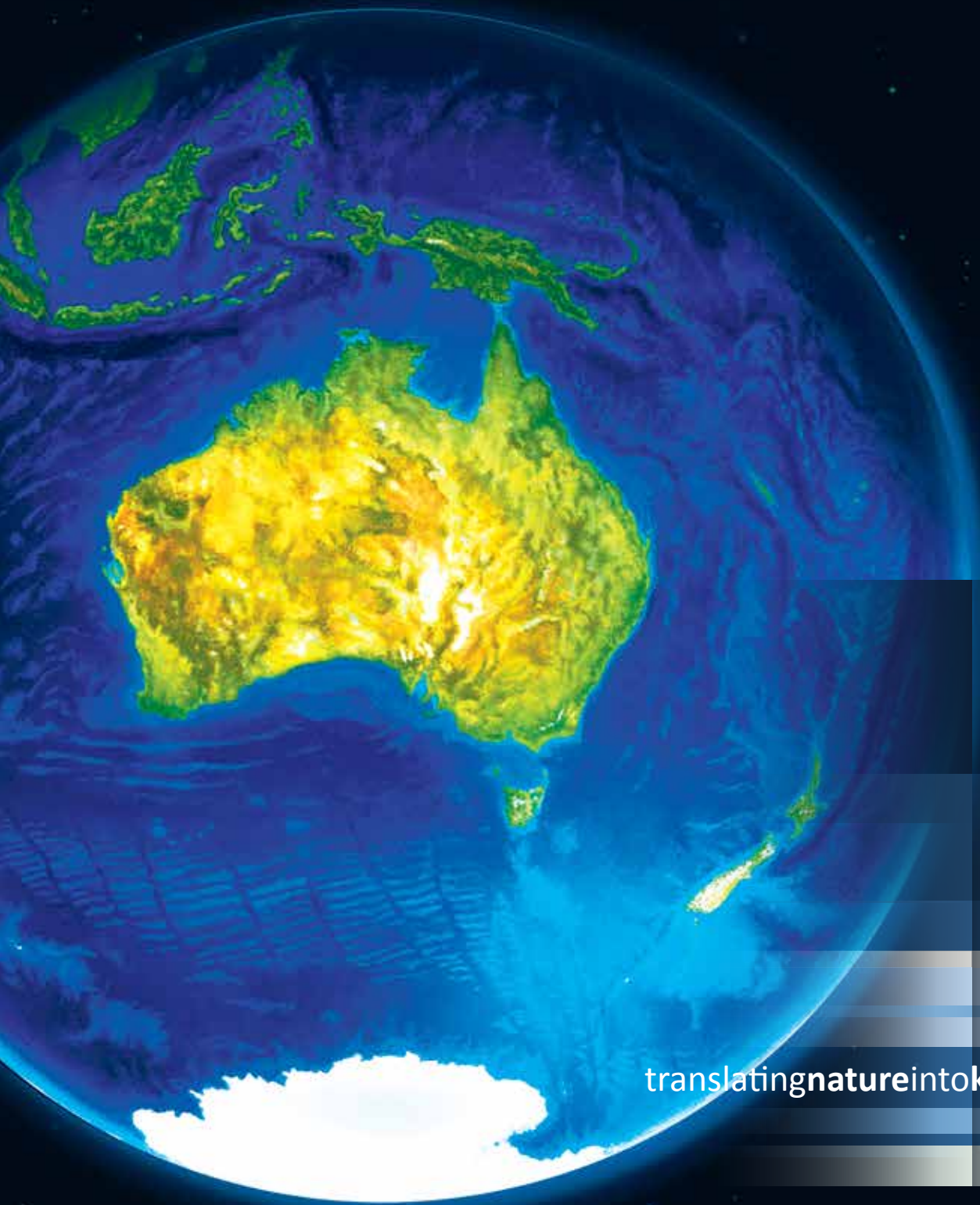
IMAS
INSTITUTE FOR MARINE AND ANTARCTIC STUDIES

UTAS



translating**nature**into**knowledge**

STRATEGIC PLAN 2012 – 2017

BEN ARTHUR, IMAS

CONTENTS

INTRODUCTION

Welcome to the inaugural strategic plan of the new Institute for Marine and Antarctic Studies (IMAS) at the University of Tasmania. This strategy outlines IMAS work from 2012 to 2017, and will be updated periodically as the thrusts and scope of ocean and Antarctic studies evolve, research allocation priorities change, and society's research expectations develop. Our goals are to lead the national research agendas and to be internationally competitive in our areas of expertise, to provide commensurate (undergraduate and graduate) educational opportunities, and to convey our research results effectively to academia, government, industry, and wider society.

Professor M.F. Coffin
Executive Director

Overview and Context

Australia's marine jurisdiction is the third largest in the world. More than 80% of Australia's population lives within 50 km of the sea and marine economic activity (2008–2009) is valued at $44 billion, 4% of national GDP. Australia claims 42% of Antarctica. It is of vital national interest to understand and sustainably manage our precious ocean resources.

Australia shoulders significant responsibility for environmental stewardship of the Australian marine realm and Antarctica, among Earth's most pristine areas. The ocean and Antarctica are embedded in the Australian psyche, and combine notably in Hobart, a major world centre of polar and temperate marine science, home to a major aquaculture industry, and the point of departure for many Southern Ocean and Antarctic expeditions since the early 1800s.

The Institute for Marine and Antarctic Studies (IMAS) at the University of Tasmania (UTAS) is at the vanguard of a new era in Australian marine and Antarctic research and education. IMAS was created at a moment when Australia is recognising the importance of the marine environment through major new investments in marine capability totalling $387 million, including Australia's first ice-to-equator-ranging, blue water national research vessel *Investigator* and the UTAS-hosted national Integrated Marine Observing System (IMOS).

