

**The Library of the Geological  
Survey of Austria towards a  
Virtually Geoscientific  
Information-System:  
a vision (Poster-Session)**

**A. BIEDERMANN & T. CERNAJSEK**

**Berichte der Geologischen Bundesanstalt; 38  
<ISSN 1017 - 8880>**

Wien, Juni 1997

IMPRESSUM: Alle Rechte vorbehalten.

© Geologische Bundesanstalt, Wien, Österreich.

Medieninhaber, Herausgeber und Verleger: Verlag der Geologischen Bundesanstalt, A-1031 Wien, Postfach 127,  
Rasumofskygasse 23, Austria.

Verlagsort und Gerichtsstand ist Wien.

Ziel der "Berichte der Geologischen Bundesanstalt" ist die Verbreitung erdwissenschaftlicher Ergebnisse.

Die "Berichte der Geologischen Bundesanstalt" sind im Buchhandel nicht erhältlich. Bestellungen an den Verlag der  
Geologischen Bundesanstalt, Postfach 127, A-1031 Wien.



## Ultra\*net Meeting in Kassel 1996

The Library of the Geological Survey of Austria towards a Virtually Geoscientific Information - System: a vision (Poster - session)

by Alexander Biedermann and Tillfried Cernajsek, Geologische Bundesanstalt (Geological Survey of Austria), A - 1031 Wien, Rasumofskygasse 23, P.O.B. 127, Österreich/Austria/Europe

Phone: ++43-1-712-56-74/65 , ++43-1-712-56-74/85

Fax: ++43-1-712-56-74-56, ++43-1-712-56-74-90

e-mail: tcernajsek@cc.geolba.ac.at, abiedermann@cc.geolba.ac.at

key-words: Geological Survey, library and archive information-services, history of scientific information, geosciences, computerized library, virtual library, virtual geoscientific information - system

### Introduction

In this paper we will present the recent status of computer-aided information - possibilities at the library and archive services of the Geological Survey of Austria. We will show, that the usage of computerized catalogues and computerized databases on CD-ROM have essentially improved the information on geosciences at the Geological Survey of Austria. These standards were made possible only by good communication between the departments Computing Services, Library&Publishing and Scientific Archiv.

### Definitions

#### **Geology = Geosciences**

First some remarks on the terminology of "geology" and "geological survey":

We will give you generally approved definitions according to the "Glossary of Geology" as follows:

The aim of geology is the systematic study of the planet Earth, the materials of which it is made, the processes that act on these materials, the products formed, and the history of the planet and its life forms since its origin ( Fossilized remains of living beings). Geology considers the physical forces that act on the Earth, the chemistry of its constituent materials, and the biology of its past inhabitants as revealed by fossils. Clues on the origin of the planet are sought in a study of the Moon and other extraterrestrial bodies. The knowledge thus obtained is placed in the service of man - to aid in discovery of minerals and fuels of value in the Earth's crust, to identify geologically stable sites for major structures, and to provide for knowledge of some of the dangers associated with the mobile forces of a dynamic Earth. Related to this terminological definition are the following scientific disciplines or other names: Earth sciences, geoscience, historical geology, physical geology. Some special disciplines are palaeontology, petrology, geochemistry, applied geophysics, geomorphology, engineering geology, hydrogeology, mining geology etc. A very important related discipline to geosciences is geotechnics. It

studies the application of scientific methods and engineering principles to the acquisition, interpretation, and use of knowledge of materials of the Earth's crust for the solution of engineering problems; the applied science of making the Earth more habitable. It embraces the fields of soil mechanics and rock mechanics, and many of the engineering aspects of geology, geophysics, hydrology, and related sciences.

## Geological Survey

The Geological Survey works within this broad scientific area of geological sciences. Most countries around the world maintain their own Geological Survey. Some nations maintain both national and state surveys (e.g. Germany, USA, Australia etc.). Such organizations are governmental bodies whose traditional functions usually comprise study of the natural mineral reserves of a country or one of its subdivisions, collection of information regarding the geologic structure of the area, mapping and publication of geoscientific maps and papers explaining these geological structures. In the recent mean the collection of geoscientific information for public use is the dominant goal of the geological survey. In some countries the geological survey includes allied activities such as topographical surveys, studies on mines and mining, soil surveys, and hydrological surveys.

