

CHAPTER 5

Remote Login to the Internet with Telnet

Telnet is one of the original Internet applications; it even predates the widely used electronic mail. Though the World Wide Web is stealing the thunder and the attention of most Internet users, Telnet remains a valuable application. Telnet is the remote login application for the Internet. The World Wide Web is primarily designed for information retrieval. But if you want to truly interact with another computer, that is, actually use the resources or software on another computer, you turn to Telnet. Telnet allows you to gain access to a computer system located in another building, across town, or at remote location in another part of the world. Once connected, the Telnet software makes your computer act like a terminal directly connected to the remote computer, giving you the ability to run programs on it. Telnet transmits information in real time, unlike other Internet services that send information in bursts or must download information to your computer before you can use it. This makes Telnet a faster application for interacting with a remote server. Over a Telnet connection you can execute database queries or simulation programs, run Internet software, look through a library online catalog, connect to an electronic bulletin board system, or even talk to people online. You can use Telnet to remotely login to your electronic mail server to read your electronic mail. In many countries that have slow Internet connections, Telnet and electronic mail are the only applications that are available. Those of us in the earth and environmental sciences use Telnet:

- to obtain crustal motion information from the NCEER's Strong Motion Server (URL - <telnet://duke.ldgo.columbia.edu:23>)
- to connect to the Colorado Alliance of Research Libraries (URL - <telnet://pac.carl.org>) to query their system for resources to complete a research paper
- to check in with NASA SpaceLink to get the latest NASA project news and download astronomy-related shareware (URL - <telnet://spacelink.msfc.nasa.gov>)

Telnet and Time-Sharing Computers

Telnet is like the login facility used on a conventional *time-sharing computer system*. Time-sharing computer systems use one large computer to support multiple users at the same time. A user interacts with a time-sharing computer through a *terminal* that includes a keyboard, a video display, and possibly a mouse. A time-sharing computer is accessed with a computer running terminal emulation software, software that makes your computer act

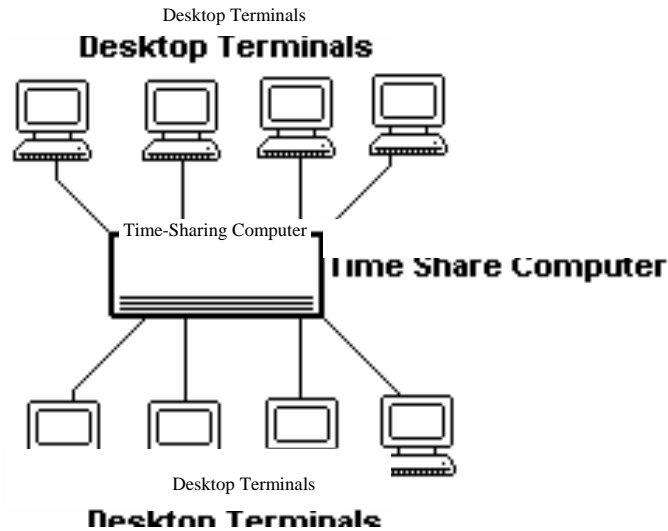


Figure 5.1 Time-sharing computer system

a terminal, too. The terminal connects to the time-sharing computer either directly or over a network line. Multiple terminals can be attached to a time-sharing computer, allowing one user at each terminal to have access to the time-sharing computer's resources (Figure 5.1). The time-sharing computer sets aside a particular part of its resources for each user to run programs with. In so doing, the time-sharing computer's operating system quickly switches between the users to ensure that each person's work proceeds as if he or she were the only person using the system. Users can pick and choose what software they wish to run without interrupting others. Like the personal computer on your desktop, the time-sharing computer responds to your keyboard input almost instantly.

To allocate system resources to authorized users, time-sharing computers require the user to login with a user name and password. The login procedure helps the computer keep track of who is logged in and how many people are using the computer at any one point in time. Even though time-sharing computers permit several people to access its resources at the same time, there are limits to the number of users who have access to it. When you log on to a time-sharing computer it will usually respond by asking you to identify yourself at the login prompt. After I make the initial connection, the time-sharing computer I log onto responds with:

```
BSDI BSD/386 1.1 (worf) (tty3)
```

```
login: mritter
```

After I have entered a predetermined login identifier, in this case "mritter," the

computer will return with a password prompt.

Password:

To keep passwords secure, they are not displayed while users type them in. Often the remote computer displays a string of asterisks in place of the actual password. If the correctly matched login user name and password are accepted, the computer allows the user into its system and responds with

```
Last login: Sun Dec 17 20:32:44 from dial1.uwsp.edu
Copyright 1992,1993,1994 Berkeley Software Design, Inc.
Copyright (c) 1980,1983,1986,1988,1990,1991 The Regents of
the University
of California. All rights reserved.
```

```
BSDI BSD/386 1.1 Kernel #1: Fri May 27 10:30:57 CDT 1994
```

```
You have new mail.
worf-1>
```

Once you are logged in to the system you can gain access to the programs located on your host computer, like Telnet, FTP, electronic mail, or other non-Internet programs. When you start the Telnet program up on the time-sharing computer, your desktop computer is “turned into” a terminal functioning like the terminal described previously. When you type in commands the remote computer executes them.

Some computer systems permit anonymous login with a shared account name. A number of resources are available through this route for those who can establish a remote login connection with a remote computer. Wide Area Information Servers (WAIS), Archie servers, and Netfind servers are examples of such resources. Accounts have been created with a generic name—often the name of the service. Anonymous Telnet services use the words “anonymous” or “guest” as user names. Anonymous systems either require no password at all or simply ask you to type a <return> to log on to the system.

