AGTA News

EDITION 1, 2024

Wet Season thunderstorm near Katherine, NT

Image courtesy of - Marg Girdham

geographia

www.agta.au

EDITOR'S NOTE

I am very pleased to provide you with the first edition of Geographia for 2024!

The journal is a fantastic way to keep abreast of the work of the geography teachers associations across the country, and builds on the spirit of cooperation between members that is a core element of the Australian Geography Teachers Association. Each of our member associations is different in scope and character, each with different needs and strengths. In my own association in the Northern Territory, we are characterised by a small population stretched across a large geographical area. Many of our students are engaged in exciting and innovative programs that centres Country - and by extension, geography - yet the great distances involved make it hard for teachers to collaborate and engage with each other. It is for this reason that associations are so essential to the business of teaching - experienced, enthusiastic teachers who give their time (mostly voluntarily) to build passion and competence in their peers and to learn from each other.

This national collaboration will reach its peak in October as the biennial AGTA conference will bring educators from across Australia together to learn, network, share ideas and strengthen the geography discipline. We in the NT are excited - notwithstanding the additional workload! - to be hosting the conference. We are currently putting the final touches to the program and look forward to sharing the full suite of lectures, workshops, field trips and social events with everyone in early August. We would love to see as many people attend as possible!

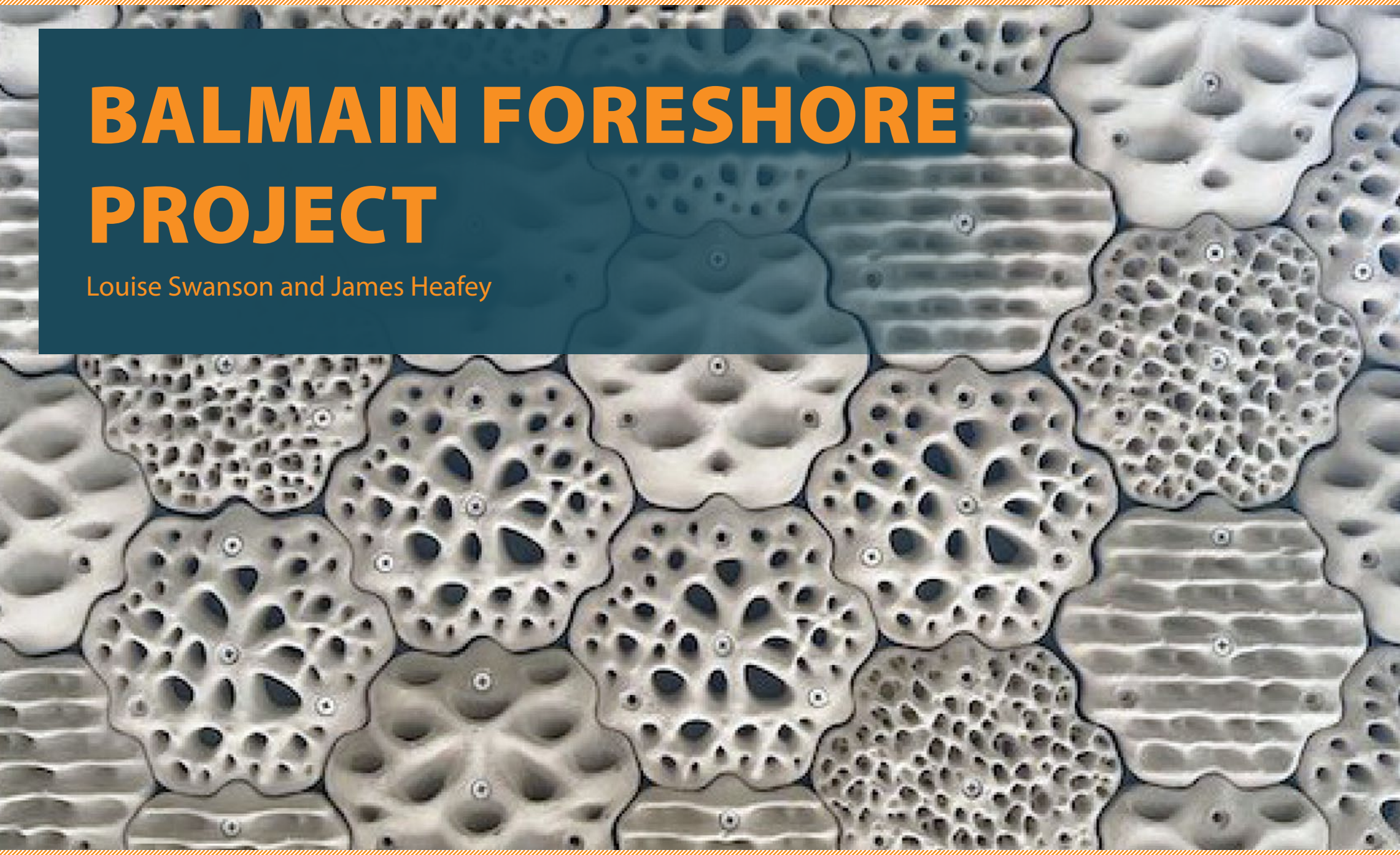
Thank you to our NSW/ACT and Victorian affiliates for sharing some articles with us for Geographia. We have also selected two articles of interest from The Conversation. We hope that these articles will add to the information shared by our affiliates and that reading it will build on your professional knowledge and understanding. As always, we welcome any and all submissions!

Regards

Steve Hawkins
Geographia editor

BALMAIN FORESHORE PROJECT

Louise Swanson and James Heafey



THE BALMAIN FORESHORE PROJECT IS AN INITIATIVE TO PROVIDE A SPECIALISED PROGRAM

involving more challenge and incorporates highly differentiated learning to extend and engage high potential and gifted students in Year 10. It involves the development of a cross-curriculum unit of work, incorporating critical thinking and focusing on research and hands-on application of research to plan to rehabilitate a section of Balmain

foreshore on school grounds.

The following staff contributed to this project: Louise Swanson, Mitch Arvidson, James Heafey, Raheela El-Rakshy, Dr Chris Brunner, David McDermott, and Thomas Quinne. The project was trialed at the end of 2022 for a short period with Year 10 2022, then fully implemented with a new group of Year 10 students in 2023. It is anticipated that this will be an ongoing program for one Year 10 class each year moving forward. While the main objective of the Balmain Foreshore Project will remain the same, there may be small shifts of emphasis each year.

Teaching and learning

The project resulted in the creation of a specific teaching and learning program for the Stage 5 Enrichment class which focuses on the core subjects of Geography and Science, but draws on expertise developed in various subjects. The project engages students in practical, hands on learning, creates a community connection by involving students in the monitoring and rehabilitation of a local environment, meaningfully engages students with wider political and community discussions and issues, and provides a solutions focus - not focusing only on problems, but how students can bring about positive change and be active citizens

Project Overview - Enriching the Balmain Foreshore

Why?	What?	How?	Result
What is the issue to be addressed?	What is the strategy to address the issue?	How will the strategy be supported?	The outcome of the project
Enrichment	On-site Environmental Sustainability	Professional networks	Program Renovation
The SSC Balmain Enrichment program requires a more specialised program involving more challenge and differentiation to extend and engage students.	A cross-curriculum unit of work will be developed, incorporating critical thinking and focusing on research and hands-on application of research to rehabilitate a section of Balmain foreshore on school grounds.	Interagency professional learning networks will be developed to draw on expertise to access research to support the development of learning activities, and build teacher capacity.	Creation of a specific teaching and learning program for Stage 5 Enrichment which focuses on core subjects of Geography and Science.

Real world issues

The Balmain Foreshore Project provides opportunities for students to engage in multi-week projects which address environmental issues in our community. The plan of the project is for students in Years 9 and 10 in Geography topics such as Biomes and Environmental Change and Management to engage in a single monitoring and rehabilitation project. Each year group and each year will have the opportunity to choose a focus from issues such as marine pollution, sustainable moorings, seawall panels, Intermediate Bulk Container aquaponics, seagrass planting, or crayweed planting.

Active citizenship

In the Environmental Change and Management topic in Geography, students are required to propose how individuals can contribute to achieving environmental sustainability for the environment. The section of school property along the water's edge allows public access to the Bay Walk and is a thoroughfare accessed by members of the public. The project and associated installations provide a unique opportunity for our school to contribute to environmental sustainability, teach students about their community responsibilities, and inform the public about environmental issues affecting the local community. Towards the end of 2023, members of the local community approached involved teachers to make monetary donations and offer their waterfront property for similar projects.

In addition, an expression of interest was promoted calling for interested students to become part of the Balmain Foreshore Management group. This group of students were more actively involved in decision-making, planning and implementation of the project and worked with a group of teachers to ensure the continued progress of the project, even outside of the programmed unit of work. These students gained a unique understanding of the complexities of dealing with multiple levels of government, different groups and organisations in trying to achieve goals.

Professional Learning Networks

The project has been facilitated by targeted professional learning of a group of teachers through creating a professional learning network with staff in a number of organisations to draw on expertise and access research to support the development of learning activities, and build teacher capacity. Advice was sought from a range of experts in the initial phase including the climate curator from the Australian Museum, the Climate Council, and the Australian National University. In addition to making direct professional connections, staff have used social media to learn about related programs and initiatives such as Operation Posidonia, Operation Crayweed and Operation Straw. As the project developed, the team sought advice from and collaborated with the Project Manager at Living Seawalls, Managing Director at the Harding Miller Foundation, and a number fo staff at the Australian National Maritime Museum. These connections were imperative in developing skills and knowledge of our teachers, providing feedback and guidance on our project and engaging our students and school with exciting and innovative projects in our community.

Project funding

Initial funding of several thousand dollars was provided from the school Parents and Citizens for purchase of educational resources and an underwater drone. The project team applied for and the school received a $10,000 Community Grant from Transurban for the continuation of the Balmain Foreshore Project in 2023. There were three main, large expenditures in the proposal – the installation of Living Seawall panels,a backsaver crane and signage.

Funds were allocated to purchase and install Living Seawall panels on the seawall on school property in an attempt to improve water quality and encourage greater biodiversity in the local waterway. Additionally, funds were allocated to install a backsaver crane to assist in moving watercraft from the school grounds into the water more easily, to enable better student access to the water for environmental investigations such as water testing and more extensive use of the underwater drone. Large signage is being installed to inform students and the public about the purpose of Living Seawalls and the crane, and includes student learning activities in Geography and Science to encourage continued learning into the future about the topic of environmental change and management in a local context.

Risk Assessment

It is important to note that a lot of time and effort was spent throughout the project on assessing risks and making judgements about the appropriateness of activities for both staff and students. Underwater drones were used, as the risk of students snorkeling in the waters near the school was deemed too high due to no shark netting and data from shark tagging and reports of bull sharks. Students were only allowed to be involved in the installation of the seawall panels in a very limited way, and detailed Workplace Health and Safety discussions took place to ensure the safety of staff involved in the installation.

Project Description

Trial Activities

In Term 4, 2022, a range of trial activities was run for the Balmain Foreshore Project, following the end of formal assessment tasks for Year 10 in Term 4. This time period was chosen for the trial activities because it is a low risk, low stakes period, and enabled teachers to experiment without impacting on report results, exams, etc. These included individual, hands on activities, excursions and a guest presenter. Only limited teaching of content occurred during the trial due to limited time available. In this trial period, students assessed the focus area, which is on the border of the school. They have completed an environmental assessment and undertaken field sketches. These trial activities were undertaken to study the Balmain Foreshore in the context of examining Environmental Change and Management (Year 10) of Sydney Harbour and Parramatta River. It relates to the Living World Topic in Science as well as a few components of the Chemical World.

Implementing the project

The first full implementation of the project occurred during the second half of Term 1, 2023. It resulted in a separate teaching and learning program for the Year 10 Enrichment class, including different content and learning activities. The students also had a differentiated assessment task.

TEACHING AND LEARNING ACTIVITIES HAVE INCLUDED:

- Sustainability Workshop with Australian Museum and discussions about how the project will operate
- Participation in Clean Up Australia Day, including a rubbish count and analysis
- Guest Speaker from Rozelle Interchange
- Weed assessment on site and some weed removal
- A full day of fieldwork and smaller fieldwork activities – water testing, field sketches, underwater and aerial drone activities, initial surveys of local mangroves
- Living Seawalls workshop

Sustainability Workshop

Students participated in a workshop with Dr Jenny Newell, the climate change curator at the Australian Museum. The group was involved in a discussion of the global context of environmental change and management including climate change and the sensitivity of environments, global actions that address climate change and personal responsibility around environmental issues. They also explored how the Balmain Foreshore Project, a local initiative, fits into this wider context, and how they can make a positive contribution to their community.

Students participating in the Sustainability Workshop

Rozelle Interchange Presentation

Charles Scarf, Environmental Manager with Rozelle Interchange & Western Harbour Tunnel spoke about their project, geology of the site and the environmental impact process they had to follow to get approval. This provided students with a broader context of human impacts on the catchment, and related to a contentious issue within the community.

Students participating in the Rozelle Interchange presentation

Overall site assessment, weed assessment and Clean Up Australia Day

Balmain Campus has been lucky to have an ongoing bushcare group who work on the slope, and sandstone cliffs leading down to the water's edge to conserve and restore this rare patch of remnant bushland. Students undertook an initial assessment of this area, and highlighted concerns about rubbish which could enter Balmain Cove and the weeds growing between the remnant bushland and Balmain Cove. Students participated in Clean Up Australia Day, completed a rubbish count and analysis and completed a weed assessment on site and some weed removal.

Overgrown foreshore area Image

Foreshore debris includes bicycles

Fieldwork

The students undertook a full day of fieldwork and a few shorter sessions, which included water testing, field sketches, underwater and aerial drone activities around the Bay Walk and on Cockatoo Island. Students went on an excursion to Cockatoo Island to learn about the history of the harbour and the different ways that the harbour has been used, and also visited East Balmain Wharf to look at Living Sea Walls.

Students undertook monitoring of local mangroves using GPS mapping, photography and observation. The site maps below indicate the locations where samples were taken with areas of litter concern highlighted with a star symbol. The table below details the geographical locations and highlights the water conditions of each location.

Whilst data collected indicated some areas of concern it is important to note that the ANZECC guidelines do not have lower or upper concentration limits for wetlands and as such the class measured limits against the lower and upper concentration limits for estuarine conditions. The testing was conducted during low tide amongst highly disturbed urban mangrove systems, working dry docks, active ferry terminals and a public wharf at the school boundary. It is also of importance to note, for transparency, that the water testing kits used were for household fish tanks and future purpose fit testing kits should be acquired to allow for accuracy and reliability of testing and as such, although the results should be viewed as alarming, they are unreliable.

Groups of students undertook aerial surveys of the focus area with the school's drones. These are intended to be used by students in future year groups to undertake comparisons to determine change over time. In total, around 20 aerial photos were taken as well as some video footage.

By using both aerial and underwater drones, students could observe mangrove distribution, seagrass and seaweed distribution close to the school site.

TOP LEFT

Site map 1 - Image highlighting the location of the sample sites for Sutherland & Fitzroy docks as well as the Cockatoo Island Ferry Wharf. Photo courtesy of Nearmap, 2023.

CENTER LEFT

Students visiting Cockatoo Island

BOTTOM LEFT

Students about to undertake fieldwork on local mangroves and one of the fieldwork sites.

TOP RIGHT

Image highlighting mangrove sample sites 1, 2 & 3 as well as areas of litter concern within the Balmain Foreshore Project area. Image courtesy of Google Maps, 2023

BOTTOM RIGHT

A student receiving instruction on using the aerial drone.

Living Seawalls workshop

Students attended a workshop with Dr Aria Lee, Project Manager of Living Seawalls. Students learnt about the research and development behind the concept of Living Seawalls, the locations where they can be found around Sydney Harbour and globally, and the ecological benefits of Living Seawalls. Part of the workshop included students designing their own seawall panels.

Living Seawalls are concrete panels which have been designed in collaboration with the Reef Design Lab and the Sydney Institute of Marine Sciences. They have a variety of textures and crevices which, when attached to a sea wall to encourage the habitation of a diverse range of aquatic organisms, to improve water quality and encourage greater biodiversity.

Seawall - Pre-installation activity

Students collected baseline data to identify the diversity of species currently inhabiting the existing concrete seawall. Students worked with Dr Rosie Steinberg, from Macquarie University, to study and narrow down the site where the first batch of seawall panels were to be installed.

Baseline data of sessile (fixed) and mobile organisms in the selected test areas were recorded. After conducting quadrat sampling at the tidal areas bordering the school, the students determined the best location for the seawall panels.

