GEOGRAPHY BULLETIN

Hopeful Geography

Spatial Technologies

The Geography Teachers Association of New South Wales Inc.

Volume 54 No4 2022

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EXECUTIVE 2022

GEOGRAPHY BULLETIN

Journal Editor

Lorraine Chaffer

Articles and letters should be sent to the Editor:
Lorraine Chaffer
Email: lchaffer@tpg.com.au

Design and layout

Jill Sillar, Professional Teachers' Council NSW
Email: design@ptc.nsw.edu.au

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The Geography Teachers Association of NSW & ACT Inc.

OFFICE OF THE GEOGRAPHY TEACHERS' ASSOCIATION OF NSW & ACT

ABN 59246850128
Address: 67–71 St Hilliers Rd, Auburn NSW 2141
Postal Address: PO Box 699 Lidcombe NSW 1825, Australia
Telephone: (02) 9716 0378, Fax: (02) 9564 2342
Email: gta.admin@ptc.nsw.edu.au
Website: www.gtansw.org.au

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Front cover: Climate Change. Source: dreamstime.com

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The Geography Bulletin is a quarterly journal of The Geography Teachers' Association of NSW & ACT Inc. The 'Bulletin' embraces those natural and human phenomena which fashion the character of the Earth's surface. In addition to this it sees Geography as incorporating 'issues' which confront the discipline and its students. The Geography Bulletin is designed to serve teachers and students of Geography. The journal has a specific role in providing material to help meet the requirements of the Geography syllabuses. As an evolving journal the Geography Bulletin attempts to satisfy the requirements of a broad readership and in so doing improve its service to teachers. Those individuals wishing to contribute to the publication are directed to the 'Advice to contributors' at the back of this issue.

GEOGRAPHY BULLETIN

Volume 54, No 4, 2022
EDITOR: Lorraine Chaffer

CAREERS

FIELDWORK

EDITORIAL

Welcome to the final edition of the GTA NSW & ACT Geography Bulletin for 2022. The focus during the year has been on providing a mix of professional learning readings and teaching resources for classroom use, interspersed with updates on issues related to the status of geography teaching across Australia and career related resources. The continuing impact of Covid 19 and the increasing demands on teachers, has highlighted the important role the association plays in supporting geography teachers.

In this edition, articles have been organised under two themes

- Hopeful Geography
- Careers and Geography

More than ever, there is a critical need to showcase how the skills and tools developed during studies in geography are transferable to many careers and fields of study.

At GTA we are excited to see the launch of the Australian Geography Teachers Association careers website #GOWITHGEO. Look for the QR code on future GTA resources and in Geography Bulletins.

The collection of articles and resources, republished or written specifically for this edition, are designed for teachers to reflect on their teaching practices as the year winds down and to consider adopting or adapting something new when planning for 2023.

Many thanks to the following organisations and authors who permitted the republication of material highly relevant to the chosen themes.

Stephen Scoffham Geographical Association UK	Finding Hope in a time of crisis
Max Roser Our world in data	The world is awful. The world is much better. The world can be much better.
David Alcock alcockblog / @DavidAlcock1	Hopefulness – An active assembly Educating for Hope – how can educators overcome the Perils of Perception?
Simon Mustoe, Wildiaries	Our sunburnt country, Anika Molesworth. A book review

To the authors who wrote material specifically for this edition, many thanks for sharing your ideas and for the time and commitment given to supporting geography teachers in NSW.

Lorraine Chaffer	Introduction to hopeful geography
Amy Freshwater	Solutions-based teaching for hope in geography
Stephanie Bowden	Reflection on Hope and Grief in the human geography classroom
Alison Lewis	Spatial technologies in my career
Kathy Jones	Connecting fieldwork to careers
Holly Burgmann, OHEEC	Simple Apps for fieldwork.

Lorraine Chaffer

EDITORIAL

Submitting articles for Geography Bulletins in 2023

Early themes for 2023 will be Literacy, Numeracy and Spatial Technologies.

If you have a program in your school, are proud of an initiative you have implemented or a task you have created, please get into contact with the editor via gta.admin@ptc.nsw.edu.au or simply send it along. Inside the back cover of each edition are some guidelines for submission.

I am excited to finally hear that the new Stage 6 Geography syllabus will be released this year. This means GTA will be planning events and support materials during 2023 – the year of familiarisation, ready for implementation in Year 11, 2024. I envisage that at least one Bulletin will be a Stage 6 Syllabus Edition.

So often we are inspired by the activities other schools or teachers use and benefit from sharing our classroom practices. I have always believed that geography teachers are the best sharers because we care about our subject as much as our own intellectual property. The material or ideas we publish remain your own intellectual property unless we pay you to create a particular resource.

Have a wonderful holiday break and take time to enjoy the awesome world of geography just by being in it, not working to explain it – until Term 1 2023.

Lorraine Chaffer

Editor

2023 GTA NSW & ACT COUNCIL

From the President

Katerina Stojanovski

Dear Colleagues,

On Monday 31st October 2022, the GTA NSW & ACT held its Annual General Meeting. At the meeting, the Council for 2022–2023 were elected.

I was delighted to be elected President and I am looking forward to the opportunity to lead Council in 2023 as we work together to advocate for geography education at a state and national level.

I would like to take this opportunity to thank the 2022–2023 Council for their commitment in volunteering their time to support Geography teachers next year. It is through their commitment that Council can source, develop geography professional learning and teaching resources.

Areas of focus will be to:

- Support NSW geography teachers including out-of-field, early career, teachers new to geography and experienced geography teachers.
- support the recommendations of the Decadal Plan in our role as a state association implementing the national agenda e.g.
  - To better prepare out-of-field geography teachers
  - Geography to be recognised as a partial STEM subject
  - GTA NSW & ACT to connect in with AGTA, IAG and GSNSW
  - Increased collaboration between schools and university Geographers

Council plans to meet for a planning day in December – January to set the agenda for 2023.

Information about events to be held in 2023 will be communicated in the new year. We are anticipating the release of the new Stage 6 Geography syllabus and draft 7–10 Geography syllabus and GTA will prepare to support teachers through these changes when they occur.

The 2021–2022 Annual Report can be found at the end of this issue. A full version of the Annual Report can also be found on the GTA website under the *About Us* tab.

Thank you for your continued interest in and support of the work of GTA NSW & ACT. We look forward to supporting you in 2023.

Kind Regards
Katerina Stojanovski
President GTA NSW & ACT

GTA NSW & ACT COUNCIL FOR 2023

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MARTIN PLUSS Life Membership

Citation

Martin Pluss has been involved with GTANSW (Now GTANSW & ACT) since 1983 when he joined as a university student. At this time, he contributed *The Evolution of Strathfield* for the association journal, the Geography Bulletin. Martin became a GTA Councillor in 1995 and has been involved in the association ever since, freely giving his time and sharing his expertise to support the work of the Association. Martin created and managed GTA's first website, held the executive position of Vice President, has presented at GTA conferences and events, represented GTANSW & ACT on NESA committees and played the very important liaison role between GTANSW & ACT and The Geographical Society of NSW for over 20 years.

Martin has been a prolific writer of materials for the Geography Bulletin with over 50 published pieces and he continues to contribute, helping to fulfil one of the main aims of GTANSW & ACT in supporting the professional learning of teachers. Martin generously shares his thoughts on geographical education and trends, such as his commentary on HSC candidature in *Geography Effect: Two Decades of Change* (2021) as well as sharing his classroom practices for other teachers to use or adapt in pieces such as *A framework for learning about Aboriginal and Torres Strait Islanders in the Geography classroom* (2021).

A passion for the integration of ICT and local geographies have been a focus of Martin's contribution to the professional learning of Geography teachers in NSW. As the demand for teachers to integrate digital technologies and platforms into their pedagogical practice increased, particularly during the 2000's, Martin provided support in areas such as using the Internet, Google, Twitter, Augmented Reality, and blogs through articles in the Geography Bulletin, conference presentations and workshops. His passion for local geography and using personal experiences is reflected in *Unleashing our inner geographer: Sharing your stories and building a geographical narrative* (2020) and sharing his experiences at both regional and Sydney based events.

Martin's exemplary classroom practice was recognised through his involvement in Strengthening Standards Research GeogStandards Project, by Melbourne University (2008) in which his lessons were videoed as examples of exemplar teaching.

Martin's achievements and service have been recognised through several awards including the meritorious McDonald Holmes Medal awarded by the Geographical Society of NSW and GTANSW to acknowledge ongoing and distinguished contribution to geographical education in Australia. He has also been awarded

- Fellowship of GTANSW (2005), the highest recognition given to a GTA councillor
- the Outstanding Professional Service Award from the Professional Teachers Council NSW in recognition of voluntary work undertaken for GTANSW
- the Geoff Conolly Award for contributions to the Geography Bulletin (2013)
- at a national level, the Australian Geography Teachers Association Website Award for Global Education (2004).

Martin's carefully considered, experiential and data based contributions to Association meetings, his good humour and his passion for Geography education have made him a pleasure to work alongside. The length of time Martin has fulfilled the role of Councillor, along with his level of active involvement is a testament to his commitment to the Association overall and the Council of GTANSW & ACT.

In recognition of this significant and continuous contribution it is with great pleasure that the GTA NSW & ACT Council awards Martin Pluss with Life Membership to the Association in 2022.

GTA NSW & ACT Online Learning Courses Win National Award

GTA NSW & ACT Open Learning Courses – 'Winner 2022 AGTA Awards' in the category of 'Geographic Education Resource' for the Resource – *Open Learning Courses*

Paul Batten receiving the award at the 2022 AGTA Conference

The Geography Teachers Association of NSW & ACT's 'Open Learning Courses' were judged as winners in the category of 'Geographic Education Resource' at the AGTA awards recently. The award was presented to Dr Paul Batten at the 2022 AGTA Conference, Hobart, Tasmania, September 2022.

Award Citation

This certificate has been presented in recognition of the quality of the product in terms of its currency, authenticity, application of contemporary understandings about how students learn, the use of cutting-edge production and contemporary and innovative style in supporting geographical education in Australian schools.

GTA NSW & ACT Open Learning Courses is an excellent resource for K–12 Geography teachers in NSW and Australia, more broadly. The courses' ability to build understanding, knowledge and skills amongst the Geography teaching community in a collaborative and collegial environment define its discerning quality and practicality. The student-centred focus and collaborative learning activities provide participants with pedagogical learnings of the highest quality.

GTA are proud to announce the following highly acclaimed Open Learning Courses that were part of the 'winning 2022 AGTA awards E-learning suite'.

Click on the course name to find out more.

- Geo 101: Understanding Concepts to Better Teach Geography #1
- Geo 102: Understanding Concepts to Better Teach Geography #2
- Geo 110: Intro to Maps for Teaching Geo
- Geo 111: Intro to Topo Skills
- Geo 141: Teaching Place & Liveability
- Geo 241: Liveability Ext
- Geo 142: Teaching Landscapes & Landforms
- Geo 242: Landscapes Ext
- Unpacking the HSC Exam
- Showcasing STEM in Geography #1 and #2

A note about accessing the courses

Prices – $99 for members, and $129 for non-members. Register straight away at the website links noted above, by first creating an Open Learning account by clicking **Join Up / Sign Up**, and then paying using credit card.

If your school can pay for you, follow the instructions at shorturl.at/aBOU7 to organise an invoice. If you have any questions email gta.elearning@gmail.com

We hope to see you online, GTA Online Learning team

2022 Geography's Big Week Out

I'm grateful I had the opportunity to attend Geography's Big Week Out. It was sensational. Bryant

The 2022 Geography's Big Week Out (GBWO) was held from 3 to 7 July in Darwin and Litchfield National Park. Sixteen Year 11 students from around Australia were invited to participate, based on their outstanding performances in the Australian Geography Competition:

Student	School	State/Territory
Jamie Blackburn	Trinity Grammar School	Victoria
Jordan Conis	Citipointe Christian College	Queensland
Charlene Du	Glenunga International High School	South Australia
Liam Dufty	Shenton College	Western Australia
Nivedita Gawarikar	Canberra Grammar School	Combined Territories
Michaela Graham	McKinnon Secondary College	Victoria
Ruby Harding	Roseville College	New South Wales
Marcus Len	Normanhurst Boys High School	New South Wales
Thomas Lin	Canberra Grammar School	Combined Territories
Adit Mahidadia	Sydney Boys High School	New South Wales
Michael Reid	The Friends' School	Tasmania
James Richards	The Hutchins School	Tasmania
Cate Ward	Loreto College	Queensland
Jessica Warren	Lumen Christi College	Western Australia
Bryant Wu	Glenunga International High School	South Australia
Jasmine Ye	Meriden School	New South Wales

The activities were led by Steve Hawkins and Julie Hearnden, from the **Geography** and History Teachers' Association of the Northern Territory, and Shane Albertson and Kath Berg, from the Australian Geography Competition Committee.

Students at Litchfield National Park

Larrakia dancers at the Darwin flag-raising ceremony for NAIDOC Week

GBWO was held in a week when more than half of all domestic flights were delayed or cancelled! However, we managed to get all the students there by midnight and were relieved that we had not planned to travel to Litchfield National Park until the following day. GBWO was held in NAIDOC Week so before leaving Darwin we attended a ceremony to mark the start of the week.

The NAIDOC week ceremony has been instrumental to my understanding and appreciation of Indigenous Australians and has inspired me to advocate for their livelihoods and recognition more meaningfully within my own community. Jasmine

Stream measurements in Litchfield National Park

Students spent two days carrying out fieldwork in Litchfield National Park. They were investigating whether Litchfield NP was being managed sustainably as a tourist attraction while still maintaining the values of a national park. Activities included: taking various stream measurements to assess popular swimming sites; recording numbers and demographics of visitors; interviewing visitors; mapping tourist infrastructure; and, discussing park values and threats to sustainability with a national park ranger.

Interviewing a visitor to Litchfield National Park

One area of geography which I was able to explore better was measuring stream efficiency and river discharge - something that I had read about in textbooks and memorised formulas for, but had never had the opportunity to conduct in real life. The actual experience of taking stream measurements was far from tedious – the combination of warm air, a cool flowing stream of water and nice company made for an all-around enjoyable experience. Thomas

The tourist surveys allowed us to learn more about different people's experiences in the different sites. It also led to some really fulfilling interactions with tourists from all around Australia who were normally more than happy to have a chat with us. Cate

There was also time for fun activities, such as swimming under waterfalls and a campfire with marshmallows.

I really appreciated the swimming; it was great to cool off and have fun with everyone else. Jessica

Enjoying Buley Rockhole

Returning to Darwin, the students investigated whether Darwin Esplanade and the Waterfront Precinct met the principles of good design for urban public spaces. This involved some of the same activities as the students had carried out in Litchfield NP: recording numbers and demographics of visitors; interviewing visitors; mapping infrastructure – and experiencing the wave pool first-hand.

Students had to work in the evenings as well

Sitting the test at the Michael Long Learning and Leadership Centre

Throughout GBWO students worked in groups, splitting tasks between the groups and then sharing their data and uploading it to a common website.

On the last day the students sat a test from which we selected the team to represent Australia at the 2023 International Geography Olympiad to be held in Bandung, Indonesia.

Congratulations to:

Marcus Len	Normanhurst Boys High School
Thomas Lin	Canberra Grammar School
Adit Mahidadia	Sydney Boys High School
Jasmine Ye	Meriden School

Students participating in the 2023 Australian Geography Competition will have the chance to represent their state/territory at the next Geography's Big Week Out and their country at the 2024 International Geography Olympiad in Dublin.

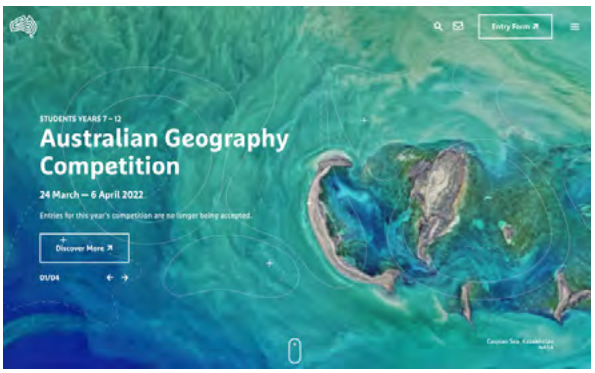
Geography's Big Week Out and Australia's participation in the Olympiad are supported by the Australian Government Department of Education, Skills and Employment, the University of Melbourne, and the University of New South Wales.

For more information on the Competition, see the website at www.geographycompetition.org.au or email competition@rgsq.org.au.

AUSTRALIAN GEOGRAPHY COMPETITION

Watch for news about the 2023 competition

Website https://geographycompetition.org.au and Facebook.



2022 International Geography Olympiad

The Olympiad was one of the most incredible experiences of my life and I will never forget it. Jessica

Students from a record 54 countries took part in the 2022 International Geography Olympiad. Unfortunately it had to be held virtually, so instead of going to Paris, the Australian team gathered on the Gold Coast from 11 to 18 July. Representing Australia were:

Lucy Schwarz, Arden Anglican School, Sydney, NSW

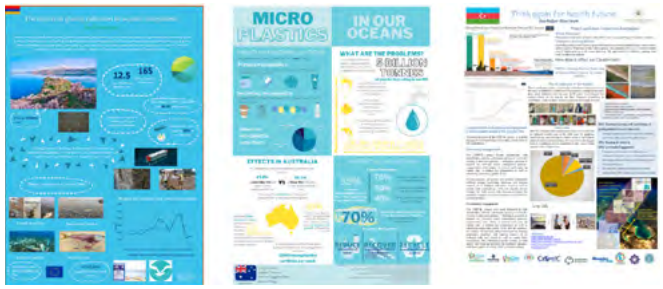
Justine Thomas, Comet Bay College, Rockingham, WA

Ioanna Vaughan-Jones, Walford Anglican School for Girls, Adelaide, SA

Jessica Wang, St George Girls High School, Sydney, NSW

L to r: Ioanna, Jessica, Justine, Lucy

The Olympiad programme usually consists of three separate exams, poster presentations, a cultural function and visits to places of geographical interest. For the poster presentation, teams prepared a poster in advance on the theme of microplastics, the effects in their country and possible solutions. They shared these online and met virtually in small groups to discuss each other's posters – not quite the same as a large noisy crowd of students engaged in face-to-face conversations!



Posters from Armenia, Australia and Azerbaijan

During the cultural function, teams participate in hands-on learning about some aspect of our host country's culture. The French hosts came up with the smart idea of teaching everyone to cook a classic French omelette. A list of ingredients and equipment was supplied in advance. Not all teams were able to access a kitchen, but some could. It was no problem for Australia as the team was staying in a large house. So, with web cameras on, the students got cooking.

A selection of teams cooking during the cultural function

As a small compensation for missing out on exploring Paris and the surrounding region, the students explored the Gold Coast and its hinterland – on the water, in the air and on the land.

Paddle boarding on Currumbin Creek

Exploring the Gold Coast hinterland from a helicopter …

… and on foot

We are proud of the achievements of all four students but special congratulations to **Ioanna who was awarded a bronze medal**, and **Lucy on her gold medal.**

Geography's Big Week Out and Australia's participation in the Olympiad are supported by the Australian Government Department of Education, Skills and Employment, the University of Melbourne, and the University of New South Wales.

Students participating in next year's Australian Geography Competition will have the chance to represent their state/territory at the 2023 Geography's Big Week Out and their country at the 2024 International Geography Olympiad in Dublin.

For more information on the Competition, see the website at www.geographycompetition.org.au or email competition@rgsq.org.au.

AUSTRALIAN GEOGRAPHY COMPETITION – RESOURCES

PAST PAPERS 2002–2022

YEAR BASED PAST PAPERS

Find these resources on the Australian Geography Competition website – geographycompetition.org.au

Australian Stockholm Junior Water Prize 2023

Do you know a student who could make a real difference to our world?

The Australian Stockholm Junior Water Prize is now accepting entries

The most prestigious national award for water-based research is looking for its next recipient!

The competition exists to inspire high school students aged 15-20 to design solutions to real world problems involving water. Practical and innovative research projects addressing local, regional, national or global water challenges are encouraged and the winner goes on to represent Australia at the international competition in August 2023 in Stockholm, Sweden.

The Australian Stockholm Junior Water Prize is proudly sponsored by Xylem.

Visit **www.awa.asn.au/student-awards** for more information

AUSTRALIAN WATER ASSOCIATION

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SIWI Stockholm Junior Water Prize | AUSTRALIA

AN INTRODUCTION TO HOPEFUL GEOGRAPHY

Lorraine Chaffer
GTA NSW & ACT

This edition of the Geography Bulletin contains a collection of new and republished articles and blogs that fall under the banner of Hopeful Geography.

Geography teachers often refer to the dilemma they face when discussing environmental and social issues and the 'gloom', 'doom' and eco-anxiety tags often associated with the subject.

There is a fine balance between moving students beyond feelings of anxiety and despair to giving them hope for the future, but not to the extent that they become complacent and believe that 'everything will be OK' without significant action. There is also a need to identify and address the range of emotions that surface when difficult content is being taught. The concept of 'hope' is about providing a belief that change is possible, achievements can and have been made and students can play an active role in creating or planning a more positive future.

'The scale and extent of current problems can easily seem overwhelming and learning about them is potentially traumatic. Hope offers an antidote to despair and the possibility of constructing a better future.'

Stephen Scoffham – Hope in a time of crisis.

HOPEFUL GEOGRAPHY: INTRODUCTION

The articles in this edition suggest ways to develop 'hope' in the geography classroom.

Suggestions include:

- Carefully examining facts and identifying trends and progress over time (Factfulness)
- Adopting the notion of 'alternative futures' such as using timelines that split into 'probable' and 'preferable' futures
- Using activities that promote critical thinking, problem solving and creativity to address global and local issues.
- Promoting student engagement and action at a personal or local scale
- Engaging with student emotions and providing time for reflection and debriefing
- Managing our misconceptions about the state of the world
- Critically analysing media reports and writing for purpose, accuracy, reliability, and bias.

'Rather than focusing on a long list of seemingly intractable environmental problems, the hopeful geography teacher will present them as challenges to which we can seek solutions. Pupils can be encouraged to consider the kind of future that they would like, ***focusing on what they think is preferable, what they think is possible and what they think is probable****. This is one way of initiating a process that will move pupils from being passive observers of events to more active agents who feel they can influence what is happening around them'*

'Education in the 21st Century should be about ***preparing for an unpredictable future with realism, hope and optimism****'*

Stephen Scoffham: Hope in a time of crisis.

'We can instil the importance of fact-checking throughout a child's education, we can pick up on misconceptions, and we can pick up on students who quote inaccurate information.'

David Alcock: Educating for hope - how can educators overcome the Perils of Perception?

FACTFULNESS

Factfulness does not negate the significance of environmental and social issues studied in geography. It does provide one strategy for dealing with the overwhelming negativity of many media reports that portray a 'worst picture' scenario, rather than an accurate portrayal of a situation or an event provided in the context of factual information.

The 'Factfulness' posters from the Gapminder website illustrate how we often misinterpret information and how we can control our reactions.

- **Dramatic Instincts** help us to recognise how different story types often make us misinterpret facts and see them as more dramatic than they are. https://www.gapminder.org/factfulness/instincts/
- **Rules of Thumb** – are strategies to control our dramatic instincts by making it a habit to always question the stories that trigger our dramatic instincts.

Learn about Factfulness 10 rules of thumb https://www.gapminder.org/factfulness/instincts/

Learn about your Dramatic Instincts https://www.gapminder.org/factfulness/

Learn about Gapminder's Misconception studies here https://www.gapminder.org/factfulness/

Factfulness is also a tool to illustrate how the world has made progress in addressing many global issues, particularly those related to human wellbeing. Facts and positive news stories can remove some of the anxiety students might be feeling. *'The world is awful, The world is much better, The world can be better'* from Max Roser at Our World in Data (in this edition), uses facts to show progress over time. A more recent article *'9 astonishing ways that living standards have improved around the world'* uses the same approach. Read here. https://bigthink.com/the-present/9-ways-living-standards-improved-world/

POSITIVE STORIES

Various websites report on positive news and successful action for change across the globe. One such website, Future Crunch, publishes a weekly report of good news from global media sources. The latest Good News report can be found at https://futurecrun.ch/goodnews and a podcast titled *Optimised* at https://futurecrun.ch/podcast. Using a good news story to begin or end each geography lesson, irrespective of the topic being studied, can assist in inspiring hope.

Two examples from October 2022

'After being hunted to extinction 400 years ago, Eurasian beavers have been declared a protected species in England, making it illegal to capture, kill, injure, or disturb them. Wildlife organisations have praised the move, saying beavers' dams help keep water clean and prevent flooding and drought.'

BBC

HOPEFUL GEOGRAPHY: INTRODUCTION

'20 years ago, Indonesia's Raja Ampat archipelago was in trouble due to unsustainable fishing practices. In 2004 authorities incorporated it into a network of over 20,000 km2 of protected areas, and today fish populations have rebounded, coral is recovering and livelihoods for local communities have improved. Earlier this year it was given a Blue Parks Award.

CNN

FUTURING AND DEALING WITH EMOTIONS

The two academic papers referred to below investigate the teaching of university students confronted by challenging and distressing environmental and social issues in geography. The ideas they report are equally relevant to the school geography classroom.

