

## Australians Cope with Long-Term Drought

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Federal, state, and territorial governments of Australia are striving to minimize the economic, ecological, and social effects of a 100-year drought, compounded by a two-year period of record devastation from brushfires and record-breaking temperatures.

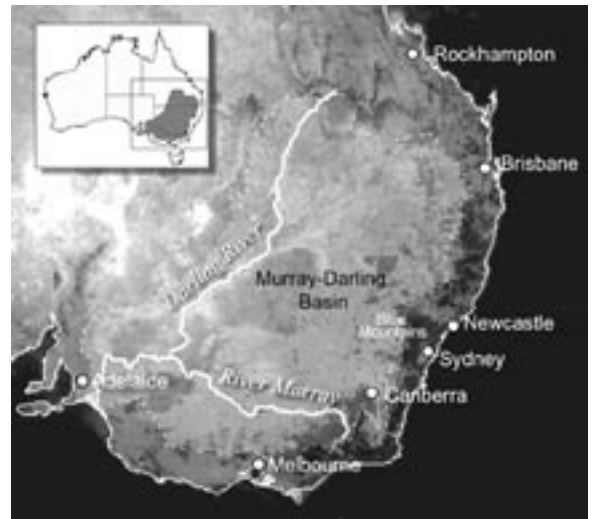
Australian lands span a wide range of climates and ecosystems, including deserts, rangelands, alpine and rain forests, and coral reefs, making generalized comments about Australia's hydrologic present and future difficult. However, a report released in December 2003 by the Australian Greenhouse Office (AGO), a federal agency, projects a general decrease in available soil moisture across the country through 2070, combined with a likelihood of increasingly severe droughts. The report shows that annual average air temperatures in Australia rose 0.7 degrees Celsius over the last century and projects an increase (relative to 1990 temperatures) of up to 6.0 degrees by 2070. Changes in annual rainfall are expected to be worst in southwestern Australia, with a potential decrease of as much as 60 percent by 2070.

Australians are moving forward with plans to cope with these bleak scenarios. In August 2003, a significant step was made toward improving management of Australian water resources by the Council of Australian Governments, which agreed in principle to the establishment of a National Water Initiative. The plan was due to be finalized in early 2004.

The National Water Initiative aims to improve the security of water access entitlements; implement environmental conservation measures at the basin, aquifer, and/or watershed scales; encourage expansion of water markets and trading throughout the country; and encourage conservation activities, particularly through improved stormwater management and re-use programs. The initiative also provides \$500 million to promote efforts to return flows in the Murray-Darling basins.

Interim conservation programs undertaken at the local level have shown considerable success. In December 2003, *The Age* reported that water consumption for November in areas of New South Wales, including Sydney, the Illawarra district, and the Blue Mountains was the lowest in 30 years: 20 percent below normal, and 13 percent below the amount targeted in its conservation program. Average daily water use in Sydney has fallen from 134 to 109 gallons per person, according to a report released by the Department of Environment and Conservation. On Dec. 17, *ABC News Online* reported similar successes in Canberra, with water usage significantly below rates targeted for the summer season. For comparison, residents in Tucson, Arizona consume on average 164 gallons per person per day, not including reclaimed water for irrigation.

Melbourne Water reported to *The Herald Sun* on Dec. 24 that Melburnians have been using approximately 118 gallons per person per day, significantly less than normal. Water storage levels were up 4.7 percent over last year, due partly to modest



December rainfall but principally because of conservation efforts. A temporary full ban on the use of outdoor watering systems was lifted for six weeks to allow once-a-week watering for a three-hour evening period.

In New South Wales, World Wildlife Fund Australia reported that a model developed by The Wentworth Group of Concerned Scientists and recently adopted by the NSW government seeks to preserve threatened water resources by banning clearcutting and providing incentives to farmers for riparian revegetation projects and the rehabilitation of river banks.

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