Getting Started with GeoVu

Data Access and Visualization Software

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Introduction

GeoVu is a data- and platform-independent browse and visualization application developed at the National Geophysical Data Center (NGDC). GeoVu 6.0 operates in the Microsoft Windows, Macintosh, and Sun and SGI Motif environments.

You need to install the GeoVu application software and you may want to install the GeoVu Data Sampler, a data collection compiled for use with GeoVu demonstrations and tutorials. If you have data collections published by NGDC, you may also want to install the set of menu files (***.men**) to update those you already have. Documentation files are also available.

Requirements

PC

Under Microsoft Windows, GeoVu operates on any IBM PC 386 or 486 or compatible personal computer. The minimum configuration is DOS 5.0 running Microsoft Windows 3.xx or Windows 95. A Windows-supported mouse device and video system of VGA or better resolution are required, and optionally, a CD-ROM drive and standard CD-ROM file access software.

Macintosh

To run GeoVu on a Macintosh, you should have a 68020-based machine (Mac II or later) with a color monitor, 4 MB of RAM, and System 6 or later. Note that PowerMacs run GeoVu in emulation mode which results in poor performance of some functions.

Unix

GeoVu is also available as a Motif 1.1 program running on Sun Sparc workstations and as a Motif 1.2 program running on SGI workstations.

Obtaining GeoVu

GeoVu application software, the Data Sampler, menu files, and documentation files are accessible via FTP and on-line from the World Wide Web (WWW), and are available on CD-ROMs published by NGDC, and on diskettes (PC and Macintosh). If you are using your own data, you only need to obtain the GeoVu application software. If you are using data collections published by NGDC, you should also get the accompanying menu files (***.men**). If you have no data but wish to check GeoVu's capabilities, you should get the Data Sampler as well as the application software. The documentation for GeoVu (available in several formats) includes this "Getting Started" guide, a user's reference guide, and a guide to tools for data publishers.

FTP

If you want to download GeoVu to your computer, it must be connected to Internet and support the **ftp** command.

To download GeoVu:

1. Enter **ftp ftp.ngdc.noaa.gov**. Log in using **anonymous** for the user ID; use your own e-mail address or name for the password.
2. Change directories to **Access_Tools/GeoVu**.
   Here you will find subdirectories (**PC**, **Mac**, **Unix_SGI**, **Unix_Sun**) containing a GeoVu installation file (self-extracting executable) for each platform.
3. Download the appropriate GeoVu installation file (PC–**gvinstal.exe**, Macintosh–**geovu.sea.hqx**, Unix–**geovu.tar.Z**) and **readme** file in binary mode (PC, Unix) or ASCII mode (Macintosh).

To download the Sampler, menu files, and documentation files:

1. The GeoVu Data Sampler, also in a self-extracting executable file (PC–**sampler.exe**, Macintosh–**gvdata.sea.hqx**, Unix–**sampler.tar.Z**), is available in **Access_Tools/GeoVu/Sampler**. Download the appropriate Sampler file in binary mode (PC, Unix) or ASCII mode (Macintosh).
2. The menu files (***.men**) are located in **Access_Tools/GeoVu/Menu_Files**. Download them in binary mode.
3. The documentation files in several formats are located in **Access_Tools/GeoVu/Doc_Files**.

World Wide Web

To access GeoVu installation and accessory files, use the following URL:
ftp://ftp.ngdc.noaa.gov/Solid_Earth/Access_Tools/GeoVu
(subdirectories as above)

CD-ROM

Newer NGDC CD-ROMs include the platform-specific GeoVu installation file in the appropriate subdirectory (**pc**, **mac**, **unix_sgi**, **unix_sun**) under **\software\geovu**. The Sampler executable is in the **\sampler** subdirectory and GeoVu documentation files are in **\documnt**. Menu files are in the **\gv_misc** subdirectory under the appropriate platform directory (**pc**, **unix_sgi**, etc.) On older NGDC CD-ROMs, look for GeoVu files in **\software**; subdirectories may vary.

