



Australian Government
Bureau of Meteorology

BUREAU OF METEOROLOGY

CORPORATE PLAN 2016–17



Message from the Director

As the accountable authority for the Bureau of Meteorology, it is my pleasure to present the Bureau of Meteorology Corporate Plan 2016–17 as required under paragraph 35(1)(b) of the *Public Governance, Performance and Accountability Act 2013*. The plan outlines the Bureau's priorities and planned achievements for 2016–17, and the outlook for the forward estimates period until 2019–20.

The corporate plan is the Bureau's key document for the implementation and monitoring of our business. The Bureau's Strategic Plan 2015–2020 complements the corporate plan by providing high-level guidance to our staff and stakeholders on our values and culture, our approach, and the overarching strategies we will use to ensure we maintain our world-class services and help Australians respond to the challenges of the 21st century.

The services of the Bureau are critical to Australia's safety, sustainability, security, well-being and prosperity. Throughout the term of this plan the Bureau's leadership team and staff will continue to strive for excellence in observing, analysing, predicting and providing relevant and timely advice on Australia's weather—including space weather, climate, oceans and water resources.

The Australian Government's investment in the Bureau will continue to be used efficiently to meet Australia's needs, with innovation, diligence and skill.



Vicki Middleton
Acting Director of Meteorology and CEO

26 August 2016

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Introduction

The Bureau of Meteorology Corporate Plan 2016–17 outlines the agency’s priorities and planned achievements for 2016–17 and the outlook for the forward estimates period until 2019–20.

The plan is the central component of the Bureau’s performance planning and reporting framework (see Figure 1). This plan is driven and monitored by the Bureau Executive and ensures transparency and accountability regarding the resourcing, operations and performance of the agency.

As a requirement under the *Public Governance, Performance and Accountability Act 2013*, the plan is relevant to the Bureau’s day-to-day operations and defines how the agency will measure performance. It will be monitored internally throughout the year, reported upon publicly in the Bureau’s annual report for 2016–17 and updated annually.

The core operational activities outlined in the plan are the enablers that will allow the intent of the Bureau’s Strategic Plan 2015–20 to be met. The strategic plan outlines the Bureau’s four key strategies to maintain its world-class services to help Australians respond to the challenges of the 21st century. These strategies impact on everything the agency does—from products and services, to infrastructure, operations, science and technology and staffing.

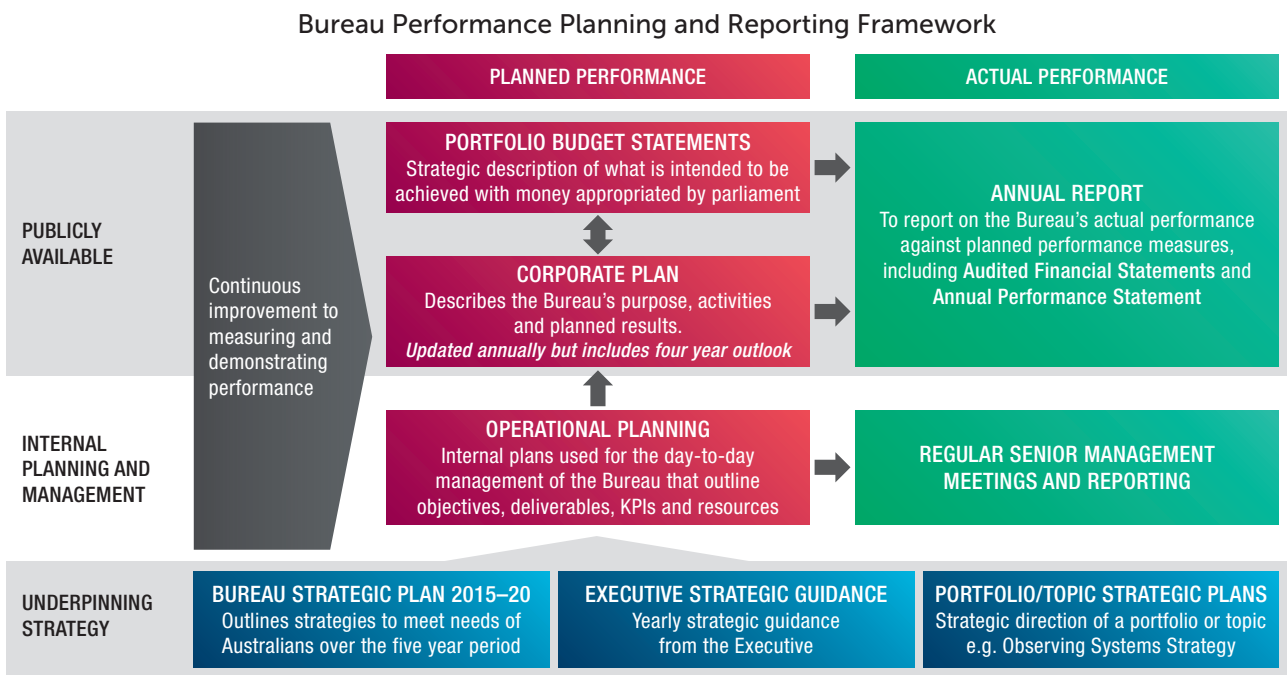


Figure 1. The Bureau’s Performance Planning and Reporting Framework

Background

The Bureau of Meteorology is Australia's national weather, climate and water information agency. It operates under the authority of the *Meteorology Act 1955* and the *Water Act 2007* which together identify a range of functions that underpin delivery of weather, climate, water and environmental information, advice, warnings and associated services to meet Australia's needs. The Bureau is an Executive Agency under the *Public Service Act 1999*, and a non-corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013*. The Bureau operates under the Environment and Energy Portfolio and reports to the Minister for the Environment and Energy generally, and to the Minister for Agriculture and Water Resources on water matters.

Australia has obligations under three international conventions as well as bilateral agreements or memoranda of understanding with 14 organisations in 11 countries to which the Bureau is a signatory. The *Meteorology Act 1955* requires the Bureau to fulfil Australia's international obligations as its national meteorological and hydrological service for the purposes of the *Convention of the World Meteorological Organization* and is Australia's designated meteorological authority for the purposes of the *Convention on International Civil Aviation*. The Bureau's Meteorological Authority Office acts independently from the provision of aviation weather services within the Bureau, and assists the Director of Meteorology in the regulation of aviation meteorological reporting services. The Bureau has obligations under the *International Convention for the Safety of Life at Sea*, providing mandatory services such as marine warnings for ships on the high seas. It contributes to Australia's national Antarctic program by conducting continuous meteorological operations in Antarctica. The Bureau contributes to Australian Government participation in a range of intergovernmental bodies and frameworks, including the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO), the Intergovernmental Panel on Climate Change, the United Nations Framework Convention on Climate Change and the Intergovernmental Group on Earth Observations.

Bureau staff are located across Australia, its offshore islands and Antarctica. Staff work from offices in 70 locations across Australia including the Head Office, seven Regional Offices and six Regional Maintenance Centres, more than 50 field offices and special-purpose sites. Staff and their dependents are provided with housing at 15 remote locations. At 30 June 2016, the Bureau had 1458 ongoing and 206 non-ongoing staff employed under the *Public Service Act 1999*. These figures include 18 Senior Executive Service staff, but exclude the head of agency. The Bureau employs shift workers to maintain a 24/7 nationwide weather and flood watch and to deliver forecasts every day of the year.

The Bureau Executive, made up of the Director of Meteorology and five Deputy Directors, provides leadership and makes decisions on program, policy, financial and people management across the Bureau under the authority of the Director. Each Deputy Director leads one of five divisions. These divisions are further broken down into 16 branches and a number of business units that are responsible for delivering a portfolio of work within the Bureau's internal program structure. Each of the Bureau's Regional Offices is led by a Regional Director, playing a key leadership and stakeholder consultation role in that State or Territory. A number of senior management forums and subject matter committees support the management of the Bureau.



Further information on the Bureau's structure can be found [here](#).

The Bureau's purpose

The Bureau's purpose, as defined by its mission is:

To provide Australians with environmental intelligence for safety, sustainability, security, well-being and prosperity.

Strategic direction

To achieve its purpose over the coming years, the Bureau is focusing on the four key strategies identified in its Strategic Plan 2015–20 to maintain and build its world-class services to meet Australia's contemporary and emerging needs for environmental intelligence. These strategies are:

- enhancing product utilisation by providing the products and services that users need in accessible and effective formats;
- lowering the cost of operations to improve value and strengthen the organisation's sustainability;
- focusing on higher-value functions that provide the greatest benefit for Australia; and
- growing business development capability to diversify external revenue streams.

The Bureau's strategic plan is at Annex A. The strategic plan is a companion document to the corporate plan and functions as a high-level overview of the Bureau's values and culture, our approach, and the overarching strategies we will use to ensure we maintain our world-class services. The strategic plan is an important communication tool that provides high-level guidance to our staff and stakeholders on the strategic underpinnings of the corporate plan.

Australia has many contemporary and emerging needs for environmental intelligence which influence the Bureau's strategies and priorities (see Figure 2).

MEETING OUR MISSION



Figure 2: Outcomes that the Bureau's environmental intelligence contributes to

What we do

The Bureau of Meteorology provides Australians with the environmental intelligence they need to manage and live within their natural environment, encompassing the atmosphere, oceans, water and land. Key users include the emergency services, aviation, the Australian Defence Force, maritime, transport, water management, resources, agriculture and environmental management sectors.

The environmental intelligence provided by the Bureau allows users to make prudent decisions based on the best available information and deliver on the nation's environmental intelligence needs (see Figure 3).

