

ACCESS TO SCOTLAND'S PAST VIA THE ARCIMS JAVA CONNECTOR

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The Royal Commission on the Ancient and Historical
Monuments of Scotland

(www.rcahms.gov.uk)

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ABSTRACT

The Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) maintains a database of more than 250,000 National Monument Records and over 800,000 associated collection records. Many of these datasets, set alongside data from other Scottish and UK government departments have now been made available free of charge to the public in accordance with UK eGovernment targets and 'Joined_Up Government' initiatives.

This paper discusses the evolution of the technical approach taken by RCAHMS in disseminating such datasets to the public via ArcIMS sites developed completely in-house using the ArcIMS Java Connector. The present and future benefits of adopting this technology are also discussed, within the wider context of providing effective public services via current and emerging Internet technologies.

An Introduction to RCAHMS

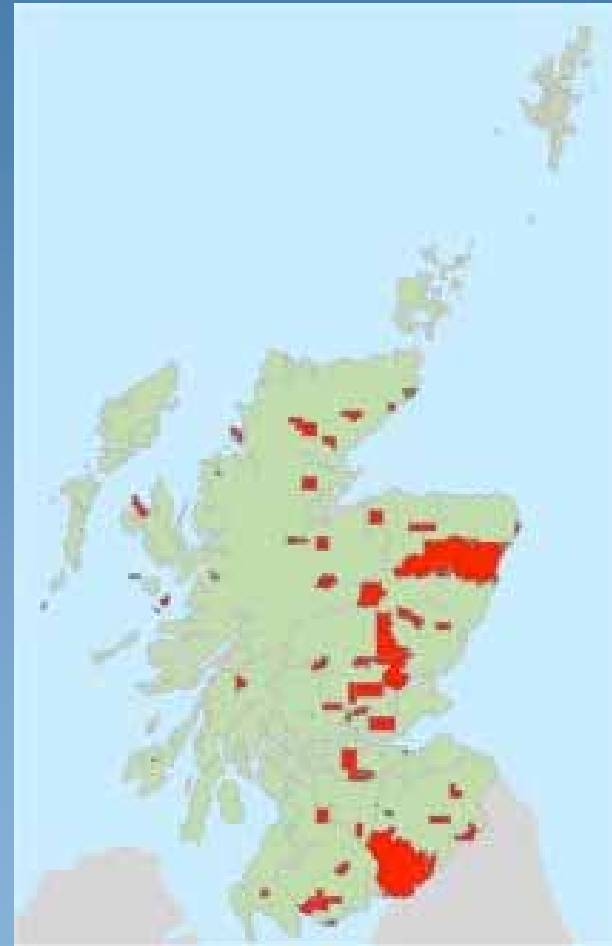


RCAHMS Mission Statement

- To survey and record the Historic Environment of Scotland
- To compile and maintain a public record of the archaeological, architectural and historic environment
- To promote an understanding of this information by all appropriate means

