INTERNATIONAL GEOHERITAGE SYMPOSIUM 2026

Unlocking Digital Transformation in Geoparks

Global digital study · Australian Geotourism Discovery Platform · Learnings from Australia

Photo: Pennicott · Cape Raoul

Dr Mark Williams

University of Tasmania | 21 October 2026

SYMPOSIUM HOSTS

국가지질공원 NATIONAL GEOPARKS OF KOREA

기후에너지환경부 Ministry of Climate, Energy and Environment

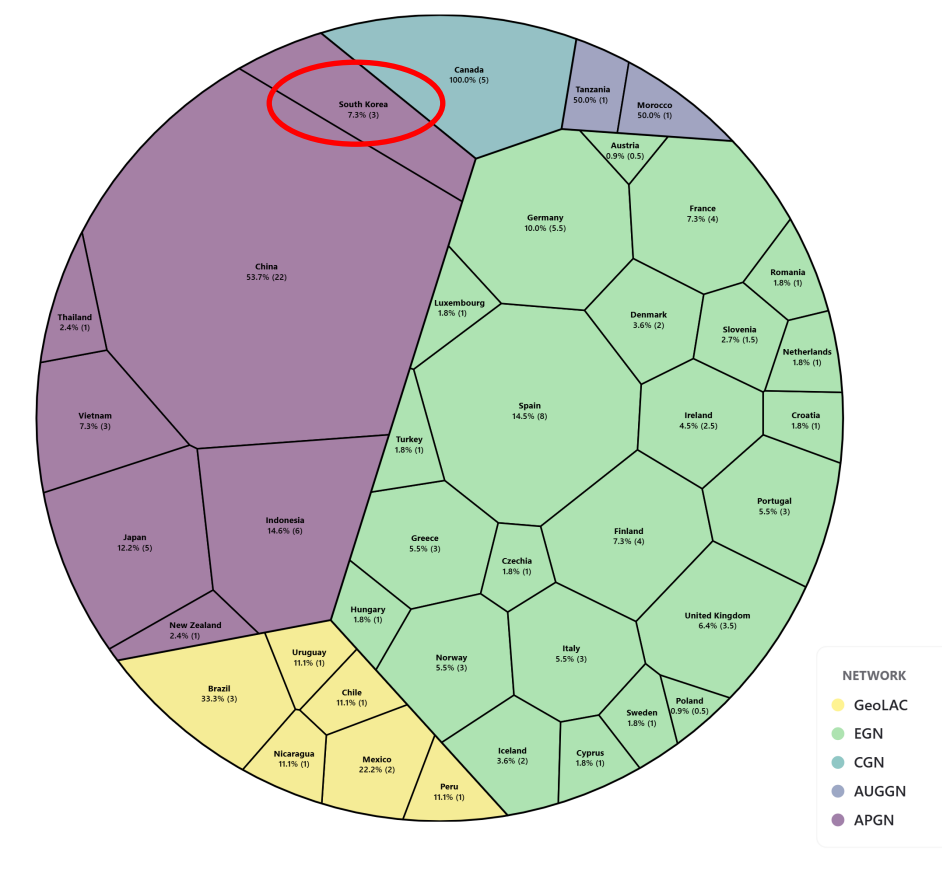
RESEARCH PARTNER

Australian Geoscience Council