IMAS aspires to build a critical concentration of internationally recognised scientific expertise and leadership in quantitative marine and Antarctic research and education, both at the University and via strengthened relationships with the major

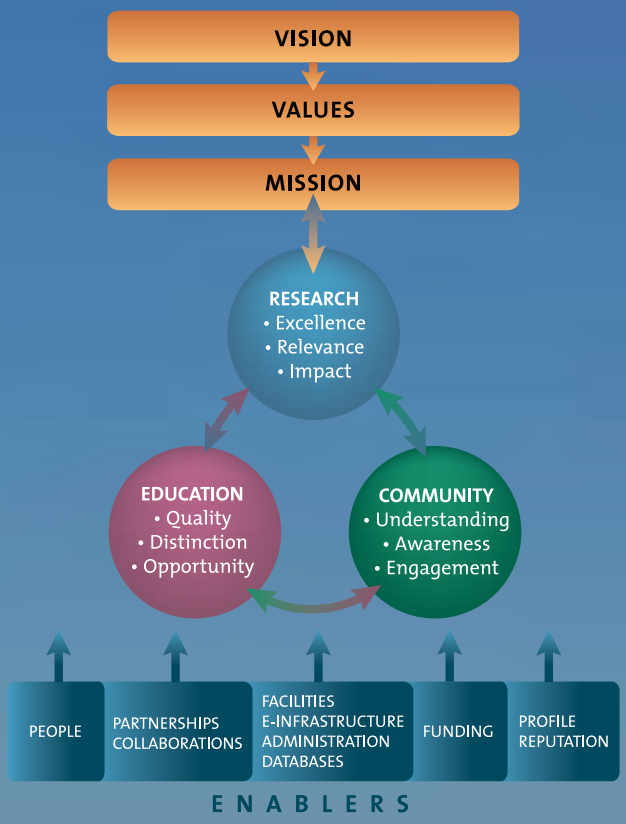
ROB JOHNSON, IMAS

Commonwealth marine and Antarctic research organisations in Tasmania – Australian Antarctic Division (AAD) and Commonwealth Scientific and Industrial Research Organisation (CSIRO) – and with the State of Tasmania.

IMAS builds upon more than 20 years of university core partnership in cooperative Antarctic research, and aspires to a similar key role in temperate marine and Southern Ocean research. The Commonwealth has combined with the State of Tasmania and the University of Tasmania to provide a new landmark building on the Hobart waterfront housing IMAS, IMOS, and associated entities. Located adjacent to CSIRO's Marine & Atmospheric Research (CMAR) and Information & Communications Technologies (ICT) divisions, the facility will foster new research and educational opportunities.

Environments on Earth are changing, and Australia, Tasmania, the Southern Ocean, and especially Antarctica are in flux, demanding that we prepare for a different future. IMAS must work assiduously to address the major questions in marine and Antarctic science, particularly living marine resource research and climate studies, through new collaborations, novel interdisciplinary investigations, and intellectual vigour. IMAS is poised to place UTAS in a strategic position as a world leader in temperate marine and Antarctic research and education, and seafood security.

IMAS Strategic Plan



ROB JOHNSON, IMAS

KEVIN REDD, IMAS

Our Vision

To be an internationally recognised centre of excellence for marine and Antarctic research and education, developing environmental understanding, and facilitating sustainable development for the benefit of Australia and the world

IMAS will fulfil its vision through its three core activities of research (basic, mission-oriented, applied), education, and outreach. These activities will focus on integrating knowledge, capability, and skills across traditional disciplinary boundaries in the physical and life sciences, social sciences, and humanities, both within and outside IMAS, benefiting stakeholders and users across government, industry, and research partners, delivering new research outcomes and knowledge, and providing outstanding educational opportunities.

UTAS Values

Our values rest on a thousand-year tradition of higher education and enduring foundations of shared purpose. We are a university – a diverse community that becomes more than the sum of its parts in its dedication to the stewardship of learning and knowledge, academic freedom, excellence, and integrity. We continually evolve and transform to meet the challenges and opportunities that face us.

We are a Tasmanian institution. We work in a unique setting and actively partner with the communities in which we live, in support of a healthy, civil, and sustainable society. At the same time, we are outwardly focused and part of a global community, engaging with the rest of Australia and the world.

We subscribe to the fundamental values of honesty, integrity, responsibility, trust and trust-worthiness, respect and self-respect, and fairness and justice that act as the basis for collective principled action.

To guide the way we work together to achieve our vision and mission, and building on the contributions of all who came before us, we bring these values to life by our individual and collective commitment to:

Creating and Serving Shared Purpose

We value the creation, expansion, and dissemination of knowledge, and the promotion of continual learning. We are on a common journey to unlock and develop potential, foster talent, and contribute to the life and work of our students, staff, alumni, and wider society.

Nurturing a Vital and Sustainable Community

We value the care, connection, and energy that come from a community of many levels and dimensions. Keeping our community strong supports each of us to find our place, do excellent work, and extend our capabilities. We enable and participate in authentic conversations that allow us to be agents of change and transformation.

Focusing on Opportunity

We value the creative possibilities that arise when people with skills, talents, and innovative ideas come together and focus on opportunity.

Working From the Strength Diversity Brings

We value diversity and the strength, resilience, and creativity that it brings. We harness its gifts. In supporting the contribution and wellbeing of all, we create a welcoming, caring, and inclusive environment.

Collaborating in Ways That Help Us Be the Best We Can Be

We value a community that supports each of us to collaborate and to be the best we can be, flourishing both individually and collectively. Being supported to question and reflect gives us the freedom to challenge each other. It reminds us that listening to, engaging with, and involving others are vital for our success.

We lead by example, supporting each other to act with integrity, be accountable, and consistently live our values every day.

PETER MATHEW, UTAS

PETER WALSH, IMAS

Our Mission

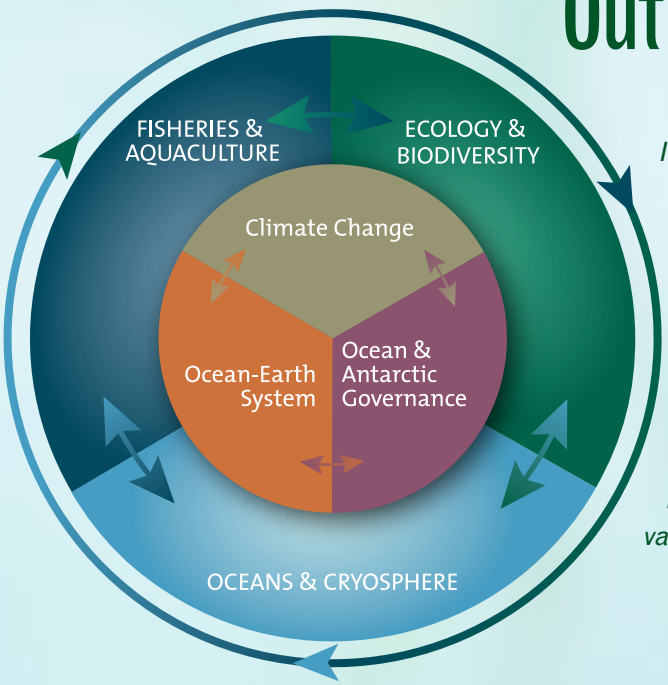
To improve understanding of temperate marine, Southern Ocean, and Antarctic environments, their resources, and their roles in the global climate system through research, education, and outreach

To deliver our vision and mission, IMAS must become an internationally recognised, globally distinctive research and educational institute, offering excellence in basic, mission-oriented, and applied research. This research will cut across traditional scientific and social scientific boundaries, serving stakeholders and users across government, industry, and academic institutions. It will deliver new outcomes and knowledge relevant to marine and Antarctic environments and their resources, in particular, fisheries and aquaculture.