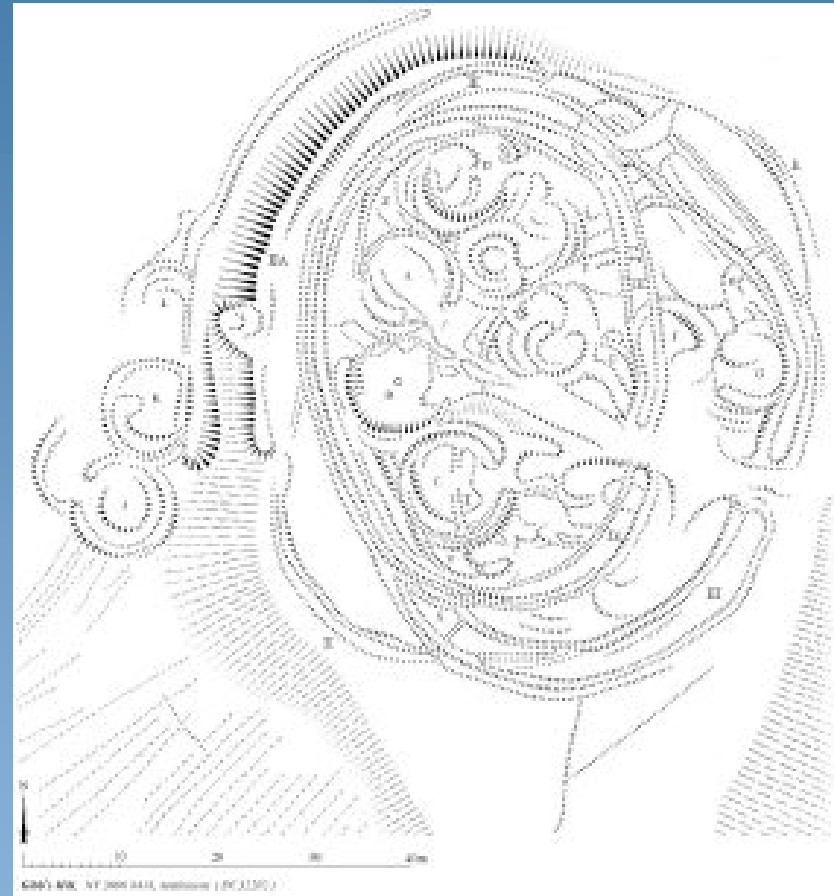
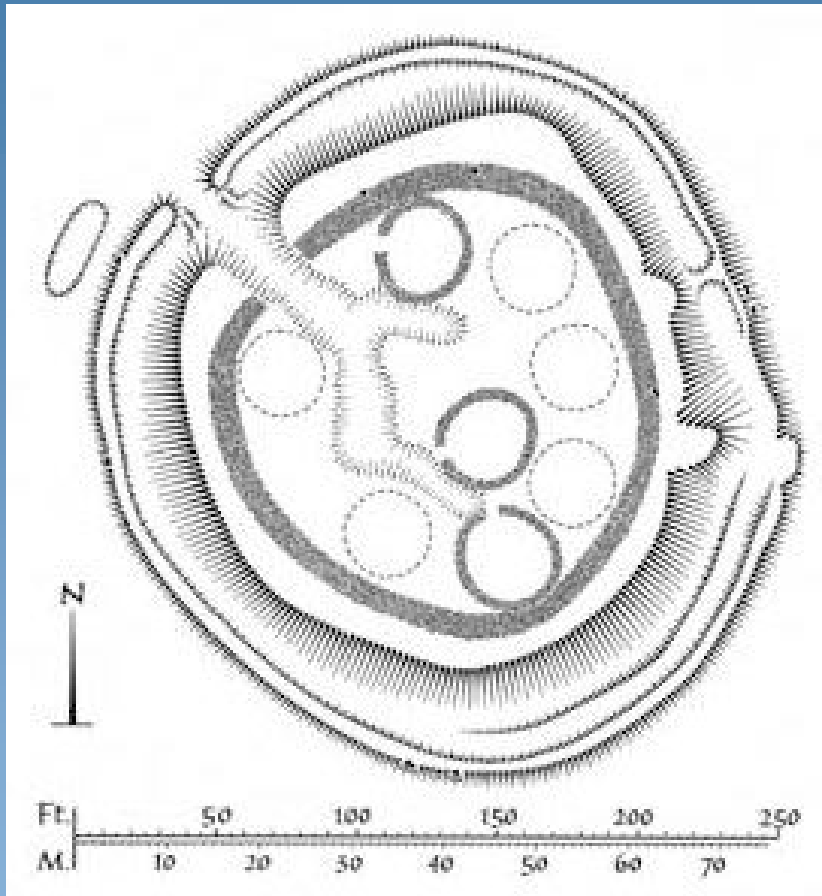
(Established by Royal Warrant 1908 which was revised in 1992)

