IMPACT EVALUATION

Spatially enabled planning - Indigenous Estate

Project: AT.4.2223009
Integrating Indigenous priorities in spatially enabled planning of the Indigenous Estate

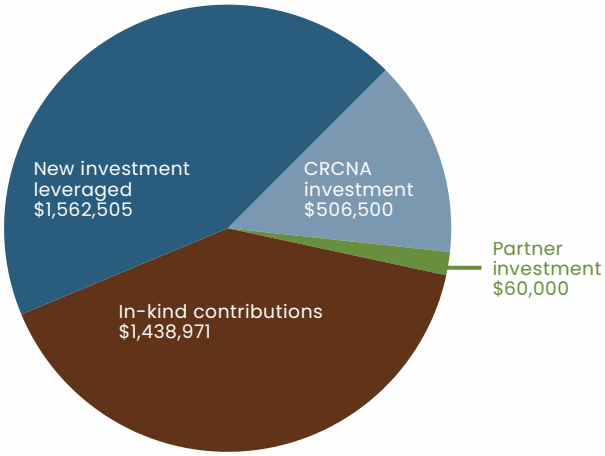
Research program:
4 - Activating the First Nations Estate

Project timeframe:
2023 to 2026

Partners:
- Anindilyakwa Land Council
- Aerometrex
- Geoscience Australia
- Australian National University

Project locations:
Groote Eylandt and the Groote Archipelago, Northern Territory

Project return on investments:



Return on investment to date has been at least a 7.1 times return on the CRCNA's investment of $506,500.

Jobs created:

7.5 FTE years during the 3 year project

Project summary:
The Integrating Indigenous priorities in spatially enabled planning of the Indigenous Estate project strengthened the Anindilyakwa Land Council's (ALC) capacity to manage land, sea and cultural assets across the Groote Archipelago through community-controlled spatial data and planning tools.

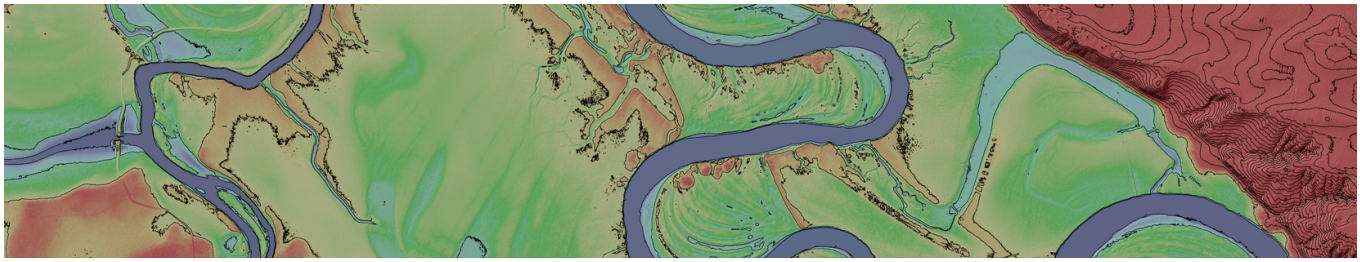
Working with research and technical partners, the project integrated high-resolution aerial imagery, LiDAR, terrain modelling and cultural knowledge into a spatial information system that supports planning and decision-making.

Aerial survey data covering approximately 3,375 km² provides an important evidence base for land and sea management, infrastructure planning, environmental monitoring and climate adaptation.

The project demonstrated how advanced geospatial technologies can be applied in ways that respect Indigenous knowledge, cultural priorities and data sovereignty.

Its achievements include strengthened local technical capability, new research partnerships and recognition through the 2024 NT Geospatial Excellence Award for Community Impact.

The approach provides a valuable model for other First Nations communities across northern Australia.



Project impacts to date

First Nations capability and decision-making

- Established a community-led geospatial information system integrating Traditional Owner cultural priorities and knowledge into land and sea planning.
- Delivered high-resolution aerial imagery, LiDAR and spatial datasets covering approximately 3,375 km² of the Groote Archipelago.
- Strengthened the ALC's capacity to independently access, manage and apply spatial information to inform decisions affecting Country.
- Created employment through community data, engagement and project support roles.

Reduced costs

- Established reusable spatial datasets, reducing duplication of surveys and data collection across multiple projects.
- Delivered efficiencies in infrastructure planning, archaeological research, cultural heritage assessments, ranger activities and environmental monitoring.

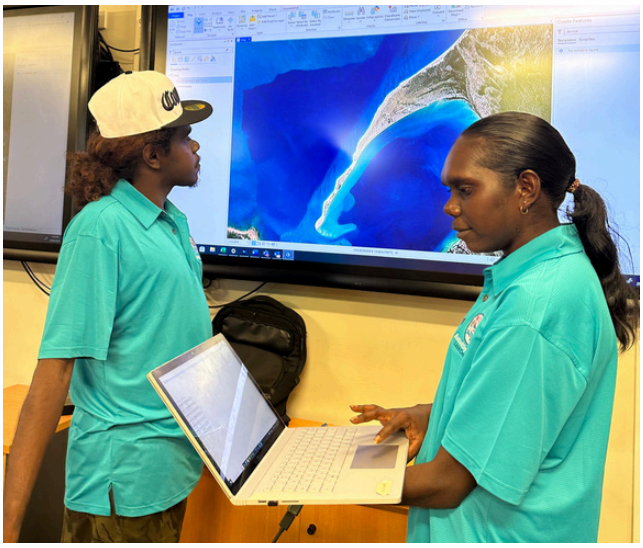
New investment facilitated

- Strengthened the ALC–Australian National University research partnership, contributing to approximately $1.56 million in subsequent cash and in-kind research funding.
- Established a foundation for further research collaboration and investment in Indigenous-led geospatial capability and planning.

