

Digital Map Soup: What's Cooking in British Academic Libraries and Are We Helping Our Users?

by JOHN MOORE

INTRODUCTION

My original intention had been to consider the roles being developed in British academic libraries to assist users in making full use of cartographic material that is available for their requirements - an almost predictable report on the blending of the old with the new and, again hopefully, coming to a slightly more positive vision of the future for the academic map library in the United Kingdom. That was before I received an e-mail from David Medyckyj-Scott, Research and Geo-Data Services Manager at the [EDINA](#) National Data Centre in Edinburgh and one of the key figures behind the implementation and development of the [Digimap](#) service to the UK Higher and Further Education sectors. Launched in 2000, Digimap delivers Ordnance Survey map data to subscribing institutions and allows staff and students to produce map extracts at set scales, to generate their own maps online or download map data to use with appropriate application software such as [CAD](#) or [GIS](#). I do not think it is an overstatement to suggest that the advent of the Digimap service has been the most important and influential event in British academic map libraries in, at least, the last thirty years - and I say this as someone who was critically cautious of the service at the outset.

David's e-mail sought views on the benefits various stakeholders have gained from the Digimap service but, in particular, he was interested in the state of university map libraries in 2004 and in the impact of the service on such libraries and their users. His final paragraph was the one, which made me stop in my cogitative tracks and think again about what really needs to be said about the current situation:

"[Digimap] has noticed that increasingly our site representatives are subject librarians or even Athens administrators rather than map librarians. We believe that this is one reason for the increase in the number of calls to our helpdesk (averaging 600+ a month). We are also finding that more and more calls are from users wanting help on either use of data or the terms of use. In a recent review of Digimap, it was considered preferable for such questions to be answered by institutional representatives. Digimap believes - and I have to agree with them - that the expertise no longer exists in the institutions to do this."

This comment appears to add weight to Boxall's recent comment that "content providers will be the primary sources of information" ([Boxall, 2004](#)) and seems to add weight to a growing concern I have about the role of the map libraries. Through a sequence of unrelated opportunities, I have been asked over the last five years to reflect on the state of British academic map libraries and, while I do not want to fall into the trap of yet another 'state of the nation' review of what is going on, I do think that both David's comments and the observations from two experienced map librarians have a wider and more urgent relevance to our consideration of map collections and GIS or digital data - perhaps not so much the death of the paper map but more the possibility of the death of the paper map collection within the UK higher education sector.

Digimap is only one map service and has been designed more specifically for the institution that is weak in paper map holdings and the user who requires a quick fix, one-off map product. Like many other desk-top facilities, it has raised expectations well beyond the capabilities of many academic map libraries and the potential extension of its services into the supply of geological, hydrographical and Ordnance Survey historical series (presumably as raster images only) may well begin to have a major impact on even quite sizeable collections.

Strangely enough, the original thinking behind the Digimap service decided that it would be established through the map libraries of the various institutions and, indeed, Digimap was called a 'virtual map library'. Those blessed with a more hopeful vision foresaw a renaissance of the map library through the provision of such online services. While such a prospect would be heartening to hard-pressed map librarians, the reality has been considerably different. Academic map libraries cannot be separated from the general trends, which have characterised libraries in British universities in the last thirty years, namely the steady reduction in two key aspects: purchasing power and specialist subject support staff. While the United Kingdom may be regarded as a major player in the cartographic world and it might be tempting to think that it enjoys a wealth of research collections across the land - a sort of strength in depth -, the reality of the latter, particularly within the university sphere, is a little different. If Campbell is correct and the digital revolution does deepen

the distinction between map libraries which are largely historical in content and usage and those focussed on current mapping ([Campbell, 2000](#)), I fear that few of the former are likely to survive in the higher education sector.

