Institutional transformation

Ross Wilkinson, ANDS

When researchers in China work with researchers at CSIRO on pulsar data, it works well because CSIRO has put in place technology, processes and policy that lets that take place. This issue of share celebrates and explains the changes that have taken place at Australian institutions to enable researchers to use data differently—working in new partnerships, addressing new problems, and getting properly acknowledged for their data.

The Australian approach of recognising the importance of institutions in enabling their researchers to work with data differently is not common in the world. In many cases the responsibility for research data and its management rests squarely on the researcher or the research team. That means all researchers need new expertise. Perhaps they should develop some of these skills, but equally it is terrific if they are able to call on institutional resources to help in these tasks and devote more effort to using the data differently.

We will see in the following articles that there are a whole range of reasons why institutions are actively transforming their approach to research data—it may be to ensure the integrity of the research, or perhaps to position the institution as an international centre of collaboration over certain data. However it is clear that there is a strong need for different parts of research institutions to work together to enable research data to become an institutional asset. We will see examples of Deputy Vice Chancellors of Research, University Librarians, Chief Information Officers and their teams all collaborating in a variety of ways that best suit their institutions. We will see that many institutions have a whole raft of approaches to enable this environment to be used effectively through education, policy, and process.

We will see that Australian researchers in partnership with their institutions are developing an ability to collaborate on challenging problems over complex data with the best in the world. As the data revolution continues, we can celebrate the strength of Australia’s research institutions’ response.
Institutional transformation profiles
Richard Chirgwin, independent journalist

**Progressing Melbourne University’s data agenda**

With a long history of data-intensive research, it’s no surprise that the University of Melbourne has had research data management on its agenda since 2006, but even so, it had been difficult to communicate the message to researchers effectively.

“Even high profile, well-funded projects were not always looking after their data in a sustainable way,” explained Ms Anna Shadbolt, Manager of Information Management Services at the University.

Things began to change with the inception of ANDS and the funding they brought to the table. “That helped us make the things we’d been thinking about finally happen,” she said. “ANDS’ participation and engagement was timely and significant in progressing Melbourne University’s agenda.”

The institutional transformation—which was brought about in part through the ANDS projects—is reflected in the University’s growing interest in funding internal research data management projects, she said. “The bottom line is the curation of data,” she said. “Well-curated data maintains its value throughout time, so we’ve created a role called Research Data Curator.” This role will initially be split between supporting researchers and providing training for research support personnel.

Researcher support will take the form of “exploring how we provide a hands-on, ground-up service for researchers for the curation of their data, and how we sustain and develop that support. The other fifty percent of the role will involve training research support personnel in data curation in an immersive, informatics-based way,” Mr Pandey added, “is not about fancy gadgets. It’s about making sure that researchers capture quality data at the beginning. Without that, the tools won’t be sustainable.”

"Well-curated data maintains its value throughout time, so we’ve created a role called Research Data Curator.”

**Deakin’s Library plays a vital role**

For Deakin University Library’s Digital Services Manager, Mr Prashant Pandey, the importance of the University Library in supporting institutional transformation can not be over-stated.

Data is close to the researcher’s heart, Mr Pandey explained, and in spite of the risks a researcher assumes in trying to manage and protect their own data, anything they perceive as putting data “out of the researchers’ control” demands considerable cultural change.

In Deakin’s work with ANDS, the Library has provided expertise and advocacy. “We have long term relationships with the researchers and being subject-matter experts in their fields, the librarians have the right skills to deal with this issue and carry out advocacy for the transformation,” he explained.

“Libraries are successful, because we already have a reputation for curating other peoples’ information. However, there is a big requirement for educating, advising, reassuring the researchers, because there is so much at stake for them.”

That made it logical for the library to be either the lead agency or provide advice and support. Earlier ANDS-funded projects have paved the way for a University-wide Research Metadata Storage initiative.

