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U.S. Geological Survey Earth Science Information in the Electronic Information Age

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U.S. Geological Survey
Primary World Wide Web Entry Points

U.S. Department of the Interior Server <http://www.usgs.gov/doi/>>

U.S. Geological Survey Server <http://www.usgs.gov/>

- USGS National Mapping Information Server <http://www-nmd.usgs.gov/>
- USGS National Water Information Server <http://h2o.usgs.gov/>
- USGS National Geological Information Server <http://geology.usgs.gov/>

USGS Node - National Spatial Data Infrastructure (NSDI) Server <http://nsdi.usgs.gov/>

Earth Science Information Center (ESIC) Server <http://www-nmd.usgs.gov/esic/>

Federal Geographic Data Committee (FGDC) Server <http://fgdc.er.usgs.gov/>

.USGS Mapping Centers

EROS Data Center (EDC) Sioux Falls, South Dakota

Mapping Applications Center (MAC) Reston, Virginia

Mid-Continent Mapping Center (MCMC) Rolla, Missouri

Rocky Mountain Mapping Center (RMMC) Denver, Colorado

Western Mapping Center (WMC) Menlo Park, California

TRADITIONAL CUSTOMER VIEW + TRADITIONAL TECHNOLOGY = FEW OPPORTUNITIES

USGS traditionally a provider of technical information to technical professionals:

- Tailored to a relatively small pool of academic, government, and commercial consumers;
- Information dissemination primarily through professional journals and presentations;
- General public's interaction with USGS mainly through sale of printed topographic maps.

Past available technologies were not suited to wide, rapid diffusion of Earth Science data and information:

- Large, complex data sets were stored in a multitude of formats;
- Many data base systems were mainframe-based;
- Delivery of digital data complicated, time-consuming, labor intensive.

Limited visibility in the public eye, limited public access, resulted in limited opportunities for promoting new or better information products and services.

TRADITIONAL EARTH SCIENCE DATA + NEW TECHNOLOGY = NEW OPPORTUNITIES

Trend in information technology toward proliferation of powerful, "multimedia" personal computers:

- New tools provide consumers with means of accessing large amounts of data and information quickly and affordably;
- Modems and inexpensive client software provide a relatively simple way to link to the rich multimedia resources of the Internet World Wide Web;
- CD-ROM's provide a very cost-effective mechanism for delivering very large volumes of data and information;
- USGS data are online and near-line in distributed servers.

Many new customers can "visit" the USGS, locate desired information, and directly download, or place orders for, data products:

- Web of tightly interwoven general, subject-specific, or data product-oriented home pages;
- Earth Science Information Center "virtual store fronts."

New Customers Bring New Needs, Views, and Uses for Our Information Products and Services

New technology allows us to meet changing customer demands quickly, efficiently, and innovatively:

Adding value to existing information products:

- National Water Conditions;
- Geographic Names Information System.

Creating new products and services:

- Colorado Real Time Water Data;
- Digital Raster Graphics (DRGs).

Serving the public through more effective delivery of information and knowledge:

- USGS Node - National Geospatial Data Clearinghouse;
- Cascades Volcano Observatory;
- Learning Web.

The Challenge--Building Multiple Pathways to USGS Data and Information To Serve a Diverse Customer Base

Continue to serve traditional, mainly technical, customer base:

- Academic, scientific, and general technical communities;
- Commercial sector customers;
- Other Federal agencies, State, and local government consumers;
- Public and private sector cooperators (data acquisition and sharing);
- Disaster preparedness and relief organizations;
- Depository libraries.

Address needs, interests, and capabilities of new, growing, often non-technical, customer base:

- Recreational users of maps, water information, and other products;
- Hobbyists and general researchers (e.g., genealogists and historians);
- Educators and citizens of all ages interested in learning more about Earth Science;
- Technology Transfer partners.

Current and Planned Activities

Move aggressively into electronic publishing and print-on-demand:

- Move to "electronic first" publication policy while retaining multiple format delivery capability;
- Standardize publication formats (HTML, Adobe PDF) and delivery modes (Internet, CD-ROM);

- Develop stable media electronic publications and digital data archives (CD-ROM).
.Coordinate, integrate, and improve Bureau-wide Web data and information dissemination efforts:
- Deploy graphical spatial query and image browse interface to USGS geospatial data product catalogs;
- WebGLIS - Web-based version of the Global Land Information System;
- Develop content metadata standards for USGS products to facilitate organization and discovery.

Expand and ease Internet access to additional Earth Science data and information products:

- USGS Node, NSDI Geospatial Data Clearinghouse;
- Digital Geospatial Data products, in SDTS format, via Anonymous FTP without charge;
- Direct query access to selected databases (e.g., GNIS);
- Online ordering and secure credit card payment for USGS products.