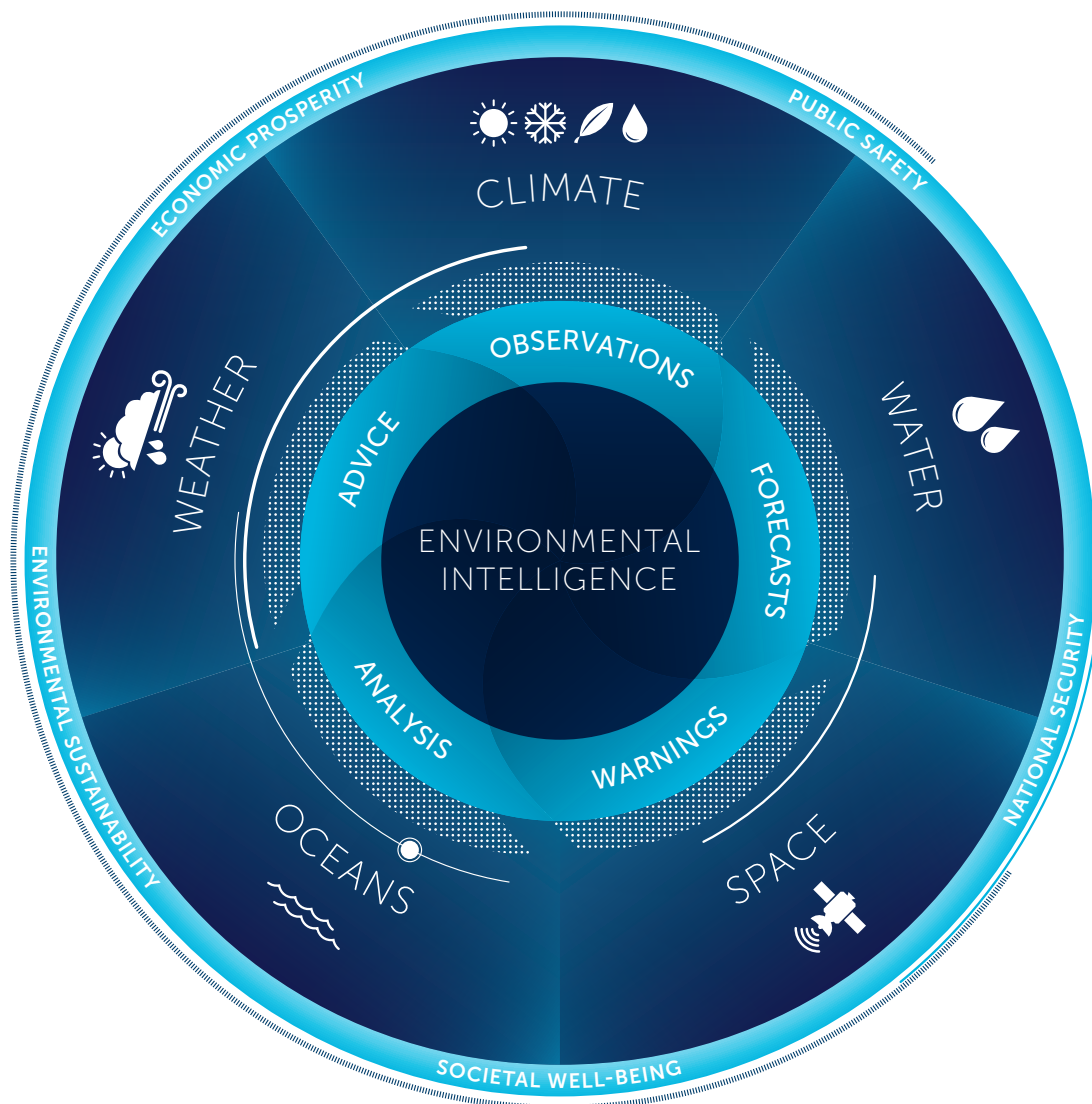


Figure 3: The Bureau's product and service groups

The Bureau distributes environmental intelligence directly through channels such as its website and mobile platforms, briefings and through the media and third-party service providers. Mechanisms for stakeholder input and review are provided through a number of theme-based advisory and consultative committees, at a national and/or State and Territory level.

The Bureau has a number of partnerships with other Commonwealth agencies to manage the delivery of common outcomes, including through distributed responsibilities in science and research with CSIRO and Geoscience Australia. It also has strategic partner agreements with the Department of Defence, Murray–Darling Basin Authority, the Australian Broadcasting Corporation and the Department of the Environment’s Australian Antarctic Division. At a State and Territory level the Bureau works closely with a number of government agencies and other bodies, including emergency service agencies, to deliver its products and services.

The Bureau’s service charter sets out the standards of service that clients can expect from the Bureau, their rights and responsibilities and how to find out more about the organisation. The charter was recently refreshed.



Further information on the Bureau’s Service Charter can be found [here](#).

Environmental scan

The Bureau's operational environment is constantly evolving and it must continuously adapt and respond to changes in user preferences, government policy and priorities, and opportunities created by advances in science and technology—including through partner agencies in other countries.

Economic productivity and public safety are heavily impacted by severe weather, and the Bureau's environmental intelligence has become increasingly important for the Australian community. The changing climate is placing greater pressures on the environment. Coupled with a growing population, vast urban settlement patterns concentrated in coastal areas and the growth of infrastructure, more is at risk than ever before. There is also growing contention about managing competing demands around environmental issues such as water usage, drought, coal seam gas and the Great Barrier Reef. Increasing user demand and involvement in contentious issues leads to greater scrutiny of the Bureau's work. A robust and transparent approach to providing products, services and advice is essential.

Users are expecting greater value for money, better targeting of services to individual requirements, immediate access to localised information, and products and services that deliver real benefits. This is demonstrated by an increasing preference for highly accessible visual services provided via mobile devices and emerging technology. The Bureau must continuously reassess user requirements and change its products and services to respond to user demands, including delivering services through an increasing number of channels.

The Bureau's challenging budget position mandates that its operations must achieve greater operational efficiency, and requires the organisation to continue to identify savings and grow external revenue sources. The Bureau has significant fixed costs, based on essential observing infrastructure, and legislated and international requirements for the provision of forecasts and warnings services. The nature of the Bureau's commitments necessitates a distributed geographic base of infrastructure and capability, with associated high operating and maintenance costs. These factors are increasingly putting pressure on the maintenance of core services and make finding efficiency savings a challenge. In addition, the Government's 10-year funding commitment for the Bureau's water information services program terminates in 2016–17. If this funding is not replaced, water forecasting and information services will cease.

The Bureau must continue to diversify its revenue base by growing its tailored service offerings for specialised users, and exploring innovative opportunities to grow income. It is doing so through business development initiatives which enable it to maintain the broad scope and significant impact of its activities

Data is a core asset and enabler for the Bureau. Everything the Bureau delivers for government, industry, defence and national security, researchers, and the wider community depends on the availability, timeliness and quality of data. Data volumes are expected to increase exponentially with access to higher-resolution satellites, and as scientific modelling and data assimilation capabilities advance, through enhanced supercomputing capability.

Rapid advances in science and technology create opportunities for the Bureau to improve its products and services, but also bring pressure to deliver. There is also an increasing number of providers of weather information based in Australia and overseas, many of which depend on the Bureau's observations, data, forecasts and models to deliver their services, apps, websites and broadcasts. The Bureau builds and uses specialised, leading-edge technologies, on which it is highly dependent. As critical national infrastructure, the ongoing security and resilience of the Bureau's end-to-end information, computing and communication systems are essential. The Bureau will continue to prioritise strategies and projects that enable it harness science and technology and to respond to evolving trends.

International engagement and global data exchange are critical to the operational success of the Bureau. Monitoring and predicting the state of the atmosphere requires participation in the international systems that collect and exchange global environmental information. International cooperation also ensures that the Bureau can benefit from scientific, technological and operational developments and expertise in other countries. Through these engagements, the Bureau can improve its financial efficiency and strengthen its skills, capabilities and knowledge base to provide a more robust operational service.

Globalisation also continues to increase expectations from users, as products and services provided by other organisations become more accessible. The Bureau's international reputation makes it a highly valued contributor and partner, and it will continue to engage with overseas agencies—including the United Kingdom Met Office, the China Meteorological Administration, the Korea Meteorological Administration, the Japan Meteorological Agency, Environment Canada and the United States National Weather Service—to further build influence and relationships, and promote Australian and multilateral projects.

Performance

Achieving the Bureau's purpose

As outlined in the Portfolio Budget Statements for the then Environment Portfolio, the Bureau is responsible for the single Australian Government **Programme 1.1 Bureau of Meteorology**.

To deliver this programme, the Bureau's internal structure provides a logical partitioning of activities for the purposes of:

- strategic planning and management at the activity level;
- setting and achieving performance goals and targets;
- internal resource allocation and financial monitoring;
- risk management;
- monitoring and reporting on the achievement of planned objectives;
- monitoring the quality and effectiveness of individual deliverables; and
- effective stakeholder management and engagement.

Each Bureau portfolio focuses on a key aspect of the Bureau's work and is generally delivered by a single division within its organisational structure (see Figure 4). Each portfolio contains a number of work programs, which are generally delivered by branches of the organisation, each with a set of performance targets. These targets are used to measure and assess the organisation's achievement of its Australian Government-agreed deliverables and key performance indicators (KPIs), and therefore its effectiveness in achieving its purpose. Underpinning this work is the Bureau's Strategic Plan 2015–2020, as well as a number of other strategies around critical work areas within each division.

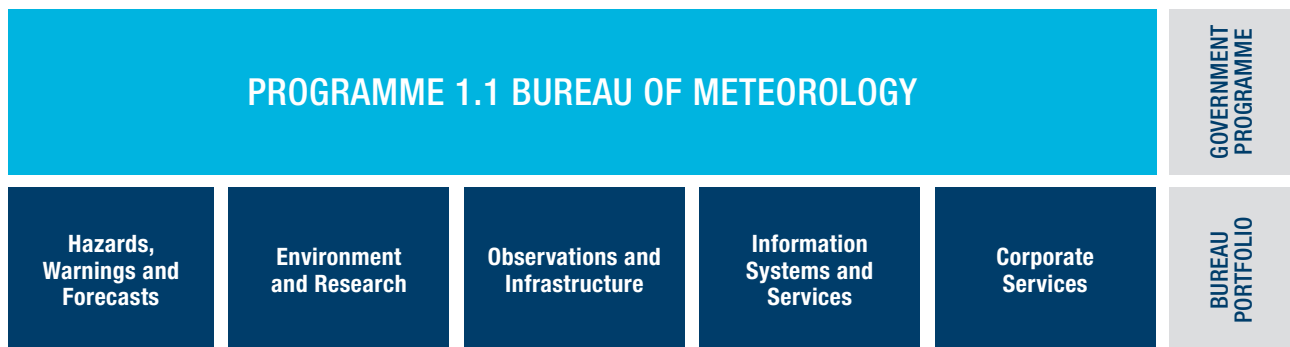


Figure 4: The Bureau of Meteorology's internal portfolio structure

A description of each Bureau portfolio, their allocated resources and their intended results is provided overleaf. Appropriated resource figures exclude depreciation.

Hazards, Warnings and Forecasts

Intended result: *The safety, well-being and prosperity of all Australians is enhanced by:*

- *the provision of relevant, accurate and timely weather, ocean and streamflow forecasts;*
 - *the delivery of critical warning services for severe weather, floods, tropical cyclones, fire weather, tsunami, volcanic ash, storm surge and space weather events; and*
 - *the provision of quality-assured meteorological products and services for aviation, the Australian Defence Force and a number of clients in the resources sector.*
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Delivery strategy:

The Hazards, Warnings and Forecasts portfolio provides a range of forecast and warning services. The portfolio works closely with State and Territory emergency service organisations in all aspects of disaster mitigation planning, preparation, response and recovery. The portfolio also works closely with national and international disaster mitigation and hazard awareness programs, particularly the Council of Australian Governments' Australia–New Zealand Emergency Management Committee and the United Nations International Strategy for Disaster Reduction. The portfolio provides specialised services under cost-recovery and commercial funding arrangements for stakeholders and users, such as the aviation and maritime industries, the Australian Defence Force and the Department of Foreign Affairs and Trade.

The work of the portfolio is delivered through four programs:

- Weather Forecasting Services;
- Flood Forecasting and Warning Services;
- Hazard Prediction Services; and
- Aviation and Defence

Resources

Appropriated resources	\$39.309m*
Externally generated resource	\$39.570m
Asset investment and replacement	\$12.382m (comprising \$9.147m Departmental Capital Budget funded, \$0.674m equity funded and \$2.561m from own-source income)

* *Excludes depreciation*

Environment and Research

Intended result: *Decision-making by government, industry and the community is informed by:*

- *the national climate record and high-quality and timely climate data, information and advice, with a particular emphasis on seasonal forecasts and the emergence of climate conditions leading to social, environmental and economic stress;*
 - *accurate, relevant, timely information, assessments and accounts on the status of Australia's water resources;*
 - *accurate, relevant and timely 7-day, monthly and seasonal water forecasts and information products describing long-term water availability at high-quality streamflow reference stations;*
 - *access to authoritative sources of environmental information; and*
 - *the application of advanced scientific knowledge related to weather, climate, oceans and hydrology to meet the current and future system and service needs of the Bureau and its users.*
-

Delivery strategy

The Environment and Research portfolio develops and applies advanced scientific knowledge related to weather, climate, oceans and hydrology to build world-class systems and prediction services.

The work of the portfolio is delivered through four programs:

- Climate Information Services;
- Water Information Services;
- Environmental Information Services; and
- Research and Development.