SOME DIRECTORIES

In both 1999 ([Moore, 1999](#)) and 2002 ([Moore, 2002](#)) I took a look at the situation in British academic libraries, beginning with an analysis of the most recent edition of [A Directory of UK Map Collections](#). While this was published in 1995, it is now available on the web and welcomes regular updating. Excluding those at the Bodleian Library, Cambridge University Library and Trinity College Dublin as unique exceptions because of their copyright deposit status, only 96 map collections having more than 1000 sheets are listed as being attached to higher education institutions (HEIs). This accounted for a little fewer than 20% of the total listed. As an aside, it is significant to note that the majority of entries have not been amended since February 2000. By these collections 72 individual institutions are represented and, at the time, I noted that this figure was well below half of the 172 institutions normally listed by the combined higher education funding councils. All directories have strengths and weaknesses but the key point I wanted to make was that there appeared to be many universities and colleges, which did not have maps, gathered in a separate identifiable collection or did not recognise that collection as an important element within their institution. More than a quarter (27.6%) of the 76 largest HEIs made no return to the directory.

Since then, the situation with regard to cartographic information has become a little more complex. There are 86 universities or colleges currently subscribing to the Digimap service. Only 43 of these have an entry in the Directory. Conversely, there are a number of sizeable map collections, such as those at Dundee University (over 100,000 sheets), Hull (over 65,000 sheets) and King's College London (over 80,000 sheets), which do not subscribe to Digimap. Clearly, individual universities have different priorities and needs and I am wary about reading too much into such a simplistic comparison. Nonetheless, the advent of digital data and, in particular, the Digimap service now appears to be of such importance to so many HEIs that I would like to investigate this fractured picture in more detail.

My past analyses of the entries in the directory of [The British Cartographic Society](#) (BCS) showed that while 55 of the 96 separately listed university collections had over 10,000 map sheets, only seven held more than 100,000. We could all argue about the selection of an arbitrary figure as the size of an effective research collection and I am prepared to accept that there are many very valuable map holdings that are far smaller. However, the majority of university map collections tend to be quite general in their coverage but frequently with holdings strong in their local area. Outside of the copyright deposit libraries, none of these collections enjoy any deposit arrangements and are increasingly pressed for funds by the competing demand for expenditure on computing facilities, equal opportunity access, forms of electronic access and license agreements.

Of greater significance than size is location: 61 of the collections are to be found specifically in departments of Geography, Geology or Earth Sciences and only 18 are located within a central academic library. Then, as now, I suggested that there are strong arguments for such a siting, particularly where it supports departments active in the teaching of cartography or the use of maps. More importantly, many departmental or university cartographers are the curators of such collections and, frequently, they are more knowledgeable or have greater expertise in the realm of GIS and digital data than mainstream academic librarians. Challenges to this strength are all around. Academic geography is changing, cartography is being taught in fewer institutions and everywhere units are becoming smaller. Digimap itself has highlighted an important usage statistic - namely that 80% of users are non-geographers.

Inevitably, a departmental collection has problems of access for any user outside of that department, but other issues may well be more damaging to the development of a coherent map/GIS service. In my 1999 survey, 24 departmental collections were cared for specifically by a Senior Cartographer or Technician and others by a member of teaching staff. Regardless of the question of priorities in the care, development and promotion of such collections, it is clear to me that this has led to a lack of any coherent aim, direction or representation for map curators in British higher education, possibly emphasised by the continued split of the two representative societies, the British Cartographic Society (BCS) and the [Society of Cartographers](#) (SoC). It seems to me more and more obvious that those who are knowledgeable about GIS and digital data gravitate towards the SoC while the BCS battles on trying to be all things to all map people. To emphasise this, I only need to cite two examples. The first is the reliance of several map librarians on the advice column run in the [SoC Bulletin](#) called 'Tales from the Mac Room - a month (or so) in the life of the Carto-Soc Mailing list, which has a series of questions and answers which help us all keep in touch with developments.

The other is that of a one-day training session for map curators organised earlier this year by the Map Curators' Group of BCS. 'Mapping the Way' took place in March in Newcastle and we had 37 curators attend. Although this was a basic course for all sectors, there was nothing on digital mapping or GIS and, as yet, there appears to be little encouragement to run anything in the near future on these topics.

