



Informing social policy, programs and planning: geospatial enablement and interactive maps of Australian Bureau of Statistics' indexes of advantage and disadvantage

Sharon Fielder
Assistant Director,
Small Area Estimation and
Indexes

Michael Chadbourne
Assistant Director,
Geospatial Services

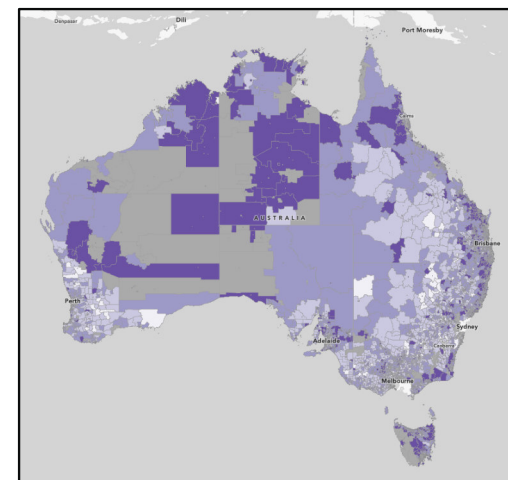
AUSTRALIAN BUREAU OF STATISTICS
Informing Australia's important decisions

*Presented at the FIG Working Week 2025,
6-10 April 2025 in Brisbane, Australia*

Outline

ABS indexes of advantage and disadvantage

Digital Atlas of Australia



What is socio-economic advantage and disadvantage?

Areas



access to material
and social
resources



ability to
participate in
society

Households



Individual access to
material and social
resources within
households

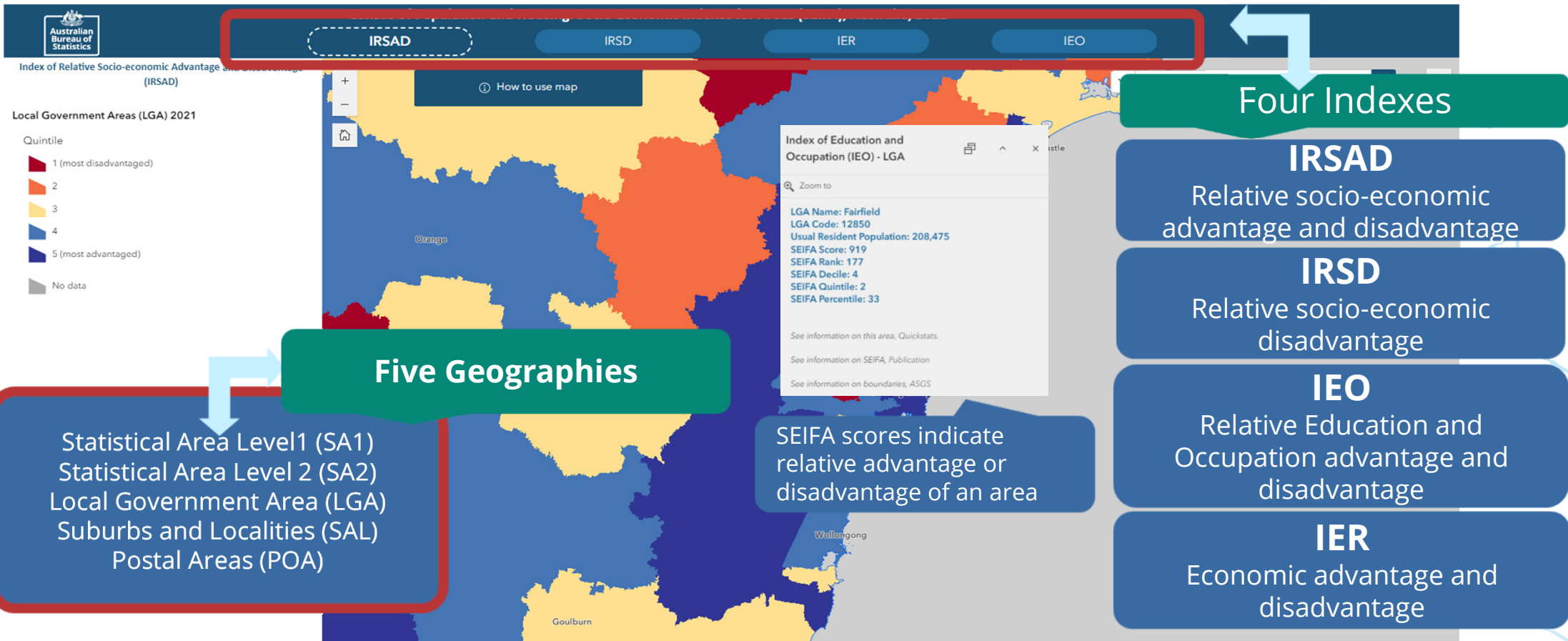


ability to collectively
share these resources
to participate in society

What is SEIFA (Socio-Economic Indexes for Areas)?

