



Conveying

Transmitting the situation of national land of Japan

We reveal attributes of the national land and bring various types of geospatial information to the public.

There is a close relationship between topography and natural disasters. "Geospatial information for disaster mitigation (GIDM)" is created by deciphering this relationship and expressing it on a map according to the purpose.

In addition to Geospatial information for disaster mitigation (GIDM), information related to the locations surrounding our daily lives is called 'geospatial information'. We provide an environment where you can easily search, view, and obtain geospatial information, from historical documents to the latest maps.



1:50,000 land condition map of volcano, Volcanic Land Condition Map Mt. Chokai

1:25,000 Active Faults Map in Urban Area Northern part of Shonai

Volcanic Base Map (color shaded map) Mt. Chokai

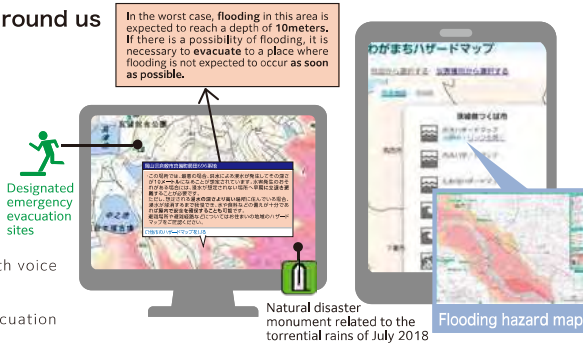
column

Knowing the disaster risks around us (Hazard Map Portal Site)

The hazard map portal site provides information on designated emergency evacuation sites and the dangers of natural disasters. You can overlay various contents useful for disaster prevention (left image) and view the latest hazard maps created by municipalities across the country (right image).

In 2023, we added a function that displays expected disaster risks and actions to be taken in the event of a disaster not only on a map but also in text (also compatible with voice reading software).

Disaster risks loom even in familiar settings. Check the hazard map and consider evacuation routes.



In the worst case, flooding in this area is expected to reach a depth of 10 meters. If there is a possibility of flooding, it is necessary to evacuate to a place where flooding is not expected to occur as soon as possible.

Designated emergency evacuation sites

Natural disaster monument related to the torrential rains of July 2018

Flooding hazard map

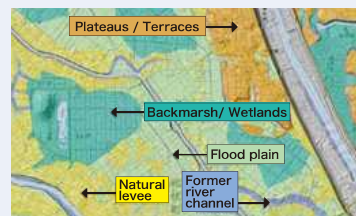


Geospatial information for disaster mitigation

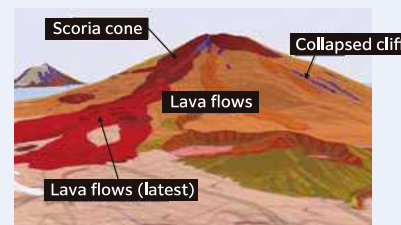
GSI has compiled Geospatial Information for Disaster Mitigation (GIDM) from topographical characteristics information related to land origins, land uses, etc., and Disaster history information from historical records. This enables us to obtain a good understanding about the risks of disasters in local areas.

Topographical characteristics information

Typical types of topographical characteristics information include 'Landform classification', which visualizes the natural disaster risk of the land, and 'Land Condition Map for Volcano', which show the distribution of ejecta and topography formed by past volcanic activity. It is known that the "backmarsh/wetlands" shown in the landform classification have lower land than other landforms and are more susceptible to flooding. Land characteristics visualized in this way are used as basic information for planning of disaster prevention, regional development plans, and so on.



Landform classification (Vector tiles)



3-D representation of Land Condition Map for Volcano

Disaster history information (Natural Disaster Monument)

Natural Disaster Monuments are stone monuments that were created by our ancestors to convey to future generations the aspects and damage caused by natural disasters that occurred in the past.

It has been included in overlay hazard maps since fiscal year 2021, and the number of Natural Disaster Monuments included in GSI Maps exceeded 2,000 in September 2023, and is still increasing steadily.

This information is expected to be used for education for disaster risk reduction and community learning to pass on the lessons of our predecessors to future generations.



