

An Intranet WEB GIS in Shiga prefectural authorities

1. Introduction

In many of local governments, each department has thousands of geographic data with different scales and different base maps, resulting in difficulty for the prefectural staff to make common use of these data in GIS application.

The Shiga prefectural government has established a shared GIS database within the office and a cross-departmental operation structure to maintain and update it. This has led to more efficient and sophisticated work. In addition, this has also enabled the staff to share the data which are input by themselves and are supposed to be shared between various departments/sections.

This paper will introduce the effect of using and managing the shared data in administrative GIS.

2. Overview of the Intranet WEB GIS in Shiga Prefectural Authorities

(1) System background

Shiga Prefecture is at the center of Japan. It has the largest lake in Japan, Lake Biwa, which accounts for 1/6 of Shiga's total area. Shiga Prefecture is surrounded by mountains clad in fresh greenery, and has many fertile plains.



Shiga Prefecture is a transportation hub for most of the Kansai region. Many roads, including the Tokai-do, Nakasen-do, Hokkoku-do, Hokkokukaido, Chosenjinkaido, Godaisankaido were constructed around the lake. Those roads led to the development of commercial activity and the formation of many markets. Now, Shiga Prefecture is a network center for many industries. And Shiga Prefecture government is keen on Environment protection, to keep clean and beautiful nature including Lake Biwa and so on.

Internet/Intranet Web GIS is placed as "the system supports public services to people in Shiga", is being prepared in order to realize efficient and advanced work and to provide variant informations to people, using maps of GIS.

(2) Composition of system

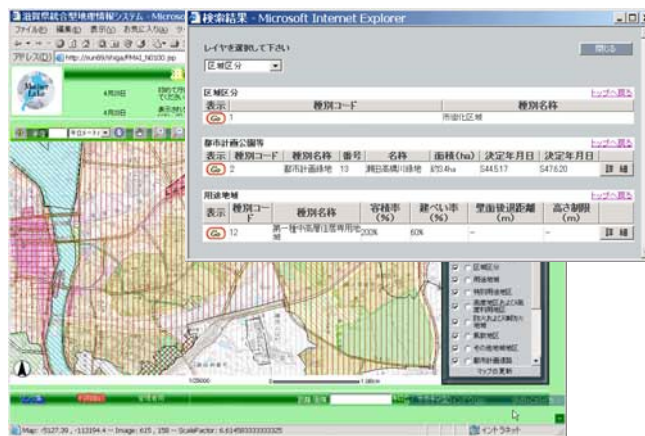
Under this system we built a GIS database through ArcSDE to integrate and manage more than 100 layers handled by each department or section in the prefectural office. In addition, we also established Web GIS through ArcIMS4 to allow the GIS DB to be viewed from approximately 5,000 PCs that staffs use for day-to-day business with a Web browser alone and data registered by them to be shared within specific departments or sections. On top of these, we also built the management system for the prefectural staff to update the GIS DB through ArcEditor8.

3. The benefits of using shared GIS data

Let us introduce a few cases in which using shared GIS data through Web GIS within the administration has proven effective.

(1) Disclosure of information on regulations on land use

The administration serves as a contact point to handle a large number of inquiries from, to give various sorts of guidance to, or to accept applications from, the residents of Shiga to name but a few. By making use of GIS, we are now able to handle these based on more accurate information, more quickly and appropriately.

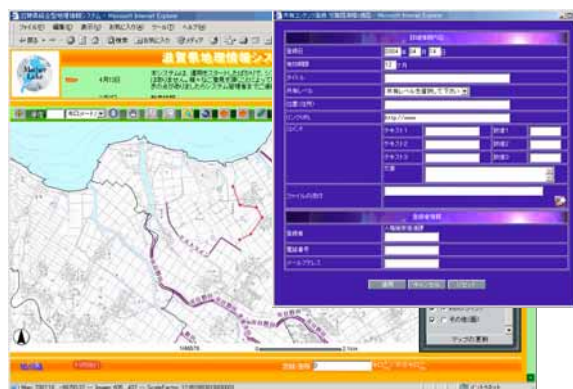


For instance, there are shared data on space available for departments/sections responsible for construction projects. They are data on regulations on land use

in accordance with various laws, acts or ordinances involved in the environment, disaster prevention or preservation of prefectural land, and others. These data are needed to give guidance when project plans are discussed, or projects are coordinated by the central government, municipalities or other public organizations concerned as well as the departments/sections concerned in the prefectural office, or when geographical form or features are changed under a project by the private sector. For this reason, they are mutually used among many departments and sections. Traditionally, they had been in the form of a paper map and it is hard to say that updating data or managing detailed information had been carried out efficiently. By managing these data on space as content of the Intranet WEB GIS, we are now able to obtain the most current data swiftly via a Web browser.

(2) Management of data on disaster prevention

There is content which each department or section is free to manage in the Intranet WEB GIS in the Shiga prefectural office. Its substance is left to individual departments/sections within the range of data the Web GIS deals with. When the Web GIS was designed, we assumed it would be information on construction, events, or the environment, such as surveys on water quality or animals and plants, or observations. Among others as an example of the most effective use, updating of information on disaster prevention can be cited.



In Japan due to the Great Hanshin/Awaji earthquake which occurred in 1995, a large number of people were victimized. Since then the use of GIS to properly manage emergency facilities, temporary shelters, lifelines, and others has made steady progress. The Shiga prefectural government updates these disaster prevention data in cooperation with a special disaster prevention system by using GIS Data through the Intranet WEB GIS. We built an environment in which a large number of departments and sections handling information can update GIS data via a Web browser. This has produced results in managing disaster prevention data more appropriately.

4. The mechanisms of managing shared GIS data

Today, we obtain and update information through Web GIS more frequently than before. However, it is difficult to continually maintain and manage GIS data in order to get accurate information via Web GIS at any time also from the cost perspective.

The Shiga prefectural government has prepared a management environment where staffs of a department/section which handles data maintain and manage GIS data on their own and also established the cross-departmental management system in order to manage GIS data smoothly, such as updating registered GIS data.

Data are exchanged between GIS which specializes in processing each individual business, thereby updating GIS data. Moreover, we have delegated authority to update GIS data to departments and sections which handle data. Each department/section makes use of this management environment of the Intranet WEB GIS and updates registered GIS data on its own responsibility. Thereby, we are able to hold down the cost compared to updating GIS data through outsourcing. In addition, we have been able to speed up updating information, which has proven effective in providing more relevant information and more quickly.

5. In conclusion

One year has passed since the Shiga prefectural government has begun operating this Intranet WEB GIS. Currently, we are improving content so that we may be able to increase efficiency of a wider variety of business activities and handle more sophisticated businesses.

We are also considering providing GIS data shared within the prefectural office to the residents of Shiga via the Internet and others in the future as well. We expect this to promote interactive information exchanges between the residents of Shiga and bring prefectural administrative management closer to them.

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