



# RGSQ Bulletin

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Patron: [Her Excellency the Honourable Dr Jeannette Young AC PSM, Governor of Queensland](#)

President: Mr John Tasker

## What's happening on Council?

The Society's Council met on Tuesday 15 August. Items of interest included:

- The Australian team recently competed at the 2023 International Geography Olympiad in Bandung, Indonesia. They were highly successful, with Australia finishing in fifth place and all students medalled (1 gold, 2 silver medals and 1 bronze).
- Access to the Society's eHive catalogue is available via Trove (operated by the National Library of Australia). Journal and map catalogue items are in the process of being added to the catalogue.
- Applications for the student Geography Research Grant have now closed. The Scientific Studies Committee are in the process of determining funding allocations for successful applicants.
- Property Committee are investigating avenues for community grant funding to potentially provide future training opportunities for event volunteers.
- Geography Matters hosted an interesting and informative presentation on the history and outlook of Mt Isa with 16 attendees from outside the SEQ region.
- Recordings of past presentations can now be easily accessed by year via the RGSQ website ['past events'](#) section of the 'events' tab. The [2023 page](#) features lectures, Geography Matters and Map Group presentations.
- Entries for the 'Weather' themed 2023 Photo Competition open 1<sup>st</sup> September.
- The Young Geographers Group are hosting the annual Young Geographers Forum on the 5<sup>th</sup> of September with registrations now open on the website. They are also planning an upcoming presentation evening on 'geography in the community' in October and camping trip in November. Keep an eye out for more details.

## Welcome New Members

We have much pleasure in welcoming *Bernard Leslie Powell, Karin Kochmann, Gavin Kennedy, Bruce Stewart, Barbara Ashwood, Maria Sigourney Andersen, Mitchell Sutton, Wiji Tri Wilujeng and Aidan Wyatt* as new members. We hope your association with your new Society is mutually enjoyable.

## Young Geographers Forum

Tuesday 5 September 7.30pm

Delivery: on premises at 'Gregory Place' and Zoom

Register: <https://rgsq.org.au/event-5381993>



Keen to hear what our Young Geographers are up to? Join us for the RGSQ's annual Young Geographers Forum to hear three outstanding young researchers present on topics ranging from volcanic rainforests to coastal geomorphology to coral reefs. Each presenter will share a 15-minute overview of their work followed by an opportunity for group Q&A.

Our first speaker, *Annie Nguyen*, will share work from her recent PhD at the University of Tasmania which investigates the factors behind plant biodiversity in forests underlain by volcanic bedrock in eastern Australia. Her research aims to unravel the factors contributing to the distribution and unique biota of these forests, revealing the intricate interplay of geology, soil and climate that shapes these biodiverse ecosystems.

Our second speaker, *Dylan Cowley*, is a postdoctoral research fellow in the School of the Environment at the University of Queensland. His research focuses on the interaction between coastal geomorphology and oceanographic processes and how these interactions change over multiple decades, utilising land and sea observations and numerical models.

Our final speaker, *Olivier Decitre*, is an aspiring marine biologist and nature photographer completing a Master of Marine Biology at James Cook University. His research focuses on streamlining deep learning object detection algorithms for conservationists and ecologists, transforming complex data labels into user-friendly maps and actionable insights for real-world applications. Utilising drone imagery from the Great Barrier Reef, his research specifically focuses on the detection and mapping of giant clam observations.

## GEOGRAPHY MATTERS

### Rivers in the Sky: Atmospheric Rivers

With Professor Hamish McGowan and Ms Mary Voice

Tue 12 Sep, 7:30 PM – 8:30 PM @ Zoom Only

Register: <https://rgsq.org.au/event-5369911>



Photo: Flooding in Perisher Village, Perisher Valley, Snowy Mountains 22 Jul 2016 caused by an Atmospheric River (Steph Raphael).

