

# AUSTRALIAN REGOLITH GEOSCIENTISTS ALLIANCE



March 2022

## ARGA NEWS AND UPDATES



### World Groundwater Day March 22<sup>nd</sup>, 2022 - GROUNDWATER - MAKING THE INVISIBLE VISIBLE

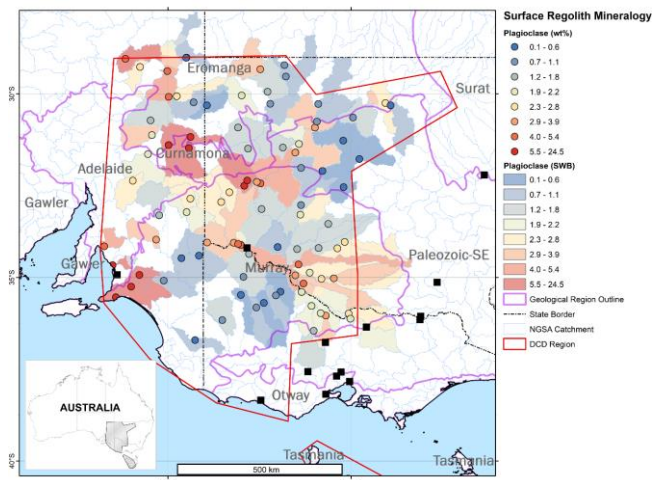
Groundwater is invisible, but its impact is visible everywhere. Out of sight, under our feet, groundwater is a hidden treasure that enriches our lives. Almost all of the liquid freshwater in the world is groundwater. As climate change gets worse, groundwater will become more and more critical. We need to work together to sustainably manage this precious resource. Groundwater may be out of sight, but it must not be out of mind. <https://www.worldwaterday.org/>

## WHAT'S NEW?

### TOWARDS A REGOLITH MINERALOGY MAP OF THE AUSTRALIAN CONTINENT IN THE DARLING-CURNAMONA-DELAMERIAN REGION

A feasibility study recently released by Geoscience Australia and the Australian National University is a major step towards developing a national regolith mineralogy database and atlas of Australia. The mineralogy of regolith, the weathered rocks and sediments covering much of the Earth's surface, can tell us a lot about our environment, including underlying bedrock type, degree of weathering and various soil properties. Indicator minerals at the surface can point to the presence in bedrock of specific types of mineralisation, hydrothermal alteration or major geological boundaries. [Download here for more information.](#)

*Distribution map of plagioclase from NGSa overbank sediment samples, showing Australia's geological region boundaries in purple and NGSa catchment boundaries in blue*



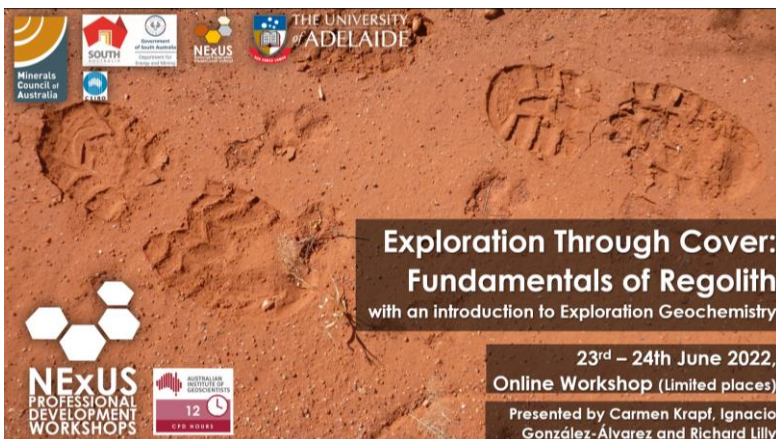
### CONNECTING THE COVER TO THE BASEMENT FABRIC IN THE CENTRAL GAWLER CRATON, SOUTH AUSTRALIA

This new article is a summary of Report Book 2020/00029 (González-Álvarez et al. 2020) providing an overview of the workflow to link basement and surface structures. This study explores the applicability of the landscape pattern recognition (LPR) algorithm developed at CSIRO to map the variability of landscapes at a large scale in the central Gawler Craton, based on digital elevation model (DEM) data that displays the 'raw' variability of the landscape surface. A computer-assisted workflow was applied to assist with making more objective, time efficient interpretations than previous maps based on domain expert interpretations. This study also aimed to understand the relationship between the basement fabric and the cover's variability in the central

Gawler Craton, and to delineate areas of particular interest in mineral exploration for surface geochemical follow-up (surface and basement lineaments, landscape domains and definition of targets).