Resources

Appropriated resources	\$31.037m*
Externally generated resource	\$8.663m
Asset investment and replacement	\$3.810m (comprising \$3.163m Departmental Capital Budget funded, \$0.647m equity funded)

* *Excludes depreciation*

Observations and Infrastructure

Intended result: *The operation and maintenance of a resilient observations system, incorporating a diversity of in-situ and remote-sensing platforms; delivery of a national observing program for Australia in support of the nation's climate record, flood and space weather services, research and international obligations; and provision of current weather information for the Australian community.*

Delivery strategy:

Meteorological, hydrological, oceanographic and space-weather observations are gathered from surface-based, airborne and space-based platforms, to underpin the Bureau's essential weather warnings and routine weather, climate, water and space weather services. They also inform countless decisions within industry, for the environment, and for the safety and lifestyle of the Australian community. Observations are stored for future use as part of Australia's national climate record.

The Bureau invests a significant proportion of its resources in the taking and recording of observations. It strategically plans, builds and operates the observing network and supporting systems, and maintains significant technical, engineering and science capability. Regular monitoring and review of the Bureau's observing systems is undertaken to assess performance and fitness for purpose.

The work of the portfolio is delivered through three programs:

- Observing System Strategy;
- Observing Network Operations; and
- Infrastructure Management.

Resources

Appropriated resources	\$44.118m*
Externally generated resource	\$5.699m
Asset investment and replacement	\$11.468m (Departmental Capital Budget funded)

* Excludes depreciation

Information Systems and Services

Intended results: *The provision of information, computing and communications solutions that effectively and reliably enable the production and delivery of the Bureau's weather, climate, ocean and water products and services.*

Delivery strategy:

The Information Systems and Services portfolio provides an information and communications technology (ICT) capability that enables the Bureau to develop, generate and deliver products and services to the Australian community. The Bureau needs highly resilient and reliable systems that operate continuously and seamlessly in support of its operations. The portfolio provides advanced computer processing and data-storage facilities that support leading-edge forecasting and climate research.

Substantial in-house development and maintenance supports the Bureau's highly specialised data-gathering networks, numerical weather prediction models, forecasting systems, and product dissemination platforms. These include management of a 1660-teraflop supercomputer, a large-scale data storage system, and a website that receives tens of billions of hits per annum.

As part of adapting to changing organisational, fiscal and technical drivers, the portfolio recently changed its structure, adopting an industry-accepted Plan–Build–Operate (Run) model, to better:

- consolidate and build systems resilience ;
- create an opportunity for innovation;
- enable faster delivery of products (including improving its user focus on data as a strategic capability of the Bureau); and
- deliver the new supercomputing capability, including critical skills in high-performance computing.

Resources

Appropriated resources	\$45.321m*
Externally generated resource	\$0.331m
Asset investment and replacement	\$21.592m (comprising \$16.113m Departmental Capital Budget funded, \$5.479m Equity Funded. Excludes Supercomputer Hardening and Resilience Programme)

* *Excludes depreciation*

Corporate Services

Intended results: *Sound and effective corporate services that provide good governance; fulfil compliance and accountability responsibilities; support the delivery and management of human, financial and other resources; facilitate communication and engagement with key stakeholders; and assist the Bureau in meeting its mission.*

Delivery strategy:

The Corporate Services portfolio provides guidance, coordination and corporate services to support the Bureau's operations. Its functions include strategic planning, finance and budgets, corporate real estate, human resources, corporate communication, internal audit, library and legal services.

The work of the portfolio is delivered through three programs:

- Finance and Budget;
- Strategy, Parliamentary, International and Communication; and
- People Management.

Corporate Services also supports the entire organisation through an Enterprise Portfolio Management Office, Enterprise Business Systems team, Property Management team and Business Development team. The Bureau is a highly distributed organisation with almost half of the Corporate Services budget relating to property operating expenses. In 2015–16 property-related payments were made at around 341 sites which house operations and equipment, including for observation, computing and data-communication purposes. Staff are accommodated at 15 of these sites.

Resources

Appropriated resources	\$37.198m*
Property operating expenses	\$24.067m*
WMO and IOC-UNESCO contributions	\$2.393m
Externally generated resource	\$1.914m
Asset investment and replacement	\$7.352m (\$6.127m Departmental Capital Budget funded, and \$1.225m from own-source income)

* *Excludes depreciation*

Performance monitoring and measurement

The Bureau's performance over the reporting periods covered by this plan, is measured and assessed against its achievement of the deliverables and KPIs below, as presented in the Portfolio Budget Statements 2016–17 (Budget Related Paper No. 17). Due to the Bureau's primary role in service delivery and the enduring nature of its purpose, these rarely change significantly. However, the techniques and evidence used to measure the Bureau's performance will be enhanced from year to year, and will be updated in successive corporate plans.

The Bureau draws on a range of evidence to measure its performance, in an attempt to provide an informative and meaningful performance story. A range of quantitative measures are used to indicate that information is successfully captured, that products and services meet quality standards, that services are accessible at all times, and that services benchmark well against the agency's previous performance and that of other national meteorological services (where information is available). Qualitative information is largely derived from user surveys and feedback that indicate users' levels of satisfaction with the Bureau's products and services—going some way towards identifying the impact of its work.

In most cases, no single deliverable is the responsibility of an individual Bureau portfolio group, as the production and dissemination of deliverables requires the interaction of multiple portfolios working together for efficient and effective service delivery.

Deliverables and KPIs

DELIVERABLE 1: Take and gather observations of weather, water, ocean, climate and space conditions.

KPIs: Observations meet accuracy, timeliness, completeness, coverage and accessibility specifications.

Evidence:

- Uptime (availability) of key observing equipment (e.g. radars, automatic weather stations, wind profilers) and networks (e.g. tsunami) exceeds 95 per cent.
- 95 per cent of scheduled observations from Bureau satellite stations are received and pass quality checks.
- 95 per cent of scheduled marine observations are available to users.
- Uptime (availability) of space weather network observations exceeds 95 per cent.
- Uptime (availability) of the flood warning observations network exceeds 90 per cent.

DELIVERABLE 2: Prepare and disseminate weather, water, ocean, climate and space variability forecasts to the Australian community and key sectors, including emergency services, aviation, the Australian Defence Force, maritime, agriculture and water management sectors.

KPIs: Forecasts meet accuracy, coverage and timeliness specifications, and are used extensively, and satisfy users.

Evidence:

- 99 per cent of routine weather forecast services are delivered as scheduled.
- The Bureau's ACCESS weather forecasting model is one of the leading global forecasting models.
- Weather forecast and information services meet target accuracy standards based on forecast verification (the statistical comparison between forecast and actual observed conditions).
- Flood predictions meet standards in regional service level specifications in relation to appropriate lead times and relative accuracy.
- Seasonal climate predictions are issued on schedule and demonstrate statistical skill.
- Streamflow forecasts are issued on schedule and demonstrate statistical skill.
- 90 per cent of users are satisfied or very satisfied with the accuracy, coverage and timeliness of Bureau's weather and marine forecast services, as indicated by ongoing surveys and feedback.
- 90 per cent of aviation and defence users are satisfied or very satisfied with the Bureau's forecast products, as indicated by feedback and surveys.
- Increasing use of forecast products is indicated by web statistics.

DELIVERABLE 3: Issue warnings and advisories for heavy rain, hail, strong winds, floods, tropical cyclones, fire weather, heatwaves, volcanic ash, heavy seas, tsunamis, aviation hazards and space weather disturbances.

KPIs: Warnings meet accuracy, timeliness and coverage specifications, and are effective in influencing responses to impending critical events

Evidence:

- Weather, ocean and hazard warning services meet target accuracy standards based on verification (the statistical comparison between forecast warning and actual observed conditions).
- Flood warnings meet standards in regional service level specifications in relation to appropriate reliability of flood watch and punctuality of flood warnings.
- Key emergency services stakeholders are satisfied with the accuracy, timeliness and coverage of warnings—as indicated by feedback, post-event analysis and event debriefs.
- Event-related coronial inquests and commissions of inquiry find that the Bureau's warning services were appropriate.

DELIVERABLE 4: Provide and maintain public access to national weather, water, ocean, climate and space weather datasets and information.

KPIs: Data and information meet accuracy, timeliness and coverage specifications and satisfy users.

Evidence:

- 90 per cent of specialised climate service requests are completed within 10 working days of receipt of payment.
- Increasing uptake of online climate services as indicated by internet usage statistics.
- 85 per cent of users are satisfied or very satisfied with the accuracy, timeliness and coverage of the Bureau's information products, as indicated by feedback and surveys.
- 99 per cent availability of public access to data sets and information is maintained, as measured by uptime of the Bureau's website.
- Release of the National Water Account by 30 June 2017.
- Bioregional Assessment outputs are delivered to the time, quality and scope specified in the project agreement.

DELIVERABLE 5: Provide advice on Australia's weather, water, ocean, climate and space matters.

KPIs: Accurate and timely advice effectively informs decision-making and satisfies the needs of stakeholders and users.

Evidence:

- Severe weather and critical event briefings and advice provided before and during emergency events satisfy the needs of emergency services and the Australian Government's Crisis Coordination Centre, as indicated by surveys and feedback.
- Climate and water advice, reports and briefings satisfy the needs of key decision-makers and stakeholders, as indicated by surveys and feedback.
- At least 80 per cent of attendees at the National Climate and Water Briefing indicate that they use the information provided to inform planning or decision-making, either directly or indirectly.
- Timely information and advice on weather, water, oceans and the climate is provided to the general community through a range of means, as measured by the number of specialist media interviews; the number of social media posts and corresponding user engagement; and participation in information and safety campaigns.
- The quality of the Bureau's scientific expertise is recognised nationally and internationally.
- The provision of specialised services and advice satisfies users, as indicated by feedback and surveys, and meets the Bureau's revenue targets.

DELIVERABLE 6: Undertake operational research and development, leading to efficiency and effectiveness improvements in the Bureau's weather, water, ocean, climate and space services.

KPIs: Increased accuracy and capacity of the Bureau's products and services, and increased levels of stakeholder satisfaction.

Evidence:

- Milestones in the development of the Bureau's ACCESS forecasting model are achieved as planned.
- Bureau weather and environmental prediction, climate and earth systems modelling research is presented or represented in national and international forums.
- Further automation of the surface and upper-air observation network, and scheduled technology upgrades to the Bureau's radar network, are undertaken as planned.
- Systems and processes for the reception and use of data from the Japanese Himawari-8 satellite are implemented as planned.

DELIVERABLE 7: Participate in international collaboration with overseas hydrological and meteorological service providers and international bodies including the World Meteorological Organization (WMO), International Civil Aviation Organization, Intergovernmental Oceanographic Commission of UNESCO and International Maritime Organization.

KPIs: Australia's interests are protected and advanced through effective engagement and the maintenance and development of international agreements that deliver improved outcomes for Australia.

Evidence:

- The Bureau maintains active agreements with strategically important counterpart agencies overseas.
- Bureau staff hold senior positions on strategically important intergovernmental and other international bodies.
- The Bureau maintains a high level of participation and influence in intergovernmental bodies (such as WMO) that develop and implement international standards and protocols in weather, climate, water and related environmental fields.
- The Bureau's operational needs are satisfied by the quantity and coverage (spatial and temporal) of mission-critical, real-time meteorological and related environmental data and information received from other countries.
- The Bureau meets its commitments in relation to the exchange of real-time meteorological and related data and information.

Capability

The Bureau is required to maintain capability across complex and wide ranging fields, in order to meet its remit of being Australia's national weather, climate and water agency. Over the term of the corporate plan there are key areas where the Bureau is consolidating, enhancing or changing its capability to keep pace with the changing needs of users and ensure future sustainability. Capability will be enhanced in line with the four strategies of the Strategic Plan 2015–2020. This capability section outlines the Bureau's current capability and identifies enhancements or changes that are planned for 2016–17 and the outlook period (2017–18 to 2019–20) in seven key areas:

- people;
- ICT, data and information;
- asset management;
- evolving user-driven forecast and warning services;
- business development;
- research and development; and
- observations.

