IS SEA-LEVEL ACTUALLY RISING?

Edward Bryant, Department of Geography

RECENT RESEARCH by the Department of Geography in the University of Wollongong indicates that a CO2-warming climate scenario, whereby increased concentrations of 'greenhouse' gases result in warmer temperatures that either melt near-polar ice or cause thermal expansion of ocean waters, thus leading to increased sea-levels and exacerbated coastal erosion, assumes fundamental but unproved cause-and-effect relationships.

The publicly accepted view is that the Earth's surface temperature will warm on average by 1.5 °C and that sea-levels will rise 20 to 40 cm over next 30 to 50 years. These figures are derived from computer models of the Earth's atmospheric circulation; they ignore, however, the point that global climates and not just air temperature have changed over the past century. Indeed, it is difficult to prove that air temperatures have risen globally over this period.

To attribute recent temperature increases to man-made factors and to extrapolate these trends to the future also ignores the historic variability of climate. For instance if present increases in temperatures are the warmest in the past 1000 years, then what caused the warmer temperatures 1000 years ago? Certainly man's effect upon concentrations of 'greenhouse' gases before the Industrial Revolution was minimal.

Until very recently, conventional wisdom held that sea-level was rising at the worldwide rate of 1.5 mm/yr. Under a CO2-warming scenario this rate will increase by three to 30 times causing accelerated beach erosion and permanent or more frequent flooding of low-lying areas. This threat is illustrated in figure 1 which shows the existing sea-level rise in four major cities, London, New York, Venice and Tokyo. These cities would be inundated if sea-level rose at faster rates. But is sea-level presently rising worldwide?

This question was evaluated using sea-level records compiled by the Permanent Service for Mean Sea Level, Bidston Observatory, UK, for the years 1960 to 1979 together with other published material. Figure 2 presents these results. Contrary to the general belief of a worldwide rise, sea level has actually

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Fig. 1

![Graph showing sea-level changes in London, New York, Venice, and Tokyo.](image)

Fig. 2

![Map showing sea-level changes.](image)

Unshaded sections of coastline do not have accurately defined or long-term sea-level information.

Average annual rates of change in worldwide sea-level mainly between 1960-1979.
New University Centre will take biological technology to Australian community

A Centre for Applied Biology has been established in the University of Wollongong under the Directorship of Professor Helen Garnett. Aims of the centre are to utilise the knowledge and skills of the multidisciplinary team in the Department of Biology, as well as staff from other units, to undertake specific contracts as well as short- and long-term research projects of direct benefit to the community.

The expertise of the centre lies in two major areas of modern biology. The first is the application of modern cellular and molecular biological science—Biotechnology. Expertise in plant cell culture, animal cell culture, algal culture, microbial culture, antibody technology and nucleic acid technology enables the staff to play an important role in projects aimed at improving the productivity of plants and animals and the development of detection systems for specific pathogens in biological material and in the environment at large.

The second field of special expertise is environmental biological science—Ecotechnology. By using its experience in the area of biological systems and how they react to perturbation, the staff aims to develop ways in which we in Australia can accommodate a continuous use of the living resources of the continent without irreversibly degrading these systems. Specific problems, in which advice can be given and research undertaken, include the ways in which urban and rural development may be accommodated without irreversibly damaging water quality, soil quality and our native flora and fauna; and the impact/influence of native plants and animals on food crops; reforestation.

The establishment of this centre has been supported by Purotec Pty Ltd, a water-purification company which is supporting research into improved detection, control and eradication of micro-organisms in water systems, particularly Legionella bacteria. The centre will also undertake regular testing of water for Legionella and other micro-organisms, which new legislation dictates must be performed on, for example, air-conditioning cooling towers.

Wollongong Uniadvise Ltd, which has assisted in the establishment of the centre, and whose support is gratefully acknowledged, will be responsible for the administration of sample testing.

The installation of facilities to undertake studies on Legionella is particularly pertinent to communities in Australia, where several outbreaks have occurred in recent years. The University is grateful to Purotec Pty Ltd for its support—support which will ensure that knowledge in two important areas of biological technology, available within The University of Wollongong, is transferred to the community.

New admissions policy includes increased entry levels

THE University of Wollongong has announced a new admissions package for 1988 which includes increases in minimum entry levels and attractive incentives for good-quality students.

Principals and careers advisers have been notified of the changes.