IMAS will provide facilities that support first-class education, training, data, and knowledge services, as well as communications and outreach programs. Its goals is to provide the basis for informed policy development. IMAS will be characterised by research and education programs that:

- Are innovative, ground-breaking, relevant, and outcome-oriented, generating income and investment
- Contribute to temperate marine, Southern Ocean, and Antarctic studies
- Contribute to sustainable development and marine resource management
- Contribute to sustainable fisheries and aquaculture development and management in Tasmania, the rest of Australia, and the Southern Ocean
- Contribute to understanding the Antarctic marine environment and cryosphere
- Contribute to informed marine and Antarctic policy development
- Entail broad-ranging and relevant collaborations and networking
- Deliver trained researchers, serving the needs of academic institutions, industry, and government
- Involve knowledge transfer and enterprise
- Are responsive to stakeholder needs *and, therefore,*
- Enhance the reputation of UTAS, the State of Tasmania, and Australia

IMAS Strategic Roadmap Outline



IMAS takes a multidisciplinary, whole-system approach to research, education, and outreach. IMAS builds on marine and Antarctic expertise at UTAS, seeking strategic collaborations with CSIRO and AAD, all enhanced by new directions and priorities that are dictated by its mission, and developed through initiatives that achieve integration and international recognition. People are our most important asset. IMAS therefore strives to provide a working environment that makes everyone feel valued, engaged, and motivated.

RESEARCH THEMES

IMAS was established with a core research and education capability, initially consisting of significant and internationally recognised expertise in the following foundation themes:

- Oceans and cryosphere
- Fisheries and aquaculture
- Ecology and biodiversity

IMAS will sustain and build upon expertise in research, education, and outreach in these foundation themes. These programs will be linked by strengthening three key cross-disciplinary themes to meet integrative and multidisciplinary research goals, and will strongly contribute to IMAS gaining global recognition:

- Climate change
- Ocean-Earth system
- Ocean and Antarctic governance

SUPPORT SERVICES

Our research themes are supported by institute-wide capabilities and services, cross-thematic strengthening, and delivery programs:

- Facilities and research services, with growing emphasis on e-infrastructure
- Education and training
- State, national, and international collaboration and partnerships
- Data, information, and knowledge services
- Communications, outreach, and marketing

CRAIG SANDERSON, IMAS

ROBERT JOHNSON, IMAS

IMAS Research Agenda

Foundation Themes

OCEANS AND CRYOSPHERE


ROBERT JOHNSON, IMAS

The ocean plays a central, dominant role in shaping Earth's climate through its fluid motion, high heat capacity, and ecosystems. Physical, chemical, biological, and geological oceanographers at IMAS are investigating fundamental ocean processes and history to illuminate the ocean's role in the evolution of our planet, its environment, and, particularly, climate. To similar ends, IMAS researchers are also investigating the Antarctic cryosphere and its interactions with the Southern Ocean.

IMAS scientists are measuring with increasing accuracy ocean circulation, sea level, temperature, salinity, oxygen and CO_2 uptake, iron availability, ocean productivity, and the biological carbon pump to determine why and how fast these ocean properties are changing. Studies also include the connections among the polar, temperate, and tropical oceans and the influences of these large-scale flows on coastal ecosystem, population, organism, and cellular levels. Through these studies, and geodetic and glaciological research, IMAS scientists are more broadly seeking to understand the role of the ocean and cryosphere in the global climate system. Analyses cover timescales from short instrumental records to glacial-interglacial variations. Models are tested against observational data. Observational science spans laboratory experiments, seagoing campaigns, and analyses of publicly available data sets from platforms such as moorings, satellites, and autonomous instrumentation (floats, gliders, and marine fauna). This growing area of research has seen significant investment in ocean observing systems such as Australia's IMOS, the Southern Ocean Observing System, and the Global Ocean Observing System. The Tasmanian Partnership for Advanced Computing and the eMarine Information Infrastructure facility of IMOS facilitate analyses of these large and complex data sets, and IMAS modelling efforts.


IMAS


ABALONE TEAM, IMAS


RICK STUART-SMITH, IMAS

FISHERIES AND AQUACULTURE

Fisheries research at IMAS supports the long-term, sustainable harvest of wild marine resources. The gross value of Australian commercial wild fishery production was $2.18 billion in 2009–10. Tasmania accounted for the largest share of gross value of production (26%). Much IMAS research is directed at management of coastal fisheries, through scientific estimates of total allowable catch and science-based systems for its allocation. A portion of the catch goes to individuals; these "individual transferable quotas" dominate Australian seafood production. Forty-three per cent of the national gross value of seafood production is derived from abalone and rock lobster alone. Significant IMAS applied research output provides a service to the Tasmanian Government under the Sustainable Marine Research Collaboration Agreement (SMRCA). SMRCA broadly covers fishery assessments, management advice, and tactical projects on current fishery issues. IMAS also conducts research on fisheries beyond Tasmanian jurisdiction and on global fisheries issues, for example, allocation conflicts, economic benefits, and integration of ecosystem indicators into fishery decision making. Significant effort focuses on examining the optimal balance between resource sustainability and economic productivity.

Aquaculture has been the fastest growing animal food-production sector worldwide over the past 50 years. It has been estimated that aquaculture could provide 70% more food to feed an additional 2.3 billion people by 2050. Aquaculture is Tasmania's largest primary industry, largely based on the farming of salmon, oysters, abalone, and mussels. Salmon farming, based mostly in Tasmania, is the largest aquaculture sector in Australia, and is scheduled for significant expansion in Tasmania. Salmonids accounted for 42% of the total value of Australian aquaculture production and 17% of the total value of fisheries production in 2009–10. Applied aquaculture research at IMAS operates at local, national, and international levels. Research aims to deliver significant increases in production while minimising environmental impacts. IMAS researchers are investigating the potential of native marine species and their propagation and production; aquatic animal health, growth, and nutrition; and environmental management, including potential effects of climate change on aquaculture. Important research directions are to identify and understand new disease agents, develop improved diagnostic methods, and reduce disease outbreaks through disease control, improved health management methods, minimisation of risks, and improved biosecurity.