The Internet Telnet Program: A Closer Look

To use Telnet you need a Telnet client program to connect to a Telnet server, the Internet domain name or IP address of the remote computer you want to connect to and a user ID and password onto the target system. Even though many other Internet services can be accessed with a World Wide Web browser, you cannot directly access a Telnet server. Web browsers and terminal emulation programs like Telnet work quite differently. Terminal emulation programs read and interpret ASCII character sequences as they are transmitted to the client computer. Web browsers focus on displaying multimedia, HTML documents. Because these two functions are quite different, Web browsers call on outside Telnet applications to help them communicate with Telnet servers. The Telnet protocol specifies

exactly how a remote login client and remote login server interact. The standard specifies how a client contacts the server, how the client encodes keystrokes and commands for transmission to the server, and how the server encodes output for transmission to the client computer. Telnet is a powerful application that provides general access to the programs residing on a computer without requiring modifications to the programs arising from differences in a user's desktop computer operating system. It doesn't matter if your desktop computer is a DOS, Windows, Macintosh, or UNIX machine; the Telnet protocols let you run any program on the remote computer.

The Telnet program used as an example in this chapter is a command line version typical of the UNIX environment. Telnet has a dozen or so commands that are fairly standard across different versions of Telnet software. You only need a few to establish a Telnet connection. The basic Telnet commands are:

- close** Close the connection that is presently underway. The close command disconnects you from the remote computer and may close the Telnet program if you specified the host name with the Telnet command.
- help** Display information about all or specified Telnet commands.
- open** Make a connection to a remote computer. Most systems will prompt you for a host name (address) if you leave the host name off the open command.
- quit** Close a Telnet connection and exit the Telnet program.
- z** Suspend current activity and return to a UNIX shell. You can resume your Telnet session by issuing the fg command on most BSD UNIX systems. Check with your system administrator for more specifics.

Let's look at a sample Telnet session. To start the program you simply type "telnet" at the system prompt:

```
worf-1> telnet
```

The host computer responds with the Telnet prompt:

```
telnet>
```

Next I'll open a connection to the NCEER's Strong Motion server. Once I get a login prompt I need to use "strongmo" as the login and "nceer" as the password (without the quotes). The password is not printed on-screen so it will appear blank.

```
telnet> open duke.ldgo.columbia.edu 23
```

The host computer responds with:

```
Trying 129.236.10.50...
Connected to duke.ldgo.columbia.edu.
Escape character is '^]'.

```

```
SunOS UNIX (duke)

```

```
login: strongmo
Password:
Last login: Mon Dec 18 12:05:07 from netblazer.ldgo.c
SunOS Release 5.1.3 (DUKE) #7: Thu Jun 30 14:50:13 EDT 1994

```

```
*****
Welcome to Strongmo, the NCEER Strong Motion Data Facility.

```

```
*****
You have reached the on-line data search utility and bulletin
board at Lamont-Doherty. For now, the menu-driven utility only
works on a vt100 type terminal. Please set your communication
program to emulate one.

```

```
This system will log you off if your terminal has remained
idle for more than 5 minutes.

```

```
New Version 2.0 with additional features and bug fixes:

```

```
1. You can now view time-series data graphically with
Xwindows

```

```
2. Strongmo is now using the Sybase database

```

```
3. You can now revise requests at viewing stage.

```

```
Instructions for these new features are in the help screens
of this NCEER Strongmo Data Facility. See the User's Guide for
Version 1.0 for instructions on reading Help screens. (NCEER-90-
0024)

```

```
To EXIT NOW, type ^C

```

```
Please enter name and institution (80 character limit)

```

This is a time-sharing computer. Note the warning about letting the connection lie idle. Most time-sharing computers you connect to will have a specified idle time before closing your connection. You must send some instruction to the computer within the time interval, even if it's just a carriage return. After I enter my name and institution the server responds with its menu:

```
*****
Welcome to Strongmo, the NCEER Strong Motion Data Facility.

```

```
*****
You have reached the on-line data search utility and bulletin
board at Lamont-Doherty. For now, the menu-driven utility only

```

works on a vt100 type terminal. Please set your communication program to emulate

```
NCEER Ground Motion Facility [mainmenu]
```

1. Introduction
2. Inquire into NCEER Database
3. NCEER SSA-1 Status Bulletin
4. Retrieve raw SSA-1 data (passwd required)
5. Send mail to staff
6. Quit

Please make a selection from the menu.

```
RETURN-select U-Up N-down ^K-exit ?-help NUMBER 1 - 6
```

I've successfully logged onto the Strong Motion site and am ready to use its services.

The Telnet client programs operate in two modes, input mode and command mode. You are in *input mode* once you start the Telnet client software on your desktop computer. Input mode allows you to edit the client program parameters. Once you have successfully logged into a remote site you enter *command mode*. In command mode your desktop computer acts like a terminal to issue commands and interact with the remote computer. You can switch back to input mode by using the Telnet escape character. Most versions of Telnet use the Control-] (control-right-bracket) escape character sequence. You can determine the correct escape character sequence by reading the Telnet documentation that came with your client program. The escape character is usually given to you during the remote login procedure.

Earth Online Tip: Download and review instructions for interacting with a remote login site. Stay online long enough to get what you're looking for and then exit. Remember, someone else is probably trying to log on.

A common use of Telnet is to access a Netfind server to information about a person connected to the Internet. A more complete discussion of the Netfind service can be found in Chapter 6. The Netfind service is available at several locations; one of the more popular ones is at the University of Colorado-Boulder. To access it type the following at the system prompt:

```
>telnet bruno.cs.colorado.edu
```

My local host computer makes the connection and the UC- Boulder server later responds with

```
telnet> open bruno.cs.ucboulder.edu
Trying 128.138.243.150...
Connected to bruno.cs.colorado.edu.
```

Escape character is '^]'.
 SunOS UNIX (bruno)

Login as `Netfind' to access Netfind server

login: **Netfind**

nsh: Too many Netfind sessions are active. Please try again later.

