



Section 1: Overview

Review by the CEO and Director of Meteorology



**Dr Andrew Johnson,
PSM FTSE FAICD**

This Annual Report presents the Bureau of Meteorology's achievements for 2024–25 as it has continued in pursuit of its mission to provide trusted, reliable and responsive weather, water, climate, ocean and space weather services for Australia – all day, every day.

The Bureau remains committed to applying its unique and important capabilities to serve Australian communities, industries and governments and implementing its Strategy 2022–2027 (the strategy) to deliver products and services that contribute to Australia's prosperity, security and wellbeing.

The Bureau's Annual Performance Statement for 2024–25 (p.35) shows that the Bureau continues to meet these objectives in a material way.

A year of cyclones, floods and persistent heat

During the year, the Bureau provided critical information and support to Australian communities, industries and governments during extreme events, and worked closely with its emergency services partners to keep the community safe as Australia experienced a wide range of significant weather events (see p.14).

There were 12 tropical cyclones in the Australian region during the 2024–25 tropical cyclone season, the highest for almost 20 years (12 in 2005–06). There were 8 severe tropical cyclones (category 3 or above) and 5 tropical cyclones impacted the Australian coast (see p.80). Of particular note was tropical cyclone Alfred, which travelled well south of areas where tropical cyclones typically occur and impacted highly populated communities including Brisbane.

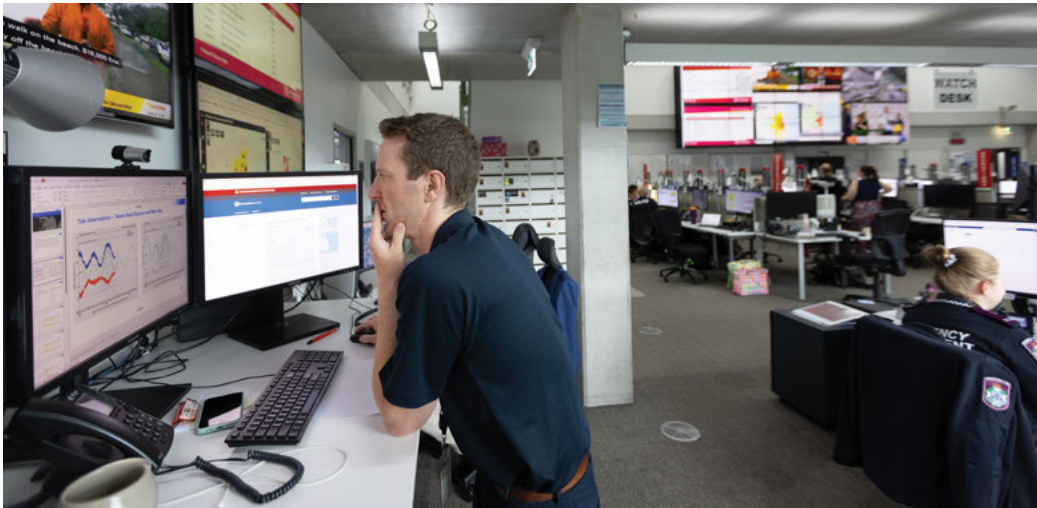
Most states were affected by major flood events during the year with significant and widespread flooding impacting parts of New South Wales, Queensland and Western Australia. This included flooding in southern and central Queensland in December, in northern Queensland from late January, in Western Australia following severe tropical cyclone Zelia in February, in Queensland and New South Wales following tropical cyclone Alfred in March, across large parts of Queensland later in March, and in the Mid-North Coast and Hunter regions in May.

For most of the year, both maximum and minimum mean temperatures were warmer than average for most of Australia. The nationally-averaged mean temperature for 2024–25 was 1.68 °C above the 1961–1990 average, the warmest since observations began in 1910–11. Low to severe intensity heatwave conditions persisted from September to mid-March across large parts of the country.

Australia's average rainfall for 2024–25 was 10% above the 1961–1990 average, although not spread evenly across the country. Area-averaged rainfall was 21% above average across northern Australia, while for southern Australia rainfall was 5% below average. For parts of Victoria and South Australia, rainfall was the lowest on record since 1900–01, continuing the prolonged dry conditions.