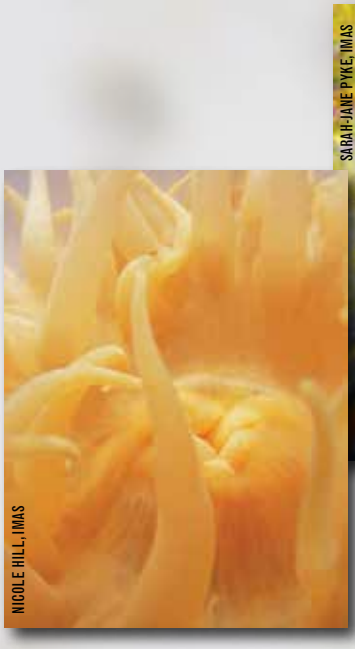
ECOLOGY AND BIODIVERSITY

IMAS ecology and biodiversity research aims to understand ecosystem dynamics and function in coastal, estuarine, deep ocean, and polar environments, from temperate regions to the Antarctic. The coastal zone is particularly dynamic, as the boundary between land and sea fluctuates with sea level, which has risen by more than 100 metres in fewer than 20,000 years. At the same time, the coastal zone is under enormous pressure from population growth, associated housing and infrastructure development and pollution, extractive uses including commercial and recreational fishing and aquaculture, habitat degradation, and impacts of climate change. Farther from shore, the deep ocean is an important habitat for organisms of great ecological and commercial value and plays a crucial role in Earth's climate. Changing climate is already influencing the extent and persistence of Antarctic sea ice. Because of its broad geographical scope, the ecology and biodiversity research theme encompasses the full biological spectrum, from bacteria and phytoplankton to top predators, and integrates the influence of physical factors such as nutrients, ocean currents, and sea ice on how these organisms perform and survive.

This multidisciplinary theme draws on biophysical interactions, spatial ecology, microbial ecology, chemical ecology, biological oceanography, genetics, toxicology, and behavioural ecology.

The ecology and biodiversity research theme involves:

- Innovative marine habitat mapping and spatial analysis methods that link physical environments with biological records at different scales
- Managing marine biodiversity from estuaries to the deep ocean
- Interdisciplinary research to identify climate change impacts and adaptation options, including collaborations in integrated coastal zone management and climate change adaptation with South-East Asia
- Investigating the role of climate change and recruitment in fisheries
- Understanding the resilience of temperate marine, Southern Ocean, and nearshore Antarctic ecosystems to environmental change



NICOLE HILL, IMAS

SARAH-JANE PYKE, IMAS

GUSTAAF HALLEGRAEFF, IMAS

Cross-Disciplinary Themes

CLIMATE CHANGE

Climate change presents one of the greatest environmental, economic, and social challenges of our time. Understanding the ocean's response to climate change is essential to determining both the rate of surface warming and the rate of rise of atmospheric carbon dioxide, because the ocean is the largest natural sink for both heat and CO_2. Natural variability and climate-carbon cycle feedbacks affect this response. IMAS seeks to quantify these interactions, especially those near to and important for Australia. In particular, we will quantify the physical responses to climate change such as the El Niño-Southern Oscillation, modulation of the Leeuwin and East Australian boundary currents, overturning circulation in the Southern Ocean, and changes in Antarctic sea ice and ice shelves, as well as biogeochemical feedbacks via changes in irradiance, nutrient supply, and ocean acidification.

OCEAN-EARTH SYSTEM

IMAS will build upon current strengths in research and teaching and expand that expertise to encompass aspects of all of the Earth system – the biosphere, geosphere, hydrosphere, cryosphere, and atmosphere – that are relevant to the foundation themes of oceans and cryosphere, fisheries and aquaculture, and ecology and biodiversity. A deeper understanding of the interplays of processes and feedback loops among these Earth system components is important to unravelling some of the most complex scientific challenges of our times: global climate change; ice shelf-ocean interactions; natural hazards such as earthquakes, tsunamis, and volcanoes; non-renewable and renewable resource identification; ecosystem and geohazard characterisation; and anthropogenic noise in the ocean. Programs of the integrated ocean-Earth theme will involve observations and modelling aimed at understanding contemporary linkages and feedbacks among system components. A goal is to develop a robust platform to convey our scientific results to inform decision makers in governments and industry. Opportunities exist to benefit from synergies with AAD, CSIRO, the State of Tasmania, and other partners, in particular, shared appointments, cooperative research centres, and other collaborations.

KARSTEN GOHL, AWI

ROBERT JOHNSON, IMAS

Time is the key fourth dimension in understanding the ocean-Earth system. Understanding the timing and impacts of past natural environmental changes will provide a factual baseline for preparing for future predicted changes. To date, the palaeoenvironmental record of the Australian and Antarctic regions, and indeed the entire Southern Hemisphere, has been sparsely sampled. Australia's maritime jurisdiction contains the greatest palaeoenvironmental archive of any nation, covering nearly the entire Southern Hemisphere latitudinal range, but it is grossly understudied. Major efforts are needed to obtain a scientifically robust network of records and to synthesise this information into regional, hemispheric, and global reconstructions of Earth's past environments. IMAS and collaborating partners can contribute to the palaeoenvironmental story through research on ice cores, deep-sea sediment cores, tree rings, and coral records. Knowledge of palaeoenvironments provides important input into modelling future environmental scenarios. Building Australia's capability in palaeoenvironmental research will be an important and necessary contribution of IMAS to global environmental science.

OCEAN AND ANTARCTIC GOVERNANCE

This theme builds upon current coupling of scientific and socio-economic research and education capability within UTAS. Its purpose is to make the results of IMAS scientific research relevant to policy formulation by undertaking cross-disciplinary research, translating the research results into policy-ready language, and communicating it to policy makers. Another goal is to anticipate emerging issues influencing developments in political and legal regimes of the ocean and Antarctica and to conduct or coordinate dedicated research. The challenge is to contribute to developing optimal and sustainable ways of managing Australia's marine jurisdiction and Australian Antarctic Territory, and to manage the sea beyond the limits of national jurisdiction to ensure that future generations reap the social and economic benefits of sustainable management. In this way, IMAS will contribute to the debate and discussion of improved effectiveness of management arrangements and regulatory regimes governing the ocean and Antarctica.