Or, please try one of the Alternate Netfind servers:
 archie.au (AARNet, Melbourne, Australia)
 bruno.cs.colorado.edu (University of Colorado, Boulder, USA)
 dino.conicit.ve (Nat. Council for Techn. & Scien. Research, Venezuela)
 ds.internic.net (InterNIC Dir & DB Services, S. Plainfield, NJ, USA)
 eis.calstate.edu (California State University, Fullerton, CA, USA)
 krnic.net (Korea Network Information Center, Taejon, Korea)
 lincoln.technet.sg (Technet Unit, Singapore)
 malloco.ing.puc.cl (Catholic University of Chile, Santiago)
 monolith.cc.ic.ac.uk (Imperial College, London, England)
 mudhoney.micro.umn.edu (University of Minnesota, Minneapolis, USA)
 Netfind.ee.mcgill.ca (McGill University, Montreal, Quebec, Canada)
 Netfind.elte.hu (Eotvos Lorand University, Budapest, Hungary)
 Netfind.fnet.fr (Association FNET, Le Kremlin-Bicetre, France)
 Netfind.icm.edu.pl (Warsaw University, Warsaw, Poland)
 Netfind.if.usp.br (University of Sao Paulo, Sao Paulo, Brazil)
 Netfind.mgt.ncu.edu.tw (National Central University, Taiwan)
 Netfind.sjsu.edu (San Jose State University, San Jose, CA, USA)
 Netfind.uni-essen.de (University of Essen, Germany)
 Netfind.vslib.cz (Liberec University of Technology, Czech Republic)
 nic.uakom.sk (Academy of Sciences, Banska Bystrica, Slovakia)

Connection closed by foreign host.

Having failed to get onto the UC-Boulder Netfind service I'll try McGill from the list of alternatives.

>telnet **Netfind.ee.mcgill.ca**

login: **Netfind**

Password:

```
=====
Welcome to the McGill University Netfind server
=====
```

The server responds with the same list of Netfind servers as before and sets your terminal display.

```
I think that your terminal can display 24 lines. If this is
wrong, please enter the "Options" menu and set the correct
number of lines.
```

```
Top level choices:
1. Help
2. Search
3. Seed database lookup
4. Options
5. Quit (exit server)
```

I'll choose item 2 to search for myself, and the Netfind server responds by asking me to enter a person's name and the keys, that is, the location. I'll type my last name followed by the location where I work and have an electronic mail address, making sure to leave blank spaces between each search term.

```
Enter person and keys (blank to exit) --> ritter stevens
point wisconsin
```

I hit the return key and the Netfind server sets off to find my address.

```
Please select at most 3 of the following domains to search:
0. uwc.edu (university of wisconsin, centers, stevens point,
wisconsin)
1. uwsp.edu (university of wisconsin, stevens point)
2. lib.uwsp.edu (library, university of wisconsin, stevens
point)
3. me.uwc.edu (mechanical engineering department, university
of wisconsin, centers, stevens point, wisconsin)
4. me.uwsp.edu (mechanical engineering department, university
of wisconsin, stevens point)
Enter selection (e.g., 2 0 1) -->
```

The server has responded with several choices from which I'll pick the most likely, as it is the one for the university.

```
Enter selection (e.g., 2 0 1) --> 1
( 1) got nameserver spul.uwsp.edu
( 1) got nameserver spdns1.uwsp.edu
( 1) SMTP_Finger_Search: checking domain uwsp.edu
( 2) SMTP_Finger_Search: checking nameserver spul.uwsp.edu
( 3) SMTP_Finger_Search: checking nameserver spdns1.uwsp.edu
( 2) connect timed out
( 2) ask_smtp: Failed to connect to SMTP daemon
( 2) connect timed out
-----
Domain search completed. Proceeding to host search.
```

```

-----
( 2) SMTP_Finger_Search: checking host uwspmail.uwsp.edu
( 5) SMTP_Finger_Search: checking host sis.uwsp.edu
( 1) SMTP_Finger_Search: checking host gbernd.uwsp.edu
( 3) SMTP_Finger_Search: checking host afranz.uwsp.edu
( 4) SMTP_Finger_Search: checking host ariel.uwsp.edu
( 2) SMTP_Finger_Search: checking host spbsd1.uwsp.edu
( 5) do_connect: Finger service not available on host
sis.uwsp.edu ->
cannot do user lookup
( 5) SMTP_Finger_Search: checking host chasenor.uwsp.edu
SYSTEM: spbsd1.uwsp.edu
Login: mritter           Name: Mike Ritter
Directory: /usr/fac/mritter   Shell: /bin/csh
Office: Geog/Geol, 715-346-4449   Home Phone: n/a
On since Mon Dec 18 13:22 (CST) on tty0 from 143.236.26.121
No Plan.

```

After several attempts the information is finally found. Netfind returns my login name, office location, office phone, and so on. The “No Plan” entry at the bottom of the user information refers to a “generic” plan file that you can create and make available for reading. As it implies, you describe what you’re engaged in. This is a handy little file to use, especially for letting people know if you are going to be away for awhile and difficult to reach.

Hytelnet: Hypertext Meets Telnet

One of the most useful features of remote login is the Hytelnet service. Hytelnet combines the remote access of Telnet with the navigational properties of hypertext. Hypertext is a way to “read” information in a nonlinear way. There is no predetermined way of interacting with the information in a hypertext environment. The path through the information is defined by the user. Hypertext uses “hot” words and icons to link information together. (See Chapter 2, “Browsing the Internet,” for an explanation of hypertext and hypermedia.) Navigation occurs by clicking on a word with a mouse or using another keystroke, which sends the user to a linked piece of information. Hytelnet works in conjunction with a large catalog of addresses to login to Telnet-accessible Internet systems like online library card catalogs, Gopher, Freenets, bulletin board systems and Wide Area Information Services. There are a variety of ways to tap into Hytelnet’s online resources:

- Running Hytelnet with a direct Internet connection. This is done by downloading the software to your machine and typing a key to make the Telnet connection to the desired resource.
- Using a dial-up connection. The Hytelnet program not only describes the sites provided in its extensive catalog of resources but also the login information required for each one. People with a dial-up connection can browse throughout Hytelnet’s catalog, find the sites they want to explore and make a note of the

addresses and login procedures. Users start up their Telnet software, provide it with the address to open and, once the connection is made, follow the login procedures provided by Hytelnet.

