The Web, cartography and information delivery
Concepts and developments
- Agostino Ramelli
  - circa 1600
    - ‘scholar’s workstation’
- Vannevar Bush
  - Post WWII
    - MEMEX
- Douglas Engelbart
  - Early 1960s
    - On-Line System (NLS)
- William Gibson
  - Mid 1980s
    - *Cyberspace*
- Ted Nelson
  - Mid 1980s
    - Hypertext
- Tim Berners-Lee
  - 1990
    - World Wide Web
- Marc Andreessen
  - 1993/1994
    - Mosaic/Netscape
Founding ideas
VIDEODISC

- *The Aspen Movie Map*
  - The Machine Architecture Group, MIT
  - Later the Media Lab

- *Domesday Project*
  - BBC/
  - Acorn Computers/
  - Philips
Web and Geographical Information
Usage - Domains

NetNames

DOMAINSTATS.COM YOUR COMPLETE DOMAIN NAME RESOURCE

Latest Domain Stats

Total domains registered worldwide: 30900740
Total .COM registered: 21522642

World Domain Stats

INTERNATIONAL (COM) 21522642
INTERNATIONAL (EDU) 7359
INTERNATIONAL (GOV) 1355
INTERNATIONAL (NET) 3696472
INTERNATIONAL (ORG) 2364838
United Kingdom (CO.UK) 3308074

About Us

DomainStats.com is powered by the NetNames Global Domain Name database. We built DomainStats to provide the internet community the latest statistics on all Domain Name registrations worldwide.

NetNames, part of NetBenefit PLC, is the world's premier Global Domain Registrar. We've been in business since 1995 and have registered more names in more countries than anyone else.

http://www.domainstats.com/
Internet use – HOME monthly

Internet Usage Statistics for the Month of March 2002

Statistics below represent average activity for an Internet user as reported by the Nielsen/NetRatings service.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Sessions per Month</td>
<td>14</td>
</tr>
<tr>
<td>Number of Unique Sites Visited</td>
<td>38</td>
</tr>
<tr>
<td>Time Spent per Site</td>
<td>27:55</td>
</tr>
<tr>
<td>Time Spent per Month</td>
<td>8:13:36</td>
</tr>
<tr>
<td>Time Spent During Surfing Session</td>
<td>33:37</td>
</tr>
<tr>
<td>Duration of a Page viewed</td>
<td>00:59</td>
</tr>
<tr>
<td>Active Internet Universe</td>
<td>6,206,082</td>
</tr>
<tr>
<td>Current Internet Universe Estimate</td>
<td>10,627,215</td>
</tr>
</tbody>
</table>

The reported Internet usage estimates are based on a sample of households that have access to the Internet and use the following platforms: Windows 95/98/NT, and MacOS 8 or higher.

The Nielsen/NetRatings Internet Universe is defined as all members (2 years of age or older) of U.S. households which currently have access to the Internet.

Copyright 1999 NetRatings, Inc.

http://epm.netratings.com/au/web/NRpublicreports.usagemonthly
Internet use – HOME and WORK monthly

INTERNET USAGE STATISTICS FOR THE MONTH OF MARCH 2002
Statistics below represent average activity for an Internet user as reported by the Nielsen/NetRatings service.

Number of Sessions per Month | 18
Number of Unique Sites Visited | 40
Time Spent per Site | 39:02
Time Spent per Month | 9:39:03
Time Spent During Surfing Session | 32:27
Duration of a Page viewed | 01:02
Active Internet Universe | 7,919,045
Current Internet Universe Estimate | 12,486,226

The reported Internet usage estimates are based on a sample of households that have access to the Internet and use the following platforms: Windows 95/98/NT, and Mac OS 8 or higher.

The Nielsen/NetRatings Internet universe is defined as all members (2 years of age or older) of U.S. households which currently have access to the Internet.

Copyright 1999 NetRatings, Inc.

http://epm.netratings.com/au/web/nrpublicreports.usagemonthly
Online Language Populations
Total: 561 Million
(March, 2002)

- English: 40.2%
- Chinese: 9.8%
- Japanese: 9.2%
- Spanish: 7.2%
- German: 6.8%
- Korean: 4.4%
- French: 3.9%
- Italian: 3.6%
- Portuguese: 2.6%
- Dutch: 2.1%

Usage – Internet traffic

The Internet Traffic Report monitors the flow of data around the world. It then displays a value between zero and 100. Higher values indicate faster and more reliable connections.

View Graphs or Click a Continent to view more detailed information.