The situation of the geoscientific information at the Geological survey of Austria ( see Organigram of Geologische Bundesanstalt, fig. 1)

The division of information services is responsible for the collection, processing and distribution of geoscientific information. Recently the Library, Geodatacenter and the "Central Archive" ( Collection of unpublished materials ) have been allowed under the same direction. The effective information - services is the result of close cooperation between these departments and the department of data processing.

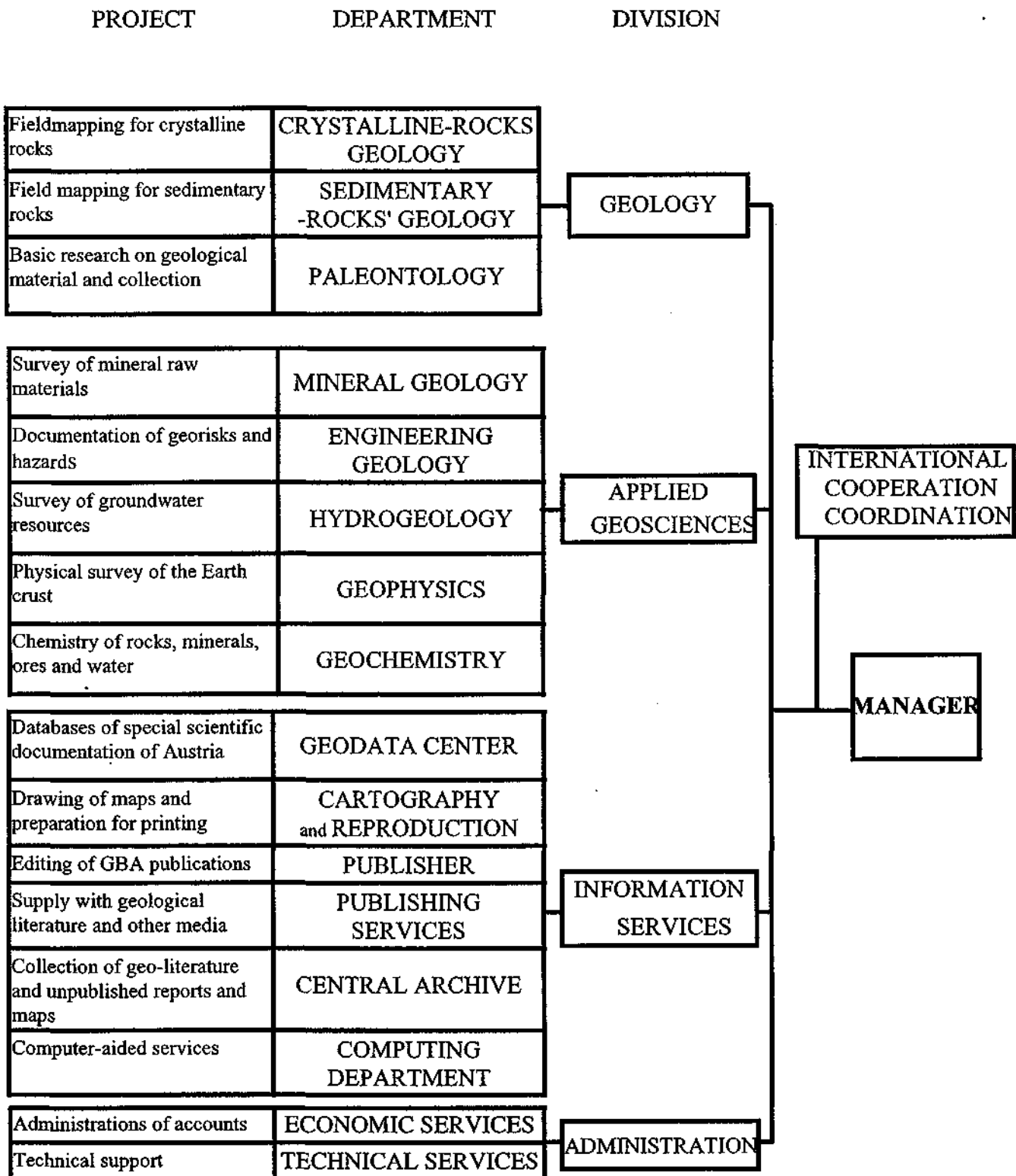
## Some remarks on the Library of the Geological Survey of Austria.

