

TEMs Links



Christmas 2005

VOLUME 6 ISSUE 3

CC's Corner

Dear All

Welcome all to another bumper issue of TEMS Links. Current students are now looking forward to break from assignment work and a wonderful Christmas Break, aren't you all (!)



I am flat out at a conference working with research collaborators at Monash and look forward to seeing you all in the New Year. Have a wonderful holiday and best wishes for the festive season.

That's it from me, hope your semester went well.

Regards,
Lindsay Hutley
Course Coordinator
CDU, Darwin



Merry Christmas from Savanna Santa

INSIDE THIS ISSUE:

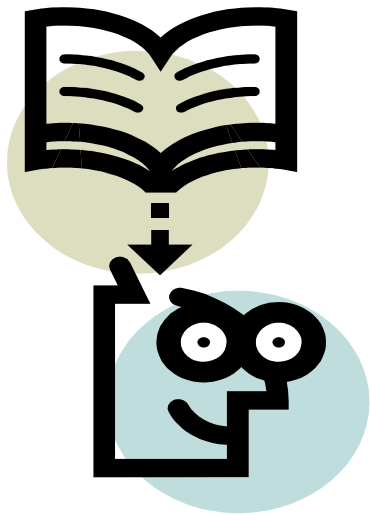
Christmas Island Adventure
Professional Doctorate Accredited
CDU Alumni
Thesis Submissions
TEM Graduate Updates
TEM Student Updates
The TEM Educators
Websites
Conferences
Short Courses
Book Review
International Cloud Experiment

TEMS LINKS

- *Aims to keep students and graduates of the Tropical Environmental Management Program in touch with each other and with staff in the course*
- *Contributions from students and others are always welcome, and should be sent to*

TEMS Links
C/o Dr Penny Würm
TS-CRC Higher Education
Program
CDU, Darwin NT 0909
Tel 08 0946 6355
Fax 08 8946 7107
penny.wurm@cdu.edu.au
or

Cheryl Arnott
TS-CRC, CDU
Tel 08 8946 6834
Fax 08 8946 7107
cheryl.arnott@cdu.edu.au



New Professional Doctorate Accredited at CDU for 2006

We are pleased and excited to announce that the professional Doctorate in Tropical Environmental Management (DTEM) has been accredited at CDU.

This new DTEM includes 2 semesters of coursework, and a 4-semester research portfolio, which includes a professional placement. At least 1 unit of coursework must be completed at James Cook University and the University of Queensland. Before commencing their study, candidates will prepare a study plan that integrates all three components of the course and meets the DTEM objectives.

So what is a professional doctorate? To quote from the soon-to-be-released *DTEM Course Information Guide*, a professional doctorate is an equivalent, but different, qualification to a research doctorate. A professional doctorate is “a program of research, scholarship and advanced study which enables candidates to make a significant contribution to knowledge in their professional context” (Council of Australian Deans & Directors of Postgraduate Study 1998). In addition to sound research skills and critical understandings of literature, a candidate for a professional doctorate should demonstrate an understanding of the role of research in professional practice, broad practical knowledge, effective work practices and collaborative skills, and good presentation and communication skills.

The objectives of the DTEM are to:

- Foster understanding of the role of original research in professional practice
- Provide new opportunities for cross-disciplinary education, research and professional practice in tropical environmental management at an advanced level
- Acknowledge the role of government and industry contexts in generating new knowledge, by providing cross-organisational settings for scholarship and research
- Provide new opportunities for the development of a regional perspective on tropical savanna management
- Provide a further opportunity for progression for capable postgraduate coursework graduates wherever they live in the region

Links with industry will be ensured through:

- Requirements for candidates to collaborate with the users of research in developing the project proposal and /or setting of the research activity
- Professional placements, in which students apply problem-solving models in a new workplace
- Co-supervisory arrangements with industry for research supervision, similar to those required of TS-CRC-supported PhD students
- Inclusion of a communication strategy within project proposals
- Inclusion of industry partners in the development of the curriculum

We are very excited about this new program. If you would like more information, including fees, please refer to the CDU Courses Repository at <http://www.cdu.edu.au/>. If you type “professional doctorate” in the Search box, under the “Courses” option you will find it. Also you are welcome to contact the inaugural Program Advisers, Penny Wurm (penny.wurm@cdu.edu.au) or Lindsay Hutley (Lindsay.hutley@cdu.edu.au). A program information booklet is in preparation and will be available shortly. Let Penny or Lindsay know if you’d like a copy.

References

Council of Australian Deans and Directors of Graduate Studies (1998). *Guidelines: Professional Doctorates*. CADDGS.

Position Vacant

Project Coordinator (Rangelands Action Project)

Type of appointment: short term contract (approximately 6 –8 weeks). Hours negotiable.

Pay rate: \$840 / week

Contact: John Gavin 8648 5194 or 0427 584424 for further information.

Position Context

The focus of the Rangelands Integrated Natural Resource Management Group is to develop an integrated natural resource management (INRM) plan and investment strategy for the Rangelands region and to coordinate the implementations of actions in the plan

The position is located with the Rangelands Integrated Natural Resource Management Group and is based currently in Hawker (negotiable) while operating across the entire Rangelands Region. The position is responsible for the management of the overall project; including

- management of devolved grants applications;
- assessing proposals to ensure they have been completed as described in applications
- delivery of communications and consultation activities; and
- in some situations participating in on-ground works.

The Project Coordinator reports to the Rangelands INRM Group through the group Executive Officer. The Project coordinator works closely and cooperatively with staff members and members of the INRM group. This position also works closely with community members and various Department staff.

The role of the Project Coordinator for the Rangeland Action Project involves:

- Overseeing the Devolved Grant process.
- Coordinating groups to assist in areas such as feral control programs, rabbit control and re-vegetation of degraded areas.
- Assisting groups to prepare projects for on-ground natural resource management work.
- Acting as a link between landholders and available technical expertise.
- Administration of the Rangeland Action Project including correspondence, attendance at meetings and application writing.
- Monitoring and evaluation of the effectiveness of on-ground activities and reporting of project outcomes.

The role will achieve the outcomes at a regional level by:

- improving land managers information base
- supporting and promoting sustainable land uses
- encouraging a broader role in rehabilitation.

Northern Territory 's First Environment Protection Agency (EPA)

The CEO of the Tropical Savannas CRC, Professor Gordon Duff has been appointed to chair the board of the Northern Territory 's first Environment Protection Agency (EPA). Over the next two years this board will consult with the NT community and establish the modus operandi of the EPA in the Territory. We hasten to add that Gordon will remain CEO of the Tropical Savannas CRC!



