

A full-page background image of a vast, flat, pink lake under a blue sky with scattered clouds. A line of green trees is visible on the horizon. A person is walking on the right side of the lake.

# FUTURE EARTH AUSTRALIA YEAR IN REVIEW: 2020



futureearth  
AUSTRALIA

# Contact us

Dr Tayanah O'Donnell (Director): [Tayanah.odonnell@science.org.au](mailto:Tayanah.odonnell@science.org.au)

To join our mailing list, please email: [futureearthaustralia@science.org.au](mailto:futureearthaustralia@science.org.au)

For Future Earth news and events: [www.futureearth.org.au](http://www.futureearth.org.au)



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# From the Director

2020 has been a year of marked change: an opportunity to reassess our collective relationship with our natural environment, and our individual relationships with each other. Soon after devastating bushfires burned through an estimated 17 million hectares of Australian landscape, the world was brought to a halt by a coronavirus – COVID-19. In my 2019 Director's report, I wrote that the 2020 fires were "a tough and sobering way to end 2019, and to welcome 2020." It seems that this was merely the beginning of a long lesson in resilience. To that end, it is remarkable though not surprising that Australians have come together, as we always do, to reduce the health risks associated with COVID-19. But there remains much to do: economic recovery; water and food security; a socially just climate adaptation transition; and, critically, ongoing work to ensure that those communities most affected by the 2019–20 fires are not forgotten and receive the support they need.

To this end, sustainable development remains a vitally important mechanism in responding to all of these opportunities. The importance of seizing this moment cannot be overstated: societies are now facing a critical juncture—will it be back to business as usual, or will we choose to take the path of innovation, renewal and change? Here at Future Earth Australia, we continue our efforts to support and drive the latter. Our members are critical partners with us as we work to secure long-term societal

change by embedding sustainability practices in all that we do.

Throughout 2020, we transitioned our knowledge brokering work to online platforms. We delivered our capacity building program for early careers to a bigger and broader audience than ever before. Our Sustainability Research and Innovation Congress has pivoted to a hybrid model, enabling the participation of thousands of people from right across the globe either virtually or in person in Brisbane, June 2021. We have continued our engagement strategy for the implementation of our 10-year strategy for sustainable cities and regions right across Australia.

This year we commenced our next 10-year strategy, sustainable oceans and coasts, with the generous support of the Lord Mayor's Charitable Foundation. To date we have consulted with several hundred people across the country, including decision-makers, to inform the five pillars of the plan: a vision for our cities and places; enabling innovation; connecting knowledge; building capacity; and implementation. In this work, we are seeing significant trends towards better relationships with First Nations peoples, an emphasis on community science and grass roots initiatives, and the importance of independent regulatory frameworks.

2020 is a year marked by transitions. Within Future Earth Australia, we have seen our steering committee

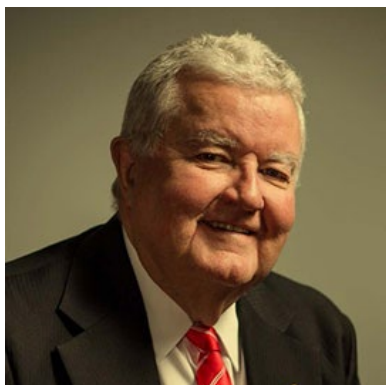


representatives rotate, and the election of two new co-chairs, Professor Juan Salazar and Associate Professor Joanna Chong, whom we warmly welcome.

The value of our network in Future Earth Australia remains vitally important as we work together, across sectors and institutions, for the betterment of Australia. As always, it is a privilege to be making these contributions. I always welcome a conversation—about our work, about future possibilities, or even about honey bees. Please don't hesitate to reach out.

**Dr Tayanah O'Donnell**

# Reflections from the Chairs



## PROFESSOR IAN CHUBB AC FAA FTSE CHAIR, FUTURE EARTH AUSTRALIA ADVISORY COMMITTEE

Over nine years ago, I gave an address as Australia's Chief Scientist at the National Press Club in which I spoke about my vision for science and for the nation. My observations then, 'to address the big issues – which include sustainably securing our economic, cultural, and social prosperity – we require the input, the expertise and the guidance of our scientists' remain essential for Australia's interests and for the continual improvement and growth of science. Global research networks such as Future Earth are critical in this mission, by advancing the growth of science across the spectrum of both sustainability challenges, and opportunities, that now face us as a nation. Future Earth Australia brings an air of distinction to these efforts working, as it does, with all sectors and scales to create and amplify innovative sustainability pathways which seek to embed positive change.

Future Earth Australia has garnered significant momentum and support throughout 2020. Its focus on capacity building, trans-disciplinarity, and brokering cross-community support for nationally relevant topics is commendable and highly relevant for our times. Throughout 2020, the Future Earth Australia network has developed and facilitated inputs into a national strategy for Sustainable Oceans and Coasts. Its launch in 2021 will signify the importance of collective action and the power of community in shaping our shared future. 2021 is anticipated to be a year of continual growth and evolution for Future Earth Australia, as it continues to elevate local-global science partnerships, collaboration, and action.



## DR MARK STAFFORD SMITH CHAIR, FUTURE EARTH AUSTRALIA STEERING COMMITTEE

2020 has been a challenging year for Australia and the world, and so, not surprisingly, also for Future Earth Australia. Starting from drought through bushfires to (in south-eastern Australia at least) hailstorms, and then a global pandemic, emergent systemic risks have never been more evident; and of course there is every reason to expect that these will continue to multiply with global environmental changes. These are precisely the challenges that demand the systems approach that Future Earth Australia brings to its work, which need to be reflected in the responses and possible solutions to these problems as much as in understanding them in the first place. Despite the disruptions from COVID-19, 2020 has seen Future Earth Australia deliver systems thinking like this in its first decadal strategy, on urban systems transformation, and work has progressed well on the second decadal strategy tackling Australia's coasts and oceans. Despite the difficulties of meeting in person and plenty of ennui over meeting electronically, the Future Earth Australia secretariat maintained the support and engagement of its members, continued with many valued early-career activities, and developed some new and relevant activities such as reinvigorating a national approach to adaptation. It is vital that we continue to press this systemic approach into the corridors of power, as, without it, governments and community alike will continue to be surprised and overwhelmed by unexpected impacts. The Future Earth Australia Steering Committee was active this year and is reinvigorated with new co-chairs to take on the challenges of 2021.



# Sustainable Oceans and Coasts

Australian oceans and coasts are threatened by the fragmented way we manage and govern the ecological and social processes that connect them; we do not have a clear path forward to ensure that these areas are healthy and resilient. Future Earth Australia, with support from the Lord Mayors Charitable Foundation, is set to create a National Ten Year Strategy for Sustainable Ocean and Coasts, which will outline clear, actionable strategies for achieving healthy and resilient oceans and coasts for all of Australia.

This strategy will outline the steps we need to transform how we think about, govern, and protect oceans and coasts across Australia. Importantly, we will take a systems approach to transforming oceans and coasts, as many sectors will need to work together to achieve our goal: social services, tourism, Traditional Owners, industry, land use experts, ocean and coastal researchers, and decision makers from all levels of government. By undertaking a bottom-up, countrywide consultation process and incorporating ideas and knowledge into a 10-year strategy, we can





provide a blueprint for the national transformational change that Australia's oceans and coasts need.

Australia has a significant and long-standing capability in ocean and coastal sustainability research. The start of the United Nations Decade of Ocean Science for Sustainable Development in 2021 is an opportune time to deliver more systemic and integrated approaches to managing our coasts and oceans, thinking across scales and across sectors, including synergies and trade-offs, and addressing interdependent challenges more effectively.