People

Current capability

The Bureau's diverse, committed workforce of more than 1600 employees across Australia, its offshore islands, and Antarctica, is central to the delivery of its products and services. The Bureau has responded to the need for new products and services by building and sustaining workforce capability across a broad range of scientific, technical and ICT roles. Highly trained professionals and technical specialists collaborate to deliver services around the clock, every day of the year. The workforce profile includes 17 job families, of which nine include highly specialised skill sets. Staff census results indicate that levels of job engagement are high, with strong team interactions, supervisor engagement and agency pride facilitating a modern and high-performing business.

Representation of women at the Bureau is lower than the Australian Public Service average (31 per cent, compared with closer to 60 per cent in the Australian Public Service), although in the last five years representation at the Senior Executive Service, Executive Level 2 and Executive Level 1 levels has been increasing faster than the Australian Public Service average. The Bureau employs people from more than 77 different countries of birth and 24 per cent of its workforce is from non-English speaking backgrounds. The percentage of people with a disability is around the Australian Public Service average of three per cent, and employment of Aboriginal and Torres Strait Islander people is one per cent. The Bureau has a Workplace Diversity Program underpinned by its Reconciliation Action Plan, Agency Multicultural Plan and Disability Strategy and Action Plan 2015–2020. These programs support the Bureau to better attract and harness the talents of the diverse Australian community.

Capability aim

New models of business operation are required to meet the increasing demand for new products and services in a more sustainable way. In 2016–17 the Bureau continues to focus on attracting talent and aligning the skills of its people, with organisational requirements through learning and recruitment programs and facilitating a positive and collaborative workforce culture. The Bureau is committed to ensuring the health and safety of its people. Specifically, the Bureau is:

- developing strategic workforce plans, analytics and competency frameworks for critical job families and job roles that define demand, supply and gaps—to identify strategies and actions to enhance innovation and delivery of products and services;
- developing, implementing and reviewing policies, procedures and guidelines on workplace adjustment, diversity, and family and domestic violence;
- developing a talent attraction strategy and strong talent pipeline—supported by partnerships across the Australian Public Service, tertiary and secondary education sectors;
- developing a new workplace diversity program and underpinning strategies and action plans to meet strategic business and talent management objectives for 2015–2020;
- enhancing the continuous improvement culture in which all employees have agreed performance, learning and career plans that are supported by regular feedback and conversations with their managers;
- implementing organisational development action plans based on the annual employee census;
- embedding work health and safety initiatives around mental health, fatigue and driving; and
- continuing to enhance training programs, such as online training capabilities. in high-priority areas—including frontline forecasting through the Graduate Diploma in Meteorology, ICT, competency-based training and leadership training.

Capability development pathway (2017–18 to 2019–20)

Outputs

The Bureau is focusing on creating a transformative talent management strategy to have the right people connecting and collaborating to support the Bureau's aspirations. To achieve this, the Bureau is:

- identifying areas of future job role change and developing talent management processes—talent attraction, learning, performance, retention, succession and career planning—to support business transformation;
- growing the next generation of leaders by providing more on-the-job opportunities to increase leadership and management capabilities;
- continuing to progress existing workplace diversity programs including reconciliation, disability and multicultural plans, as well as introducing gender equity, and intergenerational plans to promote a diverse, flexible and inclusive workplace;
- building and adopting an integrated talent management model, supported by technology-enabled user applications, that will support the Bureau's business; and
- implementing blended learning—a combination of traditional and digital based learning opportunities—to ensure the future sustainability of the training budget.

Success measures

- Enhanced workforce agility, adaptability, skills and affordability.
- Attraction and retention of scientific, technical and ICT professionals.
- Learning and development programs that meet emerging skill requirements, ensuring the Bureau's people are always safe and are well trained to meet the demands of their work.

ICT, data and information

Current capability

The Bureau's ICT, data and information capability encompasses communication networks, high-performance computing, data and information systems, platforms and applications—as well as desktops, servers, videoconferencing and telephony technology. This includes 24/7 support for 88 'Category 1' applications, where failure of any one of these would result in immediate and serious consequences for essential Bureau operations and services, including external organisations.

The Bureau's replacement supercomputer, Australis, became operational in mid-2016. Supercomputing is essential to allow the Bureau to run a suite of sophisticated weather models to make forecasts and warnings for the nation. The new supercomputer and its associated, supporting capability is a strategic investment by government that will see service improvements in accuracy, timeliness, certainty and responsiveness.

Capability aim

Consolidation and uplift as the Bureau develops and pursues its ICT strategy. Ongoing change will reflect an increasing emphasis on users and generating increased value from its data. The Bureau is improving its ICT governance, processes and methodologies to reflect industry best practice, tailored to a science-based operational agency.

Specifically, the Bureau will:

- consolidate, renew and strengthen core back-end ICT infrastructure at both the existing and the new commercial data centre facilities;
- introduce automated infrastructure as a service capability, via both on-premises and off-premises cloud services providing fast delivery, standardised and secure systems via an adaptive and user-oriented front end;
- implement improved resolution models on the new Australis supercomputer and enhancements to existing and new products made possible by improved spatial and temporal resolution of satellite data from Himawari-8;
- enhance and modernise the skills and capabilities of the ICT workforce to increase its flexibility, including around security, digital, architecture, and ICT contract management;
- implement agile development processes through cross Information Systems and Services Division teams, supporting innovation including cloud deployments;
- maintain effective governance, change management and investment business processes, including strengthening the Change Advisory Board processes introduced in 2015 and clear transition into production checkpoints;
- improve the monitoring, measurement and reporting of the Bureau's ICT, its development and value to users; and
- strengthen business continuity and security via the Supercomputer Hardening and Resilience Programme (SHARP) and more generally improve the resilience and robustness of Bureau systems.

Capability development pathway (2017–18 to 2019–20)

Outputs

Building on a consolidated and robust base, the focus in the three years after 2016–17 is to deliver ICT activities by:

- building a stable and secure ICT core comprising the appropriate and sustainable mix of in-house and as-a-service capability;
- ensuring the data value chain is coherent, robust and funded appropriately;
- focusing on secure digital delivery of services and products that meet user needs; and
- generating revenue from ICT resources, including through shared services with business and partners.

As part of the Renewing Our Bureau: Uplifting Services and Technology (ROBUST) initiative, a roadmap for this change is being developed. This roadmap will focus on clear user needs and emerging technology drivers and capabilities, establishing performance metrics that reflect increased efficiency, effectiveness and agility and look for opportunities to drive business for the Bureau.

Success measures

- Alignment with broader government policies around innovation, data, digital, cloud and cyber security.
- Government endorsement and funding received for the ROBUST initiative that would deliver a wider set of outcomes and benefits to users from a modernised, agile, secure and resilient base.
- Implementation of an enterprise-wide approach to data governance and management.
- Progressive retirement of legacy systems.
- Harnessing of high-performance computing capacity. Delivery of services that are competitive in the marketplace, responsive to user needs and reliable, and are supported by a common enterprise architecture and a secure network.

Asset management

Current capability

To deliver its services to the Australian public, the Bureau manages an asset base valued at \$539.729 million, excluding inventories and cash, prepayments and receivables. Major asset categories include \$16.759 million in land, \$95.947 million in buildings, \$344.856 million in plant and equipment, \$76.345 million in computer software, \$6.568 million in inventories and \$5.809 million in other non-financial assets. The Bureau's significant asset base is ageing and depreciating, leading to a continued challenge to ensure that available resources are used to deliver optimum-value products and services for users.

The Bureau's Asset Programme Board, established in 2014, is the key governance mechanism for capital expenditure projects in the Bureau. It recommends an enterprise program to the Bureau Executive and monitors delivery against the program in cooperation with divisions and projects. Priority is given to projects that are required for legislative compliance or to sustain existing services. Priority is also given to projects that deliver contractually committed outcomes, have particular strategic value or will generate greater efficiencies and future cost savings (see Figure 5). Linkages and interdependencies between projects are also considered.

Two systems currently provide the intelligence used by the Bureau to maintain its asset base. SitesDB is an application designed to support the gathering of observations metadata, maintenance processes and reporting. The Bureau also maintains an asset register, which is a critical component of the financial asset management process. Investigation is underway into options to improve asset management systems and provide enhanced management information such as life-cycle assessment and extension, management of risk exposure and efficiency.

Capability aim

Asset life-cycle plans for major asset classes such as radar, upper air systems and automatic weather stations have either been developed or are being implemented. These are forming part of a comprehensive asset life-cycle planning capability which aims to ensure that capital investment is targeted at high-value outcomes, consistent with the management of risk.

Capability development pathway (2017–18 to 2019–20)

Outputs

Implementation of an asset management system and replacement of the station metadata system to improve intelligence for planning and monitoring. This system will enhance informed decision-making and ensure that asset maintenance activities are aligned with the most critical service areas.

The Bureau's capital investment portfolio over the period 2016–17 to 2020–21 addresses both the maintenance of its existing capability and strategic improvements in priority areas. The priorities are outlined in the 2016–17 to 2020–21 Capital Management Plan, which was submitted to the Department of Finance in January 2016, and are reflected in further detail in the Bureau's own internal planning.

Key investment strategies include:

- enabling interoperability and increasing automation of forecast platforms;
- developing the next generation of weather, flood, ocean and space forecasting services;
- investment to effectively manage the Bureau's property footprint;
- introducing an Electronic Data Records Management system, an Enterprise Project Management (EPM) System and improving back-office processes;

- improving the water intelligence information suite to facilitate user decision-making;
- improving the robustness, resilience, security and plasticity of computing infrastructure;
- enhancing digital interaction capability, including through improved website and mobile experiences;
- technology upgrades for existing radars and increasing automation of observing systems; and
- enabling Himawari-8 satellite data streams and the infrastructure upon which the successful utilisation of these will depend.

These are in addition to maintenance of existing capability, e.g. sustaining the observing system.

Success measures

- Delivery of capital projects on time, budget and scope.
- Increase network growth and service capability through business development activities and the ingestion of third party data networks.