We are proud to introduce **Professor Hamish McGowan**. Hamish is Professor of Atmospheric and Climate Sciences in the School of the Environment, The University of Queensland. He completed his degree as a Geographer at the University of Canterbury, Christchurch, New Zealand and joined the University of Queensland in 2001. His research focuses on Earth surface – atmosphere interactions and the application of novel and new technologies to develop understanding of weather and climate. He has led numerous research projects in Australia, Israel, New Zealand, and the Antarctic including research of the impact of atmospheric rivers on the Australian snowpack. He has published more than 130 articles in scientific journals and 200 conference presentations.

Hamish will be interviewed by **Mary Voice**. Mary's career has focussed on climatology, climate services and international cooperation via the World Meteorological Organization (WMO). She has run her own consulting business (climate and climate education) and has been involved in developing and delivering climate-related subjects at universities. Mary has been a member for over ten years of the Board of Advisors of Climate Alliance.

Atmospheric Rivers (AR) are large scale conveyors of tropospheric moisture spanning several thousand kilometres in length. At any given time, there are typically three-to-five major AR conduits in each hemisphere, which account for up to 90% of seasonal and annual mean atmospheric poleward water vapour transport. Understanding ARs is crucially important because of their significance to the Earth's climate system and strong association with hydrometeorological extremes. This was highlighted during the 2022 - 2023 Northern Hemisphere winter when a series of ARs delivered more than 18 meters of snow to California's Sierra Nevada mountains. In Australia, ARs have been the cause of extreme rainfall resulting in flooding leading to loss of property and lives. These events are predicted to become more extreme and frequent in response to global warming.

Hamish will discuss the main characteristics of ARs, their geographic extent, classification, and predicted change over the next 50 to 80 years as climate warms. He will then discuss the impact of AR on Australia, and how they may contribute to the early demise of snow in the Australian alps.

## GEOGRAPHY IN CONVERSATION

### Endangered Species: Northern Hairy Nosed Wombat Recovery Project and the Eastern Bristlebird Project and others

Tue 26 Sep, 5:30 PM – 8:00 PM @ Gregory Place

Register: <https://rgsq.org.au/event-5386552>



Eastern Bristlebird; photo taken by Rosie Booth, supplied by Sheena Gullman. Northern hairy-nosed wombat - <https://www.australianwildlife.org/wildlife/northern-hairy-nosed-wombat/>

Guest speakers: *Dr Geoff Heard*, Science Advisor for the Threatened Species Index (TSX) at the Terrestrial Ecosystem Research Network (TERN). The TSX integrates long-term monitoring data for Australia's threatened species to estimate abundance trends. A key focus of Geoff's role is assisting to get the hard-won data of Australia's ecologists into the TSX, including working with data providers to generate reliable time-series of abundance or occurrence rate from their data. Two endangered species projects will be covered. *Sheena Gillman*, BirdLife Australia Honorary Life Member, on the Eastern Bristlebird. Once common, this shy, ground-dwelling bird is now critically endangered and on the top 20 list of Australia's most endangered bird species and *David Harper*, Principal Conservation Officer with the Qld Department of Environment and Science, Threatened Species Operations. Dave has been working to help conserve and recover the hairy-nosed wombat since 2006.

Each speaker will have 8-10 minutes to spotlight their work.

During the Q&A forum the audience will have 60 minutes to ask questions of the experts on their projects.

Members registering please post your questions on notice to the GIC forum:

<https://rgsq.org.au/geographyinconversation/>

OR non-members email [questionsonnotice@gmail.com](mailto:questionsonnotice@gmail.com)

Time: 5.30pm light refreshments – doors open @ 5.15pm

Q&A Forum 6.00pm – 7.30pm. Mingling 7.30pm – 8.00pm.

Address: Gregory Place, Level 1, 28 Fortescue St. Spring Hill

Cost: \$5.00 for refreshments, included in registration.