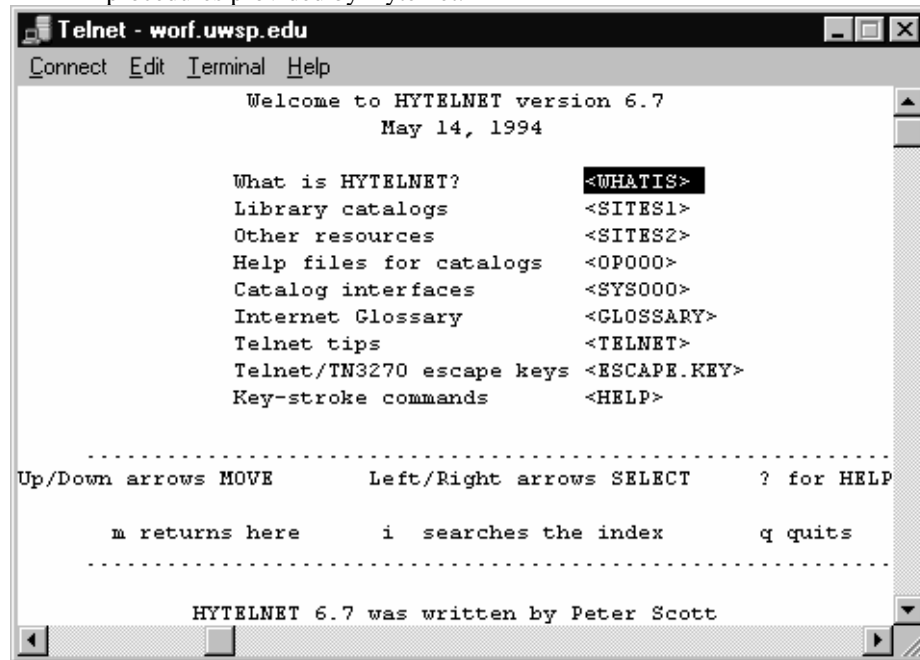


Figure 5.2 Hytelnet main menu screen

- Connecting to Hytelnet through Gopher (see Chapter 2, “Browsing the Internet,” for more information about Gopher). Washington and Lee University has made Hytelnet available through its Gopher server. Gopher software has the ability to make Telnet connections so it is natural to combine Gopher and Hytelnet resources.

I’ll be using a Telnet session to illustrate how to find earth science information from Hytelnet. First, you’ll need to open a connection to a Telnet server. Depending on which Telnet server you connect to, you will login as Hytelnet. Once the login has been completed a menu screen will be displayed (Figure 5.2).

The first menu screen that appears upon startup is a general listing of Hytelnet resources and information. Beside each menu pick is a bracketed abbreviation of the menu <WHATIS>. The bracketed items are highlighted with the cursor indicating that they are links to the information. You use the up, down, right and left arrow keys to navigate through the menus. You can also hit the return key once an item is highlighted to see the next menu of resources. Clicking on the highlighted WHATIS with the enter key or using

the right arrow key returns the basic information screen about Hytelnet (Figure 5.3).

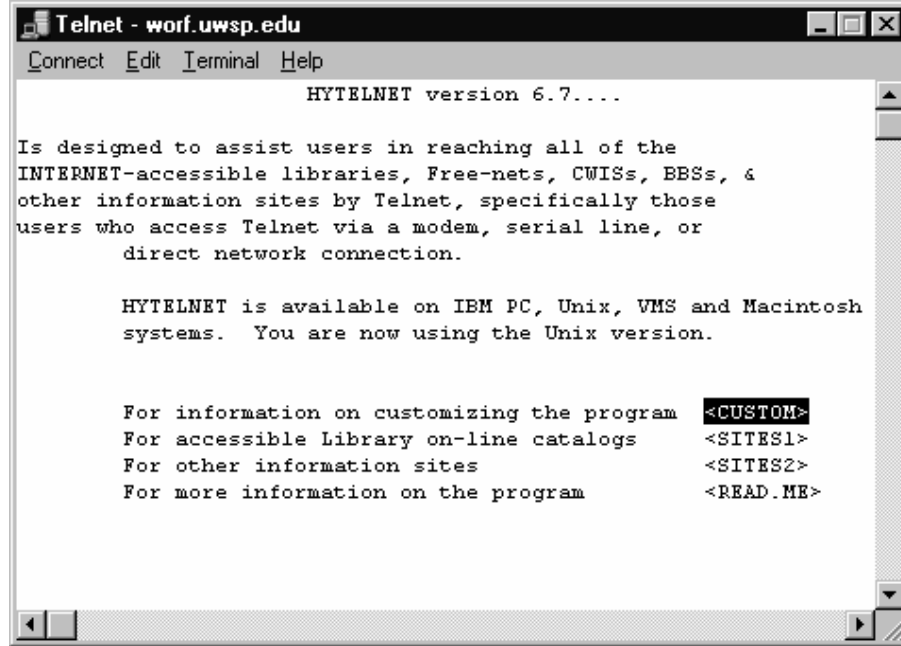


Figure 5.3 Hytelnet “WHAT IS” menu screen

Note that after the brief explanation you are presented with a few menus that will either give you more information about the program or let you go to library and other information systems without having to return to the opening menu screen. To return to the main menu screen you simply use the back arrow key. Although linking to online libraries was one of the reasons for creating Hytelnet and certainly is an important feature, the “Other Resources” menu pick offers a lot, especially to those in the earth science community. Using the down arrow key I’ll move to the “Other Resources” menu <SITES2> and then the right arrow key to bring the screen shown in Figure 5.4.

Now we’re starting to see how valuable Hytelnet really is as an Internet earth science resource. From the “Other Resources” screen we can access Archie servers to locate files on FTP servers and connect to campuswide information systems to retrieve information about different universities, including links to faculty and possibly student addresses (both surface and electronic mail addresses). A rich source of information can be found under the “Databases and Bibliographies” menu where we connect to, and interact with, a number of government databases. Hytelnet can connect us to distributed file servers like Gopher (see Chapter 2, “Browsing the Internet”) or Wide Area Information Services where we can perform an online search of full-text documents (see Chapter 6, “Searching the Internet for Earth Science Resources”). A popular use of the Internet is the distribution of online books

accessible from the “Electronic Books” menu pick. Two other menu picks are of particular

