

Spatial data: The digital Australia



Geoscape

By PSMA Australia

Reliable. Affordable. Accessible.

Australia at your fingertips.

Geoscape spatial data delivers a clear picture of our complex cities, regional centres and rural communities as they change.

15 million buildings

14 million addresses

15 million land parcels

1 million swimming pools

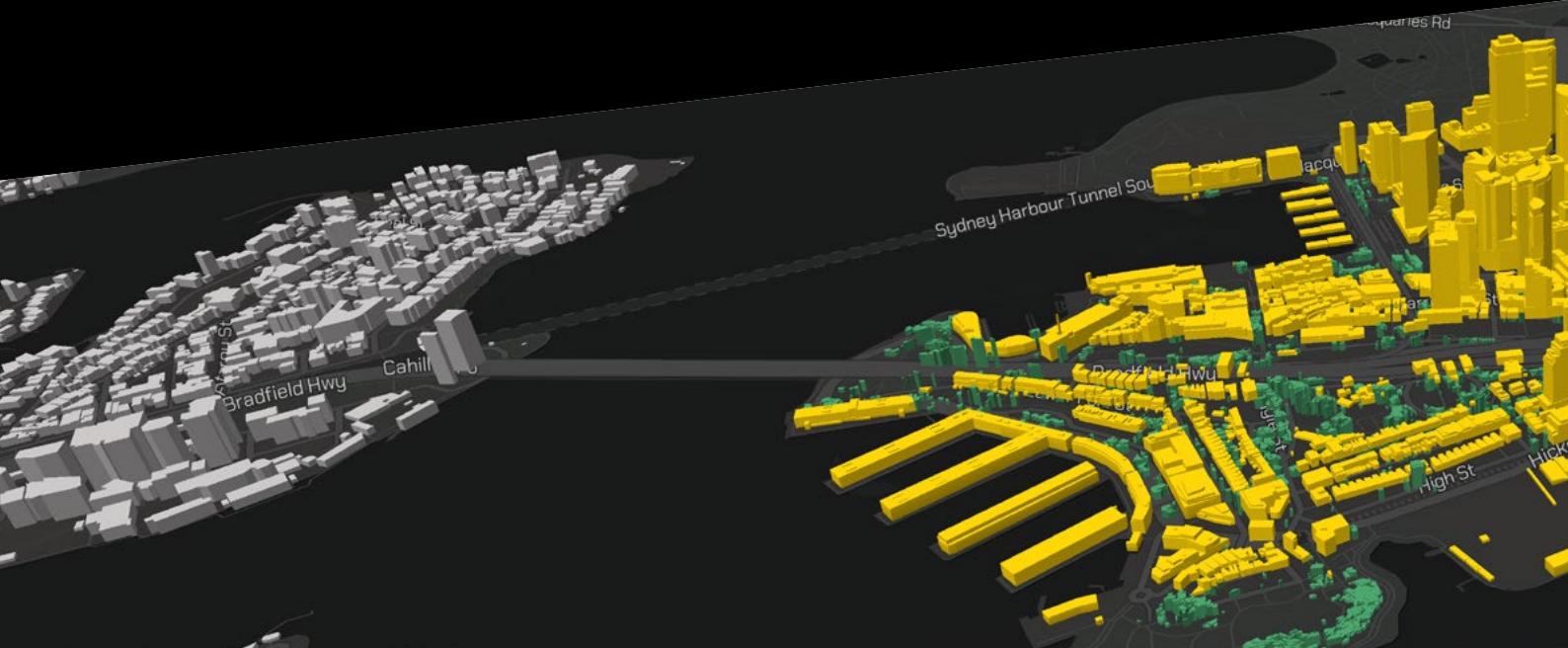
1.1 million solar panel installations

2.7 million kilometres of roads

land & tree cover across Australia

Geoscape data is **unique**.

It represents the buildings, land, transport networks and more across Australia's 7.6 million square kilometres. It's the spatial data you need to enhance your analysis and decision making.



Australia captured at unprecedented scale.