UNIVERSITY of TASMANIA

Tasmania

A global perspective on digital transformation



112

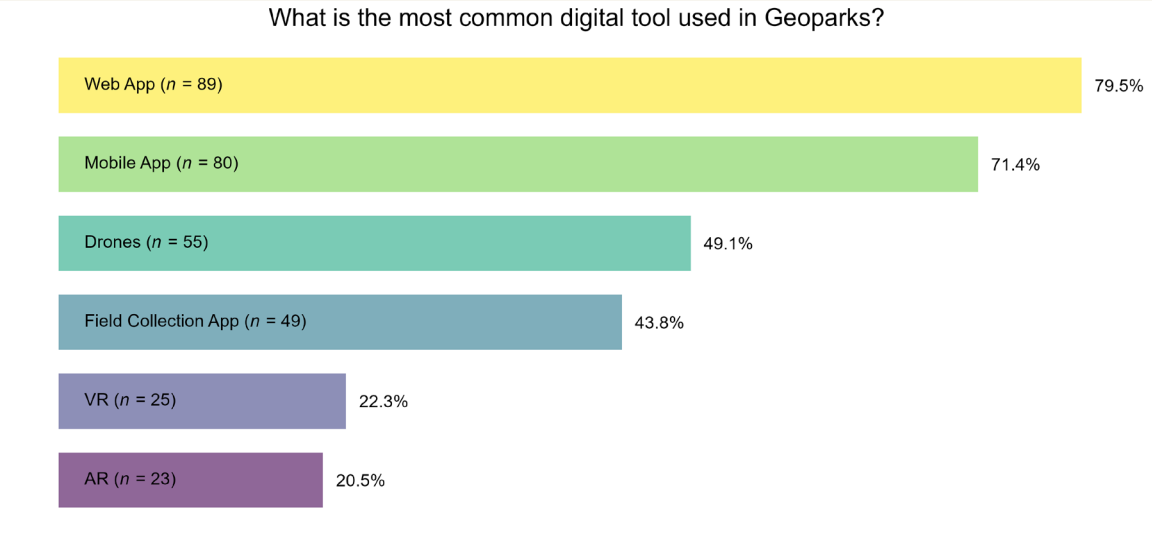
UNESCO Global Geoparks

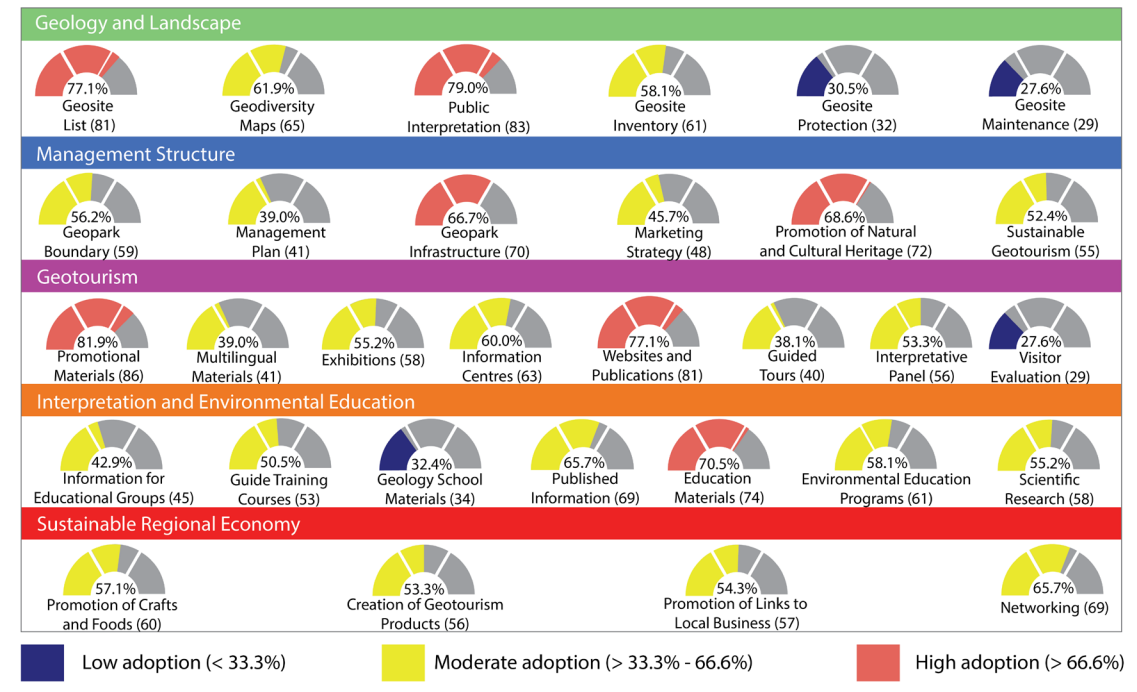
40

countries represented

Williams et al. (2026) · DOI: 10.1016/j.ijgeop.2026.100303

Digital adoption is widespread — but uneven





Williams et al. (2026) · DOI: 10.1016/j.ijgeop.2026.100303

Digital transformation depends on more than technology