Surveying and Recording



Field Survey

Surveying and Recording



Survey Drawings

Surveying and Recording



Photography

Surveying and Recording



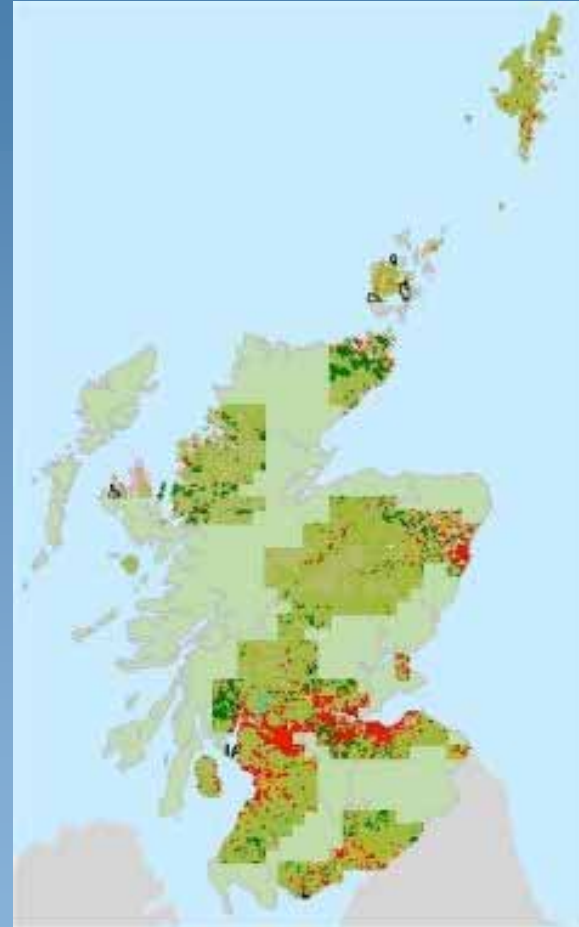
Photography

Surveying and Recording



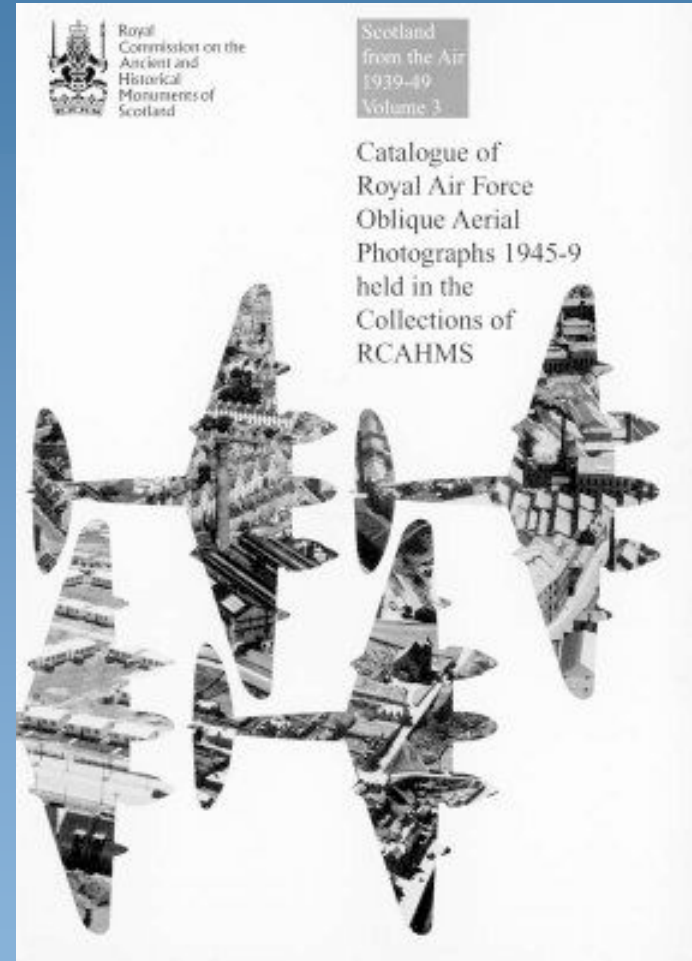
Aerial Photography

Surveying and Recording



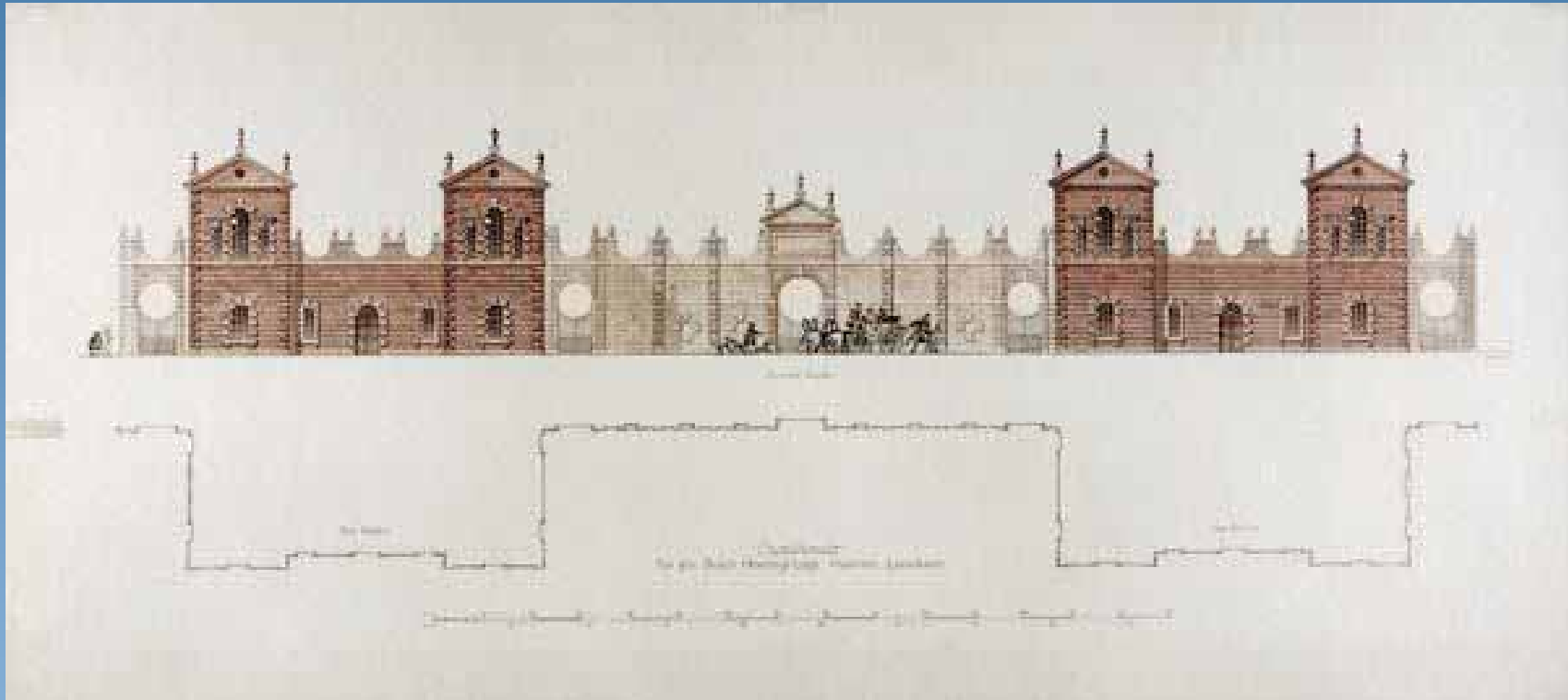
Historic Land Use Assessment

Surveying and Recording



Aerial Photography Collections

Surveying and Recording



Other Collections

Compiling and maintaining a Public Record

- More than 250,000 sites stored in an ORACLE database
- Contains details of archaeological sites, monuments, buildings and maritime sites together with an index to associated drawings, manuscripts and photographs
- Point data with locational accuracy varying from 1m to 100km



National Monuments Record of Scotland

Compiling and maintaining a Public Record

- 200 years of National Mapping Agency background mapping at scales varying from 1:2,500 to 1:250,000 along with a national 10m DEM.
- Air Photography sorties and vertical/oblique photographs from the RAF, Luftwaffe, National Mapping Agency and RCAHMS
- National Monuments Record of Scotland (NMRS)
- Field Survey EDM/GPS data, desk based surveys of buildings, railways and canals, Air Photo Transcriptions and Historic Land Use Assessment
- Data from other organisations