Geoscape is Australia's digital twin – the big picture with every detail. It combines data derived from satellite and aerial imagery with data from other private and public sources, including the governments of Australia. It's continually updated. And with a variety of ways to access it, you'll find an option to suit you.

Geoscape is underpinned by our commitment to explore and map the nation. It's new, but not born yesterday.

Access spatial data on demand.

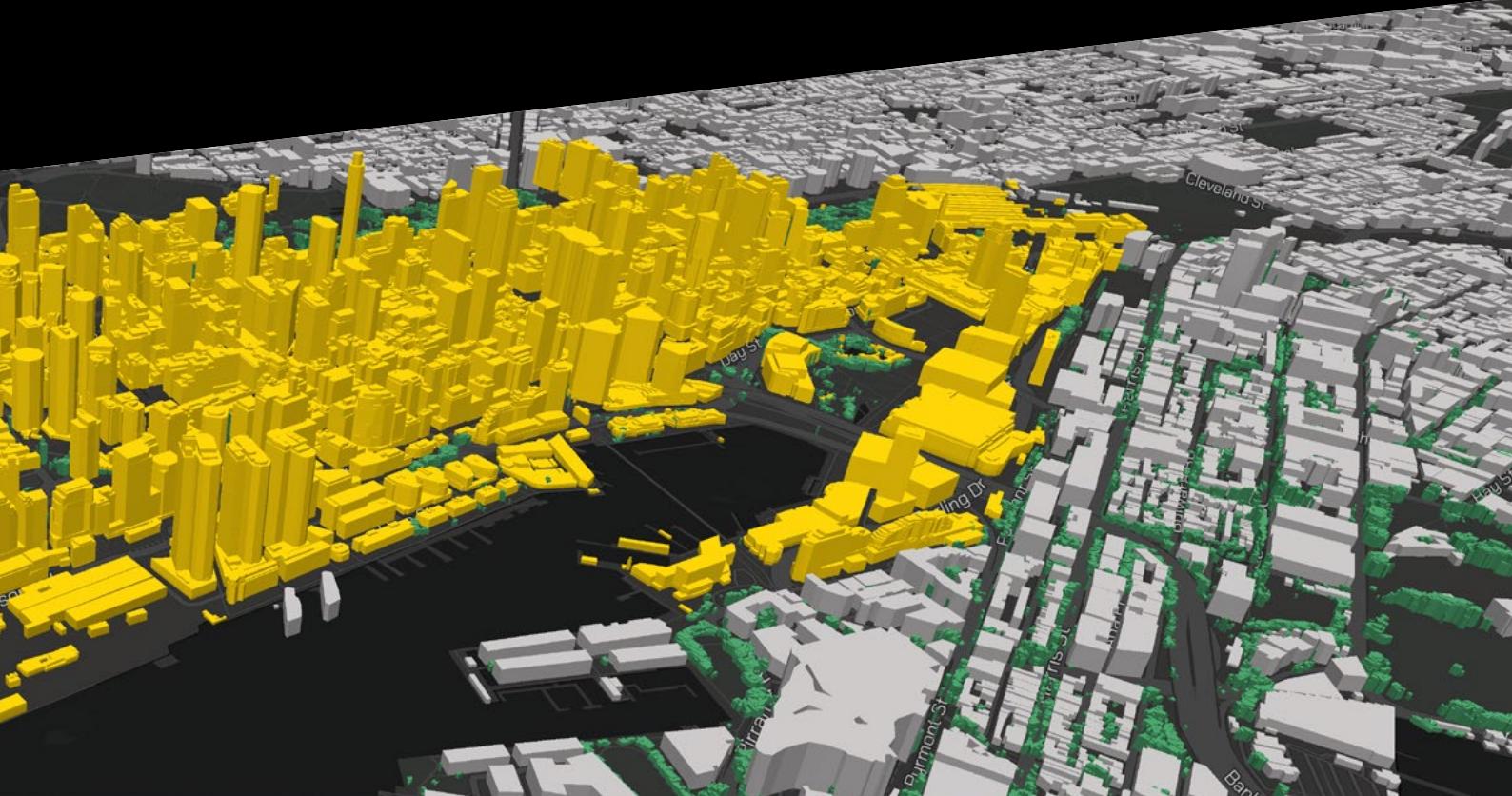
The data you need when you need it.