The appointment was announced by the NT Minister for Environment and Heritage Marion Scrymgour on Wednesday 19th October. The NT EPA is an independent body created by the NT Government to ensure the protection and management of the environment. Ms Scrymgour said that a core function of the EPA will be to assist developers and industry understand and adhere to environmental regulations. The two other members of the board are Professor Donna Craig of CDU (Alice Springs) whose work focuses on how to make resource management law contribute to the better health, well-being and ecologically sustainable development of desert communities and arid lands; and Ms Judith King who is a non-executive director of NT Power and Water and chairs their Environment Committee as well as being a company director and business adviser with expertise in the growth and export of services.

Christmas Island Adventure



A beautiful Mahi Mahi (Dolphin Fish)

Paul Davey talking about his time on Christmas Island. Paul was a TEM graduate in 2003.

For the last two years I was posted on a small tropical island just south of Java in the Indian Ocean. The island has been compared to the Galapagos because of its unique assemblage of wildlife, most notably its many birds and land crabs. There I ran the environmental protection service under contract to the Commonwealth Government. Work entailed regulating environmental impacts from industry on both Christmas Island and the Cocos Islands which lay another 900km to the West. My duties involved issuing environmental licenses to operate various facilities as well as undertaking environmental impact assessments of proposals and maintaining constant communication with industry and the communities. Some of the biggest challenges on the island were resource use and waste disposal. Water was drawn from subterranean sources, and surface contamination could potentially affect the community's only supply of drinking water. The disposal of wastes such as asbestos, toxic, hazardous and everyday municipal waste was also a challenge as space was limited and leaching to the water table was always a threat. In a way the impacts we have as a community were a lot more evident on the islands and this meant that reduction, reuse, and recycling became essential to the way the communities operate. There are still large steps to be taken and like Darwin, things happen in good time!



Whale Sharks frequent the waters every year to feed on annual crab spawn



Many sharks frequent the deep reefs along the coast of Christmas Island

The main industry on the island is the phosphate mine. It is the major employer on the island and its closure in the near future threatens the viability of the island community. People there are looking at options to diversify income through tourism (particularly for diving which is known as one of the top 10 sites in the world), fisheries and hopes are to re-open the once highly popular casino. As with many isolated communities



The new IRPC Site being constructed

government subsidies have been essential to their survival and unless they achieve a level of autonomy (most likely through exploitation of their natural resources) then decisions by the Commonwealth will dictate the islands future. It has been a very interesting experience in human impacts associated with modern living. Our need to be smarter in our resource use and our need to be less wasteful were highlighted by the restraints yet to be realised in the greater world. I take with me these lessons and a new political savvy as I embark on my next adventure closer to home.



Phosphate mine conveyors at sunset

The CDU Alumni and You

Charles Darwin University Alumni

Charles Darwin University's Alumni has been set up to support and promote the interests of our graduates, and to foster an environment where members can contribute to the future of the University. Alumni provide a professional and social connection for all people who have contributed to Charles Darwin University, whether as a student, staff member or friend of the University or one of its predecessors.

Charles Darwin University Alumni currently has 6112 members with a progressively expanding membership base. This year's membership is expected to grow to over 7000 members. The University also has a number of off-shore courses with partner institutions in countries such as Malaysia. The Alumni welcomes membership to these graduates, staff and students and recognises the importance of keeping in contact with groups that would otherwise not have the opportunity to correspond with the University after graduation.

Charles Darwin University is the Territory's largest provider of post-school education and training, play an important part in the development of the Northern Territory, offering a range of prevocational, VET and short courses, as well as undergraduate and postgraduate programs and postdoctoral research fellowships. Having a university in the Territory means we can grow and develop our local talent for the benefit our community - we don't have to lose our school leavers to other states. Also, we can specialise areas that are important to our region, such as tropical knowledge, desert knowledge, and Indigenous and cross cultural knowledge.

Charles Darwin University is one of Australia's youngest. As such we have yet to accumulate endowments that will enable us to afford to support areas other than our core business, such as scholarships, performances or the art collection.

In 2005 the Alumni Office is running its first Alumni Appeal, which will be continued annually. 4523 appeal letters along with the current issue of Origins magazine were sent to all members of Alumni who reside in Australia in late September, 2005.

By contributing as little as \$25 to our first Annual Alumni Appeal you can help create scholarships disadvantaged students or help purchase bookshop vouchers as prizes for outstanding achievement. Or should you prefer, your donation can be directed towards other areas that bring benefit and enjoyment to the whole community. Performances, art exhibitions, campus facilities and our gardens are all open to everyone but, through necessity, must also depend on community generosity.

All donations over \$2 are allowable deductions for income tax purposes.

More information on the Alumni Annual Appeal come be found on the Alumni web site at www.cdu.edu.au/alumni/AlumniAnnualAppeal.html . If you would like more information on Alumni or to join, please go to www.cdu.edu.au/alumni/index.html .

Orr Thomason

Alumni, External Relations

Charles Darwin University, Darwin NT 0909, Australia CRICOS Provider No: 00300K

Email address - orr.thomason@cdu.edu.au

Telephone (08) 8946 6554 - Facsimile (08) 8946 7188





Thesis Submissions

By Penny Wurm
MTEM Research Projects Coordinator
penny.wurm@cdu.edu.au

Since the last edition of TEMsLinks the following theses have been submitted and/or examined. A big congratulations to you both!

Since the last edition of TEMsLinks the following theses have been submitted and/or examined. A big congratulations to you both!

Linda Wirf submitted her thesis entitled "*We've got our own waters*": *Indigenous mapping and Anmatyerr values of water*, which forms part of larger project lead by Linda's project supervisor Dr Naomi Rea (SAIKS).

John Bonney submitted his MTEM thesis, *The dilemma of listing natural heritage in the NT under the Heritage Conservation Act of NT (1991)* in which he evaluated the appropriateness of heritage listing for places of natural values, supervised by Dr Penny Wurm (TS CRC).

TEM Graduation – October 2005

There was just one graduate from the TEM program in October. **Jennifer Harlock** gained her Graduate Certificate in Tropical Environmental Management.

MTEM Theses

Did you know that copies of some of the completed MTEM Theses are lodged in the CDU Library? They can be found in the catalogue using the search term "MTEM" and are all shelved together under catalogue number 500.72.