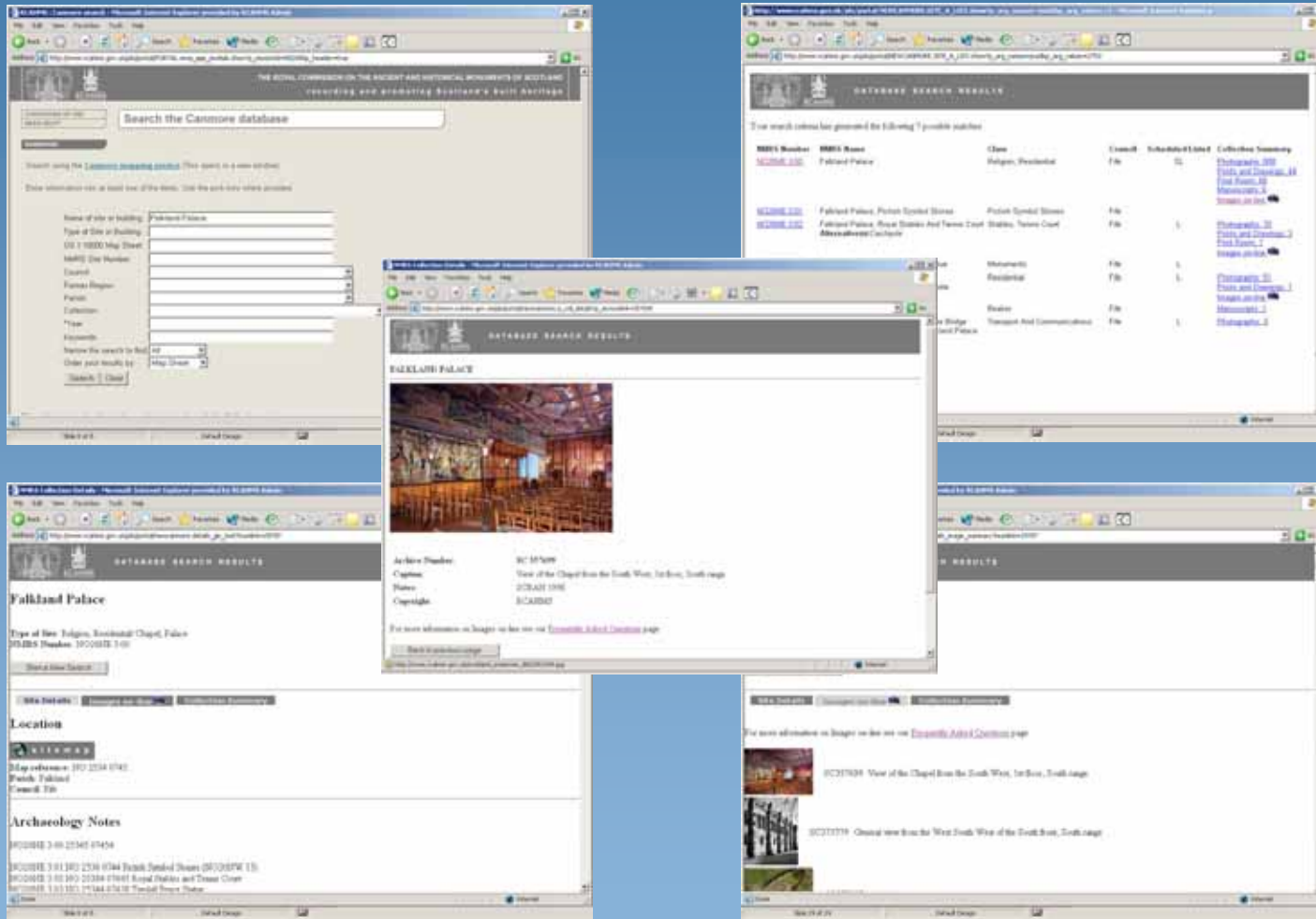
GIS Datasets

Promoting and Understanding

- Resource provision for schools, Higher Education & Learning and Life Long Learning
- Teacher and Student placements
- Public library, lectures and publications
- RCAHMS website
- CANMORE and ArcIMS websites

