

Storm Surge Risk Search Service

User manual

March 2022

Bureau of Port and Harbor
Bureau of Construction
Tokyo Metropolitan Government

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1. Service Overview

1.1. What is "Storm Surge Risk Search Service" ?

The approach of a typhoon or low atmospheric pressure system can cause the sea level (tide level) to rise significantly. This phenomenon is called a storm surge.

The Storm Surge Inundation Risk Search Service is based on the "Maps of Storm Surge Inundation Risk Areas" prepared by the Tokyo Metropolitan Government, and allows you to easily search for the inundation area caused by the large-scale storm surge event scenario using maps and addresses.

You can search for "Inundation depth" (Maximum inundation depth expected in the event of inundation) and "Inundation duration" (Maximum inundation duration expected in the event of inundation).

1.2. What is "Maps of Storm Surge Inundation Risk Areas" ?

Revision of the Flood Control Act in May 2015 established a new system for publicly announcing inundation risk areas related to the possible occurrence of a large-scale storm surge event to improve and reinforce the evacuation systems in the event of such an occurrence.

In March 2008, the Tokyo Metropolitan Government prepared and published to inform Tokyo citizens of the risk of inundation that is expected to occur in the event of coastal or river flooding based on the large-scale storm surge event scenario and to take the necessary measures.

For more information on "Maps of Storm Surge Inundation Risk Areas", please refer to the website of the Tokyo Metropolitan Government Bureau of Port and Harbor (<https://www.kouwan.metro.tokyo.lg.jp/yakuwari/takashio/shinsuisoutei.html>) .

1.3. Recommended Browser

The following browsers are recommended for use with this service.

<For PC>

- Chrome Latest Version
- Firefox Latest Version
- Safari Latest Version

<For Mobile>

- iOS : iOS Latest Version, Safari Latest Version
- Android : Android Latest Version, Chrome Latest Version

2. Main Screen

Click the “Agree” button on the “Points to keep in mind” page to display the main screen. In this service, the risk information of “Inundation depth” is initially displayed on the map, and the risk information of “Inundation duration” can be checked by selecting the tab of “Duration”.

The explanation in this document focuses on the PC version of the screen, and for parts that are displayed differently on the PC and mobile versions, the mobile version of the screen is used to describe the explanation.

The screen functions of each are as follows. For more details, please refer to Chapter 3 (page 5) and onward.

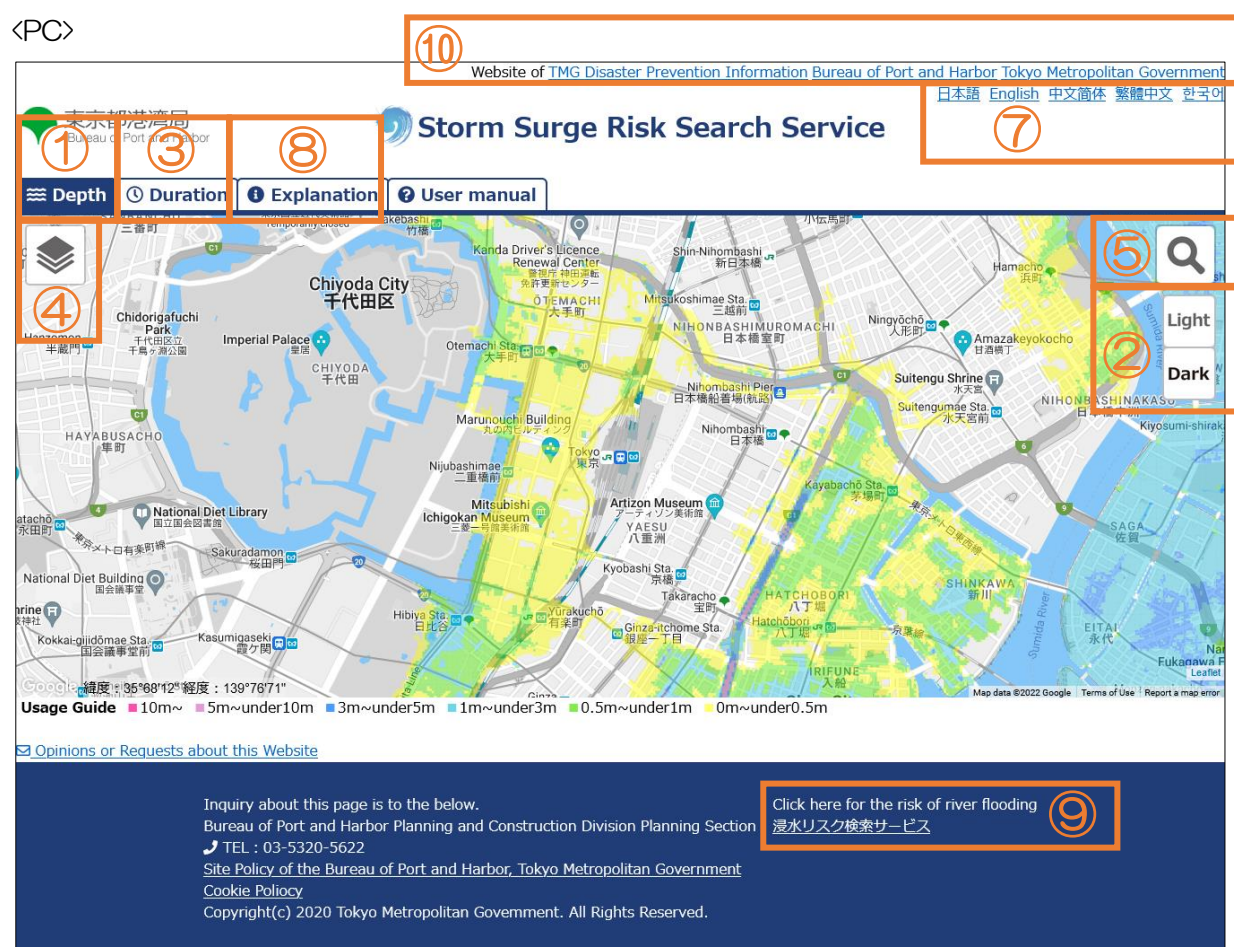


Fig. 2-1: Main screen (PC)

