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Toponymic data files: automated data-processing systems

Automated data-processing systems of geographical names in Japan

Submitted by Japan**

The increased use of computer systems in the private and public sectors has spurred the development of a database of geographical names and associated information. The following is an introduction to some of the main databases of geographical names developed in Japan.

A. Geographical name database for administrative units

There are roughly 1,800 municipalities in Japan. The administrative code numbers that correspond to each one of them are established by Japan Industrial Standards (JIS). Names and other information are compiled into databases by the local governments for wide use.

The databases for geographical names within the respective administrative boundaries are created by the relevant organizations of the Ministry of Internal Affairs and Communications. These databases contain classifications, spellings, pronunciations, etc., of geographical names (about 480,000 at present) that are compiled and managed as "town divisions" (*cho*) and "village blocks" (*aza*) files nationwide.

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B. Geographical name database with geographical coordinates

In 2000, the Ministry of Land, Infrastructure and Transport began development of "residential block-level location reference information", which assigns coordinate data (latitude, longitude and plane rectangular coordinates of the representative points in the residential blocks) to the names of residential blocks (town divisions (*cho*), detailed town divisions (*chome*) or village divisions (*oaza*) and residential block number or lot number) in the city planning areas of Japan (approximately 97,000 square kilometres (km^2)).

It was completed in March 2002 and the data have been updated every year since 2003. Since April 2001, the data have been released to the public without charge through the Internet.

In 2002, the Geographical Survey Institute completed digitization (vectorization) of all features on 1:25,000-scale topographic maps (about 4,300 sheets) which cover Japan's entire area (about 378,000 km^2) and established a new system designed to effectively update data.

For about 470,000 geographical names of residential and natural features presented on the topographic maps, the spelling, pronunciations, and geographical coordinates of representative points are included in this system which enables updates to be made in real time, as is exactly the case for features on topographic maps.

Some of these data have been incorporated into vector-type data of 1:25,000-scale topographic maps and published, enabling them to be used with various types of geographic information systems.

There have also been incorporated in the "Denshi Kokudo web system"[1] on the Internet. The system enables users to access various types of geographical information using just a geographical name as a starting point.

[1] Various types of geographical information related to digitized national land data are integrated based on positional information. They can be reproduced on a computer as cyber land of Japan using the WebGIS provided by the Geographical Survey Institute. Data of 1:25,000-scale topographic maps are available as background information. Anyone can use these materials free of charge at http://cyberjapan.jp/.