PEOPLE & CAPABILITY

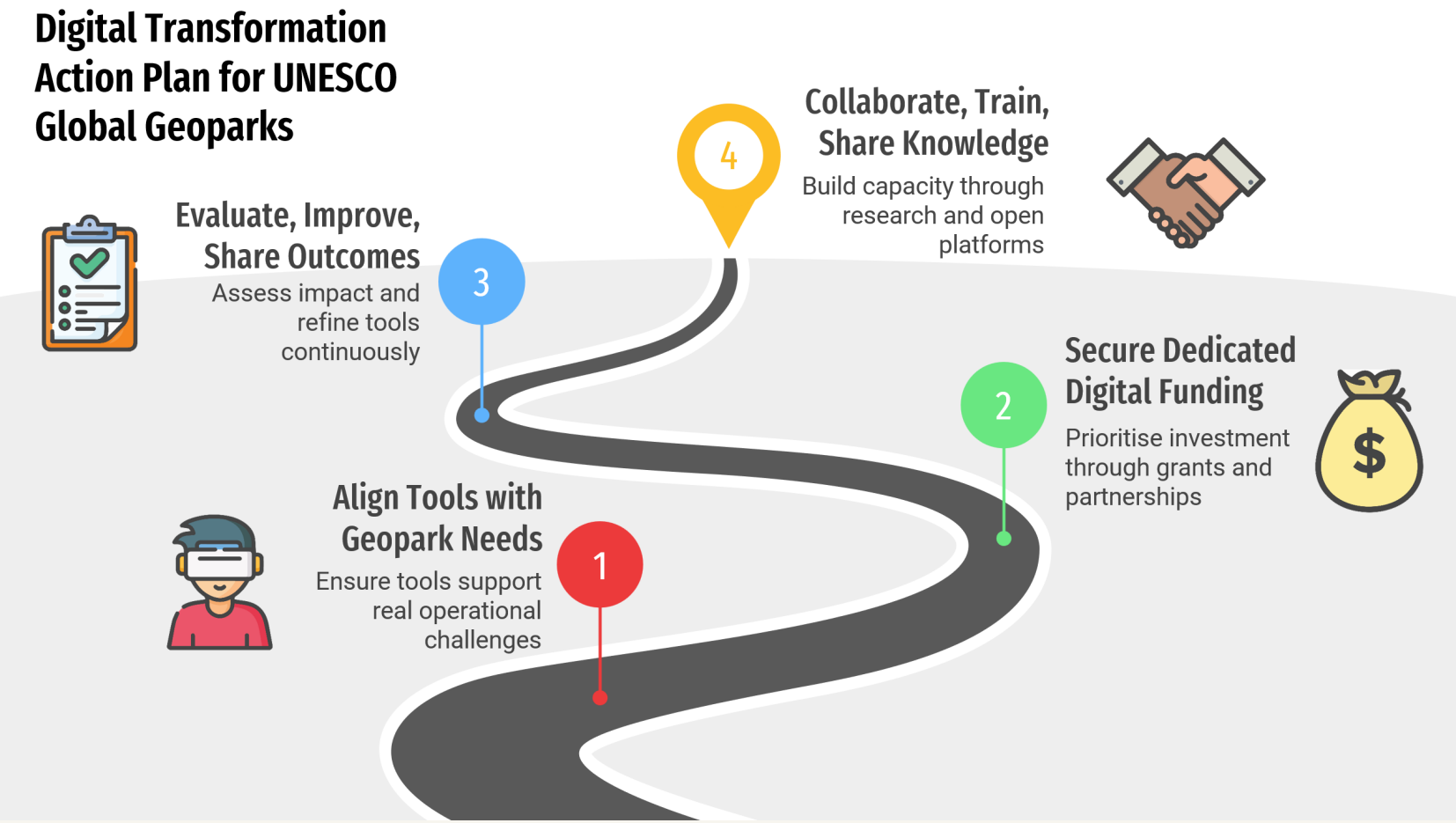
Staff experience and technological awareness influence adoption.

ORGANISATIONAL CONTEXT

Usage frequency, geopark size, age and revalidation stage are associated with specific tool uptake.

Invest in digital skills and organisational capacity — not just new tools.

Moving beyond adoption requires a plan



Adapted from Williams, Digital transformation in geoparks (PhD thesis)