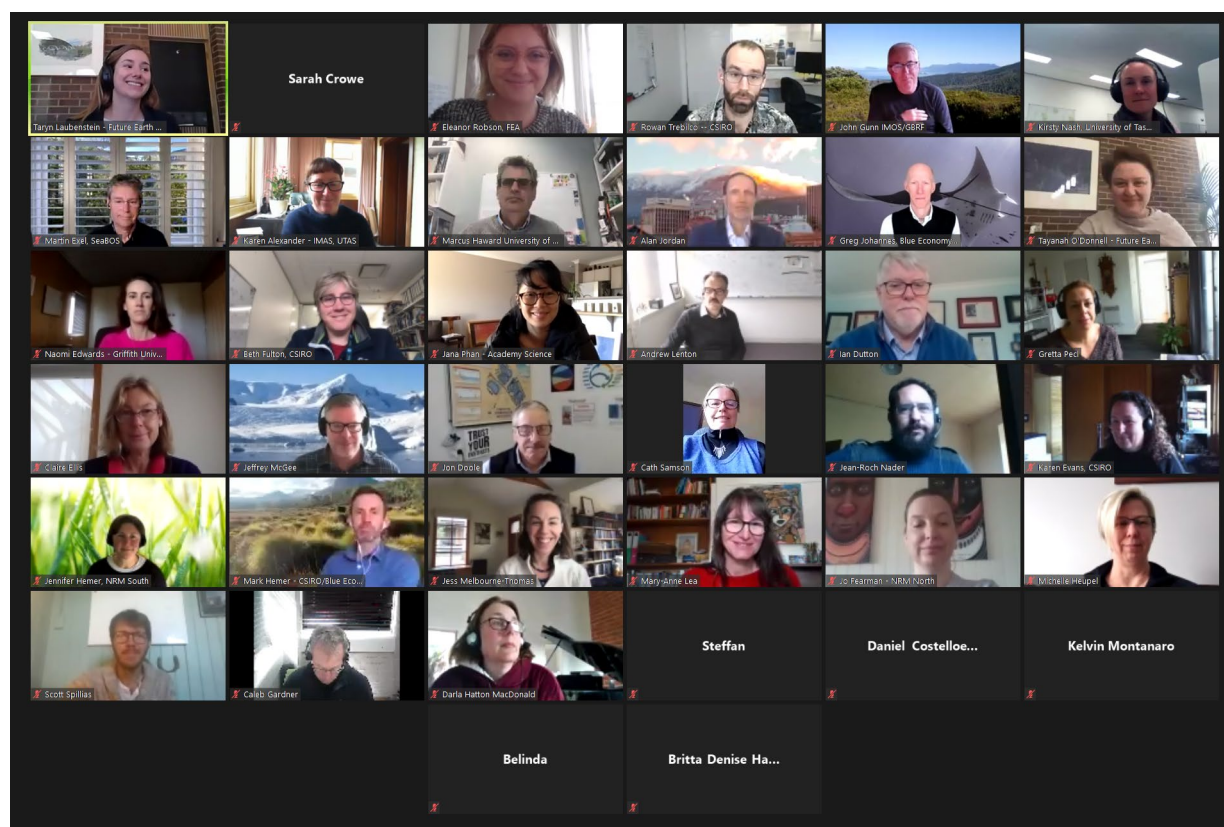
Following the successful model we used in creating our Sustainable Cities and Regions Ten-Year Strategy, Future Earth Australia has assembled an Expert Working Group of leading ocean and coastal researchers and practitioners across the country to steer the strategic direction of the process. A scoping workshop was held with key stakeholders at the Shine Dome in Canberra on 11 March to begin envisioning how knowledge could support Australia's transformation to sustainable ocean and coastal systems.

The next step was to conduct a series of cross-sectoral consultation workshops across the country to learn from a variety of stakeholders in the ocean and coastal space, to gather information about how

Australians from all ocean and coastal sectors view sustainability, and how they think a sustainable future for these sectors can be achieved. Participants in these workshops represented a variety of disciplines and sectors, including the research sector, Traditional Owners and managers across Country, all levels of government, industry and business, civil society, and community groups. Their expertise was wide, spanning topics including climate, fisheries, local planning, conservation, aquaculture, Indigenous Sea Country, tourism, natural resource management, advocacy, water and utilities, community engagement, coastal council networks, surf collectives, tourism, and philanthropy. Due to the pandemic, these workshops were all conducted virtually.

## TASMANIA WORKSHOP

On 11 September, Future Earth Australia hosted the first in a series of online consultation workshops in Tasmania with 35 participants contributing to the discussion. Participants highlighted their vision for a sustainable and smart future for Tasmanian oceans and coasts, and spoke to an integrated, resilient, and thriving future for all of Australia. Some key points highlighted in their discussions included a need to systematically identify key knowledge gaps, as the approach to



The cross-sectoral workshops had participants spanning disciplines and sectors—Tasmania workshop.

prioritising knowledge gaps in both Tasmania and Australia can be piecemeal. They also highlighted the need to work better with different knowledge systems, including First Nations' ways of knowing and doing on their own terms, and mainstreaming interdisciplinary and cross-sectoral approaches. Participants emphasised the key role of local and regional bodies in handling governance issues of oceans and coasts, and spoke to the need for more support for these often resource-constrained bodies.

In the second half of the workshop, participants spoke to the need to address the institutional and governance barriers to progress on implementation, citing the important yet challenging work of co-design and co-production at the heart of their vision for the future of oceans and coasts. They described a need to build literacy across the community in terms of the threats and opportunities in the marine and coastal space, and a need for informed hopefulness to be incorporated into any strategy for the future.

## VICTORIA WORKSHOP

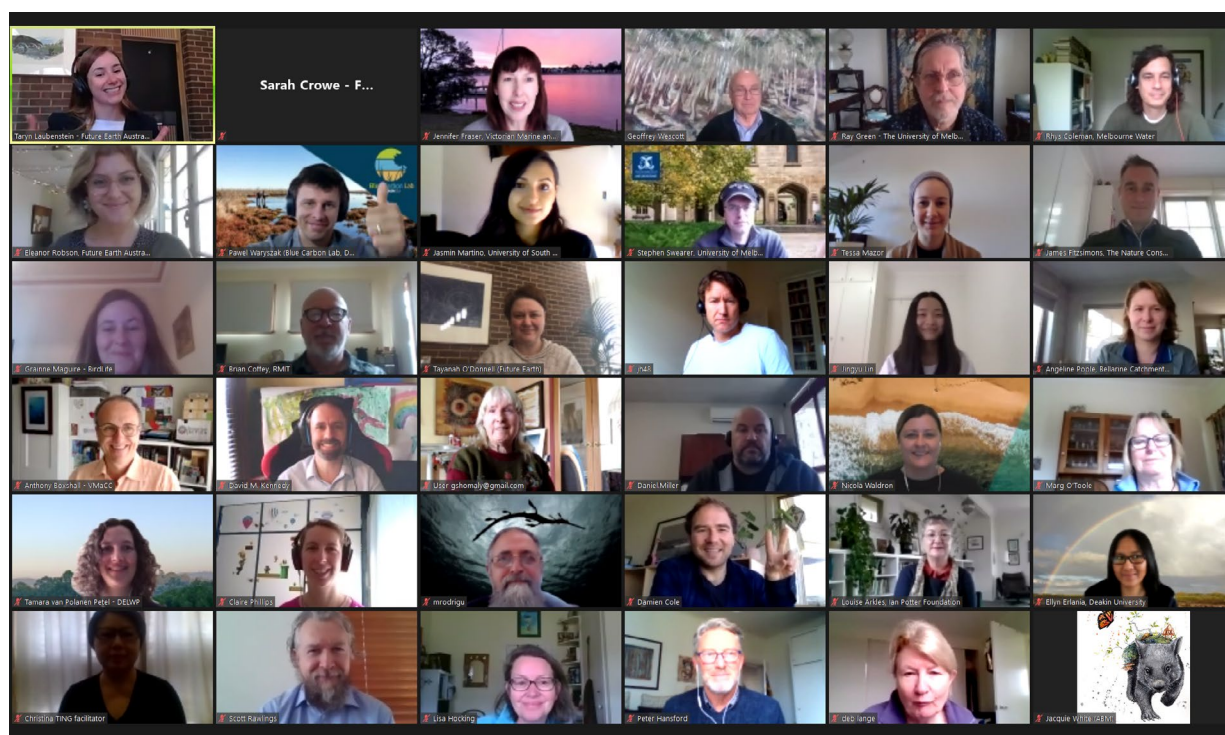
The second virtual consultation workshop took place on 14 September with 42 attendees from Victoria. The key component of Victorian participants' vision for the future of oceans and coasts was integration, emphasising a holistic approach to ocean and coastal stewardship which includes intergenerational

considerations, as well as a healthy, natural, and sustainable future. They spoke about the need for a better understanding of how we, as social and living communities, and ocean and coastal systems, affect each other. They also pointed to the nuanced relationship between different knowledge systems, which sits at the crux of centralising Traditional Knowledge in work with oceans and coasts. Participants expressed a sense of urgency around marine and coastal affairs and the worrying lack of proportionate attention of these issues in the policy agenda. To better shape governance, they spoke to a need for power sharing as well as building a common dialogue about values and priorities.

They next considered the need for community engagement, pointing to the need for a dynamic understanding of the diversity of values and priorities within and between communities, and the concomitant need for resourcing to build productive and positive relationships. Participants recognised the value of local networks for engagement, including citizen science initiatives.

