Creating maps using editing software

Creating maps that are the basis for all other maps

Maps created by GSI serve as a basis for all maps and play a key role in promoting national land management and disaster mitigation.

GSI's maps are categorized into two types: one is the "Digital Japan Basic Map" which contains information about such basic features as roads, buildings and rivers of the whole country. The other is "Thematic Maps" which depict specific themes such as information on landform classifications and land uses based on the Basic Map.

Provided on digital media and on paper, GSI's maps are used as base maps by local governments to create such diverse maps as hazard maps, and by private companies to create maps for smart phones, tourist maps, etc. It should be noted that in May 2021, it was confirmed that the Digital Japan Basic Map was as accurate and up-to-date as possible. It has been designated as a "base registry", a database that is fundamental for society, which has increased the need to constantly maintain and update it.

The maps produced by GSI serve as base maps for many of those which you use in daily life.
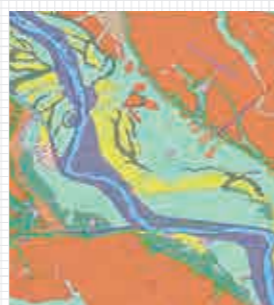
Digital Japan Basic Map
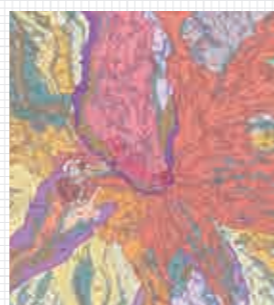

Cartographic information

Orthophoto imagery

Thematic Maps

Land condition map

Volcanic Land Condition Map

Maps produced by GSI

Digital Japan Basic Map—maps serving as base maps of the country

The Digital Japan Basic Map is a map that is necessary for managing Japan's land, among other things. The Digital Japan Basic Map consists of "cartographic information," "orthophoto imagery" and "geographic name information," which collectively represent the national land of Japan.
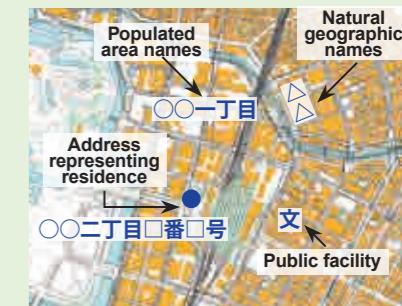
Cartographic information

Structures, etc., that are needed to manage Japan's land are added to Fundamental Geospatial Data (FGD*), which is used to create maps that cover the entire country.

Orthophoto imagery

Aerial photographs taken from survey aircraft are processed into orthophoto imagery that can be overlaid onto maps.

Geographic name information

Information including populated area names, natural geographic names, public facilities which is created as basic information, a key to finding positions.

＊ Fundamental Geospatial Data: Information such as road edges, peripheral lines on buildings, etc., is commonly used as position references on digital maps.

Thematic Maps—maps depicting specific detailed themes

Thematic maps, depicting specific themes according to the purpose of use, are used to predict and identify measures for mitigating effects of natural disasters, and as fundamental materials for investigation, research and education. For example, lake charts use isobaths to express details of lake bottom topography of the major lakes in Japan. These maps, which clarify the distribution of lake bottom topography, are compiled to provide fundamental materials for such things as lake use, development, safety, environmental planning and fisheries. In addition, field surveys are sometimes conducted when compiling thematic maps. When compiling lake charts, staff go out in boats where they carry out echo sounding (1), and acquire (2) and analyze (3) data on lake bed topography.

Lake Motosu
(Surveyed in 2019)

① Echo sounding from a boat

② Acquired lake bed topographic data

③ Data analysis

The rising sun at Lake Nakaumi

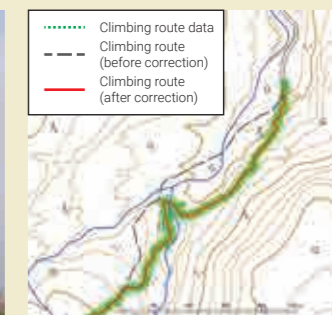## Columns Creating maps from the paths of mountain climbers

Recently, some mountain climbers enjoy recording their own climbing routes with GNSS functions of their mobile terminal and uploading the data to climbing community sites. The number of such people is increasing.

In cooperation with climbing community site operating companies, GSI has been updating climbing route information on topographic maps, using huge amounts of such information uploaded on these community sites. Providing the latest climbing route information on topographic maps will help to enhance climbers' safety and convenience.

The traces you have left on mountains may have been publicized on GSI's topographic maps.

Gathering climbing route information for climbers

Updating mountain climbing information on topographic maps