AMELIE MYER, IMAS

Delivering the IMAS Vision and Mission

Support Services

DEVELOPING IMAS PEOPLE – MANAGING RESEARCH AND SERVICES

Skilled and dedicated people, working as a team, with a commitment to the IMAS vision and mission, are the institute's core strength. IMAS academic and professional staff and graduate students will form research project teams or service units according to their abilities and IMAS operational needs and priorities. Projects and service units are the building blocks of the institute, with academic leaders and professional managers as our driving and integrating force.

IMAS staff are encouraged and facilitated in their professional development. Resources are allocated to ongoing training – a facility that engages all staff.

IMAS researchers are encouraged and supported in their pursuit of external research funding, particularly through Australian Competitive Grants schemes. External funding directly expands the scope of research activity defined in this strategic plan and, equally importantly, builds a wider recognition of IMAS. Its specific importance in the context of Australian research assessment exercises is to exceed world standard in areas of IMAS research focus.

IMAS is committed to mutual respect and professionalism with regard to all our people.

FACILITIES AND RESEARCH SUPPORT

Buildings, laboratories, workshops, platforms, program offices, and e-infrastructure

IMAS manages its buildings, laboratories, workshops, platforms, program offices, and e-infrastructure to service all relevant IMAS, UTAS, national, and international projects and operations. We aspire to improve and grow our facilities in Hobart and Taroona to promote and accelerate data access and research activity.

A new ~7,000 m^2 building on the Hobart waterfront is being constructed to colocate IMAS, Australia's IMOS, the Antarctic Climate and Ecosystems Cooperative Research Centre (ACE CRC), and the Tasmanian Partnership for Advanced Computing (TPAC) staff and students beginning in 2014. The new building, adjacent to CSIRO, will create an exceptional research and educational environment supported by state-of-the-art technology, and will serve as a hub for collaborative marine and Antarctic studies.

Planning is under way for existing research and educational infrastructure totalling ~4,500 m^2 south of Hobart at Taroona to be significantly expanded with new aquaculture and controlled-environment experimental saltwater facilities. Planned new capabilities include temperate/polar ocean simulations, and greatly enhanced aquaculture research.

IMAS is hosting the inaugural international program office of the Southern Ocean Observing System through 2016, and will continue to host the program office of the International Antarctic Institute. Through appropriate schemes, IMAS staff will apply to lead and participate on voyages of the new RV *Investigator*, scheduled to come into service in 2013, and RV *Aurora Australis*.

Administration

Finance – The management of IMAS incomes and expenditures is a central responsibility, vested in a unit headed by a Finance and Administration Manager and reporting to the General Manager and Executive Director, and compliant with the governance rules of the University.

Health Safety – A crucial legal and ethical requirement, particularly in a field operational organisation, health and safety is overseen by an operations manager. IMAS will strengthen its occupational health and safety systems and training, engaging all staff in the safety culture.

Ethics – All IMAS people and IMAS project collaborators adhere to the University of Tasmania Code of Ethics, as well as that of their professional association, body, or union.

Communication – Effective and efficient communication is vital to all aspects of IMAS's remit. Free flow of information and ideas among all UTAS academic staff, professional staff, and students engaged in marine and Antarctic studies is the primary responsibility of the IMAS Communications, Outreach, and Marketing Manager, as is dissemination of our research beyond UTAS. We aspire to provide an exceptional website, the primary conduit between IMAS and the world.


JOHN WARDLE ARCHITECTS


AURORA AUSTRALIS
JOHN WARDLE ARCHITECTS

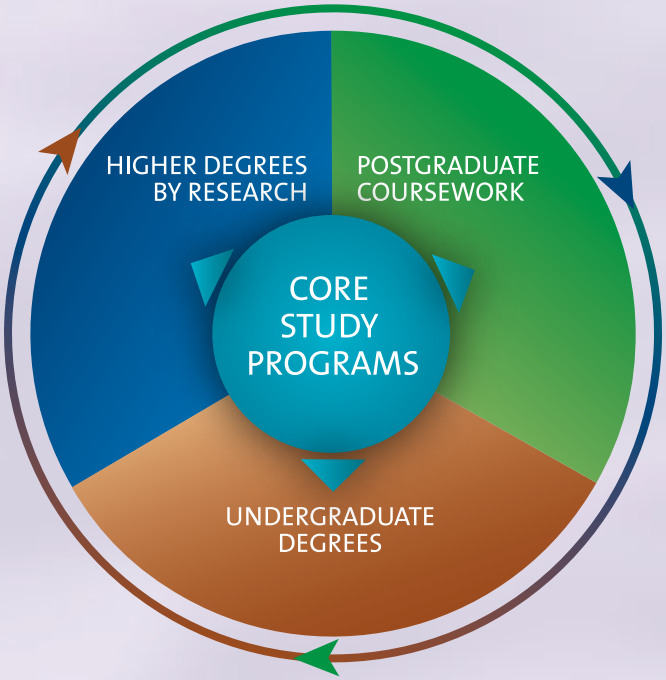

JOHN WARDLE ARCHITECTS


JOHN WARDLE ARCHITECTS

EDUCATION AND TRAINING

IMAS offers UTAS undergraduates multidisciplinary marine and Antarctic programs, including honours, through the UTAS Faculty of Science, Engineering, and Technology. UTAS is distinctive among universities worldwide for its focus on temperate marine and Antarctic studies, including policy, economics, and law, enabling us to offer a wide array of choices to students. IMAS is increasing the breadth, quality, and relevance of UTAS undergraduate offerings in marine and Antarctic studies, and strongly supports rationalisation of streamlined and integrated marine and Antarctic teaching across UTAS. IMAS is building a sense of community, pride, and loyalty among our undergraduate and honours students to facilitate their continuing into graduate programs.

Graduate students are the lifeblood of a thriving culture of inquiry, and our students bear a unique pedigree arising from multidisciplinary investigations that IMAS/UTAS, CSIRO, and AAD offer.



IMAS hosts the CSIRO-UTAS PhD program in Quantitative Marine Science (QMS), and is implementing an AAD-UTAS PhD program in Quantitative Antarctic Science (QAS) in 2012. We also host both Masters by Coursework and Masters by Research programs. IMAS aims to grow graduate student enrolments through vigorous investment in domestic and international scholarships as well as encouraging all of our research staff to participate in our graduate programs. Furthermore, we seek to increasingly internationalise our graduate curriculum by developing exchange programs with institutions in Asia, South America, Europe, and North America in conjunction with the University's international strategy, which is currently in development.