Solve problems. Identify opportunities.

Spatial data for your analysis and modelling.

Save time. Increase productivity.

Reliable data in a variety of industry standard formats.



5 reasons to choose Geoscape spatial data.

Access any part of Australia.

Geoscape covers the entire Australian continent. Wherever your area of interest, Geoscape has it covered – no matter how big or small.

Data that's relevant.

We deliver exactly the slice of data you need. Spend time using the data, not creating it.

Reliable from a single source.

Overcome the challenge of combining data sources fragmented by region and type. Get comprehensive data from a company that's owned by the governments of Australia.

Easy to use.

Geoscape data is packaged and ready-to-use in a variety of formats, consistently structured with a suite of integration options.

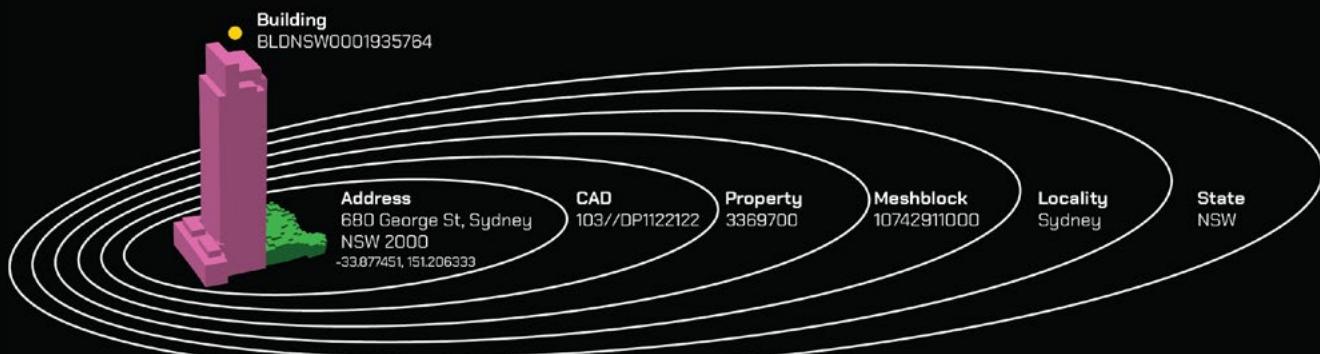
Improve your decision making.

Everything happens somewhere. Location-based analysis can reveal valuable insights. Embedding Geoscape data into your modelling or visualisations can reduce project delivery time and increase your clients' satisfaction.

Traverse a connected data ecosystem.

Links between Geoscape data features enable you to roll-up and drill-down to gain illuminating insights, such as:

- What buildings are at an address?
- What addresses are associated with a building?
- What buildings are located on a land parcel?
- What are the details of all buildings in a suburb?
- What buildings are in an ABS statistical area?





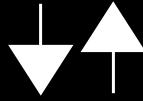
50% reduction in the cost of noise modelling

Using Geoscape buildings data, GHD more than halved the cost of developing noise models to identify areas affected by the proposed Port Kembla Gas Terminal. They'd previously manually drawn building footprints from satellite imagery.

We don't need to do any manual adjustments – heights, addresses, zones and categories are all part of the one shapefile, which we insert directly into the model.

Pri Pandey

Senior Acoustics and Vibration Modelling Engineer at GHD.



Increased productivity, reduced manual work

Windtech creates models of buildings and measures how they move in wind tunnel testing. Geoscape buildings data simplified and automated the process of gathering building outlines and heights and improved wind modelling productivity.

They had the specific geographical and building data we needed, and it integrated into our processes easily and effectively.

Marcel Bray

Project Engineer at Windtech Consultants



Address data integrity, improved service delivery

The Energy & Water Ombudsman NSW had data integrity issues from incorrect addresses entered into its online complaints form. Geoscape APIs now verify addresses as they're typed and add details to support the Ombudsman's reporting obligations.

The benefit of the API is we don't have to touch the source data – all changes including geographic boundaries are done for us. And we have greater options for analysis.

