



# Central Arnhem bioregion

## Description

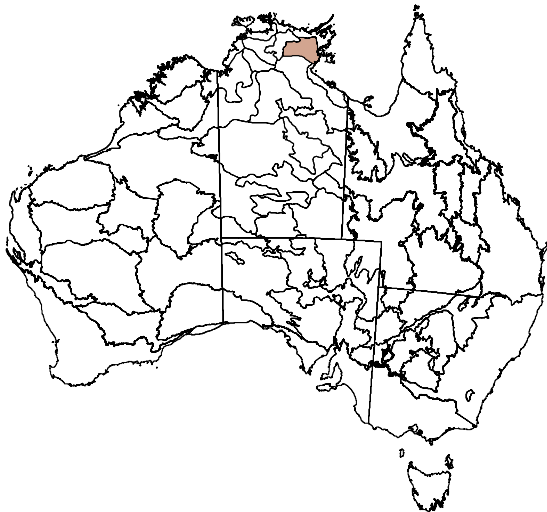
Area: 34 604 km<sup>2</sup>

The Central Arnhem bioregion is characterised by gently sloping terrain with scattered low hills and breakaways. Open forest and woodland vegetation is dominated by Darwin stringybark. Almost all the land is Aboriginal freehold. There are no major industries. The bioregion is sparsely populated, and Numbulwar is the largest community.

## Location

The Central Arnhem bioregion is located in the top end of the Northern Territory (see Figure 1).

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



## Data sources available

Site-based monitoring data are not available.

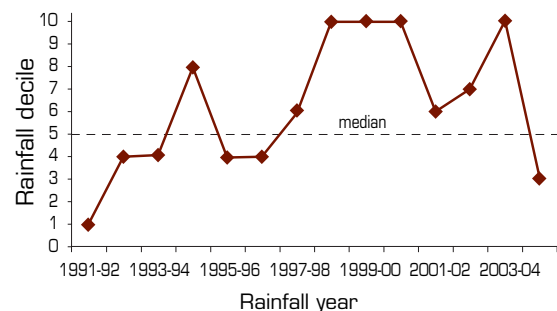
Other datasets include:

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

## Climate

The climate of the Central Arnhem bioregion is tropical monsoonal, with most rain falling in the wet season months between November and March. Spatially averaged median (1890–2005) rainfall is 1014 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.



**Seasonal quality** based on decile rainfall was mostly below the median for the first part of the period and then improved to be mainly above the median. The year 1991–1992 was notably dry, and the periods 1998–1999 to 2000–2001 and 2003–2004 were exceptionally wet.

The intense nature of monsoonal rainfall probably means that the spatially averaged rainfall reported here conceals local variability across the Central Arnhem bioregion.

## 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

Based on the Australian Greenhouse Office definition and mapping of forest extent<sup>1</sup>, there was a small decrease in forest extent in the 1991–2004 period (1991, 32.53% of bioregion area; 2004, 30.42%; a decrease of 2.11%). There is complete coverage of Landsat imagery for reporting this result.

### Distance from stock water

Only about 1% of the Central Arnhem bioregion is commercially grazed, and there are limited sources of stock water (other than natural supplies) present. Distance from stock water has not been calculated.

## Weeds

Weeds known to occur in the Central Arnhem bioregion include:

Common name	Scientific name
<i>Barleria prionitis</i>	<i>Barleria prionitis</i>
Bellyache bush	<i>Jatropha gossypifolia</i>
Creeping lantana	<i>Lantana montevidensis</i>
Grader grass	<i>Themeda quadrivalvis</i>
Hyptis	<i>Hyptis suaveolens</i>
Mesquite	<i>Prosopis</i> spp.
<i>Sida</i> spp.	<i>Sida</i> spp.
Snake weed	<i>Stachylarpheta</i> spp.

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

## Components of total grazing pressure

### Domestic stocking density

With approximately 1% of the bioregion grazed, data from the Australian Bureau of Statistics do not indicate changes in stocking density reliably.

### Kangaroos

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

### Invasive animals

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

Common name	Scientific name
Feral pig	<i>Sus scrofa</i>
Wild dog	<i>Canis</i> spp.
Feral cat	<i>Felis catus</i>
Cane toad	<i>Bufo marinus</i>
Water buffalo	<i>Bubalus bubalis</i>
Horse	<i>Equus caballus</i>

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

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

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

### Fire

Data show that much of the Central Arnhem bioregion burnt in 1997, 1999, 2001, 2002 and 2004. Increased fire extent in latter years followed above-average rainfall (see Figure 2, above).

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
% area burnt	45.3	16.2	67.5	34.4	45.8	49.2	25.6	54.6	22.4

Almost all the area was burnt in the August–December period each year — that is, in the late dry season when fires were likely more intense.

The frequency of fire during the reporting period was high relative to other rangeland bioregions, with a mean frequency ( $\log_{10}$  transformed) of 0.58.

### Dust

The mean Dust Storm Index value (1992–2005) was 0.57, which was a low value among all rangeland bioregions. Dust levels were low in the far southwest and negligible elsewhere.

## Biodiversity

For the Biodiversity Working Group indicator: Threatened species (see **Section 7 of Chapter 3 of *Rangelands 2008 — Taking the Pulse***), there are:

- 1 threatened mammal species
- 1 threatened plant species
- 2 threatened bird species
- 2 threatened reptile species.

There is a very low density of flora and fauna records for most of this bioregion.

## Socioeconomic characteristics

### Land use and value

Only around 1% of the Central Arnhem bioregion is grazed.

### Key management issues and features

Key features and issues of the Central Arnhem bioregion are:

- Late dry-season wildfires are prevalent throughout the bioregion.
- Projects are being developed and used to control fire activity.