<Mobile>

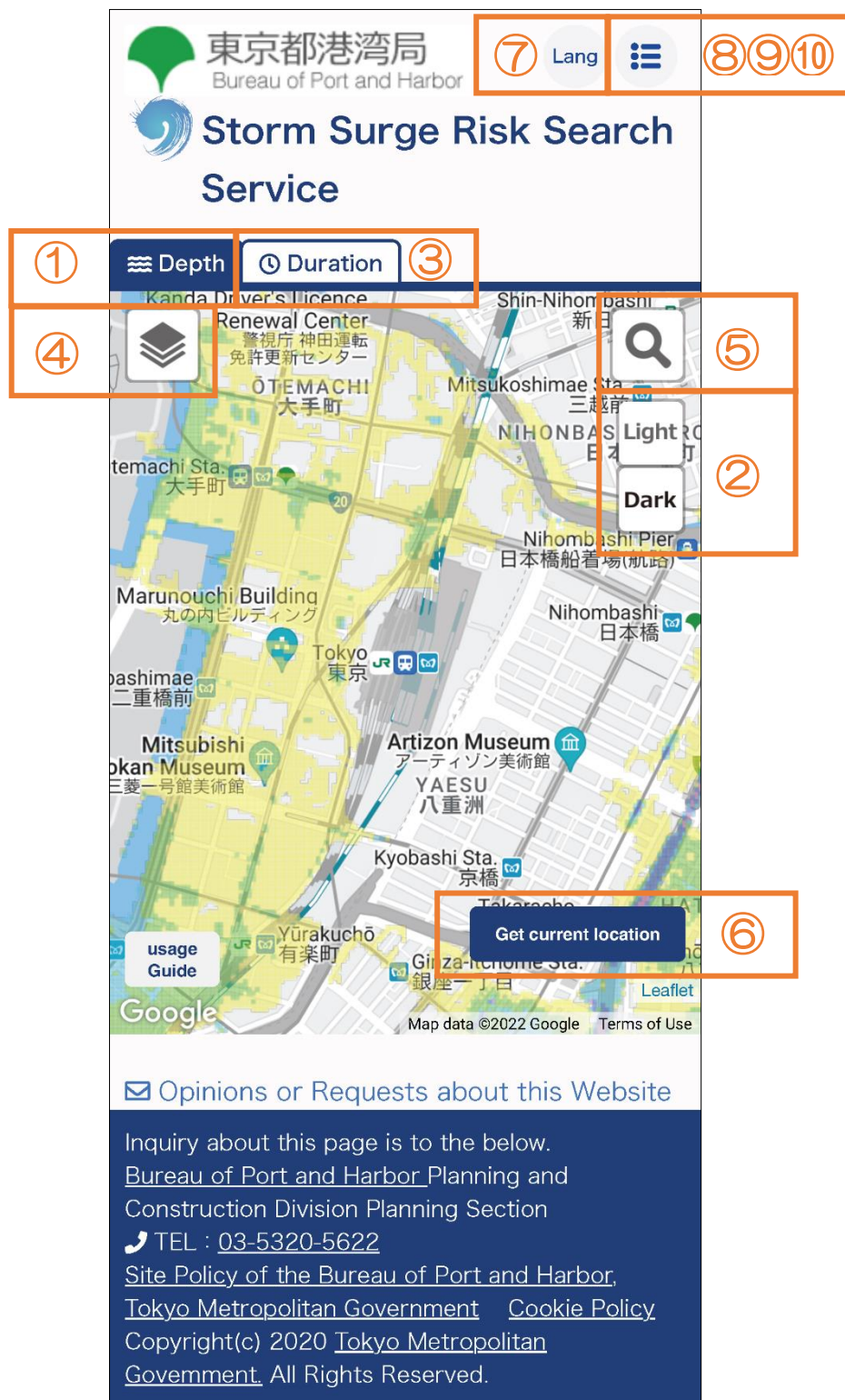
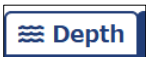
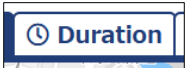
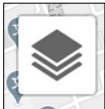
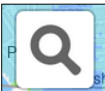
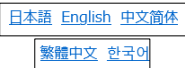
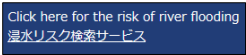
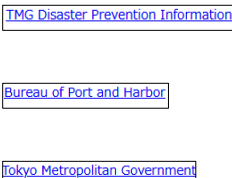


Fig. 2-2: Main window (Mobile)

Table 2-1: Function

No.	PC	Mobile	Overview
①			“Depth” Tab Displays the Inundation Depth. (→ 3. Check the Inundation Depth)
②			“Dark” (“Light”) Icon Darkens (lightens) the display color. (→ 3-2. Change shading of Inundation Depth/4-2. Change shading of Inundation Duration)
③			“Duration” Tab Displays the Inundation Duration (→ 4. Check the Inundation Duration)
④			“Change Map Type” Icon Change Map Type. (→ 5. Change Map Type)
⑤			“Search” Icon Search by place name or landmark. (→ 6-1. Search by Address or Landmark)
⑥	—		“Get current location” Button Show your current location. (→ 6.2. Search by Current Location)
⑦			Language-Switching Links/Button Switch the display language. (→ 7. Switch to Other Languages)
⑧			“Explanation” Tab Displays an explanation of this service. (→ 8. Check the Explanation)
⑨			Link to River Flooding Risk Search Service (→ 9. Check the linked websites)
⑩			Links to relevant websites of the Tokyo Metropolitan Government (→ 9. Check the linked websites)

3. Check the Inundation Depth

Selecting the “depth” tab at the top of the screen will display a screen where you can check the risk information of the inundation depth. Select a colored area on the screen to see the inundation depth and the ground height value for that location.

The displayed ground height indicated by A.P. (Arakawa Peil. The criteria for setting the tide level at low tide to 0 m. An elevation (T.P.) of 0 m is equal to A.P. + 1.1344 m.)

On the screen after you click the “Agree” button in the first “Points to keep in mind” section, the Inundation depth is displayed.

