



Department of Planning,
Lands and Heritage



Pastoral Lands Board Climate Change Statement 2024



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The Pastoral Lands Board acknowledges the Aboriginal people as the traditional custodians of Western Australia. We pay our respects to the Ancestors and Elders, both past and present, and the ongoing connection between people, land, waters and community. We acknowledge those who continue to share knowledge, their traditions and culture to support our journey for reconciliation. In particular, we recognise land and cultural heritage as places that hold great significance for Aboriginal people.

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Background

Pastoral leases in Western Australia (WA) cover 860,233km² or 33.9 per cent out of the State's landmass of 2,537,630km² which is larger than New Zealand, Italy and the United Kingdom combined.

Pastoral leases are leases over Crown land granted by the Minister for Lands (Minister) for pastoral purposes. Pastoral purposes are defined as the commercial grazing of authorised stock (effectively cattle, sheep, and goats), and certain supplementary uses and ancillary activities.

Pastoral leases are subject to the conditions of the lease and Part 7 of the *Land Administration Act 1997* (LAA), in addition to other relevant legislation and regulation such as the *Environmental Protection Act 1986*, Environmental Protection (Clearing of Native Vegetation) Regulations 2004, and the *Soil and Land Conservation Act 1945*.

The Pastoral Lands Board (PLB) has two broad roles; to advise the Minister on policy relating to the pastoral industry and to ensure pastoral leases are managed on an ecological and sustainable basis. The PLB expects the management, development, and use of natural resources relevant to pastoral operations undertaken on the land to be achieved in a manner that meets the needs of today while conserving ecosystems for the future. This includes reducing greenhouse gas emissions and developing resilience to future and emerging effects of climate change.

The PLB acknowledges that climate change will impact established land management and livestock management practises, bringing new challenges and opportunities for pastoralists.

Introduction

The PLB is committed to the *Commonwealth Governments Climate Change Act 2022* and the Western Australian State Government's Climate Change Policy, that ensures Australia contributes to global efforts to reduce greenhouse gas emissions, in alignment with the Paris Agreement that was adopted by 196 Parties, including Australia, at the United Nations Climate Change Conference (COP21) in Paris, France, December 2015.

The central aim of the Paris Agreement is to keep global temperature rise this century to well below 2°C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

The WA government introduced the Climate Bill (2023) to Parliament to create a framework for WA's enduring response to climate change and ensure WA contributes to national and global mitigation efforts. The legislation establishes the target of net zero emissions by 2050 and requires interim targets to be set for both the State Government and for WA as point targets and emissions budgets. It provides for an emissions reduction strategy, a climate adaptation strategy, sector adaptation plans (including for Primary Industry) and for annual reporting to Parliament.

The legislation is designed to enhance accountability, provide certainty for businesses, and attract the investment required for the transition to net zero greenhouse gas emissions by 2050.

The PLB believes good land management outcomes on pastoral leases across WA, are achieved by working cooperatively with pastoral lessees (lessees), government, and the private sector to improve land condition outcomes.

This Climate Change Statement is an acknowledgement of the PLBs commitment to working with lessees, industry, and government in reducing the greenhouse gas emissions from pastoral land, and its uses and planning for the effects of climate change on the land and the pastoral industry, in order to improve current and future resilience.



Reducing Greenhouse Gas Emissions in the Agriculture Sector

Agriculture contributes 12.5 per cent to WA's overall emissions¹. Most emissions from the sector come from non-energy sources, in particular methane from livestock. Sheep, cattle and dairy farming make up 73 per cent of total emissions for the sector.

The Sectoral Emissions Reduction Strategy (SERS) published in 2023 for WA, sets out priorities and tangible actions for reducing emissions to support the State Government's target of net zero emissions by 2050. The SERS addresses key sectors of the economy, covering all major sources of emissions including from electricity, industry, transport, agriculture and land use, buildings and waste sectors².