3 measures

Scores Ranks Quantiles

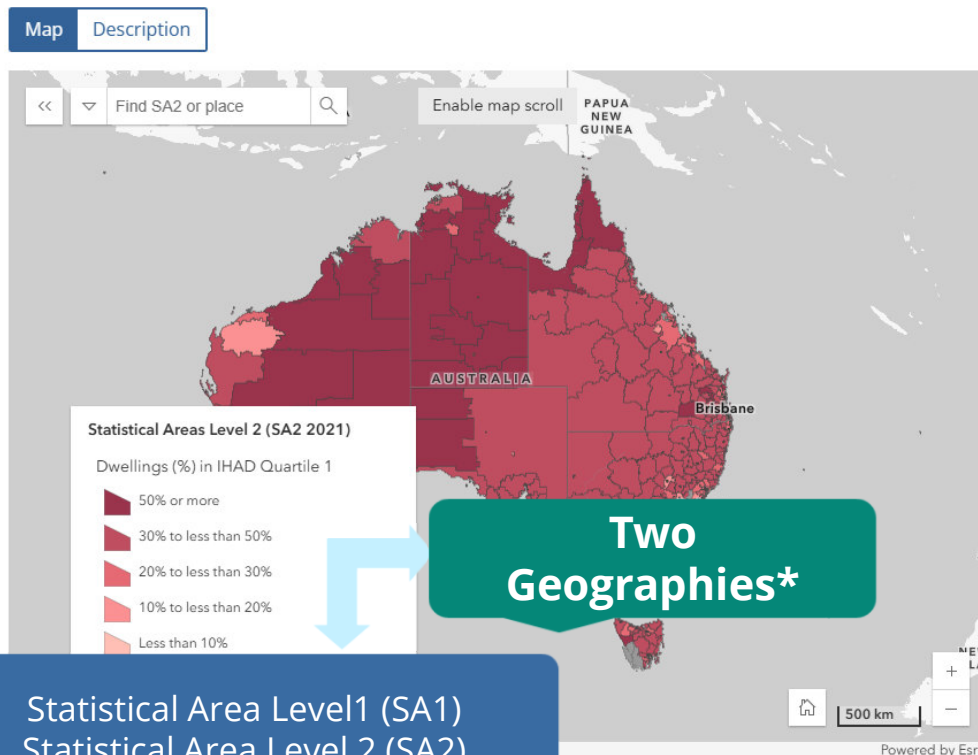


What is IHAD (Index of Household advantage and disadvantage)?