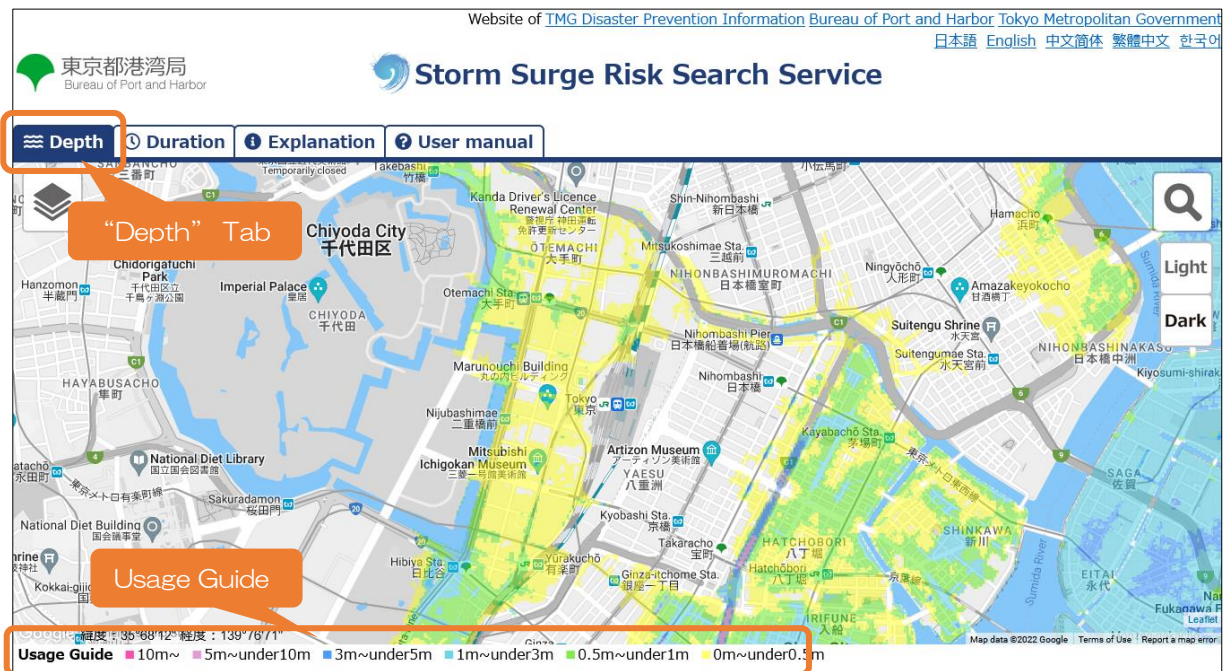


Fig. 3-1: Inundation depth

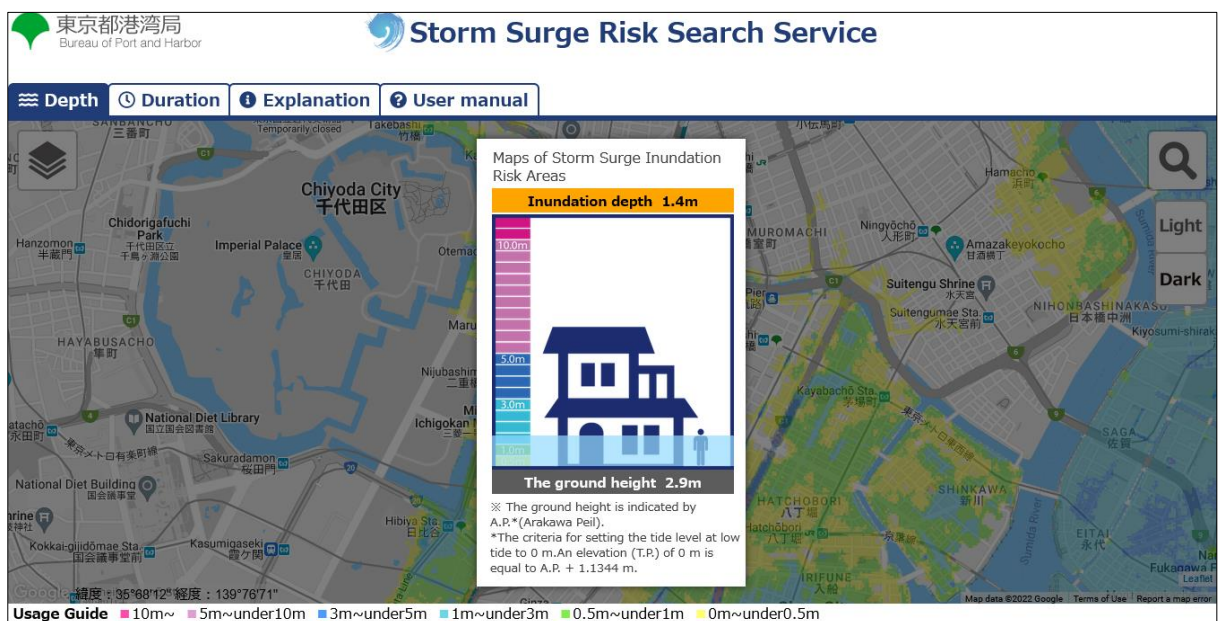


Fig. 3-2: Inundation depth (After selecting a location)

3.1. Change Map Scale

Turn the mouse wheel up to zoom in on the map. Turn it down to zoom out. In the mobile version, pinch out to zoom in and pinch in to zoom out.

If “Zoom in and select a point to view the inundation depth” is displayed on the screen, you can select the point by zooming in again.