Student enrolments at the University have increased dramatically in recent years from 3,000 in 1981 to over 8,000 this year. Fifty-four per cent of the 1987 intake came from the Sydney area. Entry levels for universities and colleges are usually set in January when the Higher School Certificate results have been determined. The rapid growth and increased popularity of The University of Wollongong would have inevitably resulted in raised entry levels. It was decided to set these levels and announce them early to give students the opportunity to make realistic decisions for next year and facilitate orderly planning. Minimum entry levels will range from 269 to 320 based on the SenetaScaled Aggregate.

Guaranteed entry for students

To assist students to plan their future programs of study with greater certainty, applicants with an aggregate of at least 340 and the necessary prerequisites will be guaranteed admission to Applied Science, Commerce and Education (Physical and Health). Guaranteed entry to all other courses will require an aggregate of at least 300. Priority for admission below the guaranteed entry level, if places are available, will be given to the best qualified applicants in descending order of aggregate until the quota for each course is filled or until the minimum entry level is reached.

Scholarships for meritorious students

Apart from ten undergraduate scholarships of $1,100 each currently available on merit to applicants on their first-year enrolment, the University is offering six further scholarships to meritorious students. These scholarships are to be determined on the basis of the trial Higher School Certificate examination, and offer generous benefits for full-time study, including fees, accommodation and a living allowance.

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ISSN 0813-8982
The University of Wollongong and BHP Coated Products Division have joined forces at an attractive opportunity has been created for quality graduates to receive relevant advanced training before entering a technologically advanced industrial setting.

The creation of strong links with industry, the employers, universities, the educators and trainers is in line with Commonwealth government policy. Senator John Button has repeatedly emphasised the need for new products and a skilled workforce to improve the international competitiveness of Australia's manufacturing industry.

In the new venture, BHP will donate $132,000 over three years, and the University will use the funds, supplemented by its own reserves, to offer unusually attractive PhD scholarships for research in Material Science, Mathematics, Electrical and Mechanical Engineering. The scholarships will offer higher than usual stipends and research support so that graduates of the highest calibre will be attracted. The normal level of stipend is too low to allow many students to continue with advanced study; many top graduates can continue with advanced training only if the stipend allows reasonable living conditions. In addition to the increased stipend, these scholarship holders will have the opportunity to spend a significant amount of time in the BHP Research and Technology Centre. They will thus become familiar with both academic and industrial research environments.

The role of The University of Wollongong in developing a skilled workforce was recently outlined by the Vice-Chancellor, Professor Ken McKinnon. The University has a strong commitment to the training of scientists and technologists prepared to respond to the challenges facing the Australian economy, and the provision of research and development facilities. He commented, 'This initiative cements a growing association between The University of Wollongong and industry which will provide significant opportunities for people of outstanding ability. It will stimulate our mutual encouragement of the pursuit of excellence.'

First instalment of the BHP donation is handed over by Mr. John Lysaght, General Manager of the BHP Coated Products Division, to the Vice-Chancellor Professor Ken McKinnon.

Is sea-level actually rising?

from page 1

The reasons for the pattern shown in figure 2 can be attributed to a number of factors that vary over time and from place to place. None of these factors can be linked to a worldwide rise in sea-level or to the 'greenhouse' effect. Long-term factors include sediment and water loading on adjacent continental shelves and the tectonic behaviour of crustal plates. The pattern across the Atlantic and Pacific Oceans is asymmetrical and indicating either a long-term change in intensity of westerly winds or a shift in the location of pressure cells in the northern hemisphere. Over the short term sea-level can fluctuate seasonally between 15 and 50 cm in such diverse locations as the Bay of Bengal, west coast of Mexico, north-eastern Siberia and Australia. Over periods of days or months sea-level can fluctuate several tens of centimeters because of changes in atmospheric pressure, sea temperature, salinity, onshore wind stress components, current movement towards the coastline (as with the Kuroshio and Gulf Stream) and mixing of surfaces and deep ocean waters. Sea-levels can also fluctuate over short distances because of shelf waves and storm surge. River discharge can locally increase sea levels, especially adjacent to the great rivers of the world. Even an increase in the rainfall regime over the coastal sector of an ocean can cause a long-term increase in sea-level measured at a tide gauge.