Australia's geoheritage information is fragmented

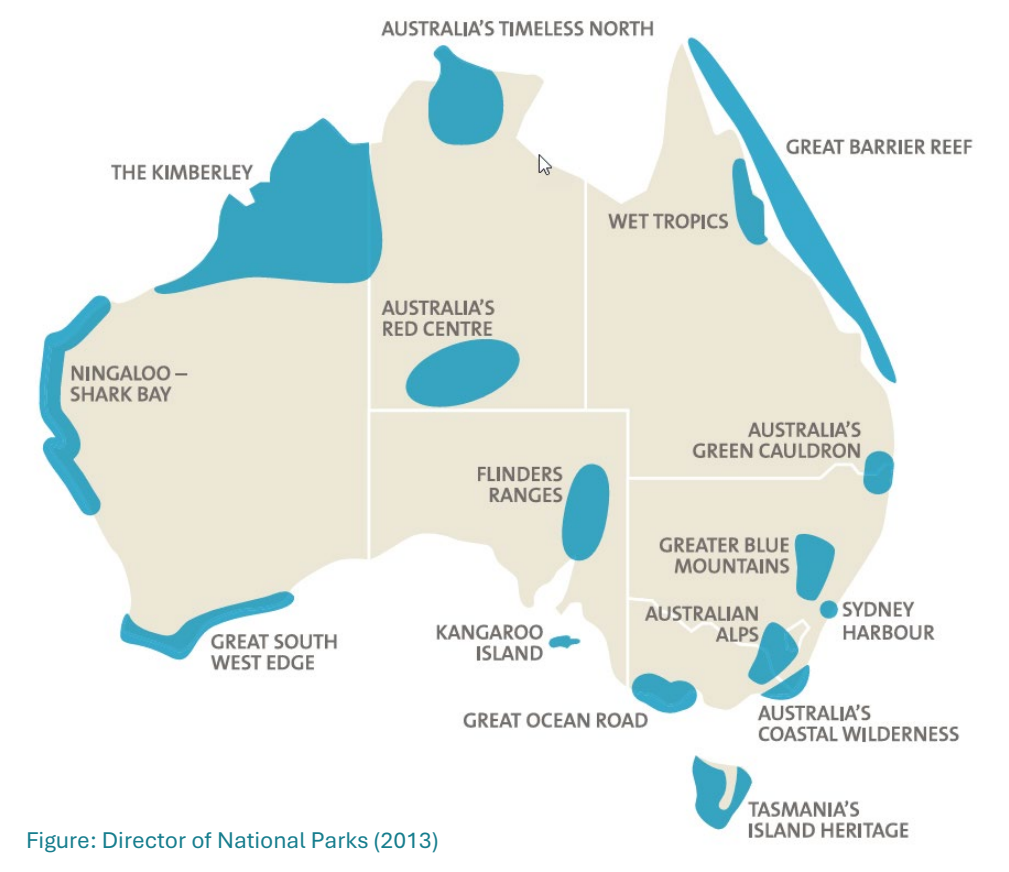
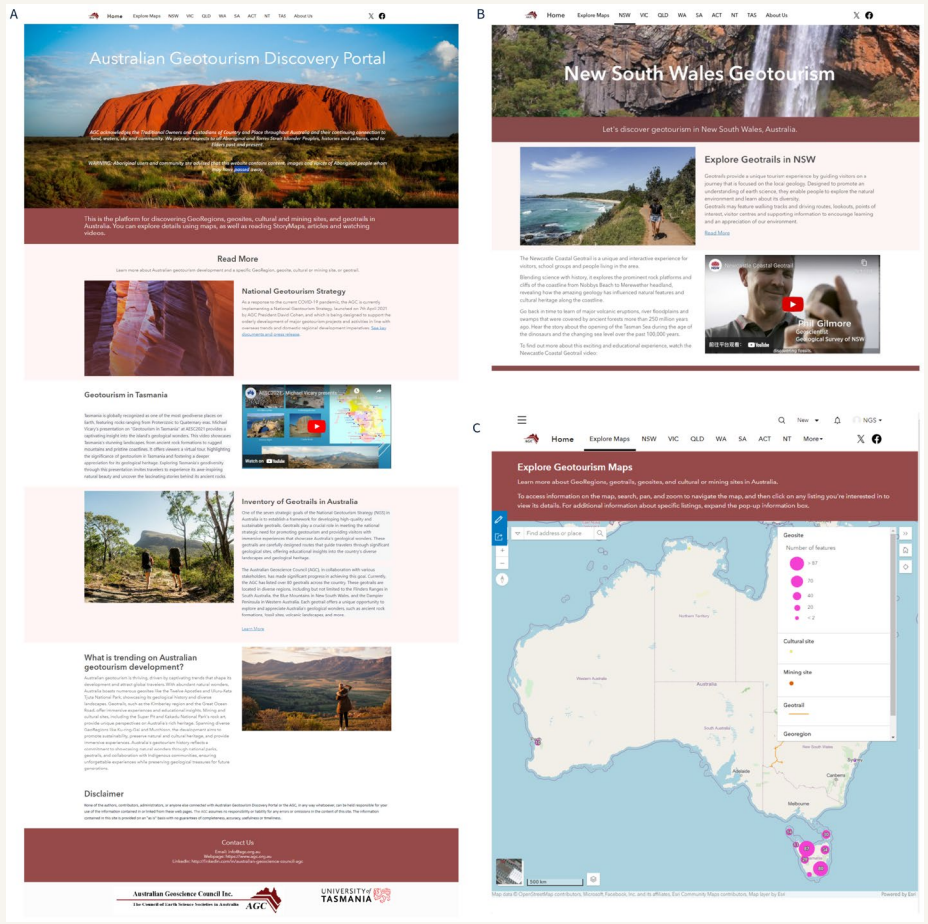


