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CURRENT SITUATION AND FUTURE ACTIVITIES OF PREPARING
GEOGRAPHICAL NAMES INFORMATION IN JAPAN
(REPORTS ON OUR ACTIVITIES)

Submitted by Japan/Geographical Survey Institute.

Current Situation and Future Activities of Preparing Geographical Names Information in Japan (Report on Our Activities)

Introduction

Information about geographical names is indispensable for the administration, both local and national. It is also necessary for the private sector. Moreover, it allows for a better understanding of the life, custom, history and culture of a given area. Various geographical names data bases linked to spatial locations are being developed in Japan. Once a single data base has been established, it will become a very effective tool for data retrieval in Geographic Information Systems (GIS).

This paper describes how geographical names are used by local governments, and how they are inscribed on maps by the official mapping agencies. It also summarizes the current situation and future activities in information gathering on geographical names.

1. The Use of Geographical Names

1.1. Geographical Names of Populated Places

There are about 3,400 municipalities in Japan including cities (shi), wards (ku), towns (cho, machi) and villages (son, mura). The use of populated places names in these municipalities is regulated by a law. The law prescribes that populated places in each municipality should be hierarchically subdivided into divisions (cho) and blocks (cho-me), or village divisions (oaza) and village blocks (aza). Further, the law states that each division or block should be named and that its area should be clearly outlined. As a result, populated places in Japan do not have any alternate names. However, some natural geographical features such as mountains may have alternate names, since they are not regulated by law, hence the need for standardization.

1.2. Standardizing the Name of Natural Geographical Features for Mapping

In order to standardize names of natural geographical features for mapping, the Geographical Survey Institute (GSI) of the Ministry of Construction, the governmental agency in charge of land mapping, and the Hydrographic Department of the Maritime Safety Agency, which is in charge of making hydrographic charts, established the Joint Committee on the Standardization of Geographical Names in 1960. Since then about 24,000 names have been standardized and are now used both on the GSI's maps and the Hydrographic Department's charts.

1.3. Delineation of Geographical Names on Topographic Maps

1:25,000-scale topographic maps of the GSI are the largest-scale maps covering accurately the whole territory of Japan with a unified standard. This series of maps is considered as the nation's basic map. When a geographical name is to be delineated, the Director General of the GSI empowered by the Survey Act asks the head of a concerned municipality to submit reference material. It is called the "Record of Geographical Names", and includes the names of populated places and natural geographical features as well as their location. Geographical names on the topographic maps are to be taken from the "Record of Geographical Names".

2. Current Situation of Geographical Names Development

2.1. Geographical Names Development of the GSI

The GSI has developed geographical names in two forms: 1) point type data with information on locations on a map; and 2) polygon type data which expresses the extent of a named feature. Each data type also has attribute information. The following are their current preparation situation.

1) Geographical Names Data Base based on the 1:500,000-scale Regional Map Series

This data base includes about 9,000 geographical names which are delineated on 1:500,000 regional map series. Among them are names of municipalities, natural geographical features, natural geographical areas, etc. Each name is encoded in the data base file as a set of attributes including location, spelling in both Roman and Chinese characters, administrative code number, map sheet quadrangle code number, etc. as shown below.

Number	Geographical Name Annotation		Administrative Code Number	Position Coordinates		Code Number of a Map Sheet Quadrangle in the 1 : 200,000 Map Series	Attributes m, km, km ²
	Spelling in Roman Letters	Spelling in Kanji (Chinese Character)		Latitude	Longitude		

2) Geographical Names Data Base based on the 1:200,000-Scale Geographical Map Series

This data base includes about 120,000 names of natural geographical features and populated places which are delineated on geographical map series at 1:200,000 scale. Each record in the data base has information on the location, spelling, pronunciation, mesh code number, map sheet

quadrangle code number, annotation number, type, administrative code number, etc. The following is the conceptual record format.

