

WATER RESEARCH Cluster Newsletter

What's happening in water research at the University of Adelaide

Water will be a major issue for the coming Federal election, and water research will have a vital role in informing sustainable management of this precious resource. The Water Research Cluster seeks opportunities to develop partnerships for research projects in water-related fields, and to promote knowledge of current water issues. This Newsletter provides a summary of current activities by the Water Research Cluster and related news items on the context for water management.



Water Research Cluster postgraduate tour to St Kilda Mangrove Trail (photo Anne Jensen)

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Water Research Cluster News

by Dr Paul Dalby, Water Research Cluster Coordinator

China Australia Environmental Science & Technology Institute

The University of Adelaide has signed a Letter of Intent with the Research Centre for Eco-Environmental Science (RCEES) in the Chinese Academy of Science to establish a China Australia Environmental Science and Technology Institute. Both SA Water and CSIRO are considering becoming members of the Institute as well. The purpose of the Institute is to ensure food and water security and sustainability, so that:

- water supplies are fit for consumption by humans and animals and for agricultural and industrial purposes;
- land management systems sustain the underlying natural resources.

This will be achieved through the development of environmental technologies to better manage soil and water contamination, that are responsive to global threats such as climate change and which make use of emerging technologies and complex systems research.

The Letter of Intent was signed following a number of workshops between the two organizations. In April, a delegation from the University of Adelaide visited RCEES. The delegation included Professor Graeme Dandy, Associate Professor Justin Brookes, Dr David Lewis, Dr Paul Dalby and the Manager of China Projects, Ms Sandy McConachy. The Business Plan for the new Institute was approved, and a full day Seminar was held to share information on research being undertaken in the two institutions.

The new Institute will contribute towards achieving the objectives of the recently signed declaration of intent between the Australian and Chinese Governments to work together on water scarcity.

The Institute will have a focus on four Research Themes:

1. Soil, plant and water interactions
2. Contaminant biogeochemistry
3. Water supply and human health
4. Environmental policy and management

Five Research Leaders have been appointed to a Leadership Group including Prof. Yongguan Zhu (RCEES), Prof. Min Yang (RCEES), Assoc. Prof. Justin Brookes (University of Adelaide), Prof. Chris Saint (SA Water) and Prof. Mike McLaughlin (University of Adelaide and CSIRO).

A number of upcoming workshops will be held to develop and scope out a research program for each of the four themes agreed to at the meeting. The five Research Leaders will nominate a Theme Leader from each country to participate.

The Centre will play an important role in building bridges between science, industry and government within and between China and Australia, and will greatly strengthen research, political, cultural and economic ties between the two countries. There will be a strong focus on encouraging exchanges of students and early career researchers to both countries to develop a research network for the future, as well as the present.

Fulbright Fellow Visiting Water Research Cluster

Sara Hughes has won a Fulbright Fellowship to spend one year in Australia focused on research on water management. Sara is a PhD student at the University of California, Bren School of Environmental Science and Management, in Santa Barbara.

She is particularly interested in growing urban water demands, and how this influences a changing social discourse as well as spatial patterns of infrastructure and investment. She is keen to collaborate with the Water Research Cluster on these topics to develop a high quality research project, and to include as many views and interests as possible.

She can be contacted at hughes@umail.ucsb.edu

National Water Commission News

National Water Commission says Water Plan is essential

The National Water Commission has called on the states to accept the the Prime Minister's National Plan for Water Security, saying that the Plan represents a once in a generation chance to recast rural water use in Australia as ecologically sustainable and economically viable into the future. In particular, the Commission supports the "practical ways in which the Plan has the potential to accelerate implementation of the National Water Initiative as the blueprint for water reform in Australia." "It provides major opportunities for governments to better meet their commitments to improve water management and use as they agreed to do when they signed the National Water Initiative in 2004," the Commission said in a statement. "A central plank will be strategic water planning for the Murray-Darling Basin. Such planning must recognise the resources shared between water systems, the interconnected nature of groundwater and surface water, and the risks to these resources from factors such as climate change and farm dams. "The National Water Initiative requires that all these factors be addressed as a matter of course in water planning and management. As part of this, the proposals to address overallocation are essential and, in the Commission's view, urgent."

Source: [Enviroinfo 8 February](#)

Release of national water charging stocktake

The first national stocktake of water charging policies in urban and rural water sectors by the National Water Commission has found that there is a marked difference in water charging across states and territories. The stocktake is the first step in developing consistent approaches to the way water charges are set across Australia—a key objective of the National Water Initiative (NWI). A central tenet of this commitment is to achieve consistency in water charging policies across states and territories and sectors for water storage and delivery in both urban and rural systems, and to achieve consistent approaches to charging for, and attributing the costs of, water planning and management activities. Early indications from the stocktake suggest that differences in approaches between jurisdictions and between the urban and rural water sectors are most marked in the areas of:

- recovery of capital expenditure
- tariff structures in the urban water sector
- approaches to identifying and recovering the costs of water planning and management.