<table>
<thead>
<tr>
<th>Continent</th>
<th>Current Index</th>
<th>Avg. Response Time (ms)</th>
<th>Avg. Packet Loss (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia</td>
<td>58</td>
<td>429</td>
<td>1</td>
</tr>
<tr>
<td>Australia</td>
<td>60</td>
<td>280</td>
<td>1</td>
</tr>
<tr>
<td>Europe</td>
<td>53</td>
<td>182</td>
<td>10</td>
</tr>
<tr>
<td>North America</td>
<td>47</td>
<td>89</td>
<td>8</td>
</tr>
<tr>
<td>South America</td>
<td>60</td>
<td>207</td>
<td>0</td>
</tr>
</tbody>
</table>

http://www.internettrafficreport.com//
Mapping and New Media

- Spatial storehouses
- Spatial decision support systems
- Multimedia packages incorporating maps
- Educational packages
Mapping and New Media

- Image Collections
- Downloadable data files
- Information Services with maps
- Global publishing houses
- On-line GIS
- On-line maps
- Web atlases
- Location-based services
Image collections

- Perry-Castañeda Library Map Collection
- Bodleian Library, Oxford University
- Digital Libraries

- National Library of Australia
- Subway Navigator
- …
Maps of Australia and the Pacific

The Perry-Castañeda Library Map Collection

The University of Texas at Austin

The following maps were produced by the U.S. Central Intelligence Agency, unless otherwise indicated.

- Oceania (Political) 1999 (442K)
- Oceania (Political) (PDF Format - Requires Adobe Acrobat Reader) 1997 (1.1MB)
- Oceania (Reference Map) (PDF Format - Requires Adobe Acrobat Reader) 2000 (774K)
- West Pacific Islands (Political) 1998 (323K)
- Australia and the Pacific Historical Maps


- American Samoa Maps
- Ashmore and Cartier Islands (Australia) (Small Map) 2000 (34K)
- Australia (Political) 1999 (155K)
- Australia (Political) 1977 (156K)
- Australia (Shaded Relief) 1999 (188K)
- Australia (Small Map) 2000 (122K)
- Australia - Adelaide Area (Aeronautical) original scale 1:1,000,000 D.M.A. (1,045K) Not for navigational use
- Australia - Canberra Area (Aeronautical) original scale 1:1,000,000 D.M.A. (532K) Not for navigational use
- Australia - Darwin Area (Aeronautical) original scale 1:1,000,000 D.M.A. (672K) Not for navigational use
- Australia - Melbourne Area (Aeronautical) original scale 1:1,000,000 D.M.A. (1,207K) Not for navigational use
- Australia - Sydney Area (Aeronautical) original scale 1:1,000,000 D.M.A. (629K) Not for navigational use
- Baker Island (U.S.) (Nautical chart) original scale 1:15,000 N O A A. 1978 , revised 1986 (581K) Not for navigational use
- Baker Island (U.S.) (Political) U.S. National Atlas 1970 (34K)
- Baker Island (Small Map) 2000 (45K)
- Christmas Island (Indian Ocean) (Australia) 1976 (129K)
- Christmas Island (Indian Ocean) (Australia) (Small Map) 2000 (45K)
- Clipperton Island (France) (Small Map) 2000 (55K)
- Cocos (Keeling) Islands (Indian Ocean) (Australia) 1976 (142K)
- Cocos (Keeling) Islands (Indian Ocean) (Australia) (Small Map) 2000 (56K)
- Cook Islands (Small Map) 2000 (62K)
- Coral Sea Islands (Australia) (Small Map) 2000 (124K)
- Easter Island (Shaded Relief) 1986 (156K)
- East Asia and Oceania (Political) 1992 (225K)
Welcome to the Bodleian Library Map Room Home Page - Netscape

Bodleian Library  Map Room

Home  What's here  Reader Info  Map Case  Map Links  E-mail

⇐ Bodleian Library Home Page

Updated 30th April 2001

What's Here  Start here to browse the award-winning Map Room web pages. There is contact information and full contents, including our extensive map-related links.

Information for Readers  Details of the Map Room's resources and services (including Digimap) are here, including admission procedures for new readers, reproduction services and site survey companies. You can search online the Oxford libraries' union catalogue, OLIS.

The Map Case  See the Map Case for images from the map collections. For modern street and access maps of Oxford, go the Oxford Maps pages.