Churchill Fellowship

The Winston Churchill Memorial Trust fellowship applications are now open for 2006. Information, guidelines and the application form can be access at the following website <http://www.churchilltrust.com.au/>, via email churchill-trust@bigpond.com or telephone 1800 777 231.

The Churchill Fellowship is the award of an opportunity, through the provision of financial support to Australian Citizens from all walks and interests of life and affords them to travel overseas to undertake analysis, study, project work or develop an interest that cannot readily be undertaken in Australia.

Currently the average Fellowship is \$25,000.

Closing date 28 February 2006 for

A proposed itinerary of no less than 4 weeks and no more than 8 weeks.

Recent Publication

'A Guide to Threatened, Near Threatened and Data Deficient Plants in the Litchfield Shire of the Northern Territory', was officially launched in Darwin on August the 6th 2005. The book was written by Jarrad Holmes, Deborah Bisa, Audrey Hill and Beth Crase, with significant input from many others, including the Top End Native Plant Society, Northern Territory Herbarium and local plant enthusiasts.

The primary purpose of the book is to help locals in identifying and recording information on the plants of 'conservation concern' found within the Shire, and through collation of this information enable better informed decisions and the conservation of our local plant species. Just within the Shire alone there are 44 species that are listed as Data Deficient. With the community using this book and recording down relevant information, it is hoped that we may be able to fill in some of the knowledge gaps.

The book is in full colour, 93 pages in length, and includes descriptions for 55 plant species. The descriptions include information such as habitat preferences, known distributions, key distinguishing features and for the majority of species a photograph and/or diagram.

To act as an incentive for people to use the book, anyone who locates a plant featured in the book and has its identify confirmed by an expert, will be able to give the species a common name which will be documented by the Threatened Species Network. At present, only 9 of the 55 species featured have a documented common name.

The book sells for \$12 and can be purchased from the Threatened Species Network Darwin office by contacting 08 8941 7554 or savannas@wwf.org.au or at the CDU Bookshop

The Australian Green Grants Guide 2006



Environmental consultancy, Molino Stewart, has put together a resource that provides a 'one-stop-shop' guide to over 200 environmental and heritage grants available throughout Australia in 2006.

The Australian Green Grants Guide 2006 consists of 160 pages of detailed information about these grants. Through an easy-to-use index it helps applicants such as community groups, landholders, local councils, businesses and government agencies find those grants they are eligible for.

The Guide focuses on grants related to seven themes: Water, Biodiversity, Energy, Greenhouse, Heritage Sites, Land and Waste. It is divided into sections that list grants that are available Australia-wide and those that apply only to each State and Territory.

The Australian Green Grants Guide 2006 can be purchased for \$49.50 (GST included) plus a postage and handling charge of \$9.50 per copy. Order forms may be obtained from www.molinostewart.com.au/Green_Grants_Guide.htm or by phoning Anthea at Molino Stewart on (02) 9891 5399.

Statistics Reference suggestion from Dr Lynda Prior (Researcher, School for Environmental Research, CDU)

Program MARK, developed by Gary White, is a Windows-based program for analysis of data from marked individuals (hence its name). MARK represents a major advance in both functionality and coverage for analyses of data of these sort over several previous applications.

<http://www.phidot.org/software/mark/docs/book/>

Chapter 1 has a good overview on Maximum Likelihood theory – something which seems to be used more and more, so it's good to know what it is, and Chapter 7 has a really good review of linear models and how they fit with ANOVA and linear regression.

TEM Graduate update

Jarrood Eaton

Recent contact from Jarrood Eaton as a Policy Officer within the Department of Water, Land and Biodiversity Conservation (DWLBC) in Adelaide. Jarrood tells us that since commencing employment in July 2004 with the Department of Water, Land and Biodiversity Conservation, River Murray Program Murray-Darling Initiative, he has been involved in many Murray-Darling policy issues providing high level support to the Murray-Darling Initiative and intra and inter-state Murray-Darling policy development. His role includes such things as aiding in



Photo: Murray R (Aquarium Online)

the management of DWLBC's River Murray drought response strategy, flow management activities such as weir pool raising and barrage releases. Jarrood is also a South Australian member on the MDBC Water Liaison Committee (WLC) and Water Audit Working Group (WAWG) which are inter-jurisdictional working groups.

The WLC provides advice on a range of Murray-Darling operational issues including the use and transfers of Murray-Darling waters, use of surplus flows.

TEM Student updates

Betsy Hill

News from Betsy Hill that she and Warwick and young family of James (now 4) and Robert (almost 2) have headed out of Darwin! After living on the boat in a marina in Darwin for the last seven months of the dry season fixing up the 'Oelin'. They're planning to start in Roti (one of the



eastern Indonesian islands) and follow the NTT island chain through to Bali, along the north coast of Java, and then possibly head up to West Kalimantan and Ketapang, where the boat was built by Warwick and Betsy used to work. Then down between Java and Sumatra and stop into Krakatua, on to Christmas Island (Australian Territory) and then settle in Cocos Keeling Islands (also Aust territory). Betsy is then thinking about a masters degree, schooling the kids, snorkelling, and enjoy life on the boat. She will have the same e-mail address and would love to hear from you.

The Oelin off the Tiwi Islands this year

Mandy Trueman reports that she is thoroughly enjoying a unit in science communication at ANU. This is a skill with many career opportunities to impart the facts, theories, and values available as a result of prior research, and to incite enthusiasm for the breadth of scientific



information. As Ian Lowe (2002) has said, "...to have a good enough understanding of the science to know what they were explaining and what simplifications would be true to the spirit of the underlying scientific knowledge. ... the capacity to write clearly, giving the public a 'plain English' version, avoiding the complex jargon of science." (Australian Universities Review, vol 45, no 2, 2002)

The TEM Educators

The Northern Territory is fortunate to have a number of TEM graduates and students who are as passionate about education as they are about environmental management. Michelle Allnutt, Birgit Hallenstein, Kate Minahan, Linda Wirf and John Bonney are all TEMs students or graduates who also teach or have qualifications in education.

Michelle Allnutt graduated with her MTEM in 2003, after completing her research project entitled *The distribution of coarse and fine root biomass in a semi-arid savanna of northern Australia*, which was part of a larger study looking at savanna carbon cycles, supervised by Dr Lindsay Hutley (CDU) and Dr Dick Williams (CSIRO). She is now teaching at Nakara Primary School.