Recently the departments of Library & publishing services, datacenter and archive services maintains apart from monographs and periodicals a map-collection, unpublished materials, AV-Media and digital media. The GBA-Library is one of the largest geoscientific units concerning geoscienceinformation in Austria. The library of the GBA supplies the scientific and technical staff with geoscientific literature (b.t.) and is also open to the public. The GBA-Library is the Austrian center for documentation and information of geoscientific literature (published and unpublished) in Austria. Some historical highlights follow:

1849 - WILHELM HAIDINGER founded the "Geologische Reichsanstalt" and the library as the first geological survey on the european continent. It succeeds the former institution "Austrian Mining Museum" = Montanistisches Museum in der Hofkammer für das Münz -und Bergwesen, which was founded by the famous mineralogist FRIEDRICH MOHS in 1835. The first stocks were given by this former institution of GRA ( now GBA) of the Austrian society "Freunde der Naturwissenschaften in Wien" and from the private library of WILHELM HAIDINGER. From the beginning the GBA Library was open to the public!

1871 - HEINRICH WOLF reports on the reorganization of the library

# Organigram of the Geological Survey



A. BIEDERMANN

Fig. 1

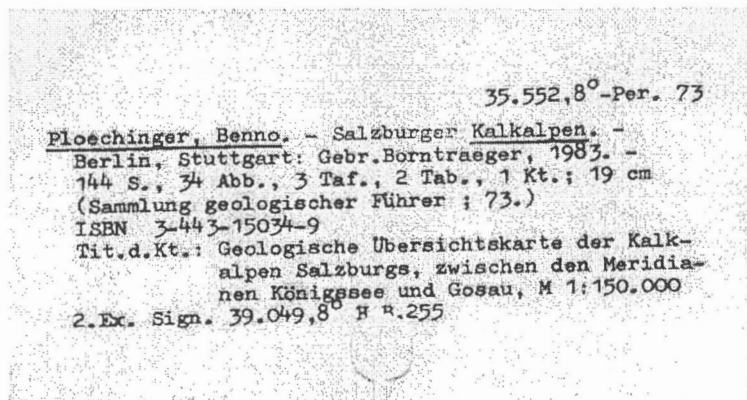
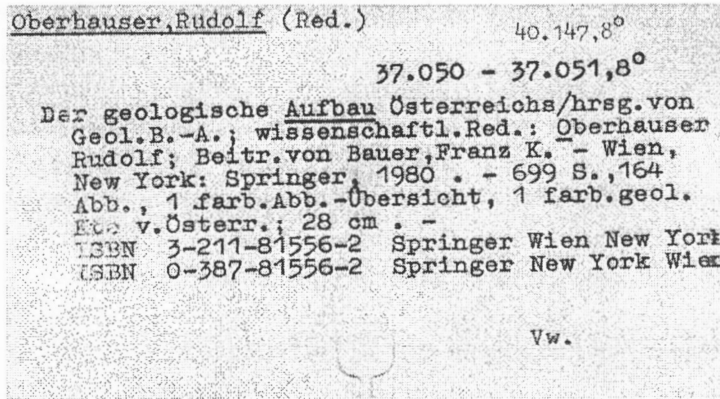
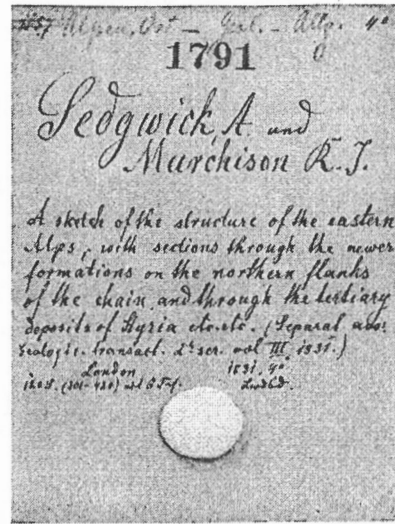
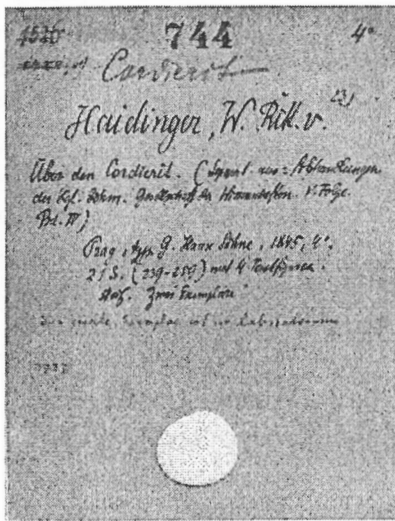