Beach erosion at Kings Beach in Caloundra caused by tropical cyclone Alfred.



Bureau forecaster David Grant operating in the Queensland Emergency Operations Centre.

Supporting Australians when it matters most

The Bureau is dedicated to delivering the products and services that enable a safe, prosperous, secure and healthy Australia. In 2024–25 the Bureau assisted its customers to navigate a range of challenging weather, water, climate, ocean and space weather events, and introduced several new and enhanced products and services to better deliver impact and value for Australian communities, industry and governments.

Ahead of the higher risk weather season (October to April), the Bureau ran its annual public safety campaign, *Know your weather, Know your risk*, partnered with government and community-based organisations to run preparedness workshops for vulnerable communities and delivered its higher risk weather season outlook (see p.74). The Bureau also supported the emergency management sector with preparedness activities, including the National Emergency Management Agency's (NEMA) National Preparedness Program.

Across the year, the Bureau sought to keep Australians informed of current and future conditions for wherever they are across the nation. In the lead up to and throughout the severe weather events, the Bureau delivered targeted, up-to-date forecasts and warnings through a range of channels, including the Bureau website, the BOM Weather app, and directly to emergency management agencies.

While events such as tropical cyclone Alfred have major impacts on individuals and communities, they often cause flow-on effects across the economy. For these events, the Bureau works across several sectors including energy, aviation, transport, telecommunications and agriculture sectors to support preparedness and response to minimise damage and disruption and to maximise their business continuity and recovery.

Delivering on our commitments

Throughout 2024–25, the Bureau continued to meet its core obligations and deliver on the specific initiatives to which it has been entrusted.

Implementation of the national Flood Warning Infrastructure Network continued through the negotiation, transfer and remediation of sites in Queensland, and site prioritisation in New South Wales (see p.102).

As one of the partners of the Australian Climate Service (ACS), and the host agency, the Bureau continued to support the ACS in fulfilling its responsibilities for providing data, intelligence and expert advice on climate and natural hazard risks. Notable achievements for the ACS during the year included delivering new regional climate projections for Australia, continuing to progress the National Climate Risk Assessment and establishing the National Insurance Dataset (see p.147).

The Bureau continued to fulfill its obligations under the *Water Act 2007*, releasing a Regulatory Statement of Intent outlining its planned actions as a regulator of water data, releasing the Urban Water Utilities 2023–24 performance report (see p.107) and commencing an expansion of water data collection for the Murray-Darling Basin.

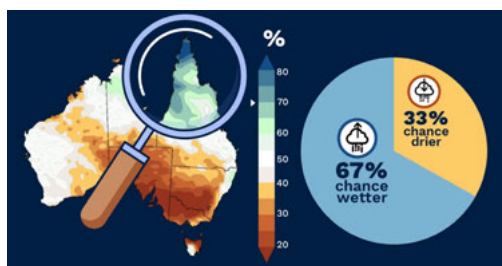
The Bureau delivered the essential suite of Aviation Meteorological Services agreed by industry and government, including the Volcanic Ash Advisory Service and global Aviation Space Weather Advisory Service, and engaged closely with industry on the future Aviation Meteorological Services Plan 2026–2030 (see p.106).

The Bureau continued to deliver meteorological, oceanographic and space weather intelligence and expertise to Defence, including in support of operational deployments, military exercises and military relief efforts (see p.97–98).

Improving our services for greater impact

The Bureau continued to assess the Beta version of its new website, with customer feedback used to inform the addition of a range of features and enhancements throughout the year (see p.114). Ongoing updates and enhancements were made to the BOM Weather app during the year and the Bureau’s social media accounts continued to engage more than 2.3 million followers with interesting, timely and informative content.

In December, changes to the Bureau’s climate information were implemented to provide clearer messaging and encourage the community to use the long-range forecasts when making climate-sensitive decisions (see p.78 and p.138). The Bureau also completed national coverage of surface water data published through the Water Data Online portal and extended the abnormally high tides service to Victoria.



Images from the campaign to explain the changes and how to understand long-range forecasts.

