dishes in cupboards and items on bookshelves are more likely to fall.
- Unsecured furniture may move.
- Unreinforced concrete-block walls may collapse.



Seismic Intensity: 5 Lower

- Many people are frightened and feel the need to hold on to something stable.
- Dishes in cupboards and items on bookshelves may fall.
- Unsecured furniture may move, and unstable furniture may topple over.