NEW!  Online user guides for MAPINFO and DIGIMAP
- Netherlands Digital Spatial Information Library - GeoPlaza History of Cartography Project
- Alexandria Digital Library
Downloadable data files

- United States Geological Survey (USGS)
- National Mapping, Australia
- NRS
- Map Maker
- Alexandria Digital Library (ADL)
- ...
Our Map Collection

Overview

The Map Section serves as the Legal Deposit area for all Australian mapping.

The more than 100,000 post 1900 Australian maps in the collection provide comprehensive coverage of topographic mapping published by the national and state mapping authorities. As well as standard topographic series at large, medium and small scales (in Metric and Imperial measures), a wide range of thematic maps including soils, geology, population etc. are held. County and parish maps, electoral maps and census maps are particular strengths of the collection.

A significant historical collection of Australian maps (pre 1900) continues to be developed. The activities of a number of early cartographers such as Edward Augustus Pethick, Sir Fox de Charenviere, Nan Kvell, Sir John Alexander Ferguson and Ronald Yarrow Tooley contributed to the strength and variety of this collection which includes rare and unique material such as the 1659 Donker sea atlas of the world.

Overseas map collecting is defined by the Library’s Collection Development Policy, with an emphasis on regions nearest to Australia, including the Pacific and Asia. Standard topographic, aeronautical and hydrographic chart series are given high priority. A wide range of thematic mapping is also collected.

Early History

From its foundation in 1901, the Commonwealth Parliamentary Library, in which the National Library had its origins, held a small collection of maps, and atlases. The Pethick Collection, acquired in 1911, was notable for its atlases, including the only known surviving copy of the 1893 edition of the Donker maritime atlas. It also contained the only known copy in Australia of Cook’s Directions for Navigating on Part of the South Coast of Newfoundland (1778), as well as a valuable and varied selection of historical maps with an Australian-Pacific emphasis.

While the Library’s historical map collection was developing, the topographic mapping of Australia was slowly beginning. In the nineteenth century, the survey departments of the Australian colonies were concerned almost exclusively with producing maps of land registration, and little topographic mapping was done. After Federation in 1901, the Commonwealth began to produce topographic maps, but progress was slow. From 1918 onwards four sheets, on average, of inch to the mile topographic maps were produced annually.

In 1926, production of the Australian sheets of the International Map of the World began as part of a coordinated effort to map the world at a scale of 1:1,000,000. By 1936, nine sheets (corresponding to about one quarter of the continent) had been produced. By this time also, the Hydrographic Branch of the Royal Australian Navy had begun to chart the Australian coasts.
Information services with maps

- Business geographics
- Travel Guides: Lonely Planet, Moon, Rough Guides, …
Welcome, Guest User

Yahoo! Maps

Find Location

Enter destination
or select from My Locations

My Locations

Address

City, State or Zip

Country

Get Map

Powered by Mapquest.com (tm) Terms of Use. Copyright © 2001 NavTech.
Copyright © 2001 Yahoo! Inc. All rights reserved.
Privacy Policy - Terms of Service - Help
<table>
<thead>
<tr>
<th>Title</th>
<th>Format 1</th>
<th>Format 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Africa</td>
<td>JPEG (82 KB)</td>
<td>PDF (788 KB)</td>
</tr>
<tr>
<td>2. Antarctic Region</td>
<td>JPEG (70 KB)</td>
<td>PDF (769 KB)</td>
</tr>
<tr>
<td>3. Arctic Region</td>
<td>JPEG (86 KB)</td>
<td>PDF (954 KB)</td>
</tr>
<tr>
<td>4. Asia</td>
<td>JPEG (95 KB)</td>
<td>PDF (866 KB)</td>
</tr>
<tr>
<td>5. Central Africa</td>
<td>JPEG (141 KB)</td>
<td>PDF (845 KB)</td>
</tr>
<tr>
<td>6. Central America and the Caribbean</td>
<td>JPEG (112 KB)</td>
<td>PDF (709 KB)</td>
</tr>
<tr>
<td>7. Central Balkan Region</td>
<td>JPEG (96 KB)</td>
<td>PDF (749 KB)</td>
</tr>
<tr>
<td>8. Commonwealth of Independent States</td>
<td>JPEG (94 KB)</td>
<td>PDF (1722 KB)</td>
</tr>
<tr>
<td>9. Europe</td>
<td>JPEG (87 KB)</td>
<td>PDF (831 KB)</td>
</tr>
</tbody>
</table>
Global Publishing

- International publishing
- Houses
- Newspapers
- Businesses
- Delivery
  - Own communications satellites
  - Host satellite (eg WestStar)
  - Web
- Electronic distribution / local printing

---

**Trapped cavers found alive after 10 days**

By Julian Nundy in Paris

FRENCH rescue-workers found seven potholers alive and well yesterday after they had spent 10 days trapped underground by flood water.

