

Section 1: Overview

Review by the CEO and Director of Meteorology



**Dr Andrew Johnson,
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I am delighted to present the Bureau's achievements in 2022–23. The Bureau again delivered on our mission to provide trusted, reliable and responsive weather, water, climate, ocean and space weather services for Australia – all day, every day.

This year we began implementing our Strategy 2022–2027 (the Strategy). The Strategy builds on our considerable achievements across the last five years to further strengthen our customer focus and amplify the impact and value we provide for Australian communities, industries and governments.

Under this new Strategy, we continued to deliver products and services that contribute in a material way to Australia's public safety, community wellbeing, economic prosperity, national security and environmental health. We made significant progress implementing transformation programs aimed at enhancing our systems, processes and technology. We also strengthened our international and domestic partnerships. I am extremely proud of and grateful for our people, who have consistently demonstrated their great dedication, determination and resilience in delivering our services during the year.

The year was marked by periods of flooding in large parts of Australia as La Niña became established in September and peaked in November, before easing in early 2023. The Bureau's services were critical throughout extensive riverine flooding in Australia's second wettest October and spring on record, including the New South Wales and Victorian areas of the Murray–Darling Basin, and South Australia. Significant flooding also affected northern Tasmania, southern Victoria and southern Queensland during spring. At the end of December and in January significant flooding affected the Kimberley in Western Australia due to prolonged heavy rainfall. Extreme multi-day rainfall in late March and early April resulted in floods in the Northern Territory's north-east and Queensland's north-west. Seven tropical cyclones also occurred in the Australian region, three of which – Ellie, Gabrielle and Ilsa – significantly impacted Australian communities (see p.62). The Bureau's thoughts are with all communities affected by these events.

Overall rainfall for Australia was 32% above the 1961–1990 climatological average at 612.6 mm – the 7th-wettest financial year on record (since 1900) and the wettest since 2010–11. We also observed close to average temperature, with Australia's national mean temperature for the financial year 0.13 °C warmer than the 1961–1990 climatological average.

We delivered impact and value by providing products and services that enhance the wellbeing of all Australians and our services to emergency management agencies helped to limit the physical, social and economic impacts of these severe weather events. In advance of the 2022–23 high-risk weather season (October to April) we provided a range of briefings to government officials including emergency management and defence agencies to support their planning and preparations. We provided critical information and support to communities during extreme events, including throughout significant flood events.

In readiness for future hazards, we launched the Australian Fire Danger Rating System, released a new Heatwave Warning Service, developed a 7-day Tropical Cyclone Outlook Service, and established a 24/7 space weather forecasting centre and deployable meteorologist capability to support the Australian Defence Force.

The BOM Weather app continued to be Australia's most widely used weather application, downloaded by 10.4 million users as of the end of June 2023. The app was Australia's top ranked free weather application in Apple and Google Play stores, with 84% of customers rating their satisfaction level as 'satisfied' or higher. New features added during the year include a new radar mapping experience, flood warning service, and other technical enhancements.

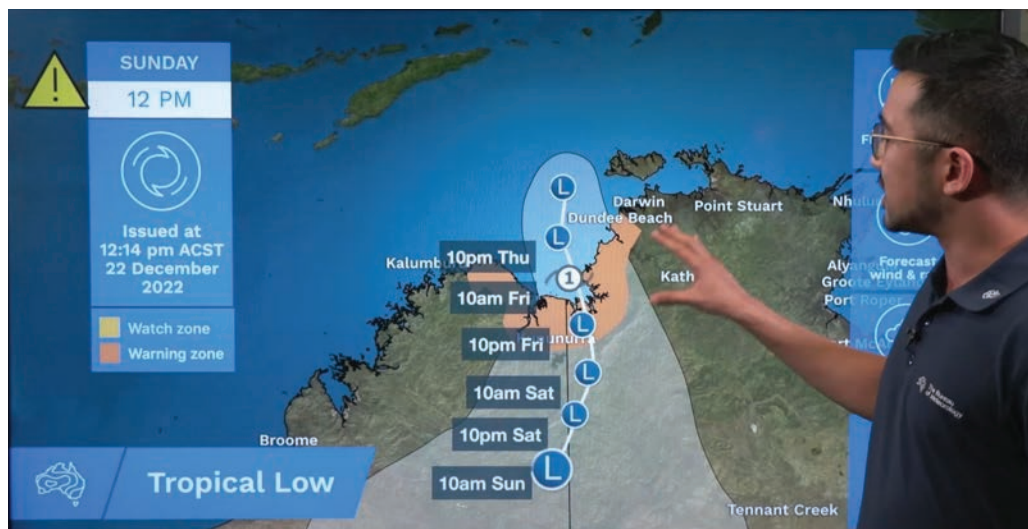
Through our social media channels, the Bureau promoted public safety campaigns on the risks and impact of severe weather and provided insights and information about Australia's unique meteorology.