Figure: Director of National Parks (2013)

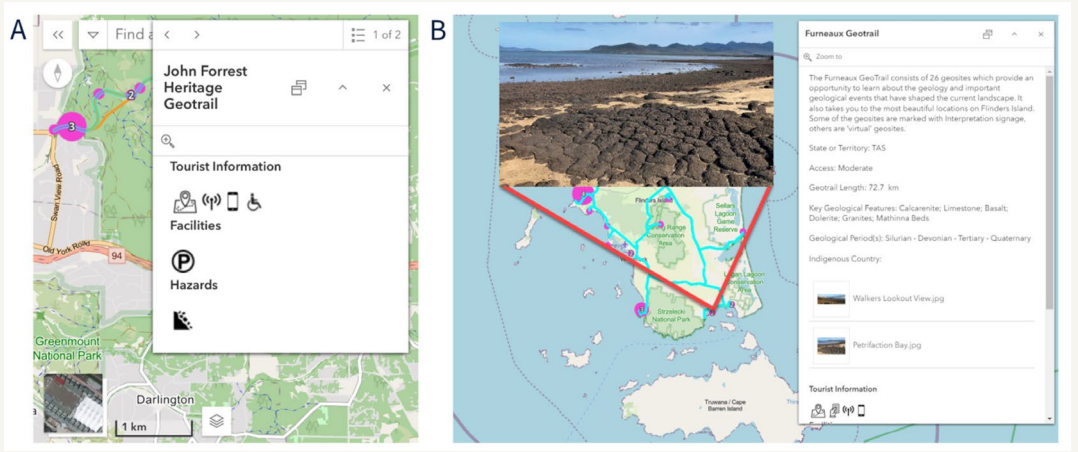
7.69 million km^2

- 680+ national parks
- 21 World Heritage properties
- ~15,000 protected areas
- 3 GeoRegions
- 5,000–10,000 geosites nationally (estimate)
- > 1000 geosites in Tasmania