After the efforts of 150 people, with army bomb disposal teams widening passages with controlled explosions, at just after 1pm yesterday two
On-line Geographic Information Systems (GIS)

- ESRI
- Genasys
- MapInfo
- …
On-line maps

- Delorme CyberRouter
- XEROX PARC Map Server
- MapQuest *Interactive Atlas*
- *Falk*
- *Shell*
- ...

Journey Planners

- Mapquest: http://beta.mapquest.com/
- Shell Geostar: http://www.shellgeostar.com/shellgeostar/start.hm
- Falk: http://www.falk-online.de/go_routing.html
- Geotalk: http://www.geotalk.de/rout_demo.html
Web atlases

- Australian Coastal Atlas
- National Atlas of Canada
- Atlas of Quebec
- Atlas of Switzerland
- *UnderstandingUSA*
- Atlas of Austria
- Atlas of USA

- *Encarta*
- Delorme Cybermaps
- National Geographic *Map Machine*

- ...

- ...
Welcome to the Victorian Node of the Australian Coastal Atlas!

The Australian Coastal Atlas is a national network of marine and coastal agencies all working together to provide information to the public over the WWW. The Coastal Atlas uses the Australian Atlas WWW application developed by Environment Australia to view marine and coastal data.

Your browser is Netscape v 4.72

To use the Australian Atlas software you will need either Netscape or IE version 3 or higher. This page should have launched the Australian Atlas application (shown right). Please ensure your browser preferences are set to enable Javascript. If the Atlas has not appeared in a new window, you may also launch the Australian Atlas in this browser window.

Using the Atlas

- Use the pan button to move around Australia
- Zoom in and out to your area of interest by:
The National Atlas of Canada introduces QUICK MAPS

Search Quick Maps Now!

Quick Maps provides users with quick access to National Atlas images and maps.
www.understandingusa.com/chaptercc=10&cs=222.
Paper support – on demand
Location-based services
Design considerations
• Scale = representation of reality
  - Choosing scale appropriate to mapping task
    • Representation
    • Use

• Zoom = multiple-scale maps

• How to cope with scale with MMC?
- Absolute
- Relative
  - Which space?
- Providing information to the user regarding where they really are!
  - Web cams?

LiveCam Vienna / Austria

View down the Landesgerichtsstraße, the boarder between the 1st district (right) and the 8th district (left) of Vienna. In the middle to the right is the Vienna City Hall (not visible).

http://service.magwien.gv.at/camera/livecam.html
Smithsonian Museum - Revealing Things

- Maps = ‘time slice’
- How to deal with time in MMC
  - Animation
  - Slider controls
- Access to archive
- Showing projections

Visualized ‘time slice’
Political accuracy

MOUNTAIN HIGH WEB MAPS Version 2.5 has been revised for all known and ratified political border decisions - updates can be downloaded on request by registered users from this web site. The regulating authorities whose advice has been sought in the preparation of the MOUNTAIN HIGH WEB MAPS material are the Office of the Geographer at the US Department of State, Washington DC and the International Boundaries Research Unit (IBRU) at the University of Durham in England.

● Integrity
● Reputable source
● Metadata
● Accuracy
  - Limit of accuracy
  - Accuracy across all of presentation
  - Dealing with varying degrees of accuracy

‘Maps as accurate representations’
● Universities / research establishments
● General public
● Disabled
  ● Visually handicapped
    - Including ‘translations’ from graphics into audio for the blind
  ● W3C Accessibility Initiative
  ● Movement handicapped
    - is users only able to make gross movements
Different users
Geographical Storytelling
Putting it together - concept
Interrogate devices and preferences

Build I’face Commands

Access to tools for GeoViz assembly

Archival Info (ROM?)

Current Info (WWW)

Dynamic Update (WWW)

Ground Truth (WebCam)

WebCams

For data integrity

PUBLIC DATABASE

CONTRIBUTOR DATABASE

DATA COLLECTION SERVICES eg weather

Paper Screen Hybrid

Output specifications

PUBLIC DATABASE

CONTRIBUTOR DATABASE

DATA COLLECTION SERVICES eg weather

WebCams

For data integrity

Paper Screen Hybrid

Output specifications