Diskettes

Contact us at the following address to order GeoVu for PC or Macintosh on diskettes (for which there may be a nominal charge):

Solid Earth Geophysics Division
National Geophysical Data Center
325 Broadway E/GC1
Boulder, CO 80303
(303) 497-6472

Installing GeoVu

Your installation directory should be ***empty***. Either create a new directory or clean out an existing directory.

PC

You will need 4 MB of disk space on your PC to install GeoVu.

To install GeoVu after it has been downloaded via FTP or WWW:

1. After getting **gvinstal.exe**, select the Run option from the File menu in the Windows 3.xx Program Manager or use the Start menu on the Windows 95 desktop.
2. Type **setup** preceded by the drive, e.g., **a:setup**, then follow the installation instructions on the screen.

   The installation process places GeoVu software and accessory files on your computer's hard drive in the directory or folder of your choice. The GeoVu Setup program installs or modifies an initialization file (**freeform.ini**) and the path of the installation directory for GeoVu is written into this file during setup.

To install GeoVu on a PC from an NGDC CD-ROM:

1. Select the Run option from the File menu in Windows 3.xx Program Manager or use the Start menu on the Windows 95 desktop.
2. Run the GeoVu Setup program **setup.exe**, which is located on newer NGDC CD-ROMs in the directory **\software\geovu\pc** or on older CD-ROMs in the directory **\software**. Type **setup** preceded by the path (e.g., **e:\software\geovu\pc\setup**), then follow the installation instructions on the screen.

To install GeoVu on a PC from diskettes:

1. Start Windows.
2. Insert the GeoVu Access Software diskette into the appropriate drive, e.g., a:
3. Select the Run option from the File menu in Windows 3.xx Program Manager or use the Start menu on the Windows 95 desktop
4. Type **setup** preceded by the drive, e.g., **a:setup**, then follow the installation instructions on the screen.

Macintosh

To install GeoVu after it has been downloaded via FTP or WWW:

1. When you download **geovu.sea.hqx**, decoding and installation of the **geovu** folder onto your hard disk may take place automatically depending on the setup of your FTP or Web software. If only the **geovu.sea.hqx** file is installed, decode it with StuffIt Expander or BinHex. These are free software utilities available in many places on the Web including **http://hyperarchive.lcs.mit.edu/HyperArchive.html**.
2. After decoding, double-click the **geovu.sea** icon to install the **geovu** folder wherever you want on your hard drive. If you use StuffIt, this may happen automatically, depending on your settings.

To install GeoVu on a Mac from an NGDC CD-ROM:

1. Copy the file **geovu.sea.hqx** to your hard drive (truncated to **geovu_se.hqx** or **geovusea.hqx**) from the **\software\geovu\mac** directory on the CD-ROM (**\software** on

older NGDC CD-ROMs) to your hard drive. The file name is truncated because the CD-ROM was made on a DOS-based PC.

2. Decode the file with StuffIt Expander or BinHex.
   These are free software utilities available in many places on the Web including: **http://hyperarchive.lcs.mit.edu/HyperArchive.html**.

3. After decoding, double-click the **geovu.sea** icon to install the **geovu** folder wherever you want on your hard drive. If you use StuffIt, this may happen automatically, depending on your settings.

To install GeoVu on a Mac from diskettes:

Double-click the **geovu.sea** icon to install the **geovu** folder wherever you want on your hard drive.

Unix

To install GeoVu after it has been downloaded via FTP or WWW:

1. After getting **geovu.tar.Z**, place it in the directory where you wish to install GeoVu (typically your home directory).

2. Enter the following commands:

   uncompress geovu.tar.Z
   tar xvf geovu.tar

   These commands generate the **geovu/** directory and file **g2**, which is an X application defaults file.

3. Place **g2** (not **g2.exe**!) in your home (~) directory.

4. Be sure the environment variable GEOVUDIR points to the **geovu** directory. For example, if you use the C Shell (and un-tar'd **geovu.tar** in your home directory), put the following line in **.cshrc**:

   setenv GEOVUDIR ~/geovu

To install GeoVu on a Unix machine from an NGDC CD-ROM:

1. Copy the file **geovu.tar.Z** (truncated to something like **geovu_ta.z**) from the **\software\geovu\unix_sun** or **unix_sgi** directory on the CD-ROM (**\software** on older NGDC CD-ROMs) and place it in the directory where you wish to install GeoVu (typically your home directory). The file name is truncated because the CD-ROM was made on a DOS-based PC.