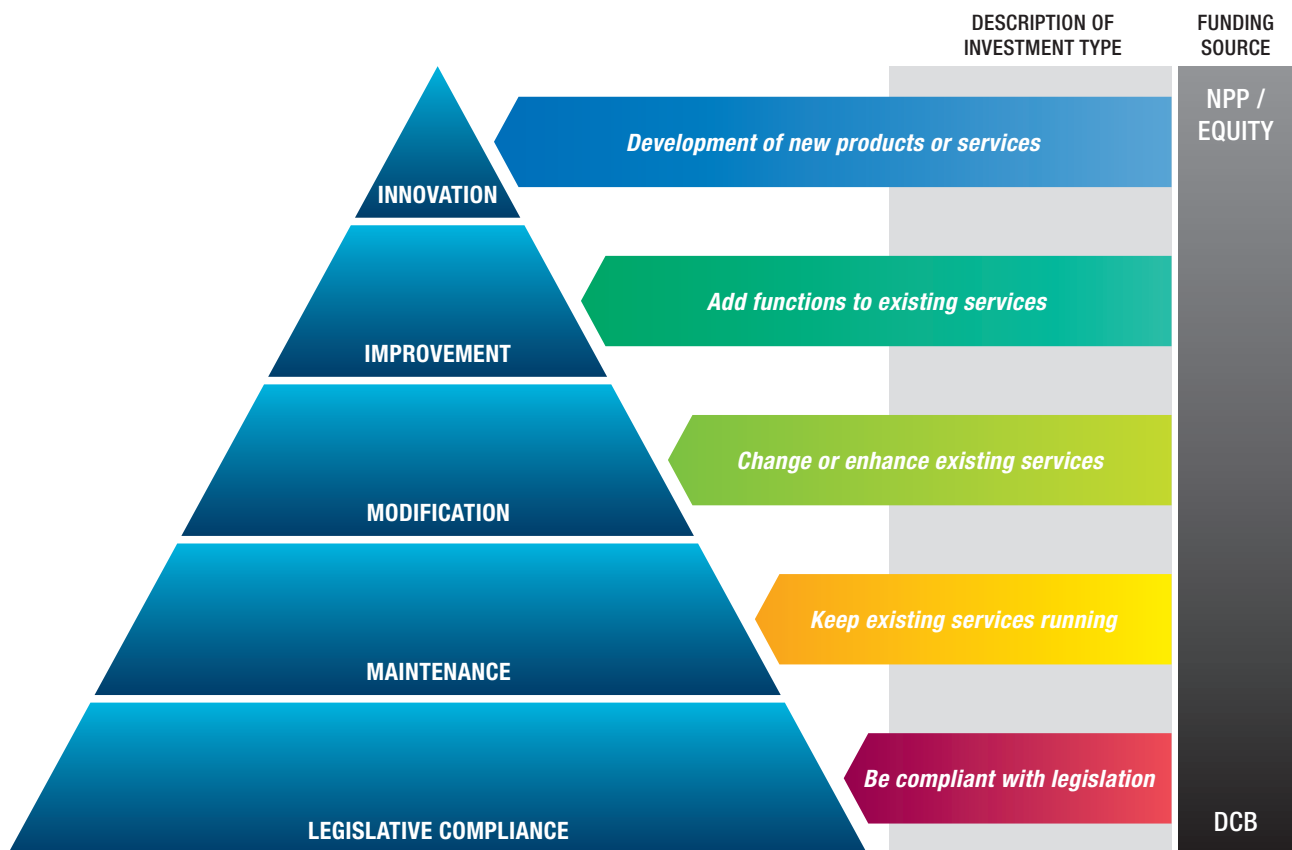


Figure 5: Investment pyramid for the Bureau's assets (where NPP = new policy proposal and DCB = departmental capital budget).

Evolving our user-driven forecast and warning services

Current capability

The Bureau provides accurate and timely hazard warnings and forecasts issued 24 hours a day, 365 days per year, for all parts of Australia and its surrounding waters. The Bureau's services work to reduce the impact of weather on communities, governments and private industries, including aviation and defence sectors. Each of Australia's capital cities has a 24/7 Regional Forecasting Centre (RFC) that produces most Bureau products and services for the State or Territory, with the ACT being serviced by the New South Wales Regional Office in Sydney. These include forecasts and warnings, consultation, media, and interpretation services to optimise critical decision-making by stakeholders.

Services are many and varied. A wide range of space weather services are provided to industry and the Australian public for protection and operation of technological infrastructure used in communications, navigation surveillance and energy transport. The service monitors and predicts solar, geomagnetic and ionospheric conditions. Tsunami warning and ocean services include the delivery of forecasts of ocean temperature and salinity, currents, sea level and tidal predictions and warnings for marine hazards including tsunami through the Bureau National Operation Centre.

The Bureau delivers comprehensive, reliable and up-to-date water information products and services that play a critical role in the sustainable management of Australia's water supply in the face of a changing climate and rising demand for water.

The introduction of new technology has seen service and business continuity improvements across Australia. The Next Generation Forecast and Warning System and MetEye service introduced over recent years have significantly improved forecast and warning services with more graphical content and 7-day forecasts for over 650 Australian towns and cities. The Next Generation Flood Hydrological Forecasting System (HyFS), implemented in December 2015, has allowed remote forecasting capability from the Bureau National Operations Centre in Melbourne, improving service continuity.

Competency-based training, designed to allow staff to demonstrate their ability to perform the required job tasks, has been implemented across many of the Bureau's forecast and warning services including severe thunderstorms and aviation. Recently, the Flood Warning Training and Competency team has developed modules on core capabilities required of a frontline flood forecaster and specialised modules on new systems including HyFS. These training modules have been completed by operational flood forecasters as part of a full competency-based training program to strengthen service provision.

Capability aim

Australia is vulnerable to a range of extreme weather hazards and it is essential that the Bureau delivers user-focused services that are resilient, responsive, valuable and flexible enough to meet changing needs. This includes a move towards impacts-based approaches for warnings to strengthen the connection between the Bureau's information and decisions in the community. Systematic engagement with users will assist in better understanding their needs and identifying focus areas to enhance partnerships.

Underpinning service improvements will be based on robust scientific knowledge with optimal use of new and emerging technologies to capitalise on new opportunities. Steps will be taken to strengthen the Bureau's service-delivery model, which is currently stretched in supporting the full range of services delivered from each of the seven RFCs. In addition, the increasing preference of customers for digital delivery of Bureau products and services indicates increasing demand for real-time information at the local level, rather than a focus on where the forecast is generated.

Capability development pathway (2017–18 to 2019–20)

Outputs

Delivery of forecasts and warnings to stakeholders across Australia is a core element of the Bureau's purpose. In 2016–17, the Bureau will:

- investigate optimal ways to transform its service delivery model to ensure the sustainability and relevance of its forecast and warning service;
- implement new systems such as a comprehensive flood-alerting capability using the HyFS system and a new warning entry tool which will improve the quality and content of flood warnings and watches, and improve their compatibility with emergency service decision support systems;
- improve performance analysis through automatic verification of the forecasts prepared in the warning entry tool and by generating performance reports and KPI summaries;
- continue the move towards nationwide implementation of graphical severe weather and flood warning services with an interactive, user-friendly, public web-based viewer to display current warnings and a new graphical area forecast product for general aviation, which will be much simpler to interpret and will provide more spatial information;
- continue to improve delivery of products and services to industry users such as aviation and defence in support of improved operations and planning—examples include implementing recommendations from the Review of Aviation Weather Services in Australia, developing new products and services for Airservices and implementing an enhanced online defence fire weather service; and
- engage with users to design future services that better meet their needs, including using emerging capabilities, such as outlooks for the coming week based on probability scenarios and rapidly updated short-term forecasts and warnings, as well as using social media, video and mobile platforms to provide critical updates.

The 3-year period from 2017–18 to 2019–20 will see the Bureau further develop new capabilities to deliver improved national focused services based around stakeholder requirements. This will include:

- strengthened national coordination through the Bureau National Operations Centre and increased capacity to provide surge support to State emergency coordination centres, including boosting meteorologists and hydrologists staffing the Extreme Weather Desk;
- progressive service upgrades to deliver increased detail in location-specific forecasts and warnings;
- further development of graphical warning and hazard outlook services;
- enhanced storm surge products to better inform decision-makers, such as emergency services and marine users;
- upgraded flood services including:
 - Flash flood guidance in 2017–18 to automate and replace the legacy system in New South Wales;
 - a flood scenario product in 2018–19 to automate and replace the legacy system in Victoria and provide a standard product for all jurisdictions; and
 - implementation of a flood web refresh project in 2017–18 to update the ageing flood web pages and provide a modern graphical interface that integrates real-time flood data with warnings and forecasts.

Success measures

- The uptake of products by users as measured through feedback and independent surveys, and in response to our social media activity, on platforms such as Facebook and Twitter.
- Robust verification systems will assist to measure true service value.

Business Development

Current capability

In 2015–16 the Bureau earned over \$78 million in externally generated revenue. Market demand for environmental intelligence continues to exceed the agency's capacity to service it. Cost-recovered and commercial revenue earned from business development opportunities enables the Bureau to extend the national impact of its services. The Bureau can tailor services to meet the needs of specific industry sectors and improve their safety and economic efficiency. Business development activities also contribute to the objectives of other Australian and State government departments and can often assist the Bureau in strengthening core services to the public.

The Bureau's business development focus is to grow and diversify revenue streams to increase impact. All business development activities help to strengthen public services, support outcomes in other government agencies or enable Australian economic growth. Key sectors targeted for business growth include resources, defence, international development, aviation and State, Territory and local governments. The Bureau is also implementing a more focused approach to exploring and developing opportunities in emerging markets that sit outside focus sectors.

Tailored services include the full breadth of capability from information and forecasting services, training, expert advice and network management of observing infrastructure. The Bureau's business development strategy takes into account factors that will impact success, including changes in global and domestic market conditions, availability of new technologies, customer expectations and government policies.

The Bureau's focused effort has resulted in the growth of a healthy opportunity pipeline which has delivered significant increases in new business through 2015–16. The new revenue that the Bureau has generated through the business development approach has offset losses of funding from other sources.

In light of increasing opportunities in agriculture, water management and other sectors, Climate Information Services staff have undergone specific training in business development. The branch will also work closely with the Bureau's recently appointed International Development Manager to explore opportunities in international climate services, especially through the Green Climate Fund.

Capability aim

The Bureau will continue to embed a client-focused business development culture across the organisation. It will continue to sustainably grow the revenue and pipeline of opportunities, and to be responsive to client's needs. This will involve:

- continuing to grow revenue, particularly in focus sectors;
- proactively managing opportunities within the pipeline;
- strengthening the Bureau's ability to provide client-focussed services that support decision-making when it matters most;
- growing strategic relationships and exploring new business models;
- proactively marketing the Bureau's capabilities across focus sectors and positioning the Bureau within new high-growth sectors; and
- continuing to empower senior managers and staff through skills development and access to business development tools, resulting in increased accountability for delivery of business development opportunities within their areas.

Capability development pathway (2017–18 to 2019–20)

Outputs

The three years from 2017–18 to 2019–20 will be a period of maturing and consolidating business development approach within the Bureau, so that it becomes an integral aspect of its services. This will involve:

- scaling the marketing of the Bureau's capabilities to potential customers across the agency's existing focus sectors and new high-growth markets;
- identifying and embracing emerging technologies that enable the Bureau to respond to emerging market opportunities and adapt to future market disruption;
- continuing to grow and nurture opportunities for sustainable revenue growth;
- enhancing the Bureau's capability to develop new products and capabilities to meet client needs; and
- strategically managing and growing key customer relationships.

Success measures

- Continued growth and diversity in revenue streams.

Research and Development

Current capability

Research and Development (R&D) in the Bureau addresses high-priority service needs by building a national capability in weather, climate, water and ocean prediction. The development of the Bureau's underpinning numerical weather, ocean and climate prediction model—the Australian Community Climate and Earth System Simulator (ACCESS)—continues to produce advances in weather forecasting, ocean forecasting and climate prediction. The Bureau is also continuing to improve its understanding of atmospheric processes through modelling and observation, and is applying this knowledge to weather and climate prediction systems for advanced forecasting and environmental services. This includes prediction and monitoring of severe weather and environmental hazards, and seasonal and long-term climate patterns.

Research delivery is enhanced through the joint Bureau–CSIRO Collaboration for Australian Weather and Climate Research (CAWCR), and the Water Information Research and Development Alliance (WIRADA), also with CSIRO. Participation in cooperative research centres and engagement with universities in Australian Research Council (ARC) funded projects, the National Environmental Science Program Earth Systems and Climate Change Hub, and the ARC Centre of Excellence for Climate System Science, also complements the Bureau's research agenda. Reducing external R&D revenues, and an ongoing requirement for efficiency, mean that demonstrating value and harnessing innovation in R&D is essential. R&D both supports existing services and expands capacity in growth areas such as business development.

As well as producing forecasts with much finer spatial detail, the Bureau is enhancing its capability to forecast and track tropical cyclones, including their intensity and the waves and storm surges they generate. Significant improvements in intensity forecasts will represent a significant breakthrough in capability. The development of the models is increasing using 'ensembles' that can produce multiple iterations of the forecast system to quantify the most likely scenarios as well as potential worst cases.