Source: [Enviroinfo 8 March](#)

Next Water Research Cluster Postgraduate Forum

Learning Project Management Skills

Adelaide University Staff Club

Wednesday 6 June 11:00am – 1:30pm

includes informal lunch sponsored by Water Research Cluster.

All Water Research Cluster postgraduates and other interested parties welcome.

Bookings essential for catering!

RSVP 1 June to Paul Dalby – paul.dalby@adelaide.edu.au

Water Research Cluster Activities

CLLAMM Update

Productivity and Trophodynamics Project

(from Research Fellow Dr Brian Deegan)

This project in CLLAMM ecology is focused on developing a process-based understanding of productivity and resource transfer in the Coorong, Lower Lakes and Murray Mouth (CLLAMM). This will be achieved with two subprograms investigating and quantifying resource capture by primary producers and resource transfer through the food-web.

The productivity component aims to determine changes in the rates and form of primary production along the salinity gradient in this ecosystem and to identify the processes leading to altered productivity. This can be used to infer the extent to which increased riverine inputs (freshening) can influence productivity, together with the importation of limiting nutrients for primary production in this system.

The trophodynamics component aims to determine how the food-web structure is altered due to the increased salinity regimes in this ecosystem. It will identify the principal resources available to fish and bird populations in the CLLAMM region and will explore how this energy is transferred across the ecosystem, and how increased salinity influences this transfer of energy. It will assess the nutritional value of these resources which will help to determine if the present resources are sufficient to maintain this ecosystem in the years to come.

More information: brian.deegan@adelaide.edu.au



Waterbirds in the Coorong South Lagoon. Photo: Brian Deegan

Wellington Weir Forum

Cluster members Assoc Prof Mike Geddes and Assoc Prof Keith Walker were among presenters at a recent community forum to discuss the Wellington Weir proposal and the future for the River Murray under reduced flows. They presented their predictions for environmental impacts of continued low flows, and the potential impacts of the proposed weir. Local fisherman Henry Jones had commissioned a model of the weir, which demonstrated the relatively large structure required, with a length of 2.5 km and depth of 4m across the main channel section. The height of the structure will be 1.1m AHD, so it would impede normal regulated flows once these are restored. The daunting logistics of sourcing, transporting and placing the required rock fill to construct the weir base were demonstrated. Keith Walker particularly emphasized the urgency of removing the temporary structure as soon as possible when no longer required, to limit the impacts on flows and movement of fauna when flow is restored.

Mike's talk highlighted CLLAMMecology and its role in assisting management of the Murray Mouth and Coorong. He argued for flexible management of barrage releases, with the automation of gates and installation of fishways. Mike presented a summary of the present conditions in the lower Murray, with Lake levels at all time lows of 0.1-0.16 cm, extending right up to Blanchetown Weir & Lock 1. Conductivity in Lake Alexandrina is now 1560 EC and Lake Albert is 2750 EC. The storage capacity in the Murray Darling System is at 10%, only 974GL. Mike presented a range of scenarios relating water level regimes in the lower Murray and lakes to pre-weir, no-weir, and with-weir conditions.

More information: mike.geddes@adelaide.edu.au

Water Droplets Series

Prof Mike Young and Jim McColl continue to produce their series of Droplets, which are short discussion papers on water management issues. Droplets explore ideas and propositions which, if developed further, might improve water use. Ideas are explored from a fundamental perspective. They search for the building blocks and concepts that one might consider using if one was able to start without being constrained by prior decisions.

Droplet No 6 is entitled 'Use it or trade it because you can't save it!' In many parts of Australia farmers are allowed to trade water but not allowed to save it. This droplet suggests that farmers, as well as the government, should be allowed to save water.

Earlier Droplets on urban water trading, water governance, water interception, water accounting and stormwater management can be read at www.myoung.net.au. Comments are welcome. The aim is to encourage people to think differently about water management. If you would like to subscribe to the Droplet list, send an email to droplets@adelaide.edu.au or go to the website.

Mike Young is Professor of Water Economics and Management School of Earth & Environmental Sciences, University of Adelaide and CSIRO Water for a Healthy Country Flagship

River Blitz!

Assoc Prof David Paton will be one of two presenters at the River Blitz workshop on 11 May 10am-3pm at Goolwa Aquatic Club. His topic is 'The Ecology of the Coorong and Lower Lakes: recent impacts on the flora and fauna'. The River Blitz program is managed by Greening Australia and funded by the National Landcare Program. Lunch is provided.

RSVP Kate Esser on 0438 699 580 or email esser@greeningsa.org.au
More details are available at <http://www.greeningaustralia.org.au>

Proposed First International Conference on Hydropedology

Assoc Prof David Chittleborough is working with Assoc Prof Henry Lin of Pennsylvania State University on a proposal on behalf of the International Union of Soil Sciences (IUSS) Working Group on Hydropedology for the First International Conference on Hydropedology. The proposal, for a conference on August 4-6, 2008 at Pennsylvania State University, has been submitted to the USDA National Research Initiative for financial support.