Those wanting to investigate alternative ways of discussing and addressing 'wicked problems' in geography might like to read the full open access article, *A futuring approach to teaching wicked problems* by Jesse Hoffman et al at https://doi.org/10.1080/03098265.2020.1869923.

In *Hope and grief in the human geography classroom* Natascha Klocker examines the emotional responses of students confronted by negative content. Students reflecting on their emotional reactions suggest strategies to reduce the impact of grief in the classroom.

1. A futuring approach to teaching wicked problems

Jesse Hoffman, Peter Pelzer, Loes Albert, Tine Béneker, Maarten Hajer & Astrid Mangnus (2021) A futuring approach to teaching wicked problems, *Journal of Geography in Higher Education*, 45:4, 576–593, DOI: 10.1080/03098265.2020.1869923

LINK https://doi.org/10.1080/03098265.2020.1869923 (Open access)

ABSTRACT

This paper investigates how the teaching and learning about "wicked" environmental problems may be fostered through an educational approach premised on futuring – the active imagination of the future. The growing academic interest in possible and desirable futures provides a promising starting point for restructuring education as coupling knowledge to imagination and teaching to policy practice can open up new, experiential ways of learning. Empirically, this paper draws upon research on an experimental futuring course employing a "mixed classroom" formula in which students and policy makers learn together about sustainability challenges. Drawing on the notion of inquiry, this course is set up with the aim to foster a critical engagement with the ways futures are imagined in political debates and decision-making. Through complementary activities, the students were pushed to imagine possible futures around a central theme, the transition to a circular economy, in interaction with the policy makers and other practitioners. This culminated in a "Museum of the Future". From our action-research-based investigation of the learning experiences in the course, we conclude that a futuring approach to teaching wicked problems results in a more active attitude of students towards the space in which wicked problems and solutions are collectively imagined and deliberated.

Key terms used throughout the paper include: futuring; design education; transdisciplinary education; wicked problems; Museum of the Future; experiential making; sustainability.

SELECTED QUOTES

'The purpose of this paper is to investigate how an educational practice focused on a reflective engagement with the way in which the future is imagined in society can contribute to learning about wicked problems. To do so we will share insights from a course that we organised in the winter of 2019–2020, "Techniques of Futuring: A Mixed Classroom with Policy-Makers".

'……futuring starts from the recognition that there is more than one possible future. The fact that the future is multiple means that it is possible to conceive a wide range of "futures" that are likely, possible, or desirable. … Rather than looking at "likely" futures, the course centres on the aim to expand our understanding of what is possible and what can be desired.'

'…. the main take-away from this paper is that a futuring approach to education indeed contributes to an enhanced sense of agency among students in dealing with wicked problems.'

2. Hope and grief in the human geography classroom

Natascha Klocker, Charles Gillon, Leah Gibbs, Jennifer Atchison & Gordon Waitt (2021) Hope and grief in the human geography classroom, *Journal of Geography in Higher Education*, DOI: 10.1080/03098265.2021.1977915. Readers can watch Natascha's webinar on this topic that was presented at Macquarie University here https://groundworkgeop.wordpress.com/2021/09/07/recording-of-associate-professor-natascha-klockers-seminar-today-available-now/

ABSTRACT

Human geographers engage students in learning about a world characterised by environmental and social disarray. It follows that our students are exposed to deeply confronting topics: climate change, global inequality, food insecurity, and racism, to name a few. Prompted by research on the painful emotions elicited by climate change communication, we asked human geography students at the University of Wollongong about their experiences of our teaching. We invited them to consider which emotions 'belong' in our classrooms and how difficult emotions might be managed to minimise harm. Students explained that they expect to feel distress while studying human geography and found being confronted a productive experience. They considered the responsibility for managing difficult course-related emotions to be distributed and identified a range of strategies to prevent painful emotions from corroding their wellbeing. Some of these strategies, particularly making room for difficult emotions – by acknowledging, holding onto, and working through them in our classrooms – will be challenging as more universities turn to online teaching during the pandemic and beyond.

Key words: emotion; teaching; climate change; social justice; trauma

SELECTED QUOTES (Names and academic references have been removed here)

'….. environmental educators have a responsibility to propagate hope because "telling kids just how wrecked the world is" risks perpetuating fear and engendering disempowerment. Positive emotions, like hope, offer respite and the strength needed to face threats.'

'….. anxiety and worry also contribute to climate change education: difficult emotions encourage reflection and critical thinking; they can be productive and motivating.'

'….. we asked students to pinpoint areas they found emotionally challenging. They identified: food scarcity, climate change, future studies, plastic pollution, Indigenous geographies, refugees and asylum seeking, global inequality, and animal culling. The students discussed feeling devastated, depressed, guilty, hopeless, helpless, frustrated, horrified, shocked, confronted, freaked out, scared, numb, sad, pessimistic, angry, upset, and powerless.'

'… recalled watching a confronting film. When it finished, the lecturer "turned the lights on and said, 'Okay. See you later everyone". I just kind of sat there . . . 'Am I supposed to just go outside now? . . . Can we talk about this? . . . This is just too much . . . how can I just walk away and carry on with my life having just been confronted with this content? This memory prompted …. to suggest that "buffer" time be incorporated towards the end of classes, to facilitate debriefing for those who need it.'

'….. "scary" topics become "less confronting" when teachers unpack an issue, discuss ways of mitigating it and identify actions underway'. This approach "dampens" debilitating emotions ….'

'For … , solution-focused classroom conversations leave her feeling "buoyant". … concurred … It gives you an optimistic sense . . . we might fix this!

Note: Natascha Klocker presented at the GTA NSW & ACT STEM Symposium in May 2022. Her ideas became the inspiration for responses from Amy Freshwater's– 'Solutions-based teaching for hope in geography' and Stephanie Bowden's 'Hope and climate change' in this issue.

The STEM package of presentations such as Natascha's 'Hope and Grief in the Geography Classroom' with a discussion by Amy and Stephanie is available as an anytime e-learning course accessible on the GTA website.

FACTFULNESS

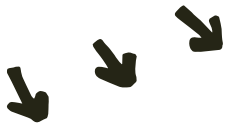
Dramatic Instincts

Learn to recognize the ten common story types that often make us misinterpret facts and see them as more dramatic than they are.

1 The gap instinct

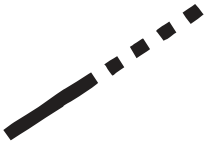
Look at the gap!

2 The Negativity Instinct



It's getting worse!

3 The Straight Line Instinct

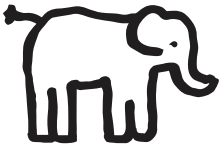


It just continues!

4 The Fear Instinct

It's scary!

5 The Size Instinct

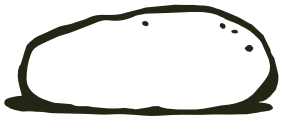


It's big!

6 The Generalization Instinct

They are all the same!

7 The Destiny Instinct



It never changes!

8 The Single Perspective Instinct

This is the solution!

9 The Blame Instinct

That's the bad guy!

10 The Urgency Instinct

It's now or never!

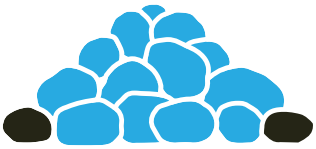
www.gapminder.org/factfulness

FACTFULNESS

Rules of Thumb

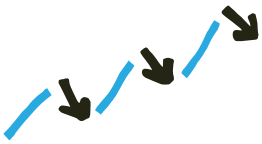
Control your dramatic instincts by making it a habit to always question dramatic stories that trigger your dramatic instincts.

1 TO CONTROL THE GAP INSTINCT
Locate the majority



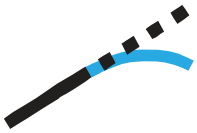
Is there really a gap?

2 TO CONTROL THE NEGATIVITY INSTINCT
Expect negative news



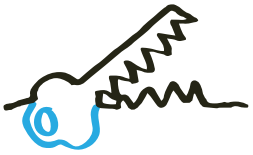
Would improvement get attention?

3 TO CONTROL THE STRAIGHT LINE INSTINCT
Imagine bending lines



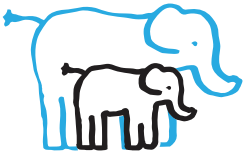
Why would this line not bend?

4 TO CONTROL THE FEAR INSTINCT
Calculate the risk



Is it really dangerous?

5 TO CONTROL THE SIZE INSTINCT
Check the proportions

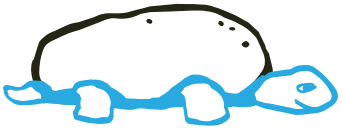


Is it big in comparison?

6 TO CONTROL THE GENERALIZATION INSTINCT
Question your categories

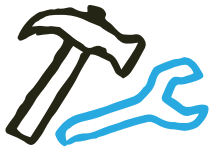
How are they different?

7 TO CONTROL THE DESTINY INSTINCT
Notice slow changes



Isn't it always changing slowly?

8 TO CONTROL THE SINGLE PERSPECTIVE INSTINCT
Use multiple tools

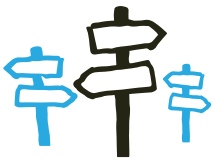


What other solutions exist?

9 TO CONTROL THE BLAME INSTINCT
Resist pointing finger

What system made this possible?

10 TO CONTROL THE URGENCY INSTINCT
Take small steps



Can we make decisions as we go?

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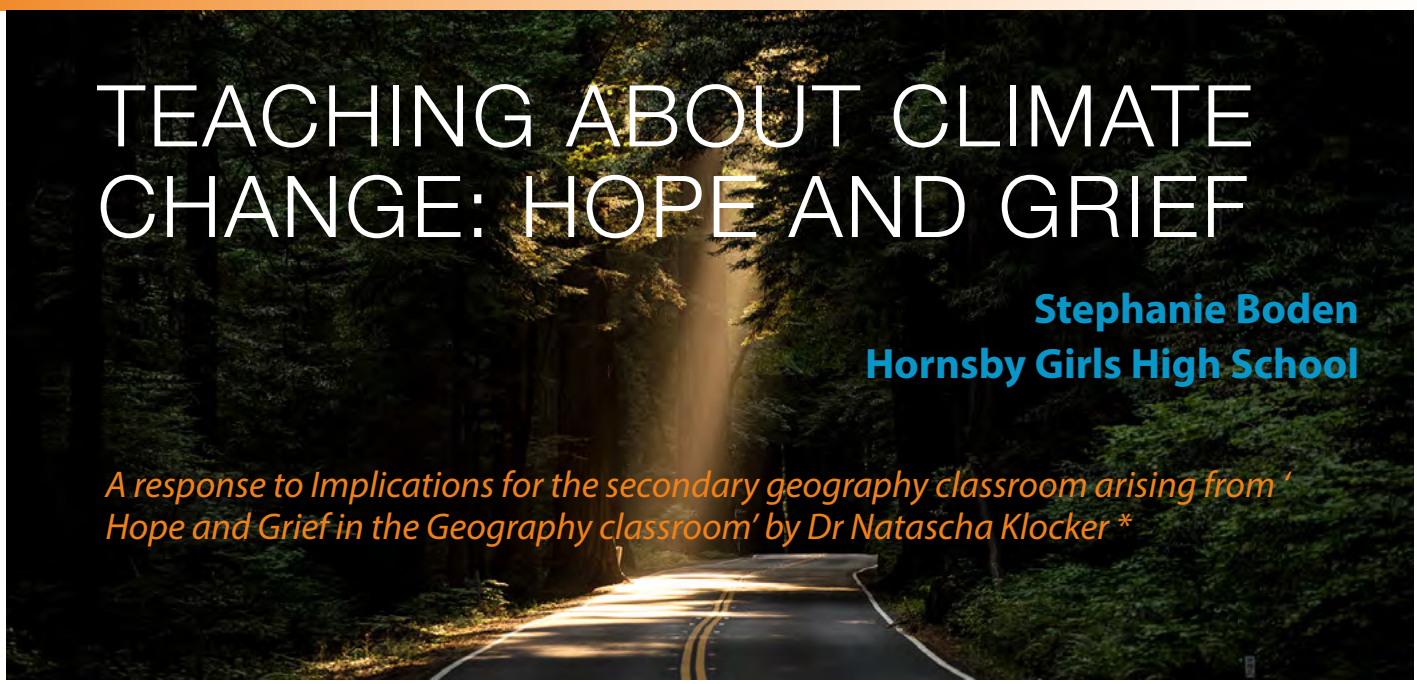


TEACHING ABOUT CLIMATE CHANGE: HOPE AND GRIEF

Stephanie Boden
Hornsby Girls High School

*A response to Implications for the secondary geography classroom arising from ' Hope and Grief in the Geography classroom' by Dr Natascha Klocker **

Stephanie's response was prepared for the GTA NSW & ACT 2022 STEM Symposium in which Dr Klocker presented about her paper 'Hope and Grief in the Geography Classroom'.

How does Dr Klocker's (et al) work relate to the secondary geography classroom?

- The study by Dr Klocker et al focused on university level human geography students. Whilst there are similarities between these students and ours, there are significant differences too. Geography in secondary school is mandated until the end of Stage 5 and we have many students in our classes that potentially don't want to be there (they didn't choose to study geography). Many students may also have an 'out of subject area' teacher.
- Acknowledge that a lot of what we are mandated to teach can be emotionally difficult for students (and teachers). This is particularly true for Stage 5 Mandatory Geography with the topics of Sustainable Biomes (food scarcity and security), Human Wellbeing (inequalities) and Environmental Change and Management (climate change plus other environmental issues).
- Be aware that 'ecological grief' is real and can impact students differently depending on their personal situation. Consider your students' contexts e.g are they Indigenous? Have they been affected by bushfires or floods?
- In a post pandemic/ lockdown world, we need to acknowledge that our students may be 'at capacity' emotionally and that adding extra concerns about poor human wellbeing or environmental challenges can be very confronting and 'too much'.

How can secondary geography teachers use Dr Klocker's (et al) work in the classroom when addressing climate change?

- Of significant importance is ensuring that teacher-student relationships are positive and secure before teaching emotionally difficult content. Consider NOT teaching this kind of content first up.
- Consider the reason for teaching it (it's in the syllabus) and what are the best materials to use. The point is not to 'shock' students, but to emotionally engage them. Be selective with images to ensure they're not too confronting.
- Acknowledge that the topic/ lesson may be emotionally difficult before teaching it and explicitly identify some of the emotions students may feel. It can be useful to state your own emotions e.g. anger, despair.
- Considering the reasons behind particular emotions can be helpful - this quote is from a year 10 student: *"I feel angry because I think that climate change is unjust. People who are the most affected by climate change have little say in how it's managed. I feel despair because I see lots of politicians still fighting over whether human induced climate change is real instead of just getting on with dealing with it. I feel hope because I know there are lots of clever people all over the world who care about climate change and are working on mitigating strategies"*
- Include 'climate justice' as a concept (instead of only facts, facts and more facts) and consider the use of humour (Mayes and Centre 2022). Find funny memes or ask students to make their own – https://imgflip.com/memegenerator

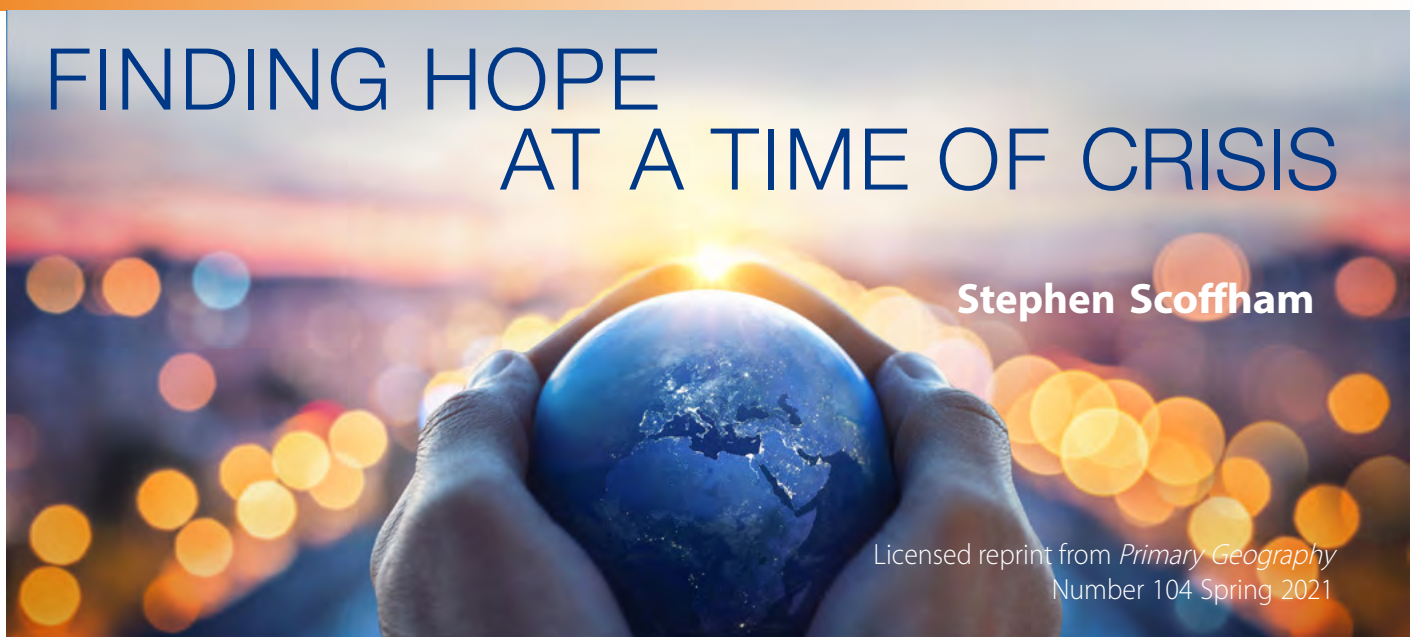
- Alternate emotional content with other work. Have back up ideas if it becomes too much. Programs like 'Fight for Planet A' by Craig Reucassel (on ABC iview) deal with grief using humour and show hope with practical solutions.
- Find a way to constructively use anger and sadness- e.g. activism, joining community groups, educating others (like parents or siblings)
- Include a 'buffer' between emotionally challenging content and moving on to another lesson or recess - to enable students and teacher to discuss/ reconcile information and emotions
- Debrief with peers and consider different perspectives (can be linked to worldviews)
- Consider implications of how students manage emotionally difficult content from home (online learning)
- Consider the support available within and beyond your classroom e.g. peer debriefing/ school counselor.
- Look to solutions. Try 'good news week' style activities where students work in pairs to find an example of organisations or individuals who are making a positive difference. Allocate a set amount of time e.g. 20 minutes to find information and then collate as a class e.g. on a google jam board or each pair adds a slide to a presentation. Set up criteria as a class to determine whose 'climate hero' is the best. For example, 'most innovative, widest impact, lowest cost with highest return, easiest to implement'.
- Consider introducing guest speakers – from local councils, a parent body, former students who are usually happy to talk about practical, small-scale measures they are taking e.g on waste reduction. Zoom can be a way to do this without a lot of paperwork.
- Assessment tasks can be solution oriented such as providing advice on how to deal with a climate change denier or researching cutting edge technology being used to reduce emissions.

Meme by anonymous, Year 10

Left & below: Both memes created by Rachel, Year 10.

FINDING HOPE AT A TIME OF CRISIS

Stephen Scoffham



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Number 104 Spring 2021

Figure 1: When conditions are less than perfect, it is hope that shines through. Photo Shutterstock

At a time when the world community is in the grips of a pandemic and when global warming and biodiversity loss threaten to undermine our civilization, the story of Pandora's Box takes on a contemporary relevance.

Here Stephen explores how hope shines a light on the future and encourages us to move forward.

The story of Pandora's Box is one of many myths that the Ancient Greeks devised to express their ideas about the world and the enigma of life. The story goes that Zeus (the king of the gods) gave Pandora two gifts – the gift of curiosity and a sealed box that she was not to open under any circumstances. Understandably, Pandora found herself fascinated by the box and eventually her curiosity got the better of her. She decided to take a peek inside to see what it contained. To her dismay, as she opened the lid, a swarm of evil spirits rushed out into the world taking disease and suffering with them. Just one spirit stayed behind. This was the spirit of hope.

Hope and primary geography

Hope is a complex idea. It goes deeper than wishful thinking and optimism, which tend to be passive and lack any clear sense of purpose. Instead, it can be seen as an active quality – as a grounded vision for the future.

This means that hope is a creative process of imagining possibilities and harnessing energy and potential.

However, hope also has a darker side in that it stems from a recognition that the current circumstances are far from perfect (Figure 1). Indeed, the way that hope often arises from a disaster means that it encompasses pain and mourning as well as happiness and love. Such considerations make it clear that **hope cannot be accessed by the intellect alone, but that it also involves the heart and soul,** as Dave Hicks (2014) argues**.**

These reflections may seem rather abstract but they have considerable implications for primary geography. Geography is a very broad subject that focuses on the inter-relationships between the physical and human environment. Finding out about how the world is changing and what might lie ahead is one of its central concerns. **The scale and extent of current problems can easily seem overwhelming and learning about them is potentially traumatic. Hope offers an antidote to despair and the possibility of constructing a better future.**

Putting hope at the forefront of your teaching brings about a profound shift of emphasis. **Rather than focusing on a long list of seemingly intractable environmental problems, the hopeful geography teacher will present them as challenges to which we can seek solutions. Pupils can be encouraged to consider the kind of future that they would like, focusing on what they think is preferable, what they think is possible and what they think is probable.** This is one way of initiating a process that will move pupils from being passive observers of events to more active agents who feel they can influence what is happening around them.

Factual knowledge and active learning are part of the arsenal of the hopeful geography teacher. Pupils are often aware of environmental problems from an early age, but confused about the implications.

Their sense of vulnerability and need for personal security can then lead to exaggerated or unjustified fears. With respect to global warming, for example, Robin Alexander noted in his review of primary education that the pupils who knew about climate change and aware of practical strategies for energy reduction and sustainability were most confident that they would not be overwhelmed by it. In a telling phrase Alexander reports, 'pessimism turned to hope when witnesses felt they had the power to act' (2010, p. 189). Giving pupils a sense of agency whether through knowledge or action helps to empower them.

Nature, awe and wonder

Nature has inspired people throughout history. The way in which we attach meaning and derive benefit from the natural world is summed up in the notion of 'biophilia'. Among other things, biophilia highlights how reaching beyond ourselves contributes to our health and well-being and nourishes our spirituality. The ecologist, Stephen Kellert, amplifies this point when he contends that the wondrous beauty of nature is our 'magic well', which he believes is the 'source of who we are and can become' both as individuals and as a society (Kellert, 2012, p. xiv). For geographers, finding out about habitats and biomes is one way of engaging with nature, but local studies and investigations in and around the school are also absolutely crucial in giving pupils direct contact with their surroundings and developing their sense of place and belonging.

It is valuable to give pupils the chance not only to experience the world around them, but also to reflect on its wonders. We live on a remarkable planet with a huge variety of physical environments and forms of life. The cycles of the seasons, the beauty of the landscape and the glory of a summer sunset are all examples of things that people treasure. The delicate interplay of forces, which keeps the planet in harmony, is also something to marvel at. In physical geography, for example, the processes of erosion are balanced by the processes of mountain-building – multiple feedback loops maintain stability in a world of continual change. Recognising that Earth is a living organism was the core realisation of Gaia theory, first proposed by James Lovelock and Lynn Margulis in the 1970s. And remembering that we are utterly dependent on the planet which supports us evokes the sense of humility that serves to counter arrogance and allows hope to flourish.

Getting pupils to consider the things **they are grateful for both in their own lives and in the world at large is another way to promote a positive mindset.** This idea has been developed recently in Letters to the Earth (Thompson, 2019) in which people of all ages and different walks of life write about love, loss, hope and action as they share their ideas about a planet in crisis. This reaches out beyond the purely cognitive to access emotional and spiritual responses. Musical compositions, paintings, poetry and dance are other ways of touching deep layers of meaning. A cross-curricular approach, which draws on different disciplines to explore our feelings about the world, has great potential to enrich and nourish geographical understanding.

A new approach

It is increasingly apparent that schools need to adapt to changing circumstances. In many instances educational practice has remained remarkably similar for well over a century while the surrounding world has become dramatically and irreversibly different. The latest annual Charney Manor Primary Geography Research Conference recognised this when delegates concluded that there need to be new approaches that embrace notions such as 'divergence, disruption, enchantment, hope, humility and confident uncertainty' (Charney Manor Geography Conference, 2020).

The present formulation of the primary geography curriculum for England sets out an uncompromising agenda that focuses on knowledge. However, deeper questions about disposition, purpose and values lie beneath the factual statements that schools have to follow. Finding time and space to explore and nurture feelings and emotions is important. As Laura Piersol (2014) points out, presenting learning as almost fully known has the effect of removing the possibility of uncertainty and mystery from lessons. Awe, wonder and hope may be difficult to evaluate but they are qualities that are sorely needed at the present time.