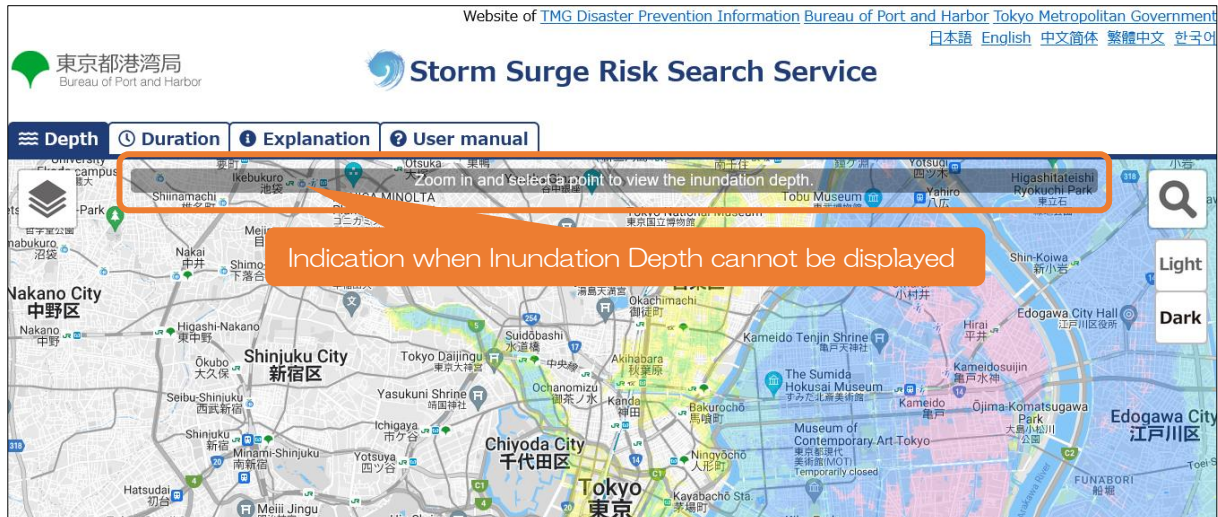


Fig. 3-3: Indication when inundation depth cannot be displayed

3.2. Change shading of Inundation Depth

Press the “Dark” (or “Light”) icon to darken (or lighten) the color of the displayed inundation depth. The shading can be changed in three levels.

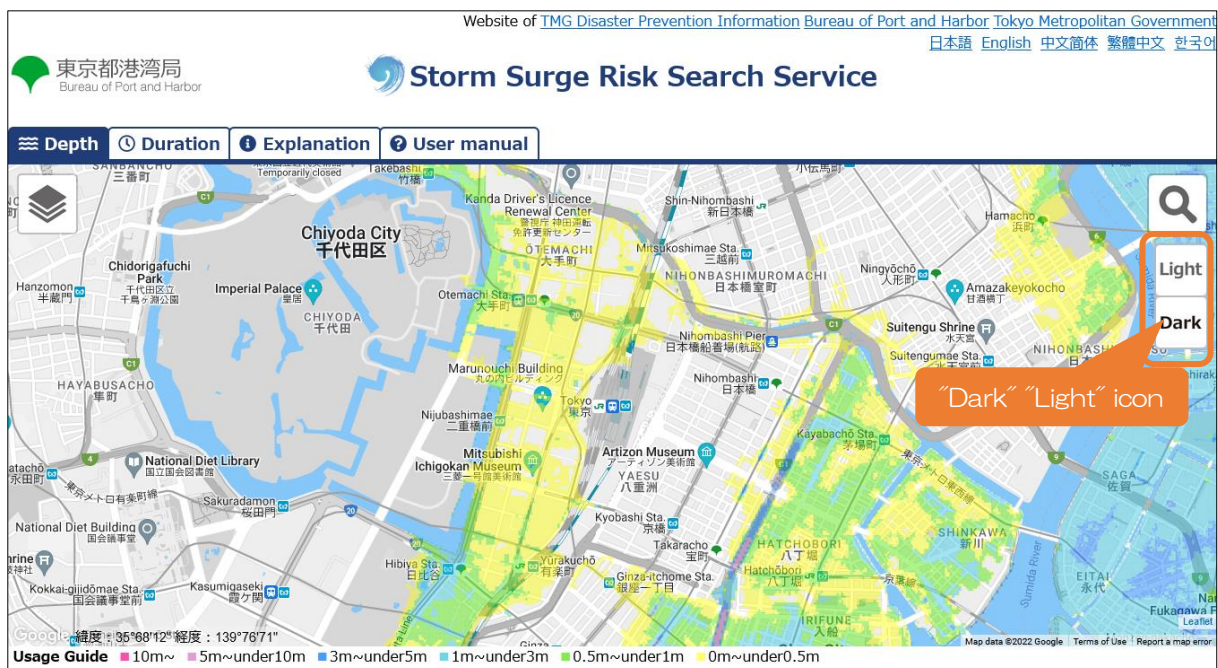


Fig. 3-4: Change shading of inundation depth

4. Check the Inundation Duration

Select the “Duration” tab at the top of the screen to check the risk information of the Inundation duration (Maximum inundation duration expected in the event of inundation). Selecting a colored area on the screen will show you the Inundation duration at that location.

The Inundation duration is indicated by five different colors: “~ under 12 hours”, “12 hours ~under 24 hours”, “1 day ~ under 3 days”, “3 days ~ under 7 days” and “7days ~”. In addition, the animation displayed when selecting a location increases by one piece every time the inundation duration exceeds 0.5 day (12 hours).