Hydropedology focuses on soil-water interactions and landscape-soil-hydrology relationships across spatial and temporal scales, aiming to understand pedologic controls on hydrologic processes and properties, and hydrologic impacts on soil formation, variability, and functions. This conference aims to accomplish the following three objectives:

- to advocate hydropedology as an advantageous integration of pedology, hydrology, and geomorphology for holistic studies of landscape, soil, and water relationships across spatial and temporal scales;
- to advance the understanding of the Critical Zone and to promote its integrated studies among earth, environmental, ecological, agricultural, and natural resource sciences and engineering;
- to charter a roadmap for interdisciplinary and international collaboration for advancing the fundamental research and practical applications of hydropedology and Critical Zone science, and for educating the next generation of soil scientist, hydrologists, environmentalists, and natural resources managers.

Expected outcomes of this conference will include:

- a joint statement outlining a roadmap for advancing hydropedology, which will be widely distributed and published
- a book in the Soil Science Development Series (Elsevier)
- a special issue of a scientific journal.

Water News Updates

Water issues continue to dominate news, with constant changes and political announcements, so only brief summaries are given here, and some key reports have been posted on the Water Research Cluster website <http://www.water.adelaide.edu.au>

Federal Water Plan

The \$10 billion Federal Water Plan has stalled amid concerns by Victorian irrigators and members of the National Party about the proposed water buy back and the ceding of water management powers to the Commonwealth. It was a notable omission from the agenda at the Council of Australian Governments (COAG) meeting in April, meaning a delay in introducing the necessary legislation in each state. COAG may not meet again before the election is called, so the plan may not eventuate. News reports indicate that Water Minister Malcolm Turnbull has not been successful in persuading Victorian irrigators and the Victorian Farmers Federation to support the proposal. However, the Victorian Nationals have agreed to support the plan following a promise that water would not be compulsorily acquired from irrigators. It has also been reported that CSIRO has not yet been contracted to evaluate sustainable levels of water allocations, so this information is unlikely to be available before the election, for the development of measures to tackle over-allocation of water resources.

Possibility of No Irrigation Allocations

The Prime Minister announced on 19 April that, unless significant rain fell in the Murray-Darling Basin catchment in May and June, the new water allocation year from 1 July (normally announced in mid-June) will start with zero irrigation allocations. This would trigger the 'worst case' scenario plans by the South Australian government, including the Wellington Weir. While some irrigators may not need to water their crops in winter, winter rains are critical to fill storages to provide irrigation flows in late spring and summer. In South Australia, irrigation is based on permanent plantings; citrus and stone fruit in particular will not survive through summer without water. These are unprecedented conditions which were never foreseen in MDBC modelling for management of supplies, based on 100 years of data.

Effect of Low Inflows in Lower Murray

The impact of low inflows to the Murray-Darling Basin continues, with Lake Alexandrina now at 0.1m AHD and predicted to drop to 0.05m by the end of May. Salinity in Lake Alexandrina is 1,500 EC units and rising, and Lake Albert is already at 2,600 EC. (The World Health Organisation standard for drinking water is 830 EC). The critical trigger is annual flows for 2007-2008 into South Australia of less than 340 GL (less than 20% of entitlement flow), which would trigger construction of a weir at Wellington.

<http://e-nrims.dwbc.sa.gov.au/monitoring/lakes>

Labor National Water Policy

Anthony Albanese, Shadow Minister for Infrastructure and Water, gave a key speech to the Australian Water Summit on 2 April 2007, outlining Labor Party policy on water issues (see link below).

At a Federal level, Labor calls for Commonwealth leadership on water, including the:

- appointment of a Minister for Water;
- creation of a single Commonwealth water authority;
- commitment of more funds for water management and efficiency programs right across Australia;
- the development of water trading and economic instruments to drive reform; and
- for the existing \$2 billion Australian Water Fund to be used on practical projects.

The speech included a promise to ensure that our river systems receive a sustainable environmental flow, so they can return to health.

<http://www.anthonyalbanese.com.au/file.php?file=/news/1729/index.html>

Murray on World Threatened List

Australia's Murray-Darling river system is among the world's rivers most threatened by human activity, a report says. An overview by the World Wildlife Fund for Nature summarises threats to 10 of the world's great rivers - those considered by the WWF to be already suffering "most grievously under the weight of these threats, or bracing for the heaviest impacts". The six main threats to river systems were dams and infrastructure, excessive water extraction, climate change, invasive species, overfishing and pollution. In the Murray-Darling, which drains 14 per cent of Australia's landmass, invasive species like the European carp and extraction were the main threats to the ecosystem. The 10 most endangered rivers: Salween-Nu (Asia), La Plata (South America), Danube (Europe), Rio Grande (US), Ganges (India & Bangladesh), Murray-Darling, Indus (Pakistan), Nile-Lake Victoria (Africa), Yangtze (China) and Mekong (Asia). – AAP

Source: Indaily 20 March

Quit the scare campaigns on recycled water

Political scare campaigns and misinformation about recycled water are "grossly inappropriate" and political parties need to take responsibility for Australia's water supply, Clean Up Australia chairman Ian Kiernan says. Speaking at the Ozwater 2007 conference in Sydney, Kiernan said governments should look beyond the next election with water solutions. "In an era when we need intellectual and scientific assessments of alternative policies, politics rears its head to confuse and belittle the idea of purified recycled water. "I think these comments and a few (misleading) surveys have set purified recycled water back in huge terms and that to me is grossly, grossly inappropriate behaviour." He said drinking recycled water was nothing new and it was a very safe and clean alternative. "The technology is proven, but the final hurdle is public perception and removal of the yuck factor," Kiernan said.

