

# ANDS out and about - report on completed ANDS-funded projects

## Accessing Architecture Collections

Andrew Williams, ANDS

In August, the Architecture Museum at the University of South Australia successfully completed an ANDS-funded project to improve the management of Museum collection records and significantly increase their visibility online.



Dr Julie Collins, Collections Manager at the University of South Australia's Architecture Museum, with some of the Museum's holdings

The Architecture Museum's data collections differ from many collections around which ANDS projects are based; they are all hardcopy artifacts, including drawings, models, and prints relating to private architectural practitioners. This material first began to be collected in the mid 1970s by architectural historian, Donald Leslie Johnson, and the collection has now grown to over 200,000 items.

Collections and data held by the Museum primarily attract interest from architects, planners, builders, humanities scholars, historians, students, archaeologists, heritage professionals and genealogists. They generally seek information on either an individual architect or firm, or a particular building by an architect.

Museum records were previously online in the form of PDF finding aids on the University of South Australia website. Architecture Museum collections are now visible through Research Data Australia, and also through an online interface to Metatecture, the system developed during the project. The main benefit of the harvest of metadata about the Architecture Museum's holdings into Research Data Australia is increased discoverability. When a Google search takes people to the Research Data Australia page of one of the Museum's collections, they

can use the links to find out more about the Architecture Museum and its other collections, as well as link to further information about the architect whose data they are looking for. It is a much more interactive process now, enabling researchers to make more links, both within the data and to other data about the research topic.

The Museum has already digitised some artifacts in response to user requests, and it is anticipated that demand for digitisation will grow now that the collections are visible online, and can be discovered by researchers who cannot physically visit the Museum in person to see artifacts.



Some items from the University of South Australia's Architecture Museum's data collections

Architecture Museum staff sees this successful project as the start of much more online work around architecture, involving researchers and other institutions with holdings related to architecture. They see the potential for a single portal view onto all relevant holdings, possibly based on a roll out of Metatecture into other organisations. This would amount to a virtual Australian museum of architecture, and such a portal might also act as a locus for collaboration around architectural research through facilitating and hosting various research-related activities. The research would not necessarily be restricted to architecture; architectural data is also of value to researchers in other disciplines, including history, other design disciplines, and research related to any activities conducted in and around the built environment.

Metatecture: <http://www.metatecture.unisa.edu.au/Public/>

Architecture Museum: <http://www.unisa.edu.au/artarchitecturedesign/architecturemuseum/default.asp>

Architecture Museum on ResearchData Australia: <http://services.ands.org.au/home/orca/rda/view.php?key=102.100.100%2F4484>

## New Data System Impacts National Climate Research

Debra Truin, Monash University

Many accolades may come to highly successful researchers, but the core motivation of good research is overwhelmingly a passion and dedication for the particular disciplines in which they participate.

Monash University climate scientists, Associate Professor Jason Beringer and Dr Peter Isaac from the School of Geography and

Environmental Science, were among those who answered the call from the ANDS in 2010 to identify key software development projects aimed at solving data management problems for major projects.

A total of eight data capture projects were funded by ANDS at Monash University involving partnerships with the Monash e-Research Centre (MeRC) and the Monash University Library. Of these, \$150,000 was allocated for the capture and publication of Australian ecosystem data through the OzFlux network of measurement sites.

"Initially our motivation was to assist Monash researchers involved in OzFlux..." Dr Isaac said.

OzFlux (<http://www.ozflux.org.au/>) is a \$2.3m initiative of the Terrestrial Ecosystem Research Network (TERN) under the Commonwealth's NCRIS funding initiative of 2008. It aims to increase the number of ecosystem measurement towers throughout Australia to up to 20 sites, enabling broader national climate measurement, and research into energy, carbon dioxide and water exchanges between the biosphere and the immediate atmosphere.

"...however, to ensure the OzFlux project would succeed in the longer term, clearly demonstrating a return on tax-payer investment, there was a need to create a coordinated data system; capable of downloading, archiving and appropriately publishing the data online," Dr Isaac said.

"Part of the ANDS-MeRC solution was to ensure data could be securely archived and backed up at the Monash Large Research Data Store infrastructure (LaRDS)."

Training time for new, less-experienced site scientists who must pre-process the data has been dramatically reduced by standardised online and open source solutions, and the data format, Network Common Data Form (NetCDF), is also commonly used by climate researchers.

Of the recent TERN-funded projects, OzFlux will be one of the first with the ability to automatically register data with Research Data Australia, ensuring it is discoverable by broader national and international research communities.

"Improving the accessibility of OzFlux information is certainly exciting as we are part of the larger international FluxNet network, while improved accessibility to climate data is critical if we as a species are to have an opportunity to understand the enormous impact we are having upon our planet," Dr Isaac said.

## Chair's report – Ron Sandland

The importance of the ability to access and use large and complex data was at the fore in a conference Ross Wilkinson and I attended recently in Adelaide. The conference was the National Data Linkage Forum sponsored by the South Australian Department of Education and Children's Services. Its theme was ambitious: using administrative data to improve education outcomes for Australians. Many ideas emerged from the conference but none more important than using data to drive policy formation. Global studies clearly link critical national outcomes: health; prosperity; social harmony, and productivity to early (indeed very early) educational experiences of the developing child. These decisions will underpin the maintenance of civil society. But gathering, collecting, accessing, linking the data that exists requires a data infrastructure to enable it to happen.

The data resources that already exist (e.g. the National Assessment Program–Literacy and Numeracy (NAPLAN) and the Australian Early Development Index (AEDI)) will go a long way to providing the basic resources needed to do this. But like health data, which will itself form an important part of the data estate, confidentiality requirements will dictate the need for a careful approach and privacy-preserving data linkage techniques will form an important part of the toolkit.

There are many hurdles to be overcome before this data-driven world can take shape, such as the development of priority tasks and data analytic skills in the educational research community. But previous Department of Innovation, Industry, Science and Research (DIISR) investments, through National Collaborative Research Infrastructure Strategy (NCRIS) and Super Science—Population Health Research Network (PHRN), Australian National Data Service

(ANDS), National eResearch Collaboration Tools and Resources (NeCTAR) and Research Data Storage Infrastructure (RDSI)—means there is already significant infrastructure capability to build on. And the warm support, in their respective opening and closing speeches, by the South Australian Premier-Elect, Jay Weatherill and Federal Minister, Kate Ellis, were very positive indicators.

The exciting world of data possibilities was given a new twist at the forum in the terrific talk by Dr Nick Gruen. He described Kaggle (<http://www.kaggle.com/>) which "is a platform for data prediction competitions that allows organisations to post their data and have it scrutinised by the world's best data scientists". It gives a really interesting view into a world where data and the predictive aims of a sponsoring organisation are posted with a prize, in one case \$3 million, for the best solution. In some ways the idea is not unlike that of Linux, where many software developers contribute in a competitive way to the Linux core. Many of the best solutions to have emerged in Kaggle have been from people with no formal data analytic training.

But none of this is possible without the ability to provide access to the data. And that is where capabilities like ANDS come in.

In my last Share article, I said:

"With appropriate investment in national infrastructure, the data-intensive science of the future will be an exciting place for researchers."

I think those of us who work with ANDS can be rightly proud of the role we can play in making this world a possibility.