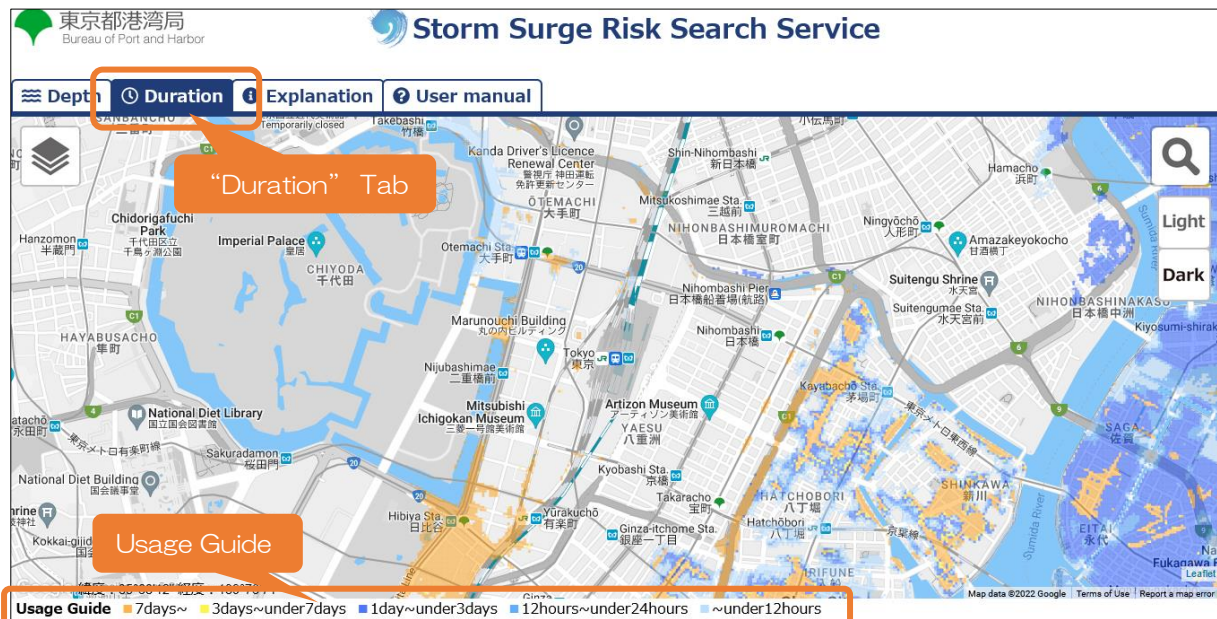


Fig. 4-1: inundation duration

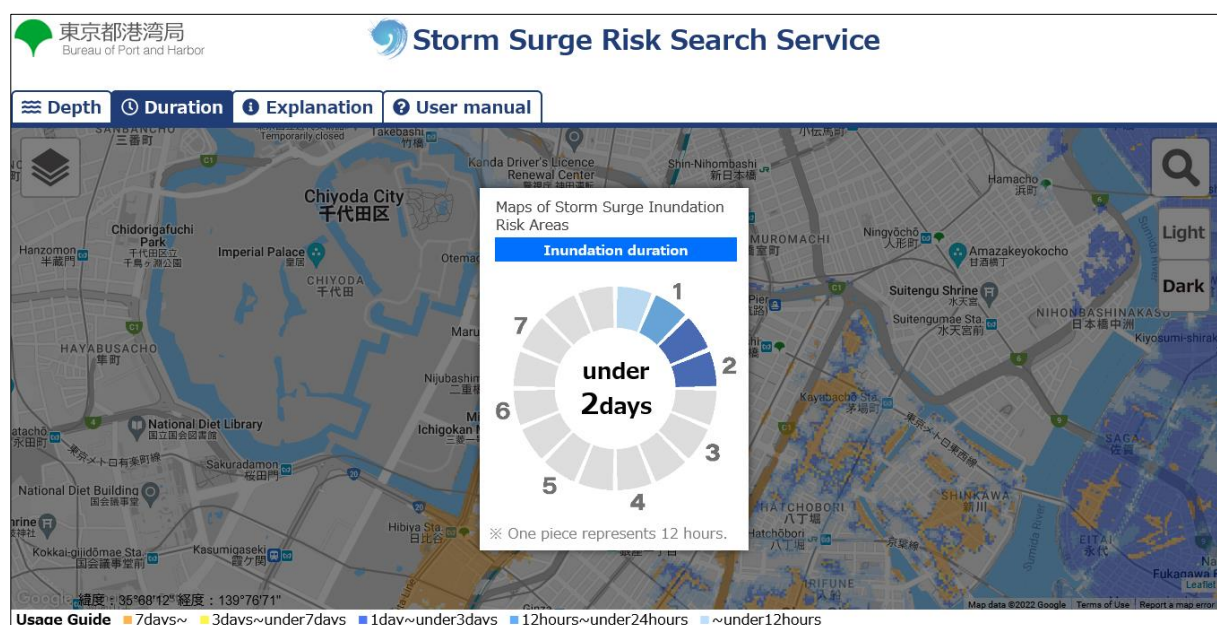


Fig. 4-2: inundation duration (After selecting a location)

4.1. Change Map Scale

Turn the mouse wheel up to zoom in on the map. Turn it down to zoom out. In the mobile version, pinch out to zoom in and pinch in to zoom out.

If “Zoom in and select a point to view the Inundation duration” is displayed on the screen, you can select the point by zooming in again.

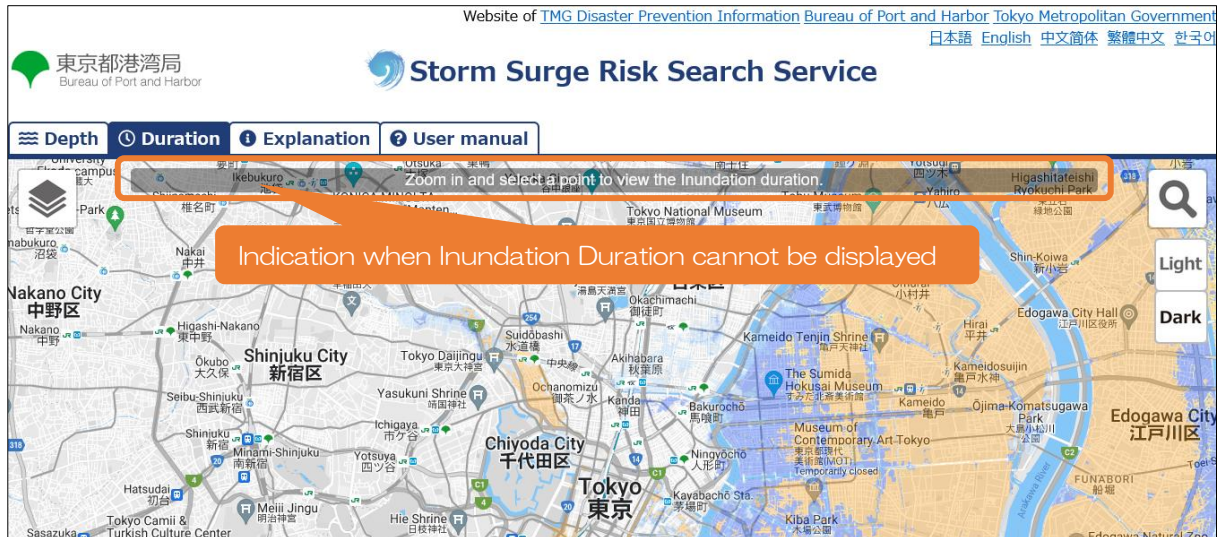


Fig. 4-3: Indication when inundation duration cannot be displayed

4.2. Change shading of Inundation Duration

Press the “Dark” (or “Light”) icon to darken (or lighten) the color of the displayed inundation duration. The shading can be changed in three levels.