Source: Indaily | March 7

Banrock Wetland Dry and Cracked

Banrock Wetland has been dried down to a small pool, where the water birds are clustering, as the wetland returns to a natural cycle of drying and wetting. Banrock Station has relocated their irrigation pump to the mainstream, allowing the option of drying out the wetland seasonally and restoring the natural pattern of wetting and drying. The impact on the carp population during the dry-down has been studied by fish scientists from SARDI, with important confirmation of earlier observations about differences in flow responses between native and exotic fish. Native fish retreat from the floodplain on falling waters, while carp tend to stay within the drying wetland. SARDI researchers have been investigating how these behavioural differences can be used to target carp in removal and control programs.

Sources: Inline daily 11 Jan 2007, The Advertiser 16 Jan 2007

SA Govt Considers Desalination Plant

The South Australian government is investigating the viability of building a desalination plant to help supply Adelaide's future water needs. Water Security Minister Karlene Maywald said a desalination working group had been established to investigate the suitability of a plant and other options to meet Adelaide's water demands. The working group will consider the possible size, location and cost of a desalination plant, but the Minister has warned that any future construction work was still several years away. The SA government is already working with BHP Billiton on building the state's first desalination plant, on Spencer Gulf. It will be used to supply water to the company's Olympic Dam uranium mine as well as supplement water supplies to upper Spencer Gulf towns and the Eyre Peninsula.

Source: Indaily | March 6

SA to Block Lakes and Lagoons

Management options being considered to limit the impacts of low flows in South Australia include isolating nine large wetlands to save evaporative losses, and to prevent water of increasing salinity returning to the mainstream. These lakes and lagoons will be disconnected from the main River Murray channel if the drought continues into the next financial year. State Minister Karlene Maywald said this could save up to 46 gigalitres (GL) in evaporation each year, an amount that could be crucial to water security for SA. The triggers included the mid-June allocation of water from the Murray to South Australia. If that was 50 per cent or less than normal levels, then work would begin to block off the lakes and lagoons. Ms Maywald said the nine sites had been chosen based on potential water savings, ecological risk, the feasibility of constructing temporary barriers and the impact on water users. The sites include Lake Bonney at Barmera, Gurra Gurra Lakes near Berri, and Yatco Lagoon near Moorook. Twenty-seven smaller wetlands have already been isolated from the river, saving 14 GL.

Sources: [Indaily 20 March](#), [Indaily 19 April](#), [SA MDB INRM Board communique](#)

Grey water industry body established

An Australian grey water industry body has been established, in an effort to support the implementation of new technologies for the treatment and use of grey water. The Australian Grey Water Institute is an industry and community organisation that will promote research into grey water treatment, encourage government action, raise awareness and promote the safe use of purified grey water. Inaugural members include Murdoch University and members of the grey water treatment industry such as Perpetual Water, New Water and Nubian Water Systems. Membership of the non-profit membership organisation is open to government, academia, grey water vendors, research and development organisations, the building and construction industry, community groups and private citizens. "From an industry perspective, we realised that we needed to address the educational and legislative issues around grey water re-use" said AGWI Director Andrew Pearce. "Grey water has a crucial part to play in finding realistic and sustainable solutions to the ongoing water crisis in Australia, and we aim to show the government and individuals how to utilise it their best advantage."

Source: [Enviroinfo 22 March](#)

South-east Queensland water crisis

Water needs in south-east Queensland and northern New South Wales are predicted to increase by 70-100% over the next 50 years. The Snowy Mountains Engineering Corporation (SMEC) has reported to the Federal government on options to secure water supplies to this region. Four options involve damming the Clarence River and piping it to the Logan River. The 5th option is to dam the Tweed River and pump it to the Nerang River.

In response to widespread criticism from Clarence River communities, sugar farmers and prawn fishermen, Minister Turnbull said that the option to build a dam on the Mann River in the Clarence catchment would deliver most water and only extract 15% of Clarence flows. The Nature Conservation Council of NSW advocated widespread roll-out of rainwater tanks, increased recycling and stopping water wastage as an alternative solution. The Prime Minister said, 'It's Australian water, and I think Australian water should be available for Australians on terms that are fair and equitable for people in all parts of the country.'

