# Invisible geography on the Internet

You do not need to have time to go surfing to use the Internet. With the right tools for the job and some useful addresses, even the busiest geographer can explore. **Rob Kitchin** and **Lisa Sykes** get on-line

R umour has it that half the searches made on the Internet are for porn sites. While this is disturbing it should not disguise the fact that there is a lot of valuable information out there for the taking. And geographic organisations have not been slow to get on-line – every week there are new sites from museums, libraries, environmental groups, research organisations and government bodies. It is merely a matter of knowing how to get connected and where to look.

For the uninitiated, the Internet is a vast computer network of connected smaller networks that spans the globe to form a virtual cooperative community that shares ideas and information. It is of increasingly interest to geographers and environmentalists because of the enormous amounts of geographic information and resources that can be accessed, all from the comfort of your home, office, school or college.

As with anything relating to computers, jargon and endless abbreviations conspire to make the Internet seem confusing. However, the basics are easy to learn – some 30 million people have already done so and use the Internet regularly.

The Internet evolved from a military computer operation in the late 1960s into a global information network linking every continent. This means that wherever you are in the world, as long as you have a phone line, a modem (a box that allows your computer to send and receive information over a phone line), a
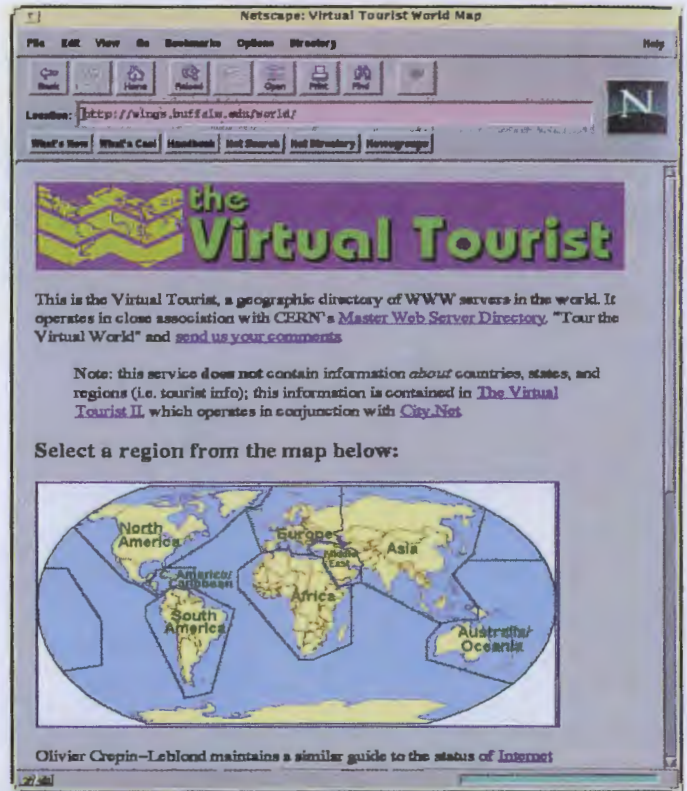
Above: in the Virtual Town (http://www.cs.ucdavis.edu/virt-town/), this map of a fictional town appears and you can choose which section to explore. If you click on the shopping mall, a list of shops will appear – all real shops where you can buy goods using your credit card

There are literally hundreds of sources of information and resources, relevant to those with a geographic or environmental interest but there are a number of useful addresses that will speed up your search for relevant information and data. Here are some addresses for geography indexes and other useful home pages. These are updated on a regular basis.

General information
The **EINET** search engine at http://galaxy.einet.net/galaxy/social-sciences/geography/ lists geographic information under the titles: topics, books, software, cartography, collections, directories, organizations.

The **CTICG (Computers in Teaching Initiative, Centre for Geography)** at http://www.le.ac.uk/cti/ contains information concerning it's own geographic computed-assisted learning software, plus it provides links to information concerning human and physical geography, cartography, environmental resources, GIS and remote sensing, geology and place information.