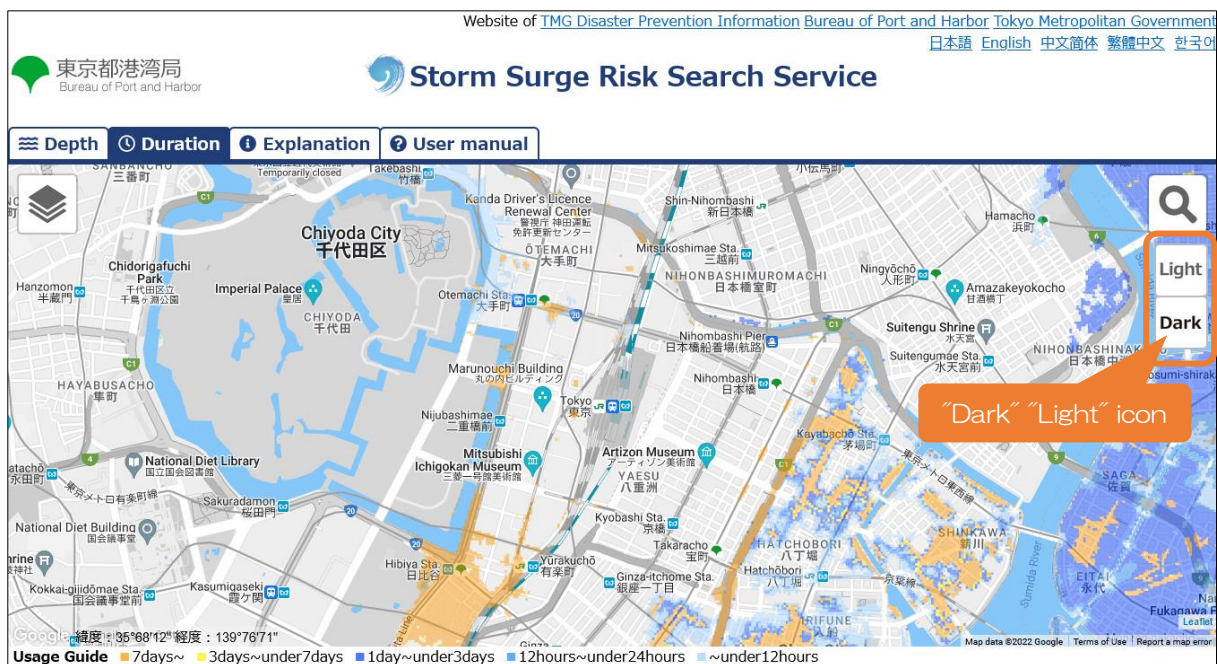


Fig. 4-4: Change shading of inundation duration

5. Change Map Type

You can change the type of map by selecting the icon with the overlapping paper on the left side of the screen. You can choose from the following two types of maps. (two types only in languages other than Japanese.)

【Map Type】

- Google Map
- Google Satellite

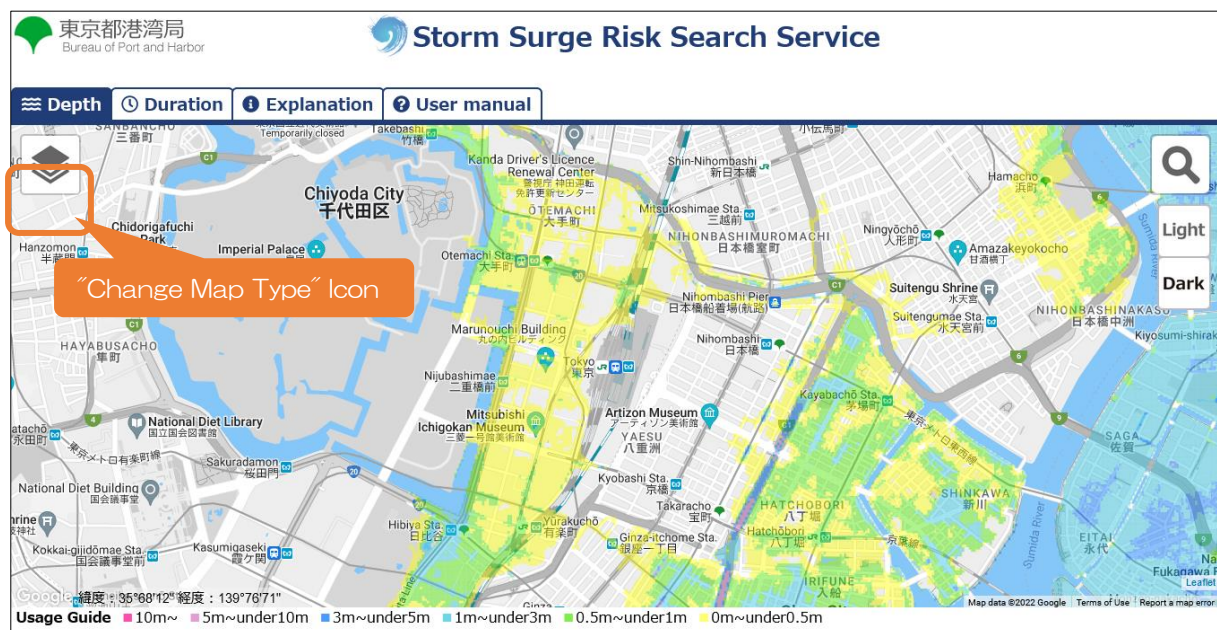


Fig. 5-1: Change map type



Fig. 5-2: Google Satellite

6. Search for the Location

Turn the mouse wheel up to zoom in on the map and view a detailed map. Turn the mouse wheel down to zoom out and view a wider area of the map. Hold down the left mouse button and move it (left drag) to display the desired location.

6.1. Search by Address or Landmark

Select the magnifying glass icon, enter the address or landmark you wish to search (e.g. “Toyosu Station”), and press the “Search” button.

- If the search does not work or does not respond, change the search phrase and try again. If the address search does not respond properly, try entering a nearby station or other landmark.
- If you are not sure where your search results are showing, try zooming out with your mouse or other tool.