2. Enter the following commands:

   cp geovu_ta.z geovu.tar.Z
   uncompress geovu.tar.Z
   tar xvf geovu.tar

   These commands generate the **geovu/** directory and file **g2**, which is an X application defaults file.

3. Place **g2** (not **g2.exe**!) in your home (~) directory.

4. Be sure the environment variable GEOVUDIR points to the **geovu** directory. For example, if you use the C Shell (and un-tar'd **geovu.tar** in your home directory), put the following line in **.cshrc**:

   setenv GEOVUDIR ~/geovu

Installing the GeoVu Data Sampler

PC

The Sampler data are in the zipped executable file **sampler.exe** and occupy 9 MB of disk space when expanded.

To install the Sampler on a PC:

1. Before getting **sampler.exe**, create the directory **\gvdata** at the root level, e.g., **mkdir c:\gvdata.** Then place **sampler.exe** in **\gvdata**.
2. Run **sampler.exe** with the **-d** option (**sampler.exe -d**) to extract the data files. The **-d** option recreates the directory structure.
3. Copy the accompanying menu file **sampler.men** to the GeoVu installation directory pointed to by the environment variable GEOVUDIR, e.g., **copy c:\gvdata\sampler.men c:\geovu**.

Macintosh

The Sampler data are in the self-extracting archive **gvdata.sea.hqx**.

To install the Sampler on a Macintosh:

1. When you download **gvdata.sea.hqx**, decoding and installation of the **gvdata** folder onto your hard disk may take place automatically depending on the setup of your FTP or Web software. If only the **gvdata.sea.hqx** file is installed, decode it with StuffIt Expander or BinHex. These are free software utilities available in many places on the Web including **http://hyperarchive.lcs.mit.edu/HyperArchive.html**.
2. After decoding, double-click the **gvdata.sea** icon to install the **gvdata** folder on your hard drive. If you use StuffIt, this may happen automatically, depending on your settings. It is recommended that the **gvdata** folder be placed at the top level of your hard drive.
3. Copy the accompanying menu file **sampler.men** to your **gvdata** folder.

Unix

The Sampler data are in the compressed file **sampler.tar.Z** and occupy 9 MB of disk space when expanded.

To install the Sampler on a Unix machine:

1. When you get **sampler.tar.Z**, place it in the directory where you wish to install the Sampler data and enter the following commands:

   uncompress sampler.tar.Z
   tar xvf sampler.tar

These commands create the **gvdata** directory which contains the Sampler directories and data files.

2. Copy the accompanying menu file **sampler.men** to the GeoVu installation directory pointed to by the environment variable GEOVUDIR (typically your home directory).

Installing Menu Files

After you download menu files (***.men**) from FTP or WWW, place them in the GeoVu installation directory, e.g., **c:\geovu** (PC), the **geovu** folder (Mac), **/geovu** (Unix). If installing GeoVu from diskette (PC or Mac), copy any menu files you need to the GeoVu installation directory or folder. Menu files that reside on CD-ROMs must likewise be copied into the GeoVu installation directory or folder.

Running GeoVu

The general sequence for accessing and viewing data is as follows:

1. Select a data file.
2. Optionally, browse information about the data (if displayed).
3. Specify search criteria if data are not automatically displayed.
4. Define desired output (screen display; save data to disk file).
5. Optionally, name the output file and specify an image's Save format.

➢ See the *GeoVu User's Guide* for detailed information about GeoVu menus, tools, and controls.

Starting GeoVu

PC

There are several ways to start GeoVu for the PC:

- To start GeoVu as a Windows desktop application, double-click the GeoVu icon.
- From the File menu in the Windows 3.xx Program Manager or the Windows 95 Start menu, select the Run option. Windows prompts you for the name of the application. Enter the full path to **g2**, e.g., **c:\geovu\g2**.
- If your current working directory is the GeoVu directory, start GeoVu from the DOS command line by entering **win g2**.

