## AUSTRALIAN GRANITE DATABASE: A CASE STUDÝ FOR LARGE SCALE DATABASE DEVELOPMENT



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### DATABASE AND GIS

#### DATABASE (DB)

- Easy access to large amounts of data.
- Data safety, integrity and standardisation.
- Information sharing between many users.
- Manipulation of complicated information.
- Can manage a large amount of data in a single software.
- Prevention of data duplication, dispersion and corruption is easier.

#### GEOGRAPHIC INFORMATION SYSTEM (GIS)

- Traditional map drawing and analysis process can be replaced by GIS & Saving time and increasing usability.
- Increases efficiency in all geoscience areas including exploration and mining, assessing environmental impact, and geological mapping.
- Well-designed DB and GIS management structure is fundamental for successes in any earth-related activities.

### GRANTE DATABASE

#### INTRODUCTION

The aim of this project was to create a single spatial database of felsic and intermediate intrusive rocks for Australia.



The database will be critical for targeting granite related mineral systems including tin and lithium. Currently the available granite mapping is variable between states and is not well attributed with information relevant to identifying these mineral systems.

The Australian Granite Database combines data from geology mapping undertaken by each state into a single country wide dataset that is attributed with information from the original mapping, the Australian Stratigraphic Database, and other spatial and non-spatial sources.

This project shows that continuous improvement is needed to make spatial datasets fit-for-purpose particularly for large scale projects.

FOR NOW & FUTURE

### PROJECT STAGES

# DATA COMPILATION

- Gathering existing data
- Reviewing and comparing data
- Editing data



GranTinHardRock

GranBisHardRock

GranMolyHardRock

GranTungHardRock

Sio2\_min

Sio2\_max

Sio2\_mean

K2o\_min

K2o\_max

K2o\_mean

Na2o\_min

Na2o\_max

Na2o\_mean

Lith desc

Lith\_desc2

Complex

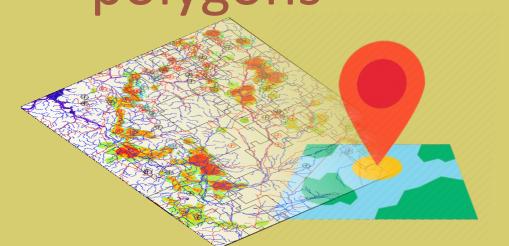
Lith\_group

Supersuite

Form even

#### 2 SPATIAL DATA

- Selecting features
- Integrating datasets
- Cleaning polygons



# 3 DATABASE CREATION

- Designing DB
- Formatting data
- Adding attributes
- Data integration



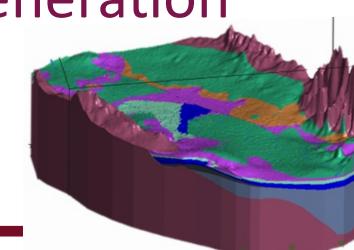
# DATA VERIFICATION

- QA/QC data
- Final edits
- Populating DB



# USING THE DATABASE

- Modelling (2D & 3D)
- Exploration targeting
- Project generation



### RESULTS

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## The development of the Australian Granite Database is an example of how we can improve geospatial data on a large scale.

The database aids project generation for critical mineral deposits needed for green technologies.

GIS databases are an important tool to add value and improve decision making and management of projects.

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