Map Sheet Quadrangle Name	Code Number	Spelling in Kanji (Chinese Character)	Pronunciation	Mesh Code Number	Map Quadrangle Number	Annotation Number	Type	Administration Code Number

Number of Letters	Position Coordinates				Letter Line Direction
	X1	Y1	X2	Y2	

3) Administrative Boundaries Data Base based on the 1:25,000 Topographic Map Series

This data base contains prefectural, county (gun) boundaries and municipal boundaries, coastal lines, etc. digitized from 1:25,000 scale topographic maps in the polygon form. Each polygon data is accompanied by a code defined by the Ministry of Home Affairs, representing its prefecture and municipality. This data base is published and distributed as "Digital Map 25,000 (Coastal Lines and Administrative Boundaries)".

2.2. Other Geographical Names Data Bases

The following are the main geographical names data bases developed by other agencies.

1) Undersea Features Names Data Base

The Hydrographic Department of the Maritime Safety Agency of the Ministry of Transportation prepared "Undersea Features Names Data Base". Out of the undersea features of around Japanese waters represented by hydrographic charts and bathymetric charts, about 700 undersea features names are recorded in this data base. It also includes information on location, spelling in Kanji (Chinese character), spelling in Roman character, kind of feature, hydrographic chart number, depth, etc. for each undersea features.

2) Nationwide Municipality and Village Block (Aza) Data Base

The Local Autonomy Information Center, a non-profit foundation supervised by the Ministry of Home Affairs, prepared a Nationwide Division (Cho) and Village Block (Aza) Data Base which includes about 440,000 geographical names of administrative areas as small as blocks (chome) and village blocks (aza) in all the municipalities in Japan. The code number given to

each geographical name represents a prefectural name, a municipality name, district (oaza) name or the name commonly used by the local people, and a block (aza or chome) name. Each geographical name is spelled in Kanji (Chinese character) with phonetic symbols of Hiragana (Japanese alphabet). Coordinates of the locations of geographical names are not included in this data base.

3. Future Activities on Geographical Names Data Base Development

3.1. Promoting Geographical Names Data Development with respect to Spatial Data Infrastructure

GSI, in collaboration with the Ministry of Construction and other ministries and agencies concerned, has been involved in preparing spatial data infrastructure since 1995. It is a kind of information infrastructure to be widely used in economic and social activities. In this spatial data infrastructure, information such as administrative districts, town blocks, center lines of roads, railroads, stations, water bodies, parks and public facilities are classified into point, arc, polygon, or network data, and recorded in digital form. The data base is designed to facilitate address-matching by linking address information such as division names and block numbers to map coordinates. Data bases for the Tokyo metropolitan area and the Kinki region were completed in fiscal 1995. A project covering the Chubu region will start in fiscal 1996, and other major urban areas will be eventually covered.

3.2. Promoting Geographical Names Data Base Development based on the 1:25,000-scale Topographic Map Standards

In order to meet the demand for widely diversified and highly sophisticated map information, GSI has developed a new system of computer assisted topographic map revision for updating 1:25,000-scale topographic maps. As an application of this system, GSI plans to publish a new type of topographic map with geographical names data base is planned.

This geographical names data base includes about 250,000 populated place names delineated on the topographic maps with information on their location, pronunciation, spelling, etc. filed for each municipality.

3.3. Promoting the National Geographical Names Gazetteer

In order to disseminate and promote the government-authorized geographical names, GSI plans to compile a National Geographical Names Gazetteer. For the compilation of this gazetteer, the 1:1,000,000-scale International Maps which contain about 6,000 geographical names will be used as a source material.

4. Other Activities

Global Mapping Project

The United Nations Conference on Environment and Development (Earth Summit) held in Brazil in 1992 adopted "Agenda 21", an action plan for sustainable development.

In pursuance of the implementation of Agenda 21, GSI proposed "Global Mapping" project in 1992 as a contribution of national mapping agencies to sustainable development. The goal of this Project is to develop global geographical data sets with consistent accuracy and specifications for understanding of current situation and changes in the global environment.

In order to realize this project, GSI has been involved in various activities in Japan and overseas in collaboration with other countries and international organizations. Two International Workshops on Global Mapping held in November 1994 and February 1996 are some of the recent examples.