Pupils come to school to be inspired, not to be depressed, and hope is fundamental to their educational experience. This is widely affirmed. Tessa Willy and Steve Rawlinson conclude their introduction to the GA's flagship publication, *Leading Primary Geography*, that **education in the 21st century should be about 'preparing for an unpredictable future with realism, hope and optimism'** (Willy and Rawlinson, 2019, p. 19). The Brazilian educator and philosopher, Paulo Friere, declares that one of the tasks of the progressive educator is to **'unveil opportunities for hope, no matter what the obstacles may be'** (1993,p. 3), and Joanna Macy and Chris Johnstone

(2012) argue that hope is an active process of bringing healing to the world.

The ills that the evil spirits that escaped from Pandora's Box have wrought on Earth have already done terrible damage. However, the spirit that stayed behind – the spirit of hope – can be harnessed in the service of creating a better future. It may not be powerful enough to bring about change on its own, but it is certainly an essential quality as we grapple with unprecedented challenges. Hopeful geography teachers will seize the opportunity.

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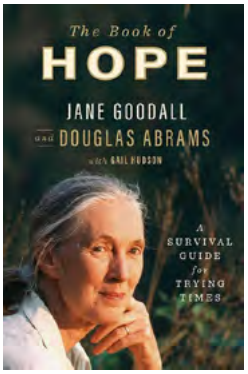
About the author

Dr Stephen Scoffham is a Visiting Reader in Sustainability and Education at Canterbury Christ Church University in Kent, a member of the GA's Early Years and Primary Phase Committee, and Past-President of the GA (2018–19)



BOOK REVIEW: THE BOOK OF HOPE

(NPR, Barbara J King)

Jane Goodall encourages all to act to save Earth in 'The Book of Hope'

In Mombasa on the coast of Kenya is a place called Haller Park. People flock there to see 180 indigenous species of plants and trees, and a variety of animals including hippos and giraffes.

In ***The Book of Hope: A Survival Guide for Trying Times***, Jane Goodall and Douglas Abrams discuss the park as an example of how our injured Earth can be restored and healed. At one point the park was "a monstrous five-hundred-acre scar where almost nothing grew" because a cement company created a quarry that ravaged the land. The company's CEO decided to repair the damage and slowly, year by year, with horticultural tending and introduction of wild animals, the area was transformed.

I start with this story in honour of Goodall's forceful argument that hope for our ailing planet is galvanised through storytelling: It's crucial, she says, that people — especially young people — know how positive action can still turn around the frightening trajectories of climate crisis, biodiversity loss, and the ongoing global pandemic. "It's mostly because people are so overwhelmed by the magnitude of our folly that they feel helpless," Goodall states. They need to hear stories of "the people who succeed because they won't give up."

First of Goodall's four reasons to hope is the amazing human intellect. While an intelligent animal "would not destroy its only home" as our species is doing, we have the intellectual power to come up with new innovations all the time.

Next on the list is the resilience of nature, attested to by the example of Haller Park, Goodall tells stories of animals brought back from the very edge of extinction.

Reason for hope number three is the power of young people, from elementary school age right through to college. Back in 1991, a dozen Tanzanian students approached Goodall with their concerns ranging from live animal markets to poaching in national parks; this interaction led to the Jane Goodall Institute's founding of Roots and Shoots, a youth organisation now active in 68 countries.

Last of Goodall's reasons to hope is what she calls **the indomitable human spirit**, the ability we have individually and collectively to wrest a victory from what appears to be an inevitable defeat.

READ the full review HERE

The world is awful.
The world is much better.
The world can be much better.

Max Roser, Our World in Data, July 20, 2022

Source: https://ourworldindata.org/much-better-awful-can-be-better

It is wrong to think that these three statements contradict each other. We need to see that they are all true to see that a better world is possible.

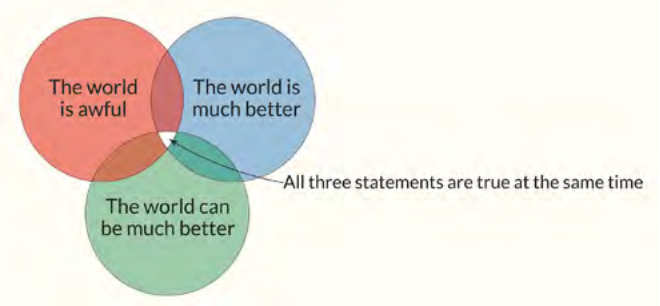
The world is awful. The world is much better. The world can be much better. All three statements are true at the same time.

Discussions about the state of the world too often focus on the first statement: The news highlights what is going wrong, rarely mentioning any positive development.

A pushback on this narrative takes it to the other extreme, which is equally damaging. Solely communicating the progress that the world has achieved becomes unhelpful, or even repugnant, when it glosses over the problems that are real today.

It's hard to resist falling for only one of these perspectives. But to see that a better world is possible we need to see that both are true at the same time, the world is awful, and the world is much better.

To illustrate what I mean, I will use the example of one of humanity's biggest tragedies: the death of its children. But the same is true for many of the world's other problems. Humanity faces many problems where things have improved over time, which are still terrible, and for which we know that things can get better.[1]



The world is awful

Globally 4.3% of children die before they are 15 years old. This is the data for 2020, the latest available year.

This means that 5.9 million children die every year – 16,000 children on any average day, and 11 children every minute.[2]

Clearly, a world where thousands of tragedies happen every single day is awful.

The world is much better

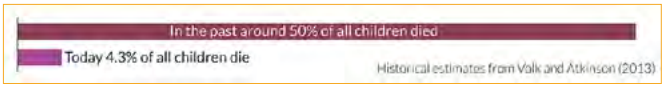
History's big lesson is that things change. But it is hard to imagine how dire living conditions once were and that makes it difficult to grasp just how much the world has changed.

Data can help to bring the scale change to mind. Historians estimate that in the past around half of all children died before they reached the end of puberty. This was true no matter where in the world a child was born and it only started to change in the 19th century, just a few generations ago.[3]

It's hard to imagine, but child mortality in the very worst-off places today is much better than anywhere in the past. Even in the world's richest countries the mortality of children was much higher very recently. In Somalia, the country with the highest mortality today, about 14% of all children die.[4] Just a few generations ago the mortality rate was more than three-times as high, even in the best-off places.[5]

What we learn from our history is that it is possible to change the world. Unfortunately, long-run data on how living conditions have changed is rarely studied in school and rarely reported in the media. As a result, many are entirely unaware of even the most fundamental positive developments in the world.

But this fact – that it is possible to change the world and achieve extraordinary progress for entire societies – is something that everyone should know.



The world can be much better

Progress over time shows that it was possible to change the world in the past, but do we know that it's possible to continue this progress into the future? Or were we perhaps born at that unlucky moment in history at which progress has to come to a halt?

Studying the global data suggests that the answer is no.

One way to see this is to look at the places in the world with the best living conditions today. The best-off places show that extremely low child mortality is not just a possibility but is already a reality.

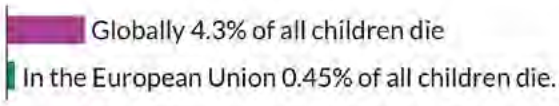
The world region where children have the best chance of surviving childhood is the European Union. 99.55% of all children born in the EU survive childhood.6

To see how much better the world can be, we can ask what the world would look like if this became the reality everywhere. What if children around the world would be as well off as children in the EU? Five million fewer children would die every year.7

Of course, the child mortality rate in the EU is still too high, and there is no reason that progress should stop there. Cancers like leukemia and brain tumors kill hundreds of children, even in today's richest countries. We should strive to find ways to prevent these tragic deaths.

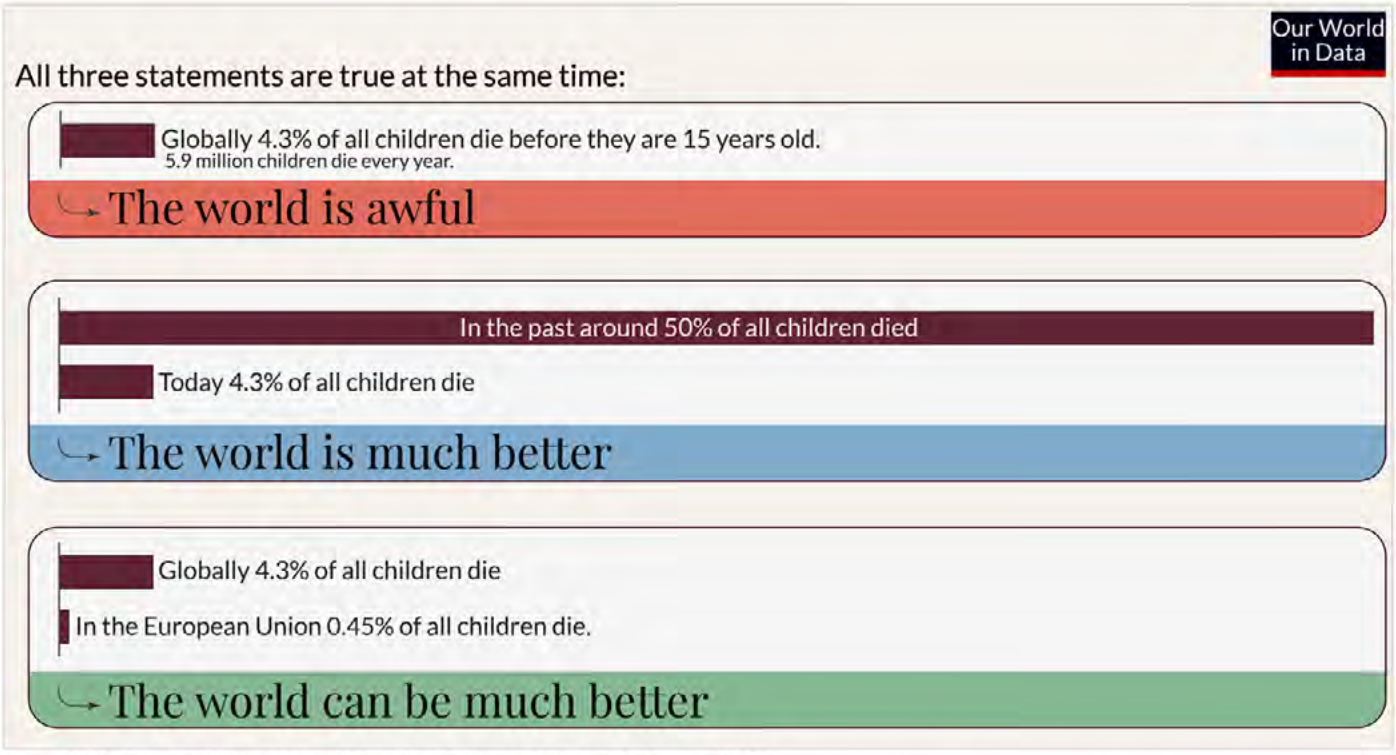
However, the largest opportunities to prevent the pain and suffering of children are in the poorer countries. There we know not only that things can be better, but how to make them better.

Research on how to prevent child deaths and the fact that child mortality in entire world regions is 10-fold lower than the global average show what is possible. Millions of child deaths are preventable. We know that it is possible to make the world a better place.



The world is awful, this is why we need to know about progress

The news often focuses on how awful the world is. There is a large audience for bad news and it is easier to scare people than to encourage them to achieve positive change.



Data: 2020 data from UN IGME and historical data from Volk and Atkinson (2013).
OurWorldinData.org – Research and data to make progress against the world's largest problems. Licensed under CC-BY by the author Max Roser

I agree that it is important that we know what is wrong with the world. But, given the scale of what we have achieved already and of what is possible in the future, I think it's irresponsible to only report on how awful our situation is.

To see that the world has become a better place does not mean to deny that we are facing very serious problems. To the contrary, if we had achieved the best of all possible worlds I wouldn't spend my life writing and researching about how we got here. It is because the world is still terrible that it is so important to see how the world became a better place.

I wish we could change our culture so that we take this possibility of progress more seriously. This is a solvable problem: we have the data and the research, but we are currently not using it. The data is often stored in inaccessible databases, the research locked away behind paywalls and buried under jargon in academic papers. With Our World in Data we want to change this.

If we want more people to dedicate their energy and money to making the world a better place, then we should make it much more widely known that it is possible to make the world a better place.

Our World in Data presents the data and research to make progress against the world's largest problems. This is a revised and updated version published in July 2022. The first version of this post was published in October 2018.

Endnotes

1. In a number of fundamental aspects – obviously not all – we achieved very substantial progress. These aspects include education, political freedom, violence, poverty, nutrition, and some aspects of environmental change. See also my short history of global living conditions.
2. Except for the historical data, all data in this post is taken from IGME, the UN Inter-agency Group for Child Mortality Estimation. They publish their data here: childmortality.org/data/World

   Their point estimate for the global number of deaths for children under 5 in 2020 is 5,040,610 Their estimate of deaths of children between the ages of 5 and 14 is 868,942. The sum is 5,040,610 + 868,942 = 5,909,552

   This means on average there are:
   5,909,552 / 365.25 = 16,180 child deaths per day,

   5,909,552 / (365.25*24) = 674.1 child deaths every hour, and

   5,909,552 / (365.25*24*60) = 11.2 child deaths every minute
3. If we still suffered the poor health of our ancestors more than 60 million children would die every year. How many children actually died at the time we don't know, because data of the number of global births at the time is not available. For the 1950s and 1960s we have estimates of both the number of births and the mortality rate and the records show that around 20 million children died every year. See the data shown here.
4. See our chart of the mortality of under-15-year-olds.

   See the data reported in Mortality in the past – around half died as children.

   If we look at single countries this difference becomes even more striking as in the countries with the best health the child mortality rate is again almost twice as low as in the EU as a whole.

   The countries with the lowest mortality rates today are San Marino, Iceland, Norway, Singapore, and Slovenia where more than 99.7% of all children survive. This chart shows the ranking. But because several of these countries are small, I did not base this text on the data from any single country, but on a large world region where millions of children are born every year.
7. The global number of child deaths, as reported above, is 5,909,552.

   5,909,552-5,909,552/(4.3/0.45) = 5,291,111 fewer children would die if the global mortality rate was 0.45% rather than 4.5%.

The short history of global living conditions and why it matters that we know it

Max Roser, Our World in Data

We are working on Our World in Data to provide 'Research and data to make progress against the world's largest problems'.

Our mission only makes sense if it is in fact possible to make progress against the large problems the world faces. **Very few think the world is making progress.** A 2015 survey asked "All things considered, do you think the world is getting better or worse, or neither getting better nor worse?". **In Sweden 10% thought things are getting better, in the US they were only 6%, and in Germany only 4%.**

What is the evidence that we need to consider when answering this question?

The question is how the world has changed and so we must take a historical perspective. And the question is about the world as a whole and the answer must therefore consider everybody. The answer must consider the history of global living conditions – a history of everyone.

The motivation for this history of global living conditions was the survey result that documented **the very negative perspective on global development that most of us have. More than 9 out of 10 people do not think that the world is getting better.** How does that fit with the empirical evidence?

I do not think that the media are the only ones to blame, but I do think that they are to blame for some part of this. This is because **the media does not tell us how the world is changing, it tells us what in the world goes wrong.**

One reason why the media focuses on things that go wrong is that the media focuses on single events and single events are often bad – look at the news: plane crashes, terrorism attacks, natural disasters. Positive developments on the other hand often happen very slowly and never make the headlines.

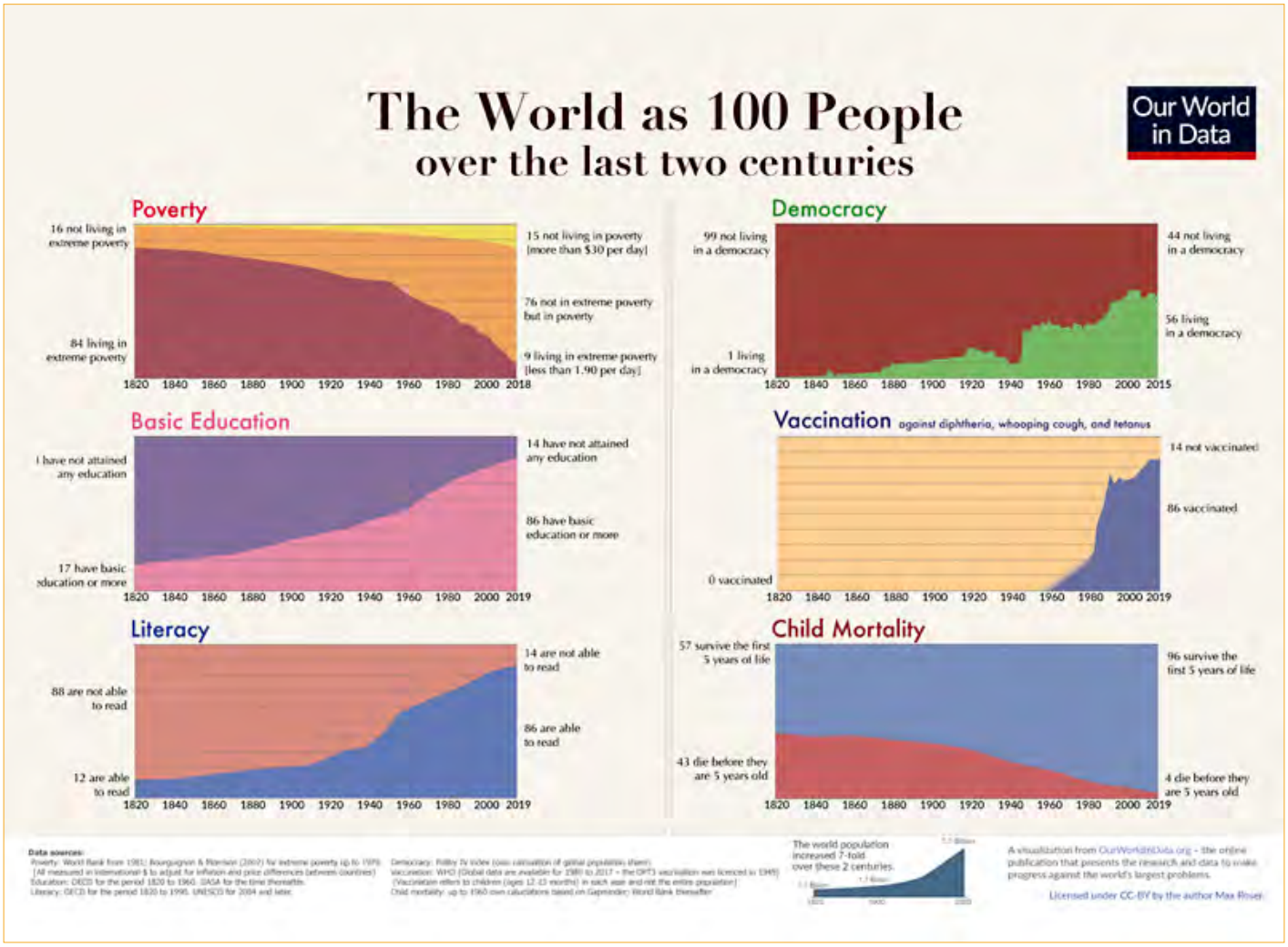
The result of a media – and education system – that fails to present quantitative information on long-run developments is that the huge majority of people is very ignorant about global development and has little hope that progress against serious problems is even possible.

Even the decline of global extreme poverty – by any standard one of the most important developments in our lifetime – is only known by a small fraction of the population of the UK (10%) or the US (5%). In both countries the majority of people think that the share of people living in extreme poverty has increased. Two thirds in the US even think the share in extreme poverty has 'almost doubled'. **When we are ignorant about the basic facts about global development it is not surprising that few have the hope that the world can get better.**

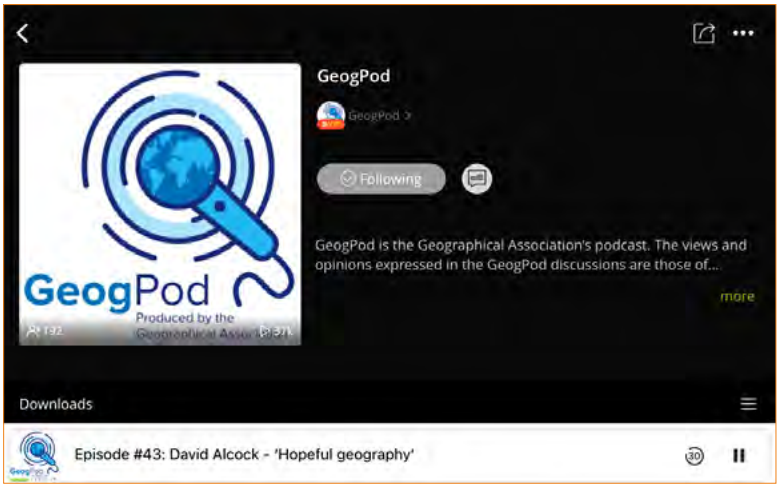
The only way to tell a history of everyone is to use statistics, only then can we hope to get an overview over the lives of the 22 billion people that lived in the last 200 years.

The developments that these statistics reveal transform our global living conditions – slowly but steadily. They are reported in this online publication – Our World in Data – that my team and I have been building over the last years. We see it as a resource to show these long-term developments and thereby complement the information in the news that focus on events.

To make it easier for myself and for you to understand the transformation in living conditions that we have achieved I made a summarising visualisation in which I imagine this 200-year history as the history of a group of 100 people to see how the lives of them would have changed if they lived through this transformative period of the modern world. It shows at once some of the very largest problems that we face and the progress that the last generations have made.



PODCASTS FOR PROFESSIONAL LEARNING



Source: https://www.geography.org.uk/GeogPod-The-GAs-Podcast

GeogPod is a series of podcasts produced by the Geographical Association of the UK.

The podcasts cover a wide range of geographical content appropriate at a global scale.

For the theme of this edition, I highly recommend Podcast No 43 – an interview with David Alcock about **Hopeful Geography**.

Two of David's blogs follow in this edition.

Editor.

HOPEFULNESS – An active assembly

David Alcock
alcockblog / @DavidAlcock1

LEFT:Students being given one of the questions, before standing by their chosen answer

Leaving school is simultaneously an exciting and worrying time for students.

I was asked to deliver an assembly to our Year 13s on their last day in school to try to foster a sense of hope and positivity in them, and I decided to do this by:

- Showing them how far the world had come in terms of access to education and some other metrics of 'social progress' in the past 200 years
- Asking them to consider how far the world has yet to go on this journey
- Encouraging them to play their part in a co-operative and socially beneficial future for the world

This was no small task in 20 minutes, but it was worth a shot. In an added twist, I took the assembly outside, using a megaphone, student volunteers, hazard tape, clothes pegs, and a fence!

The following is as near as possible to the script I delivered!

Good morning everyone! It's time for a quiz. You are in a privileged position. You are about to leave school with good qualifications, and you are about to enter the next stage of your life, whether that be higher education, apprenticeships, or jobs. This morning, I'd like us to go global…

1. How many people in the **world** have attained a basic, primary, education?

My three volunteers are holding signs: 17%, 49% and 86%. Stand next to the volunteer who is showing the answer you think is correct.

[About half of those present chose 49%, and most of the rest chose 17%.]

Students standing in groups showing 17% (left), 49% (middle) and 86% (right)

2. Next, how many adults in the world do you think are able to read to about the standard which would enable them to take a full role in society? Move places now if you wish to change.

[*Most students stayed in the same place.*]

3. Finally, the average 30-year-old man on this planet has spent ten years in education. How long has an average 30-year-old woman spent? Five, seven, or nine years?

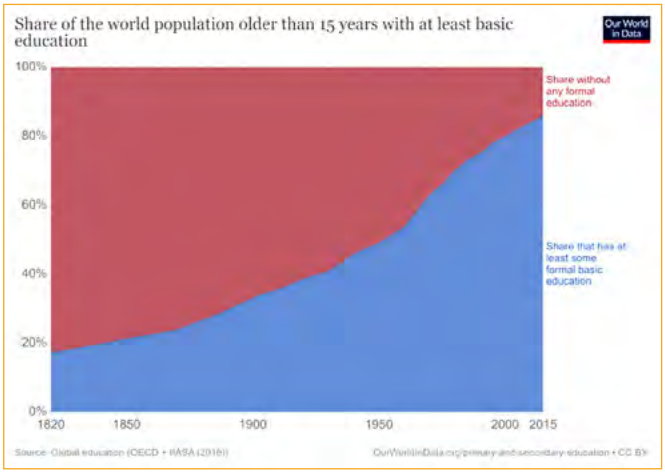
[Over half of the students chose seven, with only a few choosing nine.]

Thank you volunteers and thanks to the rest of you for moving around.

It's time for the answers.

Those who said 17% of people in the world had attained a basic, primary, education – well, you would have been right – if it was 1820. Those who said 49% – you would have been right, if it was 1950. The actual answer was 86%, and this also applies to the literacy question too.

And you can probably guess from those two questions that 30-year-old women have spent nine years in school, as opposed to ten for men.



Share of the world population older than 15 years with at least basic education, 1820–2015 Source: https://ourworldindata.org/primary-and-secondary-education

Which direction is the world heading in?