During the year, the Bureau implemented several initiatives to support the efficient operation of Australia's electricity network and its transition to renewable energy. This included developing a blueprint for electricity network operators to safely adjust power flows through transmission lines to account for weather conditions (see p.95), and deploying solar and wind nowcasting and forecasting technologies to facilitate effective renewable energy planning and operation.

Uplifting and strengthening our operations

The Bureau made several improvements to its operational systems during the year to maximise the quality and effectiveness of its products and services.

In June, the Bureau successfully completed the production cutover to its Australis II supercomputer, including the migration of enhanced numerical weather prediction (NWP) models (see p.116 and p.131). This was an extremely complex and challenging transition involving significant cross-enterprise collaboration.

Transition to the IMPROVER forecasts guidance system was completed, which will result in more accurate and efficient forecast services. A new system was launched to strengthen Australia's tsunami warning capability (see p.78) and flood warning capabilities were uplifted through a new flood warning network data collection system and the expansion of the Bureau's existing HyFS hydrological forecasting system (see p.83).

Important enhancements were made to the Bureau's observing network to strengthen the quality, stability and resilience of the Bureau's observations. New radars were installed at Karratha and Townsville, automatic weather stations (AWS) were installed on several ships contributing to the Australian Voluntary Observer Fleet, and to complete the AWS replacement project (see p.113). Automation of observing systems at Hobart Airport was completed, along with a range of enhancements to observation infrastructure at airports around Australia (see p.110). Restoration of 2 tsunami detection stations in the Tasman Sea was also completed in collaboration with international partners (see p.115).



Construction of the new Karratha radar.

The Bureau continued to mature its asset management capability and committed to actions in response to the Australian National Audit Office (ANAO) audit of the management of observing network assets (see p.120).

New crisis management arrangements were implemented during the year to respond to disruptive events affecting the Bureau's staff, products, services and critical business functions (see p.145).

Applying research and innovation

The Bureau continued to apply its science and research capabilities to enhance outcomes across a range of focus areas, including updating Australia's national hydrological projections for improved flood prediction, developing a national climate attribution capability, applying risk matrices for more effective warnings and developing and trialling new national forecast models.

Exploration and leveraging of artificial intelligence (AI) and machine learning (ML) to improve the Bureau's prediction capabilities was a key focus for the year across several applications (see p.125–126 and p.132).

The Bureau established the Rainfall Intelligence (RI) capability as an ongoing trial as an innovation in seamless and effective flood warning delivery (see p.76). The open-source release of the Bureau-developed operational verification system 'scores' saw the innovative system adopted by other agencies both in Australia and overseas (see p.126).

The Bureau collaborated with a range of international partners for experiments into atmospheric processes in the Southern Ocean (see p.119) and into the formation and movement of hail inside thunderstorms (see p.129).

To strengthen the effective delivery of warning products, the Bureau undertook a range of research activities into community understanding of hazard exposure and risk, current use and comprehension of the Bureau's public warnings, and the communication of uncertainties during flash flood events (see p.87).

Building our partnerships and collaborations

Throughout the year, the Bureau continued to work with its global and regional partners on a range of initiatives including capacity building, infrastructure installations, training and technology transfer.

The Bureau signed a new Memorandum of Understanding with the Department of Defence and CSIRO to support long-term collaboration on the Bluelink ocean forecasting platform, signed an agreement with the Japan Meteorological Agency on access to Japan's Himawari-10 satellite and renewed its Strategic Relationship Agreement with the Australian Energy Market Operator (AEMO).

The Bureau continued to work with partners in the Pacific, including through the Climate and Oceans Support Program in the Pacific (COSPPac) and Weather Ready Pacific initiatives, to improve provision of climate data, aviation safety and food security in the region (see p.187).

The Bureau also engaged and collaborated with peer agencies, including through participation in the PacWave24 tsunami warning exercise, and a range activities on forecasting and warnings for fire and tropical cyclones (see p.86).

Building our workforce and culture

Throughout the year the Bureau continued to implement a range of initiatives to support its people and build its culture.

The Bureau of Meteorology Training Centre continued to facilitate learning programs to support organisational capability, including through the Graduate Diploma in Meteorology course – the initial training program for meteorologists – and delivery of specialised in-service training for meteorologists and technical staff (see p.204).