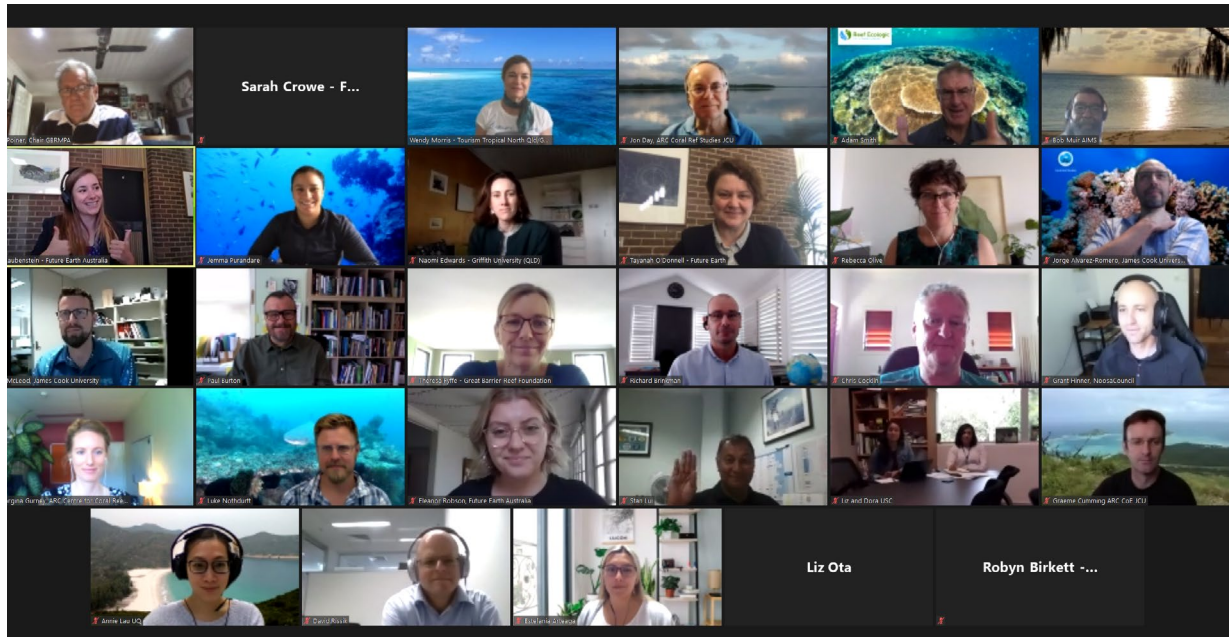
## QUEENSLAND WORKSHOP

The Queensland consultation workshop took place on 16 September, with 28 attendees joining the conversation. Queenslanders put forward a positive, passionate vision for their oceans and coasts,



Victoria workshop





Queensland workshop

referring to the health, accessibility, and abundance they envisioned for the future, as well as a national vision that was connected, integrated, and characterised by a love that speaks to our responsibility to oceans and coasts, inspired by the way that Traditional Owners love their Country. Queensland attendees focused on the need for integration and linkage, between the natural world and human systems, between different ways of understanding the world, and between oceans and coasts. There was an emphasis on the need to take action despite uncertainty in some areas, and a need to develop solid future projections of the different trajectories and adaptation pathways we might take to deal with coming changes. Participants acknowledged that good governance is not possible without real people coming together to form a joint vision, and spoke to a desire for a high-level national vision for oceans and coasts to provide coherence from the national to local levels. They thought a partnership approach involving a diverse range of interests and people is the best way to pursue these initiatives.

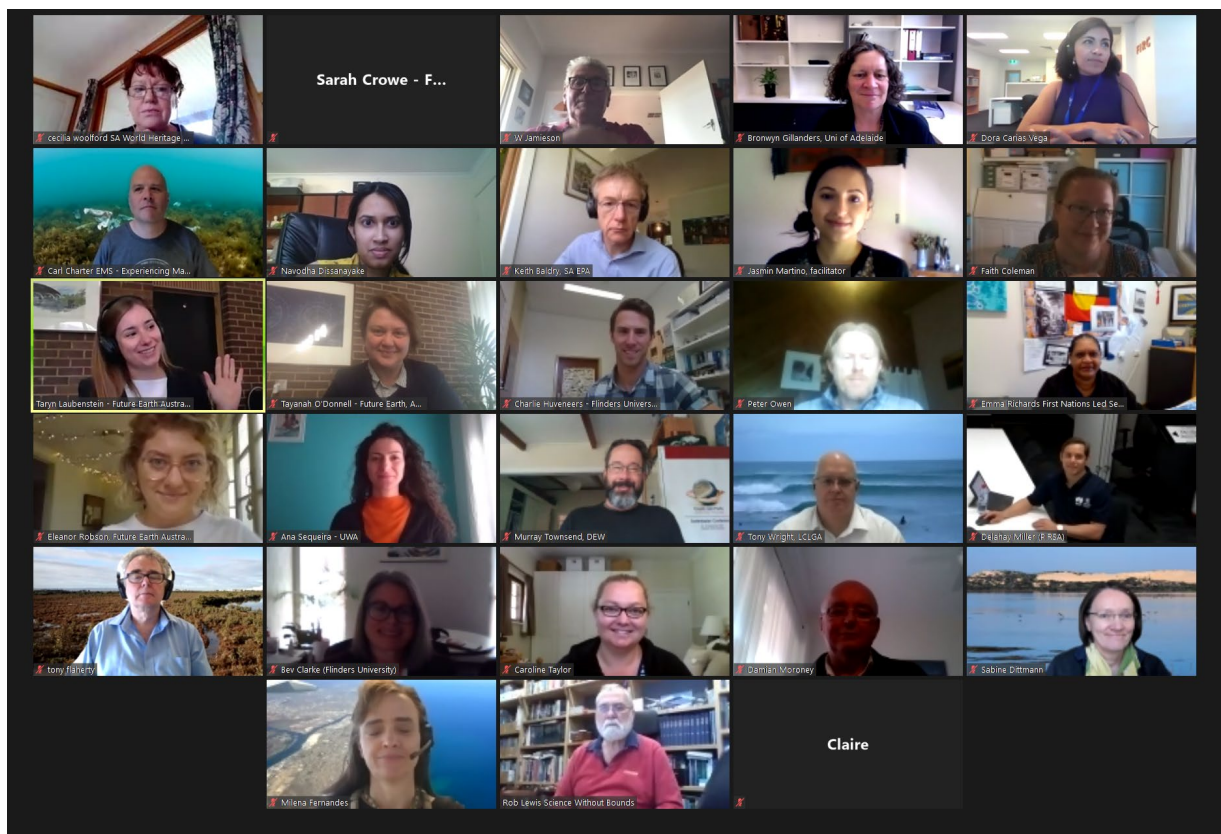
The participants later reflected on the need for a bespoke approach to capture diverse perspectives, given that relationships and empowerment are the two fundamental principles that underpin a participatory process for stewarding oceans and coasts. They acknowledge the damaging nature of tokenism in engagement with Traditional Owners and community members, and spoke to a need for cultural values to be embedded in governance frameworks.

They saw ocean and coastal sustainability as central to our lives, identities, and governance agendas, and framed responsibility for thriving oceans and coasts as a shared responsibility between communities, governments, businesses, and other sectors. Developing a notion of coastal and ocean citizenship could be one way that stewardship is integrated into more peoples' lives. Finally, they emphasised that Indigenous perspectives and principles must be made central in governance regimes.

## SOUTH AUSTRALIA WORKSHOP

The South Australia workshop took place on 18 September and featured discussions from 22 attendees. South Australians had a number of aspirations for how oceans and coasts should function together and how to achieve their vision, including an integrated, resilient, and healthy system. They spoke to a wealth of existing work associated with state-based marine planning that should be built upon, while acknowledging knowledge gaps and the challenge of identifying gaps and integrating existing knowledge in a systematic way. They spoke of a desire for an integrated national vision for oceans and coasts, which can provide a legitimate umbrella into which federal, state, territory, and local strategies can contribute.

Participants emphasised that any strategy for ocean and coastal futures should be driven and owned by the community, and that empowerment needs to be



South Australia workshops

extended to deal with the emerging impacts of climate change. Capacity building is necessary, and can take the form of financing, caring for the wellbeing of active community members, and building new leaders. South Australians felt that oceans and coasts need more thorough consideration and buy-in from political leaders, and the best way to achieve this is by raising awareness in their communities. Finally, they spoke to the current siloed and inflexible governance and regulatory regimes in place, and the need for them to become adaptive and interconnected.

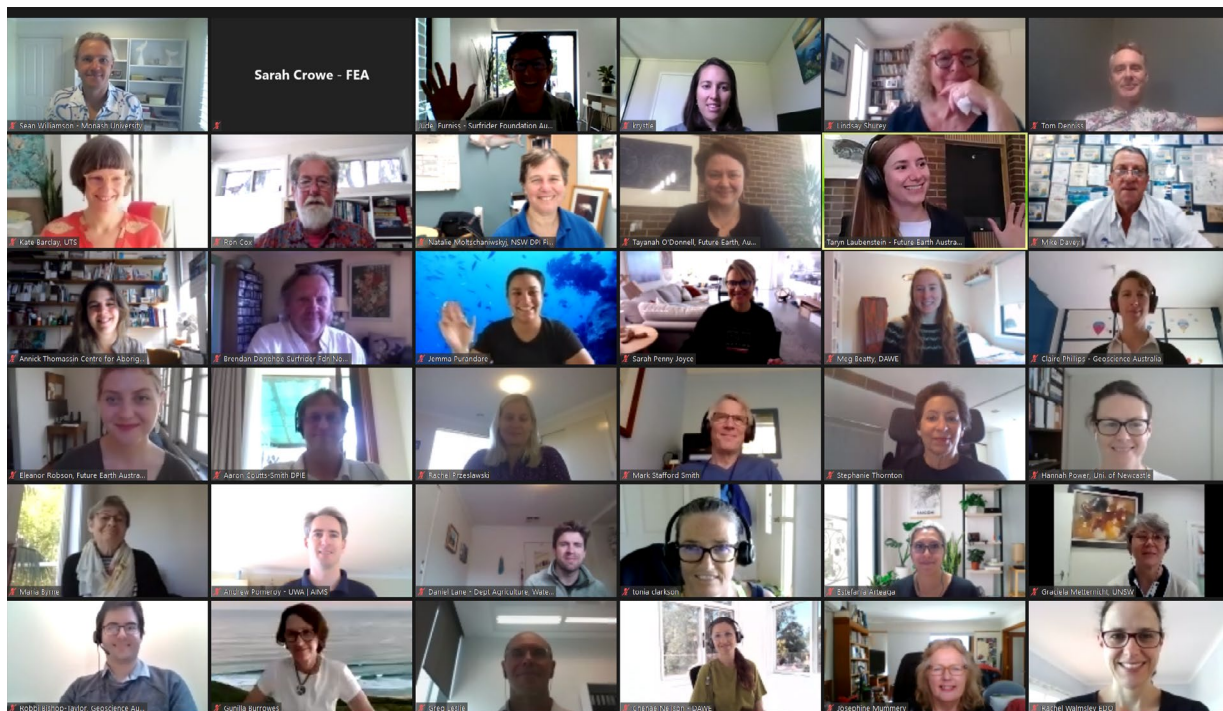
## NEW SOUTH WALES — AUSTRALIAN CAPITAL TERRITORY WORKSHOP

A joint workshop for New South Wales and the Australian Capital Territory was held on 21 September, and involved 36 attendees. The key vision that these participants saw for the future of oceans and coasts was integrated, co-managed, resilient, equitable, and valued. These participants outlined the massive amounts of existing information about oceans and coasts and pointed to a need for holistic frameworks for organising this information, as well as ways to link those working on the ground like local councils and