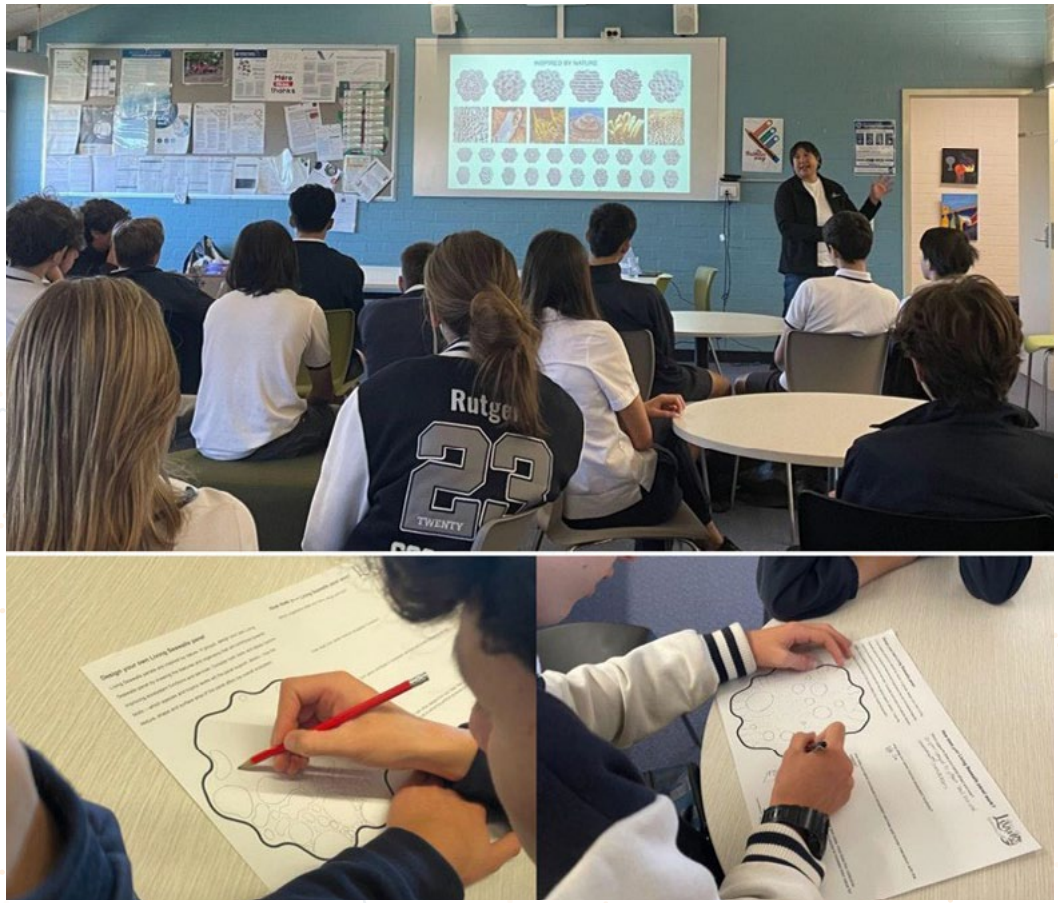
Alongside the 2023 Year 10 students, were the Year 9 Enrichment students. The purpose of involving the Year 9 students was to provide them with a basic introduction and familiarity with the project and site prior to involvement when they move into Year 10. The intention moving forward is for the project to include a longitudinal study to investigate change over time in species diversity. Future students will be able to track the progress of the initiative with reference from data collected at the end of 2023.

Seawall - Pre-installation activity

Students collected baseline data to identify the diversity of species currently inhabiting the existing concrete seawall. Students worked with Dr Rosie Steinberg, from Macquarie University, to study and narrow down the site where the first batch of seawall panels were to be installed.

Baseline data of sessile (fixed) and mobile organisms in the selected test areas were recorded. After conducting quadrat sampling at the tidal areas bordering the school, the students determined the best location for the seawall panels.

Alongside the 2023 Year 10 students, were the Year 9 Enrichment students. The purpose of involving the Year 9 students was to provide them with a basic introduction and familiarity with the project and site prior to involvement when they move into Year 10. The intention moving forward is for the project to include a longitudinal study to investigate change over time in species diversity. Future students will be able to track the progress of the initiative with reference from data collected at the end of 2023.



Students participating in the Living Seawalls workshop

The existing seawall (above), and student participating in the pre-installation surveys

Seawall installation

The Living Seawall panels were installed by our General Assistant, Miguel Perez with support from our project staff team, and some students in the Project Management Team. They were very heavy and difficult to move and affix. Given that the work was outside of the scope of the usual work for those involved, on reflection it would have been more efficient to hire contractors to undertake the installation, but it would also have been much more costly.

Snorkeling - Cabbage Tree Bay, Manly

The Year 10 Enrichment class participated in a snorkeling excursion at Cabbage Tree Bay Aquatic Reserve in Manly as a conclusion to their involvement in the Balmain Foreshore Project. We were unable to allow the students to snorkel at our project site due to the risk of bull sharks and regular low visibility also made it less desirable. Cabbage Tree Bay was chosen as an alternate excursion site as it had Living Seawall panels installed in 2018. The excursion was a fun event that aimed to consolidate all the learning that occurred over 2023. Students were taught basic snorkel survival skills and

introduced to the various sea life thriving in a healthy marine ecosystem. Students were able to view established sea wall panels, artificial reefs and re-established fields of seagrass. Whilst visibility was not the greatest due to the environmental factors of the day, students were still able to identify a Wobbegong shark, Gropers and various school fish.

Boat restoration and crane installation

As part of a previous program, several years ago Work Education students, working under the guidance of the Australian National Maritime Museum built a wooden St Ayles Skiff. The boat was donated to the school with the intention of it being used by students to explore environmental aspects of the foreshore. During the Balmain Foreshore Project, the Australian National Maritime Museum maintained and restored the student-built skiff, and returned it to the school as part of a celebration for the project at the end of the year. To make the boat more user friendly for our students and enable better use in environmental education, part of the Balmain Foreshore Project involved the installation of a crane with extendable boom to allow the boat to be easily moved into and out of the water.

The Balmain Foreshore Project is an example of differentiation in teaching of high potential and gifted students. Our aim in implementing this project was to provide a specialised teaching and learning program involving more challenging activities and assessment strategies to extend and engage our Enrichment students. The Balmain Foreshore Project provided a unique opportunity for our school to contribute to environmental sustainability, teach students about their community responsibilities, and inform the public about environmental issues affecting the local community.

Installation of the Living Seawall panels

Students snorkeling at Cabbage Tree Bay

Restoration and maintenance of the student-built St Ayles skiff by the Australian National Maritime Museum.

REFERENCES

Australian and New Zealand Environment and Conservation Council. (2000). National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality.

https://www.waterquality.gov.au/sites/default/ files/documents/anzecc-armcanz-2000-guidelines-vol1.pdf

Boguski, T. (2006). Understanding Units of Measurements. Environmental Science and Technology Briefs for Citizens.

https:// cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.files/fileid/14285#:~:text=For%20water%2C%201%20 ppm%20%3D%20approximately,equal%20to%206%2C000%20ug%2 FL.

CONCEPTS IN PRIMARY SCHOOL

From Associate Professor Alaric Maude

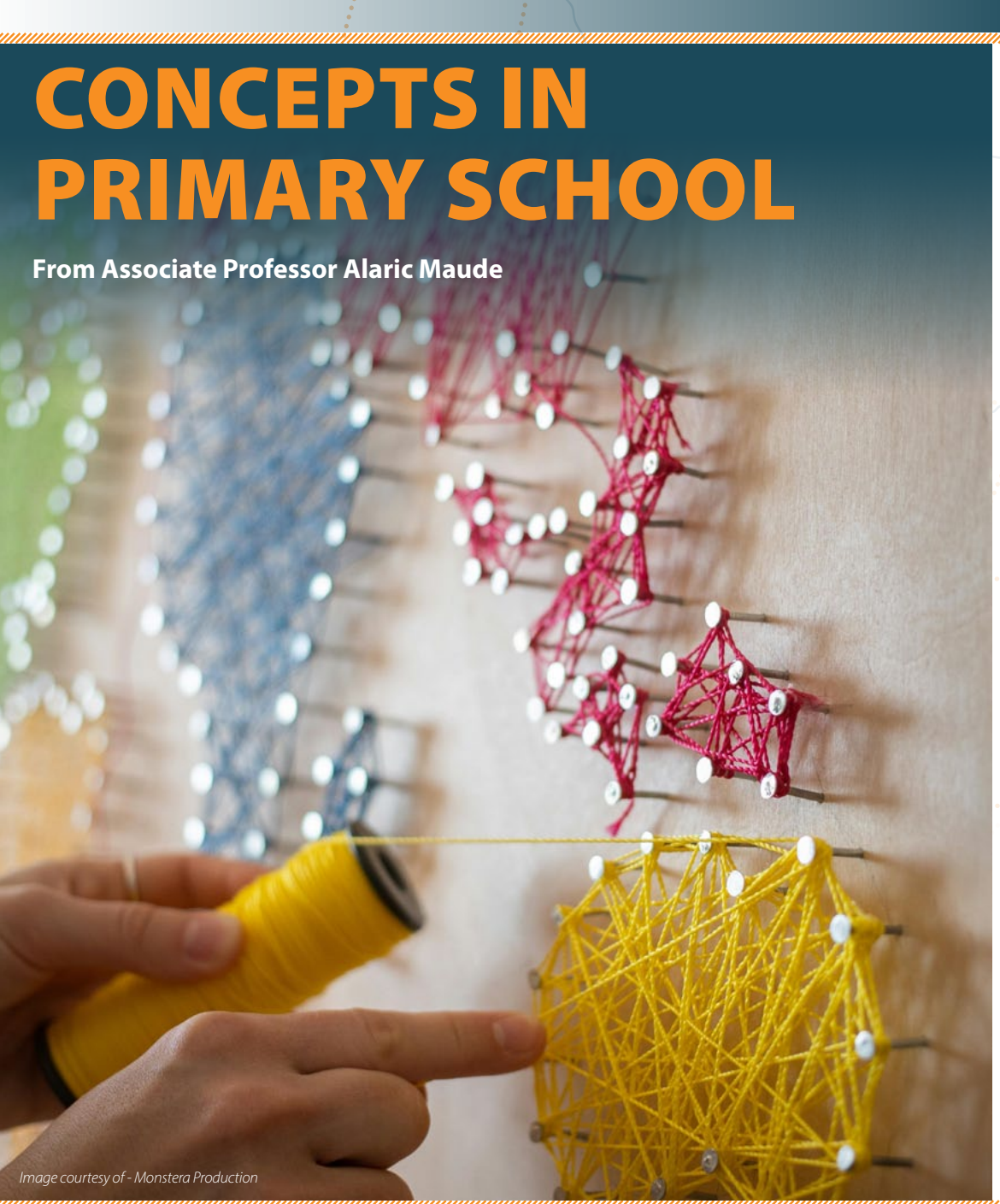


Image courtesy of - Monstera Production

WHY ARE CONCEPTS IMPORTANT?

Geography has a wide range of concepts with a wide range of functions. The simplest are substantive or descriptive ones that help students to make sense of a collection of facts by integrating them into a single idea. The concept of weather, for example, integrates

the concepts of temperature, rainfall, wind and sunshine into a single idea. More complex concepts describe processes by integrating several smaller ideas into one or two words. The concept of 'climate', for example, combines data on seasonal variations in precipitation, temperature and evaporation for places and regions,

so that the term 'Mediterranean climate' tells one what types of weather to expect throughout the year. The concept of urbanisation combines ideas about how economic change, migration and urban development change the spatial distribution of population and economic activity in a country, which in turn contributes to profound economic, social and political changes.

Similarly, the concept of weathering describes a process in which rock is broken into smaller fragments by mechanisms such as freezing and thawing, heating, chemical solution and penetration by the roots of plants.

It is also argued that concepts such as these help students to retain factual information longer because they have had to process it through the framework of a concept (Erickson, Lanning & French, 2017, p. 13), while the concept in turn will remind them of the information it integrates. Abstract concepts learned from one set

of facts, such as inequality, can also be applied to a wide range of other facts that illustrate the same idea (Marschall & French, 2018, 13–14).

Chalmers, Carter, Cooper, and Nason, 2017 add further support for the value of concepts, which they call big ideas, in this passage from an article on STEM education:

Much support for the educational efficacy of incorporating big ideas of and about STEM into the design of curriculum emanates from cognitive science. Within the field of cognitive science, it has

been known for many years that the understanding of big ideas (a) leads to more flexible and generalizable knowledge use, (b) improves problem- solving, (c) makes it easier to make sense of and master new facts and procedures, and (d) facilitates transfer of knowledge (p. 27).

More importantly, concepts are essential to the intellectual development of students because, as Young argues, this development 'is a concept-based not a content-based or skill-based process' (Young, 2010, p. 25). Similarly, Little writes that 'within a concept-focused structure, the attention can be given to reasoning and meaning-making rather than to … a "parade of facts"' (Little, 2017, p. 44).

Concepts are what makes geography 'geographical'

The seven concepts in the Australian Geography are at a higher and more abstract level than those described above, and they have the important function of making geography a distinctive subject. They give the subject coherence, linking the different topics studied in

school geography through shared concepts and the ways of thinking they produce, as explained by the UK Geographical Association:

Geography is a content-rich subject and concepts provide an underlying structure. Many topics

in geography exemplify the same conceptual understanding, so it is important for learners to understand concepts so that they do not see geography as an accumulation of 'content' and 'facts' (Geographical Association, n.d.).

They describe themes that continually recur in geographical research, such as the interrelationships between people and their biophysical environment (which combines the concepts of environment and interconnection), or the spatial changes that accompany economic development (which is informed by the concept of space). They also guide the questions that geographers ask. The concept of space, for example, informs the common question 'where, and why there?', while the concept of place prompts the question 'why

is this place like it is?' Combined with the analytical concept of time, the latter question becomes 'how is this place changing, and why?' They provide frameworks for organising and analysing information. For example, the concept of space underlies the common geographical method of organising data by mapping them and

then looking for regularities or patterns in the spatial distributions produced. Similarly, the concept of interconnection underlies analyses that identify the interrelationships between phenomena, such as within an ecosystem or between places, while the common method of exploring possible causal relationships by comparing spatial distributions is also an application of the concept of space.

Geography's key concepts provide distinctive ways of viewing and interrogating the world. For example, the processes and patterns of socioeconomic change as nations develop will be perceived differently by different disciplines. An economist

is likely to focus on changes in the structure of the economy, a political scientist on changes in political institutions, and a sociologist on changes in class structures, personal beliefs, or gender relations. A geographer, on the other hand, is likely to study the causes and consequences of the spatial changes that both result from and contribute to national

socioeconomic change, such as urbanisation, internal and international migration, and the development

of new economic regions and cities. In the study of health, a medical scientist might focus on the effects of individual characteristics such as age, sex, and occupation on health outcomes, while a geographer might study the effects of the physical and social environment of the place in which people live (a place-based perspective), or of accessibility

to health services (a spatial perspective), on their health. The ways of thinking of different disciplines consequently influence how they perceive and study the same phenomena.

The seven concepts are what makes geography 'geographical'. Place, space, environment and interconnection in particular develop ways of thinking that are not taught in other school subjects.

Which concepts are appropriate for primary school?

All the Australian curriculum's seven concepts — place, space, environment, interconnection, scale, change and sustainability — can be used in primary school, but only if they are unpacked into more specific ideas that students can follow. This unpacking is explained here.

The key concepts are complex and very abstract ones, and unlikely to make much initial sense to students. To understand them it is first essential to recognise that they are ideas that we think with, not objects that we study. For example, while places

are parts of the Earth's surface that have been defined, named and given meaning by people, the concept of place is about ways of thinking that are based on the significance and influence of places. Second, they are not substantive concepts like 'city' or 'climate', which are about the substance of geography, but are meta-concepts, or concepts about concepts. Consequently, they are difficult to

define in a single sentence because they have more

than one dimension. As 'complex assemblages of interconnected smaller ideas' (Michael, 2017, p. 37), to borrow from work on key concepts in physiology, they must be unpacked for students to gain a clear idea of what they mean and how to use them. For example, the concept of space includes eleven different ideas—absolute location, relative location, distance, time-space convergence, accessibility, centrality, proximity, remoteness, spatial distribution, diffusion, and the organisation of space—as well as four different ways of conceptualising space. Space, like the other core concepts, is consequently a simple word that covers many ideas, and all of these need to be understood before a student can adequately comprehend the meaning of space in geography. As an example, here is a set of statements that describe the main ideas within the concept of place.

1. Places are parts of the Earth's surface that have been identified and given meaning by people, but these identities and meanings may differ between cultural and social groups.
2. Each place is unique in its characteristics and relationships with other places, and consequently the outcomes of similar environmental and socioeconomic processes may vary between places, and similar problems may require different strategies in different places.
3. Places provide people with the services and facilities needed to support and enhance their lives, but unequally between places and between people within places.
4. The characteristics and location of a place have an influence on the health, educational attainment, aspirations and economic opportunities of its population.
5. For many people, attachment to a place or places is important for their identity and sense of belonging, but increasing mobility and the use of telecommunication technologies may be expanding the number of places to which people feel an attachment.
6. Places can be used as laboratories for the analysis of the interrelationships between environmental and human variables, and causal relationships can be investigated through a controlled comparison of places.
7. Place provides a conceptual framework for a range of social, economic and environmental initiatives.