Of particular note is change in sea-level associated with climatic fluctuations in the equatorial Pacific region. Generally tropical air movement in the Pacific is dominated by strong easterlies. Warm surface water is blown towards the western side of the Pacific where it piles up to heights of 20 cm or more. The circulation oscillates (the Southern Oscillation) in strength every three to five years and has links with change in weather worldwide. Recent oscillations have seen sea-level see-saw up and down across the Pacific Ocean over much shorter periods. During the 1982/83 event, fluctuations reached an amplitude of 30 to 40 cm, 100 times greater than the yearly rate of increase proposed for CO₂-warming. Sea-level fluctuations of Sydney and probably other parts of the east Australian coastline are strongly linked to the Southern Oscillation and other climatic factors such as storms, rainfall and sea surface temperature. For these locations, sea-level increases are no indication of a worldwide rise, but may simply reflect the regional consequences of climatic change in the Pacific caused by the oscillation of the Southern Oscillation.

The above data indicate that it is very doubtful if sea-level is presently rising and even if it were, it is difficult to confirm the fact. If CO₂-warming will lead to an increase in global sea level, then such a scenario must consider effects on interlinked factors affecting sea-level change in both the long and short term. The failure to subordinate a worldwide rise in sea level given existing data also casts severe doubt on the role of sea-level as a major factor causing existing beach retreat. We have also found evidence that beach erosion can be evaluated better by examining climatic and oceanographic factors such as rainfall, storminess or wave regime characteristics. These aspects will be reported in the Gazette at a later date.

This article is based upon a paper appearing in the Australian Geographer Vol. 18 No. 2 Nov. 1987.
Community outreach

The Human Movement and Sports Science academic unit in The University of Wollongong considers community outreach to be one of its prime functions. The activities described here demonstrate the nature and breadth of interaction between the unit and the Illawarra community.

The Illawarra Sports Medicine Clinic

Members of staff have been involved in the formation and functioning of the Illawarra Sports Medicine Clinic for the past nine years. The close association that has been formed between the Illawarra Sports Medicine Clinic and this unit has benefited both parties. University facilities have been made available for use by the Clinic (computing services and so on) and the students interested in research into sporting and recreational injuries have been given access to Clinic records. Furthermore, the stress testing carried out at the Clinic has served as an important field experience for selected students, the benefits of this being passed on to the community at large when students gain employment in the health and fitness industry.

Illawarra Academy of Sport

As discussed on page 6 of this issue the staff of Human Movement and Sports Science provide the technical and scientific back-up for the Illawarra Academy of Sport. The Academy provides scholarships for elite young athletes engaged in a range of sports including field hockey, basketball, netball and gymnastics. The scientific assessment and resultant program design ensure that these young sportspeople maximise their potential while associated with the Academy. Moreover, this department has developed strong ties with the Australian Institute of Sport, with staff and students being provided with opportunities to visit and carry out research at its Canberra location. This ensures that members of staff, and local athletes, are aware of the latest techniques in sports training and injury prevention. Several sports scientists, medicos and physiotherapists from the AIS have presented lectures in the Human Movement and Sports Science seminar program offered by the University.

Assessment of local athletes

The knowledge and expertise of staff members of this academic unit have been utilised by many members of the Illawarra Region over many years. Sporting teams and individual athletes competing at all levels seek advice about training and assessment procedures. Members of national sporting teams (such as the Australian Ski Federation, rowers and judo players) and regional representatives (Illawarra Hawks Basketball Team, Illawarra Steelers) include the sportspeople who have been helped in this way.

Injury research

Investigations into ways in which Rugby, through rule modification and changes in the game, can be made safer to the sporting associations following the University into the forces that are general to the sport. A focus of injury-related investigations. The Human Movement and Sports Sciences academic unit in The University of Wollongong considers community outreach to be one of its prime functions. The activities described here demonstrate the nature and breadth of interaction between the unit and the Illawarra community.

Recreation management

The Human Movement and Sports Science academic unit in The University of Wollongong considers community outreach to be one of its prime functions. The activities described here demonstrate the nature and breadth of interaction between the unit and the Illawarra community.

Exercise therapy

A Clinical Biomechanics Unit has been established in the School of Health Sciences to provide a service for the assessment and consultancy service for those athletes and those interested in community-based projects. The unit is involved in the preparation of a comprehensive exercise therapy manual for the State Department of Education and Training. The manual includes information on the assessment and rehabilitation of injuries, exercise prescription and the use of exercise machines. The unit also provides advice on the design and implementation of exercise programs for community-based organizations, such as schools, community centers and sports clubs. The unit is also involved in the preparation of a manual for the State Department of Education and Training on the assessment and rehabilitation of injuries, exercise prescription and the use of exercise machines. The manual includes information on the assessment and rehabilitation of injuries, exercise prescription and the use of exercise machines. The unit also provides advice on the design and implementation of exercise programs for community-based organizations, such as schools, community centers and sports clubs.
Union and League can be made safer if scrumming technique have been passed on through research by Biomechanists of Wollongong University in different scrum formations.