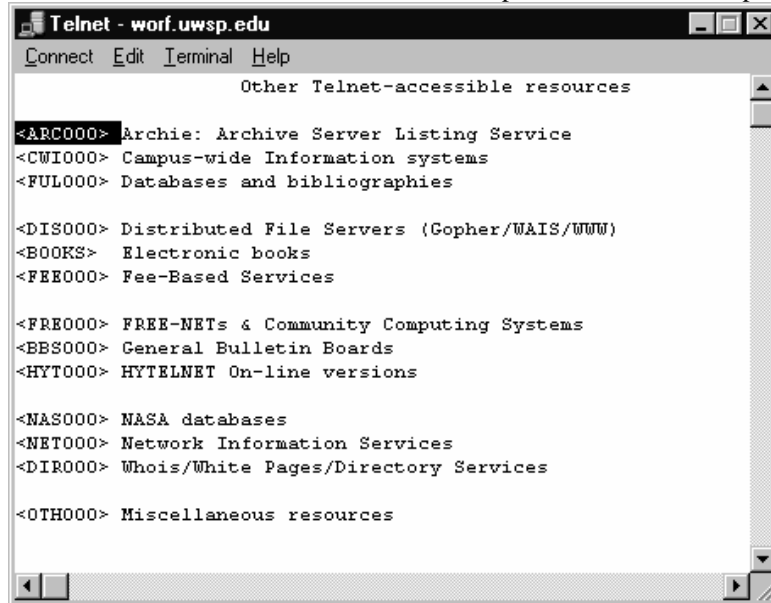


Figure 5.4 Hytelnet “Other Resources” menu screen



Figure 5.5 Hytelnet screen of Freenets

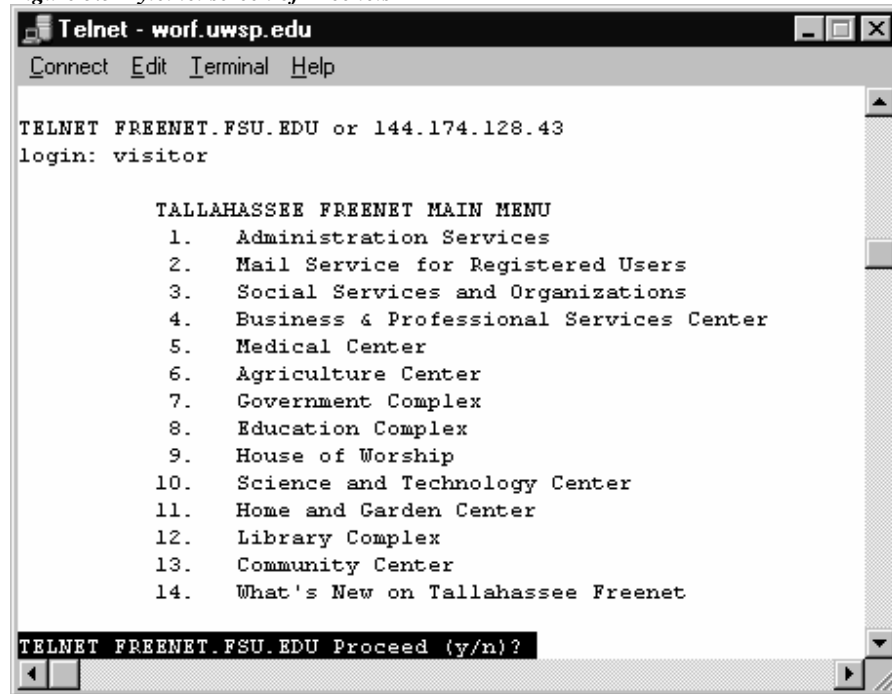


Figure 5.6 Tallahassee Freenet login screen

interest to earth scientists: “FREE-NETs and Community Computing Systems” and “NASA Databases.” Freenets are community bulletin boards that offer free access to the local community and a pay service for those logging in from outside the community. However, outsiders can log on as a “guest” and use many of the resources that are available. Choosing the Freenet menu brings you to a screen of Freenet options (Figure 5.5).

Scrolling down and choosing the Tallahassee (Florida) Freenet brings you to a Hytelnet remote login screen (Figure 5.6). The Telnet address and login information are located at the top of the screen and indicate that you can enter the Freenet as a visitor (Figure 5.6). Depressing the enter key brings up the warning highlighted at the bottom of the page. Answering yes initiates a connection with the Tallahassee Freenet. After answering several “housekeeping” questions about your terminal emulation and activity, you are presented with a welcome screen and then a main menu screen with a list of options as depicted in Figure 5.7.

Next I’ll choose the “Science and Technology” menu (Figure 5.8). A number of picks of interest to the earth scientist are found on this screen, including links to environmental resources, the National Science Foundation, weather information, the United States