These statements describe the various ways in which places, as the geographical context in which we live our lives and events happen, influence our lives and these events, and they are expressions of ways of understanding the concept of place. Note that this is an example of how a key geographical concept could be unpacked, and not necessarily how it should be. There is no definitive or correct way to unpack the concepts, and teachers can develop ones that they think are most appropriate for their situation. In primary school, only statements 1, 3 and 5 are likely to be relevant to the content of the curriculum.

The difference between space and place

The difference between space and place is sometimes unclear, and academic geographers sometimes use the terms loosely, so it may help to try to differentiate between them. As a geographical concept, space is about location, distance, spatial distribution and spatial organisation, and their influence on the environment, people and societies. Place, on the other hand, is about the characteristics of the areas of the Earth's surface we identify as places, and their influence on environmental and human processes and phenomena. Very simply, space is about 'where', and place is about 'what is there'.

Teaching the concepts

CONCEPTS SHOULD NOT BE TAUGHT ON THEIR OWN.
INSTEAD, ELEANOR RAWLING (2007) ADVISES THAT:

The key to using big concepts in a teaching and learning situation is first to build a thorough understanding of the simpler ideas in a variety of contexts. To understand space, for example, it is useful to have first understood ideas about location, distribution, pattern, interaction, distance and scale and to have studied these ideas in the context of a variety of physical and human features (p. 24).

Similarly, Margaret Roberts (2023) writes:

During their practice of geography, students will gradually develop understanding of its key concepts of place, space, environment and interconnection and its many substantive concepts e.g., erosion, ecosystems, globalisation, and urbanisation. It is through repeated encounters with key and substantive concepts, applied at a range of scales in different local, national and global contexts, that students deepen their conceptual understanding (p. 75).

When teachers should discuss the major concepts depends on the content of the curriculum. For example, if students have identified the activities in their place, located them on a pictorial map and discussed why they are located where they are (which is an item that has been in the curriculum), teachers could explain that location is part of the concept of space. Space is the big idea that includes location. Later in primary school. students could be examining the spatial

distribution of climates or vegetation, and teachers could discuss how spatial distribution also belongs to the big idea of space. Over time, students should gain some understanding of what the big conceptual ideas mean, but they will do so through an accumulation of factual knowledge, and not by being taught the concept separate from factual knowledge.

Image courtesy of - Monstera Production

CONCEPT	CONTENT
Place	• The places people live in and belong to, and why they are important to them. • The Country/Place in which the school is located and the importance of Country/Place to Aboriginal and Torres Strait Islander Peoples. • Places as parts of Earth's surface that have been named and given meaning by people, and people's attachments to them. Why their place is like it is, how it is changing and how change is managed.
Interconnection	• People's interconnections with places in Australia and the world. • The interconnections of Aboriginal and Torres Strait Islander Peoples with Country/ Place. • The relationship between climate and vegetation. • The main characteristics of the geography of the continents of South America and/or Africa, the location of their major countries and the interconnections of these countries with Australia. • The main characteristics of the geography of the continents of Europe and North America, the location of their major countries and the interconnections of these countries with Australia. • The geographical diversity of the Asia-Pacific region, the location of its major countries and their interconnections with Australia.
Space	• The representation of Australia as states and territories and Countries/Places (0rganisation of space). • Activities in the local place, such as retailing, recreation, manufacturing, farming, education and commercial, and reasons for their location. • The influence of distance on the frequency with which they visit other places. • The concepts of climate and climate change, and the characteristics and location of the main climatic types in Australia and the world, such as the temperate, Mediterranean and arid climates. • The characteristics and location of the main types of vegetation in Australia and the world, such as forest, woodland, savannah, grassland and desert. • Differences in the economic, demographic, social and cultural characteristics of countries across the world.
Change	• The natural and constructed features of places, how they change and how they can be cared for. • Why their place is like it is, how it is changing and how change is managed.
Sustainability	• The meaning of sustainability and its application to the use of natural resources and the management of waste. • The custodial responsibility Aboriginal and Torres Strait Islander Peoples have for Country/Place and how it influences their sustainability practices.
Environment	• Comparing Aboriginal and Torres Strait Islander Peoples' and European seasonal calendars. • The concept of climate. • The functions of vegetation in the environment. • The functions of the environment that support people's lives and wellbeing. • The impacts of bushfires on environments and communities and how people can respond through prevention, preparedness, response and recovery.
Scale	• How places can be spatially represented from local to national scales.

References

Chalmers, C., Carter, M., Cooper, T., & Nason, R. (2017). Implementing 'big ideas' to advance the teaching and learning of science, technology, engineering, and mathematics (STEM). International Journal of Science and Mathematics Education, 15, 25–43. https://link.springer.com/article/10.1007/s10763-017-9799-1

Erickson, H. L., Lanning, L. A., & French, R. (2017). Concept-based curriculum and instruction for the thinking classroom (2nd ed.). Corwin.

Geographical Association (n.d.). Concepts in geography. Geographical Association.

Little, C. (2017). Designing and implementing concept-based curriculum. In L.S. Tan et al., Curriculum for high ability learners. Springer Nature.

Marschall, C., & French, R. (2018). Concept-based inquiry in action: Strategies to promote transferable understanding. Corwin. Michael, J. (2017). What does it mean to 'unpack' a core concept? In J. Michael, W. Cliff, J. McFarland, H. Modell, & A. Wright,

The core concepts of physiology (pp. 37–44). Springer.

Rawling, E. (2007). Planning your key stage 3 geography curriculum. Geographical Association.

Roberts, M. (2023). Powerful pedagogies for the school geography curriculum. International Research in Geographical and Environmental Education, 32(1), pp. 69–84. DOI: 10.1080/10382046.2022.2146840

Young, M. (2010) The future of education in a knowledge society: The radical case for a subject-based curriculum. Journal of the Pacific Circle Consortium for Education, 22, 21–32. http://programs.crdg.hawaii.edu/pcc/PAE_22 1 final_10.pdf

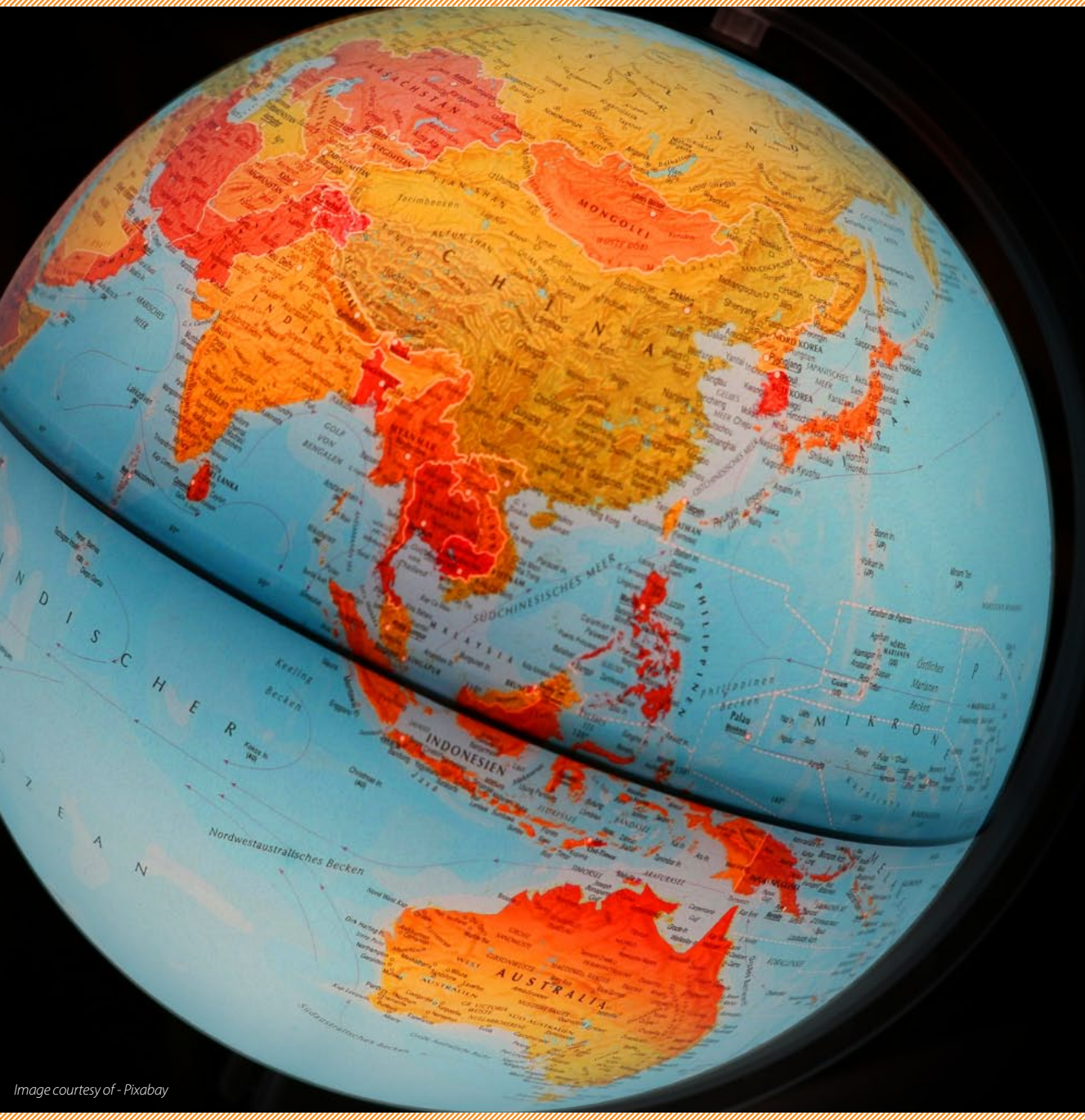


Image courtesy of - Pixabay

REMEMBER THE CLIMATE MAP FROM YOUR SCHOOL ATLAS?

Here's what climate change is doing to it

Published: October 24, 2023 6.08am AEDT

By Albert Van Dijk,

Professor, Water and Landscape Dynamics, Fenner School of Environment & Society, Australian National University;

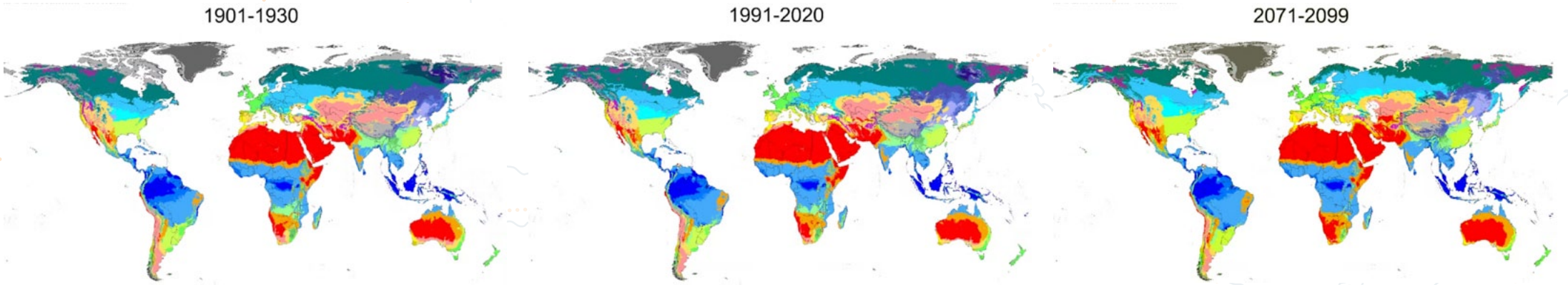
Hylke Beck,

Assistant Professor, King Abdullah University of Science and Technology;

Pablo Rozas

Larraondo, Research fellow, Australian National University

REPUBLISHED FROM THE CONVERSATION



These maps give you a snapshot of the changes to the Koppen zones over the past century and the remainder of this one. Albert van Dijk, CC BY-ND

You probably saw a multi-coloured climate map at least once in school. You might have pored over it, fascinated. Was Antarctica really a cold desert? And why was so much of Russia listed as tundra?

Almost always, those maps were based on the climate classification system proposed by Wladimir Köppen. The colours are chosen to suit our imagination: Australia with its red desert centre, surrounded by a yellow or orange semi-arid fringe and more lush green climates along many coastlines and hinterland.

But these maps were made for a climate that doesn't exist any more. Our new research shows just how fast climate change has altered these maps – and how they will continue to change.

Our web app lets you see for yourself for any country in the world and for different emission scenarios. For Australia, you can watch the hot desert area expand and the temperate areas shrink.

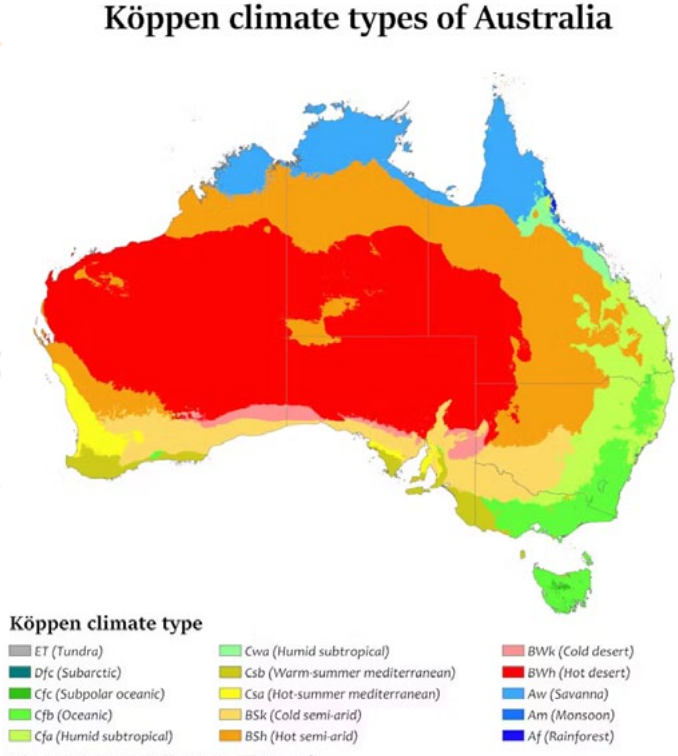
The climate map of the future below assumes nations meet their climate goals. It could be far worse. Or it could be better, if we finally treat climate change with the urgency it needs.

How do you classify a climate?

Köppen was a 19th century Russian botanist who later retrained in meteorology. Over his career, he combined both interests, becoming fascinated by the relationship between climate and types of vegetation.

Around 1900, he proposed the influential climate classification system which now bears his name alongside his collaborator, Rudolf Geiger. It remains by far the most used classification system, as it combines different aspects of climate data into types of landscapes and vegetation types we can actually picture, from rainforests, savannahs and deserts to temperate and boreal forests, tundras, glaciers and ice sheets.

The Köppen-Geiger classification has five major climate classes: tropical, dry, temperate, cold and polar. These are divided into 30 subclasses based on the amount of rain and temperatures in summer and winter.



Adam Peterson/Wikimedia, CC BY-ND

You might think it would be relatively straightforward to figure out if climate change has pushed a region into a new classification. Add the recorded global warming of 1.2°C so far and see if that changes anything.

Alas, it's not that simple. This is because climate change can have weird regional effects. We're getting much more rain in some areas, and much less in others. Some regions are warming faster than the global average and others are warming slower.

Climate models predict there will continue to be such differences. Plus, a degree of warming will have a greater impact at the edge of a glacier than in the Sahara.

To find out what will happen, we analysed vast databases of past weather observations and future climate projections under different socio-economic and emission pathways to redraw the Köppen map. We did so at a very fine scale, dividing the world up into square kilometres so we could observe localised changes in mountainous regions and on small islands.

Change has already happened – and there's much more to come

The results were surprising. In some parts of the world, climate zones have already shifted considerably since Köppen drew his first climate map more than a century ago. The fastest change has been in the last few decades. The largest changes have been in cold and polar climates, which have become less cold and sometimes drier.

Eastern Europe has been a climate change hotspot over the last century. Its continental climate of cold winters and warm summers has given way to a temperate climate with hot summers.

Several countries have already changed climate zones across more than half of their area. Hungary, for instance, has changed the most of any nation. A whopping 81% of the country has already moved into a different, more temperate climate zone. Other global hot spots include central Europe, the Middle East and South Korea.

Our projections show these regions are among those to undergo the biggest climatic shifts through to 2100. Some areas will shift climate zones more than once.

Countries at higher latitudes will see some of the largest changes. Almost a quarter (24%) of both Canada and Russia have already moved into another climate zone since Köppen's first map. Another 39-40% of their immense landmasses will follow suit before the end of the century.

A similar story applies to Europe, where climate zones will change in between one-third and two-thirds of the area in most countries.

South Africa and neighbouring countries Eswatini and Lesotho are the fastest changing countries in the Southern Hemisphere. Their climate zones have shifted across 28% of their combined area. By 2100, an additional 44% will change.

In Australia, climate zones have already shifted across 14% of the country, with another 13% predicted during the remainder of this century.

You might wonder how it can be that climate zones don't move in some areas. That is because each Köppen climate zone represents a specific range of temperature and rainfall conditions, and a region can move within that range.

But Köppen didn't foresee what's happening now. In his classification, deserts and tropical climates are at the high end of the temperature scale and cannot change - they just get

What will this mean on the ground?

