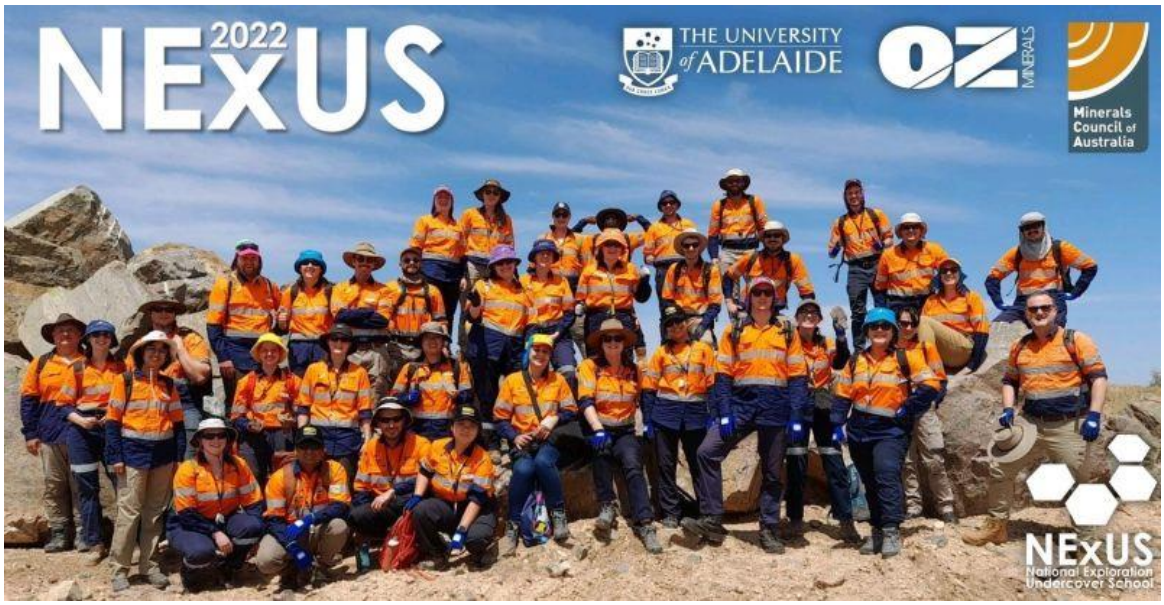
AUSTRALIAN REGOLITH GEOSCIENTISTS ALLIANCE

January 2022

ARGA NEWS AND UPDATES

Happy New Year!

And with that, its 2023! What an exciting year 2022 was, with so many events featuring regolith science across Australasia - with face to face conferences happening again, and chances to meet and network with regolith science professionals and researchers. The GSA-GSNSW-GSSA organized conference, Uncover Curnamona, provided a great opportunity for meeting with resource exploration and mining companies, geological surveys, research organisations and Geoscience Australia. For many it was the first time researchers on collaborative projects were able to meet in person, so a lot of catching up was done. It also meant that state geological survey open days proceeded with booked out events, and science week events across the country could proceed with hype and great attendances. What have you been to this year which really filled your regolith cup? Please get in touch, we'd love to feature past events and not-to-be-missed webinars, releases and presentations. The ARGA Specialist Group Organising Committee wishes that all our members and friends enjoyed a very safe, relaxing and refreshing Christmas and New Year break. We look forward to seeing everyone in person in 2023 at the upcoming AESC in Perth, plus more online events for our specialist group..



NExUS Turns 6!