Cost: \$5.00 Members

\$10.00 Non-Members

\$5.00 Students

## Geographical Research News

### What fuels Hawai'i wildfires?



The deadly wildfires in August on Maui devastated most of the historic town of Lahaina. Thousands of residents have been displaced, over 100 people killed, and more

than 200 structures destroyed. University of Hawai'i wildfire expert Clayton Trauernicht connects the unprecedented fires to an intense combination of factors such as powerful winds, extremely low humidity and underlying drought. Trauernicht also explains why the flammability of Hawai'i's landscapes has drastically increased. *"Land that was once used for agriculture is now more commonly utilized for residential communities which elevates chances for wildfires. Tropical grasses or shrubs from across the world that thrive in fires have taken over. Non-native grasses like guinea grass and haole koa significantly increase fire potential"*. Severe winds brought on by a strong area of high pressure north of Hawai'i and Hurricane Dora passing far to the south of the islands, prevented helicopters from conducting aerial water drops, which could have helped curb the spread of the fires. Wildland fire is a persistent and increasing threat across Hawai'i and is a significant burden on emergency management agencies. In 2020, Trauernicht and fellow researchers from the University of Hawai'i developed a high-resolution fire risk index for Hawai'i using spatial data on historical fire occurrence, climate, vegetation and the built environment. According to Trauernicht, Hawai'i's leeward areas are especially vulnerable to wildfires where precipitation is lower.

Clayton is a specialist in ecosystem fire in the University of Hawai'i Mānoa, College of Tropical Agriculture and Human Resources, [Department of Natural Resources and Environmental Management](#). He completed his Ph.D. at the University of Tasmania in 2013.

References: <https://www.hawaii.edu/news/2023/08/10/what-fuels-hawaii-wildfires-uh-expert-explains/>  
<https://www.google.com/search?client=firefox-b-d&q=maui+map>

Contributed by: Iraphne Childs



### Your opinion matters!

Take our Survey and influence the future of Queensland Globe and GeoResGlobe!

Survey link: [https://www.resources.qld.gov.au/data-mapping/globe-survey?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=Globes](https://www.resources.qld.gov.au/data-mapping/globe-survey?utm_source=newsletter&utm_medium=email&utm_campaign=Globes)

## REPORT: Geography in Conversation

### Who calls themselves a Geographer? University to Workplace



Photo credit: Kay Rees

Following on from a most interesting visit to the University of Queensland Geography Department the week before, on Tuesday 25 July, the Geography in Conversation evening provided us with three experts to give us some insights into this topic.

Our experts were: *Dr. Kithsiri Perere* - a lecturer in geospatial systems and surveying at the University of Southern Queensland, *Mr Alistair Byron*, the Deputy President of the Geospatial Council of Australia and *Mr Sam Hudson* - a young student at the University of Queensland. Dr Keith Treshman was the moderator.

The first two speakers addressed the wide range of influences of geography today, particularly with the aid of modern technology. Mr Byron astonished us with the rate at which AI and GIS can generate data - a total aerial map of Queensland every 20 minutes. Can you imagine the early explorers and surveyors ever dreaming of this as they slogged across almost impassable terrain? The challenge is the ability to store and process the data and retrieve it when necessary. The technology is racing ahead. What to do with it and how to ethically use it for the benefit of mankind always lags behind. Can you imagine how it could be used in warfare? Is this still the role of a geographer?

Dr. Perere is an academic who earned his PhD using GIS technology to map in its entirety his native country of Sri Lanka. Subsequently he worked at Australian universities and furthered his expertise and application of this technology, including mapping coral reefs of the world. His work has also been applied to environmental management, disaster monitoring and mapping, and land use mapping.

Finally, Mr Hudson gave us a student's perspective. He explained how Geography, being a bridge between humanities and science, is now being incorporated into other fields to enable multi-disciplinary, holistic, balanced policy and management. His former high school teacher also gave his views on the current curriculum and the need to incorporate technology into its many forms to reduce the disconnect between the classroom and the real world. There was also discussion on the use of AI to detect plagiarism!

After an interesting discussion, we are left to draw our own conclusions on the answer to the event title question. I like the idea that every human is a geographer. The horizons and niches of geography are expanding rapidly, and the future holds many applications, challenges and opportunities for this noble profession. This is evident in the statistics presented - 94% of geography graduates go into full time employment.