Changes as dramatic and rapid as this are already upending natural ecosystems. As climate change progresses, it will force significant change to our farms and infrastructure. Humanity gets half its calories from just three plants – rice, maize and wheat – and each of these has a preferred climate.

Warmer and drier climates bring more drought as well as crop loss, water shortages, ecosystem degradation, bushfires and desertification. Warmer winters, extreme heat, drought and fire have been pummelling forests the world over - from the cold high latitudes in Canada and Russia to the dry forests in the Mediterranean region, California and Australia. Even the Amazon rainforest is affected.

Of course, some changes may be beneficial for people, such as better agricultural conditions or lower heating costs in cold regions. But the overall picture is one of calamitous change.

Over the next decades, it will take all of humanity's commitment and ingenuity to avoid a major climate catastrophe.

Image courtesy of - Ale

EIGHT CHARTS ON HOW AUSTRALIA'S POPULATION IS GROWING – AND CHANGING

April 15, 2024

Author: Liz Allen Demographer,
POLIS Centre for Social Policy Research, Australian National University

Republished from The Conversation.
This version includes static images from interactive charts that can be accessed at the link.

People form the foundation of society, determining all manner of things from housing needs to economic wellbeing. And population characteristics can tell us much about how the inhabitants of a place have changed over time and where the population might be headed in the future.

Australia's population now numbers around 27 million. On its own, however, this figure says little about our demography. Unpacking Australia's population composition reveals the challenges and opportunities that lay ahead.

Living longer and with fewer children

Australians can expect to live into their eighties. Our increased longevity, alongside below-replacement fertility, means Australia's population is structurally ageing. The challenges of an ageing population include greater aged care needs, amid a relative shrinking workforce.

In other words, populations like Australia need to work out how to fund more with fewer financial resources or risk declining living standards.

The chart below is a unique way to visualise population projections. It shows the size of Australia's population for males and females, broken down by age. Over time, some ages balloon out, like the 50–80 year olds. Some ages barely move, like the 0–10 year olds. Hover your mouse over each line to see the full population pyramid and additional information.

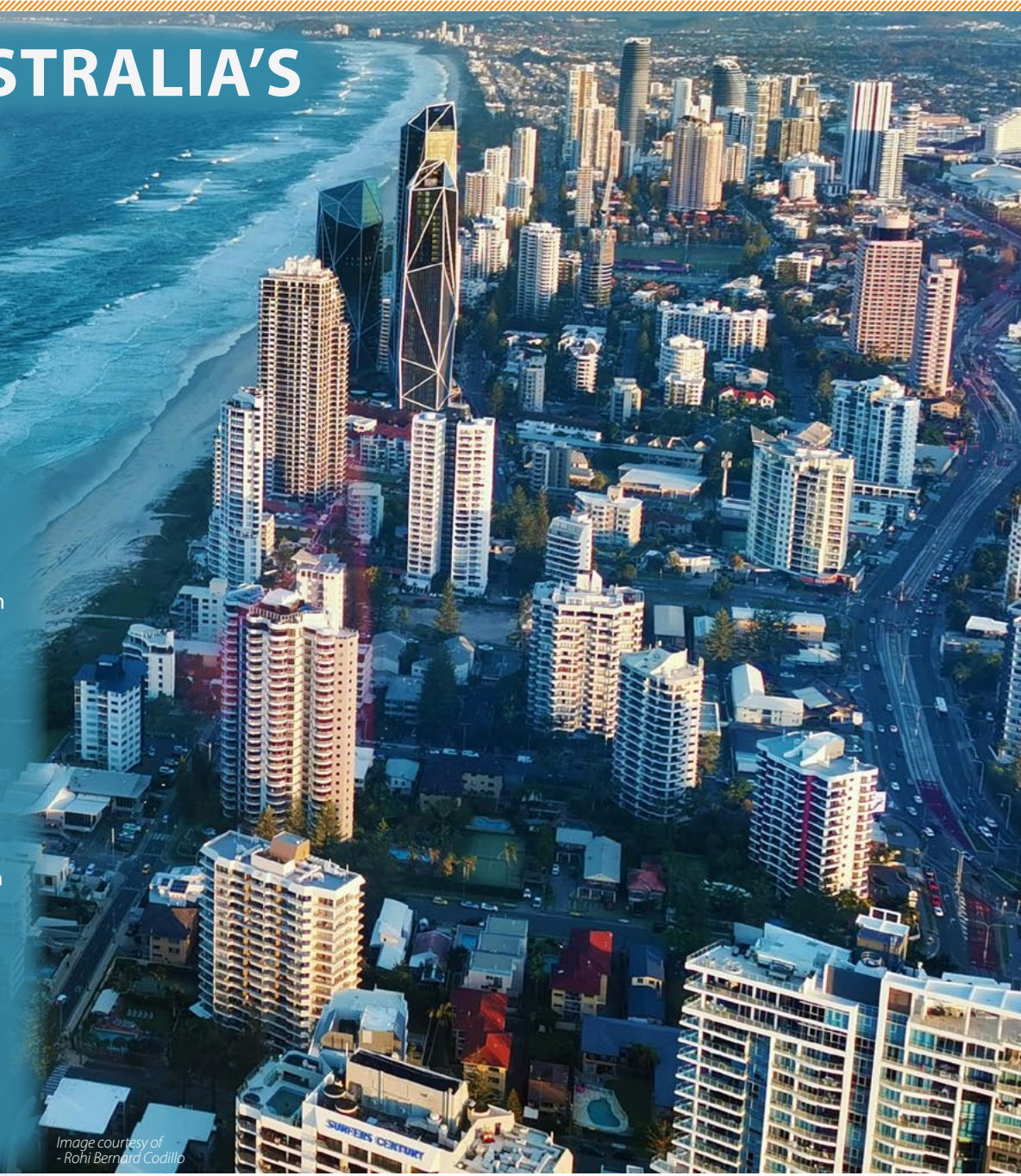


Image courtesy of - Rohi Bernard Codillo

Australia's population growth, 1981-2071

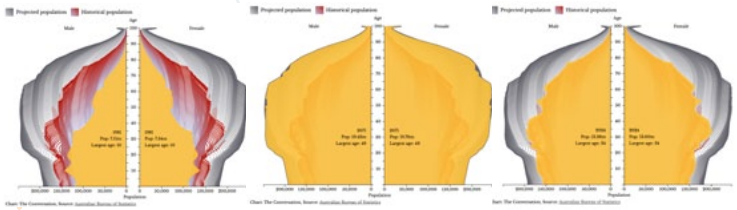
If the population becomes too top-heavy with older people, younger generations may not be able to support them. Population projections also calculate people living 100 years and above, which is why the top of the chart flares outward again.

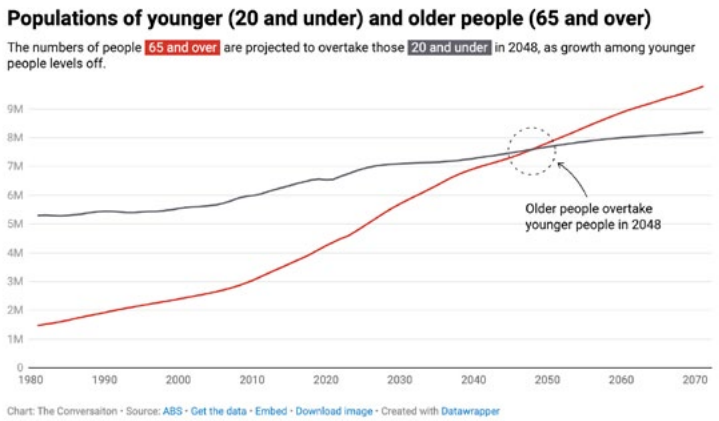
With Australia on track to become a nation of predominantly middle-aged people (and older) by 2065, a healthy and robust workforce is crucial to economic sustainability.

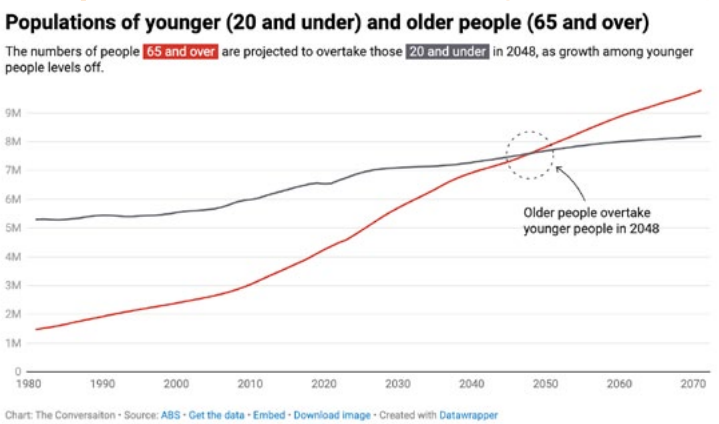
The shape of population age distribution matters more than ever, especially with evidence indicating children in Australia will be outnumbered by people aged 65 and over in the coming ten years.

Increasing women's participation in paid work has been one response to Australia's ageing workforce. But focusing on women's economic participation fails to consider the gender bias in unpaid caring, placing enormous pressure on women to do it all.

And growing intergenerational inequality threatens the future prospects of young people. Job insecurity, housing affordability, gender inequality and climate change are all placing enormous strain on younger people, contributing to their deep uncertainty about the future. Young people just aren't getting a go.







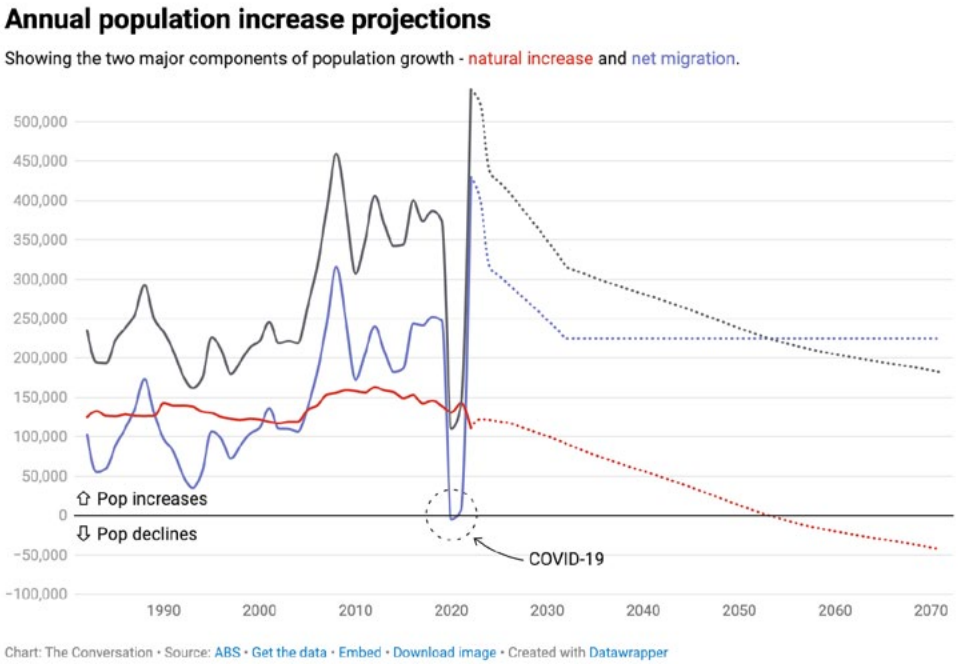
High short-term growth, potential for population decline

Australia's population has grown at a historically high rate since the reopening of international borders during COVID-19. Most of Australia's population growth is from overseas migration, as has been the case since 2005 (except during COVID border closures).

While net overseas migration has increased in the short term, this is projected to decline in the coming years. However, immigration will still contribute the most to population increase.

Natural population increase – the number of births versus deaths – also contributes to Australia's rising population. However, this rate is also on the decline. By 2054, official projections anticipate deaths will outnumber births, meaning in the absence of overseas immigration the nation's population would start declining.

Migration helps offset the adverse consequences of an ageing population. Without immigration, Australia's population would start shrinking decades earlier than expected. The national budget would be adversely impacted and the societal contributions that migrants make would be lost.

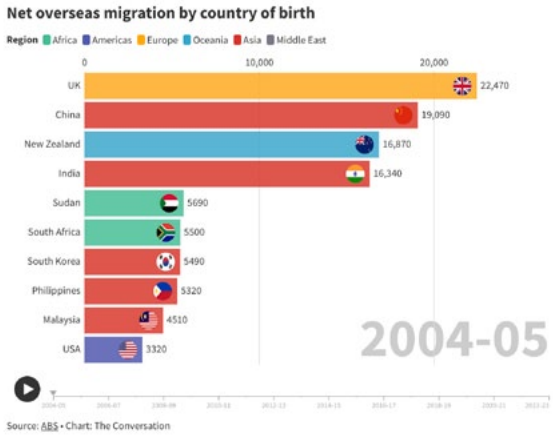


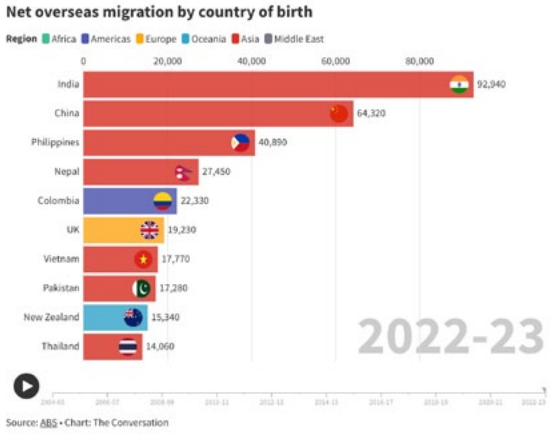
More diverse than ever

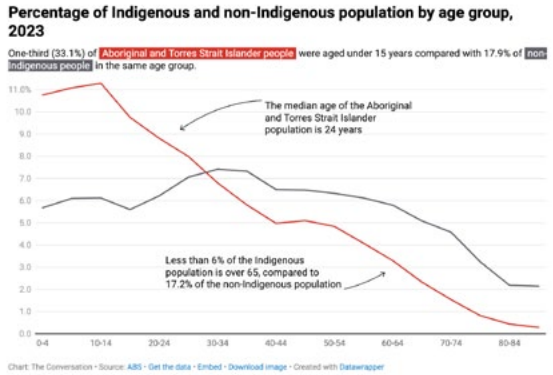
Half the world has below-replacement fertility, and the average number of births per woman is set to decline even further. Australia is competing with the likes of Germany, Canada, the United States, New Zealand and the United Kingdom to attract suitable people to migrate.

Australia can no longer rely on migration from countries like the UK to sustain its workforce. From a Blak country to a European colonial settlement, Australia now relies heavily on people migrating from India and China.

Not all populations in Australia have the same demography. First Nations people, for example, have a much younger age profile and higher growth rate than the non-Indigenous people. They also have a lower life expectancy and higher infant mortality, reflecting the enduring discrimination First Nations people face in Australian society.







City living

Australia's population is also highly urbanised, with a high concentration of people living along the southeastern coastline from southeast Queensland to Victoria.

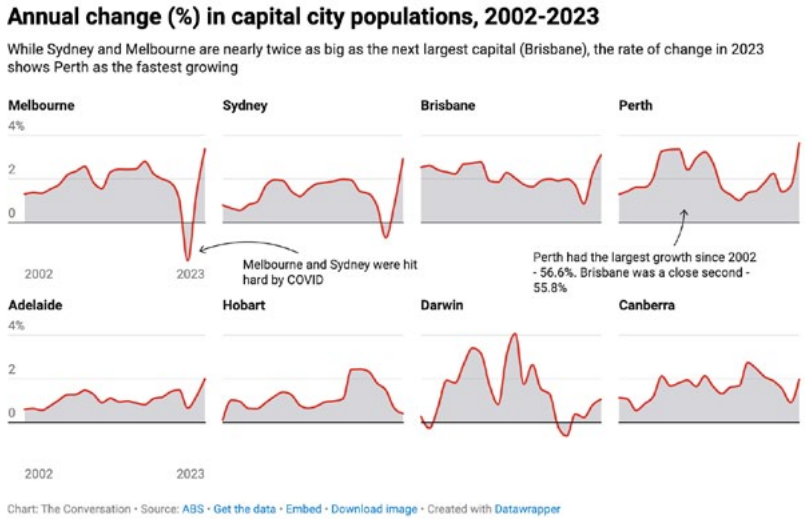
Cities in Australia continue to reign supreme, growing faster than regional areas overall. Vital infrastructure – transportation, housing, education, health care and employment – are a major draw card. Despite numerous attempts throughout Australia's history, population decentralisation is unlikely.

ICities offer the largest opportunities for education and employment, attracting the bulk of international movers. Sydney and Melbourne draw in more than half the nation's overseas migration intake.

By 2036, Melbourne is projected to be Australia's largest capital city, not surprising give Sydney has a considerable surplus of people moving to live in other places in Australia. And, no, Melbourne hasn't already overtaken Sydney – this is just some fancy accounting using unconventional definitions.

Households are changing, too. More people are living alone, and the number of people in each household on average is declining.
A close examination of Australia's demography helps contextualise the country's housing mismatch.