These answers are not perfect – in an ideal world, we'd hope that *all* children would be educated to at least a primary level, and that *all* adults would be able to read. We'd also hope that there would be gender parity in terms of educational access. But the world has been moving in the right direction in terms of education. Not quickly – in fact, you might say, not quickly enough – but we do appear to be getting there.

Let's look at two more changes that have happened that may give you more faith in humanity as you go into the wider world.

Could I have three more volunteers?

[Three volunteers come up and stand in front of a tall fence, which has been turned into a large line graph; 0%, 50% and 100% labels have been affixed on the y-axis up to 2m height, and 1820, 1920 and 2020 labels have been affixed up to 4m across the x-axis.]

Let's turn to poverty. Extreme poverty, in fact. Living on less than $1.90 a day, adjusted to allow for inflation. That's less than is necessary to enable us to do much more than just survival. Could my three volunteers decide what they think this level was in 1820?

[Volunteers discuss, then attach a long strip of red and white barrier tape on the fence with a peg at the % they think it was in 1820.]

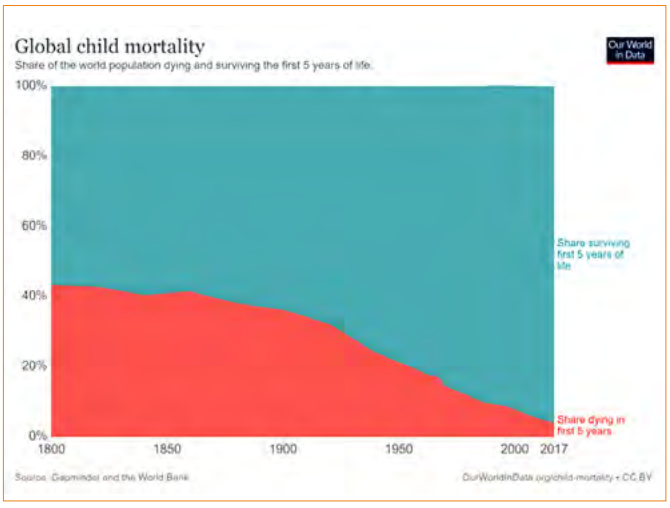
It was 84%. So you'll need to move it to 84%. Now how about 1920? *[Let them decide, attaching the tape with pegs.]* It had only dropped to 70%. *[Move the tape if necessary.]* 1950? *[Ditto.]* It had only fallen to 65%. And finally, 2018? *[Ditto; my volunteers chose about 20%].* It had fallen to just 9%.

The UN has set a goal to eliminate extreme poverty by 2030. The pandemic and entrenched inequalities mean that this date is now unlikely to be met, but it should be doable in the following decade. I'll say it again – it's not good enough – but again, looking how far we have come can give us scope for hope.

Please give a round of applause for our volunteers.

Finally, can I have three more volunteers. We'll now look at child mortality – the number of children dying before their fifth birthday. An immensely sad statistic. *[Repeat the exercise: the figures are 1820: 43%, 1920: 30%, 1950: 20% and 2019: 4%; my volunteers were closer this time.]*

Again, this isn't where we could be by a long way, but looking at what we have achieved can give us hope.



Global child mortality. Share of the world population dying and surviving the first 5 years of life. Source: https://ourworldindata.org/primary-and-secondary-education

Thank you again to our volunteers.

LEFT: Students guessing what % of the world's population lived in extreme poverty in 1820

Faith in humanity

I hope you found that interesting. Here's one more thing I'd like you to think about and respond to.

- How many of you sometimes despair of humanity? Hands up… *[I put mine up too.]*
- And how many of you take time out to celebrate humanity? Hands up… *[fewer hands will probably go up!]*
- Why do we tend to celebrate humanity less often than we despair of it?

You may well have thought of this – and my geographers have certainly been involved in these discussions. It's a mixture of the media – mainstream and social, your psychological biases, and perhaps even your education.

So could – and should – you start to celebrate what humanity has achieved?

Well, you may want to think about how you can measure its achievements. What should be our metrics? Should we measure achievements in terms of more people becoming healthy, wealthy and wise? In terms of *liberte*, *fraternite* and *egalite*? Or life, liberty and the pursuit of happiness? This is worth thinking about.

Let's not kid ourselves – there are huge challenges facing the world, from climate change, inequality, and various forms of discrimination.

But this is where ***you*** come in.

Standing on the shoulders of giants

As you step out into the wider world, could – and should – you think about what role ***you*** can play in helping humanity to flourish, without sacrificing the planet we live on?

Firstly, it is worth recognising, as Isaac Newton did in a 1675 letter to Robert Hooke, that "If I have seen further, it is by standing on the shoulders of giants". Think of the giants – your predecessors – who have helped to achieve the huge leaps forward shown by today's figures and graphs. Could ***you*** help humanity see further?

Then, consider what Walt Whitman wrote in 'O Me! O Life!': bear in mind…

"That you are here – that life exists, and identity. That the powerful play goes on, and you many contribute a verse".

So, the world is big, the future is daunting, and you will want to carve out your own path, to do what's right for you and your loved ones. But you also have a role to play in a ***wider*** world, where you can help to continue these trends, and to carve out a more hopeful path for the world: to manage climate change, reduce racial discrimination, and to narrow the obscene inequality gap.

Can you do it? Are these just empty words?

No. they are not just empty words.

If I had stood here 400 years ago, and I asked my students to play their role in ending slavery, there would have been incredulity.

If I had stood here 130 years ago, asking you to play your role in gaining women's right to vote, own property and vote, there would have been disbelief that these things could happen.

If I had stood here 40 years ago, saying that the Berlin Wall would fall, and that apartheid would collapse in South Africa – and these things seemed unlikely when I was still at school – would you have believed me?

How about 30 years ago, and I described the Internet?

Or five years ago, if I had said that polio – a disease which killed or injured millions of people a year – would now only be found in one country, what would have been your response?

These changes didn't come about automatically. Through a complex mixture of processes, people made them. People like you.

Shaping a hopeful future

I'll be issuing you with future timeline cards later, as a reminder that **the future has not yet been made, and that you can shape a more hopeful, rather than a more fearful, future.** You may want to keep it, to remind you of this.

So, your path may be varied or linear, it may be in business or healthcare, in development, politics or volunteering. You may well take your place in a civil society by voting, reading, and making informed decisions. But ***you*** can stand on the shoulders of giants, and ***you*** can contribute a verse.

Thank you, and *Hoc Age!* Just do it!

Feedback during the assembly and afterwards was positive; I hope you will be inspired to try this out, or at least to critique it!

Best wishes for summer to anyone who got this far in the post! David

Source: https://alcock.blog/2021/07/08/hopefulness-an-active-assembly/

SOLUTIONS-BASED TEACHING FOR HOPE IN GEOGRAPHY

Amy Freshwater, St John the Evangalist High School
GTA NSW & ACT Councillor

Studying geography myself at school 15 years ago (give or take) wasn't the same as it is today. Students in today's classrooms are faced with alarming, worrying and sensitive issues more often than I was. As teachers we have a responsibility to ensure these issues are taught in a way that isn't traumatising or anxiety-inducing for our students.

This responsibility first came to a front for me after returning to school in 2020 after the black summer bushfires. A large number of students at my school on the NSW South Coast had been severely impacted by the catastrophic fires and we were asked by our executive to avoid the topic of bushfires or catastrophic environmental events for a while. As a geography teacher, I thought "how can I possibly avoid talking about natural disasters?". Shortly after our return to school, the area was also hit by severe flooding that again impacted many students. This was also the beginning of the Covid19 pandemic, throwing even more challenges into the mix. Unfortunately it seemed this situation would only get worse, a deteriorating planet and compounding environmental issues coupled with deteriorating student mental health. I really wanted to find a way to teach with positivity and light to bring hope to my students for the future.

Another reason to make these changes became apparent to me when completing the Teaching Sustainability with Hope PD (Cool Australia) and hearing the psychologist Charles Snyder theory that increased levels of hope can lead to higher academic achievement and that productivity can be an implication of a certain level of stress. Snyder talks about pathways being the envisioned paths to goals and I felt that connection as geography is all about envisioning pathways to the goal of a sustainable future.

At the GTA Conference in 2020, Damon Gameau was the keynote speaker. In question time at the end of his talk, I asked "if you had 45 minutes (the length of a school period) to teach a class about climate change, how would you do it?". He replied that he would teach it not by looking deeply at the issues but by looking at the solutions. This struck a chord with me, so I came back to school and as you do after professional development, pulled out all of our geography programs, and started to brainstorm how we could incorporate solutions based teaching.

We have all heard of providing a safe and supportive learning environment, but what does this explicitly mean in this kind of situation? What did we change at my school to facilitate more hope and hopeful conversations about these sometimes depressing global issues? As Natascha Klocker mentioned in her paper "Hope and grief in the geography classroom" and at her presentation at the recent GTA Stem Symposium PD, it's important to foreground student emotions to legitimise their feelings. In my classroom, I started to talk about and give space to the kinds of feelings and

emotions that might arise when talking about issues such as climate change, refugees, human trafficking or natural disasters. We all know the importance of building rapport with our students, and this case is no different. As teachers we should aim to have a positive classroom environment and rapport with our students before attempting to teach distressing environmental issues. Teaching with hope also involved ensuring I gave strong content warnings before showing distressing content and foregrounded any distressing images or video with an option to leave the classroom if a student felt unease. Natascha also speaks about balancing distressing content with less stressful content and so I started showing something hopeful alongside anything confronting. Finally, it is important to allow time to debrief this type of content, so ensuring your lesson plan leaves a solid amount of time before the bell goes to debrief is imperative in making an effort to avoid students leaving the classroom feeling stressed or anxious.

How does all of this translate to the classroom? Here are some of the tasks we have formulated at our school in order to teach with more hope in the geography classroom. These range from classroom activities to assessment tasks.

1. Year 9– design a sustainable urban town (solutions to urbanisation rather than the problems associated) – this assessment task can be found in GTA Bulletin 3 2022.
2. Year 10 – students represent endangered species in a council of all beings meeting.
3. Year 10 – fieldwork task: propose management strategies/solutions for management of a local river system and coastal areas in the case of climate change impacts such as extreme weather events and sea level rise.
4. Year 10 – War on Plastics unit of work. Oceans of plastic documentary, students watch then do a think-pair-share. What are the emotions felt during screening? What do students 'hope' for? The 'I hope' Think-Pair-Share task can be done for any topic related to environmental issues.
5. Year 12 – pose as an academic studying the Great Southern Reef and evaluate the management practices of the reef and propose the best strategies for its management and sustainability.
6. Year 12 – completing practice extended response using solutions based questions such as 'Evaluate the solutions to the issues faced in megacities'.

Other general tips:

7. Link to your school environmental student committee and what they are doing – permaculture garden, waste management strategies, composting etc. This shows the solutions that are occuring at our own school (and hopefully gets more students involved at the same time).
8. Start any activity by sharing students feelings and thoughts on the topic or issue.
9. Showing students the careers and jobs that are linked to environmental sustainability and solutions such as environmental planner or engineer, a soil conservation technician, urban planner, water resource manager or ecologist.
10. Sharing of positive news articles. Whenever something positive pops up in the news, I make an effort to show my students eg: when single use plastics finally got banned in NSW, or when the Biloela family were granted permanent visas.

Managing student emotions when teaching topics that can incite negative feelings is a shared responsibility. Students are seeing, listening to and experiencing emotionally difficult subject matter at a time when the world is seeing more change and disruption than ever. The doom and gloom approach has desensitised students over time and as geography teachers it is our job to ensure that we are not only informing students of these major issues but also fostering hope, gratitude and a sense of responsibility and action. By thinking about the way we teach these topics and trying a more solutions-based approach, students can see light at the end of the tunnel and use these feelings to participate in actively working towards the common goal of a sustainable future.

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Educating for Hope – how can educators overcome the Perils of Perception?

David Alcock
alcockblog / @DavidAlcock1

Source: https://alcock.blog/2019/01/18/educating-for-hope-how-can-educators-overcome-the-perils-of-perception/

Figure 1: Cover of Perils of Perception Source: http://launch.theaureview.com/books/book-review-bobby-duffys-the-perils-of-perception-is-a-fascinating-study-into-general-ignorance/

Bobby Duffy, in his 2018 book 'The Perils of Perception', put forward a tentative set of proposals for how we could 'manage our misperceptions'. These are summarised below, together with thoughts as to how we could apply them to geographical education in the context of aiming to achieve a fact-based, optimistic worldview.

Firstly, it is worthwhile quoting from Duffy's preamble:

> *"We're not just wrong about the world because our media or politics are misleading us. Our ignorance and misperception of facts are long-standing, and they persist in very different conditions over time and across countries"* (Duffy, 2018: 231). Although, tellingly, he goes on to say, *"While we shouldn't think there was ever an age of perfectly neutral information, we shouldn't kid ourselves: we're travelling towards a world where disinformation has more opportunity to be created and travel faster"* (p237).

Duffy's suggestions

Duffy is keen to stress that "there is no magic formula to deal with our misperception" (p248) but also asserts that there are real and practical things that we can do. These begin with points related to how we think as individuals, before moving through to society-based actions.

1. Things are not as bad as we think – and most things are getting better

This chimes with the whole gist of Factfulness. In Geography, we could set the 'Ignorance test' from Gapminder to our students; or perhaps when setting the context for teaching hazards, we could use graphs which show the deaths from hazards decreasing (we do this at my school). Paul Turner (@geography_paul) has created a scheme of work based on Factfulness, which has its own 'rules of thumb' for those who wish to obtain a fact-based worldview (Rosling et al, 2018). Infographics such as Figure 2 could be placed on walls of classrooms or handed out to students at the start of a unit on development – and then discussed. I have also shown all or part of the two hour-long documentaries, as well as some of the thought-provoking YouTube videos and TED talks, which are found on the Gapminder website

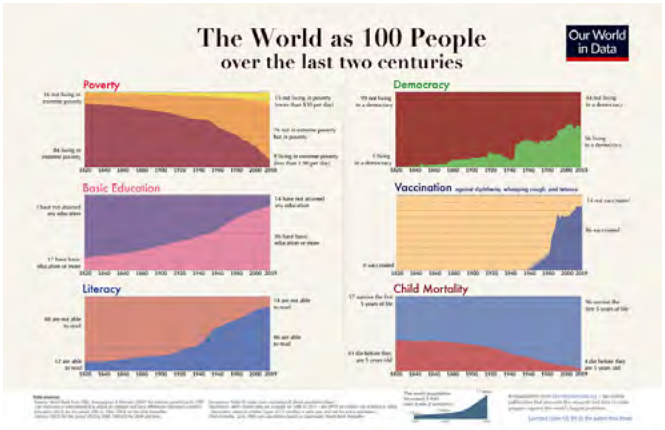


Figure 2: The World as 100 People over the last two centuries
Source: https://ourworldindata.org/

2. Accept the emotion but challenge the thought

As humans we are mentally predisposed to be affected emotionally by certain themes, such as human tragedies, but we should temper our immediate emotional reactions with more deliberative, contemplative thought. This is more difficult – but as educators we could, for example, set more exercises involving the deeper interrogation of images – such as **'layers of inference'** activities, which are common in historical education but which have only recently been adopted by a groundswell of geographers (see Figures 3a and 3b). For example, students could be given the following image.

Figure 3a: Man and truck in Calais, 2014 Source: Philippe Huguen / Getty,via https://www.newsweek.com/migrant-lorry-drops-more-double-britain-483218

Note: The above image is related to refugees arriving by trucks into the UK!

…and then asked to question it using the following template:

Key question being investigated

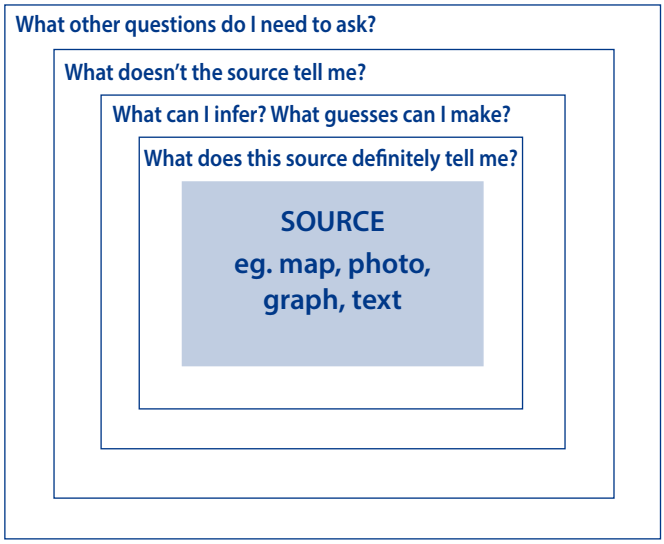


Figure 3b: Layers of inference framework Source: Margaret Roberts / GA via https://slideplayer.com/slide/4055725/

3. Cultivate scepticism, but not cynicism

Most of us will have come across the inveterate cynic in our classroom – and even our staffroom – who claims that "climate change is not real"; "poor countries will stay poor – the people are lazy". Cynics tend to be oppositional and have a negative mindset.

Scepticism, on the other hand, is a useful skill to cultivate – we should constantly question the veracity of the information we receive and encourage our students to do so to. 'Layers of inference' photo interpretation activities are one way of achieving this – and why not apply the 'layers of inference' grid to other kinds of sources – such as newspaper headlines, cartoons, emails, speeches, etc?

4. Other people are not as like us as we think

This is not to say that we should not empathise with others – rather, this means that we should not assume that 'all we see is all there is'. In Geography, we should continue to seek out opportunities to see things from others' points of view. Decision-making and Issues-based exercises could assist us in this task, as could using resources such as 'Dollar Street' (https://www.gapminder.org/dollar-street/matrix – see Figure 4) and using real diary extracts and video footage from people living in other parts of the world.

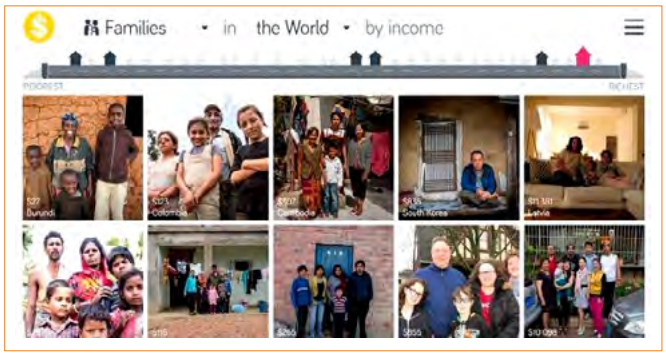


Figure 4: Dollar Street Source: https://s3-eu-west-1.amazonaws.com/static.dollarstreet.org

5. Our focus on extreme examples leads us astray

There are many examples where we stereotype people, often assuming the worst – the news does not help us in this regard. As Duffy says, **"We're naturally drawn to extreme examples, which means that true but vanishingly rare events or populations take up more of our mental capacity than they deserve"** (p241) When asked about migration, our students (or indeed, our more populist-inclined politicians) may well think about people on boats in the English Channel without putting these flows (in the realm of a few hundred a year) in the context of economic migration (hundreds of thousands a year). Judicious use of proportional symbols, graphs and maps could help us to counter this tendency.

6. Unfilter our world

It is well known that online, we are to a large extent a slave of algorithms: **we live in a 'filter bubble'. We reinforce this by 'liking' and 'sharing' opinions: this results in an 'echo chamber' effect.** Governments and corporations have their role to play in dissolving these filters, but so have educators. Using old favourites like **'devil's advocate' debates** could be used more often, and pupils could be given a range of media articles to compare, on issues such as migration and population growth.

7. Critical, statistical and news literacy are going to be difficult to shift, but we can do more

The task will not be easy: "we won't be able to teach the human out of our kids, and critical thinking is not a

universal guard against misconceptions" (p 244) – but just because a task is difficult does not mean that it should not be attempted: Duffy refers to addressing news literacy as "becoming the social, cultural and political challenge of our time" (ibid). As educators we need to continue the fight against the trend of transmitting knowledge, and instead **increase the proportion of our time dedicated to critical thinking, psychology, and the study of statistics** – and these should be delivered by more than one subject. The breadth of subjects our students follow should also be widened.

8. Facts still count, and fact-checking is important

It may sound trite, but **facts should be used carefully to back up arguments.** I say carefully, because, as Duffy points out, the academic literature on the use of facts to correct misperceptions shows very mixed results. In the classroom, in assemblies like this one and this one, and in presentations, I refer to several 'killer' facts and graphs, many of the latter gleaned from Max Roser's thorough, contemporary, and compelling website 'Our World in Data' (see Figure 2). The optimist in me still likes to think that these facts will do the trick. But I am also aware that **"humans naturally look for confirming information, and discount disconfirming information"**. Nevertheless, I am heartened by the existence of cognitive dissonance: with enough evidence, initially unconvinced people will switch, as the 'pain' of persuading themselves to accept their original opinion despite the volume of evidence against it outweighs the 'pain' of admitting to themselves that they were wrong.

So how can we adapt this insight into our practice as educators? **We can instill the importance of fact-checking throughout a child's education, we can pick up on misconceptions, and we can pick up on students who quote inaccurate information.** I remember setting a 'cover page' activity to Year 9 students on the topic of Hazards and a handful of them mindlessly typed 'tsunami' into a search engine, and the first image was this digitally altered image (Figure 5). This provided a great opportunity to discuss the reliability of sources.

A fun activity to make students sit up and take notice of inaccuracies is to find a mistake in a textbook and offer a reward to the first student who notices it. This could also be applied to those who notice mistakes in your own worksheets. Peer marking for factual errors can also help to remove any stigma which you fear you might be getting as a 'nit-picking pedant'!

Moreover, teachers should aim to 'get in there first' – by teaching accurate world views in primary schools and in the early years of secondary education, rather than leaving until later in the system, when many students following certain subjects may not get to be aware of this all-important life skill.

9. We also need to tell the story

The use of narratives and anecdotes to persuade others of a point of view is as old as rhetoric itself. They have a power over the human mind that pure facts struggle to muster. When teaching immigration, for example, it is important to focus on real life stories as well as using quantitative data about the scale of net migration or its economic impacts. Examples abound, and I use a Guardian Weekend magazine article to personalise migration and to show its range; other resources include https://www.ourmigrationstory.org.uk/

10. Better and deeper engagement is possible

This is where we move from taking evolutionary steps to revolutionary changes! Duffy mentions that more informed deliberation could help to shift misperceptions and reduce ignorance – and one idea from Bruce Ackerman and James Fishkin (2005) is to hold national 'deliberation days' where citizens would be invited to participate in public community discussions. People would gather in groups of 500 or so to hear presentations and ask questions of experts or representatives. Attendance would be incentivised, and the events would take place on national holidays, perhaps prior to an election. Could schools adapt this idea and have 'deliberation days' on set topics, rather than leaving debating and philosophising to a self-selecting crowd of confident students? This would be a step beyond 'mock elections' and it could give 'pupil councils' a boost so that they could integrate national and global issues – such as plastic pollution or media bias – into their deliberations. Senior members of corporations, universities and, yes, schools, have 'away days' to deliberate on important issues – so why should we not extend this to pupils? Duffy has trialled these with government and other groups and has seen people change their ways of thinking.

I am conscious that my recent seven-minute assembly on global progress may have given students – and

teachers – a momentary pause to think about their worldview, but I know that a fuller programme of engagement will be needed to reach a 'tipping point' in attitudes.

One other insight that Duffy makes is to draw our attention to the work of Michael Shermer, the founder of the Skeptics Society. A summary of his steps to convincing others of the errors of their beliefs is:

1. Keep emotions out of the exchange
2. Discuss, don't attack
3. Listen carefully and try to articulate the other position accurately
4. Show respect
5. Acknowledge that you understand why someone might hold that opinion
6. Try to show how changing facts does not necessarily mean changing worldviews

Source: Shermer (2017)

I am immensely grateful to Professor Duffy for giving me a structure on which I can build my deliberations for 'Educating for Hope'. I hope to build on these in the future and, as always, I welcome further contributions.