Can you believe that the National Exploration Undercover School turns SIX in 2022? Originally started as an Minerals Council of Australia initiative by Graham Heinson and Richard Lilly (both from University of Adelaide), the program has now successfully led applied exploration course work and hands on experience for hundreds of students and early career professionals from across the earth sciences sector. For more info, please check out https://set.adelaide.edu.au/nexus/

Regolith on the radar at Australian Earth Sciences Convention 2023

ARGA will be at the Australian Earth Sciences Convention in Perth, 27th t0 30th June 2023! The convention aims "to present the latest and greatest science down under, to showcase the best of Western Australia, to support our diverse community and celebrate our shared passion for the Earth Sciences. Our overarching theme 'Reimagining the Earth Sciences' reflects the ever more critical need for Australian Earth Scientists to explore, adapt, innovate, educate and most importantly to lead the pursuit of sustainable solutions to society's evolving needs. After years of isolation, it's time to come together."

As most ARGA members would recall, traditionally we have held a biannual symposium (with the last one held in 2020, virtually). Once again, ARGA will have a symposium at AESC! The ARGA Symposium will be composed of two sessions, with theme leaders: Ignacio González-Álvarez (current ARGA chair, CSIRO) and Anais Pagès (Department of Water and Environmental Regulation):

- Australasia's changing landscapes

  With a focus on landscape evolution and regolith this session would concentrate on, but not be limited too, insights into Australasian sedimentology, climate science, palaeontology, ocean science and glaciology which give key understandings into surface and near surface processes and our changing landscapes through geological time.

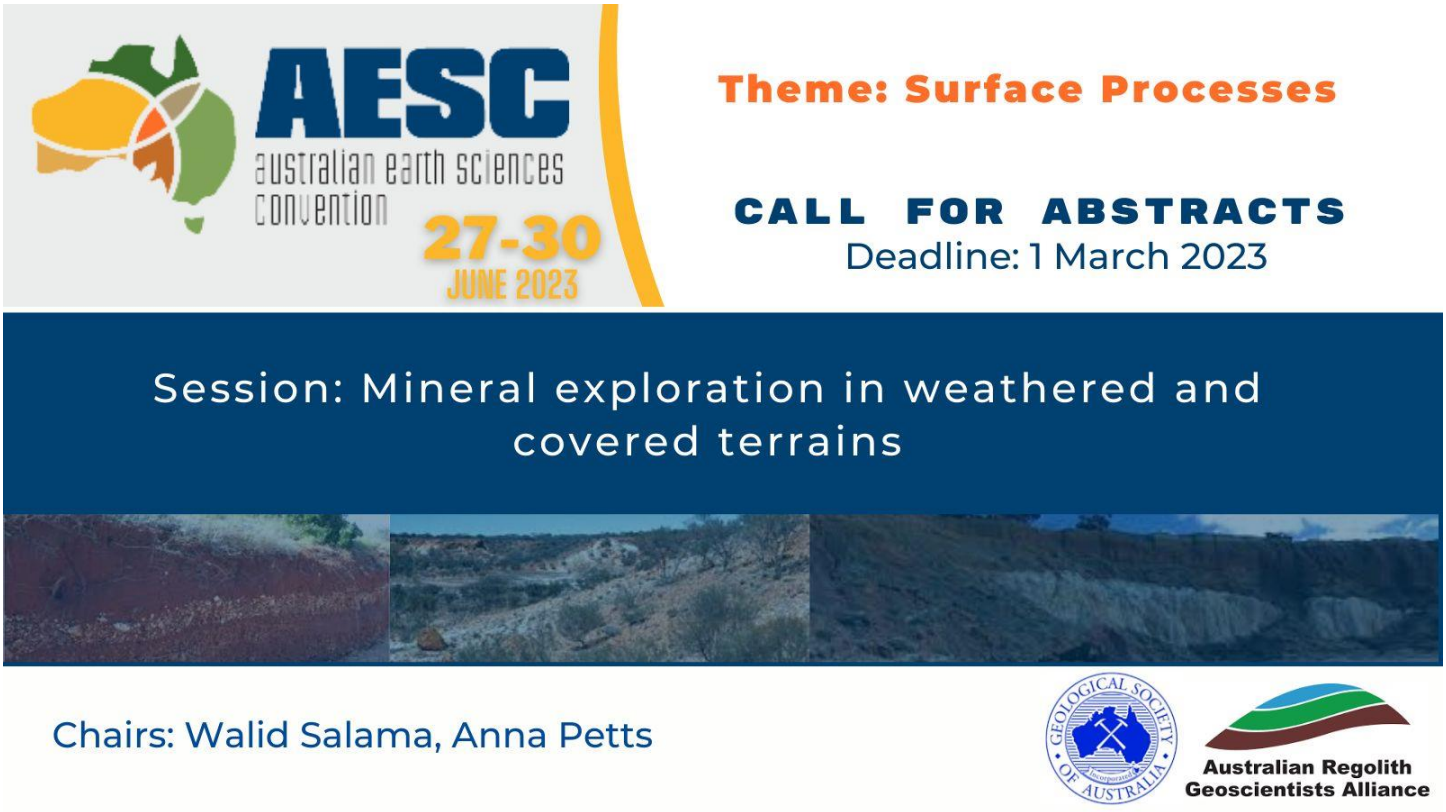
  Chairs: Leah Lynham, Nadir de Souza Kovaks