Michelle in the field

Michelle says "After completing my Bachelor of Science in Environmental Science in Bristol (UK), I worked as a pensions administrator to improve my financial situation. I did look for employment in environmental science but I was not impressed with the opportunities (e.g. lab work, waste management). It took me a while to realise that I did not enjoy anything about estimating pensions apart from the money it offered. I finally left the UK and after travelling around Australia whilst volunteering for Australian Conservation Volunteers I decided I really appreciated the environment of Tropical Australia. It reminded me so much of the African environment that my mother is from (apart from its lack of large animals) and I wanted to learn more. That's how I came to Darwin to study my Masters. When I was close to completing the course I realised that finding work that would keep me in Australia would require sponsorship, and an offer of permanent work. As most positions in the environmental sector tended to be contract work I had to find another way.

Primary education had always been an interest for me and knowing that being a qualified teacher would give me employment opportunities wherever I go I decided to do a Dip Ed in Primary Education. I have not regretted it. I really enjoy teaching those young fresh minds and their enthusiastic natures! However, I do miss using the knowledge I gained via my MTEM. I believe that I will stay a classroom teacher for a while and then maybe try and gain employment as an education officer for an environmental organisation."

Linda Wirf lectures in the School of Australian Indigenous Knowledge Systems (SAIKS) at CDU, and coordinates unit in collaborative and multidisciplinary research. Linda has a background in anthropology and has studied the MTEM program as a way of integrating cultural and natural resource studies. Linda has recently submitted her thesis entitled *"We've got our own waters": Indigenous mapping and Anmatyerr values of water*, which forms part of larger project lead by Linda's project supervisor Dr Naomi Rea (SAIKS).

John Bonney has long been an educator, and now lectures in the natural and cultural resource management program at Bachelor Institute of Indigenous Tertiary Education. John originally trained in education, and also worked for many years with Indigenous students as a trainer at Uluru National Park. He has also recently submitted his MTEM thesis, *The dilemma of listing natural heritage in the NT under the Heritage Conservation Act of NT (1991)* in which he evaluated the appropriateness of heritage listing for places of natural values. He was awarded a medal for services to training at Uluru-Katjatjuta National Park at the recent handover anniversary celebrations in the Park.



Bachelor Institute of Indigenous Tertiary Education

Kate Minahan has a background in social sciences and education and has also always been passionate about nature. Kate was teaching high school students when she started her MTEM and is now working for the NT Government in DEET. Kate is currently framing her research project which will investigate the issues around ground water use in the Darwin rural area - an issue that interests her as a rural Darwin resident herself.

Birgit Hallenstein decided to take time out of her MTEM candidature to complete a Graduate Diploma in secondary education. Birgit has completed her MTEM thesis in remote sensing and GIS while working for NT DIPE (now NT NRETA). Although not planning to work in a School setting Birgit is applying her educator's skills already, while working with MTEM graduate Kelly Mendaue on the TS CRC funded project developing web resources relating to fire and land management.

WEB-SITES

For an update on **Tropical Savannas CRC** visit: <http://savanna.cdu.edu.au/>
and **Savanna Links**: http://savanna.ntu.edu.au/publications/savanna_links.html

Savannah Explorer: <http://savanna.ntu.edu.au/information/savannaexplorer.html>

Subscribe to the NTECOL discussion list
<http://lists.cdu.edu.au/mailman/listinfo/ntecol>



Gateways to climate change

ClimateArk is a climate change portal and search engine dedicated to promoting public policy that addresses global climate change through reductions in carbon dioxide and other emissions, renewable energy, energy conservation and ending deforestation. Developed by Ecological Internet, the non-profit organisation has other websites such as the Eco-Portal that is an information gateway designed to empower the environmental sustainability movement.

<http://www.climateark.org/>

Online guide to pests

Queenslands Department of Natural Resources and Management's weed and pest animal website has undergone a major redevelopment with many new features including:

- * A-Z listing of declared plants and animals and other significant pests
- * Regularly updated 'hot topics'
- * Current newsletters and bulletins
- * Educational resources, training and careers
- * Searchable pest distribution and predictive maps and mapping systems
- * Legislation, policies and permits
- * Pest management research

<http://www.nrm.qld.gov.au/pests>

Windows to Australia

PictureAustralia is an Internet based service that allows you to search many significant online pictorial collections at the same time. It provides a service to the visual collections of a range of public libraries, museums, academic libraries, archives and the national libraries of both Australia and New Zealand.

<http://www.pictureaustralia.org>

Q-links is the monthly bulletin of the Queensland Landcare Foundation. To subscribe, send an email to: q-links-subscribe@yahoogroups.com or ausubscribe@yahoogroups.com. Currently available is the Landcare Awards edition of Q-links. The first few pages includes information about some of the winners as well as photos from the awards ceremony held recently in Barcaldine. The bulletin also contains information about grants, training and other network news. Q-Links has just received a grant from Gambling Community Benefit Fund to upgrade web capability and this will help streamline the bulletin and the way it is prepared.

Audit provides NRM toolkit

The National Land and Water Resources Audit and ANZLIC - the Spatial Information Council have developed a toolkit to assist regional natural resources management groups discover, access, visualise and manage their data and information. The toolkit can be used as a text book document, teaching aid or as a series of stand-alone modules.

<http://www.nlwra.gov.au/toolkit/contents.html>

Spin a yarn on the web

The Young Australian Youth Network is an interactive website designed for young people in rural industries. It aims to provide people with a place to interact and share information with others around Australia.

<http://www.yarn.gov.au/>

Australian Academy of Science

<http://www.science.org.au/newsletters/aas62.pdf>

WEB-SITES continued

For an update on Tropical Savannas CRC visit: <http://savanna.cdu.edu.au/>

For tracking of live fires and historical data the Natural Heritage Trust and TS-CRC supported North Australian Fire Information website at:

<http://www.firenorth.org.au/nafi/init.jsp>

The Science and Development Network (SciDev.Net) has launched a useful online resource that provides crucial data about the current state of the world's biodiversity www.scidev.net/biofacts

Subscribe to the NTECOL discussion list <http://lists.cdu.edu.au/mailman/listinfo/ntecol>

Special issue of the Journal of Research Practice

Further papers prepared for the Land & Water Australia Integration Symposium 2004 are now on-line published in the *Journal of Research Practice: Innovations and Challenges in Multiple Domains* (JRP), an international refereed journal with a transdisciplinary focus. The journal including these papers are available in the open access mode (free of charge) in early November. The journal is supported by a consortium of institutions drawn from different parts of the world. It is published electronically by the International Consortium for the Advancement in Academic Publication (ICAAP). "The *Journal of Research Practice* aspires to become a shared space for people to explore and extend the powers of organised inquiry. Besides, it should become an indispensable resource for research education around the world." This special issue is available at: <http://jrp.icaap.org/contents.php>

The Science and Development Network (SciDev.Net) has launched a useful online resource that provides crucial data about the current state of the world's biodiversity. www.scidev.net/biofacts.