Ackerman, B. and Fishkin, J. (2005) Deliberation Day (Yale)

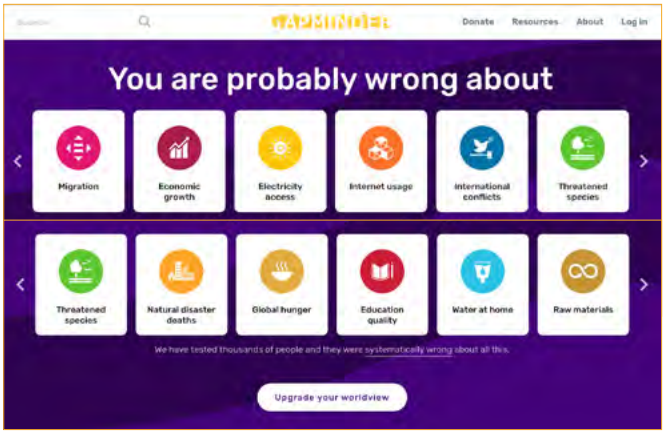
Duffy, B. (2018) The Perils of Perception (Atlantic)

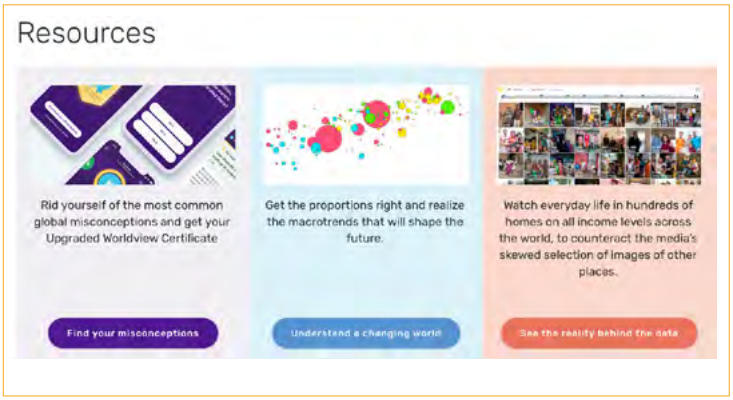
Rosling, H, Rosling, O and Rosling-Ronnlund, A (2018) Factfulness (Sceptre)

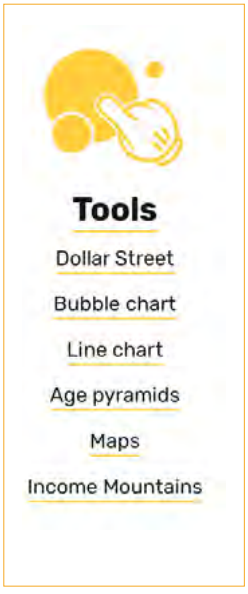
Shermer, M. (2017) 'When Facts Backfire' https://michaelshermer.com/2017/01/when-facts-backfire-why-worldview-threats-undermine-evidence/ accessed 18 January 2019

GAPMINDER / FACTFULNESS

Gapminder is an independent educational non-profit fighting global misconceptions – https://www.gapminder.org







YOUTH 4ACTION

EMPOWERING YOUNG ENVIRONMENTAL CHAMPIONS

YOUNG ENVIRONMENTAL CHAMPIONS

YOUTH4ACTION - EMPOWERING YOUNG ENVIRONMENTAL CHAMPIONS CHALLENGE IS COMING IN 2023

IT'S TIME TO SIGN YOUR SCHOOL UP

CAPTURE YOUR STUDENTS WHO WANT TO:

Challenge the status quo.

Be part of driving change from the grassroots level.

Find new ways to create positive social and environmental changes.

DO YOU WANT A PROGRAM THAT:

Aligns with the curriculum, the general capabilities and is fun and engaging?

Supports teachers with resources, professional learning opportunities and recognition for their dedication?

Strengthens your school to practise leadership, build resilience and enhance wellbeing?

Helps others to strengthen their capacity for change?

Connects your school with the community?

Fosters leadership and student engagement?

THEN WE HAVE THE PERFECT OPPORTUNITY FOR YOU!

Youth4Action - Young Environmental Champions program will empower your students to create scalable and sustainable impact connected to your local context.

THE TIME IS NOW

Click HERE to see Key Dates. Submit your Expression of Interest HERE.

Scan QR Code to find out more and sign your school up for this 10 week program to get the support you need!

The Empowering Young Environmental Champions program is supported by the Vincent Fairfax Family Foundation who are Backing Young People with innovative opportunities that advance their independence, social purpose and future security and the Office for Regional Youth.

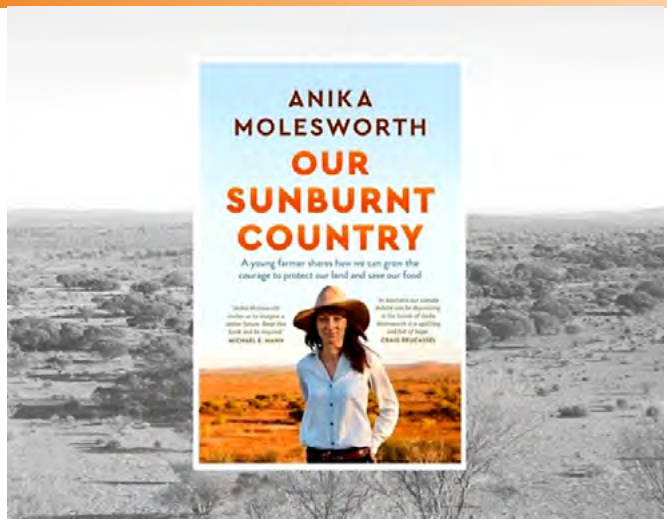
THE PROGRAM IS BEING DELIVERED BY ACTION4AGRICULTURE INC

Contact E: Lynnestrong@action4ag.com.au | M: 0407 740 446

A FOR A ACTION FOR AGRICULTURE

vfff Vincent Fairfax Family Foundation

NSW GOVERNMENT



OUR SUNBURNT COUNTRY by Anika Molesworth

A review by Simon Mustoe, author of *Wildlife in the balance*

August 20, 2022 – https://simonmustoe.blog/my-sunburnt-country-by-anika-molesworth-a-review/

Our Sunburnt Country is Anika Molesworth's story about hope and the potential to build a better world. Based on her own story of living on a remote Australian farm near Broken Hill Anika has a deep understanding about the impact of climate change on the land.

A scientist specialising in agriculture and environmental management, Molesworth has built a career on innovation. She has seen first hand, both the beauty and harsh reality of how climate change affects land. Molesworth is now on the board of **Farmers for Climate Action** and founded the organisation **Climate Wise Agriculture.** Both organisations seek sustainable alternative farming methods, to respond to, and address, climate change.

Imagine a better place to be

Our Sunburnt Country sprouted from the raw imagination of a child who grew up living in a place they learned to love. What it became was a manual for healing, both Molesworth's own mind, and the land she is connected to. The book is an extraordinarily personal account and thoughtful insight of someone striving to be a good citizen of Earth. Best of all, it challenges us all to do the same, to put our raw imagination to work and make things better.

> *Poverty of imagination and inability to tell better stories locks us into a world of despair from ecological ruin … when we believe something is possible, then we act like it is too. So, we must practise telling different narratives, better narratives, ones that illuminate an inspiring vision in ourselves and the people around us.'*
>
> Anika Molesworth, 'Our Sunburnt Country'

> *'Courage is not to shy away from reality. Courage is to know reality. To learn it and to still imagine something better'*

Global food systems are **inextricably linked to wildlife and ecosystems**. Molesworth explains that "we have … most remarkably, managed to deceive ourselves that the fitness of **ecosystems** and population of wild plants and animals does not affect what we find on our plates".

In a series of short chapters, **Our Sunburnt Country** steps the reader through problems and then the solutions, to protect our land and save our food.

Have the courage to do something

Despite the complexity of the world around us, the solution to environmental problems is not unimaginable. A landscape that is replete with wild animals and plants, where our food system shares a space with shade-trees, rich grasslands, bountiful rivers and thick soil, can be remade.

Without this. Without the food we eat, we are nothing. Our consumption is what connects us to the land. It's our reason for existing and our need for survival at the same time. *There is hope as long as we believe we can still make a difference.*

Inside the cover of the book Anika had written 'may your courage inspire the world'.

'Courage is not to shy away from reality, block our ears and bury our heads. Courage is to know reality. To learn it. To stand with it. To mourn it. To have one's heart broken by the horror, the injustice, the pain, and to still imagine something better – an alternative reality.'

Anika Molesworth, 'Our Sunburnt Country'

Act now

Our fear of the future makes us hold onto the past, without thinking about the present. Our global food production is vulnerable to collapse, but we can – and must – build a better world. Courage is how we confront fear. Despair is the enemy of innovation.

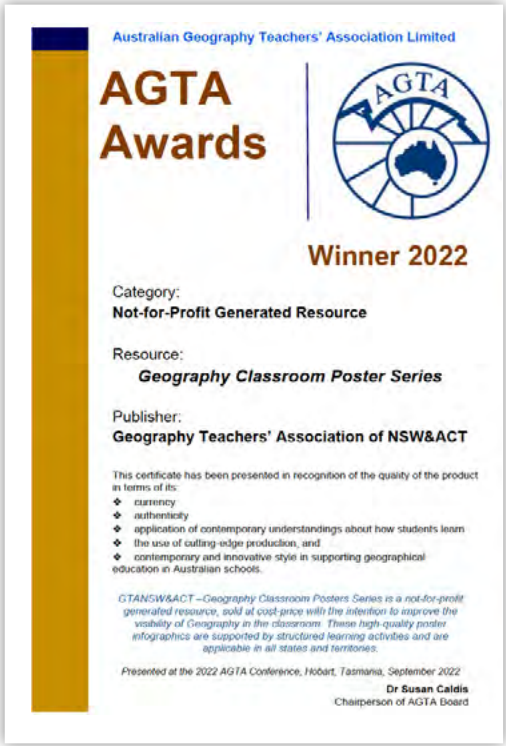
Each day that goes by we are all subjected to the algorithm-fuelled echo-chamber that is social media. Here, most people share their despair about the world. It's an addiction. But the future is in our hands. There's no point despairing about what might be. We know what to do and when to do it. As Molesworth says:

'Learning from the past and looking to the future, we realise that we need to act now.'

There are plenty of books out there about the problems in the world. The less well-known reads, the ones we need most of all of our own health, sanity and future, are written by people too busy making a difference.

Thank you, Anika Molesworth for having the imagination and courage to write a rare book. One that gives hope and offers a new way of thinking, with thoughtful and practical insights into things we can all do.

Image source: https://twitter.com/AnikaMolesworth


Australian Geography Teachers' Association Limited

AGTA Awards

Winner 2022

Category:
Not-for-Profit Generated Resource

Resource:
Geography Classroom Poster Series

Publisher:
Geography Teachers' Association of NSW&ACT

This certificate has been presented in recognition of the quality of the product in terms of its:
- currency
- authenticity
- application of contemporary understandings about how students learn
- the use of cutting-edge production, and
- contemporary and innovative style in supporting geographical education in Australian schools.

GTANSW&ACT – Geography Classroom Posters Series is a not-for-profit generated resource, sold at cost price with the intention to improve the visibility of Geography in the classroom. These high-quality poster infographics are supported by structured learning activities and are applicable in all states and territories.

Presented at the 2022 AGTA Conference, Hobart, Tasmania, September 2022

Dr Susan Caldis
Chairperson of AGTA Board

GTA NSW & ACT Win 2022 National Award for Not-for-profit Generated Resource

NEVER MISS AN OPPORTUNITY

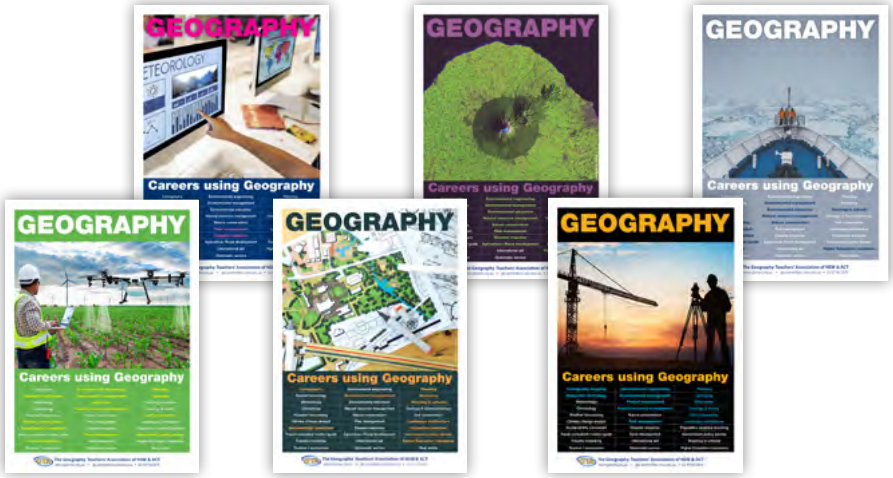
Lorraine Chaffer

It is important that our students can see the value of Geography, not only for understanding the world, but also the place of geographical knowledge and skills in career pathways and the career opportunities they can investigate further.

GTA NSW & ACT CAREERS POSTERS

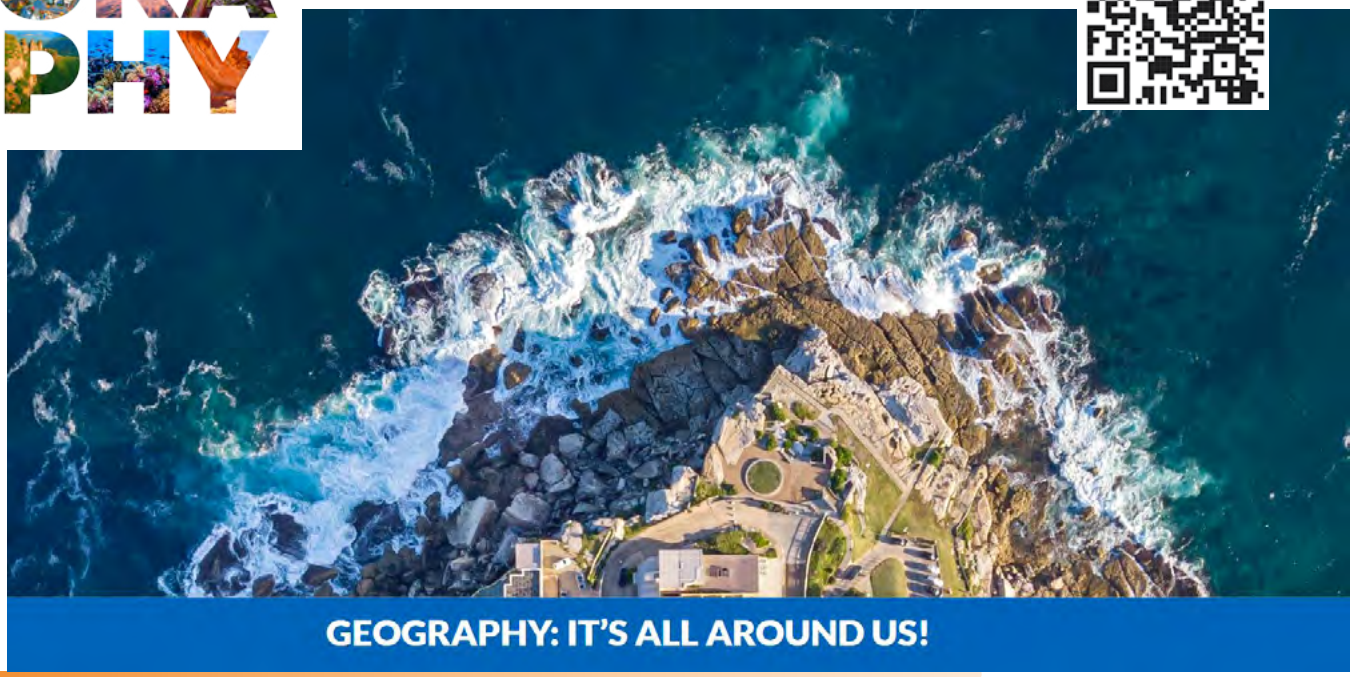
One approach is to display posters that showcase links to careers in Geography. When teaching individual topics ask students to identify, or draw their attention to, potential careers linked to the content and skills being taught.

GTA NSW & ACT Careers posters have been developed for this purpose. They range from large A1 sized posters to a set of six smaller sized A3 posters.



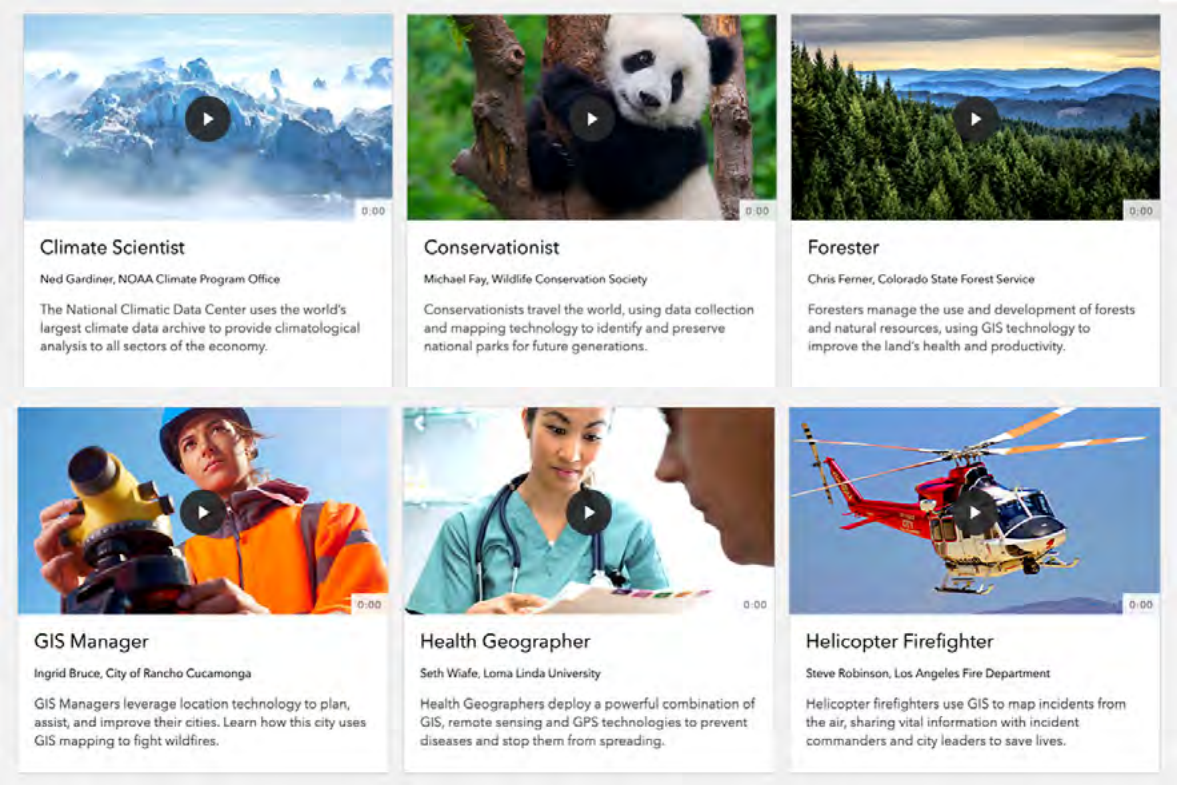
AGTA CAREERS WEBSITE #GOWITHGEO

This rich website provides students further insights into careers linked to studies in Geography. It can be found using the weblink https://www.gowithgeo.com.au or the QR here.



ESRI WEBSITE

Watch these careers video clips HERE https://www.esri.com/en-us/what-is-gis/careers



SHE MAPS – CAREERS USING DRONES

SHE MAPS have created a set of posters you can also print for your classrooms:

- 28 Future Drone Careers infographic
- Careers poster biographies showcasing women who use drones in their job.
- Drones in forestry infographic

The infographic and samples of the career posters are included in this edition.

The SHE MAPS / FOREST LEARNING resources for Stage 4 and 5 'Drones in Forestry', have excellent resources on careers in forestry and the use of drones in those careers. Activities for students include creating a biography for a forestry worker. Visit the website here to download these free resources. https://shemaps.com/blog/drones-in-forestry-teacher-resources

A message from She Maps

The Australian Drone industry is booming, reportedly contributing AUD5.5 billion to the country's economy and by 2040, the economic impact of this industry is expected to reach AUD14.5 billion. The use of drones in different industries continues to grow and, as such, we are seeing an amazing array of new career pathways opening up for your students.

To uncover 28 Future Drone Careers, we highly recommend that you download our poster and display it in your classroom to continuously inspire your students.

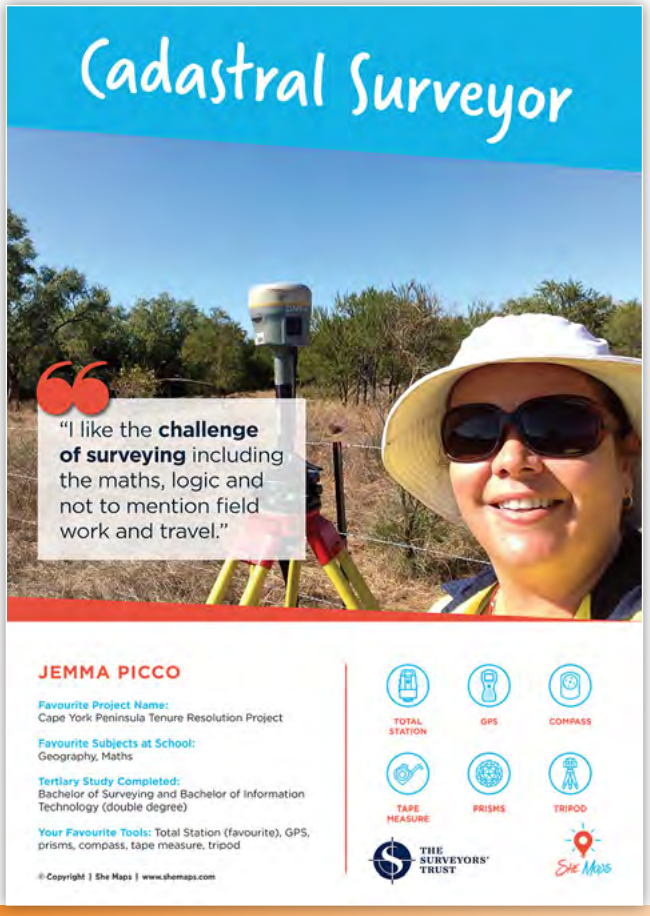
Future Drone Pilot Infographic

A recent report The Australian Surveying and Spatial Workforce – A National Roadmap highlighted the continued workforce shortages for surveying and spatially related occupations.

At She Maps, we are passionate about the geospatial industry, but career options in the geospatial industry are invisible to the large majority of students. This is why we've developed a series of career posters so that schools can help inspire the next generation of geospatial experts.

CAREERS: DRONES

Print and display the posters in your office, corridors, or classroom. Incorporate the posters into your teaching or use them for class discussions. The posters are suitable for upper primary and secondary levels.



Earthquake Geologist

"I love using drones and science **to tell stories** about how earthquakes and tectonics are still changing our seemingly **ancient outback landscapes**."

TAMARAH KING

Tamarah is an earthquake geologist and PhD student at the University of Melbourne. She uses field observations, drone imagery, and satellite data to study earthquake damage to investigate the past and future of Australian earthquakes. Her research allows her to explore remote parts of Australia and the world, travelling across the deserts of Australia, Timor-Leste, Indonesia and Scotland to look at geology and tectonics.

Favourite subjects at school: English, Women's Studies, Biology, Music

Further study: Bachelor of Science (Earth Sciences); Masters of Earth Sciences

CONSERVATION · HISTORY · COMMUNICATION · DRONE WORK · ROCKS · VOLCANOES · EARTHQUAKES · LANDFORMS

Landscape Architect

"There are a million ways that you can use your passions to **make the world a better place**; drones happened to be mine."

SARA WEBBER

Sara Webber is a small business owner, drone/gaming nerd, landscape architect, and certified drone operator. She is passionate about her career using drones for photography, film, photogrammetry, and 3D design. She uses drones to create accurate maps of the landscape for site context analysis, and to create an "Artist's Impression" of how different designs will look when situated in their environment.

Favourite subjects at school: Fine Art, Legal Studies, Maths and English

Further study: Bachelor of Environments; Permaculture Design Certificate

CONSERVATION · MAPPING · 3D MODELLING · DRONE WORK · BIODIVERSITY · ARCHITECTURE · PHOTOGRAPHY · LANDSCAPE DESIGN

Solution Engineer

"I'm inspired by the **different perspective of the world** that drones give me, the applications are endless!"

CHRISTINE MUNISTERI

Christine is a Junior Solution Engineer and drone pilot at GEO Jobe GIS. She developed her interest in geospatial technologies while working with students in Belize as they mapped marine debris and studied flooding and disaster management. With her team at Citizen Science GIS and Open Reef, she uses drones to collect high resolution imagery of coastal communities and vulnerable islands to assist with island inventories, environmental research, and educational endeavors.

Favourite subjects at school: Geoscience, Remote Sensing, Italian, and Marine Biology

Further study: Bachelor of Arts in Environmental Studies

CONSERVATION · MAPPING · COMMUNICATION · DRONE WORK · EDUCATION · FLOODING · DISASTER MANAGEMENT · LITTER

Marine Biologist

"I love **working with people** all over the world to help them use their drones to **benefit humanity and protect wildlife**."

ALICIA AMERSON

Alicia Amerson is a published author in marine biology, small business owner, and international speaker. She is a visionary with expertise in international marine conservation and biodiversity research projects and drone technology. Alicia is trailblazing the path to create a robust drone stewardship program focused on responsible practices for flying drones technology to benefit humanity and respect wildlife and wild spaces.

