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Australian Geoparks Network Newsletter No. 4 March 2022



News about Geoparks, Geotourism, Geotrails and Geoheritage

FROM THE CHAIR

169

UNESCO Global
Geoparks

44

Nations

60

Millions of
visitors/year

1

Network

This is our first newsletter for 2022 and as always, lots is happening in the world of geoparks, geotourism, geotrails and geoheritage. Since our last newsletter in November the AGN held a Board Meeting and its Annual General Meeting on 2 December 2021. It was a great meeting where all of our Board members were re-elected. We also welcomed Mark Asendorf from the Northern Territory as a replacement for Dr Melinda McHenry (Tasmania) who resigned earlier in the year.

In this newsletter we read about a *Proposed Aspiring Geopark in New England's Northwest Region* as well as the *Ku-ring-gai GeoRegion*, both in New South Wales. In Western Australia we have updated reports on the *Murchison GeoRegion and Aspiring Geopark* and the *Peel Aspiring Geopark*. In addition there is a detailed report from *Geoparks Western Australia* by its President, and our Deputy Chair, Dr Alan Briggs. This describes considerable interest about and activity on geoparks in the State. Our new Board Member, Mark Asendorf, outlines his activities in the 'geo' space in the Northern Territory. Also, Inaugural Board Member Professor Pat James (South Australia) reports on the *9th International Conference on UNESCO Global Geoparks* hosted by the Jeju Island UNESCO Global Geopark, Republic of Korea between 12-16 December 2021. This was a virtual conference with a large number of presentations highlighting the huge interest in geoparks around the world.

State of Victoria's new Fossil Emblem *Koolasuchus cleelandi* bearing his name. Our 'Featured Geopark' is Tumbler Ridge UNESCO Global Geopark in British Columbia, Canada. It became a Global Geopark in 2014. The AGN is fortunate to have as one of its International Advisory Board Member, Dr John Calder, Chair, Canadian Geoparks Network. It is interesting to note that in 2008 when Australia had Kanawinka as the world's 57th Global Geopark, Canada had none. 14 years later we have none and they have five global geoparks and numerous national and aspiring geoparks.

In this edition of our Newsletter we have included a new section on the 'Global Geoparks Network' (GGN). The Network is an NGO linking all UNESCO Geoparks. It has a great website which includes lots of information, has links to their newsletters as well as a great short promotional video. Our UNESCO section includes information about their *Territories of Resilience* program which has been rolled out during the Global Pandemic. It focuses on the huge benefits which geoparks provide local communities. Information is provided on the 3rd Digital International Course on UNESCO Global Geoparks *UNESCO Global Geoparks and Geotourism*, being held in Lesvos Greece from 15-25 June 2022.

In our 'Conferences' section is information about the *16th European Geoparks Network Conference* being held in Verbania, Italy from 26-30 September 2022 as well as the *10th International Conference on UNESCO Global Geoparks* being held in Marrakech, Morocco at a date to be finalised in September 2023. In the 'Papers & Reports' section are references to a number of papers on geoparks especially a recent paper entitled *UNESCO Global Geoparks in the "World After": A multiple-goals roadmap proposal for future discussion*. This has been written by the world's leaders of the geoparks movement and aims to map a pathway forward beyond the Global Pandemic. In addition there are a number of other papers which might be of interest to members.

In summary, there is much interest in establishing geoparks in Australia, and huge interest globally. The AGN encourages members and anyone else interested to keep in touch with us so we can advocate on your behalf to promote geoparks and their benefits in your region. We love geoparks!



Professor Ross Dowling AM
Chair
Australian Geoparks Network
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LATEST NEWS

Proposed Aspiring Geopark – New England, NW Region, NSW

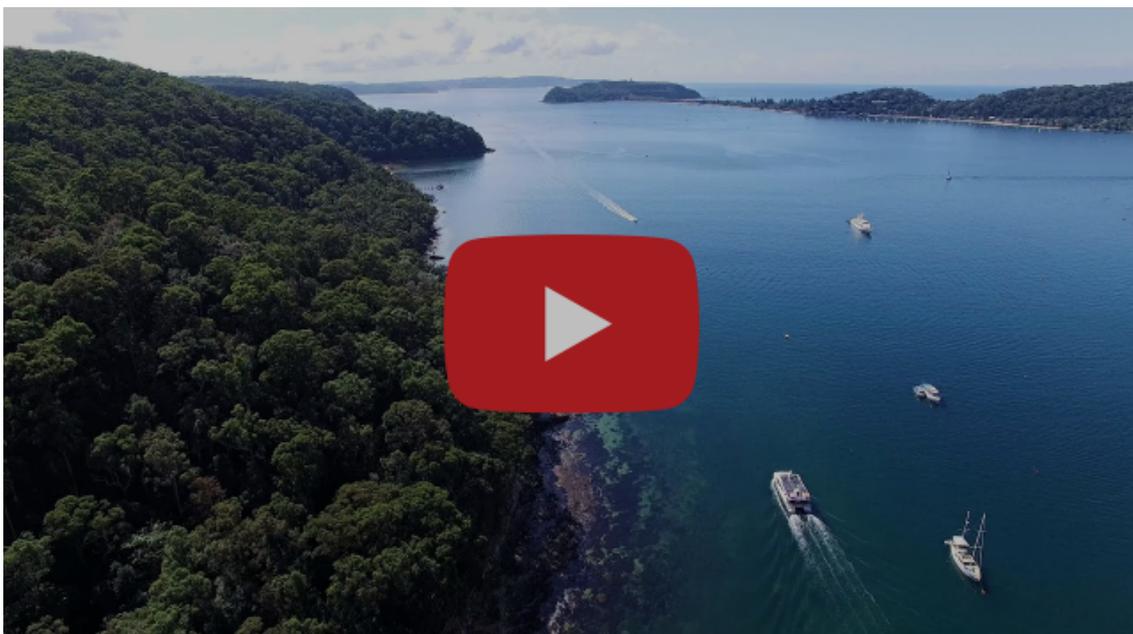
Nomination for the New England North West Region' as part of its International Engagement Strategy. Put together by Margot Lane, Manager Economic Development, the proposal outlines an Action Plan to define a GeoRegion, establish Geotrails and then a Geopark with the ultimate aim of applying for UNESCO Global Geopark status.