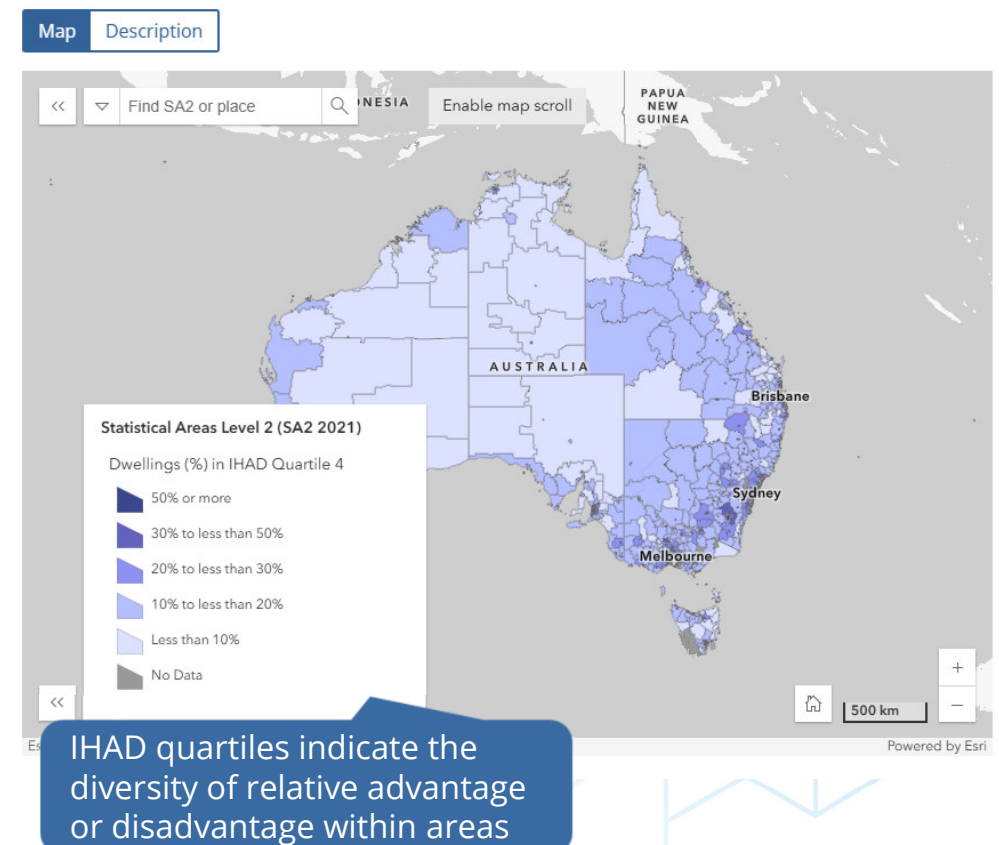
1 measure

Quantiles (quartiles)

Proportion of dwellings in IHAD quartile 1 by Statistical Areas Level 2



Proportion of dwellings in IHAD quartile 4 by Statistical Areas Level 2



How are SEIFA and IHAD calculated?

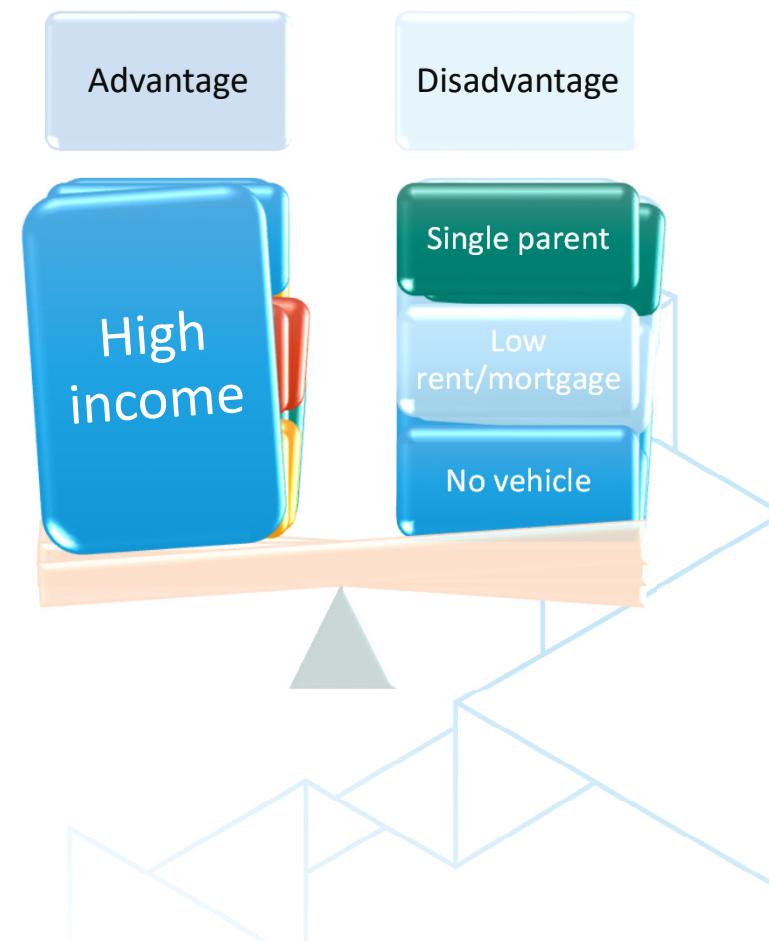
Census 2021 data

- Starting set of Indicators closely align with definition of socio-economic advantage and disadvantage

Data-driven statistical method

- Principal Component Analysis (PCA)
- Final indicators selected from relationships in the data
- SEIFA = SA1 level | IHAD = household level
- Scores derived from PCA and variable values