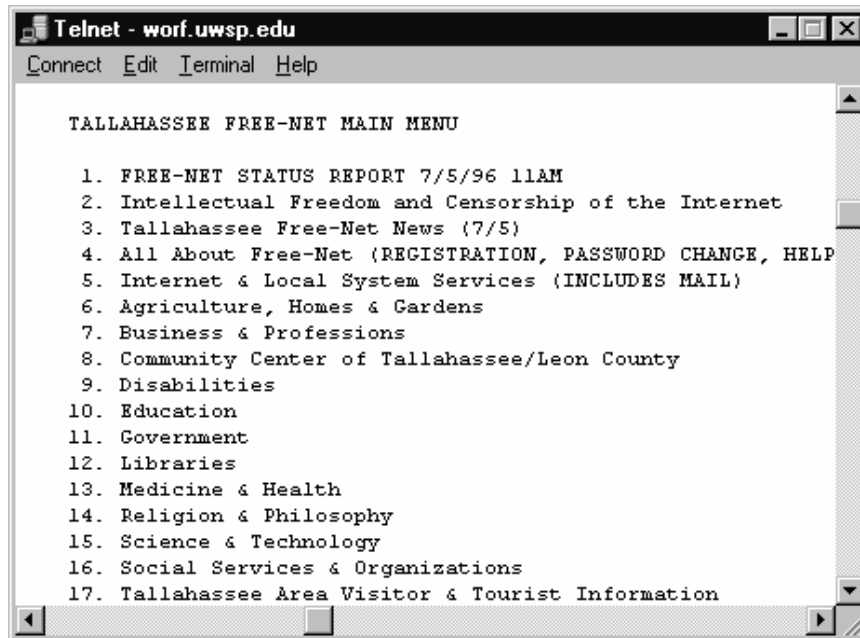


Figure 5.7 Tallahassee main menu screen

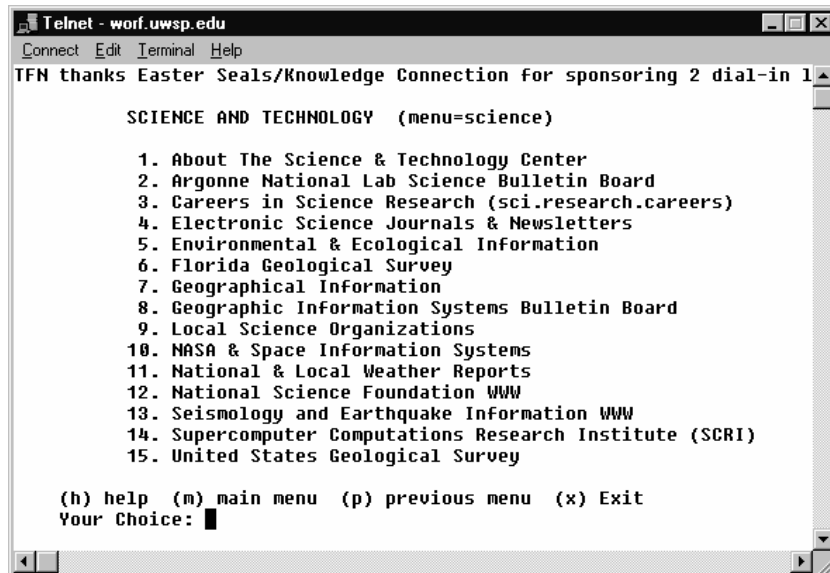


Figure 5.8 Science and technology menu screen

Geological Survey, Geographic Information Systems, and NASA. When you're finished looking at Tallahassee's Freenet use the exit key sequence and you're back to Hytelnet ready for further exploration.

The Hytelnet database is updated on an ongoing basis. Check into the main FTP site for recent updates. You'll find Hytelnet to be a good introduction to the world of hypertext and a source of a wealth of information at your fingertips. Even if you don't use the Hytelnet program, the database itself serves as a great archive of resources. Open it up to find the address of a site to use with other Internet programs like a World Wide Web browser that can access Telnet servers.

Logging into Earth Science with Telnet

There are any number of good examples of the use of remote login to earth science resources with Telnet. As Internet technology continues to evolve, more sites, especially interactive database systems, are turning away from Telnet and toward the World Wide Web environment. However, there are times when it might be easier to Telnet through to these services rather than going through the Web.

The Global Change Master Directory (GCMD) (**URL - telnet:// gcmd.gsfc.nasa.gov**) is a free information system containing descriptions of earth and space science data holdings available to the science community. These include data from the United States Department of Energy, Environmental Protection Agency, National Aeronautics and Space Administration, National Center for Atmospheric Research, National Oceanic and Atmospheric Administration, National Science Foundation and a host of other U.S. government agencies, university data archives and international agency data archives related to global climate change. The directory does not contain the actual data set. Rather it provides pointers to the location of the data set.

The National Space Science Data Center (NSSDC) operates the National On-Line Data and Information Service (NODIS) (**URL - telnet://nssdca.gsfc.nasa.gov**). NODIS is a menu-driven system that provides information on services and data supported by the NSSDC, including Nimbus-7 GRID TOMS data, geophysical models, and the Standards and Technology Information System. NODIS provides links to the NASA Master Directory online search system. The NASA Master Directory provides brief overview information about NASA and many important non-NASA space and earth science data information systems.

The NASA Spacelink Electronic Library is accessible via Telnet (**URL - telnet:// spacelink.msfc.nasa.gov**). This site gives you access to educational services and instructional materials available from NASA and other sources. Aerospace career information and information about NASA programs can be viewed online. From the "Software" menu you can download a number of shareware programs for a variety of

computer platforms. Software that you can retrieve includes a gravitation simulation program, star finder programs and sunrise/sunset programs.

Tom Liebert's Geographic Name Server (**URL - telnet:// martini.eecs.umich.edu 3000**) is a useful server to obtain zip codes, population numbers, latitude and longitude and other city statistics from the 1980 United States census. To retrieve information, log on, enter the name of city and press the enter key. Include the state postal code (e.g., Bloomington, IL) or you'll get information on Bloomingtons in every state they are found. Type "quit" to exit the server.

What You Have Learned

- Telnet lets you to remotely login into another computer running Telnet server software to run programs, much as if they were running on your desktop computer.
- Many Internet services are available through Telnet, like Gopher, Archie and WAIS.
- Hytelnet combines a hypertext environment with remote login to easily access databases and bulletin boards across the Internet.

Apply It!

The CARL UnCover database (**URL - telnet://database.carl.org**) is a good place to begin a periodical search for earth science information. The UnCover database is accessible at no charge to the public or by subscription, which provides more functionality and services. Users can search through UnCover's database of journals; its 5,000 current citations are updated each day. You can search by word, topic, or author or browse by journal title.

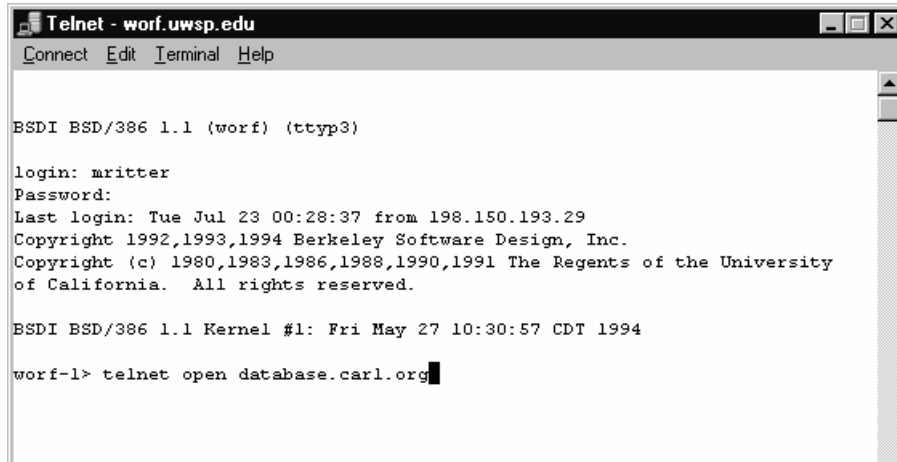
I'll Telnet from my shell account to log on to CARL UnCover. Type "Telnet" to start a session, then give the "open" command and address to establish contact with CARL UnCover (Figure 5.9).