The Ku-ring-gai GeoRegion, New South Wales

The Ku-ring-gai GeoRegion video presents the region as a world-class wonderland of natural and cultural heritage. Produced last year it is narrated by Dr Peter Mitchell OAM, City of Ryde's 2015 *Citizen of the Year*. The video is 7.33 minutes in length and can be accessed at:

<https://www.youtube.com/watch?v=6oNcxwaIDSsw>



The Murchison GeoRegion and Aspiring Geopark, Western

The Murchison GeoRegion Project Working Group continues to meet to promote the GeoRegion and establish an Aspiring Geopark. The seven remote shires are being supported by the Mid West Development Commission with its Project Manager being supported by Regional Development Australia. Last month the GeoRegion went on a cooperative \$26,000 marketing blitz with the Regional Tourism Organisation, Australia's Golden Outback (www.australiasgoldenoutback.com), to promote the Region. The campaign featured social media, cooperative marketing and a digital / print package. In addition the GeoRegion supported the area's *Station Stays* brochure with a half page paid promotion on the Region's geosites. The features included:

24 February – a 6-8 page feature in *The Wanderer Magazine* (Campervan and Motorhome Club Members) focusing on the GeoRegion, station stays and road trips

25th February – featuring on the landing page of the Regional Tourism Organisation, *Australia's Golden Outback* website (www.australiasgoldenoutback.com)

26 February - being part of a four page advertising feature in the 'Travel Section' of the Saturday edition of *The West Australian* newspaper

28 February - a four week social media campaign including organic social media activity and paid social media ads in March

April / May - a double page spread in the Royal Automobile Club of Western Australia's *Horizons Magazine*



Gateway to one of the world's natural geoparks

With accessible, awe-inspiring geology, the Murchison GeoRegion with three geosites and overarching dark skies is perfect for astro landscape and deep space astrophotography. Discover ancient landscapes where some of the oldest, rarest and largest rock formations in the world have been created over billions of years. Mount Magnet is at the Magnetic Centre of Australia's Golden Outback, on the Murchison GeoRegion Geo Trail and Gascoyne-Murchison Miners' Pathway. Mount Magnet is rich in history and more. Services include a Visitor Centre, swimming pool and fitness centre, caravan park, station stays, hotel-motels, units, post office, mines office, police station, medical service, supermarket, butcher, hardware with Muzz Buzz coffee, Centrelink, library, internet, mechanics, Roadhouse, airport and more.

PLACES OF INTEREST

Mount Magnet Visitor Centre With entry to the Mining & Pastoral Museum the Visitor Centre offers local, regional and state wide travel information as well as a variety of gifts which have a unique connection to the region. See the new Genestream Songlines Mural here. The museum is considered one of the best regional museums in Australia with extraordinary exhibits, including No1 Rabbit Proof Fence, Hill 50 Gold Mine Winder and Miners Tribute.

Heritage Walk Take a walk through history, where stories of pioneer pastoralists, grand gold rush days and Government Proclamations are revealed through buildings and new public art sites unique to Mount Magnet.

Tourist Drive Trail Popular 37km drive or cycle through famous gold mining areas, scenic lookout, ghost town and spectacular outback scenery.

Amphitheatre (Geo Trail site - No camping). Extraordinary ancient waterfall rock formations to explore. Perfect surrounds for astro landscape photography.

UPCOMING EVENTS

Astro Rocks Fest 16-18 September 2022
Celebrating life through our own unique cultures and heritage, dark night sky and ancient rocks beneath our feet. Further information can be found at astrorocksmtmagnet.wa.gov.au

Visit mtmagnet.wa.gov.au for information



Peel Region Aspiring Geopark, Western Australia

The Peel Region Aspiring Geopark has been gaining momentum locally. Our Working Group has established a preliminary boundary and potential sites for the Geopark covering key geological features as well as key biotic and cultural sites. We have been actively engaging with local stakeholders to build a baseline of support for the proposed Geopark. In addition we have been liaising and consulting with a local indigenous Bindjareb community, seeking their advice regarding the narrative they would like to share through the Aspiring Geopark on Bindjareb country.

Recently, we held a Working Group Field Trip to view some of the potential sites. It allowed the group to visit the largest microbialite reef in the Southern Hemisphere, The Thrombolites at Lake Clifton, as well as four other potential points of interest. As a champion for this Geopark I look forward to continuing to share and consult with stakeholders and experts in their field to build a solid case for this area becoming a Geopark.