Capability aim

Research and innovation will contribute to increased efficiency of service development and delivery, through effective translation of research outcomes into operations and increased automation and streamlining enabled by models. Improving the discovery, access and reuse of our data holdings is an important outcome, as is achieving greater project and program management maturity.

Capability development pathway (2017–18 to 2019–20)

Outputs

The key R&D capacity development activities over the coming three to four years are enabled by increased supercomputer capabilities and guided by the content of the R&D strategy, the ACCESS roadmap and priorities around the Bureau's core capability development areas. Better understanding of the Earth's fundamental physical processes and the use of advanced observational techniques will improve the Bureau's modelling capability and increase the utility and utilisation of products and services.

The development of the ACCESS suite of models to include higher resolution for greater fidelity on all time scales as well as improved use of observations and ensemble prediction systems are a cornerstone of service developments. In addition, the application of advanced observations from satellite as well as advanced weather radar will result in improved forecast services.

The 7-day streamflow forecasting service will be expanded to include an additional 40 catchments, bringing the total forecast catchments across Australia to 90. An upgrade of the current deterministic 7-day streamflow forecast service is planned to include ensemble forecasts, providing greater certainty to water agencies for improved decision-making. The Seasonal Streamflow Forecasting (SSF) service is undergoing a major upgrade through adoption of the Bureau's new seasonal climate prediction model ACCESS-S, more accurate forecasts through merged statistical and dynamic forecasts and an upgrade of the seasonal streamflow website for increased adoption by stakeholders. The water forecasting capability is also being expanded to the catchments covering the entire Great Barrier Reef region, providing water quantity forecasts to the operational marine models. Capability is also being developed to include water quality forecasts of nutrients and sediments for supporting improved management of the Great Barrier Reef.

Success measures

- Improvements in guidance accuracy, the delivery of forecast and analysis systems to forecasters and decision support for stakeholders such as emergency services.

Observations

Current capability

The Bureau invests a significant proportion of its resources in the taking and recording of observations that underpin warnings and weather forecasts, climate services, water and environmental information. It strategically plans, builds and operates the observing network and maintains significant technical, engineering and science capability. Meteorological, hydrological, oceanographic and space weather observations are taken from 50 staffed offices, 58 weather surveillance radars, 695 automatic weather stations, and more than 12 000 other data collection sites across Australia, its offshore territories and Antarctica. This network is supplemented and enhanced by globally distributed observations shared freely by international meteorological and space agencies, including data from 14 Earth observation satellites operated by international partners.

Over the past two decades, the coverage and number of observations have grown significantly, with the configuration and management of the observations network also evolving. Over the past 30 years, observations have increased from around two million to over 20 million each day and meteorological satellite advances give the Bureau capability to cover all of Australia and its surrounding oceans. Continuous evolution of the overall observing network is required to ensure a modern and efficient observing system.

Capability aim

The implementation of the Observing System Strategy 2014–2020 and Beyond continues to guide activities over the coming years, with the prime focus being the maintenance and improvement of service levels while:

- adopting and assimilating new technologies;
- implementing more efficient systems and processes;
- adjusting to the expected future resource levels;
- continually improving delivery efficiencies; and
- facilitating management and cultural change to ensure continued high-performance delivery.

Capability development pathway (2017–18 to 2019–20)

Outputs

Implementation of the Observing System Strategy will continue to transition the program to a more sustainable model of operations. The upper-air observations program will be further automated over the next few years, enabling the full automation of 15 field offices in the coming year. The greater emphasis on automation means that the number, location and roles of staff will change, with a greater emphasis on supporting automated observing systems and the phasing out of manual observations wherever possible. The future model of integrated observations services delivery through new 'activity hubs' will see the creation of eight operational centres, each of which will house all of the competencies and resources required to fully service the area it covers. The Melbourne, Darwin and Cairns hubs will be established in 2016–17.

The observations network will continue to be enhanced through the completion of observing strategies for the flood warning, rainfall and space weather infrastructure networks (June 2017). The implementation of a tiered automatic weather stations network (2017) will facilitate more efficient and fit-for-purpose operation and allow investment, continuation of services and data standards to be targeted at specific requirements. There will be constant investment in technology through hardware upgrades to existing radars, procurement of the next generation radars (2017) and new services including a high-resolution lightning service (in 2016–17).

Continued implementation of the Observing System Strategy will see strategic actions taken around the people, services, management and enabling systems that lead to improvement in service levels, operating cost control, and higher levels of staff satisfaction.

Success measures

- Network coverage in terms of geographic and population coverage.
- The number of observations, cost per observation and uptime of observing systems.

Risk oversight and management

Introduction

The Bureau's comprehensive risk oversight and management framework provides a backdrop for ensuring accountability and compliance, while empowering well informed decision-making. The framework contributes to the safety of the Bureau's people and the continuity and quality of its services. The framework comprises risk management, business continuity, financial compliance, fraud control, quality management, a work health and safety management system, and an independent auditing function.

Risk management

The identification and management of risks is inherent in the Bureau's work. Risk management is integrated into planning and decision-making processes at all levels. All staff are responsible for risk management and are familiar with and competent in the application of the Bureau's risk management policy and implementation framework. Accountability for the policy's implementation is shared by staff within their areas of responsibility.

The Bureau maintains comprehensive risk registers at the enterprise, program, project and regional levels, which are reviewed regularly as part of the overall planning process. The Bureau of Meteorology Audit Committee provides independent advice and assurance about the appropriateness of the system of risk oversight and management. The Bureau Risk and Business Continuity Committee is responsible for the oversight of day-to-day risk management and business continuity within the Bureau. The Bureau participates in the Comcover Risk Management Benchmarking process each year.

At the enterprise level, risks are identified by the Bureau's Executive as being those that could potentially affect the delivery of the Bureau's statutory obligations, outcomes and/or the achievement of strategic priorities. These include:

- death or serious injury of a staff member or member of the public arising from workplace accident/incidents;
- major ICT or service discontinuity;
- lack of government commitment to ongoing investment in capability building items;
- significant forecast failure;
- increasing contestability/competition for our services;
- managing the Bureau's brand and reputation; and
- workforce succession planning and training to maintain staffing capability and meet Bureau objectives.

Enterprise-level risks are formally monitored and reviewed by the Executive on a quarterly basis. Additionally, program-level risks that exceed the Bureau's corporate risk tolerance level ('significant' or higher) at the residual level are referred to the Executive for additional treatment or tolerance consideration.

The Bureau's risk framework also includes guidance on the establishment of risk appetite in order to facilitate innovation and pursue opportunities. In particular, the Risk Management Handbook states that there is considerable risk appetite for business development opportunities that are aligned with the Bureau's strategic objectives, while reinforcing the legislative, reputational and compliance requirements that should not be subjected to risk appetite considerations.

The Bureau consistently scores well above the Australian Public Service average for risk management and the most recent benchmarking report rated the Bureau as 'advanced' (the second-highest level attainable), whilst the average risk management maturity result for all Australian Public Service agencies is rated as 'integrated' (the third-highest level).

Risk management enables the Bureau to target and optimise the limited resources available to best manage the risks encountered when carrying out business and delivering projects. This means that informed decisions can be made with sound consideration of the risks involved.

Business continuity

Business continuity management is a key process that identifies, in advance, the potential impact of disruptions to the Bureau's services. The Bureau has a strong record of managing such events, however, in an environment of increasing demand for services, tailored and up-to-date business continuity management processes enhance the agency's ability to maintain essential services during periods of disruption, ensure resumption of services in an organised and efficient manner and respond to any additional service requirements that may arise from the cause/s of the disruption.

A business continuity management policy, supported by business continuity plans and procedures at the program and regional level, have been established to ensure the Bureau will continue to provide critical services to the communities of Australia during and following business disruption. Oversight of business continuity processes are the responsibility of the Risk and Business Continuity Committee. It meets, on average, three times a year and is made up representatives from the Executive, program areas and a Regional Office.

The Bureau also has an incident notification policy supported by a 24/7 incident notification hotline to ensure early notification of incidents to the Executive and senior managers.

Financial compliance

In order to meet the requirements of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and the PGPA Rules, in addition to other Australian Government policies, the Bureau provides officers with a suite of comprehensive information and advice on financial management practices. This advice, in the form of accountable authority instructions and operational guidelines, interprets relevant legislation and enables Bureau staff to undertake financial activities within legislative requirements. The Bureau administers financial delegations under relevant legislation to ensure that the appropriate officers have been provided with the level of authority necessary to discharge their financial and other official responsibilities.

The Bureau's compliance process provides assurances that all relevant resources are managed in accordance with the PGPA Act. Nominated officials submit three periodic surveys reporting compliance with the PGPA within their area of responsibility. Surveys are reviewed by the audit committee prior to a submission of an annual report to the accountable authority. If any significant breaches occur, these must be reported to the Minister for the Environment and Energy and Minister for Finance and published in the Bureau's annual report.

The Bureau's financial statements are reported upon annually in its annual report, are developed in line with relevant legislation and accounting standards, and are independently audited.

Fraud control

The Bureau's fraud control plan clarifies the responsibilities and obligations of managers and staff in the prevention, detection and investigation of real or suspected fraud. Managers and staff are required to consider fraud, including ICT security, as part of risk assessments at the program and project level and ensure that steps are taken to mitigate any exposure of the Bureau to fraud.

Quality management

The Hazards, Warnings and Forecasts Division continues to maintain AS/NZS ISO 9001 certification of compliance for the following Quality Management Systems (QMS): Aviation Weather Services (including Head Office, Sydney Airport Meteorological Unit, National Operations Centre and Volcanic Ash Advisory Centre), Marine Weather Services, as well as the Meteorological Authority in the Corporate Services division. The development and implementation of a QMS for the Defence Weather Services is progressing well. Certification of Commercial Weather Services and the Western Australia Regional Forecasting Centre are also well underway. The development and implementation of a quality management approach has also commenced for the Joint Australian Tsunami Warning Centre. The Bureau's current external certification body is Lloyd's Register of Quality Assurance—who is a world-leading independent provider of business assurance services.

There are six key elements that underpin the Bureau's approach to the development and implementation of a QMS and the achievement of certification of compliance to AS/NZS ISO 9001:

- recognition that the pursuit of quality has underpinned the Bureau's activities for over 100 years;
- integrating the internationally recognised AS/NZS ISO 9001 Quality Management Standard into and enhancing the current management activities;
- developing and implementing the QMSs on a program-by-program basis;
- clearly establishing stakeholder needs and reacting accordingly;
- the adoption of a quality management approach to the delivery of the Bureau's suite of products and services as a powerful risk mitigation strategy; and
- certification of compliance to AS/NZS ISO 9001 enhances the Bureau's credibility and reputation nationally and internationally.

Given the integrated nature of IT, the Information Systems and Services division contributes to quality management across the Bureau. This includes quality assurance processes around data, applications development and service management. The focus for 2016–17 will be implementation of a new tool to improve IT service management; development of quality assurance processes concerning applications development, testing and release management; and improvements in data management across the Bureau. The SHARP initiative includes the necessary foundational work to enable the Bureau to comply fully with Australian Government security requirements.

Work health and safety management system

The Bureau aims for zero harm and believes that there is not an acceptable number of workplace injuries. Its work health and safety (WHS) management system is driven by a work health, safety and well-being statement of commitment, a 3-year strategic plan (2016–17 to 2018–19) and annual operational plans that outline specific objectives, initiatives and actions.