CARL responds with a terminal type query screen (Figure 5.10). After I give the proper terminal type, option 5 for a VT 100 terminal emulation (a common one), CARL performs more housekeeping duties like checking for a user profile, and finally displays a screen of database choices (Figure 5.11).

Choose item 1, "UnCover–Article access . . ." CARL will check for a user profile, which is not required for using the database over the next few screens. Now we're at the main article database search screen (Figure 5.12).

At the prompt on the bottom of the screen I'll type "w" for performing a search on the

keywords “climate,” “change,” and “hydrology.” Entering the keywords at the prompt and



```

Telnet - worf.uwsp.edu
Connect Edit Terminal Help

BSDI BSD/386 1.1 (worf) (ttyp3)

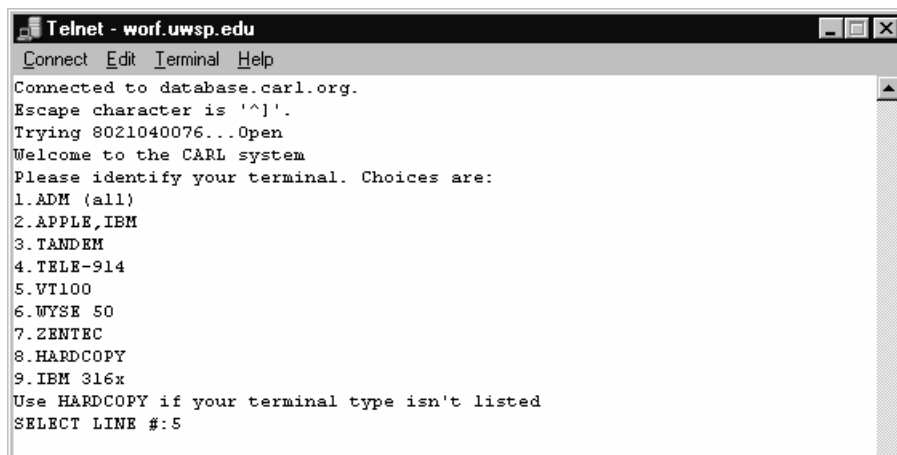
login: mritter
Password:
Last login: Tue Jul 23 00:28:37 from 198.150.193.29
Copyright 1992,1993,1994 Berkeley Software Design, Inc.
Copyright (c) 1980,1983,1986,1988,1990,1991 The Regents of the University
of California. All rights reserved.

BSDI BSD/386 1.1 Kernel #1: Fri May 27 10:30:57 CDT 1994

worf-1> telnet open database.carl.org

```

Figure 5.9 Logging onto CARL UnCover via Telnet



```

Telnet - worf.uwsp.edu
Connect Edit Terminal Help

Connected to database.carl.org.
Escape character is '^]'.
Trying 8021040076...Open
Welcome to the CARL system
Please identify your terminal. Choices are:
1.ADM (all)
2.APPLE,IBM
3.TANDEM
4.TELE-914
5.VT100
6.WYSE 50
7.ZENTEC
8.HARDCOPY
9.IBM 316x
Use HARDCOPY if your terminal type isn't listed
SELECT LINE #:5

```

Figure 5.10 CARL UnCover terminal emulation query screen

pressing the enter key initiates my database inquiry. A screen soon appears with the number of “hits” made and the options to display the items found, add a new word and search, or simply quit and start over again. The display screen is a list of the resources uncovered (pardon the pun) by my search, including title, author, publication date, and journal (Figure 5.13).