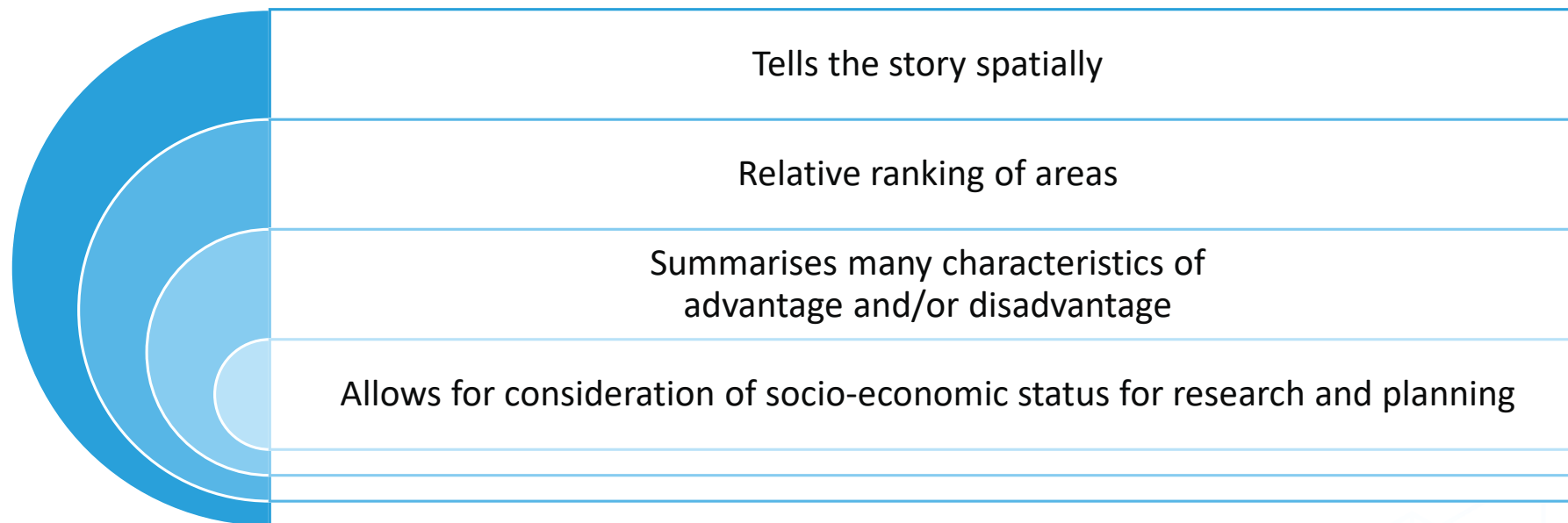
Why create SEIFA and IHAD?





What are the benefits of SEIFA?

Geospatial



What are the benefits of IHAD?