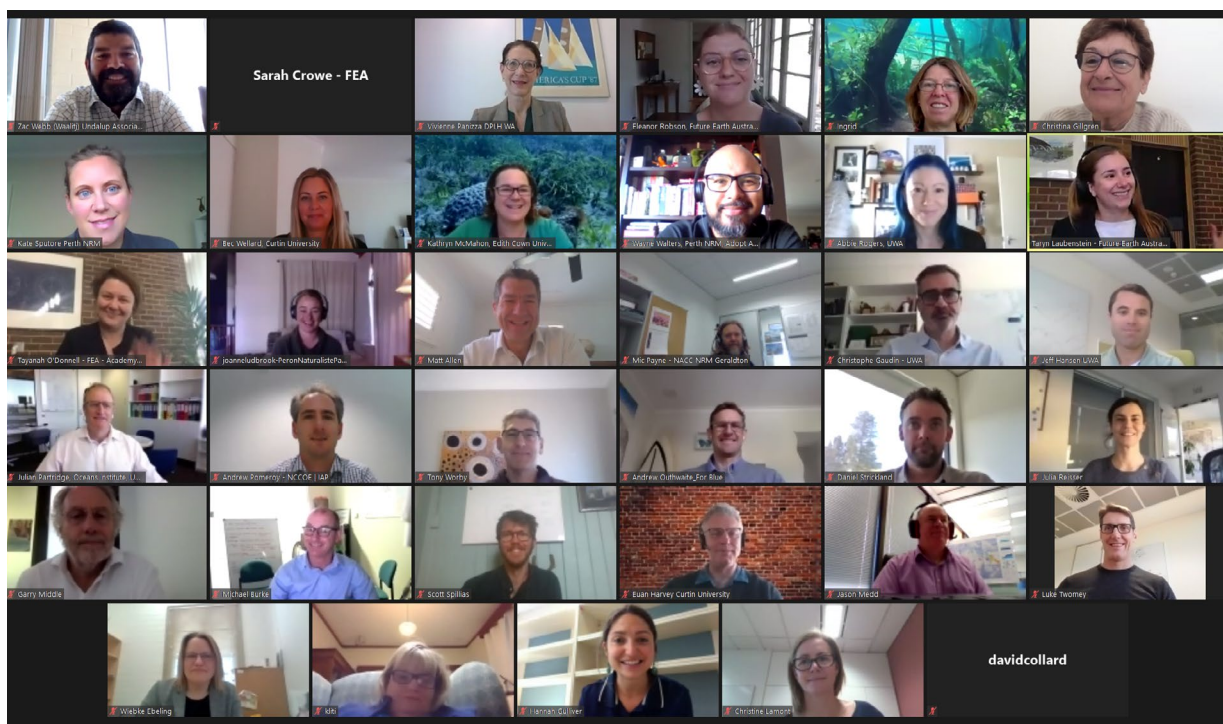
community groups into such a framework. New South Wales and Australian Capital Territory participants focused on connectivity as a key improvement required for governance of oceans and coasts. They suggested that better collaboration between industry, research and government could be incentivised through national funding mechanisms, such as the National Environment and Science Program. However, such incentives would need to be designed to avoid locking out grassroots actors from collaborating in large and important developments.

Attendees of the New South Wales and Australian Capital Territory workshop focused on the practical and political elements of engaging the community and stakeholders in ocean and coast issues. They said that representativeness and equity must be foundational principles for engagement of community and stakeholders, so that diverse voices influence decisions. They also favoured careful and consistent communication, whether for improving awareness of issues or disseminating information effectively. They desired a national vision and framework which can draw multiple imperatives together, which would require a development of public awareness as well as a harmonisation of governance arrangements.





New South Wales — Australian Capital Territory workshop



Western Australia workshop

## WESTERN AUSTRALIA WORKSHOP

The Western Australia workshop took place on 23 September and had 35 attendees. Western Australians were keen for their vision for oceans and coasts to be expansive and inclusive, wanting to be leaders in a sustainable and integrated blue economy as well as across communities and sectors. Many

participants felt there is a strong demand in the ocean and coastal community for data sharing through a national information platform. They spoke to the need for Indigenous knowledge and perspectives to play a more central role in management and decision-making, and that issues of accessibility are crucial to address. There was a view that we have been working

to propagate a sustainable relationship between our human societies and ocean and coastal systems for considerable time, and that it would be highly effective to compile past approaches, successes and failures so as to avoid reinventing the wheel and wasting time in devising solutions for the future. Participants discussed governance of oceans and coasts in terms of its complexity, involving a wide range of stakeholders, portfolios across government and between jurisdictions and for defining what success looks like in this space. A central need is believed to be coordination of activities across government, with stakeholders and communities, and building the political will to make this a priority.

Western Australian attendees pointed out that there is a great deal of energy and passion within communities who are taking the lead in on-the-ground stewardship of their coastal and ocean environments as part of their social network. These efforts are often innovative and effective, and there is fertile ground for collaboration. Token engagement is seen as a threat to maintaining good relationships and garnering public input into decision-making. The need for care

and attention to the relationship between knowledge holders in formal institutions and the broader community was emphasised. Western Australians contended that there are exciting opportunities to do economic development in a sustainable manner with emerging industries in the marine context. Industries like offshore energy and aquaculture present possibilities, especially if they incorporate sustainable development into their business models.

## NORTHERN TERRITORY WORKSHOP

The final cross-sectoral workshop took place in the Northern Territory, and featured a more intimate discussion between 11 attendees. Their vision for the future of oceans and coasts was heavily weighted on the need for collaboration and coordination at both the national and Northern Territory levels. Participants pointed to the need for more systematic knowledge of marine and coastal environments, for greater communication and collaboration between sectors to build our knowledge and to have a better grasp of risk



Northern Territory workshop





Facilitators high-five after their training.

as we make decisions about the future. More granular data at regional level would be highly useful as a means of improving management planning, along with assisting in negotiating emotional discussions which are compounded by not having dependable information that all involved can refer to. They pointed to the immense opportunity for real-time monitoring and surveillance of Land and Sea Country to be undertaken by Traditional Owners and ranger groups in collaboration with the broader community of practice.

There was a strong sense among Northern Territory participants that careful attention must be paid to ensuring that local and regional priorities for governance are streamlined within a Northern Territory framework to ensure that on-the-ground values are not lost at higher levels of governance. On-Country and regional scale governance is seen by a number of people to be the unit-of-best-fit for governance of oceans and coasts. Northern Territory attendees considered community engagement a critical factor for ocean and coastal stewardship.

## ENGAGING WITH FIRST NATIONS PEOPLES

A crucial component of the oceans and coasts strategy has been in creating space for Indigenous peoples to share their perspectives and desires for a national 10-year strategy. To this end, First Nations peoples were invited to, and participated in, many of the cross-sectoral workshops held in September. Through this process, a number of Indigenous peoples spoke to the need for an Indigenous-only talking space as part of this process, and to this end Future Earth Australia hosted a virtual yarn on Indigenous perspectives on sustainable oceans and coasts on 9 November. The yarn was facilitated by Professor Martin Nakata and featured robust discussions around the proposed contents of a national strategy, as well the types of processes that could be established through a national strategy to include Indigenous peoples. This yarn is part of an ongoing process to ensure that Indigenous peoples are represented in the strategy at its launch, and continue to be involved throughout the implementation process. For instance, a number of







one-on-one interviews and phone calls have been conducted with Indigenous peoples from a range of Traditional Owner groups, land and sea ranger programs, universities, TUMRAs (Traditional Use of Marine Resource Agreements), and government organisations to feed into the strategy, and these relationships will continue to be built and maintained as the strategy comes together.