The agricultural sector in the SERS acknowledges that decarbonising the sector is challenging and that livestock emissions are hard to abate. Furthermore it underscores the need for additional technological solutions, to substantially reduce key sources of methane emissions and address residual emissions in 2050. The SERS includes a number of important actions being led by the Department of Primary Industries and Regional Development (DPIRD) that are due to be finalised by 2027.

In addition to efforts to reduce emissions in the sector, pastoral land will be increasingly affected by a warming climate. This provides a challenge to current and well-established land management and pastoral practices and will require lessees to build resilience and adapt to current and future climate changes.

Additionally, this will add to the current requirements that a lessee already undertakes, including managing and working the land under the lease to its best advantage as a pastoral property, apply methods of best pastoral and environmental management practices and maintain the indigenous pasture and other vegetation on the land to the satisfaction of the PLB.

¹ Sectoral Emissions Reduction Strategy for Western Australia, 2023, p.25

² [Sectoral emissions reduction strategy for Western Australia](https://www.wa.gov.au) (www.wa.gov.au)

WA's Pastoral Regions

The pastoral regions of WA are made up of highly variable landscapes and in addition to pastoralism provide a range of benefits such as tourism, ecological services, mining, and cultural and heritage values for Indigenous people.

The Northern Rangelands, which encompasses the Kimberley (206,775km²) and Pilbara (147,940km²) regions, is characterised by grasslands. The Southern Rangelands, which encompasses the Gascoyne (138,650km²), Murchison (128,620km²), and the Goldfields-Nullarbor (235,850km²) regions, is characterised by shrublands.

WA's climate varies from tropical in the north to desert in the interior and to Mediterranean in the south-west. Rainfall in the south-west is winter dominant and increases with proximity to the coast. Rainfall is summer dominant in the central, interior and northern areas and increases at lower latitudes, becoming monsoonal in the far north.

The diverse climates and landscapes of the WA rangelands mean it is imperative that lessees have a good understanding of the climate, the seasons, the land systems, and the natural processes that shape the landscape and its vegetation to ensure lessees manage the land under their lease in an ecological and sustainable manner.

Climate change will affect each pastoral region of WA in different ways. Most regions will have higher temperatures, changes in rainfall seasonality and amount, and more frequent drought, all of which is likely to increase challenges to many pastoralists.

In recent times WA has experienced a range of natural disasters such as floods, cyclones, severe storms and bush fires. These severe weather conditions impact the State's communities, economy, and environment.



Adapting to Climate Change - Western Australia

Climate change is already affecting our natural ecosystems and the way people live and work in WA. The global success in curbing greenhouse gas emissions will affect the severity and scale of impacts, with every fraction of a degree of warming significant. The Intergovernmental Panel on Climate Change states that without strengthening of policies, emissions are projected to rise, leading to a median global warming range of between 2.2°C to 3.5°C by 2100.

Since national records began in 1910, average temperatures across Australia have already increased by 1.4°C, with regionally variable changes in total rainfall, the seasonality of that rainfall, the frequency and intensity of dry hot spells and storm intensity. Heat extremes have increased, and cold extremes have decreased. At many locations the frequency of extreme fire weather days has increased, and the fire season has become longer, more intense and frequent since 1950. Furthermore there is a high confidence that the duration of fire weather events is projected to increase throughout Australia.

Looking forward at a regional level, the Kimberley and Eastern Pilbara regions are projected to become hotter, with higher evaporation rates, have about the same annual rainfall, but with an increase in heavy rainfall and river flooding by mid-century, and experience more extremes of weather (droughts, cyclones, intense rainfall).³

The Western Pilbara, Murchison, Gascoyne and Western Goldfields regions are projected to become hotter, with higher evaporation rates, lower winter and spring rainfall, but with a projected increase in heavy rainfall and river flooding, and greater variability in weather and climate (more-intense rainfalls and variation between years).

Eastern Goldfields and Southern Rangelands regions are projected to become hotter, with higher evaporation, about the same annual rainfall, and increased weather and climate variability.

Rising temperatures and altered rainfall seasonality, will have variable consequences for pastoral lands and may contribute to habitat loss, affect vegetation and pastoral fodder sources, increase fire risk and impact access to water.