In June, the Bureau launched its new Innovate Reconciliation Action Plan 2025–2027 which sets out the next steps and commitments in its reconciliation journey. A new Diversity and Inclusion Action Plan was also launched to further promote the diversity of the Bureau’s people and to unlock the potential of our different cultures, abilities and backgrounds (see p.142).

The Bureau continued to implement a range of environmental sustainability activities during the year, and released its 2024–25 Emissions Reduction Plan, which outlines the Bureau’s planned contribution the Australian Government’s APS Net Zero 2030 target (see p.196).

Financial results

The Bureau recorded an operating deficit of \$2.1 million which was lower than the approved operating deficit of \$15.9 million. The operating deficit was the result of higher than anticipated technology, people and utilities costs, as well as increased security and corporate costs supporting the growing complexity of the Bureau’s operations.

Total income for the Bureau for 2024–25 was \$483.7 million, compared to \$480.9 million in 2023–24. This increase was primarily driven by an increase in own-source revenue related to funding provided to the Bureau to support international development activities.

The Bureau’s operating expenditure for 2024–25 was \$627.6 million, compared \$633.6 million in 2023–24. This decrease was primarily driven by reductions in supplier and contractor expenditure, in addition to non-essential travel.

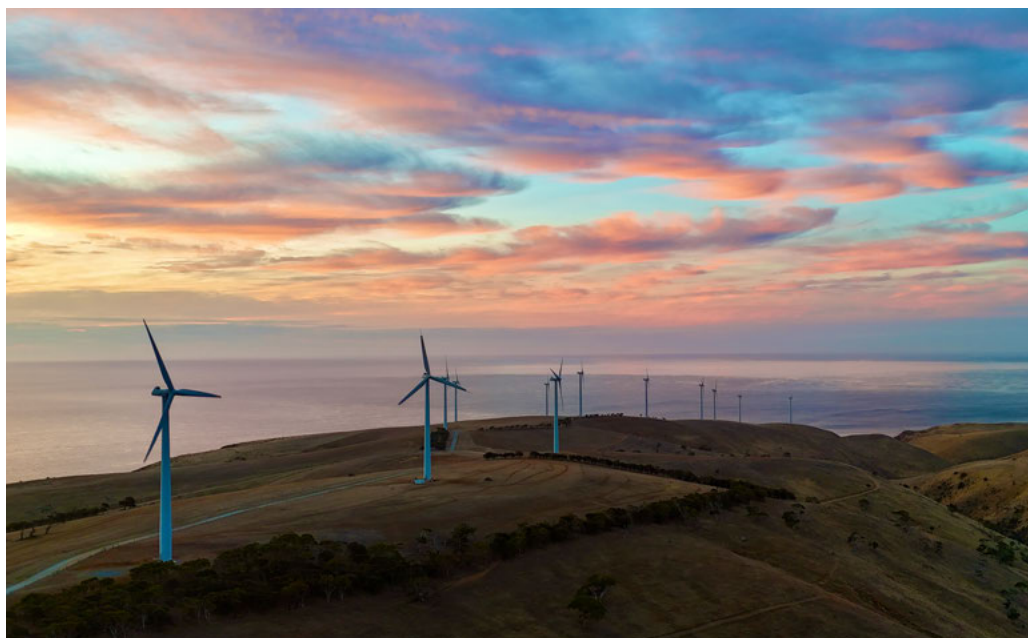
For more information on the Bureau’s financial performance see the Financial resource management (p.225) and Financial statements (p.235) chapters.

Outlook for 2025–26

In 2025–26, the Bureau will seek to build upon what it has achieved in 2024–25, while continuing to navigate a challenging fiscal environment. The Bureau will continue to provide reliable access to weather, climate, water, ocean and space weather information in accordance with the requirements prescribed in the Meteorology and Water Acts, as well as obligations associated with Australia’s international treaties and agreements.