Janine Young

Energy & Water Ombudsman NSW

Geoscape enables you to do things with data you couldn't do before.

Applications

- Risk analytics
- Noise modelling
- Wind modelling
- Flood modelling
- Urban development
- Digital twins
- Mobile network design
- Navigation and logistics
- Emergency management and response
- Address verification
- Marketing analytics
- Customer acquisition

The depth and breadth of spatial data accessible with Geoscape is unprecedented.

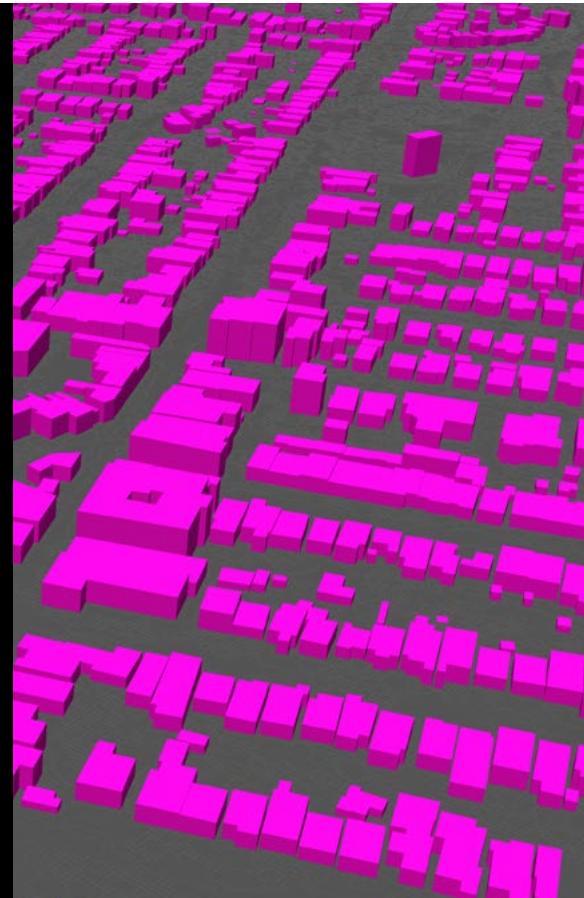


Buildings

Every building in Australia with a roof area greater than nine square metres – more than 15 million of them – is digitally represented in Geoscape Buildings.

Data attributes include location, outline, addresses, planning zone and ABS statistical area for all buildings. In urban areas and remote communities, additional building attributes include roof height, ground elevation and roof type.

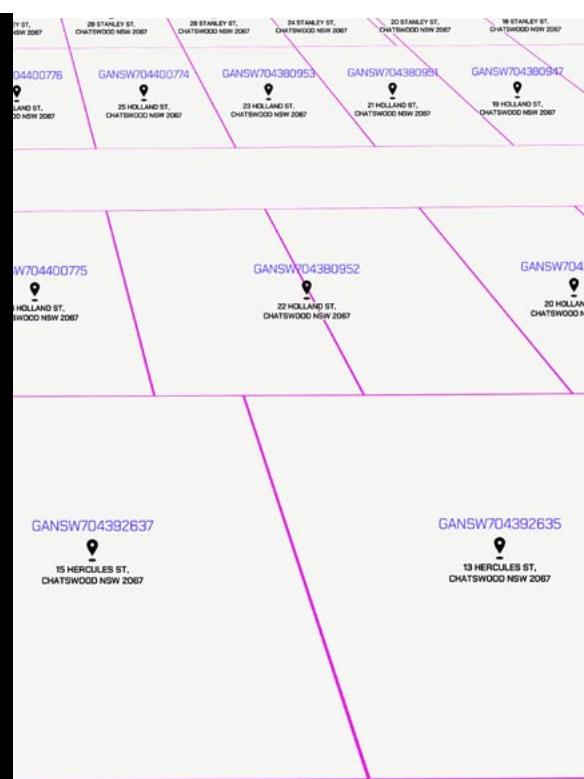
Accuracy	Coverage
Urban areas	Total: 7.6 million square kilometres Urban: ~ 42,500 square kilometres
▪ Horizontal: 0.2m to 2.5m	
▪ Vertical: 2m	
Rural areas	
▪ Horizontal: to 10.9m	





Addresses

For every physical address in Australia – more than 14 million of them – Geoscape Addresses contains a state, suburb, street, number and coordinates of latitude and longitude. It's continually updated and links to the Geocoded National Address File (G-NAF), the authoritative address database for Australia.