Australia's demography shows a country with great opportunity, so long as the challenges are addressed. Population data enables policymakers to take an evidence-based approach to help shape our country's future.



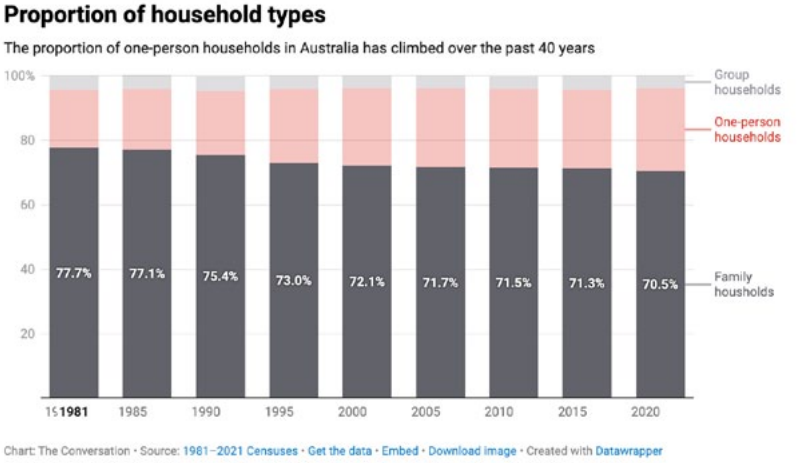


Image courtesy of - Jack Redgate

CURRICULUM AND CAREERS RESOURCES AT AGTA

TRISH DOUGLAS

Links to Geography curriculum resources compiled by the Australian Geography Teachers Association (AGTA) are found on the AGTA website at: https://www.geogspace. net.au/index.php

AGTA's GeogSpace resources

The resources on this website are provided by AGTA to support the original GeogSpace website. The GeogSpace project was an initiative of the Australian Geography Teachers Association (AGTA) supported by the resources of Education Services Australia (ESA) and funded by

THE AUSTRALIAN GOVERNMENT DEPARTMENT OF EDUCATION, EMPLOYMENT AND WORKPLACE RELATIONS.

After the revision of the Australian Curriculum: Geography, most of the links provided in the original GeogSpace website no longer functioned correctly. The resources on this revised website have addressed this issue; however, over time some external links may display an error message indicating that the webpage or file cannot be found. AGTA will endeavour to either correct or remove these links if they cannot be restored.

Navigating the site

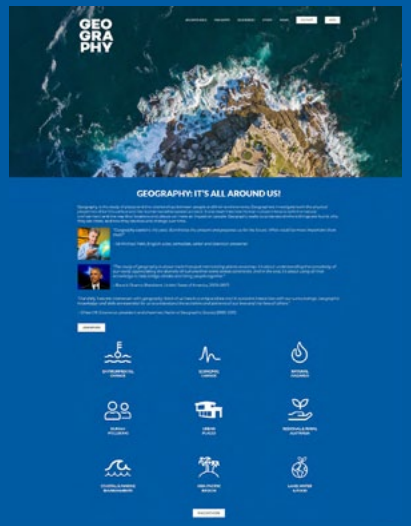
AGTA'S GEOGSPACE WEBSITE COMPRISES TWO MAJOR RESOURCE SECTIONS, CORE UNITS AND SUPPORT UNITS.

Core units comprise illustrations of practice for stages of schooling described in the Australian Curriculum: Geography. The illustrations are provided for:

1. Years F–4.
2. Years 5–6.
3. Years 7–8.
4. Years 9–10.

The illustrations are designed to provide classroom- ready ideas and resources that reflect the dynamism of this exciting learning area. Each illustration is linked to the Australian Curriculum: Geography and provides

opportunities for students to actively engage in learning, whether it be through undertaking class research, practical activities, field investigations or through taking local action.



HOME

GEOGRAPHY: IT'S ALL AROUND US!

Geography is the study of places and the relationships between people and their environments. Geographers investigate both the physical properties of Earth's surface and the human societies spread across it.

It also examines how human culture interacts with the natural environment and the way that locations and places can have an impact on people. Geography seeks to understand where things are found, why they are there, and how they develop and change over time.

www.gowithgeo.com.au

Core units have three sections for each of the stages of schooling:

1. Key understandings.
2. Inquiry and skills.
3. Exemplars.

Support units provide illustrations of practice designed to support teachers' professional learning and provide guidance, information and resources in eight areas of geographical education:

1. Thinking geographically.
2. Why teach Geography?
3. Professional practice.
4. Fieldwork.
5. ICTs in Geography.
6. Assessment in Geography.
7. Language of Geography.
8. Geographical inquiry.

AGTA's Geography careers resources

Links to Geography careers resources compiled by the Australian Geography Teachers Association (AGTA) are found on the AGTA website at: https://www.gowithgeo.com.au/

The AGTA careers website #GOWITHGEO was launched in 2022. The site is aimed primarily at students. #GOWITHGEO provides information on career pathways, resources, study, and news linked to Geography. The career pathways include links to topics of environmental and economic change, natural hazards, human wellbeing, urban places, regional and rural Australia, coastal and marine environments, Asia-Pacific region, and university courses. The resources section includes geographer profiles, including GTAV's 'I am a Geographer' videos, presentations, posters, and career brochures. Most of the resource materials are free, but there are also links to enable purchase of some items.

This wealth of material is really helpful in promoting the subject and the opportunities Geography provides, ultimately aiming to encourage more students to continue the subject into VCE and beyond.

AGTA's journal

Geographical Education, AGTA's refereed annual journal, considers scholarly articles on pedagogy and teaching practice for Geography teachers as well as reviews of relevant books. It can be accessed at https://agta.au/ geographiceducation/geographical-education-36/

On geography and geographers

DR STEPHEN LEGG

Conceived in classical antiquity as 'writing about the Earth', Geography has often been subject to attempts to define more precisely what it is that geographers do.

This article uses a historical approach to outline a few background considerations about the nature and purpose of Geography, especially as it is practised in schools and universities, and how it is perceived by the wider public.

Image courtesy of - Ian Panelo

Defining Geography

One of the standard English-language authorities of the 1960s and 1970s, often used by the now retiring ranks of an earlier generation of teachers, F.J. Monkhouse's A Dictionary of Geography (Edward Arnold, London, 1974, reprint, pp.152–3) defined our wide-ranging subject as follows:

> *The concept and scope of Geography have undergone considerable change, and it is highly unlikely that any definition would satisfy anyone. Most are agreed that it comprises the study of the earth's surface in its areal differentiation as the Home of Man; how much it is a 'science of distributions', physical and human, of areal and spatial relationships, how much Man in his spatial setting is the crux, and to what extent the study of the region is the core of the subject, are all matters for debate. The geographer seeks to describe the diverse features of the earth's surface, to explain, if possible, how these features have come to be what they are, and to discuss how they influence the distribution of Man with his multifarious activities. Geography, standing as it does transitionally yet centrally between the natural sciences, the social studies and the humanities, is thus in its concept and content an integrated whole.*

The now outdated elements of Monkhouse's definition include the consideration of regional geography as a potential core, the environmental deterministic emphasis on how the Earth affects 'Man' rather than also considering how we affect the Earth, and the sexist reference to 'Man' from a period when some still spouted the simplistic old adage for younger school students that 'Geography was about maps and History was about chaps'. Some might also view the perception of the Earth as our Home as too narrowly utilitarian and/ or anthropocentric. The view that 'Geography underpins a lifelong conversation about the earth as the home of humankind' is strongly promoted within the seminal 2009 'manifesto' of the UK Geographical Association 'A different view' ADV-Brochure:Layout 1 (geography. org.uk). Few, however, would disagree that studying the relationship between people and the environment remains central to our discipline, at the very least in terms of the nature, causes and consequences of spatial relations. In geographical parlance, the word 'environment' ranges widely e.g. from simply signifying our surroundings, or it can refer to the narrower idea of human habitat, and in some cases includes 'wild Nature'. Many geographers prefer the wider term 'the environment' to the narrower, possessive anthropocentric term 'our environment'. Furthermore, our disciplinary focus can be broadened beyond environment to encompass the nature and implications of spatial variation of many kinds.

Other elements in Monkhouse's definition still have resonance. Our central position 'between the natural sciences, the social studies and the humanities' is still widely recognised, highly valued and just as relevant today as ever before. Where those intersections do, or should, lie however is always contentious. We have to realise that, like all dynamic disciplines, Geography still experiences considerable change as its nature and purpose is debated and as it becomes realigned with other, including emerging, disciplines and ways of thinking.

By comparison, and 36 years later, a simple definition of Geography used to establish a benchmark for Australian academic Geography was presented in Hay, I. 2010. Geography Standards – Australian Learning and Teaching Academic Standards Statement. Australian Learning and Teaching Council (ALTC). That report stated the following:

Geography is the study of place, space and the environment. Geographers investigate the character of places, the distribution of phenomena across space, biophysical processes and features, and dynamic relationships between humans and environments. Geographers ask questions about why these phenomena and relationships are like they are and how they could be; how societies and environments are connected to one another; how and why they change; and how and why their characteristics vary across time and space at different scales. Geography answers questions spanning the local to the global, in the past, present and future.

As one of the contributors to that 2010 statement, I know how important, yet challenging, it was for our small but diverse team to encompass Geography's major interests and to consider various opinions on our discipline's key knowledge, perspectives, purpose and direction. Nevertheless, and despite ongoing debate, the succinct ALTC definition is still largely relevant today. Furthermore, it is broadly applicable for schools and universities as well as for professional practice in industry.

Values and ways of thinking

One continued debate is the extent to which we maintain at least the positivist perception of traditional 'scientific' value-neutrality (not the least including its valuable defence against affirmation bias and mere opinion). Or should we, by contrast, emphasise particular sets of values – and question whether the two approaches are mutually exclusive? Note that, counterintuitively, 'value neutrality' is itself a value and that for curriculum designers, teachers and politicians, the issue always remains of what values and whose values should be prioritised? For some examples of successful pushes for a 'socially-relevant', value-laden, Victorian Geography curriculum in the 1980s see Legg, Interaction 2023 Vol.51 No.3 pp.553–55. Note that earlier still, there was a long history of value-laden endeavours under various, and largely unsustainable, visions of 'progress'. These include some of the expansionist Imperial, Colonial and later National projects of geographers in Australia and elsewhere. They compiled inventories and maps to speed natural resource exploitation and secure expansion into new territories, they helped determine places of strategic and military value, and they defined environmental opportunities and limits on economic development. Nevertheless, with some limited success from the 1860s, conservationists, among them some geographers, questioned the unsustainable excesses of rampant resource exploitation and environmental damage. They reasoned that governments should regulate destruction, introduce sustainable practices and identify special areas for protection. They advocated for industry and individuals to practice 'wise use'. And they also argued that conservation and a love of Nature should be taught in schools and in the wider community. Debates about values are episodic (and by definition paradigmatic) being heightened when innovators challenge the cherished values of the status quo. Consequently, debates wax and wane about the nature, direction and intensity of advocacy on matters related to our prevailing values.

For just one example of recent advocacy on encouraging students to be active citizens who can 'change the world', see selected works by American geographer, educator and geospatial technology innovator, Joseph Kerski. Joseph's work has been published in Interaction and he has given keynote addresses and workshops at our GTAV Annual Conferences. His work is notable for combining ethics normally associated with the humanities, with what from the 1960s was emerging as a powerful and lasting value-free 'Quantitative Revolution' in the 'Science of Space' (see www.josephkerski.com e.g. 2023 podcast 'Teaching Geo Ethics', 2023 'The Environmental Movement: Connecting Geography to a Higher Purpose', 2020 'Applied Geography: Solving the World's Problems' and 2019 'Why GIS in Education Matters'). Values such as sustainability and equity are included in The Australian National Geography Curriculum to ensure 'informed, responsible and active citizens who can contribute to the development of an environmentally and economically sustainable, and socially just world' (ACARA 2020 Australian Curriculum: Geography aims, Canberra). The senior curriculum also promotes the generalised 'ability to identify, evaluate and justify alternative responses to the geographical challenges facing humanity, and propose and justify actions taking into account environmental, social and economic factors' (Rationale/Aims | The Australian Curriculum (Version 8.4 accessed February 2024). It is evident then that Geography may have a range of functions, including what Kerski and others call a 'higher purpose'.

Another dynamic debate concerns the extent to which geographers emphasise 'geographical thinking' or 'spatial thinking'. The former has a more traditional emphasis on the distinctive and qualitative nature of place – so called 'idiographic studies' that highlight the unique or distinctive, and were historically associated with regional geography. The focus here is on distinctively geographic concepts. Slightly different emphases on 'spatial thinking' have a more recent heritage, quantitative emphasis, and focus on space – these are so called nomothetic studies that highlight spatial similarities and generalisation, the latter to enhance prediction. Joseph Kerski refers to spatial thinking as a 'habit of mind', and that habit has been greatly stimulated by advances in digital geospatial technology and the increasing abundance of digital spatial data. Any notion that the two thinking approaches compete as a binary, however, are exaggerated because their concerns and concepts often overlap and are best regarded as parts of a continuum. Debate will continue on how much using a 'geographic lens' clarifies or obscures our view of the World (the latter as in 'looking through a glass darkly').

One of the early statements on spatial thinking most influential in curriculum design internationally came from the U.S. National Research Council's 2006 report Learning to Think Spatially (Washington, DC: The National Academies Press. https://doi.org/10.17226/11019):

Spatial thinking—one form of thinking—is based on a constructive amalgam of three elements: concepts of space, tools of representation, and processes of reasoning. It is the concept of space that makes spatial thinking a distinctive form of thinking. By understanding the meaning of space, we can use its properties (e.g. dimensionality, continuity, proximity, and separation) as a vehicle for structuring problems, for finding answers, and for expressing solutions … Although spatial thinking is a universal mode of thinking, it has distinctly different manifestations in different disciplines. (p.ix)

Although that quote is largely silent on deeper philosophical issues, the notion of 'thinking' from whatever position or on whatever object of focus, is itself increasingly prominent in curriculum matters. That is in part because of the complexity of, and disagreement over, subject matter, the objects and purpose of inquiry, and consequently the appropriate definition of Geography. 'Approaches' are also used as a convenient tool for unifying our discipline. On the latter, for example, the 'I am a Geographer' and related columns in GTAV's journal Interaction have pragmatically long included geographers selected for print by what they do and their identifiably geographic or spatial thinking i.e. their approach, rather than by whether those profiled had an explicitly geographical job title or a degree in Geography.

Generalist or specialist?

Late-1960s and 1970s GTAV committee member and veteran Monash academic, the late Stuart Duncan, often quipped that he was proud of being a 'nonadjectival Geographer'. Put simply, he saw himself as 'a Geographer'. To a large extent, he was the product of his traditional regional geography training and practice, an integrative approach then rapidly losing favour after the 1960s. In that view, geographers needed, where relevant, to consider both human and physical geography. Any dichotomy of the two seemed purely abstract and unnecessary – a conclusion long before made by many prominent geographers in antiquity and in later centuries from Humboldt (see Cosmos, Johann Gorg Cotta, Stuttgart, 4 vols. 1845–1862) to Hartshorne (see Perspectives on the nature of Geography, John Murray, London, 1959). The fundamental complexity and inextricable interconnectedness of Nature divided scientific approaches into two broad camps. There were the generalists who, like Humboldt, emphasised holism. In contrast, others followed the reductionist focus on constituent parts and processes that became a mainstream tenet of modern science. Nevertheless, the division was often blurred in practice and sometimes was an issue of scale.

Combining physical and human elements in geographical analysis was temporarily buoyed by the 18th century French philosophy called 'physiocracy'. Its promoters went further than merely recognising environmental influences on agriculture and emphasised the primacy of agriculture in society, economics and geography. It was most evident among the works of agricultural and regional geographers. And it indirectly influenced environmental determinism, the early 20th century view that human geography was largely the product of biophysical forces. Although soon dismissed as too radical, aspects of the physiocratic influence lingered until the 1950s when burgeoning industrialisation and urbanisation made agriculture and associated rural settlement seem less relevant. And from that period, apparently boundless technologies appeared capable of transforming the Earth's surface such as from the global spectre of nuclear energy through to local engineering marvels such as the Snowy Mountains Scheme.

Ironically, we are going full circle again to some extent as recognition of global crises such as climate change has prompted a heightened perception of the inextricable unity of humans and Nature at every scale. That combination of human and physical geography is evident in modern Earth Systems Analysis and calls for radically new forms of science. Even-earlier stimuli to that holistic view included developments in biology, ecology, cosmology and even the 1960s notion of a 'Spaceship Earth'.

