Spatial Data Analysis Network Newsletter

February 2002

Mission: *"To achieve excellence in the application of innovative spatial analysis in support of research, education and community outreach."*

SPAN News

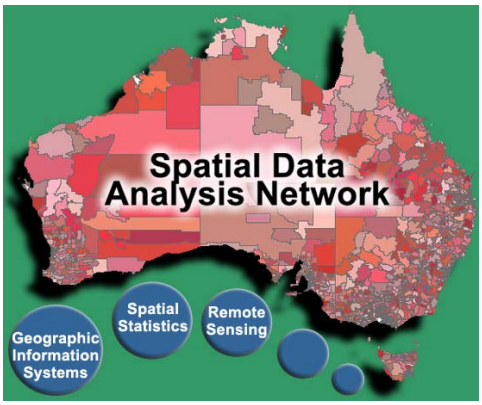
New Staff Member for SPAN Bathurst

Arthur Read has recently been appointed to the position of Spatial Analysis Officer at Bathurst Campus. Arthur has for the past 4 years been a student in the environmental science degree (GIS/RS strand) at the Wagga Wagga Campus of CSU. During the last year he completed his honours.

Arthur has skills in GIS and remote sensing, including extensive experience in the customising of ArcView GIS. Arthur's main interests lie in environmental applications of spatial technology but he sees working with SPAN as an opportunity to work in a wide range of GIS/RS projects.

Arthur can be contacted on 84676 or aread@csu.edu.au

Get all your SPAN Info Online



SPANs web page has had a facelift. The old site was showing its age so we are currently doing a comprehensive update.

Our aim is to make the new site a place that helps people make use of SPAN.

The new site will replace the old one shortly, so check regularly at…

www.csu.edu.au/division/dit/span

ArcGIS anyone?

Staff from SPAN recently spent 5 days training in the use of the new ESRI GIS software ArcGIS 8.1.

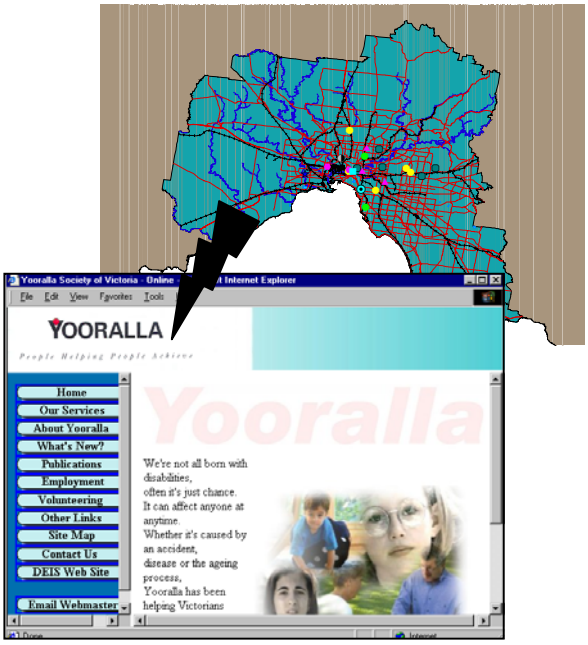
The new software has all the functionality of ArcInfo combined with an easy to use windows based interface. Plans are currently under way to use ArcGIS to provide users with access to SPAN's extensive spatial database.

If you use GIS then speak to a SPAN staff member about how ArcGIS can help in mapping your world.

Spatial Database of Health Service Providers

Researchers:
Libby Clark – School of Community Health
Simon McDonald – SPAN

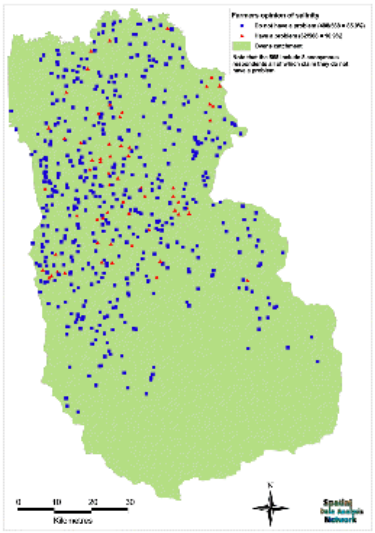
Project:



A customised Arcview spatial database project has been produced so that third year practical students and in future, the wider community, can find out information on specialist service providers in their region. This project incorporates Arcview 'hotlinks'. With these - at the click of a button - the symbols on the regional maps link to websites, in-house or external, on that service provider. Services include support for the following: Acquired Brain Injury, Advocacy, Behaviour, Intellectual, Literacy, Physical, Psychiatric, Sensory, Technical and General.