Left: The Thrombolites of Lake Clifton, Peel Region, WA. *Right:* The Peel Region Aspiring Geopark Working Group meeting onsite with local Aboriginal Rangers. Source: Sebastian Jones.

My wife Jamie and I will shortly be travelling to the East Coast of Canada to visit two UNESCO Global Geoparks, *Stonehammer* in St. John New Brunswick and *Cliffs of Fundy* in Nova Scotia. At Stonehammer we are meeting with one of the key founders of the Geopark to be able to find out more about the establishment and positive impacts it has had on the east coast of Canada. We will bring these valuable learnings back with us to the Peel working group.

Sebastian Jones - Exploration Geologist and Peel Region Aspiring Geopark Champion.

Geoparks Western Australia

Peel Aspiring Geopark Project have already been mentioned. Both are well managed and moving towards their goals.

In the Perth Metropolitan Region, the cities of Joondalup and Wanneroo continue to engage in discussions with Geoparks WA. Boundaries have been established and communications are continuing with both Mayors and CEOs in advance of processing through the stages of Council and community presentations. Exciting karst topography, linear and circular lakes, the coastal plain and offshore, the Marmion Marine Park with its reefs and dive trails, are all great inclusions within the geopark boundary. The addition of coastal fauna and flora plus Aboriginal cultural heritage and early settler heritage add to this future geopark.

Further south, in the Geopark Bay Region, both the Margaret River/Busselton and Nannup geopark proposals are advancing with planning and communities being brought on board. The Margaret River/Busselton geopark will take in the Cape to Cape Region including the caves previously regarded by English Riviera UNESCO Global Geopark Chair, Nick Powe (AGN International Advisory Board Foundation Member), as eminently suitable for a geopark.

Meanwhile, in the Shire of Nannup, local business leader Mark White, is working with community members towards establishing a geopark which will include the Yeagarup Dunes and Black Point on the rugged southern coastline.



Above: The mobile Yeagarup Dunes on the south coast of Western Australia

(north of Albany). Further interest has been shown in the Walpole/Denmark region as well as the City of Fremantle.

A possible future geopark has arisen from visits to the south coast of Western Australia where the southern end of the Yilgarn Craton almost reaches into the Great Southern Ocean. There is an interesting geological story to be told based on research by the Geological Survey of Western Australia. See Spaggiari et al (2009) and Pernreiter (2018). This is a very exciting opportunity for the Bremer Bay region. Bremer Bay also has strong ocean connections through the fertile underwater currents of the Bremer Bay Canyon rising from depths up to 5,000 metres creating an Orca Whale presence.



Above: Bremer Bay where the granite meets the Great Southern Ocean

Geoparks WA is facilitating an 'Invitation Only' Geoparks Workshop on 26 May to further assist, guide and share knowledge about establishing geoparks in Western Australia. Geopark working groups have been invited to collaborate in developing their geoparks in a way that will see future growth for each of the proposed geoparks and form the initial stages of networking with a view to future participation in international geopark conferences.

At the Geoparks WA Annual General Meeting an undertaking was made to establish a geo-drive from the mouth of the Swan River to the mouth of the Murchison River to provide interpretation of the coastal Plain northwards to the Yilgarn Craton. Already 20 geosites have been identified. These will be confirmed following a field visit in June. A further undertaking was to re-establish the Granite Way Geotrail. This trail was developed in 1988 as one of

Yilgarn Craton.



Above: A roadside cutting on the Darling Escarpment east of Perth showing drill lines for blasting. This will become one of the interpretive geosites for the Granite Way Geotrail.

Dr Alan Briggs - President, Geoparks WA and Deputy Chair, AGN

GeoContributions in the Northern Territory

Mark Asendorf, MBT BSc GISP-AP, Managing Director Marmel Enterprises, and AGN Board Member, has been very active in recent months undertaking several projects. These include development of the Pine Creek Miners Park and proposed Pine Creek Geotrail. Mark is working on this project with Peter Waggitt from AusIMM along with various stakeholders to update the profile and the potential for a Pine Creek Geotrail. It has been inspired by the Darwin City Geotrail but will be its own unique entity. A local ICT company has committed \$5,000 and 'in-kind' support for the project and the search for other sponsors continues. On the 8th of March, Mark presented to the Pine Creek Local Authority (PCLA), a committee within the Victoria-Daly Regional Council about the work at the Miners Park and the Geotrail proposal. Initial response was positive, and Peter will follow this up.



Peter Waggitt, Chair, AusIMM Darwin Branch & Mark Asendorf putting up new signs at the AusIMM Pine Creek Miners Park. The Park is a key element of a proposed Geotrail celebrating the Pine Creek Region and the development of the Top End.

Mark says he was shocked to learn a few years ago, when he was with the NT Geological Survey, that many of the published 100K geological maps covering Darwin to Katherine, including the world heritage listed Kakadu National Park, have never been digitised into vector formats. He is now doing it himself and has digitised 19 maps over the last 2 years. Another map of the King Canyon National Park has also been completed.

Another project Mark is undertaking is producing a heatmap of historical exploration mining interests for the Northern Territory. Mark is producing the next edition for each state and combining into an all of Australia view. This will provide a quick visual reference of mining and exploration interest as evident by multiple titles held over the years. Mark is sourcing other datasets from NT Government to validate the heatmap and supplement NT Geoheritage records.

