

**SPAN's mission is to achieve excellence in the application of innovative spatial analysis in support of research, education and community outreach**

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## Manager's Message

Well here it is only six weeks until Christmas and I am left wondering where 2005 went!

With the end of semester upon us it is timely to remind CSU researchers that we have some equipment that may be useful in their research projects available for loan. This equipment includes GPS units, a field portable rugged laptop computer with touch screen input and a spectroradiometer. We also have software, such as ArcGIS, SPlus statistics, and ENVI image processing, available for use on either network connected computers and laptops or for home use of researchers. Just drop in or contact us to arrange access.

Finally I would like to thank SPAN's dedicated team of staff for all their hard work throughout the year. I am sure that all our clients join with me in wishing them the best for the festive season.

Merry Christmas and Happy New Year to all from SPAN.

*Gail Fuller*

SPAN is a research support unit within the Division of Research and Graduate Training at Charles Sturt University. It has offices at Thurgoona, Bathurst and Wagga Wagga campuses to provide postgraduate and staff research support in three main areas: remote sensing, Geographic Information Systems (GIS) and spatial statistics.

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## Can SPAN help you?

SPAN might be able to assist your research in ways you do not anticipate. From simple data retrieval and map making to complex spatial and statistical data analysis, SPAN is available to enhance the quality of your research. If you are a researcher, academic or postgraduate student at Charles Sturt University and believe that some aspect of your research might be assisted by using our skills, do not hesitate to contact your local SPAN representative.

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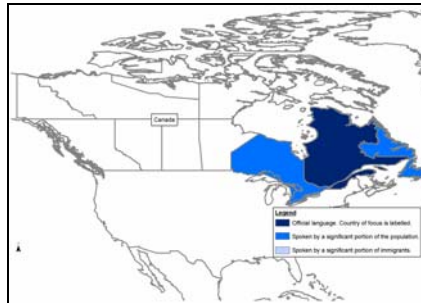
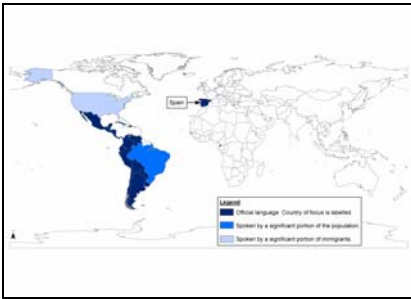
**Want to know more? Visit [www.csu.edu.au/research/span/](http://www.csu.edu.au/research/span/)**

# Education Projects

## World Languages

**Researcher:** Sharynne McLeod, School of Teacher Education

A globally-produced forthcoming book, of which Sharynne is both a contributor and editor, will describe the languages of various countries throughout the world. Each chapter is devoted to a particular language and/or country and SPAN's role was to map the global and/or regional extent of each language on a scale according to whether it is an official language, spoken by a significant portion of the population or spoken by a significant portion of immigrants. Two of the book's fifty maps are shown below: the global distribution of the Spanish language is shown at left and the Canadian distribution of Québec French is shown at right.



## Numeracy, Youth and Employment

**Researcher:** Robyn Zevenbergen, Murray School of Education

This (ARC Linkage) study investigated the numeracy practices of contemporary work. As part of the study a survey was developed, to which there were almost 1000 responses. SPAN has been analysing this data to identify key differences and trends among and between cohorts of respondents. What has emerged from the data is that the teacher cohort is often different from other cohorts in how they identify important variables. Of interest to the project team is that the analysis conducted by SPAN is confirmed by the responses in the qualitative sections of the survey as well as by the other forms of data collected in the three-year study.

## Numeracy, ICT and Equity

**Researcher:** Robyn Zevenbergen, Murray School of Education

This ARC project has been exploring how Information and Communication Technologies (ICTs) are used in contemporary mathematics classrooms to support middle years' students learning mathematics. As part of the study, a survey was conducted among the participating schools. The schools were selected on the social demographics and their geographical location as well as their implementation of ICTs. SPAN has been analysing the data to explore trends across the cohorts — schools, gender, and years of experience as teachers — to identify any possible factors in the cohorts that may influence the uptake and use of ICTs in school mathematics.