Favourite subjects at school: Science, Debating

Further study: Bachelor of Science (Biology); Masters of Science (Marine Biodiversity and Conservation/ Ecotourism)

CONSERVATION · MAPPING · MARINE POLLUTION · DRONE WORK · WHALES · SEA LIONS · SEA BIRDS · DOPHINS

Drones in Forestry

FOREST LEARNING

SHE Maps

MANAGEMENT
Canopy cover, tree numbers and volume estimation

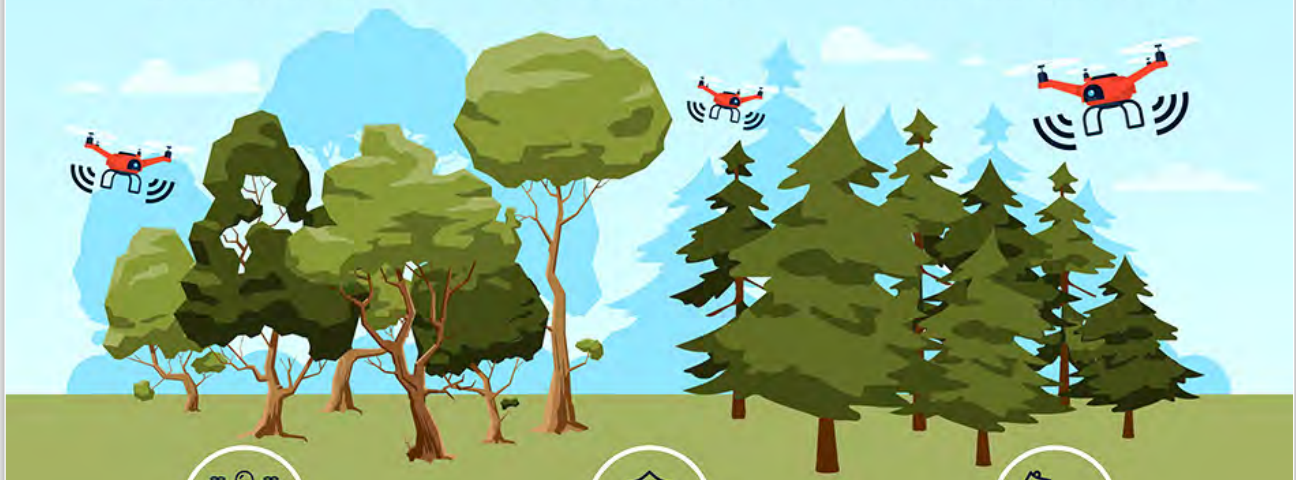
CANOPY
Monitor forest 'stands' and regeneration

MEASURING
Measurement of forest stockpiles and quarry material

RESTORATION
Conduct rapid surveys that reduce the cost and time for land restoration

PLANTING
Distribute seedlings and seeds in a fast and efficient manner

MAPPING
Secure 2D and 3D mapping of forest carbon storage, boundaries and monitoring



PLANTATION MANAGEMENT
Payload equipment can now spread fertilizer or spot herbicide over large, inaccessible areas

SECURITY
Monitor illegal logging

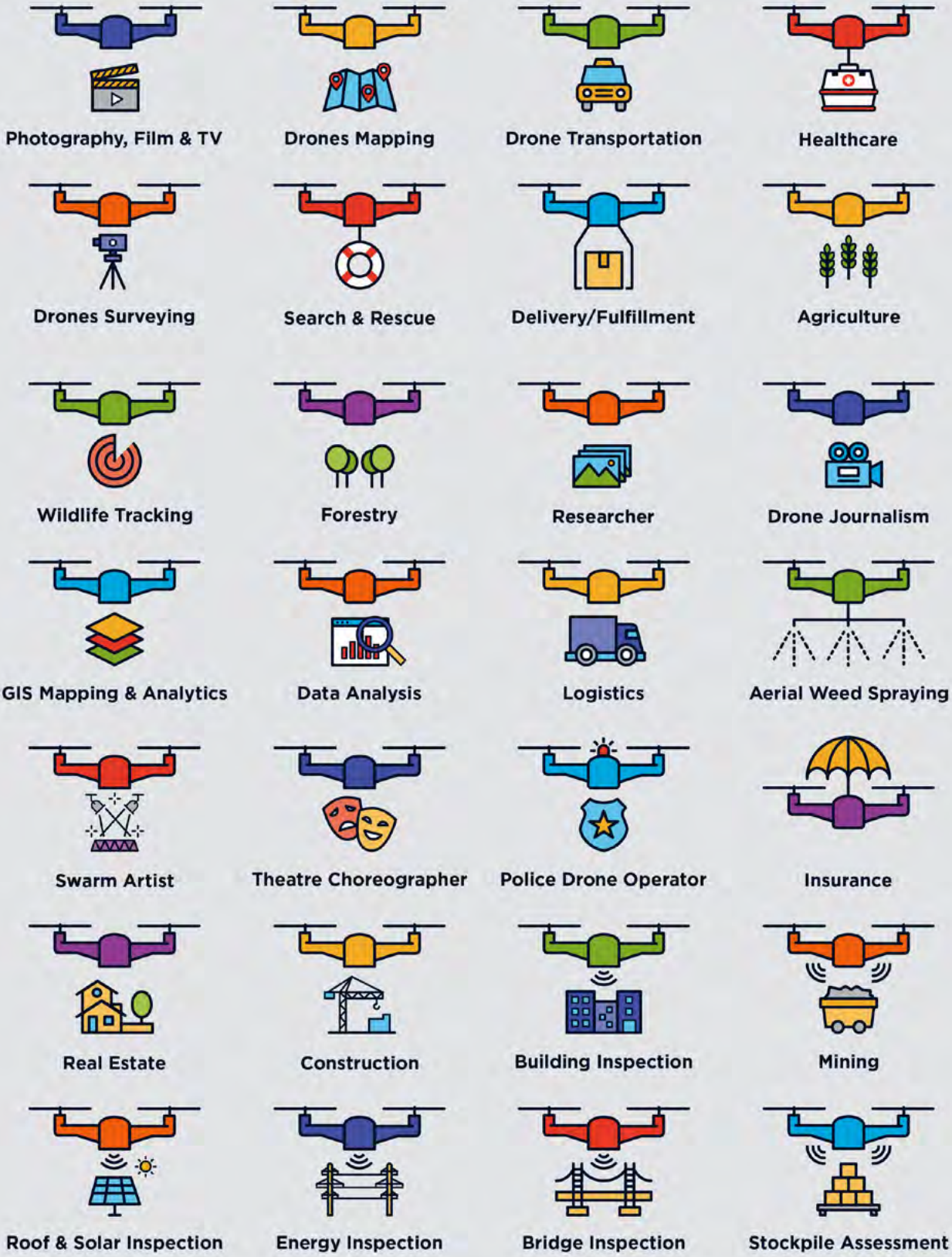
DEFORESTATION
Surveillance to capture images of people or activities that are involved in illegal deforestation activities

PLANNING
Measure area, boundaries, forest stands, ecology surveys, and forest tree species

BUSHFIRES
Monitoring and management activities including hazard reduction burns, smoke spotting detection and use of thermal imagery to identify hot spots

DISEASE
Check for forest pests and diseases

Career Pathways for Drones



CAREERS USING SPATIAL TECHNOLOGIES

ALISON LEWIS, Water Scientist
Department of Planning and Environment – Water

SNAPSHOT

Favourite Subjects at School: Geography, Maths, English, Design & Technology

Tertiary Study Completed: Bachelor of Science majoring in Sustainable Resource Management and Marine Science.

Within my science team, we use spatial information to assess the environmental value, condition, and types of rivers in NSW. Spatial information (or spatial data) describes a location or information that can be linked to a location.

We collect, analyse, and model this data and I look for creative ways to visualise or map the data to make it more useful and meaningful. These maps help us to better understand and track changes to the river's physical form, its surrounding vegetation, and the wildlife that depends on river ecosystems.

The role of Geography and spatial technologies in my career

Alison Lewis

When I was in high school, I did Geography by Distance Education. There were not enough participants for Geography to be offered as a class for Year 11 and 12 (having a dad as a Geography teacher also helped!). I loved the diverse topics it covered, as well as getting outdoors and studying the environment.

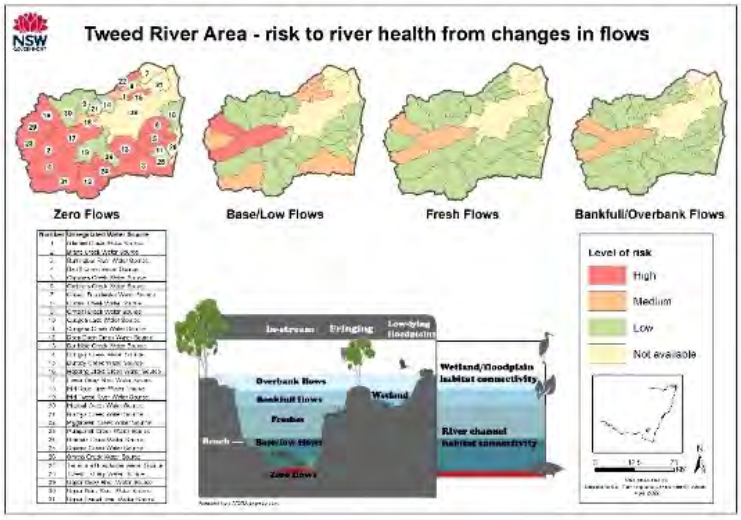
I then went on to complete a Bachelor of Science University Degree with majors in Sustainable Resource Management and Marine Science. This degree focused on resource management, ecological monitoring, and environmental science. I was introduced to new and exciting technology such as baited underwater video, statistical analysis programs, GIS mapping software, and went on many incredible field trips to various environments including rock platforms/pools, mangroves, lagoons, and bushlands.

My current role as a water scientist has led me to using spatial information and mapping software to assess the environmental value, condition, and types of rivers in NSW. Recent training in drone technology will enable my science team to monitor key areas and field sites. Drone images help to precisely map an area and detect changes to the shapes of river channels, sediments, and surrounding vegetation over time. Drones can provide a much higher level of detail than satellite imagery as well as improve access to difficult to reach places. Drone imagery will help contribute to monitoring and evaluation programs that support water sharing in NSW.

Thanks to my foundation in Geography, I have held varying environmental science positions over the years and accumulated a diverse range of skills in natural resource management. I have participated in water quality sampling across northern NSW and conducted vegetation surveys and water bug collections in amazing remote locations such as the Macquarie Marshes and Gwydir Wetlands. I have been responsible for blue-green algal sampling, monitoring and management in the Hunter area and I have contributed to numerous water policy developments through evaluation, scientific studies, and data analysis.

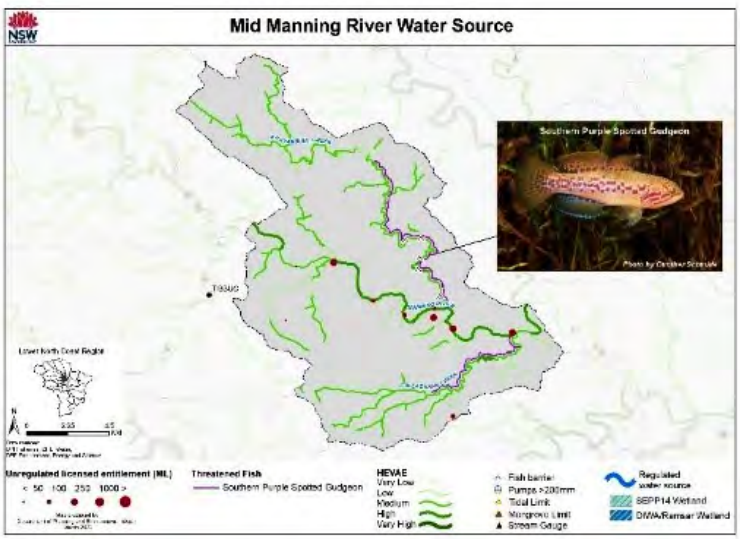
My favourite part of being a water scientist is being able to collect, analyse and explain scientific data in creative, useful, and meaningful ways. Being able to get out in the field and fly drones is great fun too!

Image: Comparison of drone derived orthomosaic with satellite imagery at Lakelands oval.



Two examples of maps created to visualise environmental data for analysis.

These images have already been published in other departmental material.



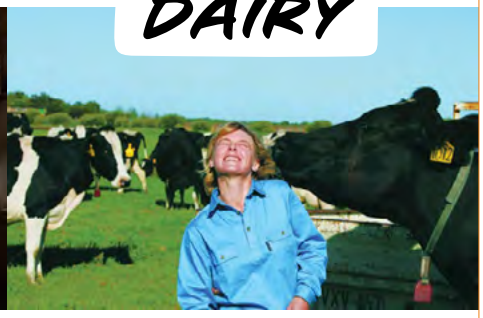
ACTION4 YOUTH

EXPERIENCE A CAREER IN

FISHING

WOOL

DAIRY



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Connecting fieldwork to careers

Image source: Shutterstock

Contamination Assessment: Year 11 Fieldwork at School

Kathy Jones, Fieldwork Connections

Syllabus: Stage 6 – Biophysical Interactions.

One of the most meaningful conversations you can have with senior students is about their future, what careers they are thinking of pursuing after they leave school. I really enjoy hearing about their goals and dreams, and they seem to appreciate that someone has taken the interest in them. If we are going to be able to help and inspire our senior students, our teaching needs to be meaningful and relevant showing them direct links and pathways into future careers. With this in mind, I designed a Contamination Assessment fieldwork investigation for year 11 Geography students, to be run at school. In industry, these forms of investigations are undertaken by environmental consultants and link directly to EPA guidelines.

I began my working life as an Environmental Scientist, working in contaminated land. A large part of my job involved conducting Contamination Assessments on urban land around Sydney. Currently, I teach fieldwork to school students on a daily basis and I also recently began teaching Geography one day a week at Hills Grammar in north west Sydney. This has given me, not only the opportunity to develop my classroom teaching but to also build relationships with my students and gain a deeper understanding of how Geography can lead to future careers.

Running this fieldwork as an incursion, confined to one school day, there were some secondary information that needed to be gathered by myself before the day. I was able to obtain site history information from the school's archives, conduct at Dial-Before-You-Dig search and set up a scaffold for the Contamination Assessment Report.

On the day, I spent the first hour with the students in a classroom, explaining why and how we would undertake the Contamination Assessment. This gave the students background into the investigation and a purpose for the day. Students were divided into fieldwork groups of 5 students. Next, we went into the school grounds to identify our first sampling location where I demonstrated all the fieldwork tools and skills that would be replicated at the following 4 locations. Rather than a fieldwork booklet, a checklist was used to remind students of what was to happen at each location. This made the experience closer to a real world scenario and didn't feel like they were just writing answers on a worksheet. The checklist included:

- Identify location on site map;
- Look at Dial-Before-You-Dig plans;
- Name location (e.g. BH1);
- Hand auger or collect sample with trowel;

- Complete borehole log and any additional field notes;
- pH test of soil sample;
- Ribbon test for soil texture;
- Collect soil sample in plastic bag, label bag, place sample in esky; and
- When all samples are collected from five locations, fill in chain of custody sheet for lab and send to soil lab.

All the students were very engaged by the fieldwork and especially enjoyed the hand augering, Ribbon test and pH soil testing. Not only were we able to better understand the lithosphere but students were also fascinated by the biosphere; beetle larvae and cockroaches found living in the soil. Undertaking the fieldwork on school grounds gave students a deeper sense of not only the geographical concepts of Environment and Change but also of Place.

Once back in the classroom for the final hour of the day, students were able to work in their groups and use their results and data to edit the scaffolded Report.

This kind of fieldwork could similarly be run for or with Earth Environmental Science, however, the following table demonstrates how this Contamination Assessment is directly linked to geographical fieldwork.

Geographical Fieldwork

Content and Syllabus	Stage 6 Preliminary Course, Biophysical Interactions. Students learn to: – investigate and communicate geographically by asking and addressing geographical questions such as 'what are the biophysical interactions in the lithosphere and the effects of human impacts?' – use geographical skills and tools such as identifying, collecting and recording data about soil and the lithosphere. – identify geographical methods applicable to the workplace such as a Contamination Assessment based on NSW EPA guidelines and associated fieldwork. Students learn about: – the nature and functioning of the biophysical environment with a focus on the lithosphere and the human impacts upon it such as soil contamination.
Tools and Skills	Hand auger for soil sampling. Ribbon test for soil texturing. Soil sampling and laboratory chain of custody procedures.
Inquiry	Small groups. Acquiring, processing and communicating knowledge. Primary data collection, use of secondary sources. Site history search, Dial-Before-You-Dig search.
Concepts	Place, environment, change.
Geographical language	Examples: The lithosphere, biophysical interactions, soil texturing
Accessible	At school incursion. Run in one school day.
Relevant	Direct industry links. Located at school, connection to Place.

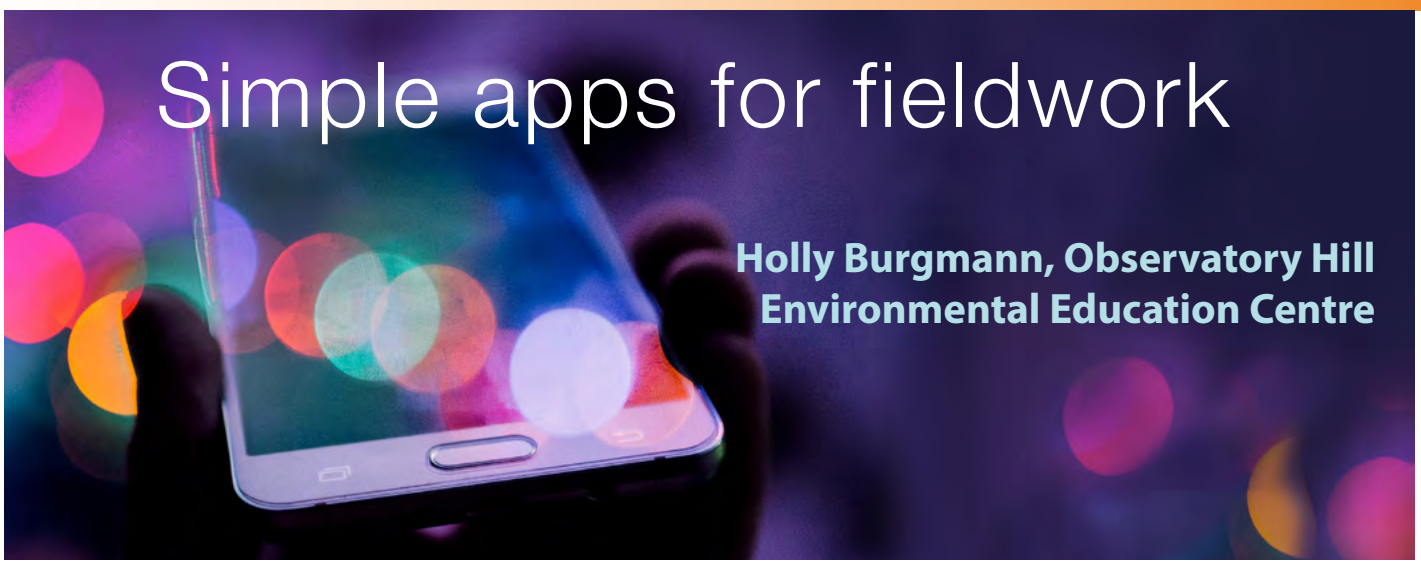
Source: K. Jones 2020, adapted from S.Caldis 2019

Not only was I able to give my students a deeper understanding of the lithosphere and biophysical interactions, the contamination assessment also gave them a taste of industry and future careers. At the end of the day I asked the class for some verbal feedback and specifically asked them if they would consider this as a career choice. I was not expecting every student to be won over by soil, however, a couple responded positively. As I explained to them, it was giving them all the exposure to industry and they could now make an informed decision if it was an area they wanted to pursue.

Please feel free to contact me at kathy@fieldworkconnections.com.au if you are interested in running fieldwork at your school or for some other simple one hour fieldwork ideas outside the classroom.

I would like to extend my thanks to Hills Grammar Head of Geography, Grace Larobina and Senior Geography teacher Helen Laidler, who supported me with the fieldwork and incorporated the project as the 2022 Geography Department goal to support student and teacher learning.

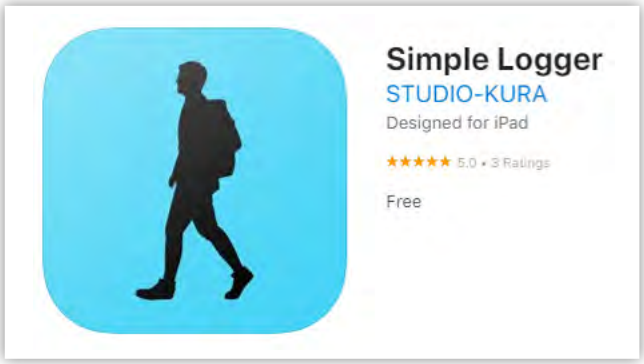
Simple apps for fieldwork



Holly Burgmann, Observatory Hill Environmental Education Centre

Most of our students these days bring a phone to class - how can we utilise them in Geography? Here are two basic starting points for you to try, with no training or prep required, to store fieldwork findings in a useful and engaging way. For more advanced functionality check out apps such as Epicollect5.

SIMPLE LOGGER APP



What does the app do?

Simple Logger records a simple path taken during fieldwork. It allows for observational data to be recorded against usable latitude and longitude coordinates. This fieldwork data can then be exported into Google My Maps or Google Earth. It also provides an elevation profile along a path as well as recording information such as time, distance, average speed and highest/lowest elevation.

How is the app useful in teaching and learning Geography?

- Simple Logger is useful for plotting notes at various points along a path during fieldwork.
- Notes can be measurements such as water quality testing results (e.g. pH, turbidity or phosphate levels), species identification (e.g. tree/shrub types) or general observations (e.g. features of liveability, management strategies, evidence of erosion/deposition, litter type)
- The simple nature of this app allows for easy use in a lesson with teacher instruction, or an independent fieldwork task (such as a Research Action Plan or Senior Geography Project).

Instructions for using SimpleLogger:

1. Download "SimpleLogger" app from app store (free).
2. Press "Launch Logger" to start logging data/photos.
3. Press "REC" and start your fieldwork. Ensure your location settings are turned on. Along the path you can add an image (camera icon) or notes (waypoint icon). You can pause the recording at any point and restart again.
4. Once you have collected data, you can press the save button (disk icon). The data is saved and can be viewed in the app ("View Files" on app home page).
5. The data can also be saved in GPX or KML format and then shared or emailed to your laptop or PC where you can export the data to Google My Maps (https://www.google.com/maps/d/) or Google Earth to create a new map. Data can also be stored using iCloud (click on **i** icon on app home page).

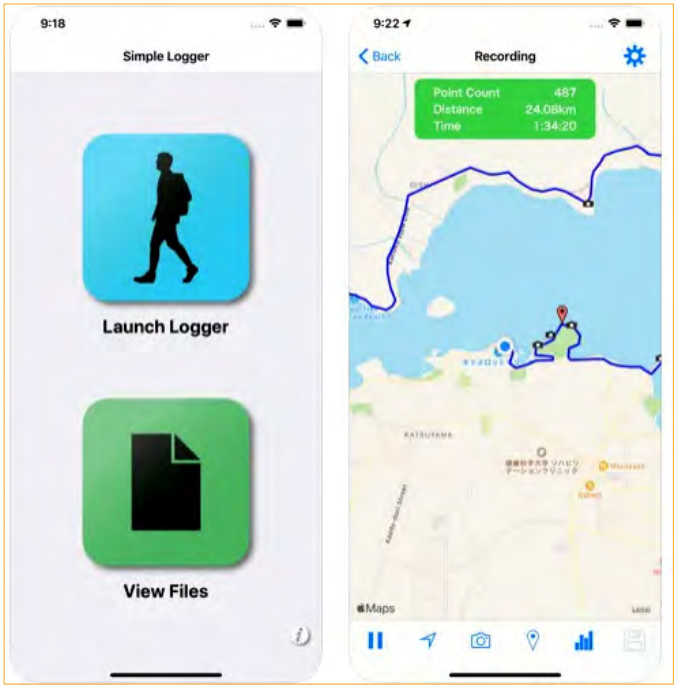
Simple Logger – Benefits and limitation

Benefits

- Simple and easy to use
- Good introduction to GIS and spatial technologies
- Easily plots notes and photos on a map
- Provides elevation, speed, distance data.
- Can export as a GPX or KML file (text only)
- Free app
- Small download size

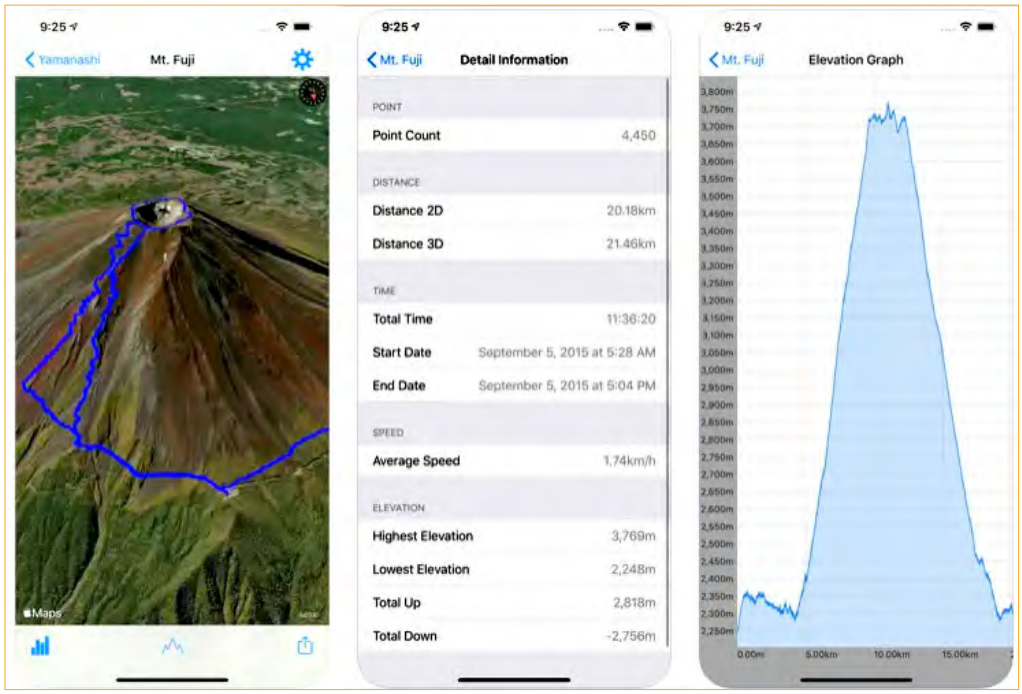
Limitations

- Limited in the functions it can perform
- Not available on Android devices.
- Students need to ensure location settings are on otherwise will not work
- iPhone/iPad device is required by student with enough storage to save files
- Images cannot be exported.
- Needs wifi or data to send exported data.