Conference Report - 9th International Conference on UNESCO Global Geoparks, 12-16 December 2021 - Jeju Island, Republic of Korea



The *9th International Conference on UNESCO Global Geoparks* was held as a digital conference from 12 – 16 December 2021 from Jeju Island, South Korea. AGN Board Member Patrick James was a delegate and his online experience of the conference follows. UNESCO Global Geoparks are not just about excellence in managing areas of internationally recognised geodiversity and geosites. Much more they are about the networking opportunities created by like-minded groups and individuals who are passionate not only about the geoh heritage they care for, but also about sharing that with the public at large! Much of that networking occurred at regular conferences and symposia on Geopark developmen

After my own significant (10 year) hiatus from engaging with the burgeoning International Geopark (Network) community as it grew in the early 21st century, I recently re-joined the excitement of Geopark development. I did this by attending firstly the original inaugurators of the Geoparks, the European Geoparks Network (EGU) at their 14th conference in the Azores in 2017. This was followed by the magnificent *8th Global Geopark Conference* in the Italian Dolomites in 2018 and then the *6th Asia-Pacific Geoparks Network (APGN)* symposium on the island of Lombok, Indonesia in September 2020. Thus, my anticipation was enormous and I just couldn't wait to attend the *9th International Conference on UNESCO Global Geoparks* being held on the 'UNESCO's triple crown (Biospere, World Heritage & Global Geopark)' Jeju Island in the Republic of Korea, in September 2020. A joint paper with Angus Robinson and Young Ng on *Digital Innovations in Geotourism* was accepted and we planned to travel to Korea and visit a number of the very many excellent Geoparks in China on the way.

Of course, that plan was not to be, because of "you know what" and the conference was postponed until firstly September 2021 and then eventually it occurred by Zoom-only from 14-16 December 2021. At USD60 registration fee and with no travel or accommodation costs, I enrolled, and other than missing the networking, connections, discussions, field trips, scenery, culture, geosite visits and conference dinner, it was well worth the 3 days I set aside to attend. My main problem was that in spite of South Korea being on a similar time-zone to Australia, the conference sessions were set mainly for European audiences and sessions ran mostly from late afternoon until past midnight on each of the three days in December.

After the usual spectacular conference Opening Ceremony, with magnificent dancing from the famous Haenyeo female divers, there were 300 speakers from 52 countries, representing 169 Global Geoparks, giving nearly 200

Education, Conservation Science, Sustainability, Climate Change & Hazards and International (Geo)park Management. I was able to navigate my way through many whole and part presentations.

At the opening ceremony, a new *Action Plan on Climate Change* (<https://www.episodes.org/journal/view.html?uid=2220&vmd=Full>) and a new *Online GGN Newsletter* (https://globalgeoparksnetwork.org/?page_id=1562) were announced. Highlights from the 30-40 zoom talks I watched (and participated in) included a few exemplars which follow. Many talks outlined how projects targeting young children were blossoming across the globe, such as a talk from three Japanese high school children who presented their own research on local fieldwork, agriculture and food production (strawberry farms) from the Mine-Akiyoshidai Karst Plateau Geopark (<http://en.mine-geo.com/>). Young people were also the focus in a program of school geoeeducating students and teachers from the Oeste Aspiring Geopark in Portugal (Portugal (<https://www.geoparqueoeste.com/>), while Langkawi, Malaysia Global Geopark had devised and implemented a school program of popularizing geoscience knowledge and awareness with talks, exhibitions and simple activities (<https://langkawigeopark.com.my/>).

The growth of the Geopark movement in Canada was another shining highlight at the conference and this country and its Canadian Geopark Network is continuing to surge in its appetite for geoparks. Max deck-Leger from Percé (New Brunswick) explained his program to help teachers in geopark partner schools, using in-class (ages 6-11) experiments by making 'rock cookies' simulating minerals and rocks and other geological processes as well as collecting rock samples from their playgrounds (<https://www.youtube.com/watch?v=8HPhXZs6bAU>) John Rae's brilliant talk, video & music from the *Fire & Ice Aspiring Geopark* including some 70 geosites, 'from coastal rainforest to dizzying peaks, lava flows to thundering waterfalls, submarine moraines to steaming subglacial fumeroles' from the Whistler area in Canada (<https://storymaps.arcgis.com/stories/ecf191c9ec3b42719406be8a7914de62>), whilst Darren Plakatis (see later) describing the *Aspiring Niagara Peninsula Geopark*, with its grape & wine excellence, indigenous history and of course The Falls! And the continuing success story of the *Tumbler Ridge UNESCO Global Geopark* in Alberta Canada (an ex-coal mining region), which is now focussing on 'Health & Well Being' in geopark communities, via wheelchair accessible geotrails, eg. (<https://tumblerridgegeopark.ca/Health/gallery/healthy-gallery/>). [Editor's Note: See our Featured Geopark in this Newsletter].

Building a UNESCO Global Geopark in Charnwood Forest, Leicestershire, UK was superbly summarised, with Jack Matthews (<http://www.jackjmatthews.co.uk/overview.html>) elegantly describing the multi-million-pound award from the UK Lottery Fund to develop Geofood, Geotrekking and Geoclimbing amongst other activities, based around 'Celebrating the Origins of Animal Life on Earth' (*Charniodiscus* Ediacaran fauna). Meanwhile, Sophie Justice from Chablais UNESCO Global Geopark, France (<https://www.geoparc-chablais.com/en/>) outlined their program of public

floods, earthquakes and most unusually Tsunamis (actually Seiches) in this landlocked part of the Alps.