To deliver impact and value to its customers, the Bureau will:

- continue to provide high-quality, accessible, timely products and services to Australian communities, industries and governments
- provide customers with simple, intuitive, trusted and reliable digital experiences that deliver Bureau products and services, including through the new Bureau website
- help the nation to understand and respond to a changing climate and develop an improved understanding of the needs of climate risk decision-makers within Australia
- work with the Australian community and emergency management partners to establish future warning enhancements
- continue physical remediation of flood warning infrastructure acquired from local councils and other third parties in Queensland, and commence physical works in New South Wales and detailed planning for works in Victoria
- leverage the insights and data prepared under Australia’s first National Climate Risk Assessment to support the Australian Government’s medium- to longer-term adaptation response
- deliver water information to underpin national water security and supply services and fulfil the role of Australia’s national regulator for water data and information
- work in collaboration with the energy sector to support renewable energy systems and emissions reduction.



Starfish Hill Wind Farm at Cape Jervis, South Australia.

To maintain and enhance its operational excellence, the Bureau will:

- ensure the safety, security, resilience, and relevance of its core operations, including continuing to uplift cyber security monitoring and threat management processes
- continue to focus on the efficient management of its information technology portfolio and apply technologies that enable customer delivery
- continue to uplift its asset and data management capabilities
- continue to strengthen its financial management, accountabilities and assurance controls
- leverage automation and business intelligence to optimise operations
- continue to embed and mature its lifecycle, product, program and project management capabilities.

To develop and apply insight and innovation, the Bureau will:

- leverage emerging technologies and its deep scientific capability to keep pace with the evolving needs of customers, including through continued exploration of artificial intelligence and machine learning
- continue to implement enhancements to its forecasting methods and models, and embed and mature its forecast verification approaches
- invest in partnerships and information exchange with the emergency management sector to support improved operational decision-making and enhance continuous improvement in hazard prevention, preparedness, response and recovery
- continue to strengthen its international and domestic partnerships and collaborations, including with peer meteorological and hydrological agencies and academia.

To enact and embed the Bureau way, the Bureau will:

- maintain an ongoing focus on the health and wellbeing of its people, and further mature its safety culture and work health and safety practices
- ensure the Bureau remains an employer of choice, recognising the needs of its people and equipping them with the tools, skills and opportunities to grow and excel
- retain a strong commitment to the respect of First Nations peoples and cultures and continue work to ensure its workforce reflects the diversity of the community we serve
- continue to build a customer-focused enterprise culture and foster a workplace built on respect, integrity, and stewardship to support a thriving high-performing workforce
- contribute to a safe, secure, productive, and sustainable environment including through continued implementation of its Environmental Sustainability Principles.

Agency Overview

Role and functions

The Bureau of Meteorology (the Bureau) is Australia’s national weather, climate, oceans, water and space weather information agency and one of the few organisations in Australia that touches the lives of all Australians every day. Since 1908, the Bureau has proudly provided products and services that contribute to economic prosperity, public safety and community wellbeing. These services include observations, forecasts, warnings, analyses and advice covering Australia’s atmosphere, water, ocean and space environments.

This expertise supports governments, emergency services and industry to make informed decisions and assists Australians to live safely and productively within their natural environment.

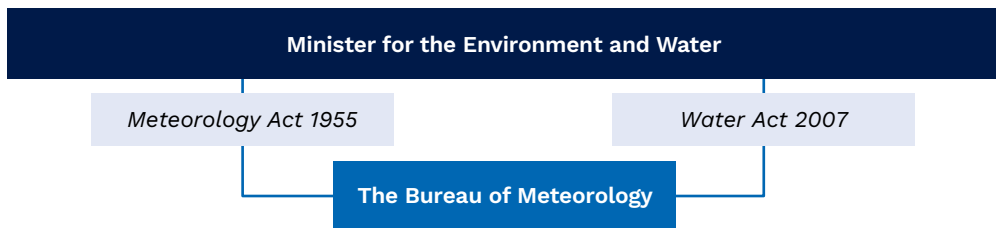
For more information on how the Bureau meets its obligations to the Australian community see the Corporate responsibility chapter (p.179).

Authority

The Bureau operates under the authority of the *Meteorology Act 1955* and the *Water Act 2007*, which together provide the legal basis for its activities. The Bureau must also fulfil Australia’s international obligations under the Convention of the World Meteorological Organization (WMO) and related international meteorological treaties and agreements.