Contributed by: Stella Rush



## Treks and Activities

There are still some vacancies on two great trips organised for October and November:

- **Wednesday 11<sup>th</sup> October:** [Visit to the unique Awassi Cheesery](#), including lunch there. We continue to the township of Grantham to inspect the move of the town to higher levels following the 2011 disastrous floods. We have arranged for a local expert to update us on present progress on this challenging project and to help us understand the effect on the local population and region.
- **Thursday 16<sup>th</sup> November:** [A cruise on the "Lady Brisbane" down the Brisbane River](#) and cruising through Moreton Bay passing the many islands and inlets to Southport. Returning by coach back to Brett's Wharf.

Full details of both these events are on the RGSQ website, and available to members and non-members and guests.

The annual Christmas Party will be on Tuesday 5<sup>th</sup> December at our premises at Spring Hill. Details to come closer to Christmas.

Everybody is always very welcome at all our events.

## Report: RGSQ Visit to UQ Geography 21 July 2023



On Friday, 21 July, 30 RGSQ members visited the Geography program in the School of the Environment (SENV) at the University of Queensland, St. Lucia. The purpose of the visit was to find out "**What are UQ Geographers doing?**". Firstly, we heard an overview of the SENV disciplines and programs, undergraduate and post-graduate courses, research centres and examples of past graduates' job opportunities using geographic skills in diverse careers. We were very impressed with the presenters' cutting-edge research, informing not only their teaching but contributing to government decision-making and policy at the local, state and national levels, and their geographical research which is recognized at international levels. Here are some of the topics covered by the presenters:

**Dr. Annie Lau**, RGSQ Treasurer and Councillor explained where Geography fits into the SENV; the *Physical Geography program*; Annie's teaching in Environmental Hazards, overseas fieldwork course in Hong Kong and her research on tsunamis.

**Associate Professor Elin Charles-Edwards**, Director of SENV's Queensland Centre for Population Research (QCPR) presented the *Human Geography program*; impacts of COVID on population in Australia, including a dashboard of daily cases in Australia which was displayed on the RGSQ website in 2020-2021; research on migration which informed the recent 2023 national budget.

**Associate Professor Chris Roelfsema**, Co-Director of SENV's Remote Sensing Research Centre (RSRC) and Academic Director of UQ's Heron Island research station, presented the work of the RSRC and Heron Island station; mapping coral reef habitats from local to global scales; seagrass beds in Moreton Bay; Chris's team at UQ played an instrumental role in designing, planning, and launching the world-wide Allen Coral Atlas in 2018 - funded by Microsoft's Paul Allen, this is a game-changing global marine conservation tool.

**Professor Hamish McGowan**, atmospheric and climate scientist explained courses in climate and meteorology; his work in severe weather hazards; climates of alpine and mountainous regions; dust transport and climate impacts. Hamish generously gave his time to show us a demonstration of the very sophisticated weather monitoring equipment that he and his students use to monitor weather in southeast Qld. That was a high point of the visit and another eye-opener for some of the amazing work by geographers UQ!

**Dr. Simon Albert**, in civil engineering, met us in the Advanced Engineering Building and showed us around the coastal engineering laboratory - wave flumes and robot technology for monitoring water quality in dam lakes.

We had lunch at the Lakeside café where **Mr. Shane Biddle**, UQ's Senior Supervisor of Grounds, updated us on the lake's re-development project. After lunch, Shane led us through the Alumni Rainforest Garden explaining its history and present maintenance issues. All had a very enjoyable and informative day. The visit was led and chaired by RGSQ past President and Councillor, Dr. Iraphne Childs, who is also an honorary staff member in the UQ Geography program.

*Contributed by: Iraphne Childs*

## REPORT: Eco Explorer Cruise - Caloundra 27 July 2023

32 participants arrived for the early morning departure of 7.30am. Fortunately this time, the weather was fine with little wind and 21 degrees. It was low tide so ideal for viewing the birds on the mud and sand banks.