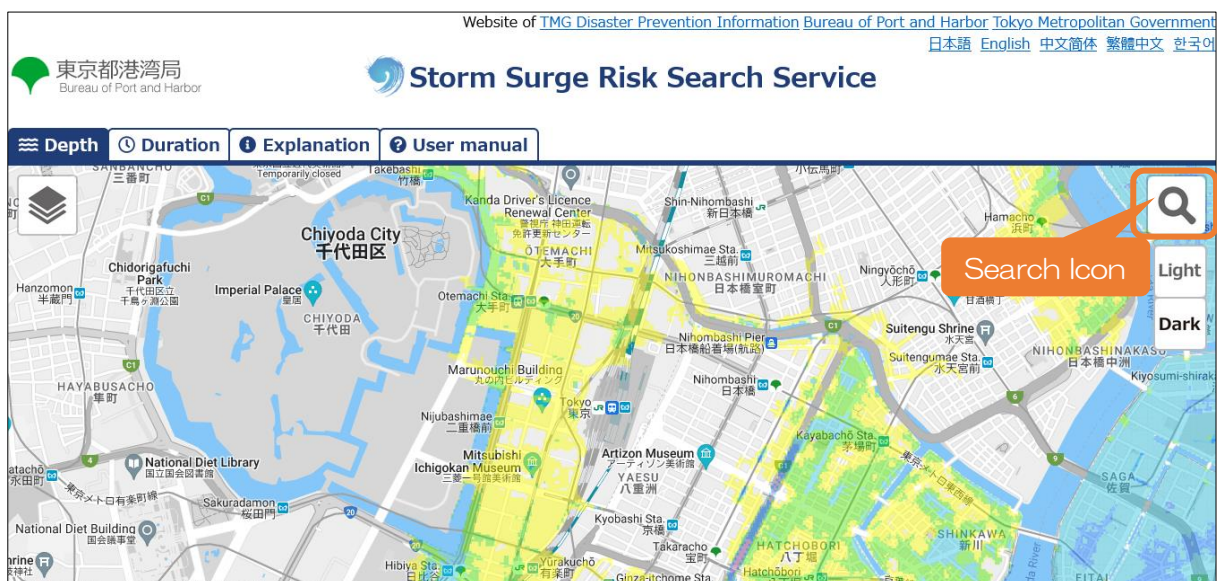


Fig. 6-1: Address / landmark search



Fig. 6-2: Address / landmark search Window

6.2. Search by Current Location (Mobile version only)

By selecting the “Get current location” button displayed at the bottom right, you can move the map to the location obtained from GPS. Please note that this function is limited to mobile devices that can use GPS.

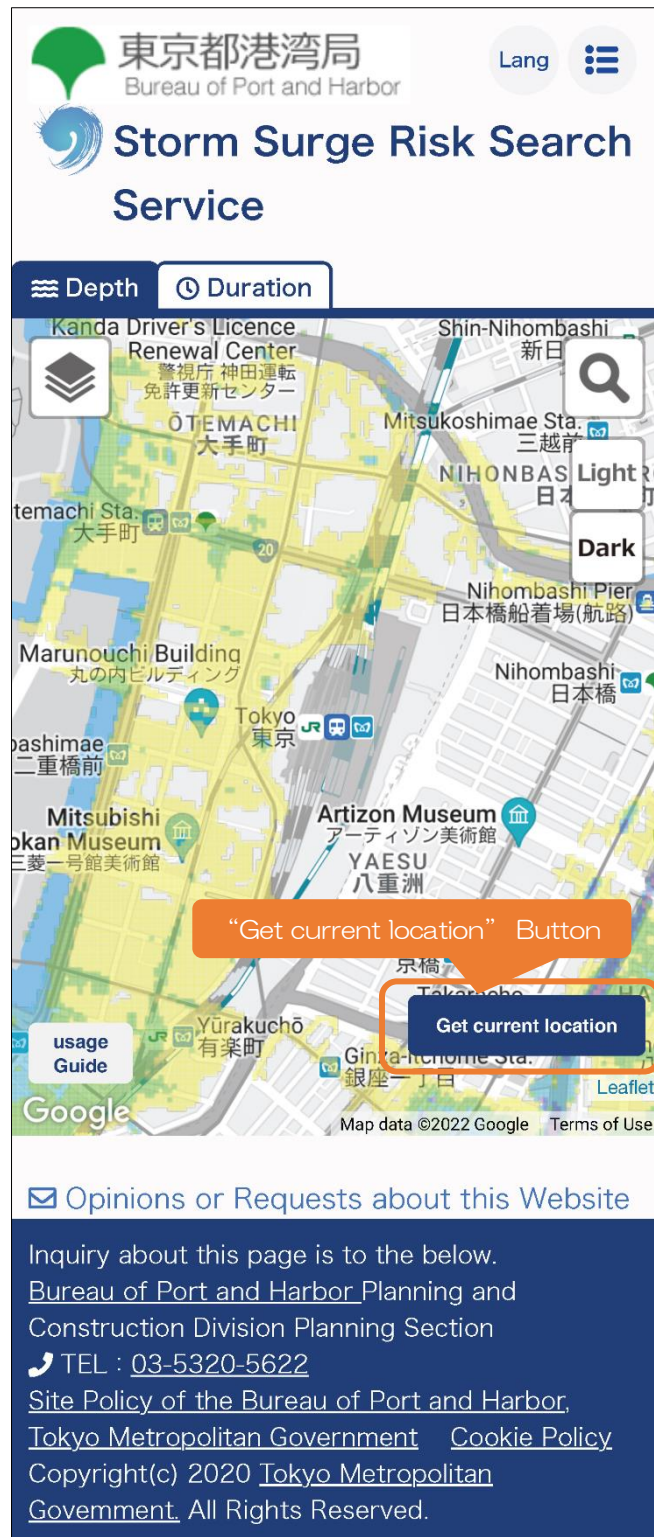


Fig. 6-3: “Get current location” button

7. Switch to Other Languages

Switch to display in ‘日本語’ or other languages by clicking the link for each language at the top right of the window.