³ [Western_Australian_Climate_Projections_Summary.pdf](#)
(www.wa.gov.au)

The following images demonstrate how rainfall is increasingly summer dominant, with the biggest changes in the Southern Rangelands:

Australian Seasonal Rainfall Zones based on rainfall data 1900 - 1999

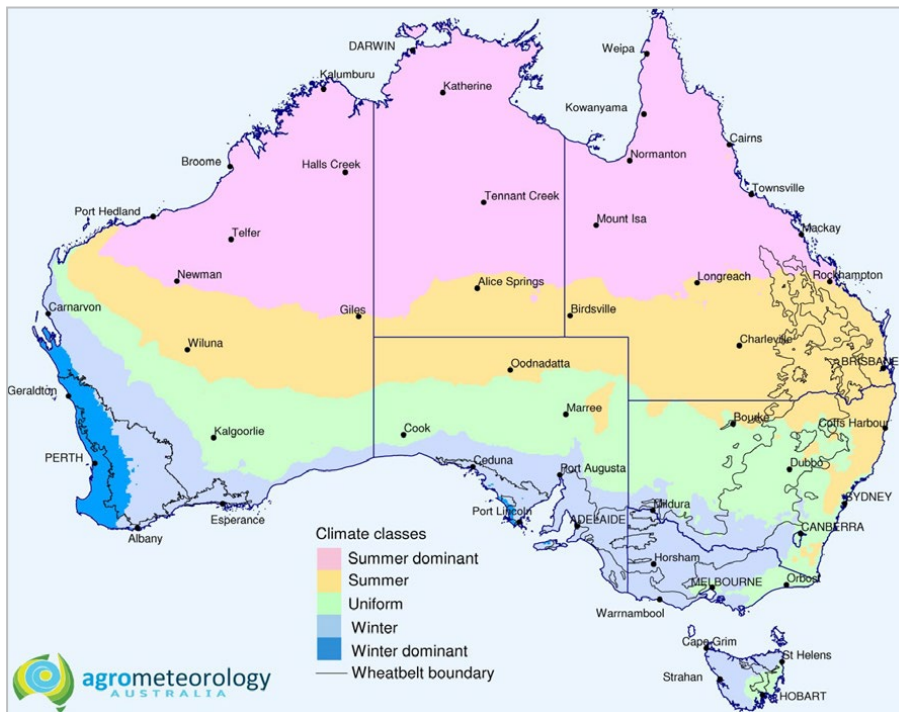


Image courtesy of Agrometeorology Australia.