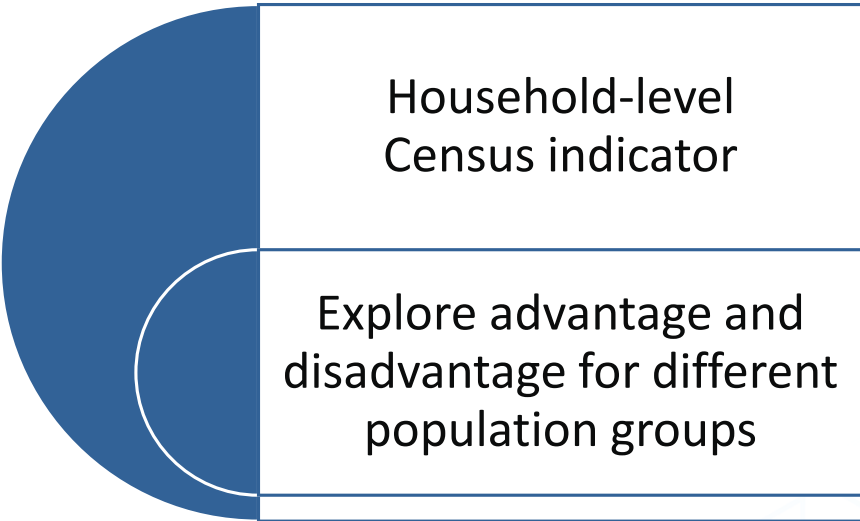
Geospatial



Use alongside
SEIFA IRSAD

Quantifies diversity of
area level advantage
and disadvantage

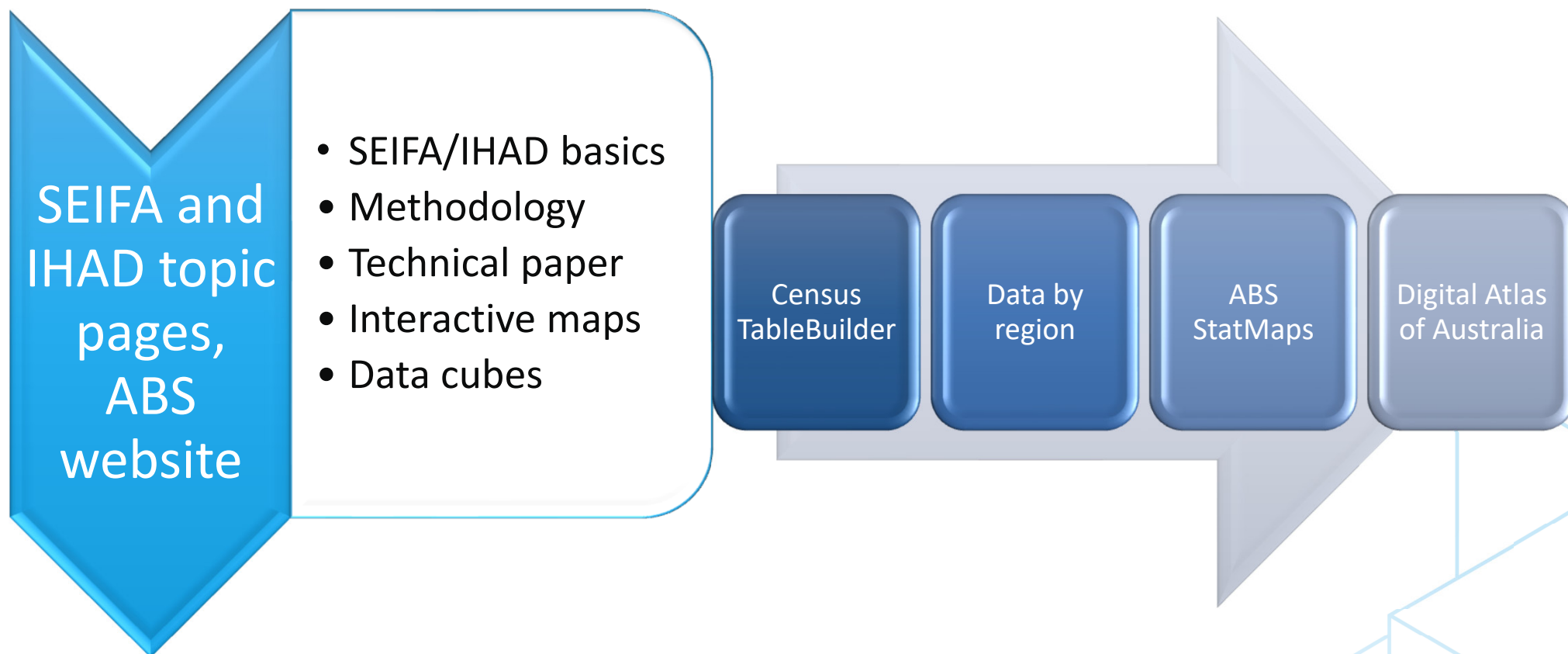
Population



Household-level
Census indicator

Explore advantage and
disadvantage for different
population groups

Where to find SEIFA and IHAD



Using SEIFA and IHAD together – an example



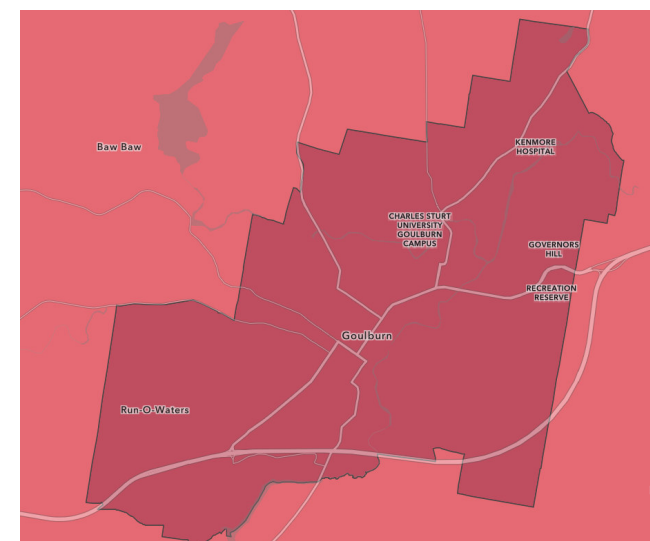
Australian Bureau of Statistics

Index of Household Advantage and Disadvantage (IHAD), 2021

Released at 11.30am (Canberra time) 11 February 2025

Table 1 Statistical Area Level 2 (SA2), percentage of households in the IHAD quartiles