Tools: Geographical Information Systems.

Ovens Catchment Salinity



Researchers:
Alan Curtis - Johnstone Centre
Megan Graham - Johnstone Centre
Ian Byron - Johnstone Centre
Simon McDonald - SPAN (co-author)

Project:

This is a social research project looking at Landholder Willingness and Capacity to manage Dryland Salinity in the Ovens Catchment in Victoria. The study included comparing the location of farmers who believed they had a salinity problem with "expert maps" of salinity discharge. This project is now in its final stages before publication and will be presented to the North East Catchment Management Authority of Victoria.

Tools: Geographical Information Systems.

Ovens River Flood Study

Researchers:
Alistar Robinson - Johnstone Centre
Arthur Read - SPAN

Project:

The Johnstone Centre has applied for an Australian Research Council grant to test the flood pulse concept by investigating the response of food webs to flood events on the Ovens River.

SPAN analysed the flow record for the Ovens River to provide a basis for the sampling design in this project. It is anticipated that if the application is successful then SPANs involvement will continue.

Tools: Excel VBA scripts

Revegetation Guide

Researchers:
Gillean Earl - Johnstone Centre
Kylie Kent - Johnstone Centre
Simon McDonald – SPAN (assistant)

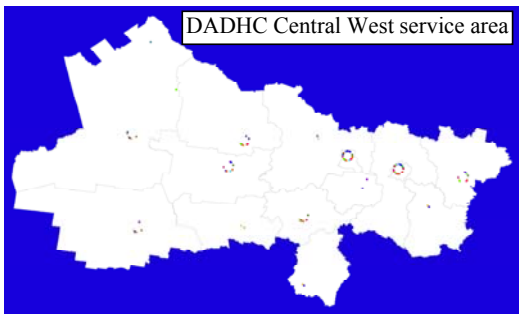
Project:
This project is committed to the creation of a revegetation guide for the Riverina. It includes the mapping of bio-regions in ArcView. It has also included surface interpolation of rainfall figures for the region.

Tools: Geographical Information Systems and Spatial Statistics.

Department of Ageing, Disability and Home Care (DADHC)

Researchers:
Craig Poynter – SPAN

Project:
SPAN has been assisting the regional service coordinator for DADHC with a GIS project involving the visualisation of DADHC services within the regional service area, covering approximately 70% of New South Wales.

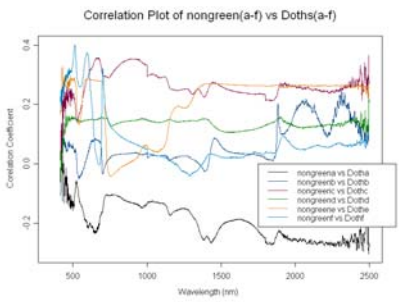


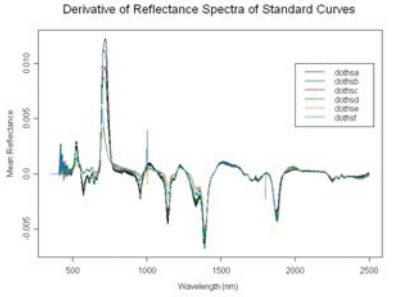
The implementation of a GIS system will allow the coordinator and DADHC service staff to interpret the distribution of services provided, funding allocations and service provider information.

A pilot application was applied to 14 local government areas within DADHC's Central West area of operations. Following feedback from a pilot project, work will be commenced for the Orana, Far West and Riverina areas (covering approximately 52 local government areas).