University management is now fully behind the transformation, with a post of eResearch Director created, and the University is now providing internal funding support for new projects.

“The ANDS projects were really timely,” Mr Pandey believes. “The three projects we were able to deliver were transformational in themselves.”

This led to the creation of an IT Library and a Research Office, which in turn “brought about discussion of at the high level about the importance of our eResearch strategy.”

The University further demonstrated its commitment by creating the role of eResearch Director. “This demonstrates that well-managed data and metadata are vital in the eResearch space,” he said.

Mr Pandey notes that the transformation is also in response to external influences, with bodies such as the National Health and Medical Research Council (NH&MRC) and the Australian Research Council (ARC) both seeking to have data from funded research made searchable, discoverable and as open as possible.
Flinders’ cross-institution collaboration

Data sharing between institutions has long been a feature of some disciplines, says the Manager of eResearch@Flinders, Ms Amanda Nixon, but the transformation to efficient and seamless data sharing will come from moving to a culture of managed, accessible research data throughout whole institutions.

Ms Nixon’s perspective is that of someone in the late stages of Flinders University’s ANDS-funded Metadata Stores project, due for completion in April 2013.

Flinders University is using ReDBox software—the creation of which was funded by ANDS and is now supported by QCIF—to create its Metadata Store with the added benefit of making life easier for researchers. “We want to give researchers a user-friendly front-end to self-submit information that will create a data management plan as well as a metadata record,” she says.

There are also plans to create triggers in the front end of ReDBox (redboxresearchdata.com.au) so that researchers submitting new plans can be alerted to eResearch tools and services that may be useful, such as high-performance computing.

High-level support from the University has been “fantastic”, Ms Nixon said, as has the active and sustained collaboration between the University of Newcastle, the University of Western Sydney, Deakin University, and the University of Technology, Sydney who are working together to increase functionality in ReDBox.

These discussions helped inform joint business requirements, and all will be working together on user acceptance testing once technical development is well underway, she said.

To realise the fruits of the transformation, Ms Nixon believes that university policies and procedures will be important—as will recruiting champions to spread the word about the benefits of good data management.

CSIRO’s data treasures revealed

“I get the most satisfaction out of knowing that our data is valuable to other people,” explains Mr Euan Sangster of CSIRO. That knowledge is representative of the transformation to openly available research data that has taken place—and it was brought into sharp relief by the international response to one of the first ANDS-funded projects undertaken by CSIRO.

For the last two years, Mr Sangster explained, CSIRO has worked with ANDS on a number of pilot projects “to let CSIRO understand how to manage its data, from a technical point of view and a business point of view,” he said.

Those projects focused on managing water data from the Murray-Darling Basin, and pulsar observation data from the Parkes Radio Telescope. The latter gave a clear demonstration of the huge international interest that can be generated from data, once it is managed, connected and accessible.

The Parkes pulsar project—led by CSIRO Astronomy and Space Science Research Program Leader, Dr Jessica Chapman and Research Scientist, Dr George Hobbs—was an international hit. Interest in the pulsar data was “an eye-opener,” Mr Sangster said. “It was enlightening to see how that data was used and accessed from outside CSIRO—the volume of activity—just how many people were looking at and reusing our data.”

The success of these two projects has provided an impetus to take the transformation CSIRO-wide. “We have spent 18-months building an enterprise capability,” Mr Sangster explained. “We started with core functionality that has become more sophisticated as it progressed, with several funding injections from ANDS along the journey.”

Key to the work CSIRO has undertaken with ANDS is to make its data management generic: “It has to work for any domain, with enterprise search and the ability for partners to access the system.” CSIRO has a duty to share its data, he said, but “three or four years ago we had no idea how much data was out there. Even the researchers didn’t always know where their data was. Now we will be able to find our data, share it, and manage it in the long term.”