# Data

## Mesh Blocks are Coming!

In response to requests for smaller geographic areas for census data, the Australian Bureau of Statistics (ABS) will introduce mesh blocks (MBs) in the distribution of the 2006 census data. MBs are much smaller than census collection districts (CDs), allowing GIS users to perform more micro-scale data analysis. However, not all census statistics will be available at MB level. ABS is currently running information sessions on MBs throughout the country, with SPAN's Gail Fuller recently attending a session in Canberra. The map below shows the difference between CDs and the draft MBs in Bathurst, with the red borders representing 2001 CD boundaries and the grey borders the draft MB boundaries.



## Spatial Data Websites

The volume of spatial data available on the Internet is rapidly growing. These sites may help you obtain spatial data for other countries:

- [www.geographynetwork.com](http://www.geographynetwork.com), ESRI's data resource
- [www.geocomm.com](http://www.geocomm.com), select the GIS Data Depot
- [www.iscgm.org/index.html](http://www.iscgm.org/index.html), simply register and download
- Google "WFP GeoNetwork" for the World Food Program's Asia spatial database.

# Environmental Projects

## Managing Constructed Wetlands for Waterbird Conservation

**Researcher:** Rob Suesse, School of Environmental and Information Sciences

There were two main aims for this project. The first investigated how visitor groups affected waterbird species at the Wonga Wetlands and the second was to determine the amount of habitat available at different water depths to suit waterbirds. Through the help of SPAN, visitor impacts on waterbirds were quantified using S-Plus while ArcView GIS 3.3 was used to determine the area of habitat available for the waterbirds at different water depths.



## Interactions between Frugivores and their Resources

**Researcher:** L. Barea, School of Environmental and Information Sciences

This project will investigate the relationship between the spatial distribution of mistletoe resources and the spatial distribution of foraging sites for painted honeyeaters. These birds eat the mistletoe fruit and are a primary disperser of mistletoe when they defecate the seeds. SPAN will provide equipment and support in the analysis of these relationships as a point pattern process.

## Central West Regional Development Board

**Researcher:** Western Research Institute

The Central West Regional Development Board (CWRDB) enlisted WRI to create an investment prospectus that would provide a simple snapshot of employment and industry information. SPAN assisted WRI by obtaining data and creating a map of the Central West's major centres and intermodal rail terminals. A section of this map is shown below.



# News

## Software

SPAN has recently obtained updates of ENVI, Matlab and S-PLUS. ENVI, which is used for data visualisation and image analysis, has recently upgraded to version 4.2. Matlab has a new toolkit known as Partial Least Squares. Contact Gary McKenzie if you require further information. Finally S-PLUS 7 is SPAN's latest software upgrade, which is a big step from the previous version 6.2. Contact your local SPAN representative for any of these upgrades or for further information.

## Harvard follows SPAN's Lead

Fifteen or so years after CSU recognised the potential of spatial analysis by creating SPAN's precursor, Harvard University has established the Center for Geographic Analysis in their new Institute for Quantitative Social Science. For more information visit <http://www.gis.harvard.edu/icb/icb.do>.

## SPAN Additions

Although the SPAN team consists of only five, the SPAN family grew by two during the past couple of months. Congratulations to Craig Poynter and his wife Philippa on the birth of their baby son Felix, who was born on Father's Day and is their first child.

Congratulations to Steven Gibbs and his wife Kirsten on the birth of their daughter Rosalie Anne. Rosalie was born on Wednesday 7 September and is their second child, with Alyssia becoming a very proud three-year-old big sister. Good luck to both families for the coming years and sleepless nights.