- Mineral exploration in weathered and covered terrains

  One of the fundamental challenges for mineral exploration industry is targeting concealed mineral deposits in deeply weathered terrains. The geochemical footprints and geophysical responses of the buried mineralisation can be affected by regolith. However, weathering can produce secondary geochemical dispersion haloes larger than the ore body itself. To better targeting mineral deposits under cover, it is fundamental to understand landscape evolution, processes of metal dispersion in regolith, and to develop new tools and sensing technologies for exploration through cover. In this session we invite submissions on developing exploration and analytical tools that help towards vectoring mineral deposits under cover. These include, but not limited to, litho-, bio- and hydrogeochemical, geophysical, hyperspectral, indicator minerals, remote sensing and machine learning methods.

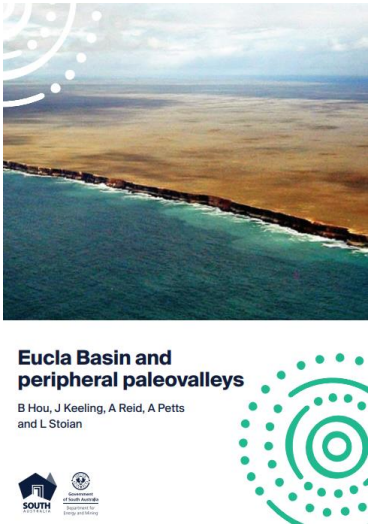
  Chairs: Dr Walid Salama, Dr Anna Petts

Abstract submissions are now open and we encourage all our ARGA members and friends to submit an abstract and plan to attend. We will also hold our Annual General Meeting at the AESC 2023, and we hope we will see some new and familiar faces. It would be wonderful to have some new nominations for the organising committee also. Please get in touch if you would like to know more about any of our committee positions. Head to https://aesc2023.com.au/ for more information and to submit your abstract!



WHAT'S NEW?

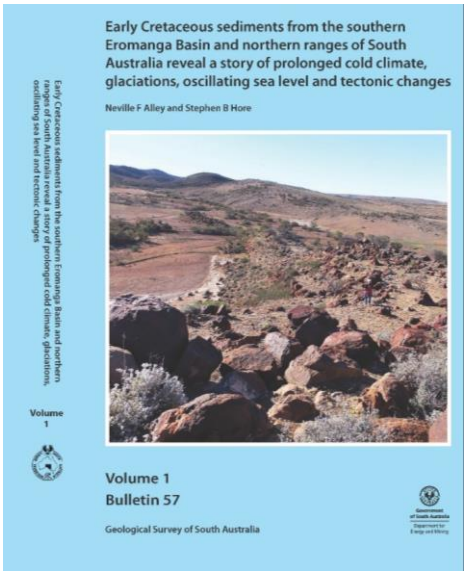
NEW GEOLOGICAL SURVEY OF SOUTH AUSTRALIA PUBLICATIONS - EUCLA PALAEOVALLEYS AND ICY CRETACEOUS IN THE CURNAMONA PROVINCE



The 'Eucla Basin and peripheral paleovalleys' newly published reportbook (2022/00011) This study is a review and synthesis of geoscientific research undertaken in the Eucla Basin during last two decades by GSSA's Senior Principal Geologist Baohong Hou, plus John Keeling (retired GSSA), Anthony Reid, Anna Petts, and Liliana Stoian.