The Australian Geotourism Discovery Platform

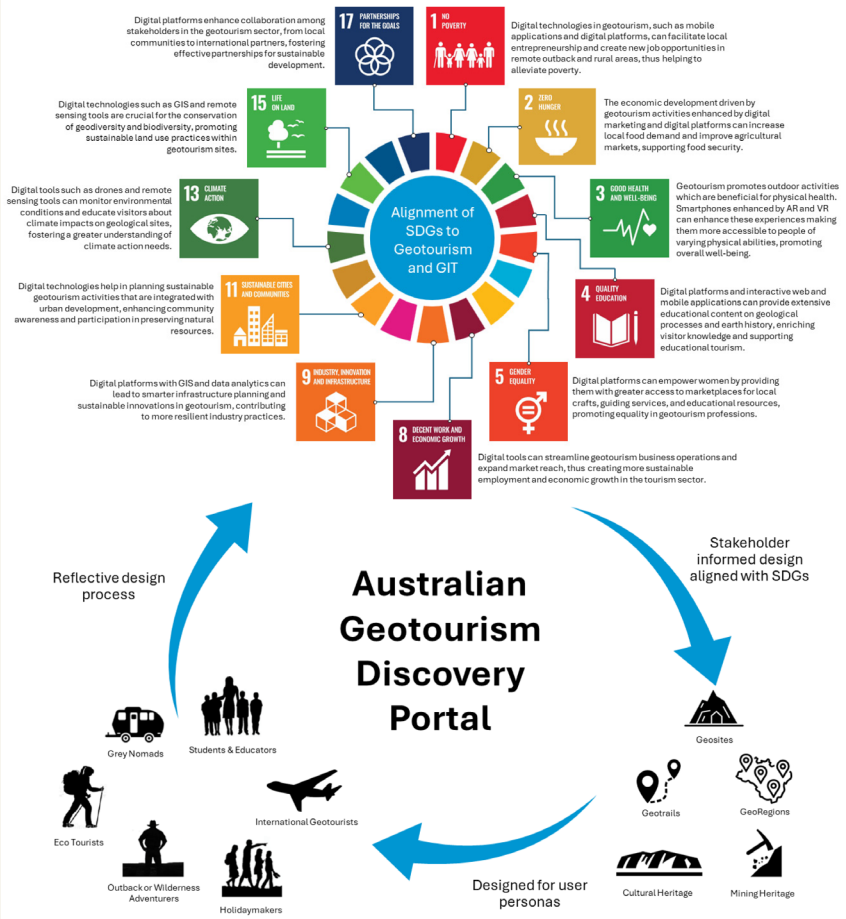


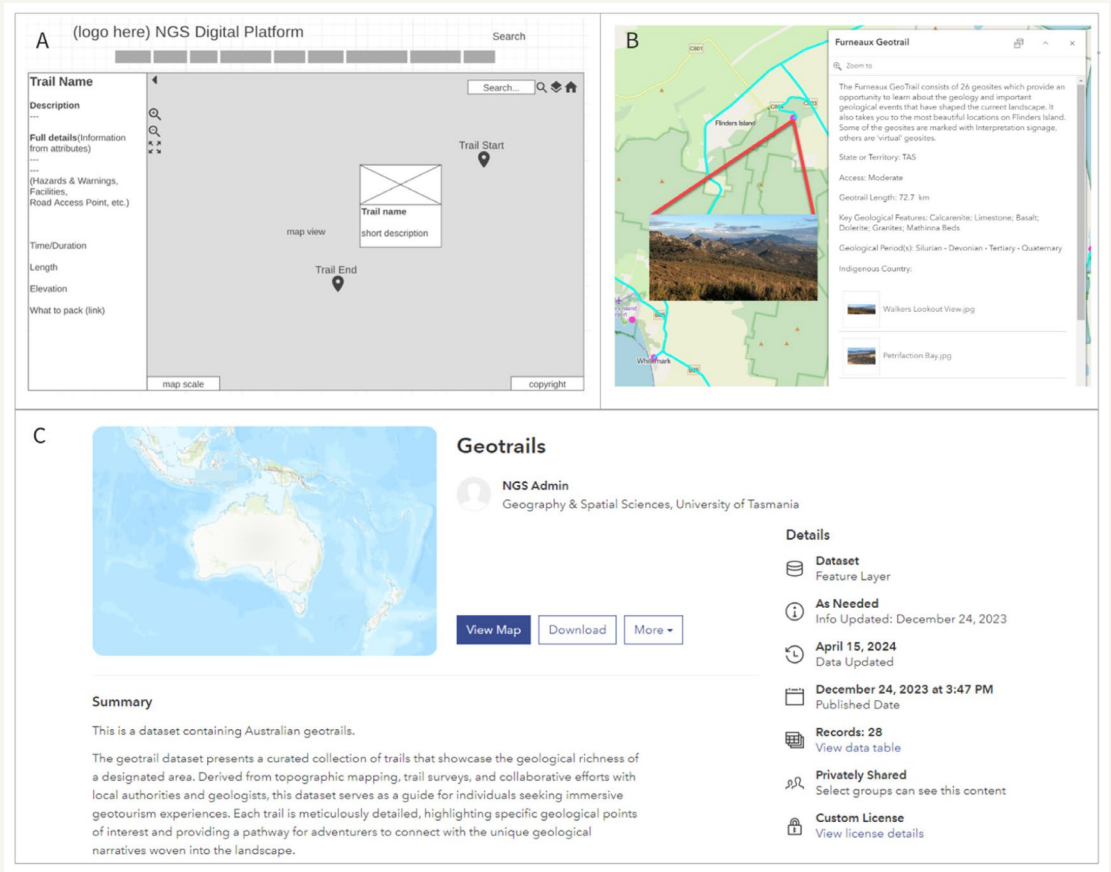
A national, public-facing gateway for geosites, geotrails and related heritage.