Surface cover

Geoscape Surface Cover describes the surface of the earth at any and every location in Australia. Classifications include bare earth, road and path, grass, trees, unspecified vegetation, built-up areas, water, buildings and swimming pool.

It is defined in urban areas at a 2-metre resolution and 30-metre resolution nationally.

Accuracy

Urban areas

- Classification correctness: above 90%

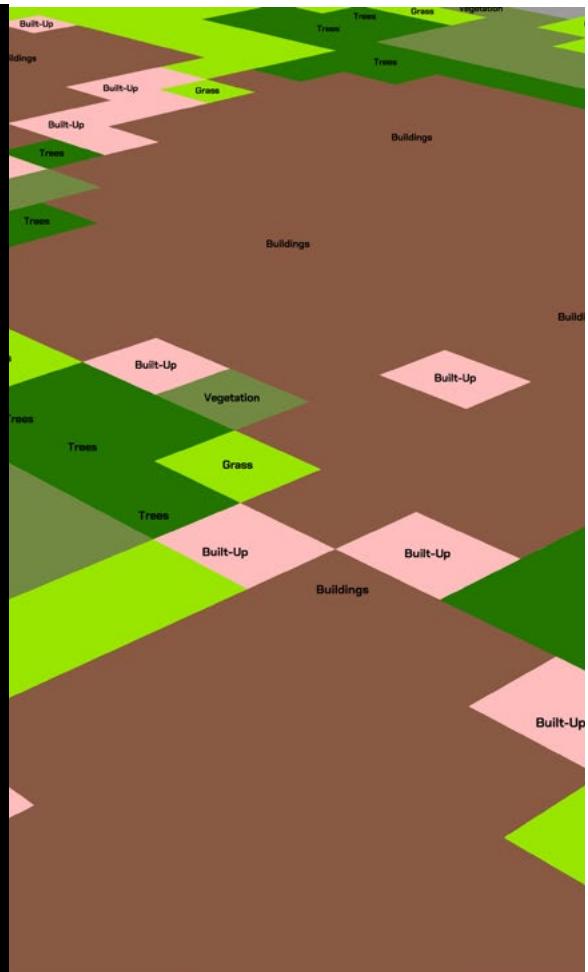
Rural areas

- Classification correctness: above 85%

Coverage

Total: 7.6 million square kilometres

Urban: > 50,000 square kilometres



Trees

Geoscape Trees represents tree cover and canopy height.

The integration between Geoscape Trees and Buildings provides value in identifying the risk of tree impact on a building.

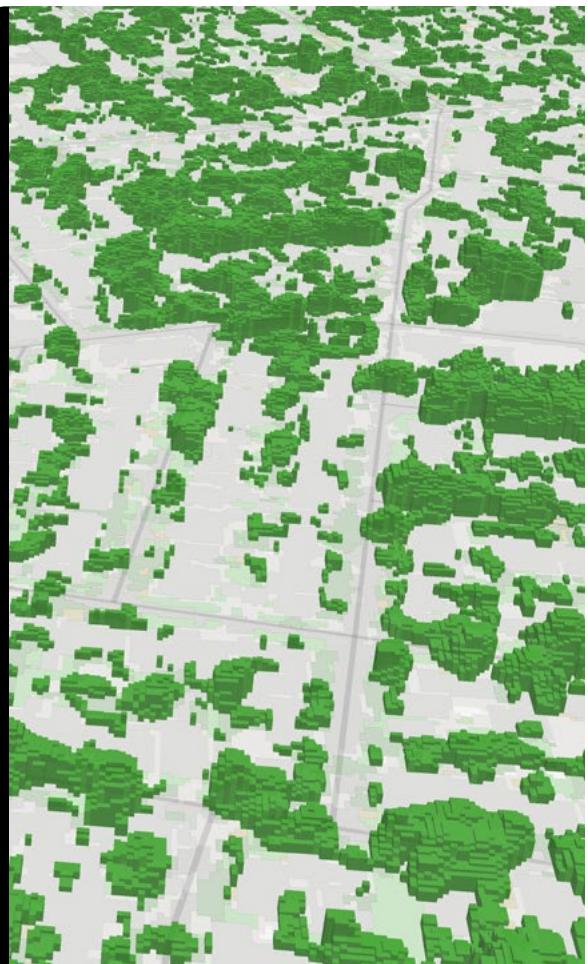
Tree data is defined in urban areas at a 2-metre resolution.