This study is a review and synthesis of geoscientific research undertaken in the Eucla Basin, southern Australia during last two decades. Over that time, various investigations have been made of the geophysical and geological characteristics of the Eucla Basin and paleovalleys, and related mineralisation. These projects, particularly in the eastern basin, have assisted exploration, and provide fundamental data for increasing knowledge of geological processes and landscape evolution within this important region. This report largely reviews previous results to develop a better understanding of the characteristics, geometry, geomorphology, and geological/depositional environment of the whole basin

and adjacent areas, particularly on mineralised sediments associated with placers and uranium deposits on the margins of the Eucla Basin. Download it here:
https://sarigbasis.pir.sa.gov.au/WebtopEw/ws/samref/sarig1/image/DDD/RB202200011.pdf



Decades of geological field work, observations, recording of rock outcrops, photos, analytical work, literature research, has come together through Stephen's collaboration with retired GSSA Director and resources sector stalwart, Neville Alley to produce Bulletin 57, "Early Cretaceous sediments reveal a story of prolonged cold climate, glaciations, oscillating sea level and tectonic changes". This new bulletin outlines conclusive evidence that Australia was in a periodic Ice-age from ~139 Million years ago to approximately 100 Million years ago.

This new publication is the most comprehensive treatment of Mesozoic sediments along the southern margin of the Eromanga Basin and Mount Painter uplands and their implications ever attempted. The major outcome is the (revised) stratigraphy and sedimentology with subsets of glacigene facies, contribution to global paleoclimate, Early Cretaceous ice cover and importance of comprehensive dating for this prospective part of South Australia. Secondary, but equally important, outcomes also include:

- the Early Cretaceous sea level changes and correlation with global sea level curve
- updated landscape evolution models, including pre-Early Cretaceous landsurface reconstruction, sediment stripping, tectonism for instance

For more information and to register for updates, please go to: https://www.energymining.sa.gov.au/industry/geological-survey/geology/early-cretaceous-glaciation

REGOLITH SCIENCE ON THE WEB

ARGA WEBINAR AND NETWORKING EVENT – FEBRUARY 2023

ARGA welcomes members from all disciplines that may have involvement in regolith geoscience including geology, geochemistry, geophysics, pedology, biology, hydrology, meteorology, agronomy, forestry, critical zone studies, etc.

This webinar and networking event aims to introduce members to the existing committee and also promote networking and introductions in the lead up to AESC 2023, where we hope to have many of our members presenting their great regolith research and insights from across a range of disciplines.

A talk will be featured also, with speaker and topic to be confirmed. Please feel free to forward to colleagues and networks. This is a free event and we hope to announce some special new releases and opportunities at this event! An Eventbrite link will be forward to all members and friends shortly. Make sure to register and lock it in your calendar!

UPCOMING CONFERENCES AND EVENTS

13 March - 18 March 2023 - Australasian Exploration Geoscience Conference (AEGC 2023), Brisbane

https://2023.aegc.com.au/

26 June- 1 July 2023 – Australian Earth Sciences Convention, *Reimagining the Earth Sciences*, Perth

Includes ARGA Symposium and AGM, register now- https://aesc2023.com.au/

KEEPING UP TO DATE WITH ARGA

ARGA Facebook page
https://www.facebook.com/groups/10150125426600193/

ARGA is on TWITTER! https://twitter.com/AusRegolith

ARGA is on INSTAGRAM!
https://www.instagram.com/ausregolith/

Would you like to contribute? Suggestions and feedback to:

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