A widespread informal view by those generalists who emphasised Geography's holism was that 'Geography is the study of geographies'. That definition provided the 'geographic lens' of its day by suggesting that the coherent focal point of study was often a spatiallyorganised, mappable, interconnected system on the Earth's surface with underlying, identifiable processes, causes and consequences. Even now, far too few of our students (and perhaps our teachers) can pass what was then the acid-test of simply describing 'the geography' of a place – from a town to a region or landscape. They couldn't explain what shaped that geography (or geographies), or how it had changed or might alter in future. Or perhaps they could only approach those tasks from a narrowly reductionist view focusing on only one spatial theme or element. The 'acid test' and definition noted above has much less relevance in both universities and schools today, because despite even greater integration of, and more meticulous attention to, component knowledge and skills, the focus has shifted away from 'a geography' or 'geographies' as a unit of study. Perhaps that earlier approach was more common in Physical Geography where biomes, landscapes, landforms, land types, ecosystems, watersheds, etc. were more recognisable as, at least partially, bounded systems. And, almost by definition, it was common in Regional Geography because a region was defined as a coherent unit different to its surroundings. Or maybe the focus has shifted from locality and region to a global perspective on the Earth as a whole, perhaps with attendant difficulties in finding an appropriate resolution for analysis of often open and interdependent systems. And possibly the ability to describe the geography of a place was somewhat romanticised in competition with historians who seemed able to easily describe the history of a place – when, in fact, neither historical or geographical description is simple.

From the 1970s, most academic geographers tended to define themselves within the discipline as specialists focusing on their own particular objects of study, and the integration of the whole seemed less relevant. Many referred to themselves, adjectivally, as urban geographers, economic geographers, cultural geographers, political geographers, biogeographers, regional geographers, etc. In addition to some common geographical approaches including mapping and spatial analysis, each had their own specialist methods, concepts, sources and institutional affiliations. And that culture continues today. Even Stuart Duncan would later add 'agricultural geographer and historical geographer' to his CV, and his specialist interest in the history of cartography received most of his focus in later life.

There were also a few geographers who, despite their geographic training and work, tended to exclude geographer entirely from their professional title. Perhaps they portrayed themselves instead as specialist hydrologists, palaeoecologists, cartographers, climatologists, soil scientists, geomorphologists, digital spatial analysts, development specialists, social theorists, urban and regional planners or demographers, etc. That reflected the narrow scope of their research and teaching as well as indicating their primary identification with other disciplines. And it possibly boosted their chances of promotion and gave them greater recognition among potential employers especially in industry. That huge diversity of job descriptions and the scarcity of the title 'Geographer' also made developing careers information for prospective students more difficult. A couple of authoritative academic peer-reviewed journals such as Australian Geographer and Geographical Research maintained an eclectic mix of geographic research, but specialist journals were increasingly the 'go to' for publishing. Or academics at least hedged their bets by submitting different work to generalist and specialist journals. Specialist education journals often remained a separate province dealing mainly with pedagogy and teaching practice.

Critics of specialisation often referred to it as 'fragmentation'. They championed breadth of analysis over depth, not that the two were mutually exclusive. And to reunite the discipline they proposed a variety of unifying themes including place or space as 'objects of study' or 'ways of thinking' (on Human Geography, see R.J. Johnston 1991. A Question of Place, Blackwell, Oxford).

Contrasting tertiary and secondary Geography

Since the 1970s, some divisions have persisted between how Geography was taught in universities and at school. That included the lack of formal division in the school curriculum between human and physical geography – although school textbooks and exams often continued to separate 'human and physical factors'. Nevertheless, senior-level secondary school units were differentiated by topic thereby giving students some familiarity with 'both sides' of the discipline. The divide between academic and school Geography was due to a range of factors. These included the enduring theoretical-research purpose of academia, increasing

academic and professional specialisation beyond school, and the success of the 'school-based curriculum development movement' that distanced academics from schools' curriculum design and examination. Nevertheless, the explicit emphasis in schools and in the 2010 ALTC Standards definition on Geography as 'the study of place' remained. That was despite the discontinuation of Regional Geography in many tertiary courses as well as its reduced emphasis at school. That was accompanied in Human Geography by a shift to spatial science. In many tertiary courses, places were now mainly used as specific examples of locations or settings in courses on a wide range of specialist themes. Places remained important for comparative case studies to illustrate particular geographic processes operating at various scales, but not so much intrinsically as they had before, or as they often remained in schools.

Few, if indeed any other, subjects are taught at university from so many different backgrounds, and this is testament to the wide-ranging relevance of geographical thought. The substantial diversity of Geography at Australian universities is evident from the 29 courses currently offered (CAREER PATHWAYS – Australian Geography Teachers Association gowithgeo.com.au accessed February 2024). These are provided by 22 different universities and are administered from at least 15 areas of study. Many with distinctive ways of thinking, contexts and cultures, these comprise: science, design and built environment, education, arts, humanities, social science, engineering, environmental studies, disaster studies, sustainability, planning, life science, law and society, geoscience, and spatial science. The current administrative and intellectual alignments are based on a long and sometimes tumultuous history of change. Due mainly to small enrolment numbers in Geography, course positioning was often a product of economic rationalism rather than epistemological principles or methodological concerns. Given that our graduates come from various areas of study and most enter teaching with a selective major sequence (or only a minor) in just one area of such a diverse subject, it has often been difficult for fresh Geography graduates to feel confident of our scope and purpose. And, until recently, they rarely had any grounding in the wider discipline other than a mix of topics at first year. That insecurity has always been greater for out of field teachers who, since at least 2006, remained over 40 per cent of teachers taking year 7–10 Geography classes across Australia (Caldis, S. and Kleeman, 'Out of field Teaching in Geography', Geographical Education Vol. 32 pp.11–14 and Kriewaldt, J and Lee, S.J. 'Tracking the Extent of Out-offield Teaching of Geography: Issues and Implications for Advancing School Geography', Geographical Education Vol. 35 pp.46–51). And, at least anecdotally, it is likely that a significant proportion of Geography teachers in Victoria taught without formal Geography qualifications since at least the early 1960s (Legg Interaction 2023 Vol.51 No.4 p.67).

The task of integrating school and university curricula was made more difficult because in most Australian tertiary first-year Geography courses only a minority of students had completed senior secondary Geography. The disciplinary mix of first-year students was celebrated in academia for its diversity, but it made it very difficult for lecturers to assume (and later develop their courses from) even a basic broad knowledge of Geographic knowledge and skills. And in a short, crowded and specialised university curriculum it was difficult to devote adequate time to foundational matters. Most course designers traditionally opted instead to only top up those specialist concepts and skills as required, and any deeper discussion of the history and nature of Geography was often left until Honours year or beyond.

The gap between school and tertiary Geography curricula was also prompted by a significant proliferation from the 1970s of non-positivist approaches at university. Only a few of these had a lasting presence in schools and mainly then in relation to studies of persistent and crippling inequality, discrimination, marginalisation and disempowerment. Those issues were highlighted by the analyses promoted by the New Wave movement of the 1980s and its call for socially-critical Geography in schools. Their focus included inequality between and within places, evident in wealth, wellbeing and political power. Collectively, these non-positivist 'ways of knowing' challenged the scientific foundations, and supposed value-neutrality, of the combination of most Physical Geography and the social-science components within Human Geography. Some of the alternative, so-called 'radical' or 'critical', approaches also gained prominence during the 'Science Wars' of the 1990s. However, the stereotyping of science then was often too stark, and there have been significant shifts in some areas of Physical Geography toward a more value-laden focus including toward sustainable environmental management and in dealing with Indigenous people and their culture.

Non-positivist Geography including Marxist Geography, post-colonial Geography, Feminist Geography and political ecology were separated by their own backgrounds, approaches and concerns. But they were unified both by demands for active participation in changing to a better World (variously and often incompatibly defined) and by rejection of science's claims of authority on truth. There was also phenomenology and various forms of postmodern Geography unified by new approaches to 'understanding' in an age of uncertainty. They rejected the often-doctrinaire approach of the other groups, rejected the mainstream explanation and prediction at the core of science, and focused instead on the subjective views of the World held by individuals, groups and cultures. They also challenged many shibboleths taken for granted as dominant narratives or assumptions in the geographical literature. These various non-positivist geographers often focused on the 'social production of space' rather than the positivist taken-for-granted objective space assumed by science. They were also often critical of technology. They therefore remained wary of claims that a unifying force could be found in STEM (Science, Technology, Engineering and Math) in general, and geospatial science in particular, with its focus on Cartesian space.

Perceiving Geography

Historically, public perceptions of Geography were further complicated because geographical thinking, or parts thereof describing geographies, were often not exclusive to or even associated with Geography and geographers.

For example, founded on his passion for natural history and geology, and through his television broadcasts and accompanying publications especially from the 1970s, Sir David Attenborough's work is often consistently but implicitly geographical in scope. It routinely considers, for example, fundamental concepts essential to geographical inquiry such as spatial variation, environment, scale, change, distance, location, region and interconnection. Sir David has done more than anyone to foster a love of Nature and an appreciation of the significance of environmental change. And notably, his work is pitched at a level accessible to both children and adults as well as having an enduring appeal across generations. His boundless curiosity, quiet confidence and insightful professional encounters with Nature over almost eight decades shows audiences of hundreds of millions from all walks of life across the globe the importance and legitimacy of observation, investigation and caring. On some geographical topics, Attenborough's elegant but concise explanations are exemplary. These include: ecotones, continental drift, biogeography, the influence of orbital fluctuations and astronomical periodicity on climate, seasonal variation and its impact on land cover, and the human impact on Nature.

Figure 1. Some basic questions used in geographical inquiry
Why is something located there and not somewhere else?
How does distance affect a particular phenomenon?
What processes cause a particular distribution?
What types of maps and mapping are most appropriate for documenting particular distributions, changes or movements?
What is the most appropriate data for investigating particular geographical issues, and what is the best way to present it?
How does a change in distribution affect the way a particular phenomenon functions?
How, and why, does a particular process vary (if at all) at different scales or in different places?
What factors shape the form and function of a place?
What spatial interconnections affect a particular place, region, distribution or process?
What geographical factors cause change in a particular process, place, region, or distribution?
How does population movement affect the demography of a particular region?
What geographical factors make some places of greater strategic, economic or cultural significance?
Are there any spatial associations between particular processes (and are these causally linked or mere coincidence)?
At a particular scale, why do environments vary (e.g. with altitude, geology, latitude or proximity to the coast)?
Why, how and with what consequences, do humans change environments?
How, where and with what consequences, do environments affect humans?
How might local community actions improve global environmental conditions?
Where and how do political trans-boundary conditions affect particular issues and challenges?
How, and why, might global processes impact particular regions differently?
Why might a particular environmental disturbance of a certain magnitude, rate or duration be more damaging in some locations than others?
How does cyclical variation in environmental conditions differ from longer-term change (e.g. in relation to sea level,
climate, animal and plant populations, etc)?
Why, when and where do natural environmental variations become part of longer-term change (e.g. when does the
frequency, duration, intensity or scale of extreme natural events become evidence of longer-term profound change)?
What types of spatial interconnections might amplify future change, and where might this occur most?
Where can the most productive or efficient improvements be made to a particular land use?
Where do particular flows (ideas, pollution, investment, introduced species, etc) begin and what route and processes do they follow to reach a particular place?
What is the most efficient way of distributing infrastructure in a particular region?
What factors, other than distribution, affect people's access to infrastructure (or wealth or wellbeing, etc)?
What would a socially-just geography look like and how can it be achieved in a particular place?
What would an economically-sustainable geography look like and how can it be achieved in a particular place?
What would an environmentally-sustainable geography look like and how can it be achieved in a particular place?
When, and why, might liveability conflict with sustainability?
Are the concepts of interconnection and scale the only, or major, distinctive considerations when successfully applying
geographical solutions to particular problems?
Why might fieldwork be necessary to investigate and help solve geographical problems?
What are the strengths and weaknesses of relying on remote sensing and geospatial digital technology to help solve particular geographical problems?

Closer to home, enduring but only fragmentary images of place have been forged in the minds of the public by the imagined geographies of poets and novelists. These authors include Marcus Clarke, Banjo Patterson, Henry Lawson, Aeneas Gunn, Ion Idriess, Dorothea McKellar, Neville Shute, Xavier Herbert, Oodgeroo Noonuccal, Ivan Southall, Colin Thiele, Chester Eagle and Tim Winton. Artists have even more directly shaped views of our environment including from Eugene von Guerard and S.T. Gill to the Heidelberg School and later Hans Heysen, Albert Namatjira, John Olsen and Pro Hart. In the mass media, and not forgetting the enormous role of radio from the 1920s to the 1950s, national television has more recently brought varied images of 'the bush', the coast or 'the Outback' into our loungerooms. Shows as diverse as travel series Travel Oz, Going Places, Back Roads, and the rural news series Landline have been important in evoking images of place. Icons including naturalists Vincent Serventy, Harry Butler, Ben and Lynn Cropp, and Steve Irwin as well as adventurers Malcolm Douglas, the Leyland Brothers and, of late a growing list of fisher-folk and four-wheel drive enthusiasts, have shaped public images of Australian geography (or, at least, landscape and place and to some extent scale and interconnection).

Many dozens of local historians have written about geographical aspects. And especially in regard to places with harsh climates or difficult terrain, a few have taken an environmental deterministic theme somewhat akin to American historian Frederick Jackson Turner's classic (1893) Frontier Thesis in which environment was seen to shape culture. Environmental historians including Eric Rolls, Tom Griffiths, Libby Robin and Ruth Morgan have also contributed public images of Australian places and their spatial connections, environmental engagements and dependencies. So too, some of historian Don Watson's works give significant scholarly insights into how people have dealt with Australia's geography and environment. But none of these are intended as specialist geographical analyses.

The prolific academic and popular works of palaeontologist Tim Flannery, archaeologist Josephine Flood and geologist Jim Bowler on ancient Australia have profoundly shaped our view of Australia's prehistoric past, including how and where Australia's geographies changed through deep time. And Flannery's views have extended to contemporary biodiversity conservation and climate change, using palaeoenvironments as baselines to measure environmental change and help predict our future so as to shape public policy and shift popular culture.

Arguably, however, the most influential, scholarly and best-known public work of a geographic nature in post- WWII Australia was historian Geoffrey Blainey's 1966 book The Tyranny of Distance. Blainey's masterful ability to capture a concept, theme or period with a memorable phrase did much to promote the importance to Australia's development of geography in general, and distance in particular. Ironically, Neville Shute's bleak 1947 dystopian view of nuclear Armageddon (On the Beach and the 1959 movie of the same name), focusing on Melbourne as the last place on Earth to survive creeping radioactive fallout, was one of the few popular works to have portrayed remoteness as, at least a very temporary, virtue. The benefit of isolation remained mainly the province of the writings of naturalists celebrating the evolution of Australia's unique flora and fauna.

A considerable literature exists on the creation and impact of images of the Australian environment, including its geographies and differing values associated with environmental use and engagement with Indigenous people. This literature on perception formation and the influence of images and beliefs grew considerably from the late 1970s including from the work of geographers. A decade or so later, authors sharing a post-colonial theory viewpoint began to critique and condemn 'the cartographic gaze' of map-makers and early

geographers in general. And related postmodernist literature has also burgeoned. Collectively, these varied works provide school teachers with many opportunities for interdisciplinary studies of geography and environment including wilderness, rural areas, the cities, industrial landscapes and encounters with Indigenous people. It also provides perspectives on why one of the most urbanised, ethnically-diverse and coast-dwelling communities on Earth paradoxically views itself as comprised of quintessentially rural or Outback Anglo- Saxon or Celtic descendants; why the bush looms so large in our imagination; or why despite our Antipodean geography we still find it difficult to relate to our Asian and Pacific near-neighbours. An even more specialised focus is possible on how artists, writers, movie makers and television producers shape our engagement with hazards and disasters. All of this can give insight into how information is acquired, knowledge selected and decisions shaped.

Ideas old and new

The ideas Blainey had so eloquently captured and elaborated were not new. They were the subject of geographical inquiry long before his best-selling book. A decade earlier for example, ANU Professor of Geography Oscar Spate wrote that the 'isolation of Australia is fundamental' (Australia and its dependencies' chapter xxxiv in East, G. and Moodie, A. (1956) The Changing World – Studies in Political Geography, George G. Harrap & Co. Ltd, London, p.803). Furthermore, Spate explained the far-reaching significance of our continent's latitude in relation to the effect on our climate of prevailing wind systems and indirectly, thereby, on our economic development at a time when wheat and wool were king. Isolation, and changes to it, has become a fundamental variable since the mid-1970s in the works of biogeographers exploring the evolution and distribution of Australian ecosystems over tens of millions of years in relation to other parts of Gondwana and the rest of the World. And geographic research shows the enormous cultural, strategic, political, environmental and economic significance of the erosion of isolation by globally-integrating processes such as urbanisation and globalisation. These geographical processes have substantial effects, good and bad, on the everyday lives of people.

Like many Australian Geographers before him, Spate also reflected a mild environmental deterministic position within which physical geography and particularly climate was seen to profoundly limit economic development. That determinism was most prominent, however, in the prolific publications of University of Sydney Geography Chair, Professor Thomas Griffith Taylor, especially in the first half of the twentieth century (for an example of Taylor's later works see Australia – A study of warm environments and their effect on British Settlement 7th edition, Methuen & Co, London, reprint 1966; like Spate, Taylor also focused on Australia's fundamental 'remoteness,' p.14). Both as public servant and later academic, Taylor's mission was to educate policy-makers and the general public of geographic limitations to, and opportunities, for settlement, agriculture, industry and ultimately population. And he promoted a national vision to overcome petty state rivalries and local myopia. For his meticulous environmental research and sobering public warnings, politicians, developers and the press in general vilified Taylor for questioning the prevailing progressive vision of a boundless 'Australia Unlimited'. They viewed Australian Geography and geographers with suspicion. Taylor left Australia in 1928, his work often more appreciated further afield, although even there it gradually lost favour among geographers.