Through our major transformation initiatives, we delivered operational excellence with a focus on systems, processes and technology. The four-year Public Services Transformation Program concluded, having designed and delivered new ways of providing our weather, water, ocean, and climate services to the Australian community, so that we can better serve and respond to the needs of our customers – now and into the future. Significant milestones for the program in 2022–23 included introducing a mid-morning forecast update for all capital cities, implementing enhanced operational tools to better support service delivery and mobilising a new team of Community Information Officers.

Implementation of the ROBUST Program continued, ensuring the security, stability and resilience of our information and observing technologies. Significant milestones for the program in 2022–23 included completing upgrades to Queensland radar infrastructure at Brisbane and Cairns, installing a range of new automatic meteorological balloon launching systems (AMBLS) and ionosondes, completing security improvements at over 42 observing sites throughout Australia (see p.99) and commencing the commissioning of a secondary high performance computing system.

Through the Business Systems Transformation Program we uplifted our enterprise systems, processes and technologies and implemented a new enterprise scheduling tool to more easily create and better communicate staff rosters.

We upgraded our Hydrological Forecasting System (HyFS) which underpins our national water and flood forecasting services, upgraded our thunderstorm prediction system and developed and trialled a new version of our ocean forecasting system. We also began trialling new global deterministic and ensemble weather prediction models.



A severe weather update by meteorologist Jonathon How forecasting the intensification of a tropical low into tropical cyclone Ellie in December. Ex-tropical cyclone Ellie impacted communities in the Northern Territory and Kimberley region of Western Australia and led to significant flooding on the Fitzroy River.

We systematically delivered insight and innovation, implementing novel, mission-directed solutions for our customers. The 2023–24 Australian Government Budget included several new measures that build on existing Bureau capability, including to remediate flood warning infrastructure in Australia’s highest risk areas over the next 10 years, to establish a single digital platform for national water data management, a new water market website, and water market data standards (p.86), and for the Australian Climate Service to contribute to Australia’s first National Climate Risk Assessment. These investments will ensure the Bureau can continue to provide reliable access to weather and water information, support public safety and grow our impact and value for the water sector.

The Australian Climate Service (ACS) – a partnership between the Bureau, CSIRO, the Australian Bureau of Statistics and Geoscience Australia – continued to build its capability and delivery following its establishment in 2021–22. The ACS undertook a range of activities during 2022–23 to enhance Australia’s climate and natural hazard intelligence capability and improve access to trusted climate and natural hazard data, information and expert advice, including through its support of the National Situation Room during extreme events (see p.132) and work to develop the National Climate Risk Assessment.

Our science, technology, engineering and maths (STEM) Ambassadors continued to promote STEM participation, visiting schools and universities around the country and attending events such as the 2023 Avalon Air Show (see p.114). Our Graduate Diploma in Meteorology course saw a record number of graduates commence the 2023 program, lifting our levels of critical STEM capability (see p.181).

A new bilateral strategic relationship arrangement with Singapore’s Meteorological Service on weather and climate research will focus on weather and climate impacts to deliver enhanced forecast and warning services that inform decision-making and guide climate change adaptation plans for the Southeast Asian and Indo-pacific regions.

An extension to our strategic relationship agreement with the Queensland Department of Transport and Main Roads to explore opportunities for further data sharing, will enable improved outcomes for transport customers in Queensland.