The International Antarctic Institute (IAI) is a global consortium of universities and other organisations that blends undergraduate and graduate education and research. IMAS hosts the IAI project office.

IMAS will establish a Young Investigator Program for early career researchers. The objective of the program is to draw the best young researchers in marine and Antarctic studies worldwide to IMAS for a five-year term. The program will be announced annually, and selection of the successful candidates will be based on merit. The program will establish IMAS as a destination of choice on the early career researcher tour of major marine and Antarctic institutions globally.

IMAS will also offer specialist short courses and consultancies to complement undergraduate and graduate education, driven by market research and demand.

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TOBIAS FUNKE

UNIVERSITY, STATE, NATIONAL, AND INTERNATIONAL COLLABORATION

Establishing multidisciplinary research partnerships and collaborating on projects of strategic significance to stakeholders is paramount. The strength of the virtual group lies in the diversity of expertise that the participants bring, which should more than compensate for geographic dispersal. Establishing networks of collaborators to share knowledge and set a mutually beneficial research agenda will be a priority for 2012 and beyond.

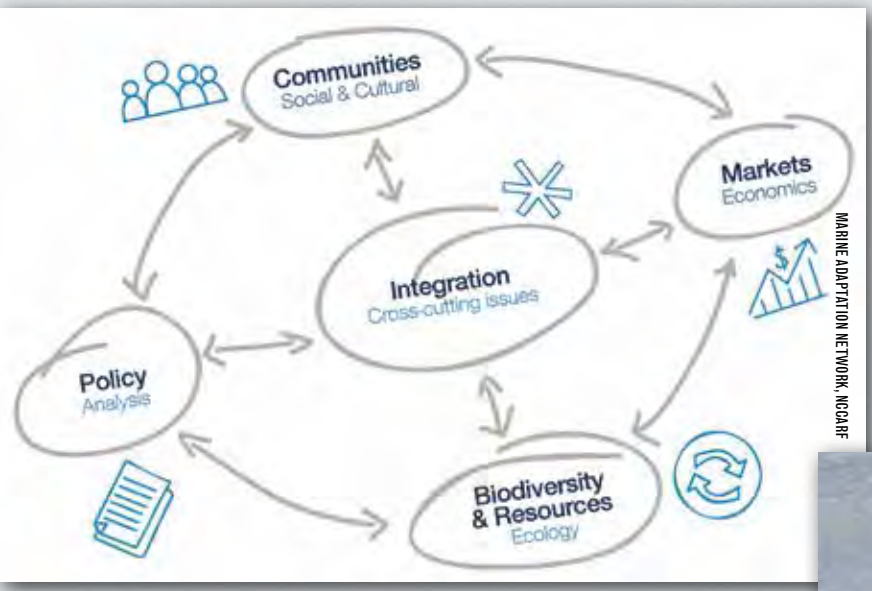
IMAS is the focus of marine and Antarctic studies at the University of Tasmania, which are currently undertaken at two university locations, Hobart and Taroona. IMAS will continue to consolidate research-active academic staff in the physical and natural sciences into IMAS, and at the same time will continue to strengthen relationships with marine and Antarctic researchers, particularly those in engineering, economics, law, government, geography, agriculture, and medicine, belonging to other organisational units of the university. Furthermore, IMAS will build upon existing relationships with state and national research and data facilities hosted by the university, in particular the ACE CRC, TPAC, IMOS, and Australia Ocean Data Network (AODN) that will be colocated with IMAS in the new building on the Hobart waterfront.

Collaboration with the State of Tasmania is a cornerstone of IMAS, primarily through the 2011–2021 Sustainable Marine Research Collaboration Agreement. IMAS plans to strengthen existing and build new cooperative endeavours with the state, particularly in the areas of fish health and field stations.

The University's two main collaborating agencies in marine and Antarctic studies in the Hobart area are AAD and CSIRO. IMAS is a significant vehicle for this collaboration, which includes a formal collaboration deed with AAD, joint AAD-UTAS and CSIRO-UTAS positions, and the CSIRO-UTAS QMS PhD program.

ROB WILSHIRE, UTAS


CSIRO



MARINE ADAPTATION NETWORK, NCCARF

KARL-HERMANN KOCK, CCAMLR

IMAS is building upon these existing relationships by developing an AAD-UTAS QAS PhD Program, and developing cooperative research centres, centres of excellence, and potential joint field stations. The three entities also combine efforts through mid-2014 in the ACE CRC hosted by UTAS, and are working together to ensure that a major joint effort in Antarctic cryosphere, Southern Ocean, and sea level research continues beyond 2014.

Nationally, IMAS/UTAS cooperates extensively with other universities and agencies engaged in marine and Antarctic research through cooperative research centres, national programs, national facilities, and national networks. In particular, IMAS will strengthen links with Australia's three other main hubs of academic marine research: Townsville (James Cook University), Perth (University of Western Australia), and Sydney (Sydney Institute of Marine Science). IMAS will seize opportunities to develop and build new relationships throughout Australia as a leader in marine and Antarctic research.

IMAS/UTAS will establish a robust international profile through the strength of our research and graduate education. A major focus will be to build upon existing relationships and develop new ones with the major marine and Antarctic research entities, and to grow participation in major international research programs. Already hosting the international project offices of the Southern Ocean Observing System and the International Antarctic Institute, IMAS will take leadership and coordinating roles in other international programs utilizing relevant expertise and resources at UTAS.

An invitational IMAS Scholar program will be established to draw at least one leading global scholar to IMAS annually, preferably for a semester. Each 'thinker-in-residence' will be embedded in IMAS to lead, provoke, and stimulate, and instill innovative scholarship in marine and Antarctic studies.

DATA, INFORMATION, AND KNOWLEDGE DELIVERY

Alongside people, data and information constitute the other major IMAS asset. All data, whether analogue, digital, or sample, collected by IMAS research programs, or obtained through data exchange agreements, will be responsibly archived, curated, and managed by IMAS with support from the most appropriate organisation, network, or program (e.g., IMOS, AODN, Australian National Data Service, Australian Antarctic Data Centre, Australian Research Collaboration Service Data Fabric, Research Data Storage Infrastructure), some of which are hosted by the University of Tasmania and IMAS. IMAS will also operate facilities and host data sets on behalf of others in the national interest and to the benefit of the community (e.g., data holdings related to fisheries management, environmental management, and biodiversity). IMAS's guiding framework is that all data that are not commercial-in-confidence or restricted by legislation or agreement are owned by the University on behalf of the community or Commonwealth, hosted by an organisation, and shared with researchers for analysis and interpretation.