The boat is a former Noosa ferry (12m x 4.8m with a depth of 6 metres) and speed of 6 knots. Sandy was our guide and Charlie, the Captain. Binoculars were provided for our use along with a very informative booklet of the area. This covered:

the common birds to be seen; the ecology of the wetlands and mangroves; the nutrient cycle was explained; the history of the Glasshouse



Mountains was outlined (Mt Beerwah and Coonowrin were clearly visible); Aboriginal dreamtime legends; WWII connection with the importance of Fort Bribie; the fishing industry and oyster farming; and navigation lead lights.

For 2.5 hours we leisurely cruised the Pumicestone Passage which is an internationally significant Marine Park with numerous islands and creeks. It is an important sanctuary for the migrating shorebirds. Though the migratory birds do not return until September, we were fortunate to see a variety of Wading birds, Terns, an

Osprey on nest and in flight, and a Whistling Kite to name a few. We anchored at the sheltered Lighthouse Reach for our morning tea with biscuits, cake and a fruit platter.

On the return we were very lucky to be able to get close to the new bar and clearly see the changes. There is a greater tidal variation with tides higher and lower. There was evidence of dead vegetation on the she-oaks and melaleuca due to increased salinity and exposed mangrove roots. Driftwood was abundant with birds taking advantage to perch. Dredging in Moreton Bay on the Spitfire Channel and Fisherman Islands has caused the depletion of sand for the Longshore Drift and, with storms, the erosion of the eastern side of Bribie. The Lamerough Canal has changed the flow of fresh water on the western side. The results are the loss of trees and sand on Bribie and the area known as the Blue Hole is now a widening bar as more of the island is being washed away.

12 noon we returned to the Jetty for Lunch at the Pelican Waters Tavern where we were able to order from a 'main menu' or 'senior's specials'. There was time to socialize and get to know new members.

We departed at 2pm. Thankfully it was an uneventful journey back to the Eagle Junction train station and Park Av bus stop by 3.45.

Overall, it was well worth the early start and a very informative and enjoyable day. The cruise was a great way to experience the beauty of the natural environment and increase our awareness of human impacts.

Photo: Jessica Syme

Contributed by: Jeanette Lamont

## Map Group Report: Plane Table

The Map Group meeting on 26 July attracted 16 members, keen to hear the presentation by David Carstens, surveyor, long-term member and a past President of RGSQ, on the use of the plane table in surveying.



David discussed the importance of the plane table in mapping, and the variety of applications applied to the plotting of detail, highlighting the application of "The Three Point Problem".

The plane table has a long history especially important when applied to topographic mapping. This use was overtaken after the 1940's when aerial photography and photogrammetry became the significant mapping method. Using the excellent example of the equipment donated to the Society by the Education Department (in 2018) the plane table was set up on display. This was compared with his own theodolite, a "modern" 1959 model Watts Microptic Theodolite set up alongside. Other associated survey equipment was identified using photographs, the most up to date being the Total Station electronic equipment which provides angular and distance measurement and electronic recording.

We were shown the plane table instruments and their use: the plane table itself and tripod; the alidade, for level and for sighting and drawing; the drawing paper, spirit level, trough compass, plumb bob and its support, the plumbing fork.

All the gear is easily transportable and moved from site to site in observing target stations in the area of interest. From succeeding points of view lines of sight are drawn, their intersections establishing the horizontal position to a selected scale.

Careful levelling of the table and orientation of the drawing by compass and back sight give appropriately accurate results for the position of detail. Slope angles read from the alidade provide height results. Best results require 'well-conditioned' angles of intersection and a third line creating a triangle of error. An enlarged diagram illustrated the application of the Three Point Problem and solving the 'triangle of error'. This is a graphical process, by which a practiced observer can quickly infill topographic detail within a framework of plotted control points.

David displayed some remarkable maps, from his survey work in Antarctica, which illustrated the aspects of his own practical work which used the principles which apply to the plane table. This included a plane table map of Mawson Station.

