



# Central Ranges bioregion

## Description

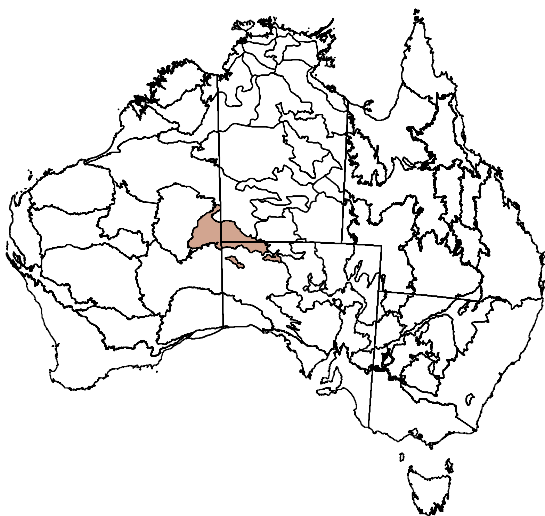
Area: 101 180 km<sup>2</sup>

The Central Ranges bioregion is dominated by rugged ranges and red sand plains. The vegetation is predominantly mulga open woodland over spinifex grasslands. The entire bioregion is Aboriginal land, and there are many small Aboriginal communities in this area. Larger communities include Warburton and Warakurna in Western Australia (WA); Ernabella, Kaltjiti (Fregon) and Amata in South Australia (SA); and Kaltukatjara (Docker River) in the Northern Territory (NT).

## Location

The Central Ranges bioregion surrounds the WA, NT and SA borders (46% of bioregion in WA, 26% in the NT and 28% in SA). Figure 1 shows the location of the Central Ranges bioregion.

**Figure 1 Location of the Central Ranges bioregion**



## Data sources available

Site-based monitoring data are not available.

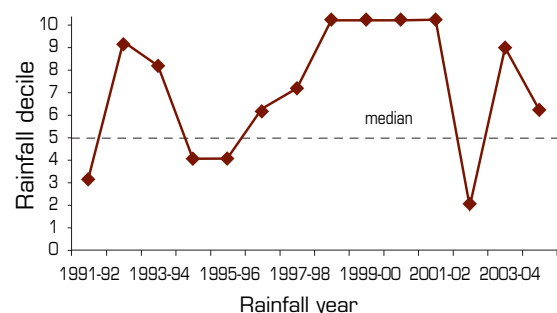
Other data sources include:

- fire extent, intensity and frequency, which provides high reliability for reporting change
- dust
- distribution and relative abundance of invasive animals and weeds
- land use
- conservation estate.

## Climate

The Central Ranges bioregion has an arid climate with a chance of slightly higher winter rainfall. Spatially averaged median (1890–2005) rainfall is 177 mm (April to March rainfall year; see Figure 2).

**Figure 2 Decile rainfall for the period 1991–1992 to 2004–2005**



**Annual rainfall is for the 12-month period 1 April to 31 March.**

Rainfall varied considerably during the reporting period, with the best years being 1998–1999 to 2001–2002. The years 1991–1992 and 2002–2003 were notably dry years.



Note that regional averaging of rainfall conceals spatial variability. Some parts of the bioregion may have experienced slightly better *seasonal quality* and others worse during the 1992–2005 period.

## Landscape function

There are no suitable data for reporting change in landscape function.

## Sustainable management

### Critical stock forage

There are no suitable data for reporting change in critical stock forage.

### Plant species richness

There are no suitable data for reporting change in plant species richness.

### Change in woody cover

Forest cover, based on the Australian Greenhouse Office definition and mapping<sup>1</sup>, is very minor in the Central Ranges bioregion (less than 0.5% of the total area), and there were very small changes in forest extent between 1991 and 2004. There is good coverage of Landsat data in reporting this result.

### Distance from stock water

There are no commercial pastoral leases in this bioregion, and most of the area is remote from managed sources of permanent or semipermanent stock water. The Central Ranges contain many small, naturally occurring sources of water.

## Weeds

Weeds known to occur in the Central Ranges bioregion include:

Common name	Scientific name
Athel pine	<i>Tamarix aphylla</i>
Mesquite	<i>Prosopis</i> spp.