Education outputs

- Two postgraduate research students were directly involved through the Australian National University.
- One Honours student researched the application of story maps to Indigenous community planning and cultural preservation.
- One Masters student investigated sea-level rise and coastal risk mapping for Anindilyakwa Country.
- One student subsequently gained employment as a GIS Officer with a northern Australian land council.

The project also supported training and technical skills development through participatory mapping, GIS and photogrammetry activities, workshops with Aerometrex and Geoscience Australia, and knowledge exchange with other Indigenous organisations.



Josh Mamarika and Danelle Bara



Wellbeing improved

- Strengthened Traditional Owner participation and cultural authority in decisions affecting Country.
- Improved the documentation and protection of culturally significant places through participatory mapping and story maps.
- Supported intergenerational knowledge transfer by incorporating Anindilyakwa cultural knowledge into spatial planning tools.
- Improved environmental management and climate resilience through coastal erosion, sea-level rise and cultural values mapping.
- Received the 2024 NT Geospatial Excellence Award for Community Impact, recognising the project's community-led approach.

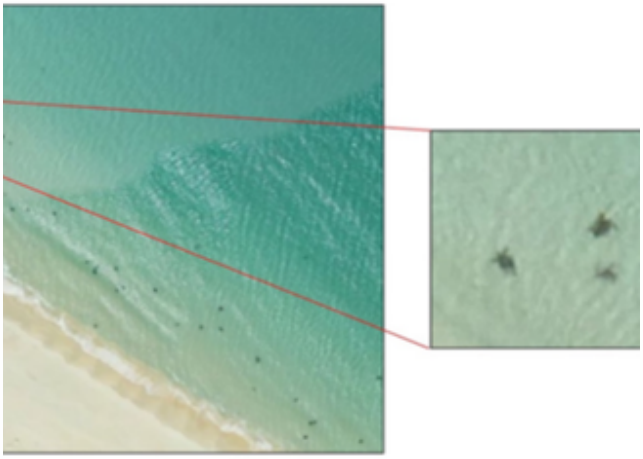


The ranger and data unit team sketch mapping cultural priorities for the sea country management plan.

Projected impacts beyond 2026

- Integration of spatial datasets into ongoing ALC operations, including the Sea Country Management Plan, ranger programs and cultural heritage management.
- Application of coastal risk and environmental data to future climate adaptation, disaster resilience and infrastructure planning.
- Potential new economic development opportunities, including aquaculture, supported by reliable spatial information and planning tools.
- Continued research collaboration and investment to expand local geospatial capability and employment opportunities.
- Adoption of the project's Indigenous-led geospatial planning approach by other First Nations organisations across northern Australia.

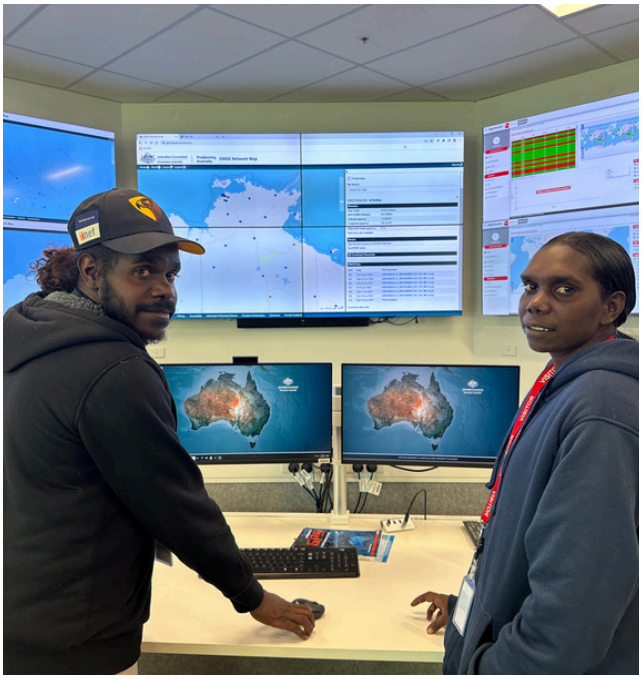
Access full project details, video and reports:
crcna.com.au/projects/integrating-indigenous-priorities-spatially-enabled-planning-indigenous-estate/



Aerial survey images of turtles and crocodiles









CRCNA
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Australian Government
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Research for **sustainable** and **inclusive** development of **northern Australia**.

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This impact assessment has been developed in collaboration with the CRCNA and project partners. It draws on project reporting, stakeholder input and available evidence to assess project outcomes and potential longer-term impacts. Projected impacts are indicative and based on reasonable assumptions at the time of publication. Information contained in this assessment was considered accurate at the time of publishing.