Fig. 2

- 1877 - HEINRICH WOLF reports on the reorganization of the map - collection
- 1890 - In the main-building the first reading room was opened to the public
- 1892 - First publication of the "Bibliography of geoscientific literature on Austria
- 1939 - The Geological Survey of Austria was joined to the german "Reichsamt für Bodenforschung <Berlin>"
- 1944/45 - Heavy bomb-damages, library and map collection were saved in cellars outside of Austria
- 1950 - Beginning of the so-called "new catalogues" in the international catalogue-card-format with the "Prussens instructions <PI>"
- 1955 - The reconstruction of Rasumofsky-Palace was finished. The library got new depositories for books in the so called "Yarden-Building".
- 1974 - The library (reading-room and librarian-office) moved to the "Mohs-room" of the "Yarden-building"
- 1975 - The map-collection was joined with the library
  - The first Database of GBA GEOKART was started under the direction of W.SCHNABEL
- 1978 - Within the Library the special collection of unpublished material the "Scientific Archive" was founded
- 1979 - Beginning of the GBA-Database GEOLIT. The first goal was to compile a computer - aided "Bibliography of geoscientific literature on Austria". Later it was used for all kinds of documents and media in GBA.
- 1986 - The lecture-room (Beethoven-room) changed to a reading- and services-room
- 1989 - The card-catalogues where definitively ceased. They were replaced by the GBA-databasis GEOKART, GEOLIT and GPV
- 1993/94 - A new depository system for the map collection ("system compactus") solved serious space problems
- 1995 - For holding of precious material e.g. Portraits, paintings etc., the "Graphics collection" was founded
- 1996 - A CD-ROM-Server and ULTRA\*NET2 was introduced and essential providing of geoscience information could start.

## **A retrospect to the access of geoscientific information**

How was the traditional way to get access to scientific information in the last centuries?

Generally the classified shelving system was used for the primary access to scientific information. For example we referenced to famous monastery libraries especially in Austria. This system is still used by "Reference-Libraries" ( a collection of quick to use reference-books) to the present day and it is also used in the GBA-Library (reading-room). Classified shelving systems are used by most new university libraries or newly founded libraries in Austria (e.g. University-Library of Klagenfurt, Vorarlberger Landesbibliothek. But, we are sure that this system cannot be satisfactory. The introduction of card-catalogues improved the primary access to scientific information in the 19th and 20th century. The GBA-librarians are very proud of the fact, that the GBA was one of the first institutions in Vienna to use card-catalogues (the so called old catalogues). The use of the so called old card-catalogues finished around 1950. After this date only an alphabetical catalogue without subject-entries was continued . The new international card-format was used and the "Preussische Instruktion" <PI> system was

# Geological Survey of Austria

applied to the library-catalogue. A new subject-catalogue was started in 1972 including the special literature on Austria.

This card-system was used by the GBA-Library around 100 years ago. It allows library usage only locally within the reading room. Examples of the old and new catalogues are shown in fig.2. The card-catalogues were stopped in 1988.

The holdings of the Library, Mapcollection, Scientific Archives and AV - Media of the Geological Survey of Austria are shown in fig. 3

## Holdings of Library, Map Collection, Scientific Archives and AV-Media of the Geological Survey of Austria

Monographies and Periodical stocks (volumes)	239.030
Current Periodicals	1.641
Maps	41.260
Arial Photographs	7.713
Microforms	11.808
Newspaper cutting	no statistics
Posters	no statistics
Graphics Collection	63
Databases on CD-ROM etc.	38
Archival Documents	11.116
Diapositives	1.170
Number of exchange partners	736
Total Number of all Library materials	app. 311.000

Updated: 31. December 1995

Fig. 3

The services of the GBA - Library are given in fig.4.