There was also a large number of New and Aspiring geoparks appearing around the globe from Cappadocia (great geodiversity & culture) and Canakkale (hot springs) in Turkey to Napo Sumaco Aspiring Geopark in Ecuador and many in Arab and African countries, where the next 10th Global Conference will be held in Marrakech, Morocco in 2023 (see News Item below).

Following the conference, I asked the organisers if video recordings of the presentations might be made available on the internet. However, this appears not to have been possible, which is a great shame. I'm sure I missed, a great many other interesting talks, for example *Geomovie Making for Kids* (Finland); *Climate Change for Children* (Lesvos Island Geopark, Greece); *Jade Art Stone Faces* (Japan); *Larvikite Explained* (Gea Norvegica Geopark, Norway); *Geomedia Websites* (Brazil); and Fossil Geotourism (Burren and Cliffs of Moher Geopark, Ireland).

One final presentation, however, which blew me away was a digital VR 3D reconstruction of ancient mercury mines and their industrial machinery by Masa Cibej "Digitisation of Cultural Heritage" from the Idrija UNESCO Global Geopark, Slovenia. I'm still looking for their digital version on their website



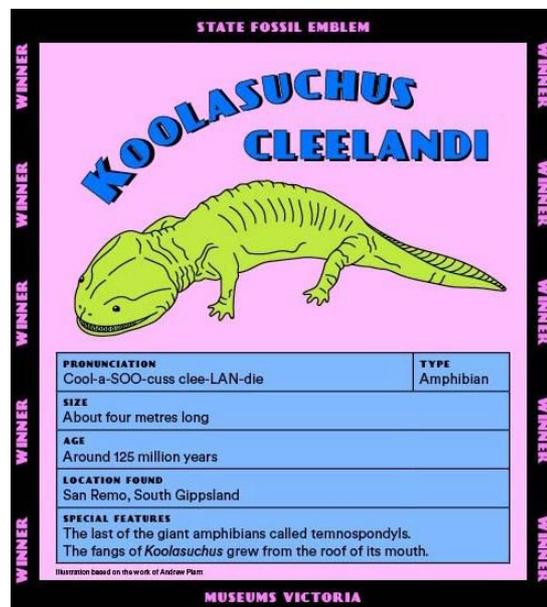
[Professor Pat James, University of South Australia & AGN Foundation Board Member](#)

FEATURED MEMBER

Each newsletter we feature one of our members starting with those on the Board. This newsletter we feature Mike Cleeland, Geologist & Educator. He is Education Officer, Bunurong Coast Education, Victoria and a Foundation Board Member of the Australian Geoparks Network.

Mike Cleeland studied Geology and Palaeontology as part of his Science Education degree at Melbourne University which he completed in 1979. Since then he has taught in the Earth Sciences field while teaching secondary Science at Newhaven College, as well as teaching in Adult Education and the Diploma of Natural Resource Management at Chisholm TAFE. He joined the Dinosaur Dig Team with Museum Victoria at Dinosaur Cove in 1989 and has participated in every summer dig since then, both at Dinosaur Cove and the more recently discovered Dinosaur Dreaming site at Flat Rocks, Inverloch. Interestingly, Mike is the second man to get married as a result of meeting his future wife Pip at the Inverloch dinosaur dig. And the Dinosaur Cove dig, in addition to extracting several thousand significant fossils, also resulted in five marriages! Mike is working closely with the Bass Coast Shire to establish The Bass Coast Dinosaurs Trail. The trail has taken a major leap forward with the purchase of land in Wonthaggi to create an interactive sound and light 'Gondwana Garden' to boost post-pandemic tourism.

As a prospector Mike has discovered the type specimens of two dinosaurs, *Serendipaceratops arthurclarkei* and *Diluvicursor pickeringi*, as well as the giant amphibian *Koolasuchus cleelandi*. Recently he had the honour of having Victoria's new State Fossil Emblem named after him. In August 2021, 11,563 Victorians voted online for their favourite fossil to be crowned the state's official fossil emblem. In January, the Victorian Government announced the 'kool' Cretaceous winner: 125-million-year-old extinct amphibian, *Koolasuchus cleelandi*



Left: Mike returning from prospecting at The Punchbowl, near San Remo, Victoria *Right:* Flyer to launch the Victorian State Fossil Emblem (Source: Museums Victoria).

Koolasuchus cleelandi was a car-sized amphibian that lived alongside dinosaurs in Victoria during the Cretaceous period approximately 125 million years ago. Resembling something between a huge newt and a crocodile,

at a few beaches and coves in South Gippsland on Bunurong Country.

According to Museums Victoria, *Koolasuchus cleelandi* is an extinct temnospondyl amphibian that lived alongside dinosaurs in Victoria during the Cretaceous period approximately 125 million years ago. Fossils of *Koolasuchus* were first found in 1978 near San Remo, South Gippsland, Victoria on Bunurong Country. In 1990 Michael Cleeland found the jaw that became the holotype of the species which was described in 1997. Lesley Kool spent months preparing the specimens which carries her name and that of Michael Cleeland. *Koolasuchus* is also something of a play on words as this species lived in a cool environment when Victoria was deep in the southern polar circle. Also, 'Souchos', Greek for crocodile, is commonly used in naming temnospondyls because their bodies are similar in shape to those of crocodiles.