From the 1930s to the 1950s, conservationists lobbied successfully for much greater opposition to environmental destruction. Employing geographical and ecological principles of interdependency, they focussed on restoring the health of the 'Inseparable Trinity' of degraded forests, soil and water. They consolidated systematic urban and regional planning, and fought for the expansion of National Parks. From the late-1960s, a new form of environmentalism has grown enormously with concern at the global scale of pollution, land degradation, unsustainable-consumption, biodiversity loss and climate change.

There is also now a much more positive, but woefullybelated, public engagement with Indigenous people, their culture and knowledge. Before the 1970s, the paternalism of some mainstream geographical thought in relation to Indigenous people was part of a different value-set, thankfully now largely eradicated. Those views were partly based on 17th and 18th century north-west European beliefs in the supposed 'natural' intellectual superiority of the inhabitants of cold-climates – beliefs used to legitimise colonialism and racism in the New World. And those views were later refined, particularly in late-19th century and mid-20th century writings on climatic determinism and the supposed challenges for white people in coping with climatic stress in arid or tropical climates such as in central and northern Australia respectively. These perceived geographical challenges were used to support the, at times forced, immigration of 'coloured labourers' from various Pacific islands. That case formed just one more tragic example of repressive Indigenous geographies of interconnection, movement and place.

The geographers' mission of informing policy makers and the media of geographical opportunities and challenges including environmental conditions, and the consequences of changes thereto, has become even more pressing. Nevertheless, suspicion, opposition and even outright denial still lingers. That opposition comes disproportionately from those who don't view the world through a 'geographic lens'. In the absence of a geographic perspective, or one like it such as an ecological vision, some people don't see, or care about, spatial patterns, processes, interconnections, dependencies and impacts. The fundamental need remains to foster curiosity and critical thinking through various approaches and encourage people to appreciate the World around us. That remains one of the enduring benefits of a geographical education and is a major contribution that can be made by Geography and geographers.

GTAV Executive member

Stephen Legg

specialises in researching historical geography and environmental history. Stephen's career encompassed secondary teaching, writing history and being an academic geographer.

AGTA

a sense of place

www.agta24.au

Register your interest in attending the national conference of the Australian Geography Teachers Association

2-4 october

2024

darwin, nt

PROGRAM SUMMURY

As we are still accepting presenter submissions, we are not able to provide a full program However, we have prepared a summary of sessions to date to assist potential attendeesdentify areas of interest or areas that support professional development.

Fieldwork Skills

Fieldwork is a key element of an AGTA conference, with opportunities to develop skills in the environments of the host city. This year, attendees will have the opportunity to develop fieldwork skills in relation to:

- Water environments - groundwater and marine ecosystems
- Mangrove ecosystems
- National parks - resolving tensions between conservation and tourism
- First nation's land use
- Crocodiles - conservation, tourism and a developing industry
- Tropical landscapes
- Urban heat island effects
- Tropical architecture
- Tropical hazards

In addition, we have some general workshops scheduled to support teachers' ability to conduct successful fieldwork. Session titles include:

- Fieldwork – the Challenge of teaching out of the classroom
- Assessment of Fieldwork Skills

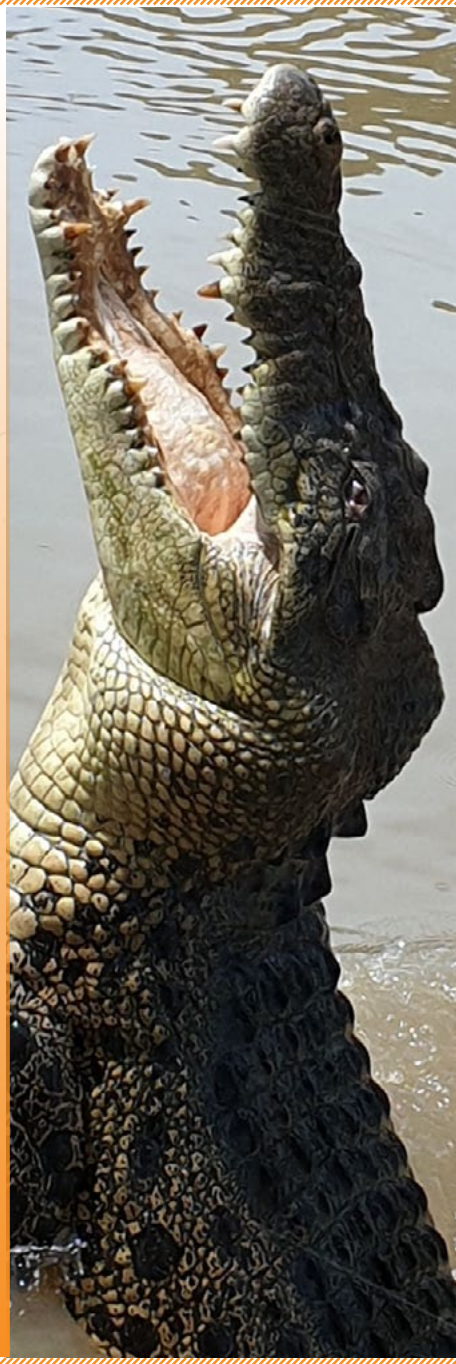
Technology and geography

Geography teaching is seeing an increase in the software and hardware available to teachers to support their programming and to enhance student engagement.

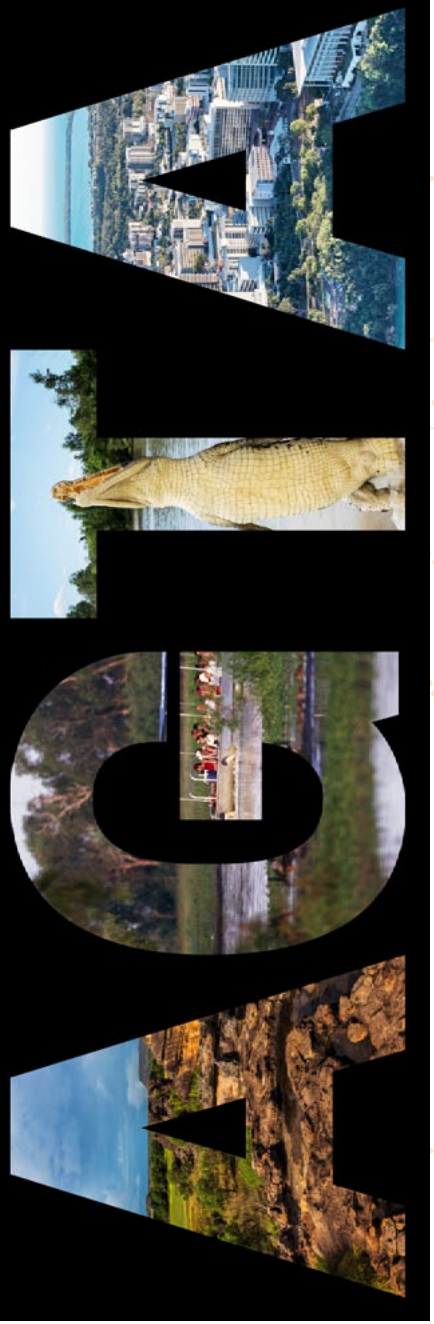
OUR CONFERENCE WILL INCLUDE SESSIONS ON:

- Using drones
- ArcGIS
- Using free software and apps to enhance geography teaching - map creation,statistical analysis, surveying

We are still extremely keen to receive presenter submissions. Click here, or visit our website.



National conference of the Australian Geography Teachers Association



Pedagogical focused sessions

Our program will include sessions aimed to enhance teacher expertise in teaching geography. These sessions will be helpful for those who are newer to geography, as well as those looking to enhance their repertoire.

SESSIONS INCLUDE:

- High Impact Teaching Strategies in the Geography Classroom
- Pedagogy for teaching A Sense of Place
- Effective Teaching Strategies for Engaging Students in Today's Geography Classroom
- Peer teaching geographical concepts in Senior Geography through student-led learning experiences
- Geography Skills for Out-of-Field Teachers

Thematic or content-focused sessions

The conference program will also include sessions that look at specific themes or content areas that align with the curriculum. Note that many of these sessions will also include pedagogical approaches, contextualised for specific areas. Others may be solely
content-focused.

SOME OF THESE SESSIONS INCLUDE:

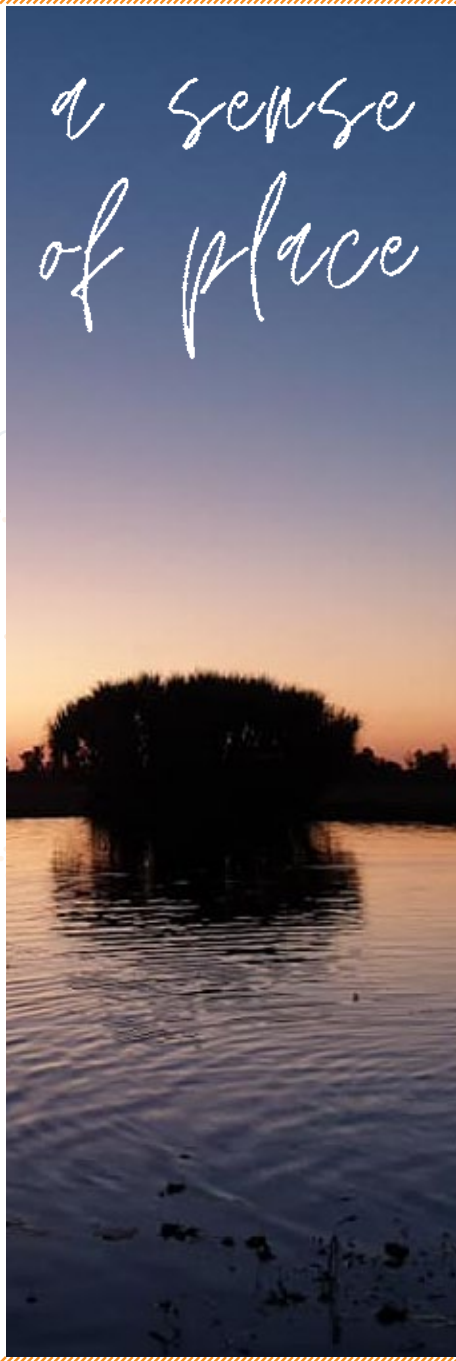
- Urban Heat Islands: Keeping Cool
- Experiencing Australia's Great Southern Reef: Empowering Ocean Literacy Through Experiential Education
- Forests, People, Places - GeoExplorations using EdTech & the ForestLearning Toolkit
- The 50th anniversary of Cyclone Tracy
- Indigenous fire management
- Mapping Australia's Colonial frontier violence
- Engaging students in Geography through ecosystem restoration projects.
- ForestLearning - Forest and Wood Products Australia
- Integrating Indigenous Knowledge into Geography Education: Lessons from New
- Zealand and Opportunities for Australia
- Northern agriculture, including cotton, crocodile farming

Curriculum-specific sessions

The conference program will include sessions related to specific curriculum frameworks, both nationally and in specific jurisdictions. While all of the sessions will align in some way to the curriculum - these sessions have specific curriculum connections.

SESSIONS INCLUDE:

- Exploring Asia and Australia's Engagement with Asia: Unveiling Opportunities in Australian Curriculum Geography Version 9.0
- Empowering Geography Education: A comprehensive showcase of statewide support by NSW Department of Education
- In conversation about the Australian Curriculum: Geography: Harnessing the salience and responsiveness of AGTA members as discipline experts



GEOGRAPHY & HISTORY TEACHERS ASSOCIATION NT - AFFILIATE REPORT - MAY 2024

Overview

- Our membership has slightly declined to 27, which includes:
- 20 individual members
- 2 institutional members
- 3 life members
- 3 pre-service teacher members
- Our management committee is:
- Nelly Labiche, President (HTAA rep)
- Steve Hawkins, Vice President & Secretary (AGTA rep)
- Lucy Murrell, Treasurer
- Jen Waterhouse
- Charleen Conroy
- Jenni Webber
- Seema Jaitly
- Our AGTA 2024 planning committee is:
- Steve Hawkins
- Yuliya Snoxall
- Julie Hearnden
- Anna Hind
- Kate Eadie

Current initiatives

- Our president, Nelly, is committed to regularly scheduling professional learning events for our members, We were successful in obtaining $22,000 in grants for 2024, to use to support of professional learning events, attendance at national conferences and our governance. To date, we have provided the following PD events for our members:
- A small but keen group met in early Term 1 for a Curriculum Bites session, where new teachers could meet with experienced teachers to share ideas
- A successful PD delivered at Palmerston College in Darwin in Term 1Steve Hawkins presented a geographical focused workshop on mapping skills using Datawrapper at this event
- A proposed Term 1 conference in Alice Springs was cancelled due to lack of interest. We will try again in Term 4
- A civics themed event is being conducted in May 2024 with the support of the Parliamentary Education Office

Future focus

- A major focus of both our management committee and conference committee is the 2024 AGTA conference. The planning group has met four times and we have identified a range of speakers, workshops and fieldwork opportunities we think will be engaging and will reflect the geography of the north. There is still much work to do in this space
- We will continue to deliver PD for our members, including a small conference in conjunction with the English Teachers Association NT during Term 4, and hopefully a similar event in Alice Springs
- Our AGM will be held in June 2024 and we hope we can maintain an interested committee
- A major concern for us is very flat membership and declining interest in attending our events. Pre-covid, Alice Springs teachers were excited for PD events but our recent attempt only achieved one registration, with feedback suggesting teachers are too busy to give up their time. We need to be better at explaining the advantages of PD to busy teachers, in the sense that attending a conference will ultimately save you time by sharing successful examples of work

GEOGRAPHY TEACHERS ASSOCIATION NSW & ACT AFFILIATE REPORT - MAY 2024

Overview

CURRENT MEMBERS TO 16TH MAY 2024

- Concessional – 10
- Personal – 57
- Primary School – 16
- School/Organisation – 216
- Pre-Service Teachers – 27
- Total Members = 326

GTA Council

- President - Katerina Stojanovski
- Vice President (Immediate Past President) - Dr Susan Caldis
- Vice President - Lorraine Chaffer
- Vice President - Rebecca Sutcliffe
- Vice President - Kieran Bonin
- Treasurer / Public Officer - Dr Grant Kleeman
- Councillor (& ACT Representative) - Michael Da Roza
- Councillor - Stephanie Boden
- Councillor -Drew Collins
- Councillor - Alexandra Pentz
- Councillor - Martin Pluss
- Councillor (Co-Opted) - James Harte
- Councillor (Co-Opted) - Ben Terrell

Current Initiatives

The Association has employed Diana Gearside as our Executive Officer to reduce administrative load on the volunteer council members and to improve the consistency and efficiency of services offered to our members. Overall, this will facilitate the fulfilment of our mission to 'represent the professional interests of Geography teachers in NSW & ACT and enrich geographical education more broadly in society' and vision to 'enhance geography education in NSW & ACT by providing, advocacy, professional learning, resources and support'.

ANNUAL CONFERENCE:

The Annual Conference "Growing Geography" was held at Rydges World Square, Sydney on 16 & 17 May 2024 and was a resounding success with a total of 257 registrations – 177 delegates in attendance Thursday and 199 on Friday. It was gratifying to see delegates travel from all over the state and territory to attend. The feedback from delegates about the quality of the presenters, workshops and resources shared has been positive and the overall enjoyment of two days networking with colleagues and immersing ourselves completely in Geography was palpable.

CURRICULUM:

Stage 6 Geography Course – Year 11 2026 – Implementation The publication date of our newest textbook entitled "Powerful Geography" is imminent. This text is for Stage 6 and is a large selection of interesting Case Studies that complement the syllabus-based textbooks already available to NSW and ACT teachers.

ADVOCACY:

Stage K-6 & 7-10 ' Have Your Say' Syllabus Consultation is completed. The general consensus from GTA NSW & ACT Council and members is the refinements made have strengthened the syllabus.

GBWO:

GTA NSW & ACT have the pleasure of hosting the national initiative, the Geography Big Week Out in the ACT in October 2024. Planning for this event is underway. Details are currently being finalised.

Future Focus

The council members will continue to support the familiarisation of the Executive Officer with all the functions and initiatives of the GTA NSW & ACT including membership support, digital resources such as The Bulletin Journal and webinars and other events.

The council have engaged a consultant to provide expertise with the Governance requirements of the Association to ensure compliance and efficiency. The growth of the

GTA NSW & ACT remains our ongoing focus.