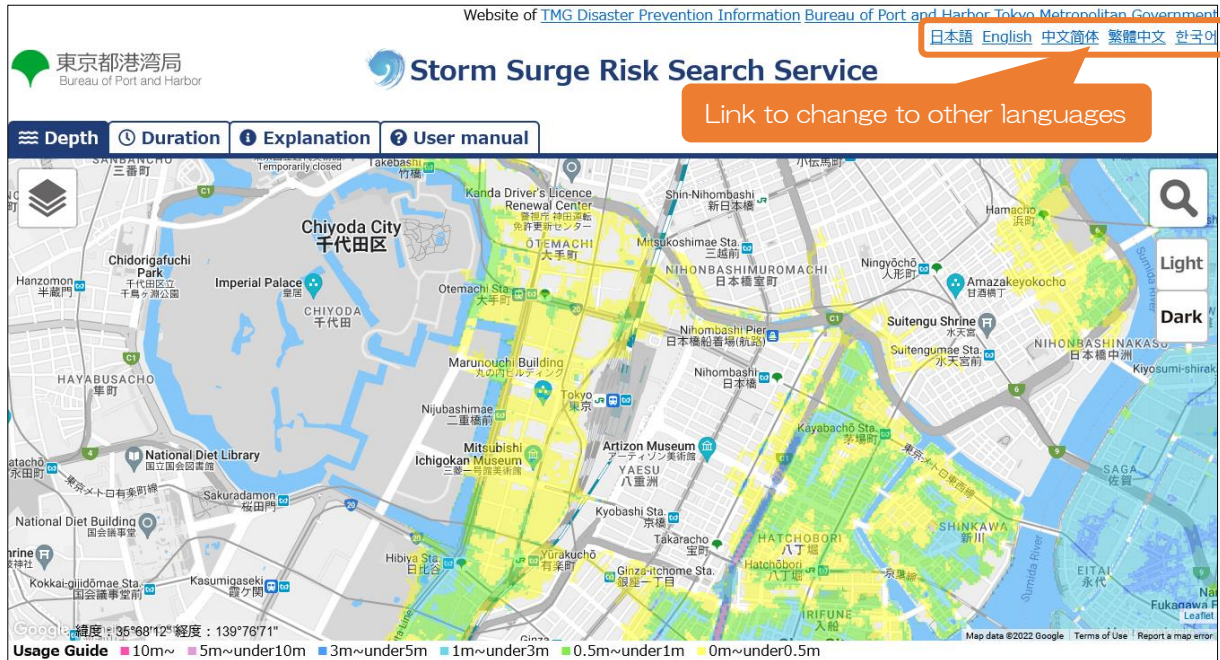


Fig. 7-1: English display (PC)



Fig. 7-2: Japanese display (PC)

<Mobile>

In the mobile version, switch between Japanese and English in the Lang Menu at the top right of the screen.



Fig. 7-3: Switch language (mobile)

8. Check the Explanation

Select the “Explanation” tab at the top of the screen to open a new tab. You can check the information about “Storm Surge Risk Search Service” and “Maps of Storm Surge Inundation Risk Areas” that this service is based on.

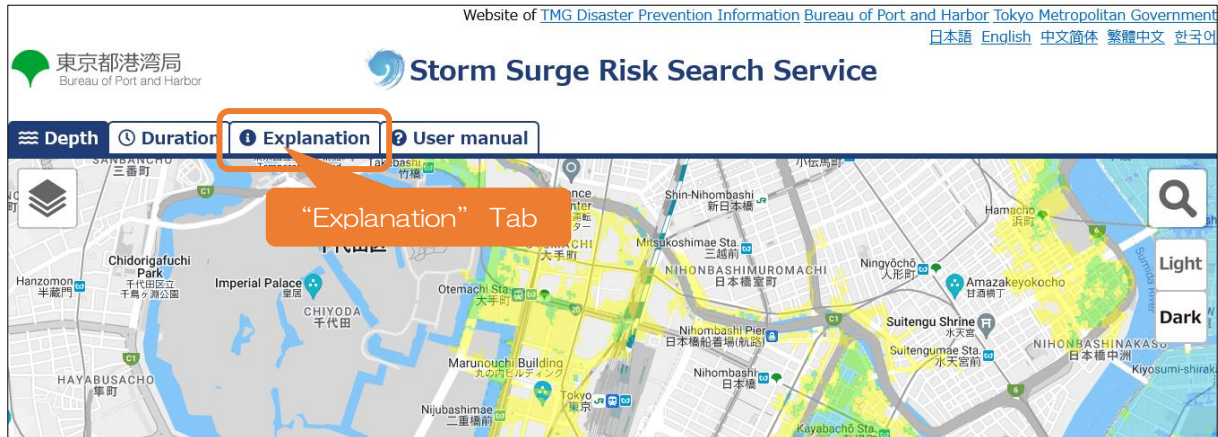


Fig. 8-1: “Explanation” tab (PC)



Fig. 8-2: Explanation

<Mobile>

In the mobile version, you can open it from the “Explanation” link in the menu at the top right.



Fig. 8-3: “Explanation” link (Mobile)

9. Check the linked websites

●Link to River Flooding Risk Search Service (Japanese version only)

The “River Flood Risk Search Service” is a service that allows users to search for information on risk of inundation, such as “Inundation depth”, based on “Maps of Flood Assumption Zone” which shows the areas expected to inundation and the expected inundation depth in the event of heavy rainfall that exceeds the maintenance level of rivers and sewers.

●Link to the Tokyo-related website

You can open the Tokyo Metropolitan Government Disaster Prevention Information website, the Bureau of Port and Harbor top page, and the Tokyo Metropolitan Government top page.

The screenshot shows the "Storm Surge Risk Search Service" website. At the top, there is a header with the Tokyo Metropolitan Government logo and the text "Storm Surge Risk Search Service". Below the header, there is a navigation bar with tabs for "Depth", "Duration", "Explanation", and "User manual". The main content area displays a map of Chiyoda City, Tokyo, with various landmarks and stations labeled. A callout box points to the "Link to the Tokyo-related website" at the top right. Another callout box points to the "Link to River Flooding Risk Search Service" at the bottom center. A third callout box points to the "Click here for the risk of river flooding 浸水リスク検索サービス" at the bottom right. The footer contains contact information for the Bureau of Port and Harbor Planning and Construction Division Planning Section, including a telephone number (03-5320-5622) and links to the site policy, cookie policy, and copyright notice (Copyright(c) 2020 Tokyo Metropolitan Government. All Rights Reserved.).

Fig. 9-1: linked websites (PC)

<Mobile>

In the mobile version, you can find the links in the menu at the top right.



Fig. 9-2: linked websites (Mobile)