The rocks *Koolasuchus* was found in were deposited during the Early Cretaceous (around 125 million years ago) in what would have been a large flood plain in a rift valley that formed as Australia was separating from Antarctica. At that time Victoria was within the Antarctic circle and the climate would have been cool, though the entire planet was warmer in the Cretaceous so the polar climate would have been warmer than the poles today.

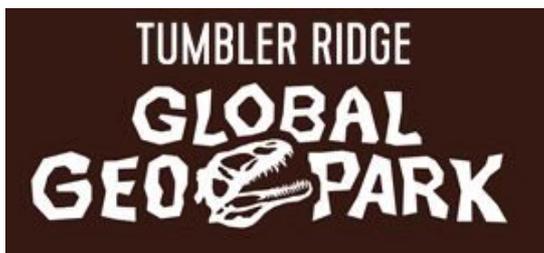
Editor's Note: In Western Australia the State Fossil Emblem is the gogo fish (*Mcnamaraspis kaprios*). It was suggested by the pupils of Perth's Sutherland Primary School, Dianella, in 1994 and proclaimed as the State Emblem in 1995.

FEATURED UNESCO GLOBAL GEOPARK

Tumbler Ridge UNESCO Global Geopark - Canada

www.tumblerridgegeopark.ca

Tumbler Ridge became the second UNESCO Global Geopark in North America in 2014. Located on the eastern slopes of the Hart Ranges of the northern Rocky Mountains of British Columbia in western Canada, the park comprises 849,839 hectares (2.1 million acres) and features plunging waterfalls, craggy peaks, lush river valleys, and striated rock. The geopark has the only known dinosaur trackways in British Columbia and the only dinosaur museum in the province. It is one of five Canadian UNESCO Global Geoparks.



and waters flowing southwest into the Parsnip and Fraser Rivers. The highest point is the summit of Bulley Glacier Peak, 2630 m above sea level. The lowest elevation, at the northern boundary where Salt Creek enters the Murray River, is 663 m above sea level. Elevation generally decreases from southwest to northeast. Rivers cut valleys through the northwest-southeast trending front ranges of the mountains, and then flow through the foothills. There are six provincial parks within the Geopark.

The Tumbler Ridge Geopark contains a record of sedimentary deposition within the Western Canadian Foreland Basin which has been deformed by past mountain building episodes to form the rugged mountains and foothills of the northern Canadian Rocky Mountains. The stratigraphic section exposed in the Geopark spans a geologic time range from ca. 600 to 60 million years ago. It is complemented by an abundance of palaeontological resources. Cretaceous dinosaur tracks (many of which are of global significance), a Cretaceous dinosaur bone bed with unusual features, and Triassic fishes and marine reptiles are of particular importance and abundance.

Global Geoparks Network (GGN)

The Global Geoparks Network (GGN), is a non-profit International Association established in 2014 (<https://globalgeopark.org>). The Network is the official partner of UNESCO for the operation of the UNESCO Global Geoparks. It was initially founded in 2004 as an international partnership developed under the umbrella of UNESCO and serves to develop models of best practice and set quality-standards for territories that integrate the protection preservation of Earth heritage sites in a strategy for regional sustainable economic development.

Networking and collaboration among global geoparks is an important component of the Global Geoparks Network. As to be expected the Network promotes networking on a regional basis. For Global Geoparks in Asia – Pacific the Asia-Pacific Geoparks Network (APGN) acts as the Regional Network of the GGN. In Europe, it is the European Geoparks Network (EGN). A third regional network is the Latin American and Caribbean Geoparks Network.

To be further inspired about geoparks check out the GGN Newsletters (<http://www.globalgeopark.org/News/Newsletter/index.htm>), and their Promotional Video at <https://globalgeoparksnetwork.org/wp-content/uploads/2017/03/SPOT-GGN.mp4>



UNESCO Global Geoparks (UGGps)

UNESCO Global Geoparks – Territories of Resilience

A second website to visit to find out more about UNESCO Global Geoparks (UGGp) is <https://en.unesco.org/global-geoparks>. During the Global Pandemic, UNESCO Global Geoparks have been promoting their value in being *Territories of Resilience*. They state: We believe that human health and planetary health are inextricably linked. If we don't demand change to transform our planet and meet our climate crisis, our current state will become the new normal — a world where pandemics and extreme weather events span the globe, leaving already marginalized and vulnerable communities even more at risk. Geoparks around the globe are working together with local communities to build a better future (https://globalgeoparksnetwork.org/?page_id=4209).



RESILIENCE

"UNESCO Global Geoparks: Territories of resilience" is the new Global Geopark Network (GGN) initiative launched last 21st April 2020, in a moment when more than half of the world's population is still leaving a long and difficult COVID-19 lockdown.

This initiative with a high semantic value should open inside the UNESCO Global Geoparks (UGGps) community new and complementary reflections on the UGGp concept.