The Bureau is an Executive Agency under the *Public Service Act 1999* (Public Service Act) and a non-corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). Under the Public Service Act, the Director of Meteorology has the powers and responsibilities of an Agency Head.

At 30 June 2025, the Director of Meteorology reported to the Minister for the Environment and Water, Senator the Hon Murray Watt. The Australian Climate Service reported to the Assistant Minister for Climate Change and Energy, the Hon Josh Wilson MP.

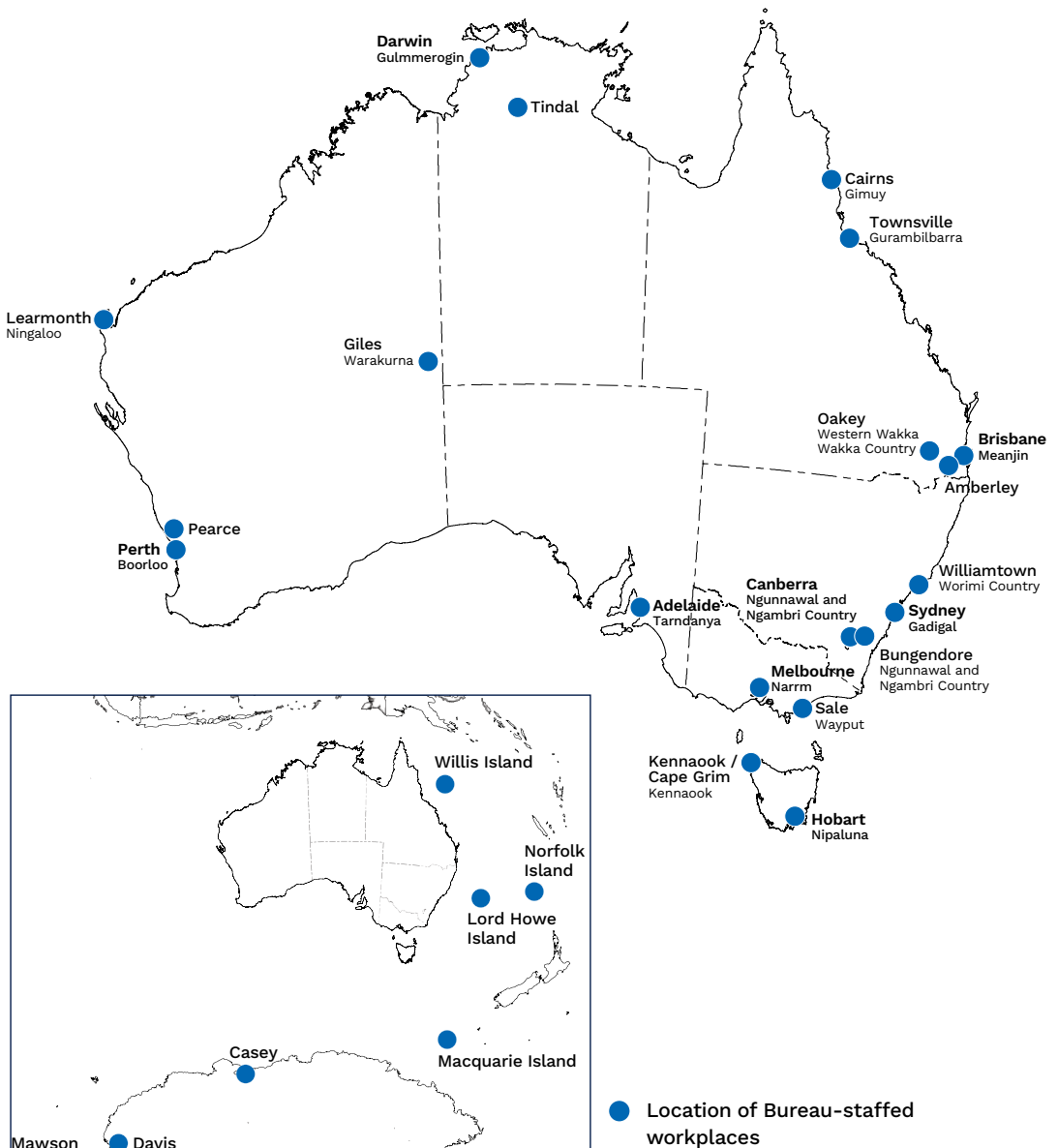


At 30 June 2025, the Bureau operated within the Climate Change, Energy, the Environment and Water Portfolio reporting to the Minister for the Environment and Water.

