LOOKING



This unique book features a collection of satellite images showing 20 years of change across the Australian continent.

icasso's Guernica and Dean Graetz's Looking Back have startling features in common: beautiful, powerful images, and subject matters of immense concern for humanity.

Guernica commemorates genocide; Looking Back commemorates changes to the face of a continent by land use over the past 20 years and looks at how these changes have affected the environment.



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There is abundant cause for concern. In Africa, the extent and severity of landscape change in the Sahelian region have been so great that 'desertification' has become a common term. In South and Central America, Equatorial Africa and South-east Asia, the speed and extent of deforestation are obvious even from space. Human activity is now visible as a global force.

Looking Back began in 1989, during the International Space Year (ISY). It was planned as Australia's contribution to the Global Land-Cover Change (GLCC) project. Dr Graetz, a senior researcher with the CSIRO Division of Wildlife and Ecology, set out to produce, 'the most powerful collection of images [of changes in land cover] ever put into the hands of the general public'. He worked in cooperation with representatives from France and the then Soviet Union.

Specifically, Australia's GLCC contribution was the Australia Case Study, which aimed to put land-cover change on this continent into a global perspective. The study has provided insights into how such changes have occurred and been managed in Australia. It has also shown how those changes relate to broader patterns of natural (for example, the El Nino phenomenon) or human origin.

Dr Graetz, with support from the Commonwealth Department of Industry, Technology and Commerce and the CSIRO Space Agency (COSSA), collated a form of 'instant history'. Satellite images of particular places at precise times provide information on, say, a dry-season bushfire in Arnhem Land at 9.30 am on September 2, 1985. Dr Graetz says a great deal of information can be gleaned from such a single image. Scientists can use the image to to see, interpret and understand the actively burning fire front, the smoke plumes and the colours and shapes of the unburned landscape as well as the fire 'footprint'.

Satellite images are also scientifically objective. They are acquired, transmitted and stored by machines, providing images made up of tens of thousands of pixels (each of which, in the case of Australia, has been 'acquired' by the Landsat satellite some 250 times since mid-1972). Human observation, however, is episodic: a researcher might visit the bushfire site in Arnhem Land several years after the fire and be unable to monitor or analyse the fire's effect on the landscape. Also, peoples' observations can never be totally objective. A satellite is able to record information without any failings except those of its technology.

Looking Back provides much more than a record of land-cover change. It also enables the people of Australia — the users and guardians of the continent to make informed judgments about the past and future. It presents us with an accurate record of what has occurred, and gives us an opportunity to interpret the past so we can manage the future benefit the Australian environment.

The book is fascinating in itself, but it is not the whole story. The second essential element in the National Land-Cover Survey project is a CD-ROM called *Auswatch*, published by the CSIRO Office of Space Science and Applications. The CD-ROM, *Auswatch* (and software for your PC or Macintosh) costs \$25, plus \$5 postage.

Looking Back: The changing face of the Australian continent, 1972-1992 is A3size and full-colour. It is available in soft-cover only. The price, including postage and handling, is \$50 within Australia, or \$70 sent overseas via economy airmail. Cheques should be made payable to 'Collector of monies, COSSA'. Contact: Jeff Kingwell, COSSA, PO Box 3023, Canberra, Australia. Canberra