The SMEC report can be viewed at www.malcolmtturnbull.com.au/smec.aspx

Secrets of the Mangroves

Did you know that the Adelaide mangroves are visible from space? This large green area exists in the midst of Metropolitan Adelaide yet is a major ecological resource that remains a secret from most Adelaide citizens. Water Research Cluster postgraduates were privileged with a visit to this coastal forest during a March field trip to the St Kilda Mangrove Trail. While at the Mangrove Trail's Interpretive Centre they heard an interesting and informative talk from manager Steve Vines. Steve runs the Mangrove Trail as a private enterprise, often hosting school and community groups. This facility plays an important role in promoting community awareness of the ecological values of mangroves, as well as emphasising the need to maintain and protect these sensitive ecosystems.

The boardwalk tour led by colleague Eric Nicholson featured a rare glimpse into the incredibly dynamic nature of inter-tidal wetlands and included visits to several mangrove-sediment sampling sites. Eric's PhD project is a palaeoecological study of Adelaide's coastal wetlands. The aim is to describe any changes in environmental conditions that have occurred through time, particularly expected impacts associated with the advent of European settlement. Through the analysis of modern diatoms, mangrove sediments and inter-tidal water chemistry, a modern data set will be created. A model will then be developed by which past environmental conditions can be inferred from the analysis of fossil diatoms.

Thanks go to Steve and Eric for providing a highly informative day, and for sharing their insights into a fascinating ecosystem that is right on our doorstep. Anyone interested can take advantage of this facility, available to the public for self-guided walks from 10am to 3pm every day. Admission is \$6.90 for adults, \$5.90 concession and \$3.90 if under 18. It is advisable to check tide predictions before visiting, or simply call Steve at 8280 8172 for more information about a trip to the Mangrove Trail. A brochure can be downloaded from the following link: <http://cweb.salisbury.sa.gov.au/manifest/servlet/page?pg=9043&stypen=html>

www.water.adelaide.edu.au/postgraduateforum



Water Research Cluster postgraduate tour to St Kilda Mangrove Trail (photo Anne Jensen)

Prizes and Awards

Congratulations to the 2006 Australian Water Association Undergraduate Water Prize Winners: Sarah Jewell, Jarrah Muller, Andrew Telfer and Matthew Thompson, from the School of Civil and Environmental Engineering, University of Adelaide, SA. They are pictured at Enviro 2006, with Mr Peter McVean (centre) from the prize sponsor, Veolia Water on the website <http://www.awa.asn.au/AM/Template.cfm?Section=UWP>.

Their winning entry was titled: Towards a Restoration Plan for a Wetland Affected by Saline Groundwater. This was their joint Honours project on the Paringa Wetland in the Riverland, jointly supervised by Martin Lambert of Civil and Environmental Engineering and Keith Walker of Environmental Biology in the Water Research Cluster.

Water Research Cluster postgraduates Coby Mathews and Anne Jensen have received small grants from the Sustainability Research Cluster to attend key conferences in their fields. Coby attended the Molluscs 2006 conference which had the theme 'molluscs in research, conservation and the economy' and coincided with the Triennial meeting of the Malacological Society of Australasia, at the University of Wollongong 6-8 December 2006. Coby's presentation was titled 'Biology and ecology of the Goolwa cockle (*Donax deltoides*) in the Coorong region, South Australia'. Anne will present a paper on the phenological cycles of river red gum and black box at the 5th Australian Stream Management Conference in Albury on 21-25 May. Her findings indicate that river red gum in particular has strongly differentiated patterns of flowering and leaf production, which could be useful in targeting watering events.

Eric Nicholson has been successful in accessing several funding sources to support his PhD study of mangrove sediments, including a Sir Mark Mitchell foundation grant, and a Wildlife Conservation Fund grant. Eric has won an AINSE Award (for doing sediment dating at ANSTO), as well as the Kirsty Brown Award, which will support isotopic research in the combined fields of Marine Science and Earth Science. This last Award will cover attendance at a major international conference in Cairns this year (INQUA), where Eric will present a poster about his dating work and isotope research on mangrove sediments.

Anne Jensen is also the recipient of two grants, from the SA Murray-Darling Basin Integrated Natural Resource Management Board and the South Australian Nature Foundation, to continue the intensive work of counting an estimated 700,000 river red gum seeds as part of her PhD study. Anne is investigating the status of the Lower Murray floodplain seed bank and its response to flooding, in the context of managing environmental flows.

Banksia Environmental Awards 2007

Entries are now open for the Banksia Environmental Awards 2007 – 'Solutions through Convergence' which is about merging technologies, resources, expertise and knowledge to make greater strides in preserving our environment and reducing the impact of climate change. The 2007 Daimler Chrysler Australian Environmental Research Award provides \$30,000 to recognise and promote Australian researchers or research programs that have made significant contribution to understanding, or resolving, local or global environmental problems. Entries close 8 May 2007. Further information on categories, guidelines and eligibility can be accessed at www.banksiafdn.com

2007 Young Tall Poppy Science Awards

The Tall Poppy Campaign is seeking nominations for the prestigious Young Tall Poppy Science Awards to be announced on Thursday 16 August 2007.