Macintosh

- To start GeoVu for Macintosh, double-click the GeoVu application icon in the **geovu** folder.

Unix

- To start GeoVu for Motif as a desktop application, double-click the GeoVu icon.

Exiting GeoVu

- To exit GeoVu, select Exit GeoVu from the File menu or use the close box on the GeoVu application window.

Viewing Data Files

To view a data file:

1. Start GeoVu and select Set Data Source from the File menu.
   The Data Source dialog is displayed. A data source is a collection of data files on a CD-ROM, hard disk, or diskette.
2. Change (if necessary) the drive letter (or path) shown in the text box with the title “CD-drive or data's drive” to that of the drive (or directory) where the data source is located.
   Examples
   e: (PC)
   :Pathfinder (Mac) Pathfinder is the name of the icon on the desktop
   /cdrom (Unix)
3. Choose the file in the data set that you want to view; you may have to navigate (with double-clicks) through several menu levels. An Introduction screen is usually displayed first with some information about the data collection.

   If the data publisher has activated the automatic display function, the data file is displayed when you choose it. If not, you need to define a search.

Defining Searches

If the data publisher has not activated the automatic display function, you must define a "search" before data are retrieved, processed, displayed, or written to disk file. After opening a data file, you use Search menu options to define retrieval and display properties for that file. It is recommended that you experiment with different settings. The result of a search on an open data file can be a plot display, an image display, or a disk file.

To define a search:

1. After you open a data file, select Create from the Search menu to display the dialog or window in which you can set search criteria. For image data, the Image Search Parameters dialog is displayed; for point data, the Plots:Title window appears.
2. Set the criteria as you wish (specify geographic limits, display attributes, and so on), or click OK (image) or GO (point) to accept the defaults. The data are displayed in a new window.

   Note! Once you have defined a search, you can save it in GeoVu by title for future use. For image data, use the Save Search Definition button in the Image Search Parameters dialog. For point data, click the Output/View Type control button, then click “Save the search definition only”.
3. You can now examine the data in more detail using the tools on the right side of the window (COLOR, ZOOMIN, PROFILE, etc.) or you can open additional data display windows.

Using Sampler Data

1. To access the GeoVu Sampler data, click the File menu item Set Data Source.
2. Select GeoVu Sampler Data from the list and change the drive letter designation to that of the drive or path where the directory **gvdata** is located.
3. Navigate through the lists of titles until you find the name of the data file you want to view. Double-click the title to open the data file or click the title, then the OK button.
4. If the data file isn't automatically displayed, you can select Create from the Search menu to display the dialog or window in which you set search criteria.

File Extensions

GeoVu uses the following standard file extensions when reading and writing files. These extensions also are used on NGDC's CD-ROM products:

.dat	ASCII data files
.bin	binary data files
.fmt	format description files
.hdr	header files
.doc	documentation files (usually IDRISI separated header files)
.hed	text format grid documentation
.lst	histogram information file for numeric variables
.cst	histogram information file for character variables
.ind	index files (indexing menu files)

Viewing Tips

- Data may have associated header files, format description files, image information files, and terms files that define field names and code values. You can use options in the Edit menu to review and change the information in these files.
- GeoVu treats images with coordinates specified by latitude and longitude pairs as georeferenced images. The GeoReference menu contains several options that let you use georeferenced images with vector overlays.
- Use Slide Show from the Utilities menu to sequentially display images in a data collection.
- To create enlarged or reduced images from an image display, select Image Processes from the Utilities menu. The resulting images are no longer linked to the original data.
- To view histogram information (variable summary) files that indicate variable distribution, select View File Histograms from the Utilities menu.

- Double-click within an image to display image coordinates, data values, and data class names.
- The Help menu displays information found in the *GeoVu User's Guide.*
- The FACTS control button displays information about the currently displayed image, data classes, and so on.

Questions?

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