		Percentage of households in the IHAD(a)(b):				Occupied private dwellings(c)	SEIFA IRSAD(d) quartile	Usual resident population(e)	Dwellings(f)		
2021 Statistical Area Level 2 (SA2)	2021 Statistical Area Level 2 (SA2)	Quartile 1	Quartile 2	Quartile 3	Quartile 4						
101021007	Braidwood	23.4	29.7	27.4	19.4	1720	3	4343	2778		
101021008	Karabar	26.3	24.6	26.0	23.2	3052	2	8517	3451		
101021009	Queanbeyan	29.2	27.6	24.8	18.3	4891	3	11342	5710		
101021010	Queanbeyan - East	25.0	28.5	26.3	20.5	2261	3	5085	2589		
101021012	Queanbeyan West - Jerrabomberra	10.6	16.5	24.8	47.9	4297	4	12744	4624		
101021610	Googong	2.5	10.1	25.0	62.7	1923	4	6224	2091		
101021611	Queanbeyan Surrounds	8.5	15.8	27.9	47.8	5368	4	16539	6105		
101031013	Bombala	39.8	24.1	24.5	12.1	981	1	2454	1408		
101031014	Cooma	34.9	28.0	22.5	14.3	2726	2	6761	3396		
101031015	Cooma Surrounds	23.1	25.8	30.6	20.8	1272	3	3472	1887		
101031016	Jindabyne - Berridale	19.2	29.5	28.9	22.5	2728	3	8035	5207		
101041017	Batemans Bay	39.4	32.6	20.0	8.1	3445	1	8581	4877		
101041018	Batemans Bay - South	33.2	33.3	22.8	10.8	3675	2	8938	5870		
101041019	Bega - Tathra	32.7	29.2	23.4	14.7	3544	2	8872	4282		
101041020	Bega-Eden Hinterland	28.1	31.9	26.7	13.2	3684	2	9557	4610		
101041021	Broulee - Tomakin	25.4	32.4	23.2	19.3	1505	3	3792	2600		
101041022	Deua - Wadbilliga	30.0	90.0	0.0	0.0	10	1	43	20		
101041023	Eden	45.8	30.9	16.0	6.7	1371	1	3425	1777		
101041024	Eurobodalla Hinterland	29.5	30.7	28.6	11.5	1318	2	3525	2097		
101041025	Merimbula - Tura Beach	30.0	25.2	21.8	12.9	1246	2	11513	5467		
101041026	Moruya - Tuross Head	32.9	32.8	22.6	11.7	3570	2	8600	4988		
101051539	Goulburn	35.5	27.0	22.9	14.6	9431	1	24565	10937		
101051540	Goulburn Surrounds	25.3	25.7	29.8	19.2	5034	2	13839	7223		
101061541	Yass	25.1	25.5	25.5	23.7	2513	2	6763	2902		
101061542	Yass Surrounds	10.3	17.1	29.1	43.4	4165	4	12713	4928		
101061543	Young	41.7	24.4	21.5	12.4	4180	1	11004	4930		
101061544	Young Surrounds	37.7	24.6	22.8	14.8	2968	2	7677	4007		
102011028	Avoca Beach - Copacabana	11.2	21.6	27.3	40.0	2522	4	7513	3653		
102011029	Box Head - MacMasters Beach	20.2	25.7	25.4	28.8	4213	3	11042	5489		
102011030	Calga - Kulnura	22.9	25.4	24.7	27.2	1634	3	4716	2196		
102011031	Erina - Green Point	29.2	24.7	20.2	25.9	5584	3	14758	6133		
102011032	Gosford - Springfield	31.3	28.8	22.1	17.7	9188	2	21204	10669		