Guest Speaker: Professor Ian Frazer - Clinical Immunologist, University of Queensland, Australian of the Year 2006, Merck Sharp & Dome Florey Medal winner 2007.

To download the nomination form, go to www.tallpoppies.net.au/awards/2007. All nominations are due in Research Branch by 8 June 2007. For more information contact Pamela McLeod, State Manager, Tall Poppy Campaign: mcleod.pamela@saugov.sa.gov.au

South Australian Science Excellence Awards

The South Australian Science Excellence Awards were recently launched by the Minister for Science and Information Economy at the University of Adelaide's Research Centre for Reproductive Health.

Monetary awards will be presented in the following five categories:

- South Australian Scientist of the Year
- Excellence in Research for Commercial Outcomes
- Excellence in Research for Public Good Outcomes
- Science Education and Communication Excellence
- Science Leadership and Management Excellence.

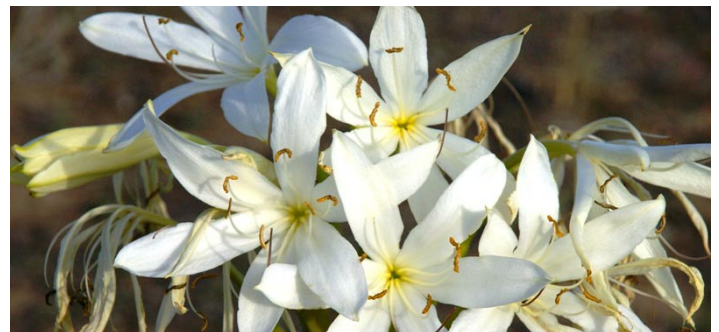
For further information on the Awards and to download the Nomination Guide and relevant forms please visit <http://www.scienceawards.sa.gov.au>. Completed nomination forms should be forwarded to Research Branch by 14 May 2007 for University endorsement and submission. For further queries/information please contact Louise Moore on 08 8303 3388 or louise.moore@adelaide.edu.au

DEST Endeavour Awards For Australians

The Endeavour Programme offers support for leading researchers, executives and students from Australia to undertake short or long term study, research and professional development in a broad range of disciplines, in countries abroad.

For the full range of opportunities available and information on how to apply, please visit the DEST website: http://www.endeavour.dest.gov.au/awards_by_country/for_australians/default.htm

Application forms are currently available and must be submitted online by 31 July 2007. Please forward a copy of your application with a completed Application Coversheet to Chelsea DuBois at Research Branch. For further information or advice on your application please contact Chelsea on 8303 3716 or chelsea.dubois@adelaide.edu.au



Murray lilies bloomed as usual over Easter, in spite of the drought.
(Photo: Anne Jensen)

Sir Mark Oliphant Conferences

The Sir Mark Oliphant Conferences - International Frontiers of Science and Technology provide financial support to stage strategically significant international conferences in Australia on high priority, cutting edge, multi-disciplinary themes. A Sir Mark Oliphant Conference must be a stand-alone event and not be part of an existing series. The Conference series is supported by the Australian Government under the International Science Linkages Programme, and managed on behalf of the Department of Education, Science and Training by the Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering.

The Academies are seeking expressions of interest for conferences to be held between 1 January and 31 December 2008. Each conference can be supported to an amount of up to \$90,000. Guidelines, information and expression of interest form can be found at: <http://www.oliphant.org.au/>

Please submit your application with a completed Application Coversheet to Chelsea DuBois at Research Branch by 11 May 2007. For further information or advice on your application please contact Chelsea on 8303 3716 or chelsea.dubois@adelaide.edu.au

Conference and Seminar Diary

Australian rivers: making a difference

5th Australian Stream Management Conference, 22 - 25 May 2007, Albury-Wodonga

The 5th Australian Stream Management Conference is being convened by Charles Sturt University's Institute of Land, Water and Society. Sponsors include Land and Water Australia, EarthTech, Murrumbidgee Darling Basin Commission and Water for Rivers. <http://www.csu.edu.au/research/ilws/news/conference.html>

Water Down Under 2008

15-17 April 2008, Adelaide, South Australia

All professionals with an interest in Hydrology, Water Resources and the Environment are invited to attend, with conference themes including:

- Climate, Rainfall and Surface Variability
- Groundwater Systems
- Hydrological Modelling, Data and Forecasting
- Water Management and Sustainability
- National and International Water Issues and Case Studies.

Professor Graeme Dandy of the Water Research Cluster is Organising Committee Chair. Partners include ICE WaRM, Engineers Australia, SA Water, The University of Adelaide, the University of South Australia, Flinders University, Adelaide City Council, Tonkin Consulting and the Bureau of Meteorology. Abstract submissions for the conference are now being accepted, with the closing date for submissions being 29 June 2007. For further information, please visit the conference website: www.waterdownunder2008.com

10th International Riversymposium

3 - 6 September, 2007, Brisbane

The Riversymposium aims to make a difference to the declining state of rivers and waterways. The 10th International Riversymposium & Environmental Flows Conference will provide a valuable opportunity for delegates to gain exposure across a broader range of river management topics than in previous years.