Making the data more discoverable and sharable also means that the data management environment also needs to provide “safeguards for licensing, access rights, and embargo periods. We have tried to make the system flexible so it can meet complex requirements in a simple way,” Mr Sangster added.

In 2013 a key challenge will be to make researchers aware of the support that is available so they take advantage of research data management earlier in the process. “We want them to think about what parts of their datasets could be shared, how to format it, and how to make it useful for others.”
Griffith: Doing it differently

To Mr Malcolm Wolski, Associate Director of Scholarly Information and Services at Griffith University, transformation comes when an institution moves beyond merely seeking to address problems and learns new ways to apply the lessons learned. The move away from the status quo comes, he said, “when the institution becomes aware of the data management problem—it may be a problem of risk management, or a compliance problem, or a cost problem once they start to address those problems they move on to look for areas of competitive advantage, to get the business and research benefits.”

Institutional transformation happens, he said, “when the institution gets to the point where they realise they can do things differently.” Even applying improved data management techniques to a routine activity like capturing microscopy images can have a transformational impact. “Working with ANDS, we developed workflows to connect the laboratory equipment with an open microscopy repository solution, and put a discovery portal that allowed researchers to publish information. It was an end-to-end solution.”

Griffith University’s ANDS-funded projects are now helping aggregate metadata from across the University—and export the information to Research Data Australia—which brings together the organisation’s knowledge of its data and exposes it to the wider research community. “The researchers now see the potential in what they can do. There are things they couldn’t do before because it was such a costly and time consuming process to figure out what data already existed, how it was created, how clean the data was, how old it was, and what had already been done to it. If the curation problem is dealt with, they can concentrate on their research, doing more with the data they have, with faster turnaround times.”

The other institutional transformation has been the institution-wide understanding of the risks associated with unmanaged research data and the value of administrative and research data already held in existing systems, Mr Wolski added. “There’s the risk of losing valuable data such as when you might have the only copy or it costs too much to reproduce. However there are other issues to consider if you are going to make some of your data public. How might it reflect back on your organisation and research group? Is the data of good quality? Risk of adverse impacts can come from unexpected angles, such as breaching licensing agreements, organizational credibility and ethics issues.” Less obvious risks, such as these, can be addressed by improved research data management.

Show us your people, ECU

Institutional transformation has many forms. For Ms Julia Gross, Senior Librarian, Research Services at Edith Cowan University, it has centred around the people that the University brought on board to support better research data management. “At the end of one of our ANDS-funded projects the big challenge for us was to keep the work going within the University without extra funding—how to mainstream it into the activities of people already in the institution.”

Institutional transformation has many forms. For Ms Julia Gross, Senior Librarian, Research Services at Edith Cowan University, it has centred around the people that the University brought on board to support better research data management. “At the end of one of our ANDS-funded projects the big challenge for us was to keep the work going within the University without extra funding—how to mainstream it into the activities of people already in the institution.”

“The researchers now see the potential in what they can do.”

The project demonstrated the value of data management to the University—and that made it possible to create new positions and bring people on board. “That’s been pretty amazing,” she said. The work began with Ms Gross herself; originally seconded into the project, she now has a permanent responsibility for research data management and a new ongoing role.

And there has been a “major transformation” within the library, with two more people in Ms Gross’ team who will be trained in research data management—something she believes will flow on to other librarians.

The growing institutional endorsement of the importance of research data management is also reflected in the creation of a position of eResearch Coordinator, with an explicit responsibility for eResearch and research data management.

From a small beginning, Ms Gross is now seeing researchers’ projects benefiting from ECU’s strong commitment to research data management. She gives the example of marine science at ECU. “Marine research is a great area for research data management”, she explained. “Their data is very diverse, and they generally have good research data practices and protocols. One of our marine researchers approached us late in 2012, because as part of a grant application, he needed to include a research data management plan. Since part of our ANDS-funded project was to develop a template for research data management, we were able to help him put that together,” Gross explained. “He will have the benefit of that project, and he will help evangelise our work with other researchers.”
Monash’s university-wide approach

Monash University’s journey began in 2006 with the development of an information management strategy and establishment of a central digital data store. Since 2010, ANDS support has allowed Monash to launch projects covering data management, data and metadata capture and sharing, data re-use and discovery, and publication.