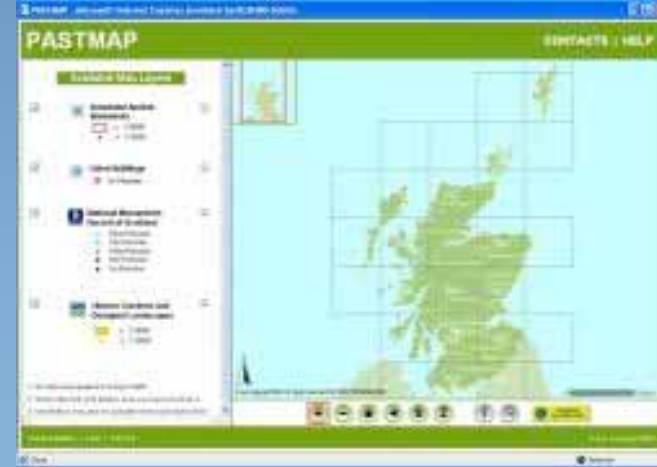
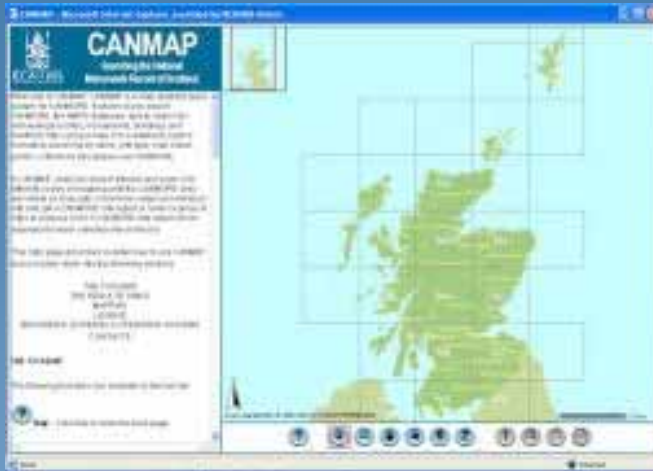
Education and Outreach

Promoting and Understanding



CANMORE

Promoting and Understanding



ArcIMS Websites

UK e-Government

- 100% electronic service delivery (ESD) of all government services by 2005
- 'Joined Up' government via e-Government Interoperability Framework (e-GIF)

"Sets out the government's technical policies and specifications for achieving interoperability and ICT systems coherence across the public sector."

"The e-GIF defines the essential prerequisites for joined-up and web-enabled government. It is a cornerstone policy in the overall e-Government strategy."

Ordnance Survey Pan-Government Agreement

“The Pan Government Agreement (PGA) is a service level agreement between the Office of the Deputy Prime Minister (ODPM) and Ordnance Survey (OS) for the provision of OS digital mapping products to central government. The agreement covers a three year period starting from the 1st April 2003”

- National coverage at various scales and formats available to RCAHMS
- Usable via the Internet

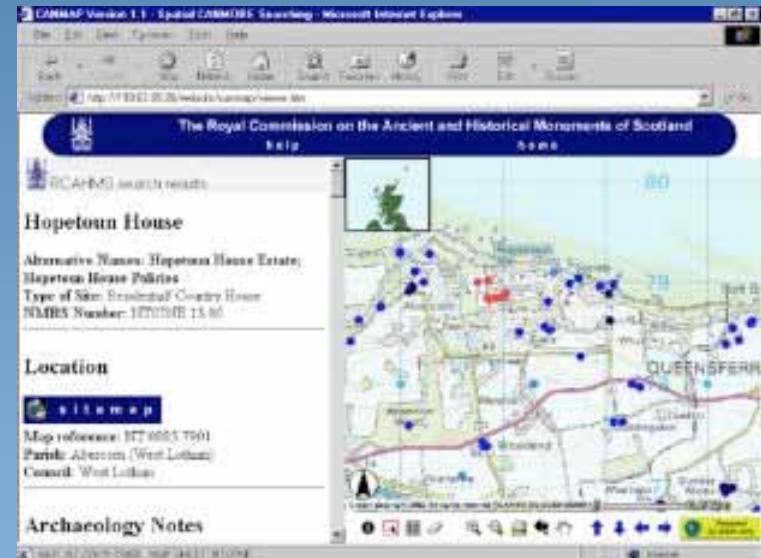
Eduserv Chest

“Eduserv Chest acts as a focal point for the supply of software, data, information, training materials and other IT related products to educational institutions in the UK and abroad. It is a not-for-profit organisation acting on behalf of UK and Ireland Higher and Further Education and the Public Sector.”

- Site wide licence for ArcIMS
- Site wide licence of ArcGIS (ArcView) and extensions
- Five copies of ArcGIS (ArcInfo)

Evolution of ArcIMS Websites

- 21st June 2001 – CANMAP Launched
- Map Enabled Query System for CANMORE
- Built using the HTML Viewer and ArcIMS 3.1
- HTML and JavaScript (Apache, Tomcat and Notepad)



2001 - CANMAP

Evolution of ArcIMS Websites

- Used to locate and order Aerial Photography in Scotland and Wales
- Developed for RCAHMS by Geowise
- Built using ArcIMS 3.1 and a 3rd party Java Connector
- HTML, JavaScript, CSS, Java, JSP (Apache, Tomcat and Notepad)