Left: preview of app homepage (image 1) and sample of recording a path (image 2).

Below: Preview of finished path (image 3), Detailed Information about path (image 4) and elevation Graph (image 5)



Student Sample: Stage 5 Environmental Change and Management (Plotting observations of Management Strategies of a beach environment)

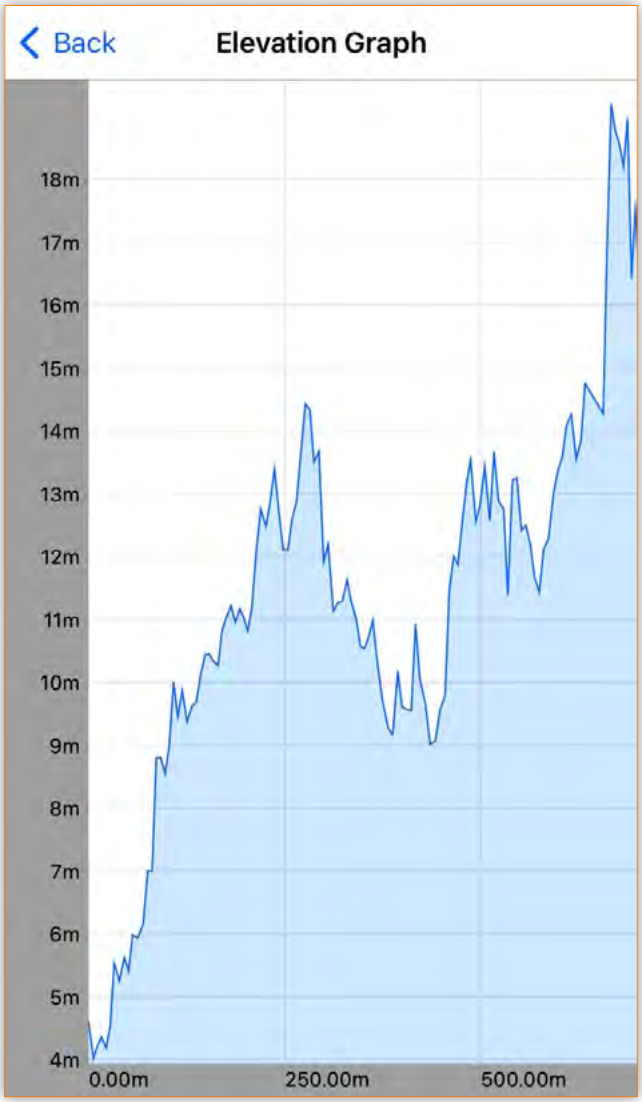
Task

Students walked around the fieldwork site using the app to take photos and notes of the various management strategies around the reserve. The app logged the route as well as notes and photos.

Student Sample: Stage 4 Landscapes and Landforms: Creating an elevation profile of the school grounds

Task

Students discussed elements of the school landscape and predicted the terrain (steep and gentle slopes) around the school site. Students then walked to various corners of the school using the Simple Logger App. Back in the classroom, students compared the various elevations before looking at a topographic map/ six maps with contour lines.



PLOTTING GOOGLE PHOTOS ON A GOOGLE MY MAP

What can Google My Maps do?

Google My Maps (https://www.google.com/maps/d/) allows you to attach information (such as notes, data and photos) to locations and create custom maps. Once you have created a map, it allows you to easily share or collaborate with others. The easiest way you can use Google My Maps post fieldwork is to take photos, save to Google Photos and allow Google My Maps to plot the photos on a map.

How is this useful in teaching and learning Geography?

- Images taken during fieldwork (as a class or individually) can be plotted on a custom map.
- Google My Maps allows you to share the map so your students can add their photos to the main map. Alternatively you can have a shared photo album and the teacher can import the images to the map.
- Plotting images can allow students to understand spatial components of a site as well as help them to identify clusters on a map (e.g. Where are the main clusters of A, B and C? How far away is the evidence of A from B?)

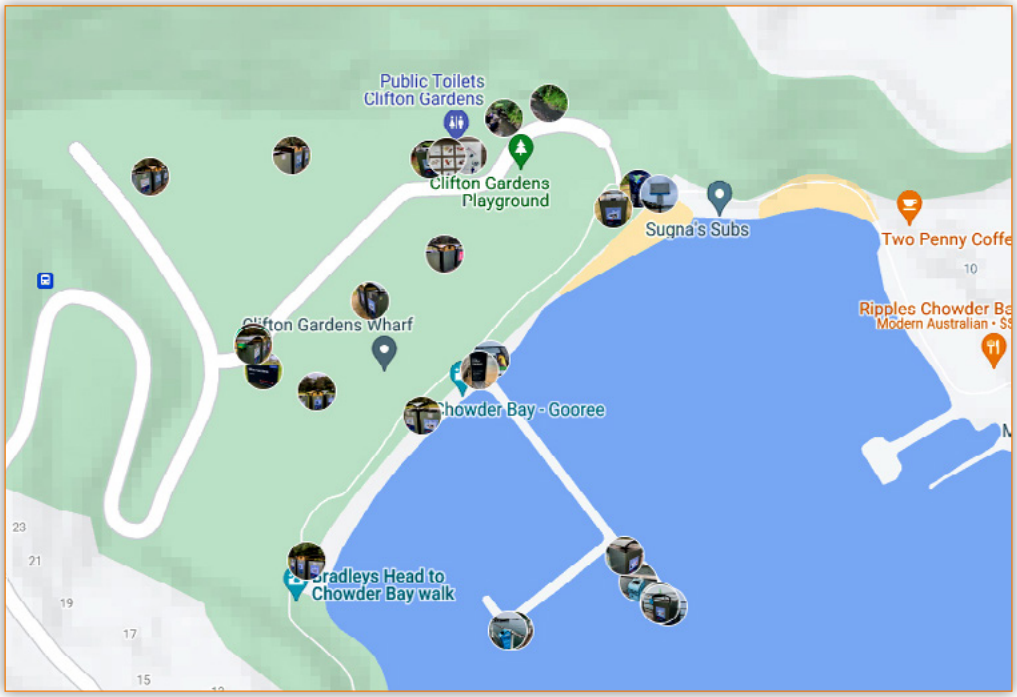
Benefits

- Simple and easy to use (only camera app required on phone)
- Good introduction to GIS and spatial technologies
- Easily plots photos on a map
- Text can be added once photos are plotted

Limitations

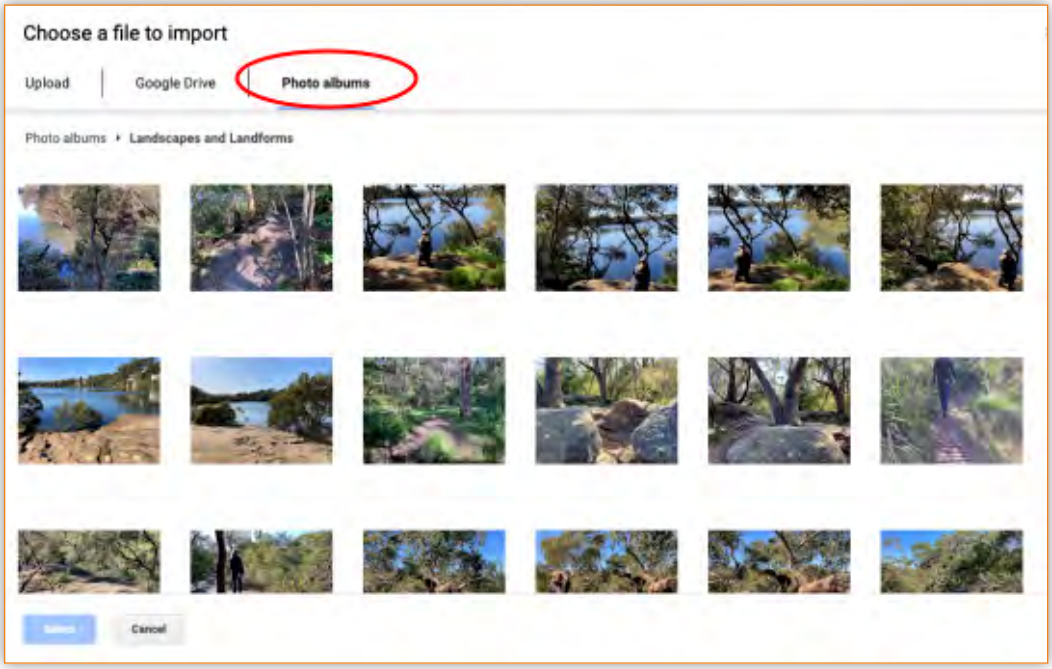
- Not all schools connected to Google suite
- Students need to ensure location settings on their phones
- Does not include route, elevation data, etc.

Student sample: Stage 5 Environmental Change and Management (Plotting observations of Management Strategies)

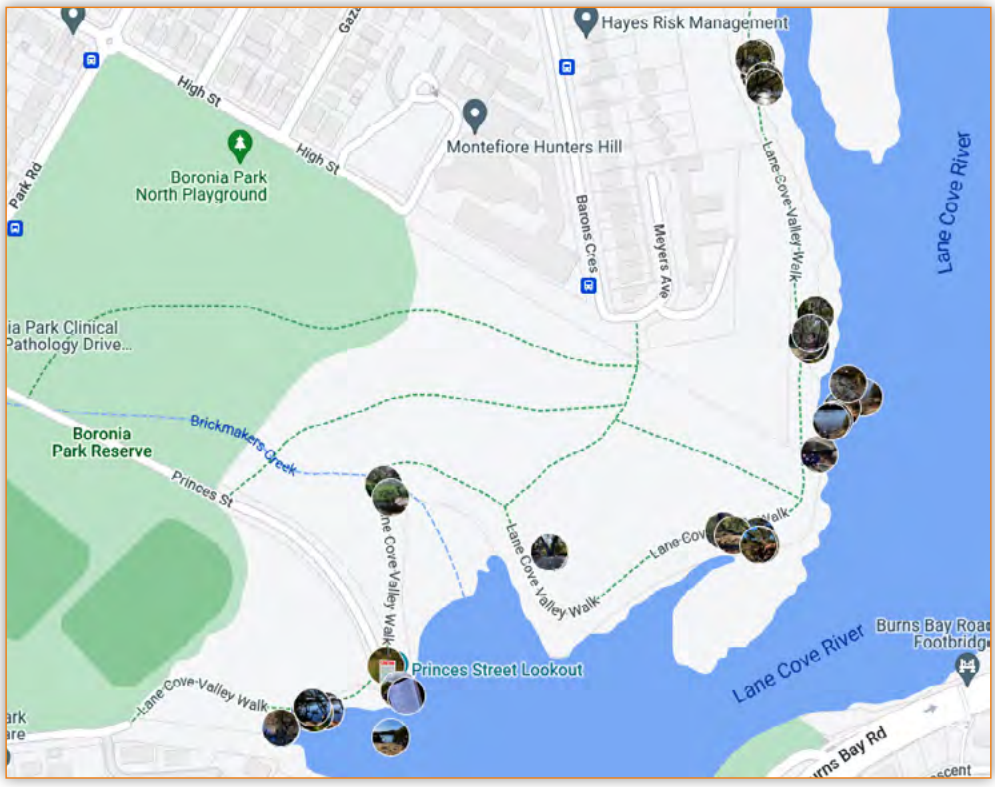


Instructions for mapping photos on Google My Maps:

1. Take photos during fieldwork (ensure location settings are turned on).
2. Upload your images into a Google Photos album (https://photos.google.com/).
3. Open Google My Maps (https://www.google.com/maps/d/) and "create a new map". Name the map.
4. "Add Layer" then "Import" the images from the Google photo album (see below)
5. The images in the album will now be plotted on your map.
6. You can add text to each image by clicking on the image and then clicking edit.
7. The map can be shared by copying the link. Check the share settings before to ensure access is allowed.



Student Sample: Stage 4 Landscapes and landforms (Plotting observations of erosion, weathering and deposition)



The Geography Teachers' Association of NSW & ACT Inc
ABN: 59 246 850 128

November 2021 – October 2022 Annual Report

Presented by Dr Susan Caldis (President)

Introduction

I am delighted to present the 2021 - 2022 Annual Report for the Geography Teachers Association of NSW and ACT (GTANSW&ACT). In another year full of extraordinary and challenging circumstances, I am proud to say that Council continued to work in an agile, adaptive and responsive ways to meet unexpected and ongoing changes.

Let me start by Acknowledging Country. In our work as geographers and geography educators it is crucial to understand our connections to place and people across time – and to share such understanding with our students and colleagues. I would like to respectfully acknowledge all Aboriginal and Torres Strait Islander Countries/Places that we join from today and acknowledge lands and waterways are not ceded; I also acknowledge the enduring traditional custodianship of Country. For me, I would like to acknowledge the lands and their waterways of Eora nation and Darug Country - Country to which I am connected through work, study and residence. I write this report from the lands upon which I am fortunate to reside and work: of the Cammeraygal People of Eora nation and of Wallumattagal People of Darug Country respectively. Today I am joining you from Ikara- Flinders Rangers, Adnyamathanha Country (South Australia). I invite all who join the meeting today to acknowledge Country in the chat facility. I would also like to pay my respect to all Elders and knowledge-holders who have and continue to pass on their wisdom for the sustainability of our environments, our education and our communities. I extend my respect to Elders past and present, and to all Aboriginal and Torres Strait Islander Peoples joining the meeting today.

Throughout 2022, the GTANSW&ACT Council have met monthly via zoom and maintained regular correspondence in between meetings through group emails. We acknowledge the many Countries from which we come together, and from those upon which we reside, work, enjoy our leisure activities, and we notice the features of place and time.

Whilst the 2022 Annual Report is a requirement of GTANSW&ACT operation, it is also an important mechanism to formally share and reflect on key items of influence and interest for geography education in our state and territory. The Annual Report addresses key activities and items of particular interest in 2022.

Before presenting the activities of the Association enacted by Council between November 2021 – October 2022, I would like to thank Council for their endless support together with their tireless work and enthusiasm for what it is we stand for as an Association, leading geography education in NSW and ACT. I would also like to thank Lorraine Chaffer, Katerina Stojanovski and Dr Paul Batten for their assistance in developing key sections of this report. Additionally, I extend my thanks and appreciation to colleagues from the Professional Teachers Council of NSW who continue to provide wonderful support with our administrative workload.

Whilst there are honorariums available for selected projects and activities, we are a volunteer Council. All projects we design, deliver, evaluate and refine occur beyond the demands of our 'day-job'. Whilst 2022 was coined as 'Covid recovery' or 'Covid emerging', the year continued to present circumstances that forced an adjustment to our hoped-for practice.

Leadership in turbulent times is particularly demanding and often presents contentious conversations, however, with clear vision and care for each other, what seems daunting and perhaps impossible can become achievable and actioned.

The Annual Report covers key items and is structured in the following way

1. Implications arising from pandemic related restrictions
2. Membership and recognition of Council including Awards
3. Finances
4. Advocacy (Geography as a subject; Geography syllabus/curriculum at a state and national scale)
5. Membership engagement (Open Learning / Anytime e-learning; Geography Bulletin; HSC Support; Young Geographer)
6. Engagement with the Australian Geography Teachers Association (AGTA)
7. Reflection on tenure as President
8. Conclusion

1. Implications arising from pandemic related restrictions

As a Council we commenced 2022 with hope and anticipation. Pandemic related restrictions were easing in the public domain and results from the GTANSW&ACT membership survey, distributed at the end of 2021, revealed an appetite for in-person events to return to our professional learning calendar. However, as the process of 'opening-up' occurred, we had to be increasingly mindful of and responsive to the varied restrictions in place within and across the various settings that Council work. We also needed to be mindful of our capacity as volunteers and our ability to contribute in a productive and meaningful way during times of high stress and uncertainty. At the planning day in January 2022, we agreed that protection of family-time and work-life-balance was to be a priority, and that we would not organise professional learning events or meetings on weekends or during school holidays.

The ongoing prevalence and contraction of the virus with 7 day and then 5 day isolation requirements resulted in spiralling teacher shortages in schools which contributed to leadership teams being hesitant to release teachers for in-person professional learning. Those on Council who work in school and university settings could not guarantee approval to attend in-person events and many on Council contracted the virus during 2022. Our work requires us to respond to the policy and guidelines of our relevant system, sector, and institution within which we are employed, particularly in response to working, attending and travelling to in-person events which are both within and beyond school settings. Ultimately this affected what GTANSW&ACT could provide for 2022 and so we agreed to pursue fully-online events for Term 1 and 2, and look towards blended and in-person events for Terms 3 and 4, should circumstances allow.

In 2022, Council decided, after much debate, not to host an Annual Conference due to ongoing Covid uncertainties. We agreed to continue to strengthen our online offerings through webinars, short anytime courses through the open learning portal, and events such as the STEM symposium. By not holding a state conference, the door was opened to offering an increased number of scholarships to assist others in attending the national AGTA Conference in Hobart held between 28 – 30 September https://agta.asn.au/ conf2022/ program.php

During Term 3, it became obvious that the toll of illness, teacher shortages and associated overwhelming workload were compromising the capacity of Council and our ability to implement hoped for plans of implementing as much of our 'usual' program. Consequently, a motion was put forward and voted on about pausing certain activities, whilst acknowledging the continuation of other activities. Membership were informed of this circumstance via email as outlined below

> I am writing to you with information about a recent vote and majority decision by GTANSW&ACT Council to pause two items for the remainder of 2022. The two items are (i) the 'From the classroom' webinar program

and (ii) the Awards (Brock Rowe for excellence in teaching geography, and Geoff Connolly for outstanding contribution to the Geography Bulletin journal). We envisage these items will return to the GTANSW&ACT program in 2023.

As you already know, the work of GTANSW&ACT Council is voluntary and occurs beyond and around our workplace hours and commitments. As a Council we work relentlessly to adapt and adjust our program of events to suit the changing needs of membership, the changing pandemic-related circumstances, and the broader demands of education. Unfortunately, during 2022, we have found ourselves to be enormously stretched and often to be working at and beyond capacity, which is not sustainable for an individual or for an Association. After navigating ongoing pandemic restrictions and uncertainty's the GTANSW&ACT took a vote to decide on our next steps for the remainder of 2022, which will ensure we can still provide for members but also protect wellbeing and professionalism.

Whilst two items will be paused, the following items have either occurred or will continue to occur for the remainder of 2022

* e-learning anytime short courses
* Showcasing Geography in STEM symposium
* HSC Digital Preparation package
* Geography Bulletin, journal of the Association
* 'From the Academy' webinars, co-badged with the Geographical Society of NSW
* Young Geographer
* development of Careers in Geography posters
* NESA accreditation of professional learning where appropriate and possible
* advocacy for geography and geography education through representation on external stakeholder committees, provision of submissions on curriculum development and review, and the fostering of networks and alliances within the discipline of geography and across the scope of education.

In response to feedback from PTCNSW about GTANSW&ACT application for 'Association of the Year' Award, we were advised to commission a business analyst to work with us in clarifying our mission and streamlining our practice to maximise efficiency and effect. As a Council we agreed to enact this advice and started working through this process with Catherine Gray, acknowledging this is a 18 month – 2 year process. During 2022 we have been using some of our Council meeting time to identify, review, assess, and confirm our priority areas. Discussion is ensuing about the potential for rotation of events to enhance manageability.

2. Membership and recognition of Council including Awards

An outline of membership structure as of October 2022 is below and recognition of Council since the 2021 Annual General Meeting (AGM) follows. A tribute to Dr Don Biddle, founder of GTANSW&ACT and AGTA concludes this section. In recognising Council, there is coverage of departing members at the end of 2021, the 2021 - 2022 Council, Life Membership awarded at the end of 2021, Professional Teachers Council of NSW (PTCNSW) Outstanding Service to the Profession Award (OPSA), and the Macdonald Holmes Medal awarded by the Geographical Society of NSW.

2a. Membership

At the time of reporting, membership of the Association was 576 and fees for 2022 were raised by motion and agreement at the 2021 AGM. As a reminder, membership fees increased by $10 for personal membership to $100 +GST and $20 for corporate members to $220 +GST, of which six colleagues can be listed. It is anticipated such fees will remain for 2023. Membership categories are identified in Table 1.

Table 1: *Membership categories for GTA NSW&ACT as of October 2022*

Category	Fee	Number of members in category
Concessional	$40	18
Personal / Individual	$100	96
Corporate	$220	364
Primary	No charge	36
Teacher Education Student	No charge	54
Life member	No charge	8

2b. Recognition of Council

At each AGM, existing members of Council have an opportunity to renominate. Due to changing circumstances in family, work and other life domains, sometimes continued service with Council is not always possible. Throughout each year there are opportunities to recognise the work of Council broadly and to acknowledge outstanding service as appropriate.

2b i. Council for 2021 – 2022 and departing Councillors from 2021

The 2021 – 2022 Council are identified below. At the end of 2021 we farewelled the following Councillors and thanked them for their service: Paul Alger, Catherine Donnelly, Adrian Harrison and John Petts.

Name	Role
Dr Susan Caldis	President
Dr Paul Batten	Vice President
Lorraine Chaffer	Vice President / Immediate Past President and Journal Editor
Katerina Stojanovski	Vice President and Minutes Secretary
Alexandria Warnock	Vice President
Dr Grant Kleeman	Honorary Treasurer
Michael Da Roza	ACT Representative / Councillor
Kieran Bonin	Councillor
Stephanie Boden	Councillor
James Harte	Councillor
Christopher Jenkins	Councillor
Grace Larobina	Councillor
John Lewis	Councillor
Alexandra Pentz	Councillor
Martin Pluss	Councillor
Rebecca Sutcliffe	Councillor

Karen Bowden	Co-opted
Drew Collins	
Amy Freshwater	
Keith Hopkins	
David Latimer	
Sharon McLean	
Katherine Simpson	

2b ii. Awards

It is important to recognise the work of Council when points of outstanding and/or sustained service to GTA NSW & ACT Council and geography education are evident. When appropriate, not necessarily each year, a member of GTA NSW & ACT Council, typically from the Executive team, will nominate an exceptional past or present Councillor for the award of Life Membership. Each year, PTCNSW invite peer nominations for OPSA. Every two years, the Geographical Society of NSW (GS NSW) invite peer nominations and conduct a merit-based peer-reviewed selection process for the Macdonald Holmes Medal.

At the November 2021 AGM, the President was delighted to award Life Membership to Lorraine Chaffer and Sharon McLean. Citations are available in the *Geography Bulletin*, Volume 54, Number 1, pp 8 –11.

In February 2022, members of Council celebrated Catherine Donnelly (departing Councillor) as the GTA NSW & ACT recipient of the 2021 PTC NSW OPSA. The citation is available in the *Geography Bulletin*, Volume 54, Number 1, p 12.

In August 2022, GSNSW announced Dr Susan Caldis and Lorraine Chaffer as recipients of the 2022 Macdonald Holmes Medal for their distinguished and sustained contribution to the field of geographical education in Australia. The Medal will be presented on 10 November at a ceremony at Macquarie University. Further information is available at **https://www.geogsoc.org.au/site/index.cfm?display=288314** and citations will be included in an upcoming edition of the *Geography Bulletin*.

2c Dr Don Biddle

It was with great sadness we learned of the passing of Dr Don Biddle on Friday, 21 January 2022 at the age of 98 years old. Don's service to both GTA NSW & ACT, the Geographical Society of NSW (GS NSW) and geography education overall has been significant. As a humble but highly talented educator, Don's teaching changed the lives of thousands of students at all levels – primary, secondary and tertiary – as well as teachers as an author, an external examiner, and of course, as the founding President of the Australian Geography Teachers Association (AGTA).