Ms Wilna Macmillan, Director of Client Services, Science Health and Engineering in the Monash Library, said an exemplar of how data management improvement can transform research is in the Faculty of Pharmacy and Pharmaceutical Sciences.

Taking a whole-of-faculty approach in 2009, Prof Chris Porter, Associate Dean, Research established a data management working group. “From his research experience he recognised that there were benefits to improving the way people managed their research data,” Ms Macmillan explained. In work such as drug discovery, she said, “information has to be available for validation, and everything has to be secure and recorded.”

The working group, chaired by Prof Porter, was able to identify priorities for research data management. Ready access to centralised data storage was a priority, along with the development of protocols for file structure and naming, initially for honours and higher degree research students.

These protocols, Ms Macmillan explained, “encourage discussion between supervisor and student, because the students put all research material in a space that is accessible by student and supervisor.” “There are lots of opportunities to discuss how you are going to communicate your research; that might include ownership, security, ethics, potential reuse and more.”

In work such as drug discovery... information has to be available for validation, and everything has to be secure and recorded."

Meet the transformers

Kathy Pullman, CommunECate and Leesa Clausen Brown, ANDS

They say ‘Rome wasn’t built in a day’, and the same can be said for institutional transformation of research data. Across the country there are Library, Information Technology Services (ITS) and research support staff who understand the value of well managed, connected, findable and reusable research data. This is an incredibly important part of getting the ball rolling on institutional transformation of research data. However, an equally critical part of this is the support and commitment from an institution’s executive and senior leaders.

Over the past four years ANDS has worked at all levels to help institutions understand the value of transformed data, which in some cases has become the impetus for change. At the University of Adelaide the change has been more around the institution’s culture regarding research data, which is considered to be a key benefit of collaboration. Prof Mike Brooks, Deputy Vice-Chancellor and Vice-President (Research) says, “Working with ANDS has brought the issues associated with research data access and management home to the University. This has kicked off a culture change within the University which will have a tremendously positive impact on the way we value and use research data as a resource for the future”.

There are three distinct areas within an institution that need to work together in order to build the infrastructure necessary to successfully transform research data management:

» Information Technology Services—to provide the technology underpinning effective data management and transformation;
» Library—to provide information management; and
» Research, such as the Research Office and the eResearch group (if it exists)—to coordinate and support the research effort.

The senior leaders from these three areas need to be at the table to address research data management progress and strategies, as each of these areas bring diverse but complementary skills and represent the people for whom this infrastructure is being built: the researchers.

This is particularly apparent to Prof John Finlay-Jones, Deputy Vice-Chancellor at Edith Cowan University (ECU), who is terrifically impressed by the collaboration between ECU’s Library and Office of Research—supported by ITS—to provide the right support and infrastructure to researchers. “The working relationships at ECU are continuing to develop—in an environment shaped by ANDS activities and alike. They are doing so in an environment of information technology changes that are affecting the way institutions adapt to data management and address technology issues—for example, cloud computing, cloud data storage, and data security,” says Prof Finlay-Jones.
Australian National Data Service

**ANDS is enabling the transformation of:**

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...so that Australian researchers can easily publish, discover, access and reuse research data

The four transformations of research data

Mr Martin Borchert, Associate Director, Library Services at Queensland University of Technology (QUT), believes that the library brings an understanding of data management planning and metadata to the table. The QUT library is focusing on helping and teaching its research community to manage, store and use data better, as well as understanding the publication of the data. This approach also sows the seeds for collaboration and strong relationships in the future.