Accuracy

- Classification correctness: above 90%

Coverage

Urban areas





Solar panels

Geoscape Solar Panels indicates whether they're installed on a building at an address – valuable data for marketing analytics or managing distributed energy resources.

Accuracy

- Classification correctness [positive]: above 85%
- Classification correctness [negative]: above 90%

Coverage

Urban areas



Swimming pools

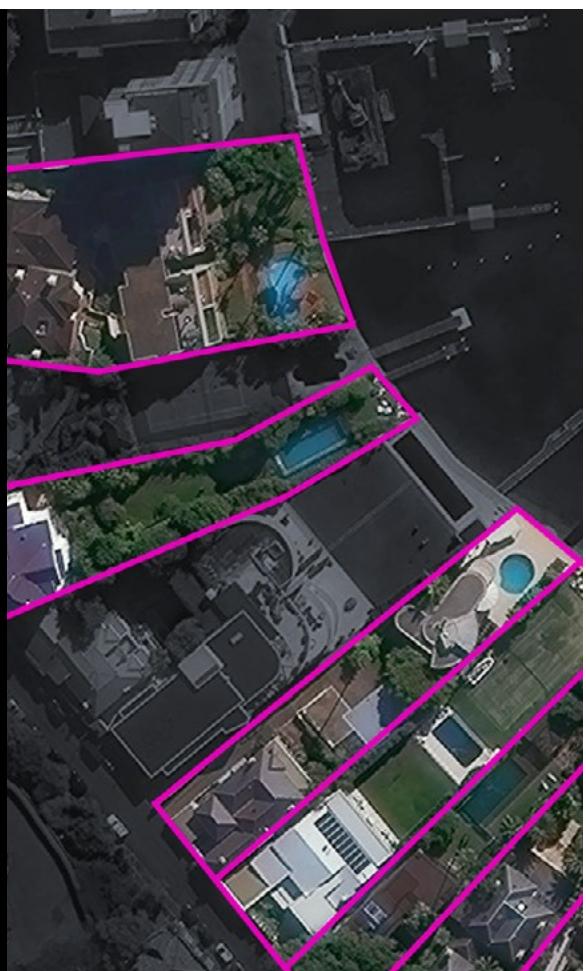
Geoscape Swimming Pools indicates whether there is a pool at an address – valuable data for marketing analytics or managing pool safety compliance.

Accuracy

Classification correctness [positive]: above 85%

Coverage

Urban areas



Roads, rail and airports

Geoscape transport network data represents the location of all roads, airports and railways in Australia:

- 2.7 million kilometres of roads, from major highways to outback tracks
- airport infrastructure, from international airports to local landing strips
- the national rail network, tram lines and railway stations.