EDUCATION

Our initial attempts to discover what was available in the way of education for the nascent map librarian showed that there are no courses in map librarianship currently available in the UK and experience of digital mapping / GIS appears to come from an undergraduate geography or cartography degree. The majority of those who attended the training day were not BCS members but yet were in charge of significant collections in a variety of libraries. What came home to me was that, for several attendees, the map collection was only part of an ever-widening remit. This would be a scenario to cause concern in any aspect of librarianship but is exacerbated by the reality that in many libraries, maps still seem to be regarded as founding children whose existence is at best problematical. Where they become the responsibility of staff that have little in the way of a cartographic background and a wide range of other subject or administrative responsibilities, the development of a support service can be seriously impaired. Senior management is faced with hard choices when it comes to expenditure and staff deployment and, in higher education, the potential opportunity that a service such as Digimap offers is only part of a wider move away from acquisition to access.

In certain respects, university map collections have not helped themselves. There have been frequent calls for map librarians to take a more pro-active professional stance but the portents are far from promising. Comparing them with other strands of academic librarianship, many have failed to promote not only their holdings and services to a wider public but also their value to senior university management. While several libraries have made notable advances in making their map catalogues available in an online version, these are still exceptions to the general pattern. There was a resounding silence experienced in Glasgow University Library when an enquiry was circulated on lis-link about the automation of map catalogue records before beginning our conversion. Possibly of equal significance is the fact that only 19 UK higher education map collections have a web-site recorded in [Oddens' Bookmarks](#) - although six of the links did not work and another two were to the Department of Geography rather than the map collection itself. More telling is the lack of internal linking within institutions between a map web page and that advertising the Digimap service. This frequently occurs where the map librarian is not the site representative (e.g. Manchester, Leicester) and the service is seen purely as another electronic resource. Millea's observation of five years ago that computing departments might prove more adept at handling digital map data and could remove the need for the map librarian remains a relevant warning ([Millea, 1999](#)).

THE QUESTIONNAIRE

Given David Medyckyj-Scott's comments and the rather confusing pattern of spatial information provision through both the traditional paper map collection and the on-line Digimap service, I felt it necessary to discover a little more about the expertise and support available, particularly with regard to GIS and digital data handling. Consequently, A very brief questionnaire (see Appendix) to the Digimap site representatives was circulated in August 2004 to which replies from 38 institutions were received. While such a limited group of questions lays any interpretation wide open to all kinds of criticism, it does aid the discernment of certain trends.

One of the first things that the replies highlight is the extent to which each institution relies on a group of people other than the site representative when the issue of GIS support arises. Although only 12 of the 86 registered institutions listed more than one site representative, 16 of the 38 responses indicated some sharing of responsibilities among support staff. This is a matter that should not be too readily overlooked since it suggests a possible way for map libraries to develop.

In recent years, the role of the academic subject librarian has changed quite considerably. With the development of subject teams, the individual who is all things to all readers within a specific subject is no longer the norm. The sharing of expertise within a wider remit seems to be behind the creation of library-based GIS labs such as that discussed at Syracuse University in the United States by Olson ([Olson, 2004](#)) but there is little evidence of a similar move within the UK higher education sector. Some signs of a slight move in that direction are becoming more noticeable in the newer universities, where there is possibly a less entrenched departmental ethos. One example is the map library at the University of Portsmouth, which is

located within the Portland Learning Resources Centre where users have access to maps, technical support and printing facilities within the building. It is still not called a GIS laboratory and we will probably not see such a development until the provision of spatial information in digital format is made considerably less expensive. In 1999, Campbell predicted that the development of GIS laboratories in the UK is 'unlikely to be realised' largely due to the combination of increasingly restrictive copyright and growing cost recovery pressures ([Campbell, 1999](#)). There are other issues that work against us following our counterparts in the United States. Fairbairn has highlighted issues of hardware purchase, software choice, integration with existing facilities and personnel training as elements likely to mitigate against heavy GIS investment ([Fairbairn, 2001](#)). On the other hand, there is little in the way of planning or predicting a demand in GIS usage and there has been no British survey of demand. Whether or not we are falling behind in the digital map library game, it is rather significant that the [editorial board](#) of Journal of Map & Geography Libraries does not include a single UK representative.