We continued to strengthen our relationships with Australia’s emergency management sector, including through consultation with emergency services agencies on the mid-term review of the Intergovernmental Agreement on the provision of Bureau hazard services to states and territories (see p.56) and by performing secretariat functions for the Hazard Services Forum, the Australian Tropical Cyclone Advisory Group, and the Australian Tsunami Advisory Group.



The BOM Weather app, upgraded with several new features in 2022–23, continued to provide Australians with convenient weather information and important warnings.

We also partnered with Agriculture Innovation Australia to deliver the Agri-Climate Outlooks to improve and enhance seasonal outlook services to Australian farmers, fishers, and foresters (see p.88) and continued to provide reliable and trusted briefings on severe weather and climate risks to Australia’s national security sector, including through our Global Seasonal Outlook (see p.83).

On behalf of Australia, we continued to make important contributions to the activities of the World Meteorological Organization (WMO), including developing and adopting a new Unified Data Policy that will strengthen the exchange of observations data and in turn enhance the quality of global weather, water and climate modelling.

We worked closely with our Pacific partners to devise the Weather Ready Pacific initiative, a Pacific-designed and Pacific-led roadmap for strengthening the region’s weather and climate resilience (see p.82). We also worked with our Pacific partners to develop the *COSPPac Climate Change in the Pacific 2022 Historical and Recent Variability, Extremes and Change Report*, which provides country-specific historical climate change science information for 15 Pacific Island countries and territories (see p.169).

We worked together as one enterprise, living our values through agreed behaviours every day – the Bureau Way. We focused on providing a safe, diverse, respectful, inclusive, secure and flexible working environment in 2022–23 and continued to deliver initiatives in support of our values, including events for International Women’s Day (see p.113), Harmony Week, International Day of People with Disability and International Day Against Homophobia, Biphobia, Interphobia and Transphobia (IDAHOBIT). We strengthened our management of psychosocial risk and implemented initiatives to better support our operational staff when they are involved with ongoing extreme weather events.

Entering the final year of our Innovate Reconciliation Action Plan (RAP) 2021–2023, the Bureau delivered on our commitments to First Nations People through activities such as piloting a Yarning Circles program to provide our people with a safe environment to listen, learn, and lead their cultural learning journey (p.120). We also delivered live indigenous language interpretation through emergency press conferences in the Northern Territory for the first time (p.60).

I am honoured to lead an organisation that delivers such crucial services to our communities, governments and industries when it matters most. Throughout the year our customers, partners and stakeholders provided positive and constructive feedback on the quality of our products and services, the professionalism, dedication and excellence of our staff, and the new technologies and channels we continue to implement. This feedback is crucial for identifying and prioritising how we improve our products and services to deliver impact and value for Australia.



Financial results

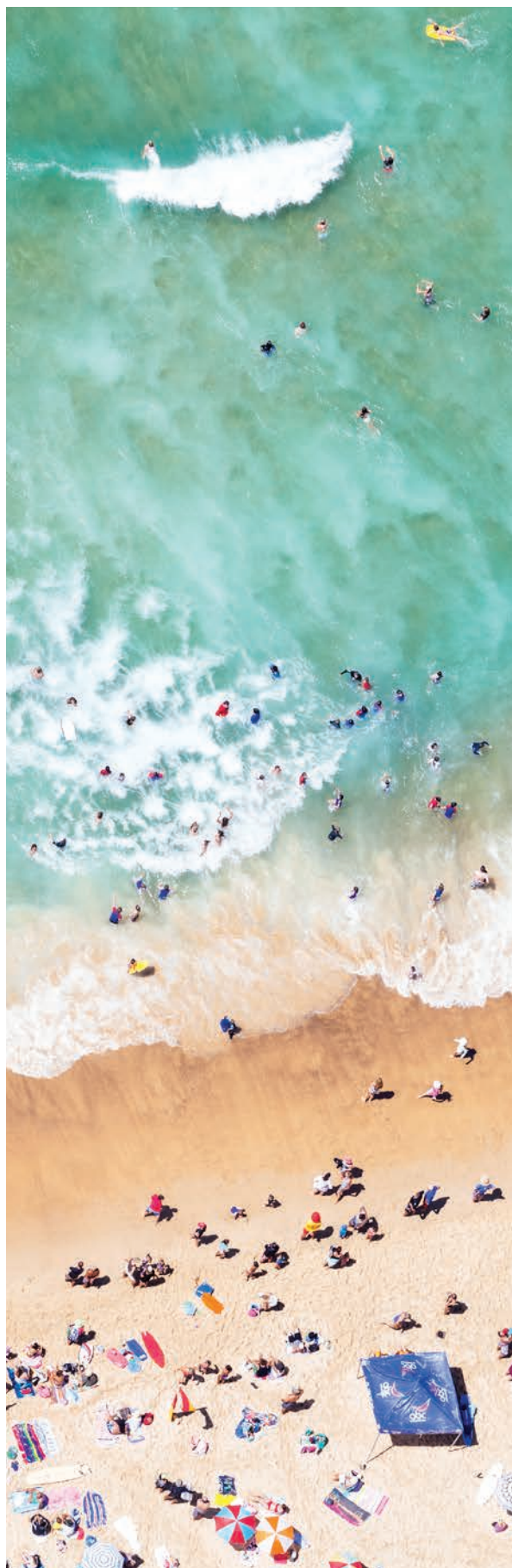
The Bureau reported an operating surplus of \$40.7 million (excluding depreciation, write down and impairment of assets and asset revaluation changes) for 2022–23. This surplus is largely due to externally generated revenue recognised in the current year but used for capital assets.