Pastimes in Australia, has also been the focus of this research will call upon the skills and footwear manufacturers to redesign shoes and boots for injury to participants.

Rent

Staff have been involved in lengthy and detailed local industry with a view to industrial health programs for employees. A State Recreation Planning Authority are involved in this department on the use of local industry with a view to industrial health programs for employees.

ilawarra Fun-Run conducted on University Recreation Centre, and administered by this department on the use of local industry with a view to industrial health programs for employees.

Testing facilities

has recently begun. Although restricted to university, the public demand for such a service has been significant. Tests of body fat, blood pressure, lung and flexibility as well as cardio-respiratory fitness and health status of an individual.

llawarra. It has doubled the size of the recreation hall and made it suitable for indoor football and table tennis and squash courts, and provided office accommodation.

As Sports Association President David Rae said at the opening, cost of the building was $1.1 million, of which $265,000 came from the General Development Fund and $225,000 from the University Union. A loan of $500,000 was obtained at very generous terms from the National Australia Bank. The Sports Association had provided the final $100,000 to complete the project.

The Chancellor described the building as a splendid addition to the campus—to staff, students and the community in general.
University and Academy of Sport increase competitiveness in the Illawarra region

SCHOOL of Health Sciences Lecturer, Owen Curtis, and School of Education Lecturer, Gary Wilsmore, are nearing the end of a joint study on selected physiological parameters of elite junior hockey players. The two have been brought together by their interest in sport and their involvement with the Illawarra Academy of Sport. Owen Curtis is a member of the Interim Board of Management and Gary Wilsmore is the co-ordinator of the hockey program.

The study began in August 1986 when a series of measurements were taken. The Academy Hockey Squad was tested and measurements were taken of:

- Age
- Height
- Weight
- Anaerobic power
- Aerobic fitness
- Flexibility
- Isokinetic strength
- Skinfold measures
- Plus a battery of field-based skills tests.

Appropriate individual programs were then designed to ensure that these athletes maintained their strengths and improved their weaknesses. Follow-up tests will be conducted with a view to establishing current functional status and to establish the effectiveness of individually designed programs on junior elite players. The results of this study will allow coaches to establish a profile of strengths and weaknesses and to implement intervention programs. After the tests and resultant training programs, the Illawarra Academy of Sport’s Hockey players will be better equipped to compete and be successful in state and national level competitions.

The involvement of the School of Health Sciences, the reliance on research and the involvement of professionals to help improve athletic performance are central objectives of the Academy. The Academy also aims to deliver organised sports programs, to allow athletes access to experienced, professional coaches, to give high-performance athletes an opportunity to compete out of the Illawarra region and to allow them to participate in their chosen sport for 12 months of the year. The Illawarra Academy of Sport was officially launched in December 1985 after several years of planning by a committee including representatives of the state and local governments, Wollongong University, the regional community and local sporting groups. The Academy enjoys the support and endorsement of the Australian Institute of Sport and is in close liaison with the regional governing bodies of each sport. The Academy began in January 1986 with basketball, gymnastics, hockey and netball squads. At present, nine coaches and 76 athletes are involved in these programs. Academy athletes are selected from the Wingecarribee, Shoalhaven, Kiama, Wollongong and Shellharbour areas and both the training and competition programs are conducted throughout this region.

So far the basketball, hockey and netball squads have undergone testing and evaluation at The University of Wollongong. This service has allowed these high-performance athletes and their coaches to measure their progress and to concentrate on developing their sporting weaknesses. Our nationally ranked athletes have access to these services at the Australian Institute of Sport in Canberra, and in some states, access is through their Centres of Excellence. Overseas, this type of assistance to athletes is relatively commonplace and it continues to grow and have greater significance in the preparation of high performance athletes.

The Academy athletes drawn from throughout the Illawarra and Shoalhaven regions will, with the services available through the University and with the assistance of the Academy’s elite coaches, now have greater opportunity to be competitive for selection in state and national representative teams.

Uniadvice—Independent Corporate Activity

UNIADVICE (the Friends of The University of Wollongong Ltd), as such has ceased operation. Instead, the organisation has begun operating as Wollongong Uniadvice Ltd, a separate company of limited guarantee incorporated in NSW. The company will operate as an independent corporate activity of The University of Wollongong. This has been endorsed by the University Council. The company will continue to be located at 49 Northfields Avenue.