Land and Water News is a fortnightly newsletter compiled by Hallmark Editions. It provides much information about conferences, plans, guidelines, reports, study tours. Editor: Ros Stirling, rstirling@halledit.com.au or telephone 03 9521 0269, Customer enquiries: 03 8534-5000, Email contact: denise@halledit.com.au - Web address: www.halledit.com.au

Some interesting Qld sites: (thanks go to Savanna Links for sharing these)

Interactive online atlas

Queensland's first publicly available online atlas provides information about the State's regions, councils, towns and suburbs using interactive mapping tools. It offers a rich resource of information - from demographics and economic and social statistics to general property and suburb. Visit: <http://www.information.qld.gov.au>

Meet Qld's wildlife

The Queensland Environmental Protection Agency has launched a new website producing wildlife lists. Wildlife Online allows visitors to download species lists for areas including national parks, state forests and shires within Queensland. Visit: http://www.epa.qld.gov.au/nature_conservation/wildlife/wildlife_online

Regional ecosystem maps online

Landholders submitting vegetation management applications to the Queensland Government will have their job made easier thanks to a new web-based facility. The new service allows certified Regional Ecosystem (RE) maps to be downloaded without charge from the Internet. The information shown on the downloadable maps helps landholders understand their obligations, which is a crucial element of all applications under the Vegetation Management Act. The new service provides easy access to the information landholders need to apply under the vegetation management framework and is an important step forward. Visit: <http://www.epa.qld.gov.au/REMAPS>

River Recovery Inventory

This site provides an overview of river management activities across the Northern Territory, categorised into the following groups: -Assessment, -On-ground works, -Planning, -Research, -Tools, and-Training. It is hoped that the Inventory will be a resource for river and land managers throughout the Northern Territory and more broadly across northern Australia.

<http://www.greeningaustralia.org.au/GA/NT/WhatsNew/RiverRecoveryInventory.htm>

SEMINARS and CONFERENCES

The **Ecological Society of Australia** maintains a comprehensive listing of relevant conferences at: www.ecolsoc.org.au/ConferenceListing.html Why not check out their student memberships when you visit their site?

1st Australian Young Water Professionals Conference 15-17 February 2006

University of New South Wales supported by Australian Water Association and International Water Association (Australia) Aims to provide a national forum at which postgraduate researchers and young professionals working in water and wastewater research, technology and management can present their research work and have the opportunity to meet their peers. Additionally, a mentorship program will be organised for improving career support, development and mobility. For more details visit: <http://www.cwwt.unsw.edu.au/ywp2006.html>

Water Conference 06 1-3 March 2006, Brisbane Convention Centre

How can we integrate water resource planning for more sustainable outcomes? Is the National Water Initiative on track and what are the next steps? How can we manage our rivers to maintain their health in the long-term? Is recycled potable water really an option that the public will accept? What are the other alternatives – desalination, water trading, demand management?

As Australia progresses into the next phase of implementing more sustainable water management policies in the world's most arid nation, there are still barriers to real progress.

For more information or to register please contact Hannah Pipe on 02 9969 6167 or email register@water06.com.au or visit www.water06.com.au

The Australian Water Summit 2006 13th & 14th March 2006 Sydney Convention & Exhibition Centre

The Australian Water Summit 2006 will focus on the key strategic issues facing the water industry – confirmed keynote speakers include:

- Ken Matthews, Chief Executive Officer, National Water Commission
- Kevin Hunt, General Manager, Municipal Water District of Orange County, California, United States of America
- Keith Mason, Director of Regulatory Finance, Office of Water Services (Ofwat), United Kingdom
- Phillip Mills, Director of Water Services, Water UK, United Kingdom

Delegate price: pre-brochure special just \$895 (+gst)

More info: www.acevents.com.au/water2006 Contact: Glen Frost, Conference Director, Tel: (02) 9460 2123

IIR's Fourth Annual Australian Water Summit 2006 Melbourne, 21-24 February

This is a high-level event involving the key decision-makers from state and federal governments, scientists, large water users and the commercial water industry. The 2006 Summit theme is "Collaborating on Our Water Future", and involves issues spanning from sustainability, new initiatives and innovations, funding, investment opportunities, water trading, pricing, infrastructure, and the collaboration of the many interested groups to find strategic, effective solutions for our water future. The event takes place as follows:

21 February: Masterclass on Developing a Knowledge Strategies Land and Water Management by Peter Cullen

22 February: Conference Day One, with conference dinner in the evening

23 February: Conference Day Two, with three concurrent sessions in the afternoon on pricing, infrastructure and reuse/recycling

24 February: Conference Day Three focusing on innovative water solutions

Keynote speakers include:

- Ken Matthews, CEO & Executive Director, National Water Commission
- Peter Cullen, Director, Land and Water Australia, Member, Wentworth Group
- Wendy Craik, Chief Executive Officer, Murray Darling Basin Commission
- Graeme Head, Managing Director, Sydney Catchment Authority
- Mayor Dianne Thorley, Toowoomba City Council
- Jim Cox, Chief, IPART, NSW
- Professor Paul Perkins, Chair, CRC for Contamination Assessment & Environmental Remediation, Chair, Barton Group

To Register Tel: (02) 9923 5090 Fax: (02) 9959 4684

Email: info@iir.com.au Web: www.australianwatersummit.com.au

SEMINARS and CONFERENCES continued

Contesting Indigenous Knowledge and Indigenous Studies Conference 2006 28-30 June 2006, Gold Coast Marriott Hotel, Surfers Paradise, Qld : engaging the interfaces between Indigenous educators, Non-indigenous educators and Indigenous Communities The [QUT Oodgeroo Unit](#) would like to welcome educators, researchers and community practitioners from around Australia and the world to the 2006 (Re)Contesting Indigenous Knowledge and Indigenous Studies Conference. Indigenous and non-Indigenous people are engaged in the recontestation of Indigenous knowledges and knowledge systems within and across many cultural interfaces. Cultural interfaces include those spaces where Indigenous peoples and non-Indigenous peoples create and act upon meaning (or misunderstanding) and can be considered as a series of ongoing, cultural dialogues ([Nakata, 2002](#)). Keynote presenters include [Professor Martin Nakata](#) and many more Indigenous Australian and international educators from various education and community sectors. For more details: Kerry Williams indigenouknowledge@qut.edu.au
Web: <http://www.indigenouknowledge.qut.edu.au/index.jsp>

International Geography Olympiad. Brisbane 28 June to 3 July 2006 hosted by The Royal Geographical Society of Queensland and the Australian Geography Teachers' Association host, in conjunction with the IGU 2006 Brisbane Conference. The Olympiad is receiving support from the Australian Department of Education, Science and Training and the Queensland Department of Education and the Arts.