2002 - AirPhotoFinder

Evolution of ArcIMS Websites

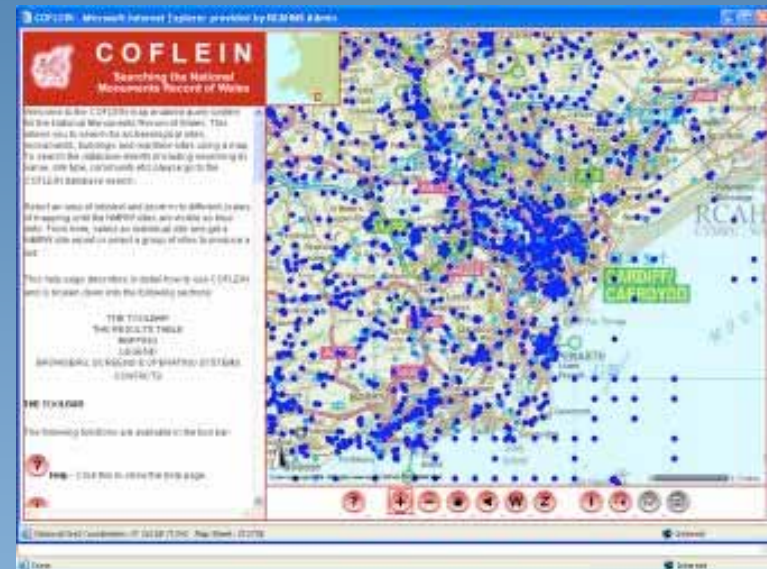
- Built in partnership with Historic Scotland
- Gives access to the NMRS, Scheduled Ancient Monuments and Listed Buildings
- Built using ArcIMS 4.x and ArcIMS JSP Tag Library
- HTML, JavaScript, CSS, JSP (Apache, Tomcat and Notepad)



2004 - PASTMAP

Evolution of ArcIMS Websites

- Built for RCAHMW as part of the SWISH project
- A clone of CANMAP giving access to the National Monuments Record of Wales
- Built using ArcIMS 4.x and ArcIMS Java Connector
- HTML, JavaScript, CSS, JSP and Java (Apache, Tomcat, Dreamweaver and Eclipse)



2004 - COFLEIN

Evolution of ArcIMS Websites

- Gives access to Historic Land Use Assessment data
- Built using ArcIMS 4.x and ArcIMS Java Connector
- HTML, JavaScript, CSS, JSP and Java (Apache, Tomcat, Dreamweaver and Eclipse)



2004 – HLAMAP

Evolution of ArcIMS Websites

- All ArcIMS websites now re-written and all based on shared in-house code using ArcIMS Java Connector
- Built using ArcIMS 9.x and the ArcIMS Java Connector
- HTML, JavaScript, CSS, JSP and Java
- Apache, Tomcat, Dreamweaver, Eclipse and MySQL
- Each website accessible by the other

2005

Lessons Learnt from Implementing and Developing ArcIMS

- Thick client with a lot of JavaScript functionality which should be on the server
- High and complicated code management over multiple websites
- Browser Issues: Back button can cause problems and use of frames not advised by eGIF
- Non-standard web development tools

Disadvantages of HTML Viewer

Lessons Learnt from Implementing and Developing ArcIMS

- Thinner client with more server side functionality
- Multiple sites share common code base
- Usable within the J2EE web development environment allowing integration with JDBC connections to database, java mail etc
- Websites can be built using J2EE development tools and methodologies

Advantages of Java Connector

Present Benefits of the ArcIMS Java Connector

- The benefits of J2EE itself

List here

- In-house code shared by all the ArcIMS sites

Present Benefits of the ArcIMS Java Connector

- Rapid development to deployment of demos
 1. National Museums and Galleries of Wales
 2. Ordnance Survey Ancient Map of Britain
 3. National Museums of Scotland and Wales
 4. Roman Scotland
 5. Defence of Scotland

Present Benefits of the ArcIMS Java Connector

- eGIF recommended standards for interoperability
- Standard Web Development Tools
- This client

Future Benefits of the ArcIMS Java Connector

- Integration with ORACLE
- Rich Internet Applications – Flash, Flex etc
- Mobile Devices
- Web Services
- Location Based Services

CONCLUSIONS

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