Changes to the corporate structure have been brought about by a number of factors including a significant increase in activity over the past few months. The value of contracts written to date in 1987 now approaches $900,000. This compares with the 1987 turnover of approximately $350,000.

A number of Centres of the University have been set up under the aegis of Uniadvice. These are the Centre for Transport Policy Analysis (Director Dr Ross Robinson), the Microwave Applications Research Centre (Director Professor Howard Worner) and the recently established Centre for Applied Biological Research (Director Professor Helen Garnett) [see page 3, Editor]. These Centres employ a total of ten researchers on a full-time or part-time basis at no expense to the associated department. Additionally, Uniadvice recently absorbed the activities of the Centre for Continuing and Professional Education as a division of the company. This employs an additional two people.

However, Uniadvice is also negotiating to establish three more Centres for the University. Each Centre will be underwritten by the company and will include research and consulting as the two main components of its activities.

Uniadvice has also announced the start of a Software Publishing operation in Sydney with Professor Hugh Bradlow and the Department of Electrical and Computer Engineering.
Superstructuralism—new book by Wollongong University academic

A BOOK entitled Superstructuralism: The Philosophy of Structuralism and Post-Structuralism was given its Australian launching at the University of NSW on August 6. The book was written originally as a Ph.D. thesis by Dr Richard Harland, now a lecturer in the English Department at The University of Wollongong.

The Structuralist and Post-Structuralist movements first arose in France. They have since spread into the English-speaking world, and are nowadays highly influential in the humanities and social sciences. But this influence has been accompanied by controversy and dissension, everywhere from Cambridge to Yale to Sydney. Total violent adherence or total violent opposition seem to be the only possible responses. And yet there is often very little real understanding of the underlying concepts involved, either among the opponents or the adherents.

This is the situation that Dr Harland seeks to remedy. He explains and justifies the concepts underlying Structuralism and Post-Structuralism, without jargon or mystification. He goes back to the original French sources and gives an account of all the major figures in their respective fields. Saussure and Benveniste (in linguistics), Levi-Strauss (in anthropology), Lacan, Deleuze and Guattari (in psychoanalysis), Althusser and Baudrillard (in political economy), Barthes and Kristeva (in semiotics), Foucault (in history), and Derrida (in philosophy).

But the book is not merely an account of individual thinkers. ‘Superstructuralism’ is an overarching term that draws together the many various forms of Structuralism and Post-Structuralism. According to Dr Harland, there is a common way of thinking behind the various forms—a superstructuralising way of thinking. In this way of thinking, our ordinary Anglo-Saxon common sense is radically inverted until what we used to regard as superstructural and secondary turns out to take precedence over what we used to regard as basic and primary. Culture comes before nature, society comes before the individual and, in general, signs come before both ideas in the mind and things in the outside world.

Dr Harland not only explains this way of thinking as a whole, he also explains the story of its development. Recognising significant changes and differences between the earlier Structuralists and the recent Post-Structuralists, he nonetheless sees such changes and differences as unfolding inevitably out of the initial premises from scientific Structuralists to anti-scientific Post-Structuralists, from interpretations of Marx and Freud to refutations of Marx and Freud, from studies of language and society to subversions of language and society—there is a logical necessity behind the chronological succession.

The book makes another, more controversial, claim. According to Dr Harland, Superstructuralism is not so novel a philosophical position as its proponents suppose. He describes the European tradition of ‘Metaphysical’ philosophy, running from Plato to Spinoza to Hegel, and argues that Superstructuralism is simply the most modern reformulation of the old ‘Metaphysical’ position.

Superstructuralism: The Philosophy of Structuralism and Post-Structuralism is published by Methuen, in their popular ‘New Accents’ series. It has been selling for five months in the U.K., for four months in the U.S., and is now available in Australian book-shops.

Year 2—the Centre for Transport Policy Analysis

NOT everybody gets the name of the Centre right—it is sometimes Transport Studies, or Policy or Policy Studies or simply Transport; and one of the more exotic attempts was the ‘Centre des Transp. Patiens Analitics University of Wallongona . . .

It is certain, though, that into the second year of operation, the Centre is now widely recognised as a focus of rigorous, analytical and independent research into transport policy and planning problems.

By the end of 1987 the Centre's gross income for completed or committed projects will have reached almost $400,000 and is likely to reach a half-million dollars early in 1988. But as gratifying as this financial position is, it is especially important that the Centre be recognised for the quality and impartiality of its research and its judgements.

