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Projects

SPAN has been assisting Kat O'Bryan with statistics and site maps for her honours project on bryophytes and lichens in grassland ecosystems. This study has been looking at the effects of different management regimes, such as burning and mowing, on grassland structure and the flow on effects on soil bryophytes and lichens.



Cathy Waters is conducting a genealogical study of the Australian native grass, *Austrodanthonia caespitosa* (Gaudich.) H.P. Linder, in central western NSW. Her PhD research examines various scales of genetic diversity (molecular, cytological and morphological) and adaptive variation and the relationship of these factors to the environment. A major outcome from this study will be the development of guidelines for the utilisation of wild land harvested seed in revegetation and restoration programs. SPAN is providing assistance with S-Plus scripting to re-format and combine data to allow further analysis. SPAN has also provided assistance with GIS data and the creation of distribution maps.



Equipment

SPAN has recently purchased a rugged digital camera with an integrated GPS for field work.



The Ricoh Caplio 500SE is a high-quality compact digital camera which is water, dust and shock resistant. The 8-megapixel camera has a 3x wide-zoom (28 – 85mm equivalent) lens which does not extend out of the sealed housing so it remains protected from any dust or dirt. Its built-in flash has an effective luminosity distance of up to 10m.

In addition to the GPS location, up to five attribute fields can be created and attached to each image using GPS Photo-Link software.

This camera has proven to be very popular with researchers since its arrival, and as a result a second unit has been purchased which will be kept at the Thurgoona SPAN office.

Combined with the Toughbook rugged computer, SPAN can provide a complete kit for recording and processing your field work on site.

To borrow any equipment go to http://www.csu.edu.au/research/span/resources/equipment_request_form.htm and complete your details or contact SPAN.

Projects

SPAN is assisting Terry Korodaj with his honours research into how the Yellow-footed Antechinus, a marsupial whose habitat is associated with fallen timber, responds to different amounts and types of fallen timber in woodland remnants. The study was carried out on private landholdings in the Upper Billabong Creek Catchment near Holbrook in southern NSW. Initial results suggest that hollow-bearing logs influence the behaviour of Antechinus at very fine scales and increased numbers of hollow-bearing logs are related to higher numbers of Antechinus within woodland remnants. SPAN provided assistance with statistics and mapping for Terry's project.



Regional Governance Futures Project – a case study of regional governance in the Australian federal system.

There has long been debate over whether the different roles undertaken by government are being fulfilled at the right levels and whether each level of government has the capabilities and resources to achieve the tasks. How different levels of government might be better encouraged to work together and how the Australian federal system might evolve in the medium-to-long term to help deliver improved governance outcomes on a range of issues are also important considerations.

This ARC funded national research is a joint project between Griffith University, CSU, the University of New England, the University of Melbourne and the University of Queensland, that examines the challenges and opportunities faced by local and regional governance as the federal system evolves in response to pressures. The Regional Governance Futures case studies aim to produce a more accurate description of how regional governance currently works, to support discussion about institutional reforms to the federal system as a whole and how this can deliver better governance outcomes at the regional level, as well as locally and nationally.

SPAN is involved in sourcing, collating, analysing and mapping social and spatial data for the project.

Software

Current versions of software that are available to researchers from SPAN include:

- ArcGIS 9.2 – includes ArcView, ArcEditor and ArcInfo for visualising, analysing, creating, and managing data with a geographic component. A number of extensions are included to give additional analytical functionality.
- ENVI 4.3 - software for the visualisation, analysis, and presentation of all types of digital imagery. This image-processing package includes advanced spectral tools, geometric correction, terrain analysis, radar analysis, raster and vector GIS capabilities and support for images from a wide variety of sources.
- S-Plus 7 - data analysis and statistical modelling software that includes a comprehensive set of exploratory data analysis functions and methods that enable analysts and researchers to perform more insightful analyses, create revealing graphics, and make more informed decisions. An upgrade to version 8 is expected soon.
- MATLAB – technical computing, modelling and simulation software, including control design, image processing, signal processing and communications, test and measurement, computational biology, financial modelling and analysis, all in the one package with the same interface.