## EARLY-CAREER RESEARCHER AND PRACTITIONER FACILITATION

Moving our consultation workshops online represented both a challenge and opportunity to open the sessions to a range of participants from diverse backgrounds. A particularly valuable

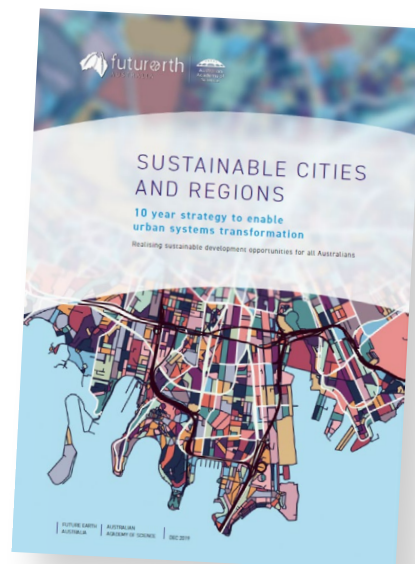
opportunity was enabling early-career researchers and practitioners to take a leading role in conducting our workshops as voluntary facilitators.

Twenty-three early-career specialists, coming from all states and territories and diverse disciplinary backgrounds, were trained by Future Earth Australia in cross-sectoral workshop facilitation. They subsequently led discussions across the country on the elements defining ocean and coastal sustainability. With many facilitators coming forward in South-East Queensland, many decided to meet in person in Brisbane and have maintained contact since. We are sincerely grateful to our cohort of ocean and coast facilitators who made our extensive grassroots consultation possible in this travel-restricted world.

# Sustainable Cities and Regions

Following the launch of *Sustainable Cities and Regions: 10-year strategy for urban systems transformation* in December 2019, the Future Earth Australia Secretariat and the urban writing group reconvened to undertake socialisation and advocacy for cross-sectoral implementation of the strategy's recommendations. The push for a more systematic, cross-sectoral approach to urban governance, research and practice remains a core priority for our stakeholders across research, business, government and civil society.

While we had not expected to be implementing this strategy in the wake of a horrific bushfire season and a global pandemic, our stakeholders and partners agreed that these events underlined the importance of our urban systems playing a strategic role in achieving our sustainability goals. In particular, the recommendation to establish a national network of collaborative innovation hubs, along with establishing a transdisciplinary higher-degree research program, gained significant traction with private sector, government and university partners. Future Earth Australia met with Minister Tudge's office, and is working on a budget submission to be advanced at the mid-year economic and fiscal outlook and prior to the 2021–22 budget.





# Capacity building

## EARLY-CAREER RESEARCHER AND PRACTITIONER PROGRAM

The Future Earth Australia Early-Career Researcher and Practitioner (ECRP) Program is a core pillar of Future Earth Australia's program. It facilitates capacity-building and, through our ECRP symposia, enables long-lasting relationships and opportunities for research and innovation collaboration. We define ECRPs as anyone who is either studying for their Masters or PhD, or those in their first five years of research or practice, allowing for career disruptions.

In order to enable capacity building in the sustainability research and innovation field, and to reduce barriers to entry, all Future Earth Australia ECRP symposia are free to attend. In addition, ECRPs from Future Earth Australia member institutions are able to apply for a competitively assessed travel bursary which covers travel and accommodation costs.

This year we saw a rotation in the Future Earth Australia Steering Committee early-career representatives, with Anna Lintern (Monash) replacing Dr Ray Maher (UQ) following a competitive selection process. We thank Ray for all his hard work and contributions to Future Earth Australia.

This year also marked a shift in our delivery of ECRP activities to fully virtual following the pandemic. Secretariat staff worked hard to modify the successful ECRP model and move it online, resulting in the creation of a webinar series and an online presentation day for ECRPs. Each series of webinars was arranged around an overarching topic and consisted of one webinar each week for three consecutive weeks. Each webinar included a presentation from a member of the Future Earth Australia team, two to three presentations from experts from the Future Earth Australia community, and extensive opportunities for participants to interact and ask questions.

Forming meaningful and lasting connections is a key component of the ECRP program, which is why participants were asked to attend across all three webinars in a series. This allowed participants to develop relationships that would continue after the webinar series had finished. To foster new relationships, each webinar concluded with a 'happy

hour' component for further networking and discussion. Future Earth Australia also created a LinkedIn group to keep ECRPs virtually connected following the webinar series.

Together, the online ECRP activities involved over 200 participants this year.

## Beyond SDG 11: A Focus on Urban Transformation

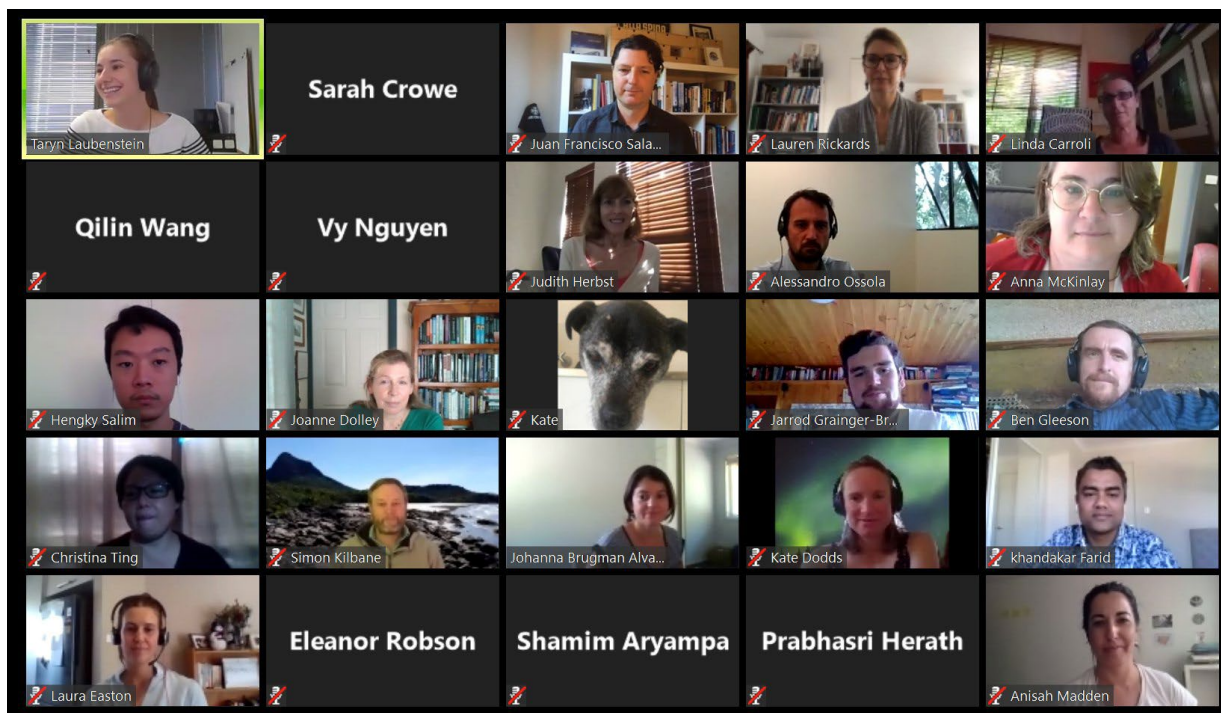
*Beyond SDG11: A Focus on Urban Transformation* was originally slated to occur in late April at Western Sydney University. However, due to university closures and social distancing restrictions, we were unable to hold the event in its original three-day format. As a result, this event was split into two parts: an open online webinar series focused on the urban, and a two-day intensive opportunity for event attendees to present their work.

### Webinar series

The webinar series was held weekly from 8 to 21 May. Each webinar ran for two hours and consisted of a mix of presentations from within the Future Earth Australia community and interactive sessions where attendees were divided into smaller groups and held deeper discussions on a variety of topics.

The first webinar, 'A Focus on the SDGs', featured four presentations. Professor Juan Salazar from Western Sydney University discussed ways for ECRPs to incorporate the SDGs into their research, and Professor Jago Dodson from RMIT spoke about his prior experiences working on the SDGs in an urban context. Associate Professor Lauren Rickards of RMIT encouraged PhD students to orient their work towards the SDGs, and Dr Taryn Laubenstein of Future Earth Australia spoke about the SDGs in the context of Future Earth.

In the second webinar, 'Connecting Across Communities', Professor Tim Smith of the University of the Sunshine Coast conducted an interactive presentation on stakeholder engagement across different user groups. Dr Megan Evans of UNSW spoke about navigating different pathways to impact for early-career researchers, and Eleanor Robson introduced participants to Future Earth Australia's co-production and transdisciplinary processes.



Participants share a discussion during the urban webinar series.

In the final webinar, 'Communicating Your Research', Dr Johanna Nalau of Griffith University presented a seminar on developing a clear story about research to present on social media, and Taryn Laubenstein conducted a workshop on effective research presentations with multiple interactive components.

### Two-day Intensive

In contrast to the open nature of the urban transformation series of webinars, the two-day intensive was open only to those who were originally accepted to attend the event at Western Sydney University. Over the two days, 19 ECRPs gathered virtually via Zoom to present their work. The event was truly interdisciplinary, with presentations covering such topics as the creation of energy from waste water, how climate science is portrayed in film, the use of community gardens as communal spaces, and urban issues relating to informal settlements around the world. The event received significant positive feedback from participants as a way to virtually connect and learn from their peers.