Williams et al. (2024) · DOI: 10.3390/su16135482

Designed with stakeholders and users





Williams et al. (2024) · DOI: 10.3390/su16135482

From inventories to geotourism experiences

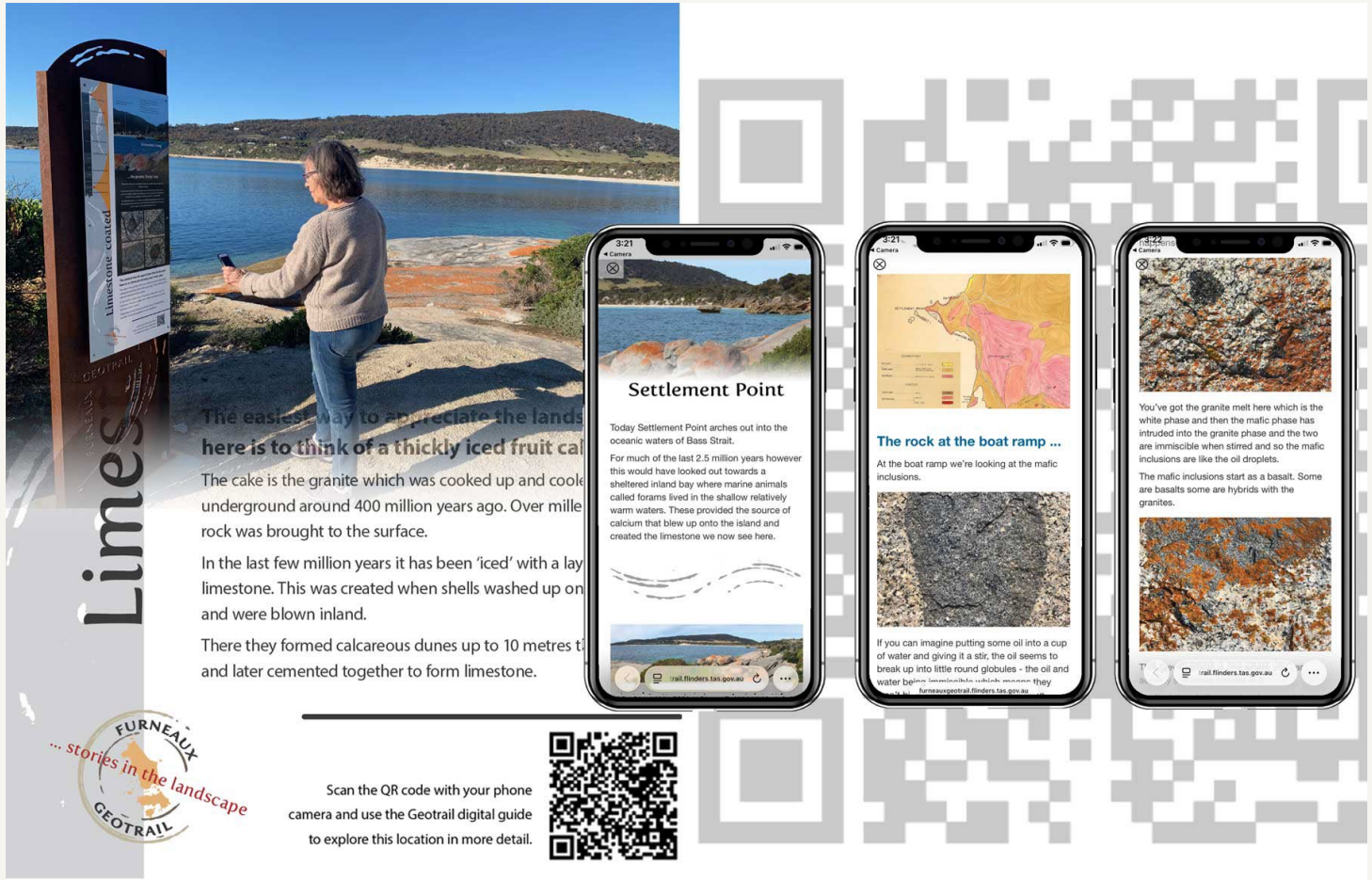
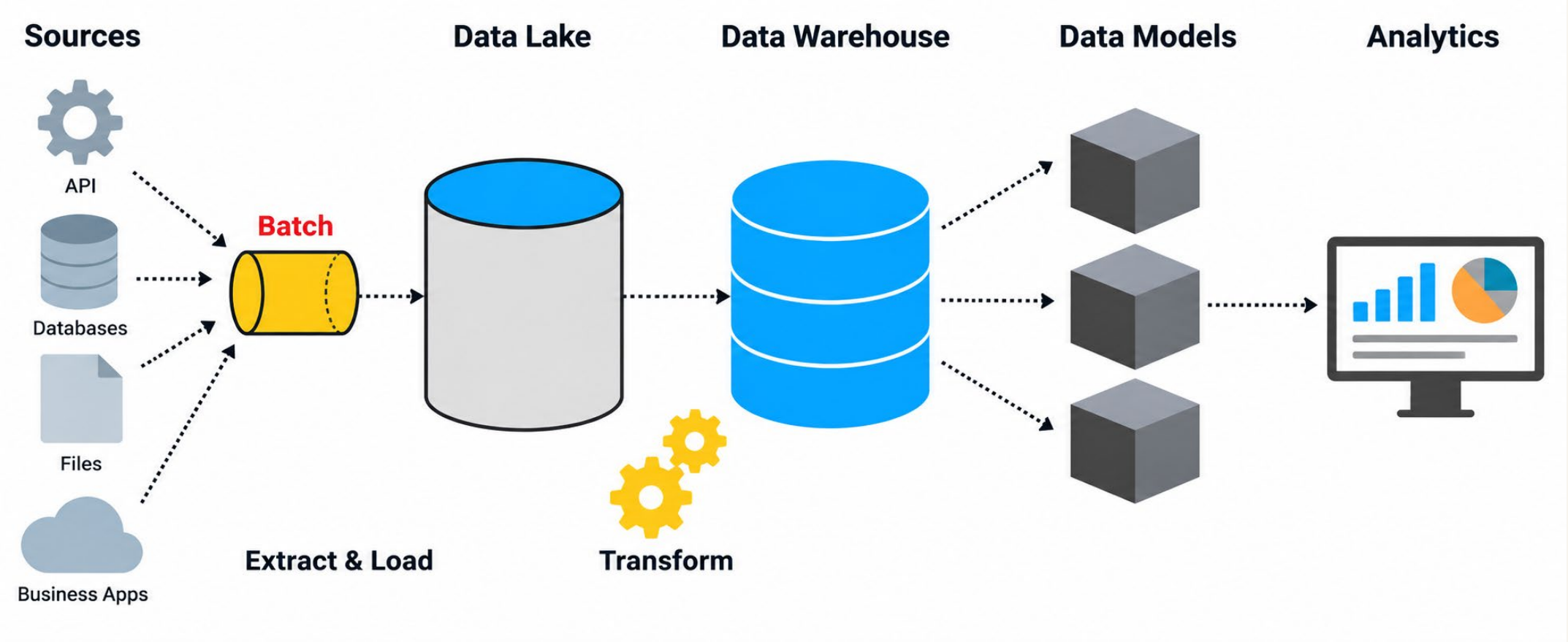