The aim of the WHS strategy is to further develop and embed the health, safety and well-being culture at the Bureau within the workforce, workplaces and programs of work. To do this, the WHS strategy focuses on five priority areas: WHS leadership and commitment; being proactive and innovative; ensuring the Bureau is suitably reactive and accountable for matters that arise; providing staff with the knowledge and capability to effectively deal with WHS hazards and risks; and, supporting a health and well-being program to promote and enhance the health and productivity of staff. The Bureau's WHS management system is constantly being reviewed and updated to ensure it is on the cycle of continuous improvement and compliant with the requirements of AS4801 Occupational Health and Safety Management System standard.

The Bureau Executive proactively lead and empower managers, supervisors and staff to take action on work health and safety issues. Supporting them is a comprehensive suite of policies, procedures and training programs that address hazard and risk areas. The WHS management system is embedded in the Bureau's organisational practices and is guided by a robust consultation process.

The Audit Committee

The Bureau's Audit Committee has been established by the Director in compliance with Section 45 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and PGPA Rule Section 17 Audit Committees for Commonwealth Entities. The committee provides independent assurance to the Director on the Bureau's financial and performance reporting responsibilities, risk oversight and management, and system of internal control. The Bureau's internal audit function is supervised by the Audit Committee and delivers the Internal Audit Plan.

Budgeted financials

The Bureau's operations are funded primarily from government appropriation. Other revenue is derived from several sources including from the sale of goods and services, projects with external organisations and other government agencies, services provided to the aviation industry, defence, and commercial services to the private sector.

The Bureau's appropriation for 2016–17 (summarised below) is outlined in the Portfolio Budget Statements of the Environment Portfolio. Also outlined below are known budget measures that impact on the period of this plan.

Expenses: Programme 1.1 Bureau of Meteorology

	Budget estimate 2016–17	Forward estimate 2017–18	Forward estimate 2018–19	Forward estimate 2019–20
Income				
Appropriation revenue from Australian Government	227,853	185,146	187,885	186,916
Sale of goods and rendering of services	70,138	64,350	62,518	62,358
	297,991	249,496	250,403	249,274
Expenses				
Employee benefits	184,390	160,035	159,872	160,756
Suppliers	109,071	84,920	85,975	83,949
Depreciation and amortisation	72,519	72,519	72,519	72,519
Write down and impairment of assets	1	1	1	1
Other expenses	1,968	1,979	1,994	2,007
	367,949	319,454	320,361	319,232

(All figures \$'000)

Budget measures (reported in PBS/PAES) impacting 2016–17 to 2019–20

Initiative	Impact by Financial Year			
	2016–17	2017–18	2018–19	2019–20
Improving Water Information Programme	36,554			
Targeted budget savings / public service efficiencies (2013–14 budget)	-2,745			
Previous Government Response to the Munro Review (2013–14 budget)	13,675			
Supercomputer (2014–15 budget, 7 year funding)	(Commercial-in-confidence - \$ not disclosed)	(Commercial-in-confidence - \$ not disclosed)	(Commercial-in-confidence - \$ not disclosed)	(Commercial-in-confidence - \$ not disclosed)
SHARP (2015–16 PAES, 2 year funding)	(Commercial-in-confidence - \$ not disclosed)			
Targeted budget savings / public service efficiencies (2014–15 budget)	-3,043	-2,569		
Seasonal forecasting	971	652	659	

(All figures \$'000)



Australian Government

Bureau of Meteorology

BUREAU OF METEOROLOGY

STRATEGIC PLAN 2015–2020

ANNEX A

700 Collins Street
Docklands VIC 3008

GPO Box 1289
Melbourne VIC 3001

Connect with us



www.bom.gov.au

Our mission

To provide Australians with environmental intelligence for safety, sustainability, security, well-being and prosperity.



Great public service is about meeting community needs in the most effective and efficient manner.

The Bureau of Meteorology has served Australians for more than 100 years and suffice to say, the Australian community has very high expectations of us because they depend on our environmental intelligence so greatly. Whether it is keeping the public safe with our severe weather warnings or providing specialised forecasts to aviation, marine industries or armed forces in the field, we must continuously evolve our service offering to keep pace with the changing needs of our end users.

It is not only end-user preferences that change. So do science and technology—giving us options to build on our observational, forecasting and dissemination methods. Our partners' directions and capabilities change too, closing some doors and opening others. Government policy and priorities also change, and we must be responsive to that. In short, we are living in a dynamic environment; the Bureau must continuously adjust to it, and lead the way.

Strategy is about anticipating the forces that will affect us in the future and preparing our agency to be future-fit. A comprehensive plan for the Bureau must set out directions for our people, our operations, our infrastructure, our observing systems, our information systems, and our science and technology. This plan does just that—providing guidance to the talented and committed people of the Bureau about how we will change over the next five years. It will guide our investment decisions and the detailed operating plans that we update each year. It will also telegraph our intent to our stakeholders, so that they will see our commitment to meeting their needs into the future.

There are some initiatives that I am keen to highlight. We will strengthen our business development capability to increase the breadth and impact of our services while growing and diversifying our revenue base. We will implement major upgrades to our supercomputing and data management capability so that we have the right tools to improve the skill of our forecasts and enhance the resilience of communities and businesses to severe weather,

climate variability and climate change. We will enhance our digital delivery, particularly in social media and mobile applications, so that more Australians use our environmental intelligence in their decision-making. We will continue to automate our observations and improve the efficiency of our forecasting processes so that we can deliver more while reducing operating costs.

We have set ourselves ambitious goals for the next five years, but as a highly professional and skilful organisation, I am confident that together we can meet them and create even greater value for Australia.

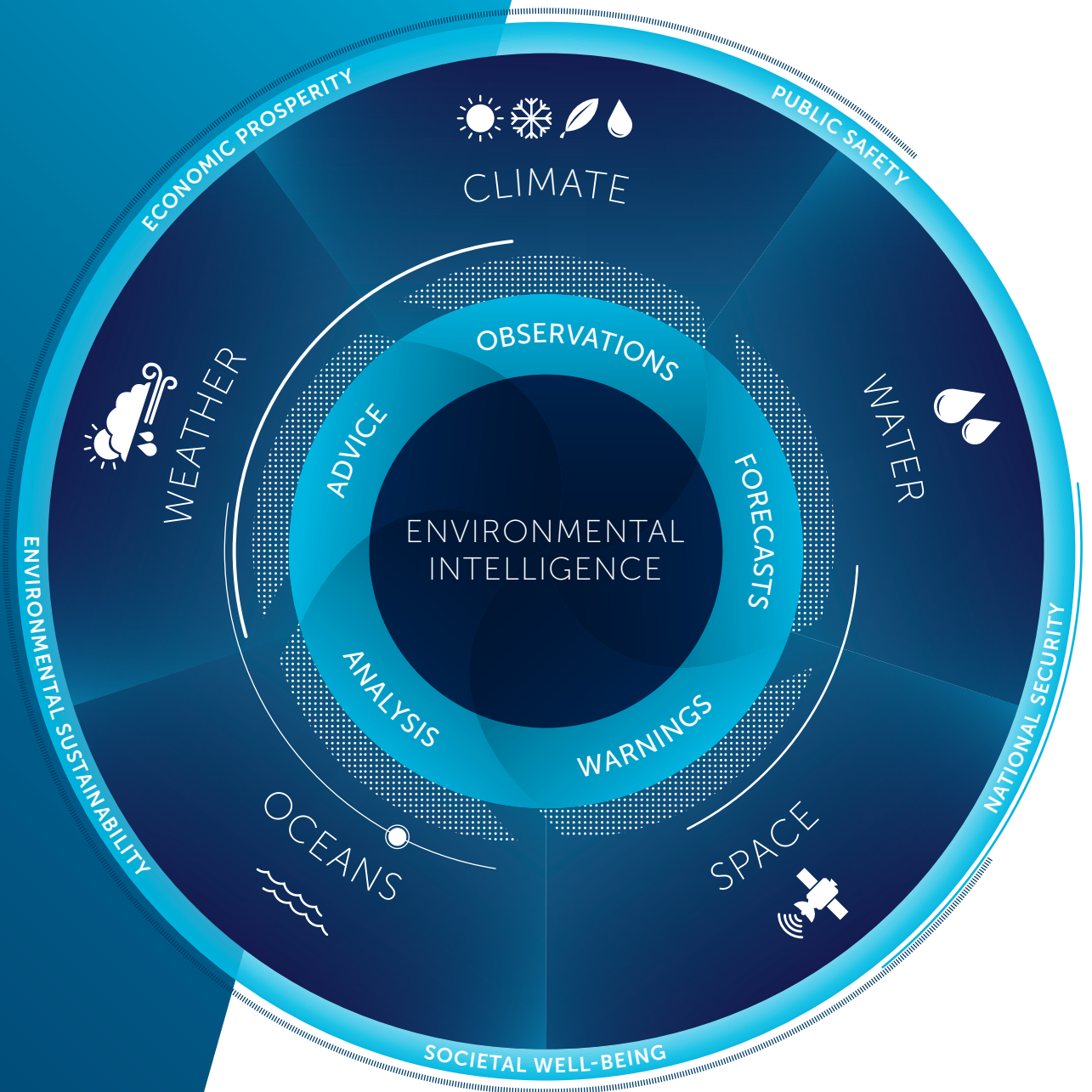
Dr Rob Vertessy
Director of Meteorology and CEO

WHAT WE DO

We are Australia's national weather, climate and water information agency, operating under the authority of the *Meteorology Act 1955* and the *Water Act 2007*. The Bureau provides a wide range of products and services to support informed decision-making by governments, emergency services, industry and the community.

Our products and services include a dynamic range of observations, forecasts, warnings, analysis and advice covering Australia's atmosphere, water, oceans and space environments.

We provide up-to-the-minute information on current conditions, forecasts and warnings about what is to come, and a wealth of climate and water information and statistics on what has been. This intelligence allows users to make prudent decisions based on the best available information, whether it is a short-term emergency response or long-term infrastructure planning.



OUR USERS

Australian communities depend on the Bureau's essential forecast, warning and information services to protect lives and property, support national security and environmental sustainability, promote industry productivity and enhance societal well-being.

Many economically important, weather-sensitive industries rely on our services for their own effective operation. These include emergency services, defence, aviation, shipping, resources, agriculture and water.

We distribute environmental intelligence to all Australians—directly, through various channels such as briefings, our website, social media and mobile platforms—and also through the media and third-party service providers.



(Annual figures)

OUR VALUES AND CULTURE

We are an organisation with strong values that underpin our work and our delivery of products and services to the Australian community. Our organisational culture reflects who we are and how we work together for maximum benefit.

VALUES

In delivering our services to the community, we individually and collectively uphold the Australian Public Service Values:

- **Impartial**—we are apolitical and provide the Australian Government with frank, honest and timely advice which is based on the best evidence available.
- **Committed to service**—we are professional, objective, innovative and efficient. We work collaboratively to achieve the best results for the Australian community and Government.
- **Accountable**—we are open and accountable to the Australian community under the law and within the framework of ministerial responsibility.
- **Respectful**—we respect all people, including their rights and heritage.
- **Ethical**—we demonstrate leadership, are trustworthy and act with integrity in all we do.

ORGANISATIONAL CULTURE

In undertaking our mission to provide Australians with environmental intelligence, we are:

- **Passionate about our work**—we want our products and services to make a difference to Australia.
- **Safety-minded**—we look out for each other and embed safety in all of our activities.
- **Diverse**—we recognise, appreciate, value and utilise diversity through a workplace that is supportive and inclusive of difference.
- **Collegiate**—we willingly exchange ideas and information and work together as one organisation.
- **Professional**—we excel in our work, locally and globally by utilising our broad range of skills and capabilities.
- **Innovative**—we encourage innovative thinking and harness the talent of our staff in creating and developing opportunities and solving complex problems.

OUR APPROACH

This plan encompasses four key strategies that will maintain our world-class services and help Australians respond to the challenges of the 21st century. These strategies influence everything we do—from our products and services to our infrastructure, our operations, our science and technology, and our staff.