The Bureau recognised prior period errors across its property, plant and equipment, lease and revenue classes of asset and expenses. The prior period errors relate to incorrect application of accounting standards. The financial statements (p.213) provide more detail on the prior period errors.

Total income for the Bureau for 2022–23 was \$447.3 million. This is an increase of \$41.6 million compared to the 2021–22 year.

Revenue from Government was \$345.5 million in 2022–23, which was \$29.8 million higher than the 2021–22 year. Own-source income was \$101.8 million, an increase of \$11.8 million compared to 2021–22 largely due to increases in income from the aviation industry as a result of the recovery from the COVID-19 pandemic.

The Bureau's operating expenditure for 2022–23 was \$571.5 million, an increase of \$93.0 million (19%) compared with the 2021–22 year.



Outlook for 2023–24

In 2023–24 we will seek to build upon what we have achieved in 2022–23. We will continue to implement actions under our Strategy 2022–2027 to ensure we provide trusted, reliable and responsive weather, water, climate, ocean and space weather services for Australia – all day, every day.

We will continue to play a critical role within the Australian community, contributing to the safety, prosperity, security and wellbeing of the nation. This includes communicating the likely impacts of natural hazards to support effective mitigation, readiness, and response to natural disasters and to help the nation understand and respond to a changing climate.

We will maintain a sharp focus on providing high-quality, accessible, timely products and services to Australian communities, industries and governments based on a deep understanding of their needs and decision-making processes.

We will continue to build deeper and more systematic engagement with our customers and partners, working across government to support Australia’s position and contribution to the global community. We will continue to strengthen our capability across complex and wide-ranging fields to ensure we fulfil our remit as Australia’s national weather, water, climate, ocean and space weather agency.

We will uplift and evolve our operating model, while ensuring the safety, security, resilience, and relevance of our core operations. We will continue to adopt new ways of working, leverage emerging technologies and draw up our deep scientific capability and expertise to ensure we keep pace with the evolving needs of customers we serve and deliver to their expectations.

Our people will continue to underpin our efforts – their expertise and experience are fundamental to delivering the products and services on which Australians depend. To continue to attract and retain the right people, we will ensure the Bureau remains an employer of choice, recognising the needs of each staff member and equipping them with the tools, skills and opportunities to grow and excel.

We will continue to build a customer-focused enterprise culture where people are empowered and grow through clear career pathways in an inclusive, safe, secure and flexible working environment. We will retain a strong commitment to the respect of Aboriginal and Torres Strait Islander peoples and culture and will work to ensure our workforce reflects the diversity of the community we serve.



Anvil Cruz (left) and Naja Dohm (right) are 2 of 39 Bureau trainees undertaking the 2023 Graduate Diploma in Meteorology course – building the capabilities and expertise for the future of the Bureau.