The Olympiad is a contest for senior secondary school students. Teams are made up of four 16 to 19 year olds, accompanied by two geography educators. The Olympiad has three parts: a written test, a multimedia test and a substantial fieldwork exercise. It is run in accordance with the guidelines set down by the IGU Olympiad Task Force. This is a great opportunity to showcase the quality of the geographical skills and understanding of your brightest students. For more information on the Olympiads, please visit the website at <http://www.rgsq.gil.com.au/olympicC.htm> For more details Kath Berg at admin@rgsq.org.au

International Geographical Union IGU 2006 Brisbane Conference and joint meeting of the Institute of Australian Geographers and the New Zealand Geographical Society Regional Responses Global Changes A View from the Antipodes 3-7 July 2006 IGU 2006 Brisbane

Geographical attention on critical physical and human processes driving global change. Complex, global-scale processes exert pressures on environmental, social, cultural and economic resources at regional and local scales. It will look at regional responses in a changing world, with emphasis on tropical and arid zones, particularly in Australia, New Zealand, south-east Asia and the south-west Pacific. Professor John Holmes, Conference Chair. Professor John Holmes, University of Queensland (*Chair Organising Committee, Publications Committee*) <http://www.igu2006.org/>

Network Notes

Department of Natural Resources, Environment and the Arts Fortnightly newsletter for the Natural Resource Management (NRM) network

Special Interest Articles

- NRM Board announced – Page 1
- Want to Start Your Own Business?: - Page 3
- Future Leaders Our Land is in our Hands Project – Page 6

The NEW Natural Resource Management Board (NT)
<http://www.nreta.nt.gov.au/whatwedo/landcare/newsletters/index.html>

jobhunters

Hallmark Editions have two very useful sites , one for environmental jobs:

<http://www.envirojobs.com.au>

the other is for jobs in research:

<http://www.researchjobs.net.au>

“NRMjobs” is another excellent site advertising jobs that TEM students are likely to be interested in: <http://www.nrmjobs.com.au>

Danish Visitors

In the July edition of TEMS Links we told you about Nina Christiansen and Casper Katborg coming to study at CDU. They have now completed their studies (including TEM units) and left Darwin last week to travel in eastern Australia before returning to Denmark. An Australian student, Erin O'Brien, also took the opportunity to study in Denmark as a result of the MoU between CDU and The University of Aarhus in Denmark. Morgens Neilsen and Dorthe Birkmose Have visited Darwin many times from Aarhus. Their research includes study of mangrove ant ecology here and invertebrate biology in Denmark.

PS: Both Casper and Nina loved their stay at CDU and are looking forward to seeing you in Aarhus they have just spent 5-6 days to drive to Townsville and a 5 day diving course...including 9 dives and a 'fantastic experience' .to see colorful fish, corals, turtles and shark



Caspar, Morgens, Dorthe, Nina and Erin
Prior to the recent departure of Nina &
Casper, Morgens & Dorthe



Malay wedding

On Christmas Island



Manta Rays in the Cocos Lagoon

In relation to the article from Paul Davey, there currently is a call for submissions in relation to Phosphate Resources Ltd proposal to clear 200ha of rainforest on public land to prolong the life of their phosphate company.

The draft EIS has been released for public comment from 18 Nov to 31 Dec 2005.

See <http://www.christmasislandeis.com/>

Written submissions can be made to:
Jane Addison, EWL Sciences, PO Box 39443, Winnellie, NT 0822

Masters of Tropical Environmental Management Unit Announcement

NATURAL RESOURCES and LIVELIHOODS

Unit Code: WLM404

***Delivered as an Intensive
8-13 April 2006, Alice Springs***

A new accredited unit **Natural Resources and Livelihoods** is being offered in 2006 under the **Masters of Tropical Environmental Management (WLM404)**.

The unit will be delivered by a flexible structure comprising online learning and run as a block intensive over 5 days (50 contact hours) between 8-13 April. Held during the CDU semester break this provides an opportunity to visit the region during the Easter break (14-18 April)

The intensive workshop will be led by Professor Tony Cunningham (CDU and the Desert Knowledge CRC), a world expert in ethnobotany and links between natural resources, local livelihoods, and conservation and will include guest lectures by several local leading practitioners in this field from industry and government. Theory will be integrated with Australian and international examples with an emphasis on issues pertinent to the Northern Territory.

This intensive workshop will start with a field component looking at the examples of components natural resource based enterprises, such as bush tucker trade. After the field component, the lecture series will cover five main sections: (a) **General introduction**: Poverty alleviation and the social context in which bush produce enterprises are planned or take place; (b) **sustainable harvest issues**; (c) **economic issues and bush produce enterprises**; (d) **certification** (labelling and cultural branding) and (e) **how to communicate research results to different audiences** using a range of tools, including video/DVD cost-effectively tailored to small, specific audiences. Lectures will also use video/DVD as a tool to illustrate examples of bush produce enterprises from different parts of the world (crafts, edible foods, oil seeds, butterflies).

Date: 8-13 April 2006 (Semester break and just before Easter holiday: 14-18 April)

Venue: Alice Springs

Cost: to be advised, will include course materials, field trip. Participants will be required to pay own costs if travelling to Alice Springs and accommodation and meals etc.

Registration by: 28th February 2006

Register with: Patricia.Butler@cdu.edu.au, (08) 8946-6574

Contact: Natasha.Stacey@cdu.edu.au, (08) 8946-6268

OR

Short Course—8-13 April 2006

CONSERVATION AND BUSINESS: NATURAL RESOURCE-BASED ENTERPRISE DEVELOPMENT & LOCAL LIVELIHOODS

The Charles Darwin University is offering a short course on natural resource-based enterprise development. The course will be led by Tony Cunningham (CDU and the Desert Knowledge CRC) a world expert in ethnobotany and the links between natural resources, local livelihoods, and conservation and will include guest lectures by several local leading practitioners in this field. Theory will be integrated with Australian and international examples with an emphasis on issues pertinent to the Northern Territory.