Icons on web maps



Map symbols on a 1:25,000 topographic map



Cenotaph dedicated to the victims of the Mt. Ontake eruption.

Example of utilization in educational fields



Teaching materials for geography, history, elementary school social studies, etc.

Example of utilization in community learning



Objectives of a walking group's exploration course, etc.

Providing wide-ranging support for disaster prevention and geographic education aimed at improving local disaster prevention capabilities

"Chiri-sogo (Geography)" has been a compulsory subject in high schools since 2022. In order to support robust classes, we have released a web content called "Toolbox for Geography Education" that can be used by both students and teachers.

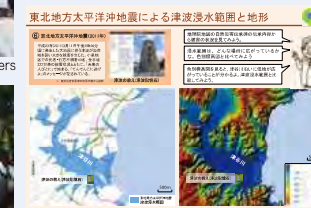
We also carry out various initiatives aimed at supporting disaster prevention and geographic education, such as holding "information sessions for textbook and educational material publishers."



Lecture to social studies teachers



Textbook and educational material publisher orientation



Toolbox for Geography Education "Know it at a glance! Learning about past disasters and landforms with illustrations"

Geospatial Information Library

GSI operates a "Geospatial Information Library" that allows you to easily search, view, and obtain geospatial information according to your purpose of use. In addition, you can view geospatial information and receive survey results at 11 viewing stations across the country located at GSI Headquarters, Regional Survey Departments, and Okinawa Regional Survey Department.



Figure below:
Geospatial Information Library
<https://geolib.gsi.go.jp/>

Ease in searching, viewing and getting necessary geospatial information

Maps/aerial photographs

Archive of maps from 1890 and aerial photographs from the first half of the 20th century can be searched and viewed on this website.



Topographic map (Published in 2021)



Aerial photograph (Photographed (from the left) 1948, 1963, 2019)

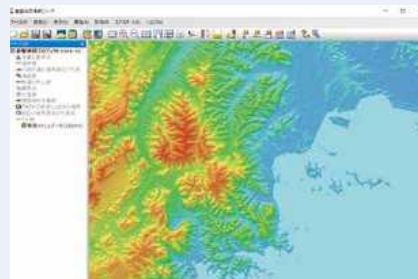
Control point survey results

Information on (basic) control points and public control points can be viewed on this website.



Fundamental Geospatial Data (FGD)

The nationwide Fundamental Geospatial Data (FGD: location information that serves as a base on digital maps) can be searched and obtained.



Old Map Collection Vestiges of history felt in old maps

Historical materials can be viewed, such as the original provisional surveyed maps created by the General Staff Office, the predecessor of the Geospatial Information Authority of Japan.



There are also maps that have "sketches" on map margin, which target landmarks such as isolated trees, shrines, bridges, etc. You can get a feeling of how it was like at that time.



Recent view (Photographed in February 2018)

GSI Maps

"GSI Maps" is a web map that can be run on personal computers, smartphones and tablets and is constantly updated with the latest information. Users can overlay various types of information such as landform classifications, disaster information, past aerial photographs and whatever else they may want on base maps such as topographic maps and aerial photos.



GSI Maps
<https://maps.gsi.go.jp/>

Features of GSI Maps

Comparison of various types of information

In "Side-by-side comparisons", different types of information for the same location can be lined up side-by-side.

For example, by lining up the landform classification map with Provisional Inundation Depth Maps of a disaster, we can understand what types of terrain are in inundated areas.



Provisional Inundation Depth Map

Landform classifications
(Experiment to provide vector tiles)

Viewing the transition of towns

By moving the slider in the upper part of the screen, users can produce time-series displays of aerial photos by switching to different years. This is an easy-to-use method to understand the transition of towns.

It can be seen that residential development has progressed in this area. By comparing old and new aerial photographs, we can learn about changes in the town.



Understanding the heights of surrounding areas

"Self-made colorized elevation map" function allows the user to freely set the colors and ranks of colors to show different elevations.

By setting color-coding stages and color schemes according to the topographical features, it is possible to create a map that make it easy to understand differences in elevation, even in areas with small elevational differences.