Ms Sandra Jeffries, Director, Information Services at the University of the Sunshine Coast (USC) has also found that the real success of their ANDS-funded project was the positive and productive relationships that were created through it. “…we’re forging links for the future,” Ms Jeffries says. “These new relationships have enabled us to share knowledge, which puts us in a good position to work on a shared vision. We can now see what impacts on a researcher throughout the data management lifecycle and we can all try to develop systems that work for the researcher, as well as the University”.

Monash University is another institution that recognises that strong working relationships across these three areas are vital for effective management of research data, an essential component of successful research. Ms Cathrine Harboe-Ree, University Librarian at Monash University, says, “Over the past few years we have established policies and procedures, and put in place a comprehensive range of strategies to develop our ability to manage research data.” Ms Harboe-Ree highlights that success in this area requires “…a collaborative effort between faculties and/or individual researchers, the eResearch Centre, eSolutions, the Research Office and the Library”.

The University of South Australia (UniSA) recognises that the clever application of information and communications technology to research can make a strategic difference and they are now approaching research data management holistically—with a strong focus on the software and metadata. Important to UniSA’s approach is its newly formed Research and Data Management Support team.

Mr Paul Sherlock, Director, Information Strategy and Technology Services (ISTS) says that, “ISTS brings information and communications technology know-how and integration expertise to the table, we collaborate with researchers to understand what

ISTS also offers an understanding of other university data such as HR and finance...
needs to be done and then work with the Library and the Research Office to achieve the desired outcomes,” says Mr Sherlock.

Similarly, the University of Western Sydney (UWS) has created a new eResearch Office that is designed to help researchers manage their data better. Prof Andrew Cheetham, Pro Vice-Chancellor (Research) says, “There is a much greater understanding and awareness now of research data at UWS. The eResearch office addresses data and wider eResearch issues for the University. Our researchers see great value in having the capability to manage their data, and it enables them to better exploit the opportunity of a recently awarded NeCTAR virtual laboratory.”

Collaborating with researchers and research areas to develop new systems and management practices for researchers is also now common practice at CSIRO. Information Management and Technology (IM&T) continually works with any one of the various research areas within CSIRO to develop working solutions to meet the needs of the researcher, research group or discipline. Mr David Toll, Chief Information Officer at CSIRO says, “IM&T partners with research to inform an enterprise approach to implementing data management and it has resulted in some strong relationships being formed. A great example of this is CSIRO’s Astronomy and Space Sciences Division, which is currently working with us to plan for management of Australian Square Kilometre Array Pathfinder (ASKAP) data”. This is an important undertaking as CSIRO’s new radio telescope in Western Australia (www.atnf.csiro.au/projects/askap) is expected to produce an enormous volume of data of international significance.

Transforming an institution’s research data requires effective data management. This needs to work at all levels of a research institution. Collaboration and commitment of the senior leaders sets the right course for practical and sustainable outcomes that benefit both the researcher and the institution.

Seeding change for future data management
Kathy Pullman, CommunECate and Cynthia Love, ANDS

“Education is the most powerful weapon which you can use to change the world.”
Nelson Mandela

Queensland University of Technology (QUT) is using this principle to change the way its researchers manage and publish their data. The QUT library is running monthly Managing Research Data sessions that target—and teach—the University’s research community about managing their research data from the beginning of each research project. Ms Stephanie Bradbury, QUT’s Research Support Librarian, says the data management sessions began in 2009 and have been running monthly since the start of 2011. She says there has been strong interest with more than 200 higher degree research students attending the sessions in 2012.

“These students will become our future researchers,” says Ms Bradbury. “We are ensuring from the outset they know how to manage, store, use and publish data throughout the life of the research project.”

There are three key objectives for these sessions:
» ensure compliance with relevant codes, policies and legislation;
» facilitate data reuse; and
» guard against catastrophic loss.