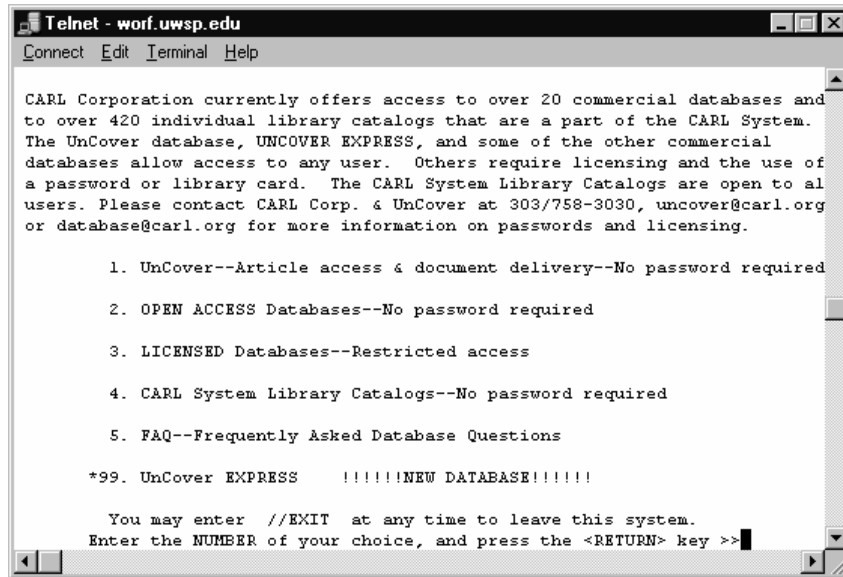


Figure 5.11 CARL database menu screen

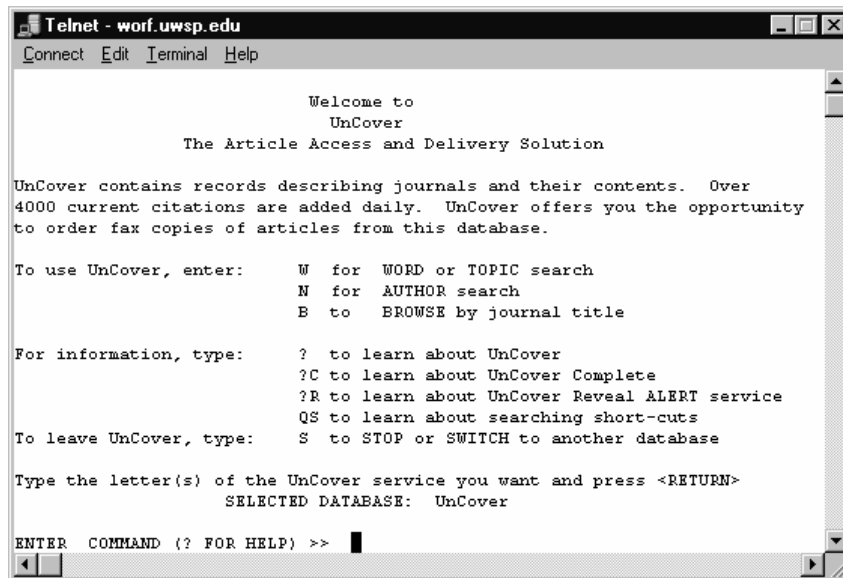


Figure 5.12 CARL UnCover Article Access screen

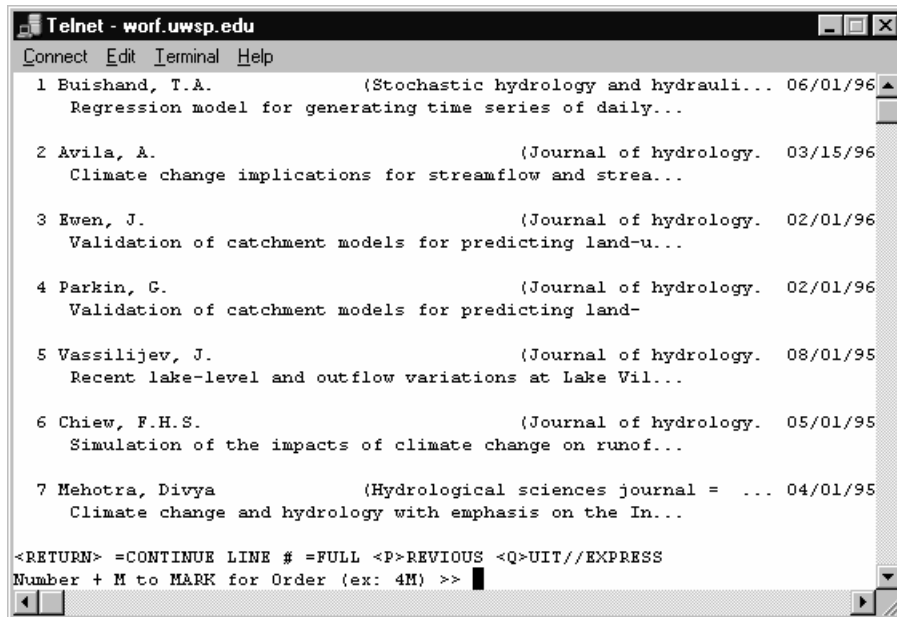


Figure 5.13 CARL UnCover article listing

I simply type the number of the article in at the prompt to retrieve bibliographic information. A full display yields a more complete bibliographic entry, as well as the cost of having UnCover fax the article to you (Figure 5.14). I can copy the text from my Telnet client software and paste it into a word processing document for later reference.

Try It Out!

1. Check on the availability of Hytelnet on your Internet provider's system or on whether you can run Hytelnet from your desktop. If you can't do either, Telnet to Hytelnet. Once you have Hytelnet up and running move to:

Other resources

Then go to:

FREE-NETs and Community Computing systems

Check to see if you have a Freenet in your own or a nearby community. Check out the resources that are available. Many Freenets have a science and technology center or menu of some sort. What kind of earth science resources are available? Check them out!

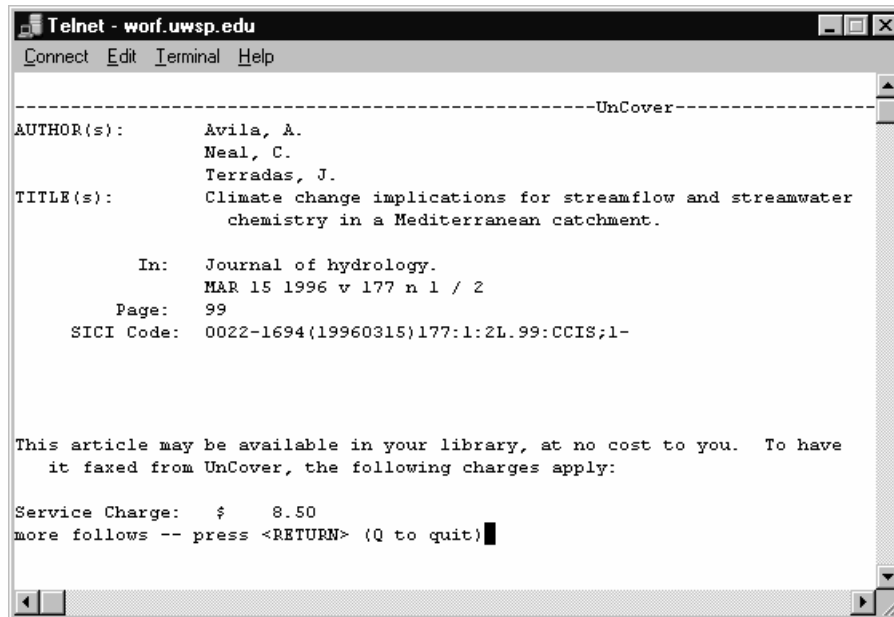


Figure 5.14 CARL UnCover article database record

2. Check on the weather in your local area by opening a Telnet connection to the Weather Underground at **madlab.sprl.umich.edu 3000**. Follow the menu choices to your community or one nearby.
3. Human space exploration is often questioned as a worthwhile scientific endeavor. What benefits were derived from the Apollo lunar space missions? To find out, Telnet to NASA's space link (**URL - telnet://spacelink.msfc.nasa.gov**). Follow the menus:

```
NASA.Projects
Human.Space.Flight
Apollo.Lunar
```