SEIFA and IHAD webinars

SEIFA




IHAD



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✓ Latest release

↓ Data download

Socio-Economic Indexes for Areas (SEIFA), Australia

Australian Bureau of Statistics

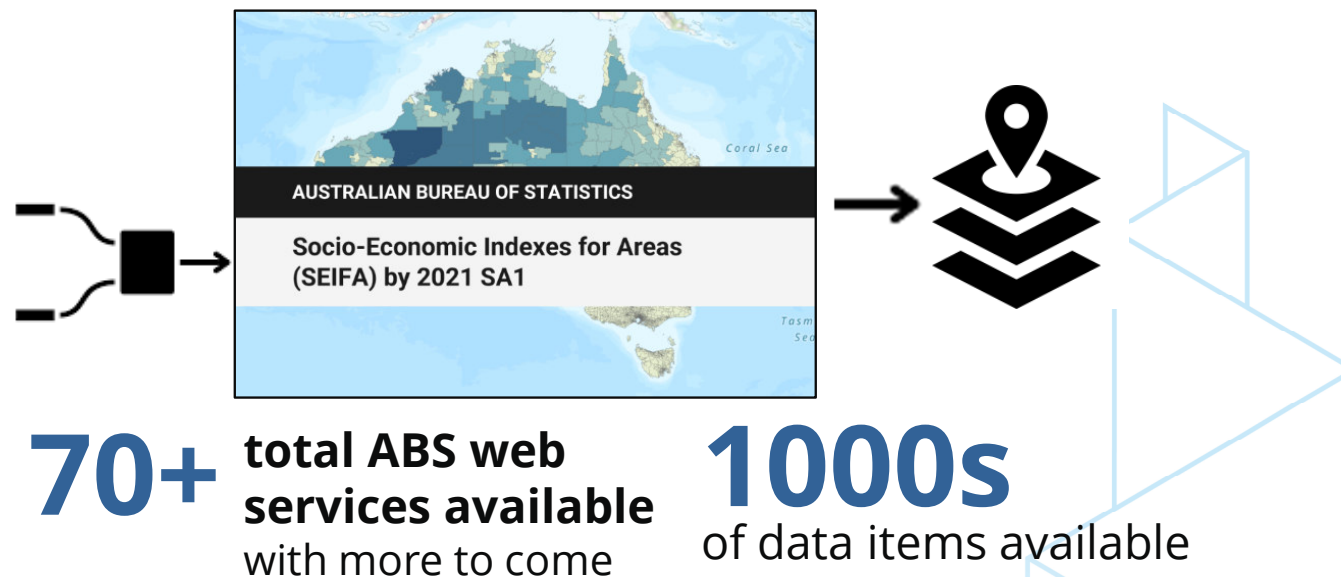
Socio-Economic Indexes for Australia (SEIFA), 2021

Released at 11.30 am (Canberra time) 27 April 2023

Table 2 Statistical Area Level 1 (SA1) Index of Relative Socio-economic Disadvantage, 2021