Australian Seasonal Rainfall Zones based on rainfall data 2000 - 2021

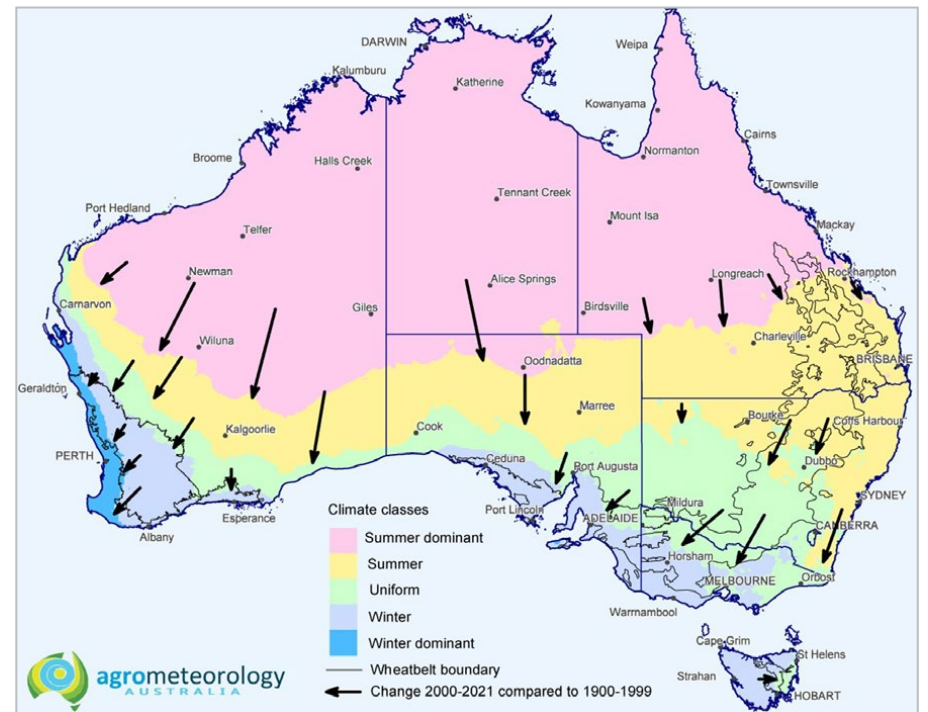


Image courtesy of Agrometeorology Australia.

The PLB acknowledges that climate change is affecting the severity and frequency of weather events, patterns, and timing of wet and dry periods. As climate change increasingly influences our weather it is likely to bring significant challenges for lessees in the future as well disrupting the supply chains and the infrastructure the sector relies upon.

These risks, especially when compounded, may require the PLB to adopt a more flexible approach to considering what operating the land under the lease to its best advantage as a pastoral property might mean. The PLB acknowledges that while confidence in the direction and range of projected change is important, uncertainty about the impacts of climate change should not stand in the way of action.

This includes the understanding that maintaining the indigenous pasture on the land may be different to what it has been in the past, and that carrying capacity may be affected positively or negatively.

A key element of the PLB's response to such challenges will be to ensure that the impact of climate change is factored into its decision-making, whether in setting policy for the whole pastoral estate, or determining a compliance matter at lease-level. Additionally, the ongoing effects of climate change will, where appropriate, factor into any advice the PLB provides to the Minister in relation to the grant of a new pastoral lease, subleases, lease renewals, and permits.

While some lessees may already factor in climate change as part of their decision-making process, the PLB is committed to the provision of climate change information, to all lessees that is relevant to their region, to assist lessees in making well informed decisions.

The outcomes of the DPIRD-lead Sector Adaptation Plan for Primary Production, due in 2027 will also help guide future efforts.

Conclusion

The PLB is committed to fulfilling its functions with respect to land management which includes:

- ensuring that pastoral leases are managed on an ecologically sustainable basis,
- developing policies to prevent the degradation of rangelands,
- developing policies to rehabilitate degraded or eroded rangelands and to restore their pastoral potential, and
- monitoring the numbers and the effect of stock and feral animals on pastoral land.

Additionally, to inform policy and decision making the Board will:

- Support the pastoral estate to reduce emissions to support WA's net zero future through innovations in pastoral practices, new technology and offsetting
- Align with State climate change strategies, policies and legislation where actions or requirements encompass pastoral lands, their uses, economy and people

- Utilise research examining the impacts of climate change on the pastoral estate and pastoralism in order to increase the capability and capacity of pastoralists to respond to climate change
- Monitor the evolving climate science, including WA's Climate Science Initiative, and impacts associated with climate change - for example changes in carrying capacity, fire frequency, seasonal shifts, impacts on vegetation growth, type, and composition
- Assess, the impacts of climate change on conservation and unallocated Crown land to inform decisions on the pastoral estate
- Monitor carbon farming and review new and/ or other methodologies as appropriate. To date, the carbon farming methodologies considered by the PLB in a pastoral context are the human-induced regeneration of a permanent even-aged native forest (HIR) method and savanna fire management (emissions avoidance) method.⁴

The PLB will continue to broaden its understanding of the effects of climate change on pastoral lands, and will work closely with lessees, the pastoral industry and government to ensure pastoral lands continue to be managed in an ecological, sustainable manner, and net zero aligned future.

⁴ [Pastoral Purposes Framework 2021](http://www.wa.gov.au) (www.wa.gov.au)