### ECRP Webinar Series: Oceans and Coasts

Following the success of the urban-themed webinar series, a second webinar series focused on oceans and coasts was held. The first webinar, 'Getting to Know You', focused on introducing the cohort to

Future Earth Australia and our Ocean and Coastal Sustainability theme for the year. Professor Anja Scheffers from Southern Cross University spoke about oceans and coasts from a global perspective, including her work with Future Earth Coasts. Participants were then given the opportunity to discuss their research with one another in small breakout groups.

The second webinar, 'Interdisciplinary Research and Communication', featured two presentations. First, Dr Kirsty Nash of the Centre for Marine Socioecology at the University of Tasmania discussed sustainability research and interdisciplinarity in the marine environment. Taryn then presented on advanced techniques in improving presentation skills for early-career researchers and incorporated an interactive activity to practise advanced communication skills.

The third webinar focused on 'Community Engagement and Getting Your Message Across'. Associate Professor Jodie Rummer from the ARC Center of Excellence for Coral Reef Studies gave a lecture on communicating research in today's information-crowded world. Then participants heard from Dr Rachel Przeslawski of Geoscience Australia, who explored different techniques for community engagement and consultation.



## Rethinking the management of invertebrates and their services in cities

Dr Lizzy Lowe

School of Biological Sciences, Macquarie University

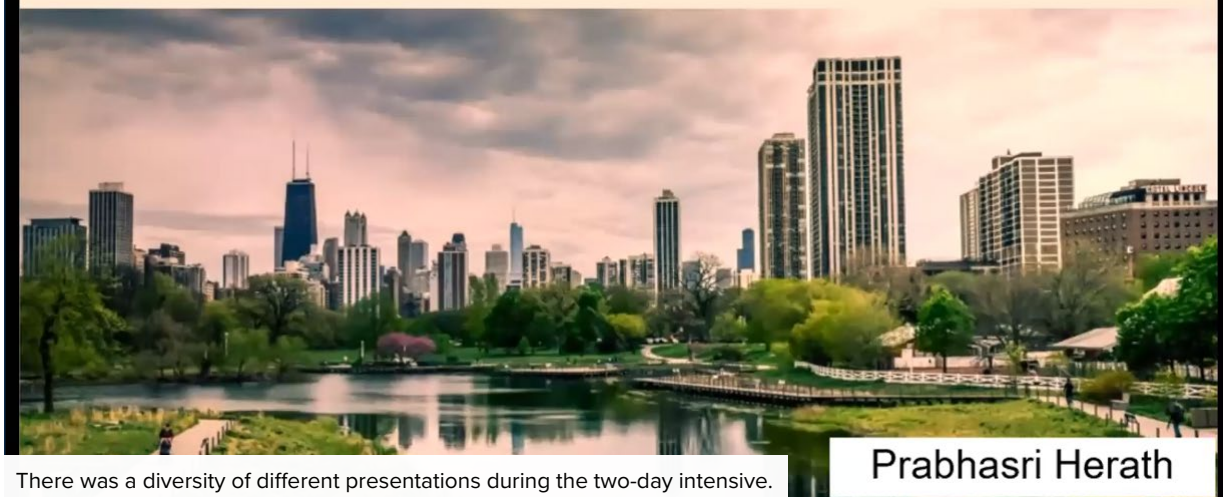


Dr Joanne Dolley

Cities Research Institute  
Griffith University

Achieving UNSDG 11.7:  
Universal access to safe,  
inclusive and accessible, green  
and public spaces

## Ecosystem Services of Urban Blue- Green Infrastructures: Creating Liveable and Resilient Cities

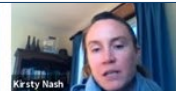


Prabhasri Herath

There was a diversity of different presentations during the two-day intensive.



@NasherK



Kirsty Nash

# Sustainability on a blue planet

Kirsty Nash



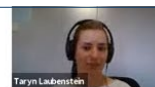
Australian Government  
Geoscience Australia



## Stakeholder Engagement for Marine Sciences



Dr Rachel Przeslawski, Director Discovery & Engagement



Taryn Laubenstein

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SCIENCE

**Astrophysicist Explains One Concept in 5 Levels of Difficulty**

- Neuroscientist Explains One Concept in 5 Levels of Difficulty
- Astronomer Explains One Concept in 5 Levels of Difficulty
- Linux Expert Explains One Concept in 5 Levels of Difficulty
- Strong Scientist Explains One Concept in 5 Levels of Difficulty
- Physicist Explains One Concept in 5 Levels of Difficulty
- Astrophysicist Explains One Concept in 5 Levels of Difficulty

Attendees learned from a variety of speakers over the course of three weeks.



## Ian McDougall Bursary Program

In 2019, Future Earth Australia launched the Ian McDougall Bursary Program, made possible due to a philanthropic donation by the family of Professor Ian McDougall FAA.

This program aims to promote cross-institutional collaboration in ECRPs and seeks to integrate the SDGs for societal transformation. In its first year of

operation we allocated two grants, to Dr Cobi Calyx from the University of New South Wales and Mr Scott Spillias from the University of Queensland.

Cobi and her team used the Ian McDougall Bursary funding to enable early-career researchers on short-term postdocs to travel to the Australian Science Communicators conference at the Monash Sustainable Development Institute, for a session about how researchers are achieving social impact.



This project brought together early-career researchers (ECRs) from Australia and Indonesia in their first face-to-face meeting, to document stories of social impact related to science. Collaborators produced and presented a panel at the Australian Science Communicators 2020 Conference at MSDI in February, themed around ‘priorities, policies and publics for human survival’. This panel highlighted the voices of our Aboriginal Australian and Indonesian collaborators, articulating social impacts not only from their research, but through sharing lived experiences and exchanging knowledge with impacted communities. Amplifying these voices in a forum for science communication practitioners has already had impact beyond those we anticipated—for example, a conference delegate doing their PhD in public health was asked after the conference by someone not involved in this bursary whether they got anything out of it, to which they responded that this panel was their highlight and it had been “life changing” for how they approached their research.

This project integrates the SDGs for societal transformation through bringing together researchers with diverse backgrounds in articulating unique and shared ways their work contributes to SDGs. Thus Goal 17: Partnerships for the Goals underpins other goals to which this project relates. The funds of the bursary bring together a Yorta Yorta woman who recently submitted a PhD in Aboriginal health indicators with an Australian-educated Indonesian who recently graduated from a PhD in mental health, with early-career postdoctoral researchers who have worked internationally in evidence-based emergency response and health promotion projects and share interests in environmental links to health promotion.

The recording and documentation from this activity will form content for a new master-level ‘Leading Science for Impact’ course at UNSW. Another unanticipated outcome of the grant was establishing greater links with the UNSW Sustainability Learning and Teaching Plan, including with educational developer Daniel Hempel. Daniel and Cobi are now collaborating to make a visualisation of SDG interlinkages tailored to audio of the panel, using this SDG interlinkages map being developed in Kumu.



‘Seaweed Farming for the Sustainable Development Goals’ aimed to address the:

- barriers to seaweed farming adoption in Australia
- (environmental and social) benefits and trade-offs inherent in developing a seaweed
- farming industry
- policy levers that exist or could be created to guide the industry
- impacts that those policy levers will have on the industry’s ability to contribute to achieving the United Nations Sustainable Development Goals (UN SDGs).

The project team engaged diverse marine stakeholders from across Australia via virtual workshops. We organised and hosted three virtual workshops with the three separate stakeholder groups—academia, industry and government. We used the Nominal Group Technique to elicit these groups’ expert opinions on the strengths, weaknesses, opportunities, and threats (SWOT) that lie between the seaweed industry in Australia and the UN SDGs.

The series of workshops, held across October and November, concluded successfully on 6 November. All data has now been collected, and we are currently in the analysis stages of the project.

Scott Spillias, Dr Rachel Kelly and Dr Richard Cottrell used the Ian McDougall Bursary to bring together the leading voices and key industry players in seaweed aquaculture in Australia to discuss how this new industry can help Australia work towards the SDGs.

## SUSTAINABILITY IN AUSTRALIA: ONLINE WEBINAR FOR GEOSCIENCES AUSTRALIA

In mid-October, Future Earth Australia was invited by Geoscience Australia Chief Scientist Dr Steve Hill to present a public talk on our work and collaborations with Geoscience Australia. Geoscience Australia regularly hosts a series of public talks for a range of technical and general audiences delivered by leaders in their respective fields. Future Earth Australia spoke

about Future Earth Australia’s work towards the Sustainable Development Goals and past and future work with Geoscience Australia. In particular, they discussed the Ocean and Coastal Sustainability initiative, of which Steve Hill is a member of the Expert Working Group and a number of Geoscience Australia staff have participated in consultation workshops. They also touched on opportunities for early-career practitioners to participate in Future Earth Australia, such as through Geoscience Australia staff member Chris Lewis’s role as an early-career representative on the Future Earth Australia steering committee, Geoscience Australia participation in past ECRP events and webinars, and future opportunities for networking and capacity-building. Over 100 audience members tuned in to watch the presentation live, and the recording will be made available for later viewing.



# National engagement

## SECURING AUSTRALIA'S FUTURE—REIMAGINING CLIMATE CHANGE ADAPTATION

Over the summer of 2019–20, Australia wrestled with its worst ever bushfire season. We despaired as homes and property had to be abandoned, and we witnessed massive tracts of precious ecosystems and their inhabitants destroyed. On 14 January 2020, Prime Minister Scott Morrison stated that Australian Government policy would focus on 'resilience and adaptation'. This policy intent included a recognition of the role of climate change in bushfire risk, but Australians need a broader focus.