The structure of the sessions is based on MANTRA, the University of Edinburgh’s online Research Data Management course, and QUT’s own Data Management Checklist. To further seed this cultural change, the concepts taught in the Managing Research Data sessions have been incorporated into the compulsory Advanced Information Research Skills for PhD students (airs.library.qut.edu.au). This year QUT Library will introduce ‘hands-on’ data management sessions in which participants will create their own data management plan and explore Research Data Finder, QUT’s metadata store. The interactive sessions will also highlight resources and tools that will be available as a result of NeCTAR (National eResearch Collaboration Tools and Resources) activities.

This grassroots cultural change will help researchers manage one of the biggest issues they face today: managing data—which has become larger, more complex and difficult to access, store, process, locate and reuse.

In 2012, more than 200 higher degree students attended the ‘Managing Research Data’ sessions
Chair's Report

Institutional change to embrace the data revolution

Ron Sandland, ANDS’ Steering Committee Chair

In my last share article I wrote of the advantages an institution might achieve from a world-class data capability. These advantages include differentiating organisational research productivity, attracting international research collaborations and research students and developing industry partnerships. All of these in turn contribute significantly to national productivity. And while the acquisition of data capability in a single institution has a very positive impact on the research capacity of that institution, this is anything but a zero-sum game.

The benefits conferred on an individual organisation can readily spread to other institutions. This will occur by enhancing the ability of institutions to collaborate with each other, but also through sharing of best practice with peers and collaborators. Indeed this issue of the aptly-named share provides a number of examples of this.

For leadership to position their institutions to achieve these benefits, a mindful commitment to organisational change will be required. Organisational change is always challenging. It has been the subject of many management texts, none better than Living Strategy by Lynda Gratton, (Pearson Education Limited, 2000). The subtitle of her text, "putting people at the heart of corporate purpose" gives a significant hint as to her message. Gratton envisaged a change process as having six key steps: building a guiding coalition; imagining the future; understanding current capability and identifying the gap; creating a map of the system; modelling the dynamics of the vision; and bridging into action.

While the steps in Gratton’s program are essential for fundamental change to occur, some of them are quite challenging at an individual institutional level. For example, step 1 requires the leadership team to understand and embrace the need for change; at present the understanding of the need for enhanced data capability is fairly patchy in many organisations, so real leadership will be required to turn this around. Similarly in steps 2 and 3, understanding what is possible is essential and a willingness to look at oneself in the organisational mirror (sometimes difficult to do!) is needed.

The last three steps must embrace a complex system with many emergents—a suitable challenge for the best and brightest. The work of ANDS has been, in large part, providing the tools, infrastructure and knowledge to make these steps feasible. But of course only institutions themselves can make the necessary changes to achieve a world-class data capability. Now that the results of the Collaborative Research Infrastructure Scheme (CRIS) investment process are known, I’m very happy to say that funding is now secure for the continuation of ANDS until the end of 2014. With this decision ANDS can renew its commitment to providing the infrastructure needed to achieve the change to world-class data capability.

The work of ANDS has been, in large part, providing the tools, infrastructure and knowledge to make these steps feasible. But of course only institutions themselves can make the necessary changes to achieve a world-class data capability.
International engagements

EU Data Citation Project

ANDS is joining CERN and the British Library in the EU-funded ODIN—ORCID and DataCite Interoperability Network—project investigating opportunities to improve the linkages between researchers, research publications, and their data. The project will leverage recently established global infrastructure: DataCite for tracking datasets; and ORCID (Open Researcher & Contributor ID Initiative) for linking researchers and their outputs.

ANDS joins US repositories, arXiv and Dryad, in providing an international perspective to the European project partners. “With millions of researchers, tens of millions of research publications, and hundreds of millions of datasets—bringing it all together in global information systems is quite an engineering challenge,” says Dr Adrian Burton, Director of Services at ANDS. “ANDS is involved in this ODIN project so that Australia can take advantage of the latest international developments in acknowledging researchers and research organisations whose data is reused.”