COMMUNICATIONS, OUTREACH, AND MARKETING

Public awareness and support of IMAS – our vision, mission, and contributions to society, industry, and government – are crucial to its long-term success. IMAS will hold open days, support school ambassadors, develop artist-in-residence programs, and host exhibitions, other activities, events, and programs.

IMAS's website is its main portal to the world, and the entire website will be strengthened to communicate with and engage a global audience with marine and Antarctic interests. Research results, educational material, and promotional and information products will be freely and readily available.

IMAS engages in active marketing of its capabilities and outcomes through a Communications, Outreach, and Marketing Manager and a Business Development Manager. These managers develop project proposals based on the assessed needs of the University, government, and industry stakeholders, and potential funders. Seeking out and engaging appropriate future funders for IMAS is a key role for the Business Development Manager.

NON-TRADITIONAL SOURCES OF SUPPORT

Diversification of funding sources is a key goal of IMAS, and foundations, philanthropy, and sponsorship are major underutilised sources of support for marine and Antarctic studies that are highly relevant to societal needs and concerns. The ocean and Antarctic brands arouse deep interest and passion in both Australians and people overseas, for example, those who compete in one of yachting's greatest global events, the Sydney-Hobart race, and those who embark on tourist vessels from Australia to Antarctica. At the foundation level, several major international non-profit organisations focus on ocean issues that IMAS addresses, and at the individual level, many philanthropists have an abiding interest in the sea and Antarctica.

IMAS seeks support from foundations and individual donors through its Business Development Manager, whose role is to develop relationships with foundations and potential donors, in conjunction with the Executive Director.

BEN ARTHUR, IMAS

ROBERT JOHNSON, IMAS

Measuring Success

By mid-2015, the success of the Institute for Marine and Antarctic Studies at the University of Tasmania will be measurable through the following portfolio of performance indicators:

- IMAS science will be internationally recognised for excellence in contributing to new knowledge and understanding of temperate/polar marine environments, the Southern Ocean, and Antarctica, as measured through peer-reviewed publications, scholarly books, commissioned reports, and position papers

- IMAS-trained research students and technical support staff will contribute to the state, national, and international marine science workforce, as measured by employment placements

- IMAS data, information, and knowledge will contribute to policy development relevant to temperate marine environments, the Southern Ocean, and Antarctica, and their resources, environment, and sustainable development, as measured by engagement with policy makers

- IMAS stakeholders and funders across governments, industry, collaborating institutions, foundations, and philanthropists will underpin their recognition through increased funding, research commissions, and in-kind contributions

KIM BROOKS, AIMS

- IMAS will increase its profile in the global network of leading marine research and educational institutions, as measured by research and education profiles and esteem

- IMAS research and development will have contributed tangibly to a more efficient, profitable, and sustainable suite of marine industries in Tasmania and across Australia

- IMAS will be a widely recognised institution in Tasmania, Australia, and the world, as measured by visitors to its facilities, visits by IMAS staff and students to other institutions worldwide, its contribution to the University of Tasmania, its interactions with schools, and the growing number of visitors to and downloads from its website

- IMAS will be visible in all forms of media, including social, television, radio, and quality print; IMAS researchers will be called upon regularly to make expert, science-based comment; and IMAS will be seen as a 'trusted voice' backed by scientific rigour and professionalism

- IMAS five-year reviews and assessments by an international panel of distinguished experts will be positive