This course will start with a field component looking at the examples of components natural resource based enterprises, such as bush tucker trade. After the field component, the lecture series will cover five main sections: (a) **General introduction**: Poverty alleviation and the social context in which bush produce enterprises are planned or take place; (b) **sustainable harvest issues**; (c) **economic issues and bush produce enterprises**; (d) **certification** (labelling and cultural branding) and (e) **how to communicate research results to different audiences** using a range of tools, including video/DVD cost-effectively tailored to small, specific audiences. Lectures will also use video/DVD as a tool to illustrate examples of bush produce enterprises from different parts of the world (crafts, edible foods, oil seeds, butterflies).

Date: 8-13 April 2006

Venue: Alice Springs

Cost: to be advised, will include course materials, field trip

Registration by: 28th February 2006

Register with: Patricia.Butler@cdu.edu.au, (08) 8946-6574

Contact: natasha.stacey@cdu.edu.au, (08) 8946-6268



Book Review by Lynda Prior

(Researcher, School for Environmental Research, CDU)

Collapse. How Societies Choose to Fail or Survive by Jared Diamond (2005), Published by the Penguin Group

Why have some great civilisations endured for millennia, while others have collapsed? Jared Diamond poses this question in his recent book, investigating examples ranging from Easter Island to Australia. Some are covered in

detail, others much more concisely. The result is a bit uneven, but Diamond very clearly sets out the structure of the book, and makes sure the reader knows where he is heading and why. It is quite an achievement that in a book of this length and scope that I never got lost or wondered what the point of a section was.

I loved the opening, in which he described two dairy farms located thousands of miles apart but with similar strengths and facing similar challenges. Both were the largest, most prosperous and technologically advanced farms in their respective districts, and each held more than 150 cows. Both were also vulnerable because they lay in districts economically marginal for dairying, as their high northern latitudes meant a short summer growing season in which to produce pasture grass and hay. The fates of these farms have proven very different - so far, at least. I won't give away the surprise by describing where and why; you'll have to read the book to find out.

I particularly liked the section on the Viking settlement (approx 980 to 1400 AD) in Greenland - this alone makes the book worth reading. Greenland is cold and stormy, and over the last few thousand years, the climate around its southern fjords has fluctuated between "bitterly cold" and "cool". When the Vikings arrived, it was "cool", but by about 1420 AD, the Little Ice Age had arrived, leading to the demise of these people, who were reliant on farming. Diamond contrasts their lifestyle and culture with that of the Inuit, who were able to survive, even thrive, during this climatic shift. He examines why the Vikings didn't learn to cope with the Little Ice Age's cold weather by watching how the Inuit were living. (He doesn't ask whether a climate shift the other way have resulted in the opposite outcome.) His vivid descriptions of trying to subsist in an environment where mean summer temperatures today are around 5 °C left me feeling chilled, even during a Darwin build up.

Easter Island is a famous example of a civilisation that collapsed because humans over-exploited the environment. By the time Europeans discovered the remote island, the few remaining inhabitants were eking out a miserable existence on an island completely bereft of trees, but surrounded by decaying monuments of past glories and achievements. We learn the fascinating story of how things got to this stage, and Diamond writes

What did the Easter Islander who cut down the last palm tree say while he was doing it? Like modern loggers, did he shout "Jobs, not trees"? Or: "Technology will solve our problems, never fear, we will find a substitute for wood". Or "We don't have proof that there aren't palms somewhere else on Easter, we need more research, your proposed ban on logging is premature and driven by fear mongering".

There are many other Pacific Islands that suffered varying degrees of deforestation, and the book's most scientific comparison of factors affecting human impact on their environment examines the degree of deforestation on 81 such islands at the time they were first discovered by Europeans. Amongst the findings were that deforestation was more severe on dry islands than on wet islands, colder islands than warmer equatorial ones, old volcanic islands than young ones, small islands than large ones and remote islands than islands with near neighbours.

Diamond's conclusions about the fate of civilisations in general include environmental factors like environmental damage and climate, but he says there are always other contributing factors such as hostile neighbours and its converse, decreased support by friendly neighbours or loss of trading partners. The final important factor is how societies respond to their problems.

One of the most salutary points raised in this book is that collapses can happen very quickly, within a generation or two of a civilisation attaining its peak. It must have been inconceivable to such a civilisation's inhabitants that the world as they knew it would soon end. This raises some very pertinent questions about the future of our own civilisation. The current inter-connectedness of everyone on the planet will undoubtedly alter the trajectory of our civilisation in ways that we cannot predict. Our amazing technological abilities may help us, but our unprecedented consumption of resources makes us vulnerable. There are so many possible futures, and this book should have all its readers thinking about them, and prompting them to work towards one that they want.

This book is not perfect - it is very long, heavy in the literal sense (it's difficult to read in bed), sometimes repetitive and, by the nature of the material, the analyses are subjective and sometimes open to varying interpretations. However, I am grateful that someone has been brave enough to tackle this vital question, energetic enough to do the huge amount of research required, and intelligent enough to digest it and come up with some very plausible and helpful conclusions. It should be read by anyone concerned with the past, present or future of the planet.

NEW UNIT!

Tropical Environment Management Program

Charles Darwin University

SBI510 AN INTRODUCTION TO TROPICAL BEEF PRODUCTION

The sustainable management of tropical savannas is one of the most important challenges currently facing Australia and many other parts of the world. To meet this need, the Charles Darwin University (CDU) in conjunction with the Tropical Savannas CRC offers post graduate courses in Tropical Environmental Management (www.cdu.edu.au/ehs/science/mtem).

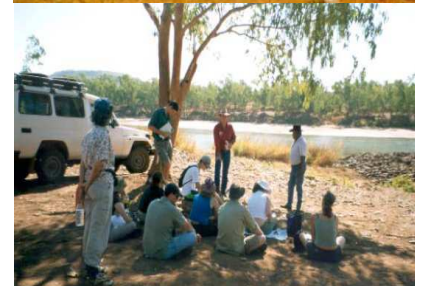
A new core unit is being developed for this program, *SBI 510 An Introduction to Tropical Beef Production*. The unit is designed for students wishing to gain an understanding of beef cattle industries in the tropics and the natural resources context in which they operate both in Australia and other parts of the world.