Location

The Bureau's services span the Australian region encompassing the mainland, Tasmania, Australia's offshore islands and territories (including the Australian Antarctic Territory), and the surrounding oceans and seas. Some Bureau services have greater reach. For example, the Bureau's Volcanic Ash Advisory Centre covers volcanically active regions of Indonesia, Papua New Guinea and the southern Philippines. As a partner in the Joint Australian Tsunami Warning Centre, the Bureau also provides threat information to National Tsunami Warning Centres in Indian Ocean countries.

Bureau staff are located across Australia, on remote islands and in Antarctica. The Bureau's Victorian Office in Docklands, Melbourne, is a centre for administrative and operational activity, and provides overall national strategic planning, management and coordination of the Bureau's services.



Organisational structure

For 2024–25, the Bureau was structured into 5 Groups, each with defined accountabilities and responsibilities. The Bureau’s CEO and Director of Meteorology was also the Accountable Authority for the Australian Climate Service. The Corporate governance chapter provides more detail on Bureau governance and an organisational chart (p.160).

Staff

At 30 June 2025, the Bureau had 1,979 total staff, including 1,722 ongoing staff, 117 non-ongoing staff, 125 contractors and 15 external persons (students and visiting scientists). Many staff work around the clock to provide monitoring, forecast and warning services 24 hours a day, every day of the year. Detailed information on the Bureau’s staff and the management of human resources is provided in the People management chapter (p.202).

Values

The Australian Public Service values of impartiality, commitment to service, accountability, respectfulness, ethical conduct, and stewardship underpin all our actions and behaviours. These values guide how we treat our customers, our partners and each other. Our Strategy builds on these and describes Bureau-specific values and behaviours.

Safety

We are committed to actively improving the health and wellbeing of our people and strive for zero harm.

Integrity

Our integrity is founded on trust, honesty and reliability.

Customer focus

We listen to our customers, understand their needs and are invested in their success. We strive to provide them with an outstanding experience. We are a pleasure to work with and can be relied upon to deliver.

Passion and tenacity

We are proud of our heritage, who we are, what we do and where we are headed. We deliver in times of crisis. Our deep commitment to our nation’s wellbeing drives our success.

Responsibility

We understand and accept our responsibilities. We learn from success and failure. We hold each other to account for our actions and results.

Humility

We are humble in our dealings with each other and our customers. We help each other and operate as one enterprise.

Customers, partners and stakeholders

The Bureau works with a broad range of customers, partners and stakeholders across all sections of the community, and provides special services to an extensive range of Commonwealth, state and local government departments and agencies. These services support emergency management (including prevention, preparedness and response), agriculture, aviation, land and marine transport, energy and resources operations, climate policy, water management, defence and foreign affairs.

Across almost all sectors of the economy, the Bureau’s weather, water, climate, ocean and space weather services support business decisions – from planting to harvesting, excavation to construction, logistics and operational planning. Sector-specific applications of the Bureau’s products and services are essential for the safe and efficient operation of many industries (e.g. aviation) that have flow-on benefits for all Australians.

Every day, millions of Australians use the Bureau’s information to help make decisions about activities that are affected by the weather. In emergency situations, the Bureau’s services enable individuals, families, businesses and communities to make informed decisions about evacuating or preparing themselves for potential or imminent danger.

The national and international meteorological and scientific community is another vital partner, as cooperation through sharing global weather observations and research efforts is an essential and integral part of the Bureau’s operations.

Other Bureau stakeholders include government ministers and the Parliament, the Australian science community, the media, staff and suppliers.

For information on engagement and outreach activities refer to the Corporate responsibility chapter (p.179).