For more information:

<http://www.riversymposium.com/>

Water '07

4 - 6 Jun 2007, Crown Towers, Melbourne

WATER '07 is at the forefront of the policy debate in Australia and you can learn about:

- Institutional reform and governance arrangements
- Reuse and recycling and mitigating climate risk
- Contingency planning and supply side options
- Water trading, market forces and regulation
- Minimising the impact of rural communities
- Competition and the private sector.

For more information, see <http://www.pipecommunications.com.au/water07>

Australian Society of Limnology (ASL) and NZ Freshwater Sciences Society (LIMSOC)

Water: an inconvenient truth

3 - 7 Dec 2007, Queenstown, New Zealand

Keynote speakers include Dr Morgan Williams (NZ), Prof Peter Cullen (AUS) and Prof Bruce Wallace (USA). Abstracts for papers and posters are due by 30 September 2007.

Updates: <http://limsoc.rsnz.org/>

6th Intl IAHS Groundwater Quality Conference GQ07

Securing Groundwater Quality in Urban & Industrial Environments

Fremantle, Western Australia, 2-7 Dec 2007

This will be the first GQ conference outside of Europe and North America. Previous GQ conferences were held in Estonia (1993), Czech Republic (1995), Germany (1998), UK (2001) and Canada (2004).

Abstracts are invited on any subject related to the theme of securing groundwater quality in urban and industrial environments or any of the sub-themes listed on the conference website. The due date for abstracts is 11 May 2007. Further details are available from the conference website:

<http://www.clw.csiro.au/conferences/GQ07/>

2nd International Salinity Forum

Salinity, Water and Society – Global issues, local action

31 March – 3 April 2008,

Adelaide Convention Centre, Adelaide

Objectives of the Forum:

- Exchange cutting edge knowledge about the science, policies and management practices relating to salinity, and particularly its associated water and human dimensions;
- Cement and enhance the international network of scientific, engineering, policy and community interests associated with salinity;
- Provide a forum for translating scientific knowledge about salinity into sound policy, management and on-ground actions to secure long-term food production, protect land, water and vegetation resources and enhance quality of life globally.

For further information visit the forum website

www.internationalsalinityforum.org

3rd Intl Symposium on Riverine Landscapes (TISORL)

Global change and river - floodplain ecosystems

27 August - 1 September, 2007

South Stradbroke Island, Queensland

Experts in river ecology, human population dynamics, hydrology and water use, climate, and bio-assessment are invited to discuss the implications of global-scale changes for river-floodplain ecosystems and to identify future research directions. For more information visit www.rivers.edu.au

Who is the Water Cluster?

University Research Clusters build relationships between thematic, cross-disciplinary interested groupings of researchers. The Water Research Cluster coordinates water research across the University of Adelaide. The Water Research Cluster has a strong culture of collaboration and support of teams, and has a particular focus on supporting early career researchers.

The Water Research Cluster has specific strengths in the following fields of research:

- Integrated Catchment Management
- Managing Water in Arid Areas
- Managing Wetlands and Rivers
- Sustainable Irrigation
- Wastewater Treatment and Management
- Water Management in Urban Areas.

Leadership Panel

A Panel of academics from across the disciplines and schools of the University provide strategic direction and management of the Cluster.

The current members of the Leadership Panel are:

- Graeme Dandy (Civil and Environmental Engineering) - Champion
- David Chittleborough (Geology and Geophysics) - Champion
- Angus Simpson (Civil and Environmental Engineering)
- Marcus Lane (Geography)
- David Jones (Architecture)
- Peng Bi (Health)
- David Lewis (Chemical Engineering)
- Mike Geddes (Environmental Biology)
- Justin Brookes (Environmental Biology)
- Mike Young (Environmental Biology)
- Peter Gell (Geography and Environmental Studies)
- Don McMaster (Research Branch).

Advisory Board

Dr John Radcliffe (Chair)

National Water Commissioner, Chair of Centre for Natural Resource Management

Members:

- Mr John Johnson (SA Murray-Darling Basin INRM Board)
- Mr Fraser McLeod (Dept of Water, Land and Biodiversity Conservation)
- Mr Tony Smith (Water Industry Alliance)
- Mr John Ringham (SA Water)
- Prof Wayne Meyer (University of Adelaide)
- Mr Tony Lines (United Water)

Cluster Coordinator

Dr Paul Dalby

For more information relevant to water science and management, visit the Cluster website <http://www.water.adelaide.edu.au>

Cluster Activities

SA TERN* Proposal

Visualising Australia's Living Landscapes: Tools for measuring, modelling and displaying ecosystem dynamics

The SA TERN Steering Committee, led by Professor Wayne Meyer, met last week to hear the results of recent discussions with TERN Facilitator Professor Paul Perkins AM and Science Adviser Dr. Graham Harris, and to examine ways of advancing the TERN proposal within South Australia.