As a member of DataCite, ANDS provides a sector-wide solution for citation-optimised identifiers (DOIs) for datasets. ANDS is also a member of ORCID and represented on the ORCID technical steering group.

For more information on the ODIN project and its partners, visit: odin-project.eu

With millions of researchers, tens of millions of research publications, and hundreds of millions of datasets—bringing it all together in global information systems is quite an engineering challenge”

Report on ANDS-funded project

Glycomics Repository
Dr Nicki Packer, Macquarie University

Macquarie University’s Biomolecular Frontiers Research Centre is a part of the UniCarbKB initiative (unicarb-db.org), an international collaborative project that promotes the creation of an information storage and search platform for glycomics and glycobiology research.

The ANDS-supported component of this initiative: ‘Linking Glycomics Repository with Mass Spectrometer Data Capture’ has seeded the infrastructure to capture, collate and disseminate the metadata on glycomics knowledge to the Australian and International research community. By leveraging the technical developments and services deployed by ANDS, over 1000 records from the GlycoSuiteDB database of glycan structures attached to proteins have been migrated to Research Data Australia (researchdata.ands.org.au).

These records provide access to well-managed bibliographic references and rich metadata descriptions of glycan structures and their biological context. The data flow that connects mass spectrometry data acquisition from the Australian Proteome Analysis Facility (APAF) is now also integrating ANDS components and vocabulary services to ensure analytical data is linked to the glycan structure repository, UniCarbKB, which is now part of a new National eResearch Tools and Resources (NeCTAR) project. This initiative will allow biological and medical researchers to build upon existing efforts and will enhance research and subsequent new discoveries in glycomics.

For more information visit: projects.ands.org.au/id/DC12A
An ANDS reflection on the conference

Susannah Sabine & Karen Visser, ANDS

The eResearch systems and processes that we build today—especially around the capture, management, storage, curation and preservation of data—will shape the research landscape for many years to come. The eResearch Australasia 2012 conference was a fantastic testimonial to this. Imagine the data repositories that we are building being explored by avid scientists of the future; or the semantic linkages we are creating being followed and examined by the bright minds that will come after us. How much will they learn about us, and our society, just by looking at the frameworks that we are building?

A number of ANDS staff attended this year’s eResearch Australasia conference and took full advantage of this great opportunity to learn, share, present, discuss, network and meet. For Dr Andrew Williams—a member of the Outreach team and based in Adelaide—the chance to meet face-to-face with colleagues and partners (both planned and ad hoc) was a really important aspect of the conference, as most of his day-to-day work interactions are virtual.

ANDS has been attending the annual eResearch conference since 2009 and our team members are in a good position to reflect on the changes in the eResearch sector over the past four years. Ms Gerry Ryder thought a common theme was around ‘engaging with researchers’. “Perhaps this demonstrates a ‘maturity’ whereby the eResearch community is shifting focus to cultural change issues rather than building something” said Gerry. This was also a clear theme to Dr Simon Pockley who noted, “So many of the presentations were about the importance of working together”.

Many of the sessions at eResearch Australasia presented our partners’ achievements, made possible through their collaboration with ANDS. However, it was clear that our work is not yet done, especially in regard to researchers, as demonstrated by Curtin University’s eResearch study, which shows that while 68 per cent of researchers want their data citable, only 23 per cent want it accessible.

EarthCube

Melanie Adamson, ANDS

As ANDS continues to facilitate cooperation between the disciplines by allowing collections and associated information to be published via system-agnostic methods to Research Data Australia; similarly, the USA’s National Science Foundation’s (NSF) EarthCube strives to ensure that cooperation between the disciplines is not hindered by the complex challenge of system interoperability.

The EarthCube is an open, adaptable and sustainable framework for the integration of data and information across the geosciences. Dr Clifford Jacobs, Senior Adviser to the Geosciences at the NSF, described the EarthCube in his presentation at eResearch Australasia as integrated data management infrastructure for research and education across the geosciences, which encourages focus on outcomes and processes. It intends to enable further understanding of our planet, by bringing together knowledge from all disciplines.