The State University of New York, Buffalo at http://www.geog.buffalo.edu/geog/geog_info.html provides information about the **NCGIA (National Center for Geographic Information Analysis)** housed there and provides links to a range of geographical resources.

The **Envirolink** organisation's home pages at gopher://envirolink.org:70/1/ provide links to a range of information, issues, publications and organisations concerned with environmental protection.

Specific topics
Geography
http://hpb1.hwc.ca:10002/www_vl_geography.html
http://www.yahoo.com/science/geography
Earth Sciences
http://www.geo.ucalgary.ca/vl_earthsciences.html
Environment
http://ecosys.drdr.virginia.edu/environment.html
http://www.yahoo.com/environment_and_nature/
Demography and population
http://coombs.anu.edu.au/resfacilities/demographypage.html
http://sosig.ac.uk/subjects/demog.html
GIS (Geographical Information Systems)
http://www.kuntaliitto.fi/hallinto/tietoh/gis.html
http://www.geo.ed.ac.uk/home/gishome.html
Remote Sensing
http://www.pci.on.ca/rssites.html
http://www.vtt.fi/aut/aua/rs/virtual/
Regional Science
http://osiris.wu-wien.ac.at/regsci/.regsci.html
Cartography
http://www.utexas.edu/depts/grg/gcraft/notes/cartocom/toc.html
Geology
http://192.171.148.40/bgs/home.html
http://www.geo.mtu.edu/
World facts and figures
http://www.odci.gov/cia/publications/94fact/fb94toc/fb94toc.html
http://sunsite.unc.edu:80/world/worldhome.html
World Health Organization
http://www.who.ch/
World Bank
http://www.worldbank.org/
United Nations Development Programme
http://www.undp.org/undp_data.html
World Hunger Program
http://www.hunger.brown.edu/hungerweb/
Weather (including 'weather movies')
http://www.atm.ch.cam.ac.uk/
http://rs560.cl.msu.edu:80/weather/
Expeditions
http://128.138.204.108/cgi_bin/grepitp4/
Government
This site has links to 18 different countries government servers
http://www.echo.lu/other/otherhome.html
UK government
http://www.open.gov.uk/
European Union
http://www.echo.lu/
Commonwealth
http://www.col.org/0/html/comover.html

computer, the right software and access rights (via a university or a commercial service provider), you can connect to the Internet in order to send electronic mail (e-mail) and to find useful information.

If you work or are studying at a university, the chances are that you will be a registered computer user and, therefore, have free access to the Internet through the university's own network. However, if you do not have access to a computer through a university site, getting connected is a bit more complicated and involves spending some cash.

The Geographical Magazine, for example, subscribes to GreenNet, a commercial service provider, which as well as providing Internet access also has its own databases, bulletin boards and newsgroups on environmental issues. You can also send and receive e-mail through GreenNet. There is a one-off set-up fee of £15.00, which includes a tutorial and a manual, then you pay a monthly subscription of between £5 and £20 depending on how much time you spend on-line. You will also pay a small on-line charge in peak (office) hours. Because you are using a phone line (via your modem) to connect to GreenNet, you also have to pay your phone company for call charges. But the whole point of using the Internet is

that you only pay local call charges to access anywhere in the world. You don't necessarily need a separate phone line; it is easy to switch from using a modem to a telephone.

You can use the Internet in a number of ways but the four main methods are via the World Wide Web, Telnet, File Transfer Protocol (FTP), or electronic mail (e-mail).