Awards/Recognition

GTANSW &ACT continues to honour those who have made contributions to the geography teaching profession. At the annual conference we were able to celebrate some very special individuals by awarding Dr Susan Caldis the Fellowship of the GTA NSW & ACT, Christina Kalinic the Geoff Conolly Memorial Award, Simone Babic the Brock Rowe Award 2023 and Khya Brooks the Brock Rowe Award 2024

Annual Conference 2024

Some members of the "Dream Team' GTA NSW & ACT Conference 2024

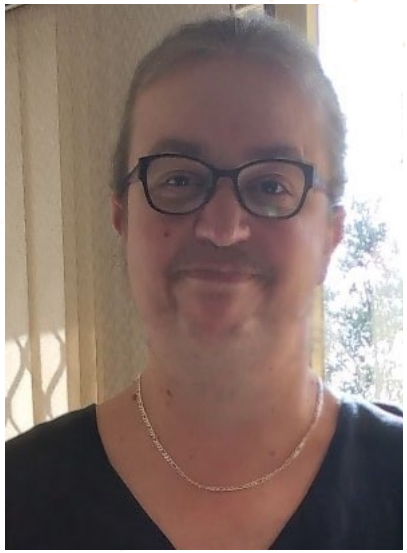
From left to Right: Diana Gearside (Executive Officer), Michael Da Roza, Katerina Stojanovski, Lorraine Chaffer, Rebecca Sutcliffe, Alex Pentz, Stephanie Boden, Drew Collins.

AWARD WINNERS

GTANSW & ACT Fellowship Award: Dr Susan Caldis

Brock Rowe Award 2024: Khya Brooks

Brock Rowe Award 2023: Simone Babic



Geoff Conolly Memorial Award: Christina Kalinic

GEOGRAPHY TEACHERS ASSOCIATION OF QUEENSLAND AFFILIATE REPORT- MAY 2024

1. Membership

MEMBERSHIP STANDS AT MAY 2024

- 152 institutions
- 38 individuals
- 3 Pre-service

2. GTAQ Focus

THE COUNCIL HAS FOCUSED ON 3 KEY AREAS FOR 2024

1. Professional Development
2. Membership re-engagement
3. Connecting (networking, mentoring, advocating)

3. Annual Conference and Professional Development

CONFERENCE 27 JULY 2024

- Learning Ideas – Innovations in learning and technology for teaching Geography
- New for 2024 – Student Stream as part of the conference

PROFESSIONAL DEVELOPMENT SESSIONS

Continuation of the beginning teacher PDs

- Internal Assessment construction
- IT in Geography

4. Promotion of Geographical Education

CONTINUED FOCUS TO CONTRIBUTE TO CURRICULUM CHANGE THROUGH

- Journal published 3 times a year
- JCQTA alignment
- V9.0 updates and new syllabus revisions
- Queensland senior syllabus review – contribution to feedback from GTAQ members to QCAA
- Sharing of #GoWithGeo resource with schools in time for subject selections

gtaq INC

GEOGRAPHY TEACHERS' ASSOCIATION OF S.A AFFILIATE REPORT - MAY 2024

Overview

- At the current time our total membership is 97 members, with 77 paying members and 20 non-paying members (life members and pre-service teachers).
  The executive committee consists of 14 active members. We continue to outsource a number of our administrative roles to Educators SA.
- Office Bearers for 2023/24
- PRESIDENTS: Simon Miller SECRETARY: Domna Margaras
- Other roles (honorarium attached):
- JOURNAL EDITOR: Vacant
- WEBSITE MANAGER: TBC
- CONFERENCE CONVENOR and EDUCATORS SA LIASION: April Bickley

Current initiatives

MIDDLE SCHOOL FIELDWORK WORKSHOP

In March we ran a very successful Middle School Fieldwork Professional Learning event. 14 teachers attended the event hosted by Christian Brothers College where they took part in some demonstrations of possible urban fieldwork around the CBD and on school campuses. The event was followed up by a drinks function.

- RGSSA FIELDWORK COMPETITION

  Entries have now closed on our jointly run competition. It has been pleasing to see more entries from a wider range of schools in all year levels. The Governor of South Australia will be awarding prize winners at the end of the month.

- AUSTRALIAN CURRICULUM MIDDLE SCHOOL SHARING BEST PRACTICE NIGHT

  With the introduction of Version 9 we ran a sharing of approaches and networking night at the end of the Term 2, with a combination of sharing of approaches by experienced teachers, sharing of resources and ideas and a Q and A session.

- GTASA has been lucky to have an intern from the University of Adelaide who has developed a database of school's involvement in geography to target more carefully membership and PD offers and events.

- We are about to launch our 3rd annual photography competition. This event continues to be hugely successful and grow in entries and profiles. We now have corporate sponsors and the awards afternoon has become very well attended.

Future Focus

- With the assistance of our intern we are developing a guide and resources to accompany the EPA's "state of the environment", matching Australian Curriculum V9 themes to specific case studies.

- We are also about to launch a membership drive for Department schools with a year's half price membership. We have completed research to identify schools that offer Geography beyond Year 8 and to match contact teachers to increase engagement.

GTASA Geography Teachers' Association of SA

Promoting and supporting the teaching and learning of geography in South Australia

TASMANIAN GEOGRAPHY TEACHERS ASSOCIATION AFFILIATE REPORT - MAY 2024

Overview

- Membership currently stands at 16 (1 Life, 7 Schools, 3 Individual, 5 pre-service)
- President: Caryn Shield
- Vice President: Erin Leder
- Secretary/Treasurer: Karen Caporelli
- TGTA Life Member: Dr Greg Calvert
- Committee Members: Debbie Claridge, Dr Bianca Coleman

Current initiatives

This year, a key focus for the TGTA is engaging teachers who are new to teaching Geography, whether they be pre-service, graduate, or more experienced but out-of-field teachers. To assist with this, we embarked on a new method of communication. Anecdotal feedback had indicated that many teachers were not reading or receiving our regularly emailed newsletters, so we trialled a project that aimed for more effective dissemination of information. At the start of th a wide range of questions during the informal Q&A session. The second 'follow-up' session will take place later in the year e school year, the TGTA approached numerous organisations to help construct a 'Geography Teaching Resource Pack' that we mailed out to all members, as well as non-member secondary schools and colleges. The pack contained information on upcoming competitions, fieldwork opportunities, the AGTA Conference, and TGTA scholarships. It is hoped that having a hard copy of information, might result in greater engagement with the material.

The TGTA has also continued to offer online professional learning opportunities to members. In May, we offered the first of our online 'Ask the Expert' mentoring workshops. This first session engaged pre-service secondary Geography teachers and covered key teaching resources, activities and skills. The students were highly engaged in the session and asked.

Future focus

The TGTA is now a member of the 2024/25 Tasmanian National Science Week (NSWK) /Inspiring Australia -Tasmanian Festival of Bright ideas (FOBI) Sub -Committee. Last year, 29 local STEM affiliated organisations hosted interactive experiences and activities for more than 4,700 curious Tasmanians. This is wonderful recognition of Geography as a STEM subject and a great opportunity to further promote the subject in this space.

The TGTA continues to build on its collaborations with external stakeholders. Most recently, the TGTA has been approached by the University of Tasmania, to discuss how our two organisations could better support pre-service teachers. The University has secured a grant from the Higher Education Research and Development Society of Australia to support a pre-service teacher mentoring program and we have now commenced discussions regarding how we can recruit and engage practicing geography teachers to share in critical reflections/discussions about their practice, and geography teaching more generally, with pre-service teachers.

GEOGRAPHY TEACHERS' ASSOCIATION OF VICTORIA I.N.C AFFILIATE REPORT - MAY 2024

PREPARED BY GENEVIEVE NEWTON, GTAV EXECUTIVE OFFICER

Overview

MEMBERSHIP

There were 823 members as of 31 December 2023, including 435 paid and 388 non-paying memberships. This includes individual, school, organisational, pre-service teacher, friend of the GTAV and life members. Free membership is offered to primary schools, pre-service teachers, life members and selected organisations.

2024 Management Committee Members

ON 4 DECEMBER 2023, THE FOLLOWING MANAGEMENT COMMITTEE MEMBERS WERE APPOINTED:

- Peta Turner (President)
- Paul Cross (Vice President)
- Neil King (Vice President)
- Trish Douglas (Secretary)
- Paul Turner (Treasurer)
- Stephen Legg (Immediate Past President)
- Simone Barlow
- Maree Boyle
- Cory Capogreco
- Sam Connell
- Mark Easton
- Catherine Holmes
- Ben McManamny
- Paul Rogers
- Fiona Taylor

Current Initiatives

The GTAV 2024 Events Calendar offers a variety of professional learning sessions and programs aimed at educators and students. There are 10 online professional learning sessions, 2 in-person workshops, 2 conferences, 3 student lectures, and a 3-day school holiday program.

The online professional learning program consists of 7 curriculum-aligned webinars, each lasting 90 minutes. These cover substrands for Years 7-10, geographical concepts, fieldwork planning, and preparation for the VCE Unit 3 and 4 examination.

In February, the GTAV conducted 3 workshops: 'Step Up to Geography' for VCE Unit 3 and 4 students, 'New to VCE' for teachers, and 'Upskilling in Geography', an online intensive for out-of-field educators. In May, the GTAV hosted the VCE External Assessment Report Presentation, delivered by the VCAA Chief Assessor – Geography, offering insights into student performance in the 2023 VCE Geography Examination.

The GeoMentoring program, launched in 2023 with funding from the Victorian Department of Education's Strategic Partnerships Program, is being run again in 2024, specifically for VCE Unit 1-4 teachers. This program connects mentors and mentees online to provide support, advice, and share teaching and learning resources and strategies.

GTAV collaborates with external organisations to develop teaching and learning resources. Current projects include authoring a cross-curricular fieldwork resource for year 9 students, focusing on Lendlease's new over-site development in Melbourne's CBD, and a resource for Wimmera Catchment Management Authority which explores First Nations connection to country and the management of water and resources in the Wimmera region.

The GTAV member-only journal, Interaction, is available as a digital download 4 times each year. The December 2023 edition focused on 'The Extremes of Our World,' while the March 2024 edition was titled 'The Geography Lens.'

Future Focus

In July, GTAV will host GeoTech24, a 3-day intensive school holiday program aimed at inspiring female and non-binary students in Years 9-12 to pursue careers in geospatial and space technologies. In partnership with SheMaps and RMIT University's Space Industry Hub, this initiative is funded by the Australian Federal Government under the WISE grant program. Students will enhance their skills through practical activities and interact with female role models and industry professionals from leading organisations such as Esri Australia, The Geospatial Council of Australia, FrontierSI, VicMap (Department of Transport and Planning), James Cook University, and RMIT University.

The GTAV Annual Conference 2024 is scheduled for Monday, August 12th and Tuesday, August 13th. Day 1 (Conference Day) will be held at RACV City Club in Melbourne, while Day 2 (Fieldwork Day) will take place at various locations. The conference's theme is 'Geography: Empowering the Next Generation'. The VCE Conference 2024 is scheduled for Monday, November 25th.

Image 1:

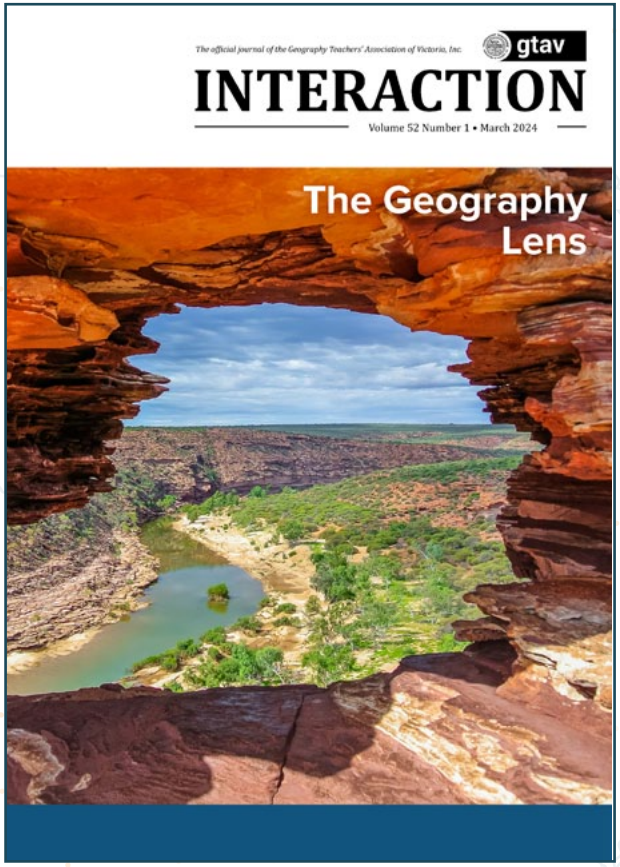


Image 2

- GTAV Events Calendar 2024
- Interaction Journal, Vol 52, Issue 1, 2024 - Cover Image
- GeoTech24 – Event Banner

Images can be hyperlinked to the GTAV website as follows:

IMAGE 1: GTAV EVENTS CALENDAR 2024
https://www.gtav.asn.au/events

IMAGE 2: INTERACTION JOURNAL,
VOL 52, ISSUE 1, 2024 - COVER IMAGE
https://www.gtav.asn.au/resources/interaction-journal

IMAGE 3: GEOTECH24 – EVENT BANNER
https://www.gtav.asn.au/geography-students/geotech-2024

Image3

GEOGRAPHICAL ASSOCIATION OF WESTERN AUSTRALIA AFFILIATE REPORT - MAY 2024

Overview

MEMBERSHIP

As of May 2024, there are 158 members of which 121 are Metropolitan Members, 32 are Country Members and 5 are Student and Corporate Members. These figures include institutional and individual memberships

GAWA Committee 2024

GAWA EXECUTIVE

- **President** Peggy Bakalis
- **Vice-President** Laura Billington
- **Vice-President** Sarah Williams
- **Treasurer** Danielle Pisconeri
- **Secretary** Darryl Michie
- **Past-President** Leo Conti

GAWA COMMITTEE

- Jon Wyllie
- Richard Kostecki
- Rosemary Cawley
- Rachel Scott
- Brittany Halpenny
- Tracy Sterling
- Gigi Fear
- Jessica Murphy

GAWA OFFICE STAFF

Business Manager

- Alan May (ex officio)

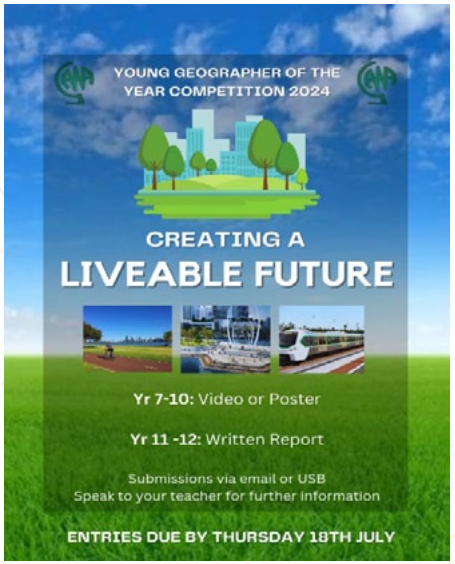
Office Administrator

- Brittany Halpenny

Current Initiatives

GAWA has just completed the first Exam Revision Seminar for Year 12 ATAR Geography Students for the Semester One Exams. This event was offered in person and online with a very pleasing attendance of 170 students. On Tuesday 14th May the annual GeoNight took place at Curtin University. This event was attended by 45 people and demonstrates the continued collaboration that exists between GAWA and Universities in Perth. The evening featured a presentation that explored the geography of how running and globalisation interact and Beekeeping in Western Australia.

2024 is the fifth year that GAWA has been running the The Young Geographer of the Year Competition. This year it is titled "Creating a Liveable Future". Entry categories are for Years 7 to 10 and Year 11 and 12. The winners will be announced at the GAWA Conference. The Joseph Gentilli Memorial Award for Excellence in Geographical Education is an annual award that is also announced at the Conference.



Our promotion of Geography continues via the GAWA Website as the main form of communication used between members and the Association. Facebook, X and Instagram, are platforms that continue to be effective especially to communicate to non-GAWA members, students and the general public. Our Instagram is gawageoinsta and there are now 48 followers.

Exam packages have been released for the Semester One Exams and the Semester Two Exam is currently under review. The 2024 Study Guide has also been released this semester by GAWA, featuring the updated syllabus changes that were in the 2023 WACE Exam.

Future Focus

GAWA continues to collaborate with UWA, as Associate Professor Kirsten Martinus has coordinated a WA Geography Seminar Series on various topics related to Geography. These are offered to GAWA members via a meeting link for online attendance. Alternatively, in person attendance is also offered on campus at UWA. In Term 4 this year, several universities have offered to work with GAWA to offer teachers a PD on pathways for students who have studied Geography. This will further promote the subject and hopefully lead to an increase in the number of students selecting the subject at an ATAR or General level. The annual conference this year, will also feature a Presentation based on career pathways for students studying Geography.

The annual GAWA Conference is a one-day package on Friday, 2nd August at the Pagoda Resort & Spa. Themed 'Geography shapes the future", this year's program is packed with 8 different workshops, 2 incursions and 3 excursions on offer. The day will end with networking time for attendees and a conference dinner.

PEGGY BAKALIS

PRESIDENT OF THE GEOGRAPHICAL ASSOCIATION OF WESTERN AUSTRALIA

MAY 2024 AGTA BOARD MEETING