*Securing Australia's Future: Reimagining Climate Adaptation* seeks to consolidate and extend a broader agenda of proactive and productive reform of climate adaptation, against a clear acceptance of the urgent need to reduce greenhouse gas emissions.

Adaptation is not new in our nation. First Nations peoples have stewarded this landscape through enormous change over more than 60,000 years. More recently, adaptation practices, plans, and actions have been undertaken across the country for decades. Approaches and actions emerging from communities themselves as they confront changing conditions are powerful and enduring.

In light of this, Future Earth Australia has throughout 2020 convened a series of high level roundtables, comprising First Nations peoples, government, industry, private sector, civil society, and researchers to explore what we know about climate adaptation, and what we need to know to enable adaptation action over the next 10 years. A detailed synthesis of these discussions was published online, the details of which are informing the framing and structure of our National Adaptation Summit in 2021.

The National Adaptation Summit is being led by Future Earth Australia, the University of Sydney and Western Sydney University, and will be held 19–23 April 2021. Over the course of three days, participants can engage with themes including: Indigenous worldviews; Actioning Climate Adaptation; Climate Finance; and Communicating Climate Adaptation and Resilience.

## THRIVING EARTH EXCHANGE

Future Earth Australia launched its Community Science for Sustainability initiative in 2020. This initiative convenes and manages partnerships between a community and researcher/specialist who, as equal partners, create a piece of research, guidance or tool to progress the community's sustainability priority.

Future Earth Australia is well placed to lead a community science program by leveraging our extensive network of researchers and specialists working across disciplines and sustainability areas, our expertise in complex project management, and access to communities nationwide.

Our model begins with a call for communities in which we have undertaken outreach to spread the word to local communities about the opportunity for a research partnership to address their local priority. We designed the call such that communities could propose any project which incorporated a mix of environmental, social, cultural and economic elements and addressed an issue which would enhance environmental and community wellbeing. Our call attracted six expressions of interest from community groups on topics such as environmentally responsible waste management in isolated communities in the Northern Territory and Victoria, transforming local transport systems to reduce emissions and improve connectivity for older people in Tasmania, and adapting habitat regeneration for a warming climate in Victoria.

Two communities have been accepted into our first pilot cohort:

- Tallangatta Health Service in Victoria is designing and building a large, community-managed garden to improve social resilience and connectivity following the bushfires. Prof. Tim Cavagnaro (University of Adelaide) has partnered with them to assist with a site assessment, to address their priority of ensuring the 1.5 acre garden is integrated and contributing to biodiversity and soil health while being productive.



- Warren Catchments Council in Western Australia is keen to demonstrate the opportunities and knowledge that its community have to offer planning for a changing fire regime in its region due to climate change. Dr Kathleen Broderick from Broderick and Associates, and the ANU) has partnered with the council to supervise a research student to look at community-led approaches to local fire management in the area as part of the local climate adaptation strategy.

Our Community Science for Sustainability initiative was prompted by Future Earth Australia's partnership with the Thriving Earth Exchange (a project of the American Geophysical Union), whose model has enabled over 100 successful projects. We are excited for our initiative to contribute to Australia's working legacy of community-based sustainability and management practice, while contributing expertise from the Australian experience back into the Thriving Earth Exchange model.



# Global engagement

## SUSTAINABILITY RESEARCH & INNOVATION CONGRESS 2021

A consortium convened by Future Earth Australia and the Queensland Chief Scientist, comprised of five Queensland universities (including Future Earth Australia members the University of Queensland, Griffith University, the University of the Sunshine Coast and CSIRO), has won its bid to host the inaugural Sustainability Research & Innovation (SRI) Congress. The congress was founded by the Belmont Forum and the global Future Earth program.

SRI2021 exists to put knowledge into action and create rapid progress on the SDGs, to amplify sustainability approaches and expertise from the Global South, and incubate sustainability professionals from early to senior stages. It convenes to share successes, exchange views, and work across disciplines and sectors, and to establish a home for global transdisciplinary research and practice. The congress welcomes practitioners, researchers, funders, innovators, thought leaders, policy-makers, and industry partners across the broad spectrum of communities working to solve local to global sustainability challenges.

Initially scheduled for June 2020, SRI2021 will now take place from 12 to 15 June 2021 in a hybrid format; attracting hundreds both in-person in Brisbane and around the world online. SRI2021 is the largest international hybrid event in sustainability and we look forward to connecting with people all over the world and showcasing cutting edge sustainability work from the Oceanic region on our innovative virtual platform.

While COVID-19 has made organising this event more complex than we could have initially imagined, our strong partnerships both within the local hosting consortium and with our international partners has meant we are committed and excited to make the most of new opportunities associated with a hybrid event. We would like to thank our university partners, local organising committee members and international partners for their continued support and collaboration.

SRI2021 will now host a range of trainings and high-level talks prior to the main event on our virtual platform, giving attendees the opportunity to meet, share and network in the lead up to June. The program from 12 to 15 June features over 100 transdisciplinary and cross-sectoral sessions, opportunities to network and form partnerships with thousands. The platform will stay live for months following the event, so discussions and working groups can be supported to put material into action.

Registration for both in-person and online attendees is now open. The program will be published in early 2021, and we look forward to seeing you in Brisbane.



## NITRO-OCEANIA

The Network of Interdisciplinary and Transdisciplinary Research Organisations, Oceania (NITRO–Oceania) is a network of leaders fostering interdisciplinary and transdisciplinary research and education within and across organisations in the Oceania region, chaired by Professor Gabriele Bammer of the Australian National University.

Future Earth Australia remains committed to supporting the network. NITRO-Oceania was selected to deliver a 100-person training session at SRI2021 on how to craft narratives and communicate the impact of transdisciplinary research for advancing sustainability and development.

# Who we are

## FUTURE EARTH AUSTRALIA SECRETARIAT

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### Director

#### **Dr Tayanah O'Donnell**

Tayanah is an experienced science leader, communicator and collaborator, having worked in research and leadership roles in private practice, government and academia for over 15 years. She has particular scientific expertise in legal, political and cultural aspects of climate change adaptation and coastal governance and management.



### Research and Policy Officer

#### **Dr Taryn Laubenstein**

Taryn is a trained scientist and science communicator, having recently completed her PhD in marine biology at the ARC Center of Excellence for Coral Reef Studies. Taryn is passionate about incorporating transdisciplinary and cross-sectoral knowledge sharing into Australia's ocean and coastal systems.



### Research and Policy Officer

#### **Eleanor Robson**

Eleanor is a geographer interested in citizen and stakeholder engagement in environmental governance, and building collaboration for sustainability. She has worked across research teaching in geography, and more recently in politics, environmental policy and political advocacy. She represents students as a member of the American Geophysical Union's Council. Eleanor is based in Brisbane.



### Policy and Events Coordinator

#### **Sarah Crowe**

Sarah has over 10 years of administrative experience and keeps Future Earth Australia running like a well-oiled machine. Sarah is the head of the Early-Career Researcher and Practitioner program at Future Earth Australia, and is passionate about ECRP representation across all of the Future Earth Australia projects.



## STEERING COMMITTEE

Future Earth Australia welcomes two new co-chairs to the steering committee. Their terms commenced in September 2020 and will continue until September 2022.



### Associate Professor Joanne Chong

Jo is the recently appointed Research Director of the Sustainability Pathways Program at CSIRO Land & Water, where she leads a team of 85 scientists and researchers from a range of social, economic and biophysical disciplinary backgrounds who work in partnerships for sustainable development. Prior to this Jo was a Research Director at the Institute for Sustainable Futures, University of Technology Sydney, and has also held positions at the Productivity Commission, Independent Pricing and Regulatory Tribunal, and IUCN (International Union for Conservation of Nature).



### Professor Juan Francisco Salazar

Juan is an anthropologist and documentary filmmaker with a PhD in Communication and Media from Western Sydney University (2005) and a Bachelor of Anthropology from the University of Chile (1994). He is Professor of Media and Environment at the School of Humanities and Communication Arts and Fellow of the Institute for Culture and Society (ICS) at Western Sydney University where he was also University Research Theme Champion (Environment and Sustainability) from 2016 to 2020. From 2020 he is an Australian Research Council Future Fellow. He has developed collaborative research partnerships in Chile, Colombia, Australia, Vanuatu, and Antarctica on a range of fields including social ecological change, sustainable transitions, anthropology of futures, extreme environments, and environmental justice in community based adaptation to climate change. He has undertaken a decade of research work in and on Antarctica where he has lead an international ARC Linkage Project with local governments and youth groups on Antarctic Cities (2016–20) and from 2012 to 2016 acted as Co-chair of the Humanities and Social Sciences Expert Group of the Scientific Committee for Antarctic Research (SCAR).