See [www.anra.gov.au](http://www.anra.gov.au) for distribution maps

## Components of total grazing pressure

### Domestic stocking density

Only a very small part (4%) of the bioregion (and no individual lease) is commercially grazed on a long-term basis. Data from the Australian Bureau of Statistics lack reliability for reporting change. There has been recent substantial agistment of cattle in areas of the SA part of the bioregion.

### Kangaroos

There are no suitable data for reporting change in kangaroo populations.

### Invasive animals

Invasive animal species known to occur in the Central Ranges bioregion include:

Common name	Scientific name
Fox	<i>Vulpes vulpes</i>
Rabbit	<i>Dryctolagus cuniculus</i>
Wild dog	<i>Canis</i> spp.
Feral cat	<i>Felis catus</i>
Camel	<i>Camelus dromedaries</i>
Donkey	<i>Equus asinus</i>
Horse	<i>Equus caballus</i>

See [www.anra.gov.au](http://www.anra.gov.au) for distribution maps

## Products that support reporting of landscape function and sustainable management

### Fire

Significant areas of the Central Ranges bioregion were burnt in 2000 and 2002 following wetter years. The largest areas in individual years were burnt in the cooler months between April and November:

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
% area burnt	0.0	0.0	6.8	32.0	4.4	33.5	1.1	0.8	0.4

<sup>1</sup> See <http://www.greenhouse.gov.au/ncas/reports/tech09.html>

The frequency of fire during the reporting period was low compared with all rangeland bioregions, with a mean frequency ( $\log_{10}$  transformed) of 0.12.

## Dust

The mean Dust Storm Index value (1992–2005) was 1.00 — a low value compared with all rangeland bioregions. Dust levels were negligible in the WA and NT portions of the bioregion and low in SA.

## Biodiversity

Biodiversity characteristics of the Central Ranges bioregion include the following:

- In 2004, more than 15% of the area was within protected areas (Collaborative Australian Protected Areas Database, Biodiversity Working Group indicator: Protected areas; see **Section 7 of Chapter 3** of *Rangelands 2008 — Taking the Pulse*).
- The bioregion has 3 threatened plant species, 20 threatened mammal species (which includes 7 extinct species), 2 threatened bird species and 1 threatened reptile species (Biodiversity Working Group indicator: Threatened species).
- For South Australia, there were more than 18 000 records of birds by 2005 (Biodiversity Working Group indicator: Fauna surveys).
- Again for South Australia, there were 10 900 records of approximately 870 flora species recorded by 2005 (Biodiversity Working Group indicator: Flora surveys).

## Socioeconomic characteristics

### Land use

Only 4% of the Central Ranges bioregion is commercially grazed on a long-term basis. This area has not changed appreciably over the 1992–2005 reporting period.

## Key management issues and features

Key features and issues of the Central Ranges bioregion include the following:

- Camels, horses and donkeys are an increasing feral problem. Damage caused by large groups of camels is not limited to vegetation and waterholes; reports of damage to infrastructure and housing are now common.
- There is increased interest in mining exploration.
- The Alinytjara Wilurara Natural Resource Management Board (AWNRM), recently formed under the *South Australian Natural Resources Management Act 2004*, has statutory responsibility for monitoring and evaluating the Aboriginal lands in SA.
- Lack of water, both potable and of stock quality, is the major limitation to development.
- Pastoral activities on the Aboriginal lands are monitored by Anangu Pitjantjatjara Yankunytjatjara (APY) Land Council through the issuing of grazing licences.
- Levels of stock agisted in the APY Lands have been of concern to the APY Land Council and the SA AWNRM Board. The pastoral group of the South Australian Government has done recent assessment work to determine impact. This assessment work, in accordance with the *Natural Resources Management Act 2004*, has been done using the methods for assessing the pastoral estate. Tightening controls on the agistment of cattle in these areas would appear desirable. The *SA Pastoral Land Management and Conservation Act 1989* does not apply to Indigenous-controlled lands.
- Rabbit numbers are recovering from rabbit haemorrhagic disease (calicivirus).
- Invasion of buffel grass is evident.
- Fire activity increases with increased fuel loads after good rainfall years. There is a particular need for controlled use of fire following wetter years.
- There is very little information to report change in the rangelands of this bioregion.
- In WA, none of the bioregion is within the conservation estate.