Should you wish to use any of these software packages, please complete the software request form at:

http://www.csu.edu.au/research/span/software/soft_req_form.htm

or contact SPAN to discuss your requirements.

Conferences

DEPARTMENT OF
PRIMARY INDUSTRIES

PLACE & PURPOSE –



SPATIAL MODELS FOR NATURAL RESOURCE MANAGEMENT AND PLANNING

Wednesday 30th May – Thursday 31st May 2007 at The Capital, Bendigo Victoria

SPAN's Simon McDonald, along with Spatial Science lecturer Rachel O'Brien, recently attended the Place and Purpose Conference at Bendigo. Hosted by the Victorian Department of Primary Industries, the conference aimed to present spatial tools and approaches for analysing natural, agricultural and urban landscapes to assist in decision-making for natural resource management. 'New Dimensions for Agricultural Landscapes', an initiative of the Victorian DPI's Our Rural Landscape project, has been researching land use change and impact modelling, ecological modelling and ecosystem function, 3D landscape visualisation, peri-urban land use change, and frameworks for analysing landscapes. Most of the presentations were very relevant, having much in common with CSU research projects. Presentation topics included "Natural Resource Knowledge Management", "Landscape Analysis and Visualisation", "NRM Policy & Investment", "Approaches to Ecological Modelling", "Landuse Change and Scenario Modelling", "Farm Catchment Tools" and "Social, Economic and Environmental indicators and Landscapes". Further information can be obtained from:

<http://www.dpi.vic.gov.au/dpi/vro/vrosite.nsf/pages/placeandpurpose>

Newtech

Mansfield, 24 May 2007

Newtech rural and regional conferences, organised by the Victorian Department of Sustainability and Environment and supported by the Spatial Sciences Institute (Victoria), are designed to provide accessible, stimulating and valuable learning and business opportunities for people involved in the use and development of land and spatial information. The aim is to provide a forum for people to keep abreast of government policies and directions, to stimulate professional development and to promote new technologies. Presenters at this conference came from local and state government as well as private organisations and included representatives from the Victorian Department of Sustainability and Environment's Spatial Information Infrastructure and Fire and Emergency Management sections, Victoria Police, Country Fire Authority of Victoria, Emergency Services Telecommunications Authority and several regional councils and utilities.

Following a very severe fire season, a number of the presentations focused on the role of GIS, remote sensing and other spatial technologies in collecting analysing and distributing vital up-to-the-minute maps and information to personnel at the fire fighting front and affected communities. This rapid and reliable exchange of fire information helped to ensure the most efficient and effective utilisation of resources in protecting property, infrastructure and most importantly people.

Data

CENSUS 2006

The Australian Bureau of Statistics (ABS) has announced that it will be releasing the first data from the 2006 Census of Population and Housing on Wednesday June 27th. A new range of internet products has been developed by the ABS to cater for varying levels of expertise and experience among census data users. All Census data on the ABS website is available for free. Census data can be found by using one of the following online products:

- QuickStats – a quick and simple summary of key Census statistics relating to people, families and dwellings;
- MapStats – a range of Census thematic maps based on larger geographies depicting selected population, ethnicity, family, income, labour force and dwelling;
- Census Tables – a product that offers Census data in a single table for a specified geographic area.

More products will be available online in the future:

- Community Profiles – a series of tables providing key Census characteristics related to people, families and dwellings, covering most topics on the Census form;
- CDATA Online – a sophisticated product which gives expert users freedom to select and combine geographic areas from a single collection district through to entire states or all of Australia;
- Table Builder – aimed at experienced users of Census data, this will be a subscription only service that will allow design and population of individual tables through an interactive web interface.

SPAN will continue to be the main Census data contact within CSU and will subscribe to Table Builder services when available.