To enable interoperability between existing and future systems, the EarthCube has adopted a ‘brokering’ approach. Within a federated architecture: data is provided and consumed according to best practices; a common data model is used; and international standards for interoperability are applied. Applying such an approach enables fast progress because existing systems need not be altered significantly; at most they require the addition of a new, or modification to an existing, interface. This ensures a low-entry barrier for consumers and providers.

This presentation is available for download: eresearchau.files.wordpress.com/2012/11/01_clifford_jacobs.pdf

Image courtesy of EarthCube, NSF
Librarians have a lot to offer the research data life cycle and continue to be increasingly included in the data management conversation.

With commonalities between information management and eResearch, the skills of librarians are extremely valuable in the data management field. Some librarians mention their hesitation when first approached to enter the eResearch space but it soon becomes familiar territory with similar expertise required across data description, storage, preservation, ownership, access and reuse.

With these core skills librarians already have a handle on the data deluge and associated issues.

At eResearch Australasia, a team from the University of New South Wales hosted a session titled ‘eResearch and Libraries: A Perfect Partnership?’ that looked at the potential benefits of researcher-library partnerships. Libraries need to connect to research workflows and importantly be included in the planning stages. This timely presentation generated vibrant and positive discussion amongst all stakeholders, which focused on the contribution librarians can make to data management. It was acknowledged that libraries are well placed in the data management life cycle as trusted and highly regarded services within their institution and they have track records for strong client relationships.

The groundswell is building and librarians are in a great position to ride the wave of the data revolution.

View the presentation at: eresearchau.files.wordpress.com/2012/11/01_kate_byrne.pdf

In brief

Seen something fishy?

Redmap has gone national allowing people from all over Australia to log their ‘fishy’ sightings! Redmap encourages the fishing and diving communities to report sightings and upload photos of marine life that aren’t usually found in their local waters. These sightings will help reveal whether fish are ‘shifting their range’ in search of cooler waters as seas become warmer in a changing climate. The concept of citizen science is gaining momentum with ABC PM, ABC News and the Conversation all recently featuring stories on Redmap. For more information on Redmap, the national launch or to see more on their media coverage visit: ands.org.au/news/redmap.html

Award for Research Hub

Griffith University’s Information Services’ eResearch Services team has been recognised for their work with the Griffith University Research Hub by taking out the prestigious 2012 VALA Award. The Hub—launched in June 2012—allows users to search for Griffith’s academic staff, their publication histories and research projects. For more information on the Research Hub visit: research-hub.griffith.edu.au

Capitalise on existing librarianship knowledge bases such as classification, metadata schemas, ontologies, taxonomies and thesauri...
**Forthcoming events**

**ANDS events are back for 2013!**

This year is shaping up to be an exciting mix of ‘tried & tested’ events as well as a raft of new activities!

After the great success of the full events calendar last year it was clear that our partners (near and far) really value the varied formats and channels, general interest topics, themed series, and small community events.

Included in the ‘tried & tested’ list of events is the highly popular Seeding the Commons Weekly Clinics, the Data Citation webinar series, the bimonthly Licensing Discussion webinars and state/project based community ‘get-togethers’.

New in 2013 will be on-demand virtual training clinics for RIF-CS and Trove/TIM; Geospatial and Identifiers webinars; Linked Open Data Melbourne: DEV8D Down Under meet-up; and workshops for special interest groups, just to name a few.

Bookmark the ANDS Events page ands.org.au/events/index.html and look out for the weekly email updates as more events and activities are added.

Want to catch up on events you might have missed last year? Check out the ANDS Youtube channel (youtube.com/user/andsdata) or the ANDS Audio-Video recordings page (ands.org.au/presentations/audio-video.html)