Tools: Geographical Information Systems

Remote Sensing Statistics





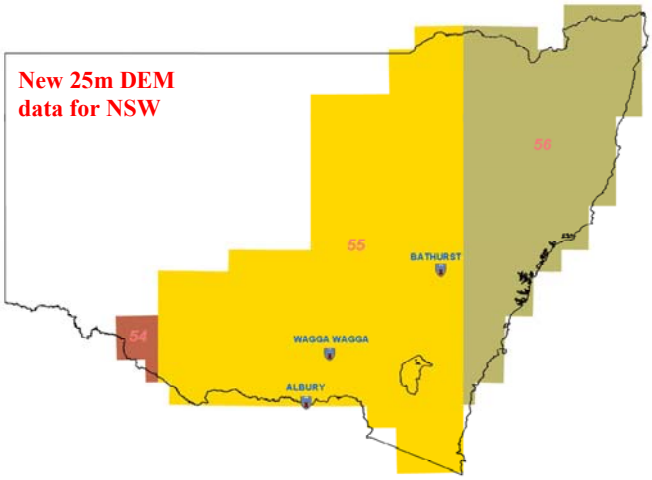
Researchers:
Christine Stone - State Forests of NSW
Laurie Chisholm – University of Wollongong
Simon McDonald – SPAN (co-author)

Project:
Analysis has been directed in the study of spectroradiometric data of *Pinus radiata* to identify the spectral signatures of those trees with and without 'needle blight'. This research will enable researchers and representatives from departments like State Forests of New South Wales, to use aerial photography to identify areas in pine plantations that need to be treated for 'needle blight'.

Tools: Remote Sensing and Statistics in S-Plus.

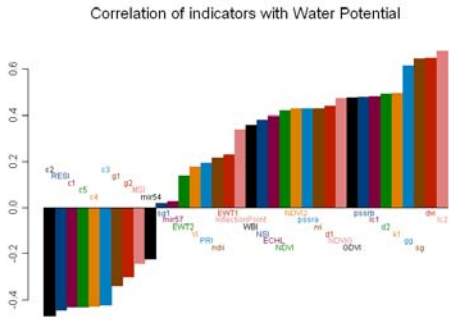
New Topographic and DEM Data

SPAN recently finished processing new Digital Elevation Model and topographic datasets for NSW purchased from Land and Property Information, Bathurst. Datasets will be distributed into specific categories in preparation for SPANs adoption of ArcSDE, which will allow users to access digital datasets from their office computers.



S-Plus News

Researchers are now able to access through SPAN an S-Plus script that will read in, convert, average and analyse spectroradiometric data. It will allow you to explore for and create spectral indicators as well as automate linear modelling based on those indicators and a dependent variable. This script is Graphical User Interface (GUI) allowing ease of use for all users.



If you wish to process data or automate any mathematical/statistical tasks, please let Simon at SPAN Thurgoona know and an S-Plus script and knowledge how to get the software will be on it's way.

MADIS

MADIS (Multispectral Airborne Digital Imaging System) is leased to Terrabyte Services of Wagga Wagga to fund continuing parallel development. MADIS had its first two commercial flights in February. Over April a new camera mount will be constructed, in the Faculty of Science and Agriculture workshop, to eliminate an obstruction to its field of view.

Corrections for the system are considered equivalent or superior to what was in use for our old airborne video system. Research and development will continue towards the goal of ground reflectance imagery. Ground reflectance imagery would eliminate the effects of seasonal changes in sun illumination and atmosphere, allowing comparison of imagery over time.

Census workshop by Australian Bureau of Statistics (ABS)

The ABS Presenters are:
Frank Blanchfield - Director Geography
Trish Carroll - Assistant Director Area Classification
Alec Bamber - Manager National Localities Index
Workshop:

The workshop will cover examining the spatial units which best suit researchers' census data needs; understanding the limitations of statistical geography and how to work within them; critical evaluation of different approaches to comparing statistical data for incompatible areas. . The workshop will be hosted by the Spatial Data Analysis Network and is aimed at research students and staff.

Goals of the workshop
¨ Introduce concepts of statistical geography
¨ Describe the variety of geographic units used in the Census
¨ Explain why, when and how the different units should be used with some practical examples from CDATA
¨ Examine the problems of comparing data over time and for incompatible areas with some practical examples from the IRDB
¨ Evaluate some possible solutions, with some practical examples from the IRDB
¨ Look at the future of the statistical model and how it can be integrated with the cartographic model

The details:
Wagga Wagga
Tuesday, 26th March
1:00 - 5:00 p.m.
James Hagan Court, Building 475

Please email Siti Amri on samri@csu.edu.au to register.

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