Image: Nature Tourism Services · Digital wayfinding and interpretation

Building the platform is only the beginning



What might these learnings mean for Korea?

Figure: Mudeungsan Geopark website

National geoheritage inventory

Curated 2014 - 2025

1,000+ geosites

Images: National Heritage Portal

Five lessons for sustainable digital transformation

01 User-informed design

02 Common data standards

03 Invest in curation

04 Digital skills & capacity

05 Collaborative governance

Curate information for the people who will actually use it.

Williams et al. (2024) · DOI: 10.3390/su16135482

AI-assisted curation: an emerging opportunity

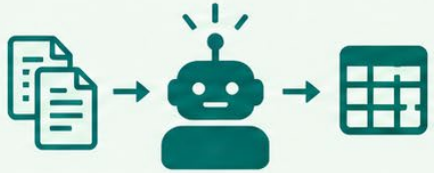
1. INPUT & CONTEXT

Collect and compile information

- Published literature and reports
- Government and georegion data
- Official websites and tourism sources
- Existing geosite, geotrail and mining records

2. AI-ASSISTED CURATION

Research, extract and structure



- Searches and summarises sources
- Extracts relevant geosite, geotrail and mining/cultural information
- Populates a agreed data schema
- Generates geospatial geometries (points/lines)

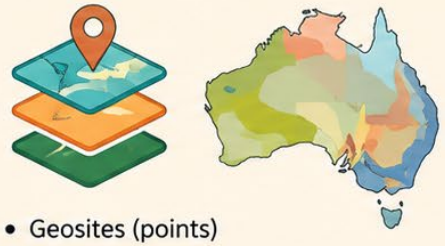
3. EXPERT REVIEW

Check, validate and refine

- Subject matter expert review
- Check accuracy, completeness and sources
- Resolve flagged items
- Edit and validate attributes and geometries

4. CURATED DATASET

Standardised, trusted and ready to use



- Geosites (points)
- Geotrails (lines)
- Mining and cultural sites (points)
- Standardised schema and symbology
- Ready for mapping, analysis and applications

THE AI-ASSISTED DATA CURATION LOOP

Iterative improvement as new data, feedback and tools become available

1. COLLECT
New data and sources

2. CURATE
AI-assisted extraction and structuring

3. REVIEW
Human validation and feedback

4. PUBLISH
Release curated data for use

5. APPLY
Mapping, analysis, planning and outreach

6. IMPROVE
Incorporate feedback and new sources

THE NEXT STEP

Connect knowledge, people and places through digital transformation

For conservation, education and sustainable geotourism

Thank you · Dr Mark Williams

Image: OntheGoTours · Jeju Island