Check out the article now online - [Central Gawler Craton Study](#)

## UPCOMING CONFERENCES AND EVENTS



**23-24 June – Exploration Through Cover: Fundamentals of Regolith (with an introduction to Exploration Geochemistry)** NEXUS Online workshop with limited places, Presented by Carmen Krapf, Ignacio González-Álvarez and Richard Lilly  
[REGISTRATION OPEN NOW!](#)

**23-27 May 2022 - EGU General Assembly, Vienna, Austria**

**1 - 15 July 2022 – Goldschmidt 2022, Hawaii, USA** <https://2022.goldschmidt.info/goldschmidt/2022/meetingapp.cgi>

**26 - 30 Sept 2022 – 19<sup>th</sup> Biannual Conference Australia and New Zealand Geomorphology Group (ANZGG), Alice Springs** Postponed due to Covid – new conference dates! See <http://www.anzgg.org/conferences> for more information.

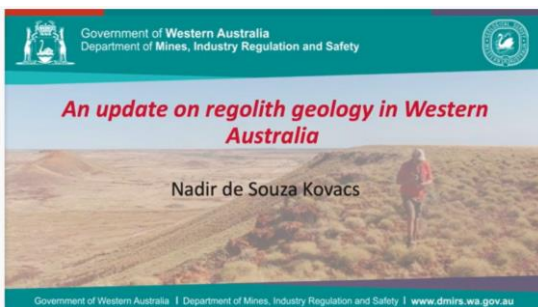
**16 -22 Oct 2022 - International Applied Geochemistry Symposium, Chile** <https://iags2021.cl/>

**21-23 Nov 2022 - Australasian Groundwater Conference – Perth.** The Scientific Committee for the upcoming Australasian Groundwater Conference are pleased to invite abstract submissions for inclusion in the 2022 program. Abstracts and Registration now open, Early Bird Registration Deadline 22 September 2021

**12-16 December 2022 - AGU Fall Meeting, Chicago, USA**

**TBC 2023 – Australian Earth Sciences Convention, *Reimagining the Earth Sciences*, Perth**

## REGOLITH SCIENCE ON THE WEB



### **SPOTLIGHT ON REGOLITH AT GSWA OPEN DAY 2021**

Nadir de Souza Kovacs, Senior Geologist presented an update on regolith geology research in Western Australia at the Geological Survey of Western Australia at their December Open Day last year -

<https://www.youtube.com/watch?v=NORXentUxb0>

## FREE ONLINE PUBLIC LECTURE

Prof Peter Cook will be presenting a 30-min groundwater talk on World Water Day Tuesday, 22nd March 2022. This presentation will cover the essentials of groundwater and is aimed at anyone who would like to know more about this underground resource. Peter will explain how much there is. How much do we use? How old is it? How fast is it replenished and how is it managed? We encourage you to circulate the lecture details to interested parties within your network i.e., community groups. **Groundwater – The invisible resource** will be presented on UN World Water Day on Tuesday, 22nd March 2022. The link to the lecture will be available on the [Flinders University/Water webpage](#).

## ULTRAFINE SOIL SAMPLING FOR MINERAL EXPLORATION

Analysing ultra-fine particles in soil is helping mineral explorers cost-effectively survey vast areas and narrow down new prospective targets. <https://www.csiro.au/en/work-with-us/industries/mining-resources/exploration/sampling-methods/ultrafine-gold>

## ARGA EDUCATIONAL RESOURCES

The internet hosts so many great resources for teachers, communicators and educators. Here are just a few great regolith-related resources recommended by the ARGA Committee. Think we have missed something? Please send in for inclusion in the next newsletter:

- **Ancient Odysseys** - A new resource for people who are interested in participating on active, research-based paleontology and archaeology fieldwork around the world. Each of the dig sites you'll find on Ancient Odysseys provides all the training and tools for you to work right alongside the scientists and researchers out in the field. More info [here!](#)
- **Earth Futures Festival** - An international film and video festival showcasing the role of geoscience in our sustainable future: <https://www.earthfuturesfestival.com/>
- **Global Schools Program** - a new initiative to support UNESCO's Global Action Program on Education for Sustainable Development, aims to generate interest about sustainable development in schools in an effort to educate and engage students with SDGs: <https://www.globalschoolsprogram.org/>
- **Curious Minds** – this organisation empowers girls who are passionate, high performers in Science, Technology, Engineering, and Mathematics (STEM) to explore their full potential, through a six-month hands-on extension and mentoring program: <https://curiousminds.edu.au/>



## KEEPING UP TO DATE WITH ARGA



ARGA Facebook page

<https://www.facebook.com/groups/10150125426600193/>



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



NEW! ARGA is on INSTAGRAM!

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Would you like to contribute? Suggestions and feedback to: Anna Petts [secretary@regolith.org.au](mailto:secretary@regolith.org.au)