Dr Mark Stafford Smith	CSIRO
Dr John Finnigan FAA	Chair, National Committee for Earth System Science, Australian Academy of Science
Professor Jago Dodson	RMIT University
Professor Brett Bryan	Deakin University
Professor Gabriele Bammer	Australian National University
Professor David Schlosberg	University of Sydney
Dr Belinda Wade	University of Queensland
Professor Tim Smith	University of the Sunshine Coast
Professor Tony Capon	Monash University
Professor Anja Scheffers	Southern Cross University
Mr Chris Lewis	GeoSciences Australia
Dr Ray Maher	University of Queensland

## ADVISORY COMMITTEE

Professor Ian Chubb AC FAA FTSE	Chair
Professor Kate Auty	Chair, Environment Protection Agency Victoria
Mr Howard Bamsey	Green Climate Fund
Mr Simon Corbell	Former ACT Minister for Environment and Climate Change
Ms Penelope Figgis AO	IUCN World Commission on Protected Areas
Ms Virginia Haussegger AM	50/50 by 2030 Foundation Institute for Governance and Policy Analysis
Ms Emma Herd	Investor Group on Climate Change
Mr Dermot O’Gorman	World Wildlife Fund
Professor Will Steffen	Australian National University
Ms Angharad Wyne-Jones	Arts Centre Melbourne

## 2020 MEMBERS





## 2020 COLLABORATORS

Future Earth Australia would like to thank the following people for making our 2020 program a success.

### SRI2021

#### Executive Committee and Logistics Committee

Dr Erica Key	Belmont Forum
Professor Joshua Tewksbury	Future Earth
Professor Paul Bertsch	Science Director, Land and Water CSIRO
Professor Hugh Possingham	Queensland Chief Scientist
Kylie Kraus	Office of the Queensland Chief Scientist
Dr Judit Ungvari-Martin	Belmont Forum
Dr Veera Mitzner	Future Earth US Hub
Dr Maria Fernanda Enriquez	Future Earth US Hub
Hannah Moench	Future Earth US Hub
Laurel Milliken	Future Earth
Jon Walton	Future Earth
Dr Makyba Charles-Ayinde	Belmont Forum
Samuel Stacey	Cultivate Communications

#### Local Organising Committee

Professor Chris Cocklin	James Cook University
Professor Martin Nakata	James Cook University
Dr Belinda Wade	University of Queensland
Dr Jim Walker	University of Queensland
Associate Professor Grant Hamilton	Queensland University of Technology
Associate Professor Tan Yigitcanlar	Queensland University of Technology
Professor Stuart Bunn	Griffith University
Dr Johanna Nalau	Griffith University
Professor Brendan Mackey	Griffith University
Dr Mark Stafford Smith	CSIRO
Professor Paul Bertsch	CSIRO

## Sustainable Oceans and Coasts

### Expert Working Group

Alan Stokes	Australian Coastal Council Association
Dr Alistair Hobday	CSIRO
Professor Anja Scheffers	Southern Cross University
Professor Barbara Norman	University of Canberra
Dr Beth Fulton	CSIRO
Professor Bronwyn Gillanders	University of Adelaide
Professor Bruce Thom	University of Sydney
Professor Chris Cocklin	James Cook University
Professor Daud Hassan	Western Sydney University
Dorean Erhart	Local Government Association of Queensland
Professor Emma Johnston	University of New South Wales
Professor Erika Techera	University of Western Australia
Professor Gretta Pecl	University of Tasmania
Professor Jean Palutikof	Griffith University
Jo Ludbrook	Peron Naturaliste Partnership
Dr Karen Evans	CSIRO
Dr Ken Anthony	AIMS
Manuwuri Traceylee Forester	AIMS
Dr Mark Stafford Smith	CSIRO
Professor Martin Nakata	James Cook University
Associate Professor Melissa Nursey-Bray	University of Adelaide
Dr Mitchell Harley	University of New South Wales
Professor Nick Harvey	University of Adelaide
Dr Pedro Fidelman	University of Queensland
Professor Peter Klinken	Chief Scientist of Western Australia
Associate Professor Peter Macreadie	Deakin University
Dr Rick Fletcher	DPIRD Western Australia
Professor Rodger Tomlinson	Griffith University
Stephanie Thornton	Australian Ocean Energy Group
Dr Steve Hill	Geoscience Australia
Professor Tim Smith	University of Sunshine Coast
Associate Professor William Glamore	University of New South Wales



## Workshop Facilitators

Dr Annie Lau	University of Queensland
Dr Rebecca Olive	University of Queensland
Dr Tessa Mazor	University of Queensland
Scott Spillas	University of Queensland
Dr Ingrid Ward	University of Western Australia
Dr Andrew Pomeroy	University of Western Australia
Dr Rebecca Wellard	University of Western Australia
Dr Ana Martins Sequeira	University of Western Australia
Kevin Montanaro	University of Tasmania
Dr Veronica Toral-Granda	Charles Darwin University
Dr Krystal Keller	Charles Darwin University
Dr Claire Phillips	Geoscience Australia
Matthew Teh	Geoscience Australia
Naomi Edwards	Griffith University
Jemma Purandare	Griffith University
Estefania Arteaga	Griffith University
Dr Navodha Dissanayake	Griffith University
Dr Jasmin Martino	University of South Australia
Jingyu Lin	Deakin University
Christina Ting	EAROPH Australia
Dr Nina Kamcev	Monash University
Dr Sean Williamson	Monash University
Dr Liz Ota	University of the Sunshine Coast
Dr Dora Carias	University of the Sunshine Coast

## Early-Career Researchers and Practitioners Program

### Beyond SDG 11: A Focus on Urban Transformations

Professor Juan Salazar	Western Sydney University
Professor Jago Dodson	RMIT University
Associate Professor Lauren Rickards	RMIT University
Professor Tim Smith	University of the Sunshine Coast
Dr Megan Evans	University of New South Wales
Johanna Nalau	Griffith University

## ECRP Webinar Series: Oceans and Coasts

Professor Anja Scheffers	Southern Cross University
Dr Kirsty Nash	University of Tasmania
Associate Professor Jodie Rummer	James Cook University
Dr Rachel Przeslawski	Geoscience Australia

## Securing Australia's Future: Reimagining Climate Adaptation

### Working Group

Professor David Schlosberg	University of Sydney
Professor Juan Salazar	Western Sydney University
Emeritus Professor Stephen Dovers	Australian National University
Dr Mark Stafford Smith	CSIRO
Dr Johanna Nalau	Griffith University
Dr Andrew Ash	AJ Ash and Associates; University of Queensland

### National Climate Adaptation Roundtable Participants

Parry Agius	Linking Futures
Kate Auty	Environment Protection Agency Victoria
Karen Avery	Northern Territory Office of Climate Change
Paul Bertsch	CSIRO
Sarah Boulter	National Climate Change Adaptation and Research Facility
Keith Bradby	Gondwanalink
Judith Bruinsma	Western Sydney Regional Organisation of Councils
Donovan Burton	Climate Planning
Karen Cain	La Trobe Valley Authority
Matthew Chesnais	Queensland Fire and Emergency Services
Jen Cleary	Centacare Catholic Care South Australia
Neil Cliffe	Department of Agriculture and Fisheries
Jane Colton	Tasmania Climate Change Office
James Duggie	Western Australia Department of Environment
Bhiamie Eckford-Williamson	Centre for Aboriginal Economic Policy Research, Australian National University
Dorean Erhart	Local Government Association of Queensland
Diane Favier	South Australia Department for Environment and Water
Michael-Shawn Fletcher	Division of Science, University of Melbourne



<b>Brian Foster</b>	Eyre Peninsula Natural Resource Management Group
<b>Katrina Graham</b>	City of Hobart
<b>Rebecca Harris</b>	Climate Futures, University of Tasmania
<b>Arnagretta Hunter</b>	Doctors for the Environment
<b>Ruth Irwin</b>	Mosman Council
<b>Sarah Joyce</b>	Western Australia Department of Health
<b>Rebecca Lang</b>	Climate Space
<b>Eric Lede</b>	City of Darwin
<b>Joanne Ludbrook</b>	South West and Peel Coastal Management Group
<b>Jeremy Mansfield</b>	Lendlease
<b>Garry Middle</b>	Western Australia Local Government Authority
<b>Nick Post</b>	Department of Agriculture, Water and the Environment
<b>Mark Siebentritt</b>	Edge Environment
<b>Rodrick Simpson</b>	Greater Sydney Commission
<b>Ian Southall</b>	La Trobe Valley Community Power Hub
<b>Bob Speirs</b>	Community Groups on Adaptation
<b>John Thwaites</b>	Monash Sustainable Development Institute
<b>Blair Trewin</b>	Bureau of Meteorology
<b>Zoe Whitton</b>	Citi Bank, Investor Group on Climate Change
<b>Cecilia Woolford</b>	Outback Areas

### Community Science for Sustainability

<b>Dr Natasha Udu-gama</b>	AGUs Thriving Earth Exchange
<b>Dr Raj Pandya</b>	AGUs Thriving Earth Exchange
<b>Kelly McCarthy</b>	AGUs Thriving Earth Exchange
<b>Denise Parry</b>	Tallangatta Health Service
<b>Casey Fahey</b>	Tallangatta Health Service
<b>Professor Tim Cavagnaro</b>	University of Adelaide
<b>Julian Sharp</b>	Warren Catchments Council
<b>Emeritus Professor John Bailey</b>	Murdoch University; Warren Catchments Council
<b>Dr Kathleen Broderick</b>	Broderick & Associates; ANU



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