Paul Perkins has advised that he will provide feedback from his discussions with DEST and the Commonwealth Chief Scientist, and that he will ensure an appropriate fit between the proposals and sufficient infrastructure. The deadline is 14 May 2007, when the NCRIS committee meets next.

The SA Steering Committee plans to amend the proposal after feedback from Paul Perkins, and present the updated proposal to the State Minister for Science and to the SA Chief Scientist, Professor Max Brennan AO, seeking their support.

(*TERN = Terrestrial Ecosystem Research Network)

Report from Assoc Prof David Chittleborough

Water Information Links

Useful information on water-related topics can be found in the electronic sources listed below.

Australian Water Resources Assessment 2000

Surface water and groundwater - availability and quality http://audit.ea.gov.au/ANRA/water/docs/national/Water_Content.html

EnviroInfo Newsletter

EnviroInfo is a fortnightly eNewsletter for professionals in the natural resources and environment management fields. You can obtain a subscription by sending an email to info@envirocentre.com.au with the words 'Subscribe EnviroInfo' in the subject line.

EcoVoice environmental newspaper is available online at www.ecovoice.com.au

News Splash

News Splash is a regular information email from the Water Research Cluster with a series of short articles of a few lines with links to further information. To register, send an email to paul.dalby@adelaide.edu.au with the words Register News Splash in the subject heading. To Unsubscribe, enter the words Unsubscribe News Splash in the subject heading. Send any submissions for News Splash to Paul Dalby: paul.dalby@adelaide.edu.au

Water Research Links – Funding Opportunities

Watch for new funding opportunities on the Research Branch website <http://www.adelaide.edu.au/rb/funding/opps.html>

The comprehensive Grant Opportunities page on the Research Branch website provides access to all ARC and NHMRC opportunities as well as the rural and natural resources R&D corporations. In addition, you can also access the myriad of other funding opportunities. Applications should be submitted to the Research Branch before the sponsor's closing date (1 week for Australian funds and 2 weeks for international funds). Visit <http://www.adelaide.edu.au/rb/funding/> for instructions on submitting applications.

Ian Potter Foundation

<http://www.ianpotter.org.au/>
Closing Date: 4 June 2007, 1 October 2007

Areas of interest: include Environment & Conservation, Science – innovative, cross-discipline projects encouraged.

BHP Corporate Community Program

Applications are considered on 1 March, 1 August and 1 November each year.

Application forms are available from the web site.

The BHP Billiton Corporate Community Program manages a key group of partnerships with Australian and International community and environment not-for-profit organizations. In addition to the key partnerships, a small number of national projects from not-for-profit organisations in Australia are selected for support each year. These projects generally fall in the range of \$AUD50- 200,000, although a longer-term project could receive this amount annually for up to three years.

<http://www.bhpbilliton.com/bb/sustainableDevelopment/community/supportGuidelines.jsp>

Grants for Field Research – Earthwatch

Closing Date: Ongoing
Purpose: To create an opportunity for public involvement in significant research that addresses scientific, environmental and policy problems and issues. Website: <http://www.earthwatch.org/research/index.html>

Contact Details: Mr Jason Alexandra, Director, Earthwatch Australia
Email: JAlexandra@earthwatch.org.au
Telephone: (03) 9682 6828

Macquarie Bank Foundation Grants

Internal Closing Date: accepted through year
The Macquarie Bank Foundation's funding criteria are flexible and open. The Foundation welcomes applications for funding from a diverse range of initiatives that are working in innovative ways to provide long term benefits to the community. Each application is assessed on its individual merit. Funding is focused on the core areas of education, health care and research, welfare, the environment and the arts.

http://www.macquarie.com.au/au/about_macquarie/macquarie_in_the_community.htm

George Alexander Foundation

<http://www.gafoundation.org.au/>
Closing Dates: 4 June 2007, 1 October 2007

Areas of interest: Environment & Conservation -- projects to develop partnerships with communities, government and the private sector to prevent irreversible damage to the environment and to encourage the maintenance of biodiversity.

Water Organisation Links

The International Centre of Excellence in Water Resources Management produces the ICE WaRM eNewsletter. You can subscribe at <http://www.icewarm.com.au/mailman/listinfo/eneus>

Land & Water Australia

Land & Water Australia provide significant sources of water-related research information and funding for projects. Their website is www.rivers.gov.au for access to their many publications.

Australian Water Association

AWA has a national coordinating committee under way now, to help in the areas of professional development, training and tertiary education for water. Visit <http://www.awa.asn.au/> and view the calendar and weekly newsletter there.

eWater Cooperative Research Centre

The eWater CRC is a joint venture between 47 water, catchment and research organizations. For more information see www.ewatercrc.com.au

The Water Research Cluster newsletter is published once every two months.

The latest version is uploaded to the Water Research Cluster website (<http://water.adelaide.edu.au>). To receive a copy of the newsletter in printed form, send an email to paul.dalby@adelaide.edu.au with the words Subscribe Newsletter in the Subject heading.

To receive a notification that the newsletter has been uploaded to the website, write the words Subscribe e-Newsletter in the Subject heading.

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