There are many examples on how Geoparks are preparing the new start of our territories, after COVID-19 pandemic comes to an end. Providing a new model of sustainable alternative tourism, which is not using big resorts, promoting safe local products, organizing activities in the nature, safeguarding our natural heritage and the environment. Our Global Geoparks Network in collaboration with UNESCO Earth Sciences and Geohazard Risk Reduction section will

We follow scientific recommendations to fight COVID-19 pandemic. We work with our partners to support our local communities. We support each other in the Global Geoparks Network sharing best practice and taking strength from successful examples. Geoparks are protecting, managing and using their geological, ecological and cultural heritage to support the sustainable development in rural areas and the improvement of the living conditions of their communities. Through heritage driven sustainable development we support local communities in rural areas; protecting geological heritage whilst sustaining local communities



**3rd Digital International Course on UNESCO Global Geoparks
UNESCO Global Geoparks and Geotourism - 15-25 June 2022,
Lesvos Greece**



UNESCO Global Geoparks and Geotourism. The Digital Course will be held from 15-25 June 2022 daily between 11am – 3pm GMT. It is hosted by the University of the Aegean and the Lesvos Island UNESCO Global Geopark, Greece. The course is being organised digitally for a third year in a row due to the Global Pandemic. Applicants are asked to submit a short CV accompanied by a one page Abstract about your Geopark or Geotourism Research Project. During the course participants will be invited to present their geopark or geotourism research project. The Registration Fee is €150 and the application deadline is 15 May.

<http://www.petrifiedforest.gr/geoparks2022/>

CONFERENCES

7th Asia Pacific Geoparks Network Symposium 4-11 September 2022 – Satun Province, Thailand

The Satun UNESCO Global Geopark will host the **7th Asia Pacific Geoparks Symposium** in Satun Province, Thailand from 4-11 September 2022. For more information and registration visit <http://satunapgn2022.org>



16th European Geoparks Network Conference 26-30 September 2022 – Verbania, Italy

The Sesia Val Grande UNESCO Global Geopark will host the **16th European Geoparks Conference** in Verbania, Italy from 26 to 30 September 2022. The Organizing Secretariat can be contacted at www.ccicongress.com or on email at EGN2022@ccicongress.com.



The Sesia Val Grande UNESCO Global Geopark is located on the north-east of Piemonte Region, NW Italy, and encompasses areas of the Verbano Cusio Ossola (VCO), Biella, Novara and Vercelli Provinces. It includes the Val Grande National Park, two regional parks (Alta Valsesia and Monte Fenera), and the Special Nature Reserves of S. Monte of Varallo, Sanctuary of Ghiffa and Domodossola all three entitled as UNESCO World Heritage. The area is bordered to the west by Valle d'Aosta and the massif of Monte Rosa, to the north by the Ossola and Vigezzo valleys and the Swiss border, to the east and south by Lake Maggiore and the Po plain. This makes the Sesia-Val Grande UNESCO Global Geopark the highest and the steepest one in Europe. Within 60 km the territory ranges from the Gnifetti Peak at 4,554 m. asl to Lake Maggiore at the 190 m asl.

The territory is considered as the world's most accessible reference section of continental crust, consisting of a diverse association of rocks from the deep, middle and upper crust that provide an unprecedented model. These rocks were exposed at the surface of the earth by the collision between the continents of Africa and Europe, which has progressed over the past 100 million years, driving the Alpine orogeny. Along the Alps, the boundary between the two continents is the Insubric line. In the same area, the Supervolcano of the Sesia erupted approximately 280 million years ago forming a huge caldera, the remains of this and its magmatic plumbing system are clearly visible today. Extending from the Po Valley to the peaks of the Alps, the UNESCO Global Geopark offers the opportunity to observe the effects of climate change recorded by the Pleistocene geomorphology, by the recent retreat of glaciers, and patterns of human settlements dating from the Paleolithic.

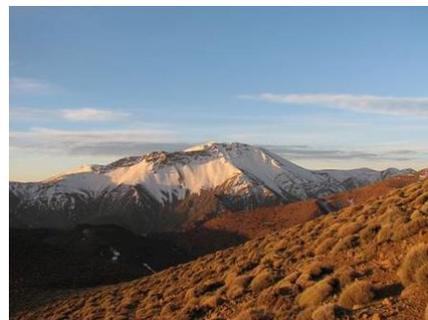
The Geopark is located in North West Italy and is managed by the Val Grande National Park and the Sesia Val Grande Geopark Association. The scientific coordination is overseen by the Department of Earth Sciences of the University of Turin. It was recognized as a Global Geopark in 2013 and a UNESCO Global Geopark in 2015 (www.sesiavalgrandegeopark.it/index.php/en).



Morocco will host the **10th International Conference on UNESCO Global Geoparks in Marrakech in September 2023**. It is the first Arab and African country to host such event. The host Geopark is M'Goun UNESCO Global Geopark (<https://en.unesco.org/global-geoparks/mgoun>). It is located 100km from Marrakech in the middle of the central High Atlas Mountain Chain.



Its territory covers an area of medium to high mountains. The climate of the Atlas is Mediterranean with Atlantic influences. The Geopark consists of two zones, one with high rainfall and with temperatures between 35°C and 3°C and another characterized by lower rainfall. Snowfall is common from November to May. The geological history of M'Goun UNESCO Global Geopark fits into the geological evolution of the central High Atlas dating back to the Triassic period, 250 million years ago, while the main stages took place during the Jurassic period, about 180 million years ago. It includes famous and spectacular footprints of sauropod and theropod dinosaurs and many deposits of bones. The territory contains numerous minerals: Copper, zinc, barite, iron, basalt, limestone and dolomitic Triassic red clays. The M'Goun UNESCO Global Geopark consists of a large number of geosites and geological sites showing several large tectonic structures of the Atlas Mountains that sculpt the landscape.