Don's funeral was held Monday, 31 January 2022. Dr Susan Caldis, Dr Stephen Codrington and Professor Kevin Dunn were invited to attend the funeral as representatives of the associations significant to Don Biddle. An excerpt from the eulogy shared by Susan is below

> Don was the founding President of the Australian Geography Teachers Association and although his leadership term went from 1967 – 1969 on paper, his influence remains to this day. It is widely known that Don's mantra of 'Geography is a living subject" shaped his actions within and beyond the geography classroom. We continue to learn from Don's sustained, active, and varied service to education through the lens of geography – participating on and Chairing School Boards, and syllabus and examination committees at state and sector levels to name a few. Additionally, we remain inspired by Don's conviction about the importance and role of collaboration demonstrated through his boundary-crossing and distinguished service to the professional associations for geography, of which

> the Australian Geography Teachers Association is one. The legacy of Don's contribution to professional associations continues to provide the glue which keeps us all connected across school, initial teacher education, and academic geography research contexts. (Dr Susan Caldis)

If you would like to read more about the immense contribution of Dr Don Biddle to the professional associations for geography, and to geography education in Australia, please follow the links below:

https://www.agta.asn.au/Awards/Don%20Biddle%20Award/index.php

https://www.agta.asn.au/files/Don_Biddle_Awards/Don_Biddle_Geog_Soc_Award.pdf

https://www.agta.asn.au/files/Geographical%20Education/2017/Supplement/Geog%20Ed%20Vol%2030,%202017%20Supplement%20-%20AGTA's%20FIRST%20FIFTY%20YEARS%20-%205.%20Don%20Biddle%20by%20Susan%20Bliss.pdf

3. Finances

An overview of finances for GTA NSW & ACT is presented by the Honorary Treasurer at the AGM in a separate report. Note: key points will be written up in this report ready for publication.

4. Advocacy

Advocacy for geography as a subject, and advocacy for geography in curriculum or syllabus provide main frames of reference for the work of Council. In this section, advocacy for geography as a subject is contextualised around the recommendations for geography in Australian schools via *Geography: Shaping Australia's Future*. In addition to *Geography: Shaping Australia's Future*, our work in advocacy for geography as a subject and within curriculum can also be connected to the GEOGStandards for personal reflective practice and as a tool for developing shared understanding amongst colleagues about effective, impactful geography teaching.

I speak often with Council about the importance of explicitly grounding our planning and activity around an evidence base and make no apologies for ensuring there is an academic and policy base to our work. We need clear reasoning and evidence to empower us and to be embedded in our thinking, planning and practice.

Advocacy for geography in curriculum and syllabus are contextualised around activities such as representative roles on syllabus committees and within the scope of Association developed professional learning activities and our social media presence.

Throughout 2022 (and since 2020), GTA NSW & ACT have conducted initial mapping of Association activities to recommendations in *Geography: Shaping Australia's Future* – a Decadal Plan for the discipline (NCGS, 2018). The recommendations are there guide our planning and practice, to prompt thinking, and encourage action around five designated areas, of which GTA NSW & ACThave carriage of three: promoting awareness about out-of-field teaching; developing recognition in theory and practice of geography as a STEM subject; and fostering and strengthening connections between academic geography/ers and geography teachers.

Such mapping will continue throughout 2023 and form the foundation of a report to be submitted to the Australian Geography Teachers Association (AGTA) and on to the National Committee for Geographical Sciences. The mapping identifies areas where our work is having impact along with areas which will require greater attention in time to come.

As a Council, we have made good progress this year in advancing dialogue around geography as a STEM subject through the symposium and associated e-learning portal; promoting awareness about, responses to, and implications of out-of-field teaching in geography through the provision of scholarly readings, careful responses on social media platforms and offering conference scholarships targeted at out-of-field teachers; strengthening collaboration with academic geographers and the Geographical Society of

NSW through the co-badged webinars and in-person social networking events; developing clarity around connections with geography-centric careers through the careers posters initiative, and having input into the nationally focused GoWithGeo **https://www.gowithgeo.com.au/** careers website; and advocating overall for quality geography education in school settings through writing submissions to NESA, having a range of representative roles on various stakeholder committees, gaining NESA accreditation for e-learning, and being willing to share practice in the *Geography Bulletin*.

5. Membership engagement

There are multiple activities which comprise membership engagement. Due to constraints of space and time, there are four key activities presented: Open Learning / Anytime e-learning; Geography Bulletin; HSC Support; Young Geographer.

5a. Open Learning initiatives / Anytime e-learning courses

Dr Paul Batten (Vice President) and Katerina Stojanovski (Vice President) lead the development of Open Learning initiatives / Anytime e-learning courses. During 2022, James Harte (Councillor) also joined the course development team. James has worked on *Unpacking the HSC*, including creating a version of the course for students.

As of October 2022, there are a total of 12 courses (most are NESA accredited PD) developed for GTA NSW & ACT, with an additional two courses developed for a national audience with AGTA. One of the new nationally-focused courses is a one hour duration and free of charge: *Primary Geography in Australia: Directions and Discussions*. The second nationally focused course has a fee attached: *Integrating Maps Effectively into Geography Lessons*.

A highlight of the year was a new initiative for hybrid live events run through the Open Learning platform which means an 'anytime course' can then be created. *Unpacking the HSC Geo Exam* was targeted at a Stage 6 geography teacher audience. Feedback and attendance in real time indicate this initiative was highly successful. Presenters included representatives from NESA, a senior HSC marker, and President, Dr Susan Caldis who talked about directions in senior geography. The next iteration of this course 'HSC Live…' will cover new materials based on the 2022 HSC Geography exam. In late October, a survey was distributed to Association members seeking feedback on the 2022 HSC Geography exam and the analysed feedback will inform the development of, and be presented at, the 'HSC Live – Unpacking the HSC Geo Exam'. This event has just been opened for registration and is set to run in February and March 2023.

Based on the success of the hybrid live-anytime course structure, a two-day online symposium was held in both May and June 2022: *Showcasing Geography in STEM*. The symposium was conceptualised and organised by Dr Susan Caldis, and Susan was supported by co-chairs Katerina Stojanovski, James Harte and Stephanie Boden. Presenters included a range of international and national geo-STEM practitioners and researchers. Attendees registered from NSW, ACT, WA and QLD. Each attendee received pre and post professional readings, access to recordings, and an ongoing discussion forum to reflect on key questions posed in each presentation. Participants had the option of attending on the day or accessing a recording of each session at their leisure.

In September 2022, at the AGTA Conference in Hobart, a suite of Open Learning / Anytime e-learning courses were winners in the Geographical Education Resource category of the AGTA Awards.

5b. Geography Bulletin, journal of GTANSW&ACT

Lorraine Chaffer (Vice President/Immediate Past President) is journal editor. During 2022, Katerina Stojanovski (Vice President) took on a guest-editor role. Since 2020, the focus of the editor and guest editors have been to ensure there is appropriate support for classroom teachers due to the impact of Covid-19 shutdowns and related implications arising for classroom practice due to the need for online learning combined with increasing staff shortages, workloads and the incidence of out-of-field teaching.

Each edition takes on average 20 weeks to produce to a standard that we are proud to provide to our members. The content of each edition is dependent on contributions by classroom teachers, GTANSW&ACT Councillors and authors who write new material for us or allow the republication of material already published. All members receive a notification email when the ***Geography Bulletin*** is published on the website and personal and life members are sent an email with the edition PDF attached.

In 2022, there were four editions of the ***Geography Bulletin***. Lorraine Chaffer edited Editions 1, 2 and 4. Katerina Stojanovski edited Edition 3. Edition 4 veers from previous editions with professional reading under the themes Hopeful Geography, Geospatial technologies, and Careers linked to studies of geography. After three years of focus on classroom resources, it is time for a reset to give teachers time to focus on classroom practice and provide material to stimulate reflection.

Each edition provides a mix of articles to:

- support classroom teachers with ready to use resources
- provide professional reading that includes reports on issues surrounding the teaching of geography and responses by GTANSW & ACT (Advocacy).
- report Association and Council news about events and successes including competitions and awards

5c. HSC Supporting Stage 6 Geography teachers and students

A digital package was produced to support teachers and students in their preparation for the 2022 HSC Examination. The format for 2022 changed slightly from 2021 to provide a different experience for teachers and students. In 2022, presentations were shortened from 1 hour lectures for each topic, to presentations which have a 20 - 40 minute duration and cover targeted syllabus content and skills. Teachers could use the HSC support package for their own professional development and enrichment, or use it with students to guide revision. During the last month of the pre-exam period, a link to resources were sent to students for independent revision as an added level of support following another difficult year for many HSC students. In total **90 schools** from all sectors across the state purchased the package. Presenters were given free access as a thank you for their contribution to the package and two flood affected schools were also given free access through a collaboration with NESA.

5d. Young Geographer

The Young Geographer Awards invites students in NSW and the ACT to demonstrate engagement with geography, the discipline and with the tools and skills of geography through the creation and conduct of an inquiry-based research project. Although it is not essential, teachers are encouraged to incorporate the research and construction of the project into their teaching programs to help support students. Prior to 2022, the Young Geographer Awards was led by David Latimer (Councillor).

The 2021 winners were announced during 2022: There were two overall winners:

- Millie Ferguson, Roseville College – A Study of the Implementation of Environmentally Sustainable Practices in the Frenchs Forest Region'. Teacher: James Harte. Prize $500.
- Sunae Park, Meriden – An investigation into the liveability of Beecroft for Older Residents 65 or over. Teacher: Bree Moore. Prize $500

Prizes are available for winning entries. All entries are assessed by a combination of markers who are from Council and who are externally commissioned. The Young Geographer Award prizes are as follows: First Prize in any category $500; Second Prize in any category $250; Third Prize in any category $100. Further information about the Young Geographer Award, assessment criteria and 2021 prize winners are available in the ***Geography Bulletin*** Volume 54, Number 2, pp 14 - 16.

In mid-2022, a new team comprising James Harte (Councillor), Keiran Bonin (Councillor) took on co-ordination of this program under the mentorship of Lorraine Chaffer. The due-date structure was revised to have two submission dates - one for senior entries in early Term 4 and another for junior entries in

late Term 4. The aim is to spread the judging of entries over a longer timeframe to ensure the process is completed by February 2023 and awards announced and delivered during Term 1 2023. In 2023, James and Kieran will lead the Young Geographer Awards process.

6. Engagement with the Australian Geography Teachers Association (AGTA)

The President of GTA NSW & ACT (Dr Susan Caldis) is also the current Chair of the Australian Geography Teachers Association (AGTA). To that end there was clear and sustained alignment between national and state-focused work in developing the profile of geography and emphasising the importance of geography education. As mentioned elsewhere in this report, the explicit connection of GTA NSW & ACT initiatives to recommendations in *Geography: Shaping Australia's Future* are part of this important work.

Also as previously mentioned, other areas where GTA NSW & ACT contributed greatly at a national scale was through the design and development of two Open Learning / Anytime e-learning courses; clarity of a careers focus; and support for a national conference demonstrated by co-ordination of the AGTA Awards process, and payment of five conference scholarships from GTA NSW & ACT for teachers across career-stages to attend the AGTA Conference in Hobart during September 2022.

6a. Careers focus by GTA NSW & ACT

GTA NSW & ACT has long seen the need to support teachers with information and resources linked to careers. In July 2022 a new careers website 'Go With Geo' was completed, and the AGTA Board were delighted to proceed with a soft launch occurring amongst affiliates and then conduct a formal launch at the AGTA Conference **https://www.gowithgeo.com.au/.** Thank you to Dr Grant Kleeman for ensuring the project was completed during 2022 and in a financially viable way.

Go with Geo provides information on career pathways, geography resources, study and news in geography. Career pathways includes environmental and economic change, natural hazards, human wellbeing, urban places, regional and rural Australia, coastal and marine environments, Asia-Pacific region and university courses. Geography resources includes geographer profiles, video resources, digibook, presentations, handouts, posters and career brochures.

After the soft launch of the GoWithGeo website **https://www.gowithgeo.com.au/**, Lorraine Chaffer saw an opportunity to actively support a geo-careers initiative at a state and national scale by developing additional classroom posters with a careers focus and link to the new website via #GOWITHGEO and use of a QR code. Teachers are encouraged to use these resources to stimulate career discussions with students by identifying links with the topics they are studying.

Careers have become a regular feature in the *Geography Bulletin* through articles written by professional geographers who are employed in careers such as planning, surveying and environmental science; also from sharing biographies of workers who identify the contribution of geography to their current employment. Links to careers websites and other supporting resources such as those created by She Maps and Forest Learning on careers using geospatial technologies, provide a student-relevant context for studying geography within and beyond the school gates.

In September 2022, at the AGTA Conference in Hobart, the Geography Careers Classroom Poster series were winners in the Not-For-Profit Generated Resource category of the AGTA Awards.

6b. Supporting the AGTA Conference – AGTA Awards and GTA NSW& ACT conference scholarships

6b i. AGTA Awards

The primary aim of the AGTA Awards is to recognise resources which either have made or are likely to make a significant contribution to the teaching of geography in primary and secondary schools. In 2022, a team from GTA NSW & ACT led by Alexandria Warnock (Vice President) convened the AGTA Awards process and facilitated a judging panel. Due to COVID19 restrictions preventing the AGTA conference from occurring

in 2021, published materials were allowed to be first published or produced in Australia in the three years prior (normally two years) to the closing date for entries. All resources entered had to be suitable for use by geography teachers.

The judging team took into account the following criteria:

- significance of the contribution in each category that the products have made or are likely to make to the quality of geography teaching in Australia;
- quality of the product in terms of its geographical content, design and presentation and/or production;
- usefulness and appropriateness of the product in terms of its application in geographical education; and
- originality of the concept or approach on which the product is based.

In 2022, judges placed emphasis on resources equally meeting all criteria. The originality of the concept/approach did prevent 'revised edition' textbooks from meeting all four criteria equally, when the original version and the revised edition only differed in updated content.

The AGTA awards attracted entrants in all 7 award categories, with a total of 29 entries. Winning entries were awarded in all seven categories, with a further 4 entries awarded highly commended certificates. All resources gaining an AGTA Award were recognised for their currency, authenticity, application of contemporary understandings about how students learn, the use of cutting-edge production, and displaying a contemporary, innovative style in the support of geographical education in Australian schools. Further information is available at https://agta.au/Awards/AGTA%20Awards/index.php

6b ii. GTA NSW & ACT Conference scholarships

The scholarship process was led by Dr Susan Caldis and Dr Grant Kleeman who are both Directors on the AGTA Board. Five representatives from GTA NSW & ACT Council formed the committee to assess each de-identified application. A written rationale accompanied each decision to award / not award and a discussion amongst the group ensued.

GTA NSW & ACT Council would like to extend their congratulations to awardees of a scholarship to attend the AGTA Conference in Hobart between 28–30 September 2022:

- Gaby Barford, Chatswood High School
- Enya Shaefer, Ravenswood School
- Alison Wheatley, Covenant Christian School
- Sarah Blades, St John the Evangelist
- Hugh Walsh, Coffs Harbour Community Christian School
- Jessica Skinner-Crowe, Riverside Girls High School

Each awarded applicant demonstrated critical engagement with the AGTA Conference program in connection with personal professional learning and networking needs and demonstrated possibilities of benefit and action for future practice because of attending the conference. The expectations associated with attending the AGTA Conference on a GTA NSW & ACT scholarship are: active participation in a chosen workshop for each session; active participation in the plenary sessions; being present at the keynote sessions; writing a 750 word reflective report for the *Geography Bulletin* during 2023.

7. Reflection on my tenure as President

As President it was particularly important to me to ensure GTA NSW & ACT continued to make progress during my final year of tenure, from the work started in 2020 in grounding our activities in key evidence-based recommendations from the Decadal Plan for the discipline, ***Geography: Shaping Australia's Future*** (National Committee for Geographical Sciences, 2018) https://www.science.org.au/files/userfiles/support/reports-and-plans/2018/geography-decadal-plan.pdf . The recommendations are found in Chapter 13, Geography in Australian Schools and our focus as a Council was on three recommendations. I look back on 2022 and the past 3 years of Presidency and am delighted to realise the progress made on actioning three recommendations across a range of Association initiatives. My hope is for these recommendations to remain part of our thinking and practice, and for GTA NSW & ACT to continue to lead and demonstrate success in STEM, academic collaboration and promoting awareness about out-of-field teaching at both state and national scales.

1. **Geography being recognised as a partial STEM subject in policy and practice.** Between 2020–2022, GTANSW&ACT have been national leaders in providing a specific presence for Geography as a STEM subject. The journey towards recognition of geography as a STEM subject occurring in policy, curriculum and practice requires an informed, consistent approach. In the first instance, it is important for such recognition to occur in geography classrooms and for geography teachers to make clear to their students where geography becomes visible and contributes to what is known as the 'STEM field' and 'STEM education'. purpose being to prompt dialogue and encourage evidence-informed practice in classrooms and syllabus development; and to retain the integrity of geography through harnessing its known interdisciplinary reach across the sciences, humanities and social sciences.

   Within the last 3 years, GTA NSW & ACThave actively sought to lead and strengthen the presence of Geography as a STEM subject through conference workshops, an online symposium developed through the e-learning portal, syllabus feedback to NESA, establishment of a STEM category in the Young Geographer Award, and through the development of articles for the *Geography Bulletin*.

   In 2021, Dr Grant Kleeman and Dr Susan Caldis ran a plenary session at the Annual Conference to discuss with teachers and invite their response about the visibility of geography as a STEM subject. In 2022, Dr Susan Caldis conceptualised and chaired a two day online symposium, supported by co-chairs and session respondents: Katerina Stojanovski, James Harte and Stephanie Boden; and also supported by Amy Freshwater and Lorraine Chaffer who presented responses to sessions. The purpose of the symposium was to strengthen understanding about the interdisciplinary nature of geography, foster collaboration between academic geographers who research and teach in the STEM space for geography, and prompt thinking about the way in which geography is taught and presented to students, colleagues and the school community. Clear and sustained connection to content descriptions from Landscapes and Landforms, Water in the World, Sustainable Biomes, Environmental Management and Change, and Human Wellbeing occurred.

   Showcasing STEM in geography brought together the academic and education communities, from within and beyond Australia over two non-consecutive days, with the purpose of exploring how STEM can be emphasised in geographical teaching, learning and assessment in alignment with the syllabus. Pre-reading material was provided to attendees. Presenters included Associate Professor Hannah Power (University of Newcastle), Professor Stephen Turton (James Cook University), Dr Ann Hill (University of Canberra), Associate Professor Natascha Klocker (University of Wollongong), Professor Lynne Moorman (Mount Royal University, Canada), Kathy Jones (Fieldwork Connections), and the education team from Cool Australia and The Crawford Fund.

2. **Increase collaboration between school and university geographers**. Between 2020–2022, GTA NSW & ACT have continued to strengthen an existing relationship with the Geographical Society of NSW and the academic geography community. The purpose being to make explicit connections between syllabus content areas and emerging research in the field to support the

development of geographical content knowledge by using real-world examples not readily found in textbook and similar classroom resources; to provide opportunities for advocacy, collaboration and build a co-operative sharing culture between the Association and Society through the establishment of co-badged, mutually beneficial low-cost events. Within the last 3 years, a 'From the academy' webinar stream was introduced to support content development and foster opportunities for discussion about geo-careers and geo-research between researchers and teachers. From the co-badged webinars we have been fortunate to engage with and learn from scholars including Dr Jessica McLean about understanding the Anthropocene; Dr Alanna Kamp about decolonising practice; and Dr Lana Hartwig and Professor Sue Jackson about Indigenous water cultures and water management. Co-badged social networking events, such as the Griffith Taylor Lecture are another important way to foster dialogue and connection.

3. **Promote awareness about the incidence and implications of out-of-field teaching**

   The incidence of teachers being asked to regularly teach subjects they are not qualified to teach as part of their timetabled teaching load remains an increasingly critical issue in Australian schools, particularly in Geography. Often, teaching out-of-field can become an administrative and timetabling solution to teacher shortages; in a HSIE or Social Sciences faculty it can also become 'the norm' for geography because specialist geography teachers tend to be dispersed rather than concentrated. However, as geography educators and as a Council we continue to make it clear to our membership and interested stakeholders that out-of-field teaching in geography is not an appropriate or accepted strategy due to the spiralling implications for student learning outcomes, teacher confidence and wellbeing, and the integrity and rigour of our subject. The needs of out-of-field teachers are at the forefront of our thinking for resource development, anytime / e-learning courses, and awareness raising through the shaping of articles in the *Geography Bulletin* and through sharing emerging research and national reports such as *Australian National Summit on Teaching Out-of-Field: Synthesis and Recommendations for Policy, Practice* where contributions from the geography education community are evident https://ooftas-collective.squarespace.com/s/TOOF-National-Summit-Report.doc

It was not my intention to take on the President role again after having first served as President between October 2013 – October 2016. However, in volunteer associations, it is important to step up when the need arises and when you have capacity to do so. Such circumstances arose in November 2019 and whilst at the time none of us could have predicted the pandemic, I do believe my arrival with a clear vision from an evidence base together albeit with ensuing difficult conversations about crystallising our operational procedures and priority areas – deciding whether and how to 'press-pause or press-play' – not only pushed us into a place of discomfort but in so doing, served us well for being able to move forward and act with clarity during these uncertain, complex and challenging times.

As a collective, through dedicating our own time to the work of the Association and through our willingness to share expertise for the greater good of geography education in NSW and ACT, we did achieve our goals. Also, we did continue to serve our membership, albeit in a slightly adjusted way to what was considered 'usual' or 'normal', and feedback from membership indicates our efforts are admired and appreciated.

8. Conclusion

In closing I would like to thank again each member of Council for their contribution to the Association and for their enthusiasm about geography education. I extend particular thanks and appreciation to the 2021 - 2022 Executive team for their wise counsel, support and willingness to take on additional responsibilities at short notice (in alphabetical order): Dr Paul Batten, Lorraine Chaffer, Dr Grant Kleeman, Katerina Stojanovski and Alexandria Warnock

I would also like to extend my appreciation to Council(s) during my tenure for responding to my leadership.

GTA NSW & ACT are successful at both state and national scales for meeting key enduring goals:

- advocacy for, and recommendations about, issues and policies affecting education for Geography;
- connecting the work of the Association to an evidence base and current developments in education for Geography;
- designing and delivering evidence-informed, timely, accredited professional learning events and materials

I end by commending to you the Annual Report for 2021–2022. I look forward to what lies ahead for the Association in 2023 and extend in advance my heartfelt congratulations to the incoming President, Executive Team and Council.

Dr Susan Caldis

President, GTA NSW & ACT

ADVICE TO CONTRIBUTORS

Geography Bulletin guidelines

1. *Objective:* The Geography Bulletin is the quarterly journal of The Geography Teachers' Association of NSW & ACT Inc. The role of the Geography Bulletin is to disseminate up-to-date geographical information and to widen access to new geographic teaching ideas, methods and content. Articles of interest to teachers and students of geography in both secondary and tertiary institutions are invited, and contributions of factually correct, informed analyses, and case studies suitable for use in secondary schools are particularly welcomed.

2. *Content:* Articles, not normally exceeding 5000 words, should be submitted to the GTA NSW & ACT Office by email gta.admin@ptc.nsw.edu.au

   Submissions can also be sent directly to the editors: Lorraine Chaffer (lchaffer@tpg.com.au)

   Articles are welcomed from tertiary and secondary teachers, students, business and government representatives. Articles may also be solicited from time to time. Articles submitted will be evaluated according to their ability to meet the objectives outlined above.

3. *Format:* Digital submission in Word format.
   - Tables should be on separate pages, one per page, and figures should be clearly drawn, one per page, in black on opaque coloured background, suitable for reproduction.
   - Photographs should be in high resolution digital format. An indication should be given in the text of approximate location of tables, figures and photographs.
   - Every illustration needs a caption.
   - Photographs, tables and illustrations sourced from the internet must acknowledge the source and have a URL link to the original context.

Note: Please try to limit the number of images per page to facilitate ease of reproduction by teachers.

Diagrams created using templates should be saved as an image for ease of incorporation into the bulletin.

All assessment or skills tasks should have an introduction explaining links to syllabus content and outcomes. A Marking Guideline for this type of article is encouraged.

4. *Title:* The title should be short, yet clear and descriptive. The author's name should appear in full, together with a full title of position held and location of employment.

5. *Covering Letter:* As email with submitted articles. If the manuscript has been submitted to another journal, this should be stated clearly.

6. *Photo of Contributor:* Contributors may enclose a passport-type photograph and a brief biographical statement as part of their article.

7. *References:* References should follow the conventional author-date format:

   Abbott, B. K. (1980) *The Historical and Geographical Development of Muswellbrook* Newcastle: Hunter Valley Press.

   Harrison, T. L. (1973a) *Railway to Jugiong* Adelaide: The Rosebud Press. ***(2nd Ed.)***

8. ***Spelling*** should follow the Macquarie Dictionary, and Australian place names should follow the Geographical Place Names Board for the appropriate state.

Refereeing

All suitable manuscripts submitted to the Geography Bulletin are subject to the process of review. The authors and contributors alone are responsible for the opinions expressed in their articles and while reasonable checks are made to ensure the accuracy of all statements, neither the editor nor the Geography Teachers' Association of NSW & ACT Inc accepts responsibility for statements or opinions expressed herein.

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