The details of the particular departments in which each site representative is located is a reflection of the history, organisational structure and financing of the individual university. Nonetheless, it is clear that where more than one member of staff has some responsibility for digital map data, a certain confusion of what is provided exists. For example, five responses reported no other digital mapping products supported despite their institutions subscribing to the Landmap archive of derived satellite data. In fact, more information on other products, such as UK Borders and [Bartholomew's](#) digital databases, came from respondents who were based in IT or Computing units. 27 of the respondents had had no training in the use of maps other than that provided by Digimap, despite the fact that 12 of that 27 were responsible for the paper map collections within their institution. More telling is that respondents in 33 of the 37 institutions had had no training in GIS, other than the basic course provided by Digimap, and provided little in the way of support for GIS enquiries. Some were able to supply guidance on data downloading and file conversion but the majority referred detailed questions to staff in teaching departments, IT support or [EDINA](#) itself. Only 4 institutions (Durham, Leeds, Oxford and York) appear to be able to offer a direct and full support, although both Newcastle and Reading both specifically mentioned the need for GIS technical support in preference to the rather ad hoc reliance on the goodwill of others that we all seem to have. For support staff to keep abreast of software evolution, new GIS and data applications, and changing functionality requires much time and effort but most of our academic map collections are staffed by only one person. Before its launch, Digimap itself recognised that 'without appropriate support, the use of data will be restricted to expert users and uptake will be limited' ([Cornelius, 1999](#)) - it would appear that the service rather than the library is providing such support.

As ever, the additional information from the respondents provided some interesting insights into what is happening. A few universities reported that some paper map collections were now either closed (e.g. geography collections at Bristol, Greenwich and Newcastle) or no longer augmented by additional purchase (Kingston). This is reflected in the responses to the original enquiry from EDINA. Map librarian posts appear to be disappearing and there is little sign of a renaissance. Several leading map librarians have retired and not been replaced, while there has been an increase in the number of collections offering sheet maps elsewhere since their own libraries are being either broken up or down-sized. Loss of curatorial expertise and lack of training will result in collections being just that, collections, rather than properly functioning, proactive, libraries.

There is plenty that academic map libraries can do. Automation of map catalogue records and creation of web pages can raise the profile of collections. Thumbnail extracts accompanying catalogue records can help the cartographically illiterate user in finding the most appropriate map. There is still much which could be done to enhance map catalogue entries by the inclusion of sheet indices and records of holdings. Experienced map staff can guide users in what is and what is not available on the Web. Digitisation of significant items of stock can highlight strengths in the collection and prevent the general trend towards the belief that if it is not on the web, it does not exist. However, this all requires map librarians to be better trained to respond to current user need and demand and to be far more professional in approaching digital information.

WE HAVE TO FACE THE CHALLENGES

At present, within the higher education sector, I fear that we are losing the fight in the UK. GIS appears to be developing its own support strategies outside (!) the map library and there is little usage cross-over between digital map users and their paper counterparts. The example of Digimap suggests that the map library is being by-passed by the service supplier. Technical sophistication cannot be developed where demand is only occasional and the expertise of the librarian may be stretched in other directions but we have done little to

investigate demand or consider co-ordinating our support. And yet many users are both unfamiliar with maps and cartographic concepts. I still believe very firmly that a key element is the interaction between the user and the member of support staff. We need to get in there when we are needed most.

The example of the University of York, which has an appointed GIS advisor within the Computing Service, is even more significant when it is realised that the University teaches no Earth Science disciplines. A recent analysis there determined that half of the departments in the University are interested in 'the spatial arrangement of entities within their field of interest'. As the lifelong learning element develops, our users will become more varied and demanding but neither our representative societies nor our library schools show any sign of urgency in GIS education. It is now five years since Jan Smits warned that "when we do not embrace new technology willingly it will become the harder to persuade library management to build the necessary digital environment in which we have to work in the future and which will enable us also to co-operate easier with other collections." ([Smits, 1999](#)).