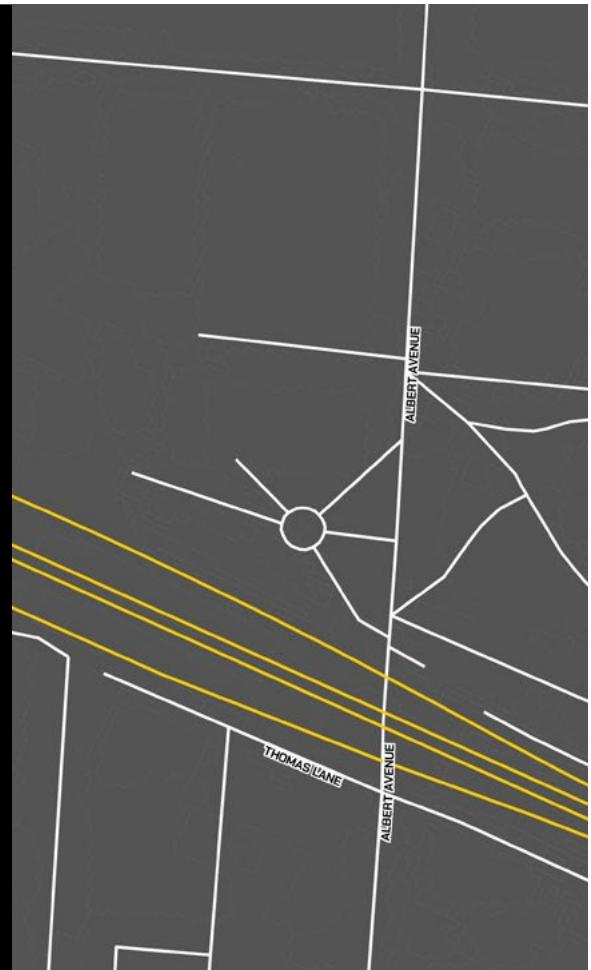
Accuracy and Coverage

Urban areas

- Horizontal: 2m

Rural and remote areas

- Horizontal: 10m



Property boundaries and land parcels

Geoscape property and land parcel data digitally represents the boundaries of millions of legal land parcels and properties across Australia. It also identifies relationships between a property and a land parcel.

Accuracy and Coverage

Urban areas

- Horizontal: 2m (with exceptions in some urban fringe areas)

Rural and remote areas

- Horizontal: 10m (with exceptions in some areas)





Greenspace and waterways

Geoscape greenspace and waterways data represents the location of all parks, playing fields, reserves, recreational areas and open space, as well as oceans, lakes, rivers, dams and other bodies of water.

Accuracy and Coverage

Urban areas

- Horizontal: 2m

Rural and remote areas

- Horizontal: 10m



Accessing the data is simple.

We'll find the best way to connect Geoscape data to your project or business process – from API integration to popular data file formats, from established partner products to custom-built solutions.

Direct integration between your tools and Geoscape data speeds up processes and reduces manual workloads. The result? Significant productivity improvements for your business.

- Download ready-to-use data via a self-service, on-demand scalable subscription plan.
- Connect via an API plan for seamless integration of location into your business applications.
- Obtain an enterprise licence for a whole dataset.
- Engage a Geoscape Partner for a location-based solution.

Data delivery formats: ESRI Shapefile/DBF, MapInfo TAB File, Geodatabase, Oracle data pump, Tagged Image File Format [TIFF]*

* Not all products are available in all formats.

How Geoscape is created.

Geoscape brings you every building, address, land parcel and more from across Australia.

That continental view is achieved by combining the hand digitisation of features in the built environment with feature extraction from satellite imagery using artificial intelligence and machine learning. The results are quality assured using high-quality aerial imagery.

The data derived is integrated with data from other private and public sources, including the Commonwealth, state and territory governments of Australia. A rigorous process aggregates,

standardises and validates the data to achieve Australia-wide coverage and consistency.

Accuracy is achieved as a result of Geoscape's ground control program. Land surveyors surveyed points seen in satellite images across about 40,000 square kilometres. The images were then 'pulled' to their correctly surveyed location to align Geoscape data features.

As Australia changes, so does Geoscape.

Rich spatial data that covers the whole continent is powerful, but ensuring that data is current is essential to the integrity of your work.

You can trust Geoscape data to be there when you need it.

- Addresses are updated daily.
- Transport network, property and land parcel data are updated quarterly.
- Updates to buildings, solar panel, swimming pool and surface cover data are focussed on Australia's fastest growing areas, guided by changes in land parcel data.





Sample Geoscape data today

geoscape.com.au

Geoscape by PSMA Australia delivers the power of location to businesses and governments. It's reliable, affordable and accessible. Geoscape powers noise modelling, urban planning, property development, emergency management, telecommunications, service delivery and more.

PSMA Australia is an independent and self-funded company owned by the governments of Australia.

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