KIM BROOKS, AIMS

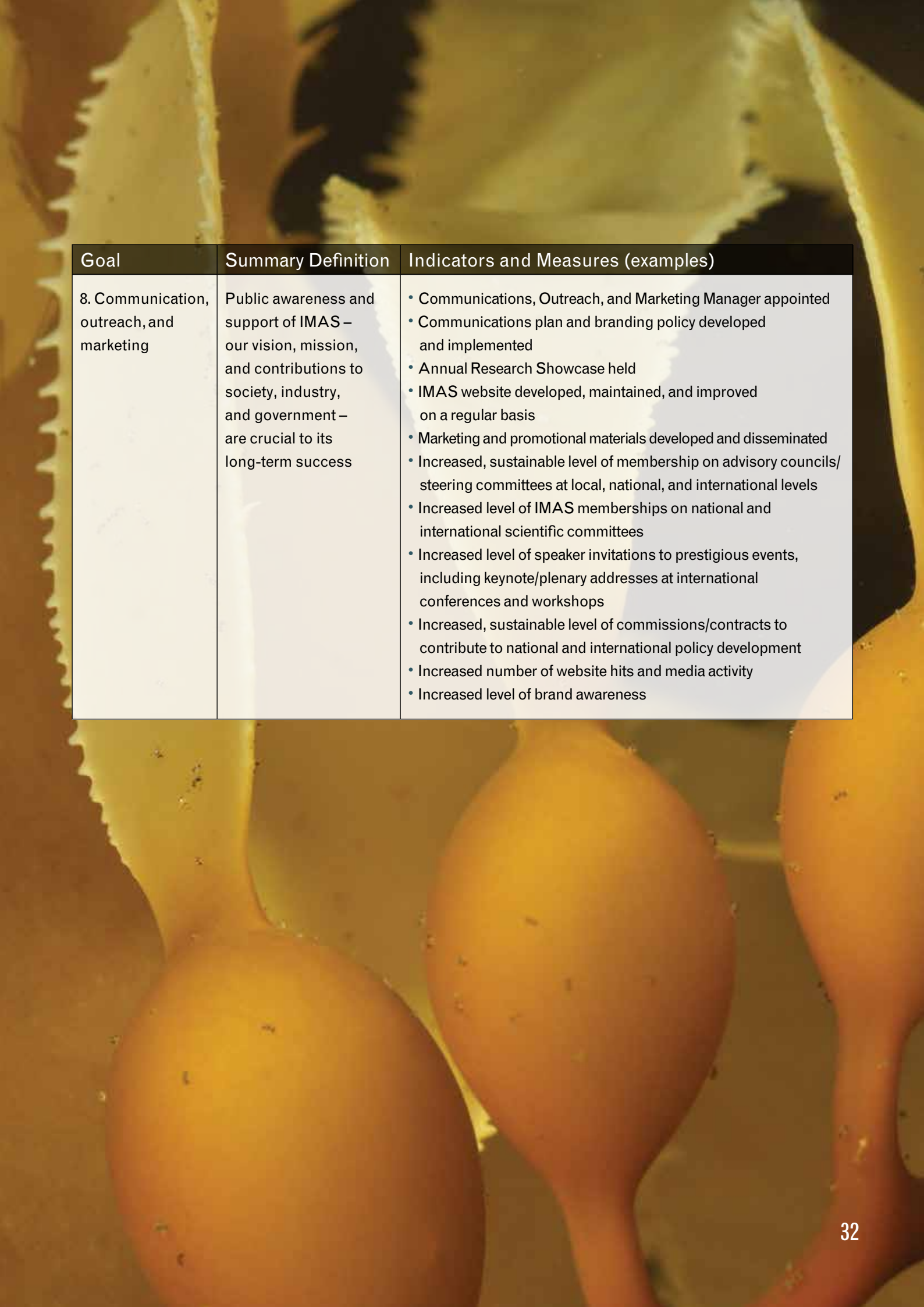
Summary of Strategic Goals and Measures

Goal	Summary Definition	Indicators and Measures (examples)
1. Be internationally recognised for research excellence in multidisciplinary temperate/ polar marine and Antarctic studies	IMAS science recognised to contribute to new knowledge and understanding of temperate marine Australia, and the Southern Ocean and its margins	• Peer-reviewed publications in international journals • Grant and contract support for IMAS researchers from government, industry, and non-traditional sources • Positions on international committees and editorial boards • Commissioned reports/position papers • Active member of leading global networks • IMAS work valued by governments and industry • IMAS alumni make a significant contribution to Tasmania's, Australia's, and the international marine science workforce • Demand for/use of IMAS information/data • Attract prestigious academics and researchers, both full-time and fractional • Presentations at international conferences and other events • Visits of international researchers to IMAS • Visits of IMAS staff and students to international institutions
2. Be a university of choice in temperate/ polar marine and Antarctic education	Students from across the world seek to pursue undergraduate and postgraduate training in temperate/polar marine, Southern Ocean, and Antarctic science and policy at IMAS	• Increased applications from high-calibre students • State-of-the-art facilities and techniques • Increase UTAS postgraduate students • Expanded capacity of IMAS to supervise and mentor graduate research • IMAS 'graduates' recruited by leading agencies, organisations, universities
3. Provide national and international benefit and impact	Constructive inputs to and influence in the management of Australia's temperate marine jurisdiction, the Southern Ocean, and Antarctica, their resources, and environment, alongside sustainable development	• Requests for information and data • Delivering projects/programs of national and international significance • Contribute to environmentally sustainable and vibrant Tasmanian and Australian fisheries, aquaculture, and marine industries • Contribute to knowledge base for Tasmanian, Australian, and international state of the environment reports • Influence over, and contribution to, state, national, and international policy and governance development

RICK STUART-SMITH, IMAS

Goal	Summary Definition	Indicators and Measures (examples)
4. Develop people and culture	Skilled and dedicated people, working as a team, with a commitment to the vision and mission, are the core strength of IMAS	• Level of staff satisfaction within the workplace • Staff skills and expertise matches institutional profile • Staff development (e.g., personal, team-building, communication, presentation) opportunities provided to all academic and professional staff • Forge strategic links with other marine and Antarctic researchers within UTAS
5. Build enduring collaborations and partnerships	Building relationships, partnerships, and networks to share knowledge, develop scientific solutions, and deliver outcomes	• Strengthened and expanded links and leverages with AAD, CSIRO, state government, and industry • Requests for partnerships • IMAS membership on advisory bodies, steering committees, etc. • Speaker invitations to prestigious events
6. Sustainable funding	Diverse sources of funding and revenue	• Business Development Manager appointed • Diverse range of funding sources (government, industry, fee for service, sponsorship, foundations, philanthropy) • Research commissions • In-kind contributions from outside UTAS • Establish IMAS endowment • Increased percentage of recurrent funding
7. Physical and organisational infrastructure fit for purpose	Provision of physical and organisational infrastructure is critical for IMAS to deliver on its strategic and operational priorities	• Operations Manager appointed • Finance and Administration Manager appointed • Level at which facilities on Hobart waterfront, in Taroona, and elsewhere meet the needs of IMAS, its collaborators, and the broader marine and Antarctic community • Extent to which human and financial resources are adequate for IMAS operations • Extent to which IMAS governance and organisational structures deliver operational and strategic efficiency, and integrate all aspects of IMAS activity to IMAS staff and the broader UTAS community

RICK STUART-SMITH, IMAS



Goal	Summary Definition	Indicators and Measures (examples)
8. Communication, outreach, and marketing	Public awareness and support of IMAS – our vision, mission, and contributions to society, industry, and government – are crucial to its long-term success	• Communications, Outreach, and Marketing Manager appointed • Communications plan and branding policy developed and implemented • Annual Research Showcase held • IMAS website developed, maintained, and improved on a regular basis • Marketing and promotional materials developed and disseminated • Increased, sustainable level of membership on advisory councils/ steering committees at local, national, and international levels • Increased level of IMAS memberships on national and international scientific committees • Increased level of speaker invitations to prestigious events, including keynote/plenary addresses at international conferences and workshops • Increased, sustainable level of commissions/contracts to contribute to national and international policy development • Increased number of website hits and media activity • Increased level of brand awareness

MIKE COFFIN, IMAS

Australian Government
Department of Sustainability, Environment, Water, Population and Communities
Australian Antarctic Division

ACE CRC
ANTARCTIC CLIMATE & ECOSYSTEMS CRC

AMC
AUSTRALIAN MARITIME COLLEGE

ands
AUSTRALIAN NATIONAL DATA SERVICE

AODN
Australian Ocean Data Network

AUSTRALIAN SEAFOOD COOPERATIVE RESEARCH

CSIRO

CONSORTIUM FOR Ocean Leadership
DISCOVERY • UNDERSTANDING • ACTION

ARC CENTRE OF EXCELLENCE FOR CLIMATE SYSTEM SCIENCE

IMOS
Integrated Marine Observing System

The Global Ocean Observing System
GOOS

GLOBAL PARTNERSHIP FOR OCEANS

IODP
INTEGRATED OCEAN DRILLING PROGRAM

Menzies Research Institute Tasmania

NCCARF
National Climate Change Adaptation Research Facility

nectar

National Environmental Research Program

pogo

RDSI
Research Data Storage Infrastructure

SCAR

SCOR

SOOS
SOUTHERN OCEAN OBSERVING SYSTEM

tia
TASMANIAN INSTITUTE OF AGRICULTURE

TPAC

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Tasmanian Government

Australian Government
Department of Industry Innovation, Science, Research and Tertiary Education

CRICOS Provider Code 00586B

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