The need to take a more professional stance in representing our institutions, our collections and users, cannot be stressed enough, particularly with the service suppliers and in persuading the Joint Information Systems Committee ([JISC](#)) and other bodies to work in greater harmony. Disconnected funding streams and a range of services from competing specialist centres do nothing to ensure the realisation of joined-up geography. Lobbying and challenging will not be easy, largely because we may say things that service suppliers will not want to hear. It will call for a degree of diplomacy and professionalism, which manages to transcend the image of reaction and the rarefied atmosphere that some believe pervades the map library.

There is much vested interest in the continuance of information and service centres, which certainly do have great expertise in particular fields, provide a continuity of reliable and pertinent information and can respond to detailed questioning about digital data handling. Nonetheless, service suppliers are removed from the daily experience of user support and our voice needs to be heard. A couple of years ago, I served on the JISC Geospatial Working Group, which has as its mission statement:

"To provide advice on collecting priorities and development priorities for geospatial resources through a process which identifies and responds to user needs and supports the execution of the JISC Strategic Framework."

After the review of all JISC working groups, the membership of this group which has particular relevance to our own work now lists only one librarian - but not from a higher education library! Map Librarians do need to be on such influential bodies to ensure that the JISC strategic vision of:

"ubiquitous and reliable access to an information and communication environment, so that users are able to enjoy world class technologies in support of their work and study."

still has a relevance to the daily information needs of the researchers of tomorrow. The JISC realises that to achieve this vision requires the development of sophisticated tools, complex management mechanisms, and services to support users and the collaboration of activities across different communities. One concern is the apparent under-valuation of the vital role of library staff as facilitators and evaluators.

One final area of potential development could be the opening up of academic collections to a wider public. Cross-sectoral co-operation is very much in favour, particularly in the light of lifelong learning, and provincial academic collections have a significant role to play in the local and regional community. Stevenson's discussion of the Danish model where the general public have access to university collections may be worth revising and, certainly, a wider vision would be refreshingly helpful ([Stevenson, 2000](#)).

Until we face up to the challenges posed by new forms of spatial information, map libraries will be relegated to the sidelines and, rather than assuming the role of contributing chef or dietician to the map soup, we will be seen as merely the purveyor, more probably similar to the small corner shop with all its limitations rather than the data supermarket.

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WEB SITES REFERRED TO IN THE TEXT

- Bartholomew. <http://www.bartholomewmaps.com>
- BCS - British Cartographic Society. <http://www.cartography.org.uk/>
- CAD - Computer Aided Design. <http://www.cad.com/>
- Digimap. <http://edina.ac.uk/digimap/>
- EDINA - Edinburgh Data and Information Access. <http://edina.ac.uk/maps>
- Editorial Board Members of the Journal of Map & Geography Libraries. <http://www.haworthpress.com/web/ebmresults.asp?sku=J230>
- GIS – Geographic Information Systems. <http://www.gis.com/index.html>
- JISC - Joint Information Systems Committee. <http://www.jisc.ac.uk/>
- Oddens' Bookmarks. <http://oddens.geog.uu.nl/index.php>
- SoC - Society of Cartographers. <http://www.soc.org.uk/>
- SoC Bulletin. <http://www.soc.org.uk/bulletin/bulletin.html>

APPENDIX

Questionnaire for Digimap Site Representatives:

1. Which department do you work in? Please specify

Library

Computing or IT Services

Learning Resources

Teaching Department

Other - Please specify

2. Does your institution have a paper map collection? If yes, is the collection in the same building as your department?

3. Are you responsible for the paper map collection?

4. Do you support any other digital mapping products? Please specify

5. Have you had any training in using maps?

6. Have you had any training in GIS?

7. Do you provide any support for GIS enquiries?

8. If not, do you have an alternative member of staff/department to which you can refer enquirers? Please specify.