PAPERS & REPORTS

Articles on Geoparks

1. UNESCO Global Geoparks in the “World After”: A multiple-goals roadmap proposal for future discussion

This paper is written by the leaders of the Global Geopark Movement headed by Guy Martini, the ‘Father’ of geoparks. It has been published in the International Union of Geological Sciences journal, *Episodes*, the Journal of International Geoscience (www.episodes.org). It was published online on 1 March 2022 at www.episodes.org/journal/view.html?volume=45&number=1&spage=29&vmd=Full A related 50 minute video on the topic of *UNESCO Geoparks in the ‘World After’* by Guy Martini, Global Geopark Network General Secretary, is excellent viewing. www.youtube.com/watch?v=u8LHeUtsJ1g



2. Economic impact of UNESCO Global Geoparks on local communities: Comparative analysis of three UNESCO Global Geoparks in Asi

This paper is written by YuJin Lee and Ramasamy Jayakumar from the UNESCO Natural Sciences Sector Office in Bangkok, Thailand and was published in 2021 in the *International Journal of Geoheritage and Parks* (www.sciencedirect.com/journal/international-journal-of-geoheritage-and-parks). Locate it at <https://doi.org/10.1016/j.ijgeop.2021.02.002>

3. Community Engagement in UNESCO Biosphere Reserves and Geoparks: Case Studies from Mount Hakusan in Japan and Altai in Russia

Locate it at <https://doi.org/10.3390/land11020227>

4. A Genealogy of UNESCO Global Geopark: Emergence and evolution

This paper is written by Yi Du and Yves Girault, National Museum of Natural History, Paris and was published in 2018 in the *International Journal of Geoheritage and Parks*. Locate it at <https://doi.org/10.17149/ijgp.j.issn.2577.4441.2018.02.001>

5. A Proposed Governance Model for the Adoption of Geoparks in Australia

This paper is written by Alan Briggs, David Newsome and Ross Dowling and was published in 2021 in the *The International Journal of Geoheritage and Parks*. Locate it at <https://doi.org/10.1016/j.ijgeop.2021.12.001>

Other Papers of Interest

The Scope for Geotourism Based on Regolith in Southwestern Australia – A Theoretical and Practical Perspective

This paper written David Newsome, Phil Ladd and Ross Dowling was published in 2022 in the *Geoheritage*. Locate it at <https://doi.org/10.1007/s12371-021-00632-1>

Geoheritage (2022) 14:5
<https://doi.org/10.1007/s12371-021-00632-1>

ORIGINAL ARTICLE



The Scope for Geotourism Based on Regolith in Southwestern Australia—a Theoretical and Practical Perspective

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Abstract

Regolith in some regions has become a world famous and highly valued tourism attraction or is an emerging geotourism focus. However, there remains much scope for valuing what regolith can offer within the framework of geotourism. We thus present a case for a more inclusive approach to involving regolith in geotourism agendas and illustrate the utility of such an approach using the example of regolith occurring in southwestern Australia. Our case is supported by re-visiting the theoretical framework that underpins geotourism and by considering the status of geotourism in Western Australia. The value of regolith as a topic in geotourism is explained through provision of a simplified scientific background for a range of regolith types from southwestern, Australia. We provide guidance on indicative interpretive content that could be delivered by trained guides. Whilst emphasising that such an approach sets the scene for profiling regolith within geotourism agendas in Western Australia, we also contend that by simplifying the science, recognising its importance in our lives, in combination with an understanding of the sociological objectives of geotourism, regolith can readily be built into geotourism programmes around the world.

Keywords Regolith · Geotourism · Laterite · Sandplain · Landscape interpretation

298), by B.N. Sadry editor. It is published by Apple Academic Press, Florida, USA

The **GEOTOURISM** INDUSTRY
in the 21st CENTURY

*The Origin, Principles, and
Futuristic Approach*



Editor **Bahram Nekouie Sadry**



CHAPTER 11

Interpreting Geological and Mining
Heritage

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ABSTRACT

Geoheritage are those parts of the geological environment that may be identified as having specific value, whether scientific or otherwise, and therefore worthy of being conserved. One of the key elements of geoheritage is the interpretation of the geological heritage which a visitor is viewing. This is referred to as geo-interpretation which places geology within the environment's Abiotic (nonliving), Biotic (living), and Cultural (human) attributes. This approach to environmental interpretation is termed the "ABC" Interpretation Method. In geo-interpretation, the most important element is geology and it is suggested that this be interpreted according to its "form," "process," and "time" aspects. This chapter illustrates geo-interpretation by showcasing interpretation for three geotourism attractions and three mine sites from six countries around the world.

Suggestions for Developing Geotourism and Geoparks in Algeria

This paper by Ross Dowling was given at *Algeria's Tourism Economy Conference* held online from 19-22 March. It was hosted by the Faculty of Economics, Commerce and Management Sciences at Setif 1 University together with the Directorate of Tourism & Handicrafts, Algeria. The 30 minute video can be viewed at <https://youtu.be/aYA7rrnEmTw>

Well that's it from the Australian Geoparks Network. We are excited by the increased community interest in re-establishing geoparks in Australia and



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