## SERVICES

- Open to the public (restricted to persons older than 16 years).
- Hours of opening:
  - Tuesday - Friday: 9 to 12 a.m.
  - Monday and Thursday: 13 to 16 p.m.
- Non-lending library
- Borrowing outside of the GBA (restricted number of pieces)
- Inter-library loan (chargeable)
- Information Services
- Online Information Services:
  - GBA-Databases (GEOKART & GEOLIT)
  - Databases on CD-ROM (GEOREF etc.)
- INTERNET - Open access to the public
- Copying Services (chargeable)
- Selfservices wardrobe

## PUBLICATIONS

- Accessions list (4 issues per year)
- Bibliography of literature on geosciences of Austria

*o Library statutes regulates the library usage*

Fig 4



## **The Computerized Catalogues or bibliographic databases of the GBA.**

The computerized bibliographic databases improved the primary access to the library - holdings and special collections of the GBA. The first bibliographic database was GEOKART, founded by W.SCHNABL around 1974-1975. This bibliographic database contains printed and unprinted geoscientific maps including maps in journals and books concerning the territory of the Republic of Austria, with to date 16.000 entries. It is a very useful tool for searching for geoscientific maps on Austria.

The second bibliographic database is GEOLIT. Originally it was developed to produce a computer - aided "Bibliography of geoscientific literature on Austria". This database started with the year of publication 1978. The bibliographies are printed from 1979 to 1992. Since 1989 the database GEOLIT is used also as catalogue of all kinds of documents in the GBA-Library. A conversion of the card catalogues is ongoing, with today 42.000 entries.

The third database is an union catalogue of all periodicals hold at the GBA - Library.

Simultaneously it is used as a text - preservation - system of standardized letter - abbreviations and as a tool for administration. To date ca. 5.300 entries.

These databases can be used by all members of the staff from there own workstation-PC. So now it is not necessary to make the investigations in the catalogues in the reading-room. Unfortunately there is one restriction. All databases for example GEOLIT include only data from the last twenty years. The databases will be updated with the older literature continously but the transformation of the old catalogues depends on the budget available. The next step is to make the databases useable to all INTERNET- users by the firewalltechnique. The aim of the GBA is to take part in a federal literature system to make all data available as scientific archives to INTERNET.

In future the INTERNET - System will make it possible to search in GBA -Databases throughout the world.

## **The secondary access to scientific informations**

Originally and traditionally it was only possible to get information on scientific information; a second way: Using bibliographies, binded library - catalogues (e.g. Catalogue of the United States geological Survey), reference books, text - books. These procedures are - where very circumstantial, laborious, time-wasting and last but not least with little success. The updating of printed media is not concurrent with the rapid increase of information. The improvement of scientific information was only possible through data-processing-techniques and new data-storage-techniques. Now the most important datastorage media is the optical disc media. The usage of these storage media was introduced a few years ago. The problem with this technique is, you can use it only on your desktop computer. So the idea came about to search for a possibility to make a CD usable for all of the members of the staff. The solution was to introduce the ULTRA-NET technique. The ULTRA-NET server has been running now for two years without any problem. For our app. 100 PC-users it is now possible to use the library data from their desktop. In this first way we try to offer geoscientific data but also commonly used data such as the telefondirectory or encyclopedias. The scientific staff of the GBA is now enabled to search at their personal workstations in the library stocks. Bibliographic databases and databases on CD-ROM are open to the public!



# Geological Survey of Austria

## **There is a short list of available CD's given:**

Earth - Science - Disc: This is the catalogues of the United States Geological Survey - Library (1975 annuals) + further databases

GEOREF: An international bibliographical database with partly abstracts. Original literature from North- and Southamerika, now additional data from Europe ( also Eastern Europe ) and Asiatic literature are included. 4 CD's including geoserials!

GEORESEARCH. A UK product which is based on GEOARCHIVE. This product consists of weekly updated service "Geotitles weekly" which is also available in our library.

GEOLINE + STIMLINE: A German product which consists of data from the "Bundesanstalt für Geowissenschaften". It is sold by FIZ, Frankfurt. Unfortunately STIMLINE ( includes information on rock clay and industrial minerals) has been delayed due to budget reasons. These databases consist of data from the German area which can never be sampled by the GBA.

LEXIROM: Meyer's encyclopedia, Langenscheidt dictionary, Duden dictionary.

ULRICHS PLUS: International serious dictionary.

Österreichisches Telefonbuch: This is the Austrian telefon directory.

etc.

The above mentioned databases are not corresponding but they support each other and they complete the databases of the GBA ( Card catalogues and Encyclopedias from the reference library ). So every user can do his research in millions of bibliographic data.

