

**Data management  
systems for  
environmental research  
in northern Australia**

Proceedings of a workshop  
held in Jabiru, Northern  
Territory, 22 July 1995

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**Edited by Max Finlayson  
and Ben Bayliss**



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## Preface

The development of information technology over the past decade has heralded new opportunities and challenges for environmental researchers. At the Environmental Research Institute of the Supervising Scientist (*eriss*) this has seen the implementation of a network of personal computers within the reach of all staff. This change alone has provided immense opportunities for handling large amounts of data and rapid communication and exchange of information. The advent of technology, however, does not, by itself, guarantee that we are able to take advantage of the opportunities so presented. To do this we need to alter, or even develop from scratch, our every day work practices to maximise our efficient usage of the technology. Especially, we need to eliminate sloppy work practices in relation to handling data (including the collection, storage and interpretation steps). Our ability to embrace the technology is still only as good as our individual and corporate attitudes and skills; sadly, day by day experience demonstrates that we still have some way to go before we have a uniformly high level of commitment to corporate standards.

The challenges we face are to ensure that we do achieve uniformly high standards and to make effective use of the technology that is available, or likely to be available. To do this we need to accept the individual challenges associated with handling data and the corporate challenges of maintaining accessible and valid records of all data and their whereabouts. It is unarguable that *eriss* and other institutes have not successfully done this in the past and possibly vast amounts of data have been under-utilised due to staff turnover and programmatic changes. The first step in turning around this unsatisfactory situation is to develop protocols that ensure the basic information for all datasets is recorded and available. In other words, all project management protocols require a framework for establishing a core set of information that can be readily understood by others. The days when one person alone knew the location of the sampling sites, the sampling methods and the whereabouts of the data should be long behind us. It is acknowledged that this ideal can not be achieved without training and the development of awareness and corporate responsibility, but these are part of the process and not excuses to delay or even derail the process.

In an effort to develop superior data handling approaches and to take advantage of the opportunities presented by new technology *eriss* purposefully chose to seek external advice on the development of a metadatabase and the use of other information systems for environmental research purposes. For this reason, a small group of external environmental information experts was assembled and combined with a likewise interested group of *eriss* staff. This combined group was asked to provide initial guidance to *eriss* in its endeavours to ensure it was at the forefront of information technology and data management responsibility. A workshop format with invited short presentations was the chosen vehicle, but it was realised that, to a large extent, this was akin to preaching to the converted. However, even the converted need positive reinforcement and support. The workshop format was designed to make us aware of the further opportunities to use data management systems. We fully appreciated the need to tackle the real challenge of aligning all staff members with the basic corporate-level attitudes that would ensure we did progress from the bad old days when data management was, at the best, an individual concern. The workshop was not asked to address this attitudinal problem, but we found ourselves returning to it with regular monotony. We could not escape the 'people' factor.

Thus, we have taken steps to develop our capacity to take advantage of the opportunities for environmental research, with a special emphasis on wetland research in this instance. With this material and information resource we can more confidently face the future challenge of

making it happen across the board. No more should we be plagued by inadequate data storage processes—the single paper copy that was put in this drawer, but does not seem to be there now syndrome—they are very much a thing of the past. We have the technology and assumedly the knowledge and interest and courtesy to make effective use of it and thereby demonstrate our realisation of the value of our data. This workshop should be seen as just one of many steps in this process. We realise fully that the process for developing a corporate-wide interest in these issues is very much an internal one; there was no expectation that expert advice would solve our problems, but it could strengthen our resolve.

In the latter we were successful and for this we warmly thank the external experts. Now it is over to our internal self-interest and altruism.