So far the Centre has completed major projects for the Royal Commission into grain, storage, handling and transport, for the Australian Federal Government’s Inter-State Policy Analysis Commission, the Tasmanian and NSW state governments, for major minerals industry associations and interests, for shipping companies, both Australian and foreign-owned, for an important container handling port and for state government agencies.

For the most part these projects have had important policy implications and in a number of cases have been used directly in high-level policy discussions. In some cases—as in the project related to the development of major new container facilities and a port dredging program—the research has been fundamental to investment decision-making.

Although most research projects have a limited time frame the Centre is now also involved in longer-term, in-depth research. Recently, the Centre was awarded a grant of almost $300,000 from the Australian Special Rural Research Fund for a major three-year study of port costs and port pricing policies for Australia’s rural exports. The Centre also expects to continue work into Australian maritime policy in a project supporting a post-doctoral fellow and a Senior Research Associate at Monash University.

New appointments to staff in 1987/1988 will extend the Centre's capacity, as will a third, high-capability computer; and a new, much-renovated off-campus 'home' and a professional working environment should make the Centre's third year both exciting and productive.
Schooling in Rural Australia—distance learning research to take ‘city’-quality education to pupils in country districts

WHILE there are large primary and secondary schools in major provincial centres, there are many one- and two-teacher schools spread throughout Australia. Then there are forms of schooling that are quite different from those to which city people are accustomed: there are many students who study by correspondence and others who rely on the Schools of the Air. For this reason the Commonwealth Schools Commission is presently conducting a project on schooling in rural Australia.

Three members of the School of Policy and Technology Studies in Education at The University of Wollongong received a research grant earlier this year from the Schools Commission to gather information on ‘information technology and the provision of educational services in rural Australia’. The trio, Professor Carla Fasano, Neil Hall and Jane Cook, has submitted an interim report to the Schools Commission, and expect to submit a final report towards the end of the year.

The final report will provide statistics on the amounts and kinds of information technologies available in rural schools, how these technologies are used in schools, teacher expertise with these technologies and a range of issues including funding arrangements, school curriculum change and teacher professional development.

The interim report sent to the Schools Commission was based on survey data gathered from more than 200 rural schools and case study data where particular schools were visited to gain a picture of exemplary practice of information technology in rural schools. The final report will include further survey data, and a fuller analysis of all materials than was possible for the interim report.

Data from this study will quantify the picture of information technologies in Australian rural schools. Such a picture is not presently available and yet is clearly required if policy makers are to be in a position to make decisions based on the full facts. The data will provide a research base valuable both to policy makers and to future researchers.

The survey used in this project, and the interview schedules followed, provided an extraordinarily large body of data. We now know about these technologies and we know how teachers expect to learn about new technologies as they develop.

The typical computer system in rural schools is a stand-alone microcomputer with memory capacity between 32K and 128K, attached to a monochrome monitor. Secondary schools will typically have 17 computers in the school, and primary schools will have an average of three computers. Sometimes there will be a printer attached: one per three computers in primary schools and one per five computers in secondary schools. Almost all secondary schools have at least one computer, and about 65 per cent of primary schools have computers. The range of the numbers of computers is great: from none in some schools to one school that reported having 42.

The data so far analysed indicate that the growth of information technology in rural schools is crucially dependent on government funding. It indicates too that there are many questions requiring answers. For example, what technology actually works in rural education, for whom and at what cost? The researchers hope they will be able to move towards finding answers to these questions in the not-too-distant future.

Wollongong expands graduate careers service

IN response to increasing interest by employers in University of Wollongong graduates and a growing need for careers advice and counselling for students, the University has expanded its careers and appointments service with the appointment of a Graduate Careers Office.

Over the past five years employers’ practices for the recruitment of graduates have been changing. Employers now have much more interaction with university and college campuses. Many now come on campus to participate in employer interview programs. The University has been gradually increasing its activities in liaising with employers who have been impressed with the quality of Wollongong graduates. The Careers Officer will play a vital role in liaising with employers and increasing these on-campus visits.

Students will benefit from specialised careers counselling throughout their courses, which should help them to coalesce their interests and abilities. The Careers Officer will also provide assistance with interview presentation and application and resume writing.

Miss Patricia Webster has been appointed to this position with considerable experience in careers counselling. She has postgraduate qualifications in the careers area and has published articles and conducted courses on careers counselling. She has successfully conducted her own small business and has worked for several companies in the private sector.