Students will investigate the establishment and best-practice management of beef cattle production and operations. The integration of environmental, social and economic issues that set the context for these production systems in tropical climates will be examined. Students will develop an integrated business plan for a successful cattle operation that encompasses all these factors.

The unit will feature:

- Networking with experts in production and NRM
- Ecological sustainability and beef cattle operations in the tropics
- Identification of key socio-economic issues associated with tropical beef production.
- Development of a business plan for a beef cattle operation in the tropics based on total quality management principles.

External availability with a week-long residential to provide exposure to cattle operations and enable Interaction with producers and managers



Special issue of the Journal of Research Practice

Further papers prepared for the Land & Water Australia Integration Symposium 2004 are now on-line published in the *Journal of Research Practice: Innovations and Challenges in Multiple Domains* (JRP), an international refereed journal with a transdisciplinary focus. The journal including these papers are available in the open access mode (free of charge) in early November. The journal is supported by a consortium of institutions drawn from different parts of the world. It is published electronically by the International Consortium for the Advancement in Academic Publication (ICAAP). "The *Journal of Research Practice* aspires to become a shared space for people to explore and extend the powers of organised inquiry. Besides, it should become an indispensable resource for research education around the world." This special issue is available at: <http://jrp.icaap.org/contents.php> To subscribe, email to sirp@lwa.gov.au to receive information on:

- ✦ New research reports and products from LWA's Social & Institutional Research Program (SIRP)
- ✦ Opportunities to provide research/consultancy services
- ✦ Opportunities to participate in consultations
- ✦ New research projects
- ✦ New research plans and initiatives, and events



The Tropical Warm Pool International Cloud Experiment Darwin, late 2005-early 2006

Cloud and rain characteristics in the Australian Monsoon

The Tropical Warm Pool International Cloud Experiment (TWP-ICE) will give scientists an insight to the inner workings of thunderclouds and their impacts by collecting measurements including height, size, thickness, temperature, size of ice crystals and the amount of water vapour contained in the clouds from the first cumulus to the last of the wispy cirrus

It is a large airborne measurement experiment, combined with an extensive network of ground based observations, is scheduled to take place during the 2005-2006 wet season and will focus on a 250 kilometre radius around Darwin. Darwin has long been a focus for meteorological research and hosts one of the best observation networks in the world. It is a natural laboratory because it experiences both monsoon thunderstorms as well as intense “continental” storms during breaks in the monsoon.

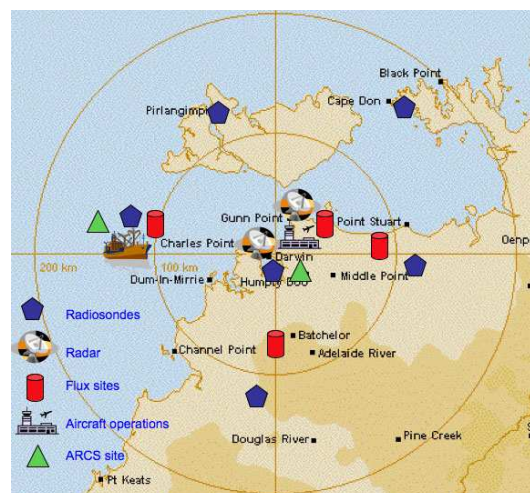
Weather balloons will be launched every three hours from multiple ground stations to collect information regarding the heat and water exchange between the clouds and the environment. Intensive measurements will be taken in and around the clouds using ground and sea based radar equipment, satellites and an instrumented fleet of research aircraft. The energy transport from the ocean and land surface will also be a key measurement.

Data collected during the month-long experiment will be used for climate change research and for assessing the environmental impacts of tropical monsoons. Together with the data collected as part of the regular monitoring in the area, this experiment will produce one of the most complete data sets of tropical convection ever collected.

The experiment will be run by a collaboration of the Australian Bureau of Meteorology, the US Department of Energy Atmospheric Radiation Measurement (ARM) and ARM-UAV Programs, CSIRO, NASA and scientists from universities in Australia, the USA, Europe, Canada, and Japan.

The experiment will be supported by two aircraft from Airborne Research Australia as well as research aircraft from the US and Europe. Australia’s National Facility for Marine Research, RV *Southern Surveyor* will be positioned off Darwin observing clouds, atmosphere and oceans. RAAF Base Darwin will provide facilities and logistics support to the experiment.

More information is available at: www.bom.gov.au/bmrc/wefor/research/twpice.htm
or by contacting Peter May on (03) 9669 4490 or email p.may@bom.gov.au



Some of the equipment being used during the Tropical Warm Pool International
Cloud Experiment in the Top End this wet season



ARM-UAV Research Aircraft



Marine National Facility,
RV *Southern Surveyor*



Geophysica, one of the aircraft used



"Hector" seen from Darwin

TEMS Links

Tropical Environmental Management Students' Newsletter

Vol 6 No 3 Christmas 2005

If undelivered, return to P Würm, Tropical Savannas CRC, CDU, Darwin 0909

Postage Paid
Australia

The Northern Territory Field Naturalists Club

meets on the second Wednesday of the month, at 7.45 pm in the SAKS seminar room (Bldg 30) here at CDU Casuarina. Guest speakers present informative talks on the flora and fauna of the region. There are also regular excursions.

Contact: Don Franklin:
don.franklin@cdu.edu.au
phone 08 8946 6976(w) or
08 8948 1293 (h)

The Top End Native Plant Society meets on the third Thursday of each month at Marrara Christian School (corner of Amy Johnstone and Macmillans Rd). The meetings start at 7.30 and invited guest speakers provide insight into various aspects of Top End flora. Visit their website for more info:

<http://tenpsnt.tripod.com/>

TO SUBSCRIBE, PLEASE GO TO THIS PAGE:

<http://lists.cdu.edu.au/mailman/listinfo/ntecol>

"NTECOL is a discussion list for people with an interest in the ecology and biology of the organisms and communities of Northern Australia.

The primary purpose of the list is facilitate communication among interested people and organisations so as to increase the flow of information and facilitate interaction. This could include - but need not be restricted to - announcements of seminars, workshops and conferences, discussion of topical issues, and requests for information or collaboration."

If you want to be removed from our mailing list (electronic or hardcopy), please let me know by emailing cheryl.arnott@cdu.edu.au
Thanks