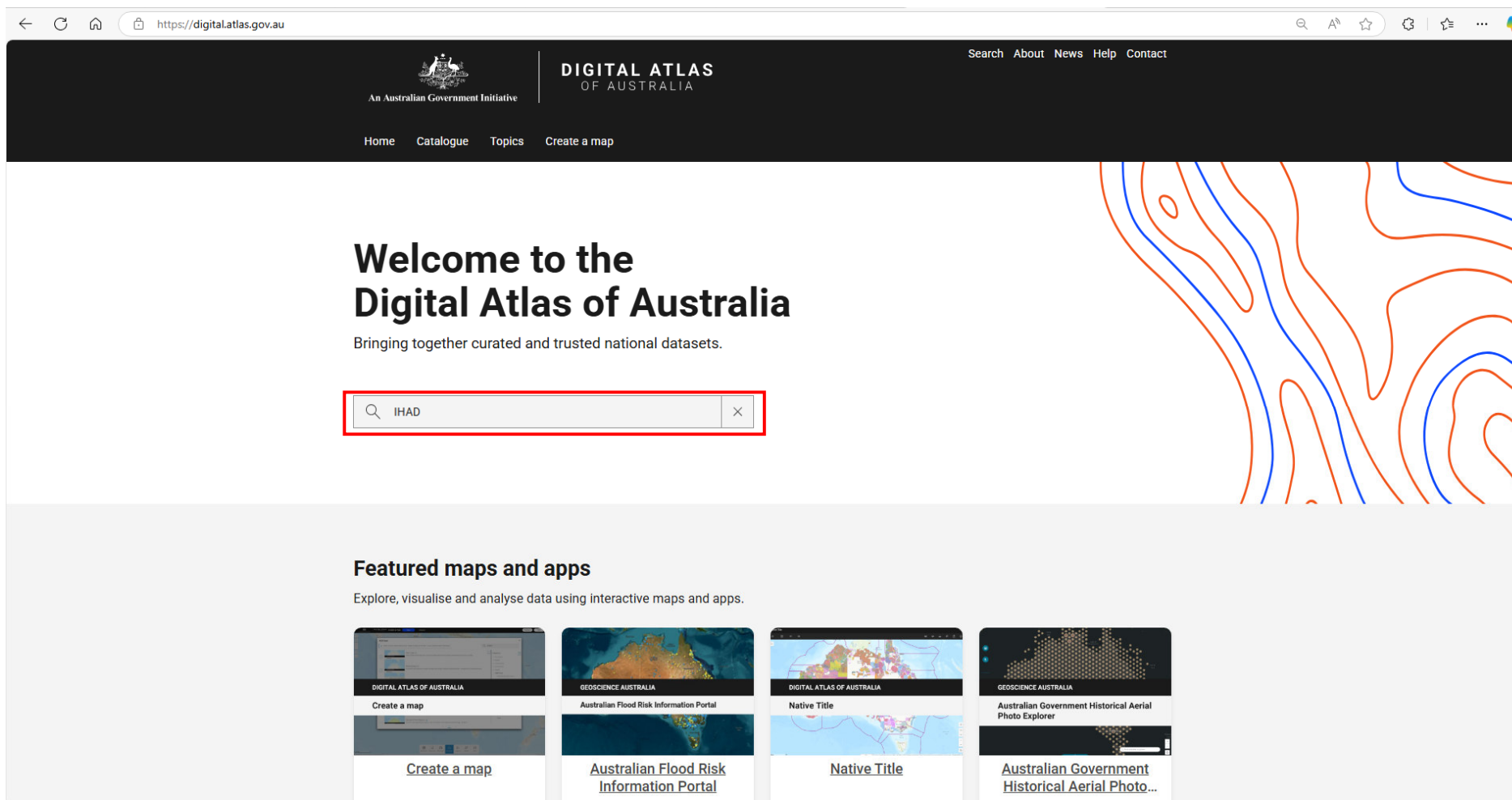
2021 Statistical Area Level 1 (SA1)	Usual Resident Population	Score	Ranking within Australia			Ranking within State or Territory			
			Rank	Decile	Percentile	State	Rank	Decile	Percentile
10102100701	305	1017	28267	5	48	NSW	9072	5	48
10102100702	301	1087	52131	9	88	NSW	15957	9	85
10102100703	471	1009	28153	5	45	NSW	8430	5	45
10102100704	522	864	20359	4	35	NSW	6742	4	36
10102100705	423	1010	26563	5	45	NSW	8569	5	46
10102100706	290	979	19338	4	33	NSW	6381	4	34
10102100707	418	1033	32858	6	56	NSW	10341	6	55
10102100708	843	1051	35283	7	65	NSW	11968	7	63
10102100709	437	1055	40730	7	69	NSW	12595	7	67
10102100710	541	1010	26493	5	45	NSW	8543	5	46
10102100801	382	1026	30804	6	53	NSW	9762	6	52
10102100802	574	1074	45658	8	78	NSW	13969	8	74

DIGITAL ATLAS OF AUSTRALIA




Web Services = stream content/data on-demand

Where to find IHAD and SEIFA data on the Digital Atlas



The screenshot shows the Digital Atlas of Australia website. The browser address bar displays <https://digitalatlas.gov.au>. The website header includes the Australian Government logo, the text "DIGITAL ATLAS OF AUSTRALIA", and navigation links: Search, About, News, Help, Contact. Below the header, there are links for Home, Catalogue, Topics, and Create a map. The main content area features a large heading "Welcome to the Digital Atlas of Australia" with the subtitle "Bringing together curated and trusted national datasets." A search bar is highlighted with a red rectangle, containing the text "IHAD". Below the search bar, there is a section titled "Featured maps and apps" with the subtitle "Explore, visualise and analyse data using interactive maps and apps." This section displays four featured items: "Create a map", "Australian Flood Risk Information Portal", "Native Title", and "Australian Government Historical Aerial Photo Explorer".

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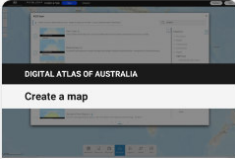
Welcome to the Digital Atlas of Australia

Bringing together curated and trusted national datasets.

🔍 IHAD ✕

Featured maps and apps


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