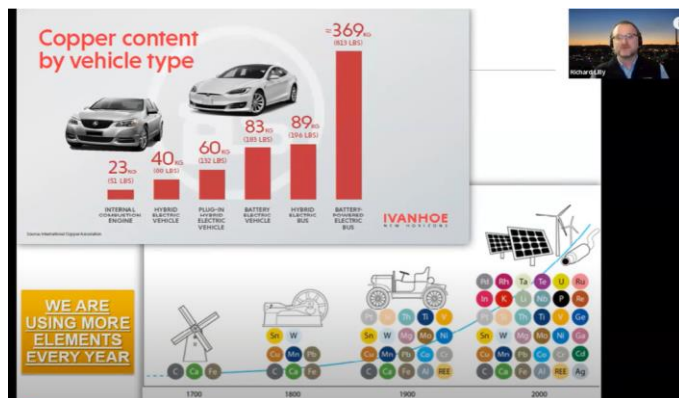
There were many informed questions from the group which allowed David to develop his theme. It was an interesting morning with a chance for members to meet and eat, and drink and talk. David Carstens, once again has, provided RGSQ with an occasion to remember.

Photo: Kay Rees

Contributed by: Les Isdale

## REPORT: Geography Matters

### Mt Isa: The First 100 Years and Outlook for the Future



Dr Lilly, now an academic at University of Adelaide, was a geologist at Mt Isa for 8 years. His presentation was on the general geology of the Mt Isa area. The geology varied from the West to East, changing from a Pb (Lead) - Zn (Zinc) dominated to a largely Cu (Copper) - Au (Gold).

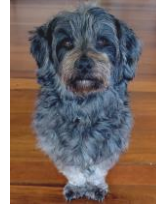
As the relative value of copper changed so did the mining. Mining in the area began at Cloncurry in the 1870's but Mt Isa was not discovered until 1923. John Campbell Miles, a prospector, identified some galena that he recognised from his time in Broken Hill. Mt Isa Mines became Australia's biggest company in the 1950's and 60's. Damian Kelly and Richard Lilly discussed the Copper content at Mt Isa which lies within a series Palaeoproterozoic to Mesoproterozoic Superbasins. The deposit is hosted almost entirely within the Urquhart Shale (US), a unit of the Mount Isa Group sediments and part of the Isa Superbasin. Of great interest was the further discussion on exploration technologies.

Fun facts:

- Spinifex does not grow where the Cu concentration is high and can be used as an exploration tool.
- Conventional vehicles use approx. 20 kg of Cu, electric vehicles about 80-100 kg of Cu and electric buses approx. 400kg.
- There are over 1000 kms of roadways in the mine site.
- The tailings dam contains possibly the world's largest Cobalt resource.
- As the Cu price rises, lower concentrations of Cu will be economic and the efficient mining method will be an open pit. However, expensive infrastructure will need to be relocated. Dr Lilly felt that the mine could go for another 100 years.

Contributed by: Henk van Paridon

**Contributors:** Iraphne Childs, Les Isdale, Jeanette Lamont, Henk van Paridon, Giselle Pickering, Kay Rees, Stella Rush, Chris Spriggs, Pamela Tonkin



Graham & Kay Rees are passing on the sad news that after weeks of suffering from an unknown cause, they have had to say goodbye to Cachou. RGSQ mascot and much beloved by everyone, he will live on in our hearts forever.

# RGSQ Bulletin

September 2023

**Lecture/Meeting: Tue 5 September**

*Young Geographers Forum*

**Geography Matters: Tue 12 September**

*Rivers in the Sky: Atmospheric Rivers*

**Geography in Conversation: Tue 26 September**

*Endangered Species: Northern Hairy Nosed  
Wombat Recovery Project and the Eastern  
Bristlebird Project and others*

**Trips/Activities: Mon 4 - Thus 7 September**

*Four days in the Burnett Basin*

The September Council will meet on the third Tuesday of the month.

The Royal Geographical Society of Queensland Ltd  
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