## **On the way to a "virtually geoscientific information system of Austria"**

The connection of bibliographic databases and original documents on CD-ROM accelerates the search for scientific information. Recently we have begun a pilot project: Its aim is to construct a system to supply the scientific staff with the ceased periodical "Verhandlungen der Geologischen Bundesanstalt <1867 - 1982>". A second project is planned concerning the distribution of the most recent publications of the GBA. Papers of the "Jahrbuch der Geologischen Bundesanstalt" will be distributed as hard copy or on digital version via INTERNET to users around the world! This is really the beginning of the "Virtually Geoscientific Information system for Austria": DATABASE AUSTRIA.

## **Some remarks on the proposed project "GEOBASE AUSTRIA"**

"The Federal Program of the Geological Survey of Austria GEOBASE AUSTRIA". We are at the beginning of a vision to work with geoscientific information from every workplace (in the survey or during fieldwork). For this purpose it is necessary to install a cooperation between the Geological Survey and all other geological dependent services. The goal of this should be the introduction of a computer-based geoinformation system. This database system should include a net of geoscientific resources and mineral resources literature from the whole country. Additionally it should consist of a database network including bibliographic data, text and pictures (geoscientific and mining maps).

The goal is to get a complete registration of all mineral deposit literature. This can be done by network with the institutes which are working on this project. With this network of bibliographic data including digitized pictures someone is able to give a very broad

information on the geoinventory of Austria. This so-called geoinformation system GEOBASE AUSTRIA should now be opened to common use. If we are successful with this idea it will lead us to a "Virtually geoscientific information system".

Just now the departments of Library&Publishing, Geo Datacenter and the Central Scientific Archive are working on a complete registration of published and unpublished documents in the two databases GEOKART and GEOLIT. Additionally unpublished works of the austrian geologists were put into the database. This is not only a cultural aim but also a possibility to give the information to the public. Part of the works by JOSEF STINY and FRANZ KAHLER are being revised just now. A large project is now in progress to get a register of unpublished works by ALOIS KIESLINGER. Also these latter databases should be included in the GBA-databases.

## **Problems to introduce a CD-Server in a small library.**

**Budget:** The costs of CD's to the present day is approximately 10% of the whole budget of the library for buying literature. Our manager was convinced of this system from the start so it should be no problem to get the money.

**Personal:** As it is shown it is necessary to have a continuing operating of the system but there is no personal resource for that purpose. We decided to cooperate with a service company. The electronic or software service is not the problem but every CD-system has its own retrieval system. Sometimes it is not very easy to install a new retrieval system. This will be done now by outsourcing. The Silverplatter products are the only ones which has no problem for new installation or updating.

### **So it is necessary to make some demands on the CD products:**

- .) Retrievals should be written for Windows operating system only.
- .) DOS-operating system should no longer be supported.
- .) The quality of the CD should be very high because some disc-drives could not read bad CD quality.

## Bibliography

The American Peoples Encyclopedia .- New York (Grolier) 1967

BATES, R.L. & JACKSON, J.A.: Glossary of geology . - 3rd. ed. - Alexandria, Virginia (Am.Geol.Inst.) 1987,788 S.

CERNAJSEK, T. & KÜRZL, H.: Die Bibliographie geowissenschaftlicher Literatur aus Österreich (BGLÖ) . -In: Österreich in Bibliographie und Dokumentation . - Biblos - Schr. 135, S.247-256, Wien 1986

CERNAJSEK, T. & SCHNABEL, W.: Stand und Entwicklung von geowissenschaftlicher Information in der Geologischen Bundesanstalt . - Daten, Dienste, Dokumente 2, S.163 - 171, Wien 1978

FINDLEY D. C.: A world organization of geological surveys?.- IUGS Episodes, 15; 2, Pages 109-112. 1992

JANOSCHEK, W.R.: EuroGeoSurveys: Eine neue, internationale Einrichtung der geologischen Dienste der Mitgliedsstaaten in Brussel und die bisherige Bedeutung der nationalen geologischen Dienste in den Mitgliedsstaaten für Forschung und Technologie. - Verwaltungsakademie d. Bundes / Europaakademie: Arbeitspapier; Wien: VAB, 1995-02.- 32 S.: 29,5 cm.

SCHÖNLAUB, H. P. & KREUTZER L. H. (Red.): Geologische Bundesanstalt=Geological Survey of Austria.- 31S., Wien 1996.

PRICE, RAYMIND A.: National geological survey; their present and future roles.- IUGS Episodes. 15; 2, p. 98-100. 1992

GRAVESTEIN J. & RASSAM GHASSAN N.: International cooperation in geoscience information; a global challenge.- IUGS Episodes. 13; 3, p. 178-183. 1990