The Web
The World Wide Web was developed by CERN (European Particle Physics Laboratory). It is not another name for the 'Net' but is a part of it, albeit the newest and best-looking part. Each document provides links to other documents (hypertext), which may include images, sound and video as well as text, allowing you to move between sources of information without typing in separate addresses. To access the Web you need a software package that allows you to move around or 'browse', such as *Netscape Navigator*. Many service providers now offer a complete kit of all the software you will need to use the Web, already configured for use on their system. If *The Geographical Magazine's* long-winded experiences of finding, downloading and configuring software are typical (and I am led to believe they are), grab this offer with both hands. If your provider ▶

FTP sites

CIA World Databank II – includes data files of coastlines, countries, rivers etc now in the 'public domain' (freely available)
hanauma.stanford.edu; cd pub/World_Map
GOES satellite images and plotter
netsys.com; cd pub/images
Space shuttle images
sseop.jsc.nasa.gov; cd pub
National Oceanic and Atmospheric Administration (NOAA)
rainbow.physics.utoronto.ca; cd pub/sat.images
Weather maps and satellite images
ftp.colorado.edu; cd pub/weather-images
Map data sets
spectrum.xerox.com; cd pub/map
Geological maps
greenwood.cr.usgs.gov; cd pub/open-file-reports
charon.er.usgs.gov; cd pub

◄ cannot provide the software, it should at least be able to tell you how and where to get hold of it. *Netscape* and other Internet 'tools' are also being thrown in with many new computers too – it is worth checking out these offers when you buy.

Starting *Netscape* takes you to a 'home page' from where you can explore information across the globe. Documents can be accessed and viewed, either by typing in a URL (Uniform Resource Locater) address (a computer's home address also prefixed by http://), or by clicking on 'hot-spots' within the current document. These hot-spots typically take the form of highlighted blue text or small graphical icons. Once the information is displayed, it can be saved for later use, downloaded on to your computer's hard disk or printed out. The downside

is it can take a long time for the information to work its way back to you, particularly if it contains images – remember some of the sites you will be connecting to are on the other side of the world.

Another way to find information on the Web is to use a 'search engine', the computer equivalent of the

Yellow Pages. There are many available, try this site in Buffalo (http://www.geog.buffalo.edu/geog/searchers.html) for access to more than 20 search engine software packages.

Telnet and FTP
Telnet allows you to 'login' (attach) to a remote host computer. In effect, your computer becomes a terminal of this remote host allowing you to explore the files that are stored there. In general, you will need a login or 'username' and a password to gain entry, but there are some open access sites. FTP, on the other hand, allows you to download or copy files from a remote computer to your own. Unlike Telnet, which makes you a terminal of the host, FTP only allows you to look at the files and download them. The username for FTP sites is generally 'Anonymous' and your password would usually be your e-mail address.

To use Telnet or FTP you need to know the address to login to. There are software packages, such as *Archie* or *Gopher*, that you can use to search the Internet for addresses of relevant information sites. The easiest way to get hold of this software is on the free disk that comes with many

Internet guidebooks, but you can also download them from the Internet itself.

E-mail
The most common use of the Internet is via electronic mail (e-mail). It is quicker and cheaper than sending a fax and goes directly to the recipient's computer. Here at *The Geographical Magazine* more and more of our readers' letters, queries and articles are being sent by e-mail. Even if you never go off into the wilds of the Internet looking for information, it is worth having a modem so you can send and receive e-mail. You need an address, which either your university or service provider will give you, and you need to know other people's addresses. In addition, there are free mailing lists that you can subscribe to. Every message that is posted to a list gets passed onto all the subscribers. There are mailing lists concerned with just about every subject under the sun, allowing ideas, comments and questions to be circulated among their subscribers. Details of all lists can be obtained from: listserv@bitnic.bitnet. If you want to cancel your mailing list subscription just send an e-mail message to the list's administrator asking to be removed. Mailing lists tend to provide more 'junk mail' than useful mail, and because of the sheer volume of messages you will need to clean out your e-mail directory on a daily basis.

Using these four methods and the addresses on these pages will allow you to reach geographic sites of interest – and quickly, so even the most time-pressed of us can

keep up-to-date. If you are really in a hurry, make sure you access the Internet in the morning, before America 'wakes up', as there are less users on-line. ❑

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This weather image at http://rs560.cl.msu.edu:80/weathe is just one example of images that can be downloaded to your own computer from World Wide Web sites