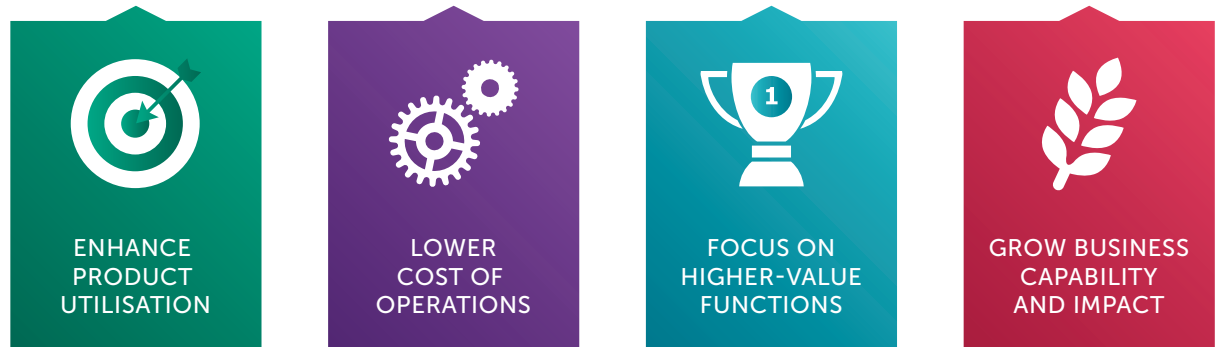
The focus of this plan is on the areas that we will need to change in order to meet our nation's contemporary and emerging needs for environmental intelligence. These are the strategies and priorities that are necessary to transform our operations and deliver the most benefits for our users and stakeholders over the coming five years.

The developments we undertake over the next five years will position us as a skilful, efficient, responsive and resilient organisation. We will enhance product utilisation, lower the costs of operations, focus our efforts on higher-value functions and grow our business capability and impact. This will position us for success in enhancing public safety, building economic prosperity, encouraging environmental sustainability, reinforcing national security and supporting societal well-being.

MEETING OUR MISSION



OUR STRATEGY





Enhance product utilisation

Provide the products and services that our users need in the ways that they want

The Bureau's primary purpose is to serve the needs of the Australian community; however, their specific needs and preferences for environmental intelligence are continually evolving. Our users want more detailed information more often, and to access that information in new ways. There is an increasing preference for graphical rather than text-based services, and for greater accessibility to information via mobile devices. Users also want to receive personalised content that is location-specific and focused on their own needs and interests. Businesses need information that is compatible with sophisticated business decision systems.

So that we continue to understand and meet these needs, we will regularly engage and work with stakeholders to draw out information on their new and changing requirements. We will explore new partnerships and innovative ways of delivering services to keep pace with our nation's challenges and opportunities.

We will continuously extend our understanding of and ability to forecast Australia's weather, climate, land and water resources and sustain our systems for measuring, collecting, sharing and preserving Australia's extensive environmental data assets as a critical national resource for current and future generations. To maintain and enhance the value and relevance of our work, we will harness new technology to transform the way we operate and deliver services. A new, more powerful

supercomputer will enable more precise and frequent forecasts—benefiting the economy and community. We will better integrate service delivery from across the Bureau, to give users the best available information about our environment on a range of timescales.

We must also work with our users to ensure they are able to make best use of our products and services, and provide them with the analytical tools needed to optimise data use. Technical users will increasingly need web-based access to data to develop innovative applications and build third-party products and services. We will help users understand any limitations in the information we provide, and give details of our forecast accuracy, so they have assurance about our forecast quality.



CONSULTATION

Engage users to understand their needs, including through market research and user testing. Use social media to raise awareness and extend our reach, and take advantage of mass two-way engagement.

USER-CENTRIC DESIGN

Ensure products and services are designed in response to user requirements, and use feedback to drive service improvements. Allow users to customise products to meet their specific needs and interests.

SERVICES ON THE GO

Improve accessibility through better delivery of products and services using mobile devices, in-car technology, social media and other mobile technologies. Use our national newsroom to achieve greater community awareness during significant weather events.

IMPROVED FORECASTS AND WARNINGS

Capitalise on enhancements in supercomputing, scientific modelling and data streams to deliver more accurate forecasts more frequently. Build our capacity to provide higher-resolution forecasts and warnings for extreme events with greater certainty.

BUILDING USER CONFIDENCE

Implement verification systems that demonstrate our forecast skill. Communicate improvements in forecast accuracy, in order to build trust and user confidence in using Bureau products and services for decision-making.



Lower the cost of operations

Increase efficiency and reduce costs to improve our value and sustainability

In the future, the Bureau will require new models of operation to put our services on a more sustainable footing as we strive to become more flexible and cost-effective. Options for streamlining, automating and centralising activities will be pursued. Our forecast operations will need to be more efficient and agile, while maintaining our world-class capability. We must reduce the costs of routine forecast production while ensuring our systems are scalable, integrated and adaptable to meet changing conditions and different customer needs.

To maintain our large asset base, we will need smart investment with a disciplined approach to planning and life cycle management. To reduce our property costs, we will need a smaller footprint with fewer offices. Modernisation of our observing system is required to ensure it is affordable and fit to meet the future challenges of the organisation and its users. We will also need to reduce energy and resource consumption in practical and cost-effective ways.

New and innovative approaches to the management of data and metadata will also be required as data volumes increase exponentially—with the launch of higher-resolution satellites, and as scientific modelling and data assimilation capabilities advance. We will need to contain costs by using the best available technology within a new data centre and with enhanced telecommunications.

We must also continue to leverage our investment in observations and science to contribute to and access international data streams. We will build partnerships and focus on data sources that supplement the Bureau's own data and enable the greatest service enhancements at the least cost.

We will enhance efficiency, consistency and quality by documenting processes and rigorously managing process change. This includes the transition of research and development outputs into operational services. A detailed roadmap will be developed for the Australian Community Climate and Earth-System Simulator (ACCESS) to support the methodical development of service enhancements from improved numerical weather prediction.



STREAMLINED
FORECAST
PRODUCTION

Achieve operational efficiencies by consolidating and re-factoring forecast and warning production processes. Integrate the Next Generation Forecast and Warning System with our other forecasting systems, and retire legacy systems. Capture advances in science and technology to automate routine functions and drive enhancements.

EFFICIENT
OBSERVATIONS

Implement the *Observing System Strategy 2014–2020 and Beyond* to create a modern and efficient observing network that meets Australia's needs into the future. Use the strategy to improve service levels and lower the cost of operations.

ICT
TRANSFORMATION

Create a modern, lean and responsive information and communications technology (ICT) capability that drives and delivers our business. Undertake disciplined transformation that decreases costs, increases output and shortens development cycles.

STREAMLINED
CORPORATE
PROCESSES

Streamline corporate administrative processes to increase efficiency. Identify wasteful business practices and simplify back-office operations. Make better use of management information and performance metrics to allocate resources.

REDUCED
OPERATING COSTS

Reduce our property operating cost and energy footprint. Use remote monitoring of infrastructure and diagnostics for proactive maintenance, to reduce infrastructure outages and unexpected costs.



Focus on higher-value functions

Invest our resources in work that delivers the greatest benefit for Australia

To meet the changing needs of users and stakeholders the Bureau will need to be more agile in its operations, aligning resources to achieve the greatest impact for the community. For this to succeed we will grow the capability of staff to meet a range of responsibilities and to adapt quickly to changes in how we operate. We will also better integrate our operations under a consistent national customer service interface, providing flexibility in delivery and capability, even in the most trying circumstances.

As we consolidate our production processes, we will transition staff into roles with high impact and value. As centres of expertise and advice for regional communities and stakeholders, our regional offices will increasingly focus on providing high-value environmental intelligence through engagement and liaison.

Using our expert scientific knowledge and capability, research and development will build our skill in seasonal forecasting and numerical weather prediction, reducing the need for manual forecaster input. We will balance our effort in developing and maintaining the core systems that deliver sustained operations with agile and adaptive solutions that anticipate emerging requirements. We will also continue to implement online tools and self-help facilities, to further reduce the resources used in handling individual queries.

New major investments will provide step-change capability enhancements—such as the replacement supercomputer, the introduction of an advanced hydrological forecasting system, and a storm surge service capability. We will focus our efforts towards realising the full value and benefits of major new investments through rigorous project and programme management.

We will enhance the scope, quality and accessibility of our products and services where there is strong demand or high community benefit, and reduce or cease our investment in areas of low demand.

The skills and capabilities of our technical workforce will evolve to manage and maintain quality across an increasingly automated, integrated and resilient observing system.



RIGHT PEOPLE;
RIGHT ROLES

Ensure staff have the right skills and are deployed in roles where they add the highest value. Use workforce planning to focus resources on key job roles, ensuring sustainability of human resource levels and the robustness of critical operations.

REIMAGINED
FORECAST
DELIVERY

Implement a new national approach to service delivery, in which routine operations can be delivered from any forecasting centre for anywhere in Australia.

REGIONAL
OUTREACH

Increasingly focus regional offices on analysis, liaison with State and Territory governments and other stakeholders, and working with industry to deliver specialised services.

EXTREME
WEATHER DESK

Orient the Bureau's National Operations Centre towards high-impact weather and communications—coordinating with regions to provide a national focus on extreme weather intelligence and capability.

STRATEGIC
RESEARCH

Implement a Bureau-wide research and development strategy that supports the Bureau's strategic direction. Ensure that research and development priorities are driven by user demand.



Grow business capability and impact

Diversify and build our external revenue streams to grow our business and increase our impact

Across Australia, very few activities are not affected by environmental conditions. We know from user feedback and usage statistics that our existing products and services play an important role in everyday decision-making, from the backyard to the boardroom. But there are opportunities for us to provide tailored products and services for those who need more specialised information, or want to draw on our unique expertise.

The Bureau providing more specific intelligence to business and governments is a win-win situation—our customers get the information they need, and we diversify our revenue base while increasing the impact of our work.

We will grow impact by:

- embedding a strong business development culture throughout the operation;
- promoting our capabilities to potential customers in the government, non-government and private sectors;
- identifying opportunities to tailor products and services and to build a sustainable opportunity pipeline;
- developing new products and capabilities to meet customer needs;
- identifying opportunities for collaboration that offer beneficial outcomes; and
- strategically managing and growing key customer relationships.

Our focus will be on opportunities that align with our mission, drive system and service innovation, and enable us to maintain the broad scope and significant impact of our activities.

Specialised services include the full breadth of capability—from research to the delivery of observations and forecasts—noting opportunities for partnerships, external investments in observing infrastructure and corporate services.

Our business development strategy will take account of factors that will influence our success—including changes in global and domestic market conditions, availability of new technologies, customer expectations and government policies. Key sectors targeted initially for increased business development activity include the agriculture, resources and energy industries, the Australian Defence Force and State and Territory governments.



TAILORED OFFERINGS

Continue close engagement with customers who receive tailored services to ensure we continue to meet future demand.

PARTNERSHIPS AND COLLABORATION

Build stronger partnerships with Australia's research community and international agencies, to increase our impact and deliver shared aims. Develop a co-investment policy to strengthen external investment in our research and development activities, including for breakthrough science.

INDUSTRY ENGAGEMENT

Work with priority sectors to understand their requirements and develop services that meet the needs of specialised user groups.

INNOVATION

Apply our proven expertise in environmental intelligence to meet new challenges and deliver future service innovation.

CROSS-GOVERNMENT COORDINATION

Connect more closely with Australian and State and Territory government agencies, in order to enhance economic and safety outcomes and inform policy development. Provide bespoke services on a cost-recovery basis.

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Connect with us