# Conferences/Visits

## Institute of Australian Geographers Annual Conference Monday 18 July to Friday 22 July 2005, University of New England

IAG held their 34th annual geographers conference at the Armidale campus of UNE. The conference theme, *Geographies for Sustainable Futures*, provided the platform for geographers across Australia and around the world to showcase the latest research into physical, environmental and human geography. SPAN's Steven Gibbs attended the conference, participating in sessions on GIS and spatial modelling, rural policy and communities, world economic development and a plenary session on spatially integrated social science. The latter session described an ARC Research Network initiative (known as ARCRNSISS — see [www.siss.edu.au](http://www.siss.edu.au) for more information) that seeks to bring spatial social science researchers together in a constructive and practical way to use spatial science as a tool to solve some of society's problems. The conference also included a field trip to Guyra and surrounding districts, with a trip to Australia's largest glasshouse (a tomato-growing complex covering five hectares) a particular highlight. The next IAG conference will be a joint affair with the International Geographical Union (IGU) in July next year. The involvement of IGU will make next year's conference about three times bigger than this year's.

## The Community and Catchments Conference

Institute of Land, Water and Society, Charles Sturt University  
Thursday 18 August 2005, Wagga Wagga campus

The Community and Catchments Conference was the recently-formed ILWS's first attempt at bringing together CSU researchers and representatives from industry, the public sector, organisations and the general public. SPAN's Steven Gibbs, one of 19 speakers at the conference, presented on the possibilities of using GIS in social research projects. The presentation provided a brief overview of GIS before describing how GIS was applied to addressing many of the problems uncovered in the Rural (Teacher) Education Project, a three-year project for the School of Teacher Education at CSU. Other topics covered at the conference included social power relations in regional communities, farming values, social capital in landcare, engaging landholders in conservation and the social impacts of drought. The ILWS brings together expertise in CSU's Centre for Rural Social Research and the Johnstone Centre.

## SPAN Visits Dubbo Campus Friday 4 November 2005

Hot on the heels of SPAN's inaugural visit to Dubbo campus earlier this year to advertise our support services, Steven Gibbs conducted a day-trip to the inland town to discuss research projects with Dubbo researchers. Cathy Maginnis, Lyn Croxon, Kay Owens, Patricia Logan-Sinclair and Maria Bennett were among the group of Dubbo researchers who discussed what SPAN can offer in terms of data, equipment and research support. If you would like more information about the research support services provided by SPAN, contact your local SPAN representative or Gail Fuller on [gfuller@csu.edu.au](mailto:gfuller@csu.edu.au).

# Upcoming

## World GIS Day

On Wednesday 16 November GIS-users around the world will showcase GIS at various World GIS Day events. GIS Day takes place every year on the Wednesday of USA's National Geographic Society's Geography Awareness Week. The official website is [www.gisday.com](http://www.gisday.com). Locally, the Riverina Eastern Regional Organisation of Councils (REROC) will be conducting workshops and displays at The Lawson in Tarcutta Street in Wagga Wagga. Cost is \$55 per head. Contact REROC for more information on 02 6931 9050 or email - [jbriggsa@wagga.net.au](mailto:jbriggsa@wagga.net.au).

## TechNet 2005 Conference

In 2005 CSU has the special privilege of hosting the 7th TechNet National Conference for technical and information technology staff. TechNet will be held on December 1st and 2nd at Wagga Wagga campus and will attract delegates from across Australia. You can register now for the TechNet Conference. Just go to <http://www.csu.edu.au/technet> and complete the internal delegate's registration form.

The theme of the conference is 'active involvement, pushing the boundaries'. Patron of TechNet 2005 is Professor David Battersby, CSU's Deputy Vice-Chancellor Administration.

This is an excellent opportunity for CSU technical and information technology staff to network with colleagues from other universities and to share innovations and experiences. Program and speaker details have been posted on the web site <http://www.csu.edu.au/technet>.