

## **5.5 HAZARD INFORMATION MANAGEMENT SYSTEMS**

Advances in electronic media and computer technology are revolutionizing the manner in which information is prepared and maintained in all walks of life, including business, industry, government and individual households. The public and private sectors now increasingly rely on automated data management for day-to-day operational needs. Computerized methods of information storage and retrieval, previously thought to be prohibitively expensive, are coming within range of local government budgets.

Automated information management has been shown to substantially increase productivity, efficiency and levels of service. Primary obstacles appear to be initial outlays for computer hardware, system design, data input and staff training. Once functioning and maintained, such systems can enhance the effectiveness of various organizations.

### **5.5.1 Geographic Information System**

Among the advances in computer technology is the growing development of Geographic Information Systems (GIS) as a technical tool for planning, engineering, geology, emergency management and a variety of other disciplines upon which efficient government management relies. New GIS applications encompass a variety of purposes, from conversion of simple road maps and commercial atlases to demographic analyses that shape marketing and political redistricting decisions. Improved scanning of data from remote sensing and aerial photographic sources has increased efficiency of natural resource and land use mapping. Hardware diversification and software improvements have decreased dependence on mainframe computers. User-friendly software is opening up GIS applications to professionals and technicians in many fields, especially with the proliferation of personal computers.

The two great values of GIS development have been in improved mapping efficiency and flexibility, and in the new capability to link mapped data to statistical and written records. GIS enables users to quickly compare mapped features such as vegetation, topography, slope, soils, drainage, housing, land use, transportation and utilities to aid in planning, engineering, emergency management, environmental review and community development decision-making. It also allows for quantitative data to be generated from mapped features and vice versa. Once the data are entered, it is a matter of seconds to determine, for example, the number of day cares housed in URMs, or the locations of residences in high risk fire areas that have changed owners since the last fire, and thus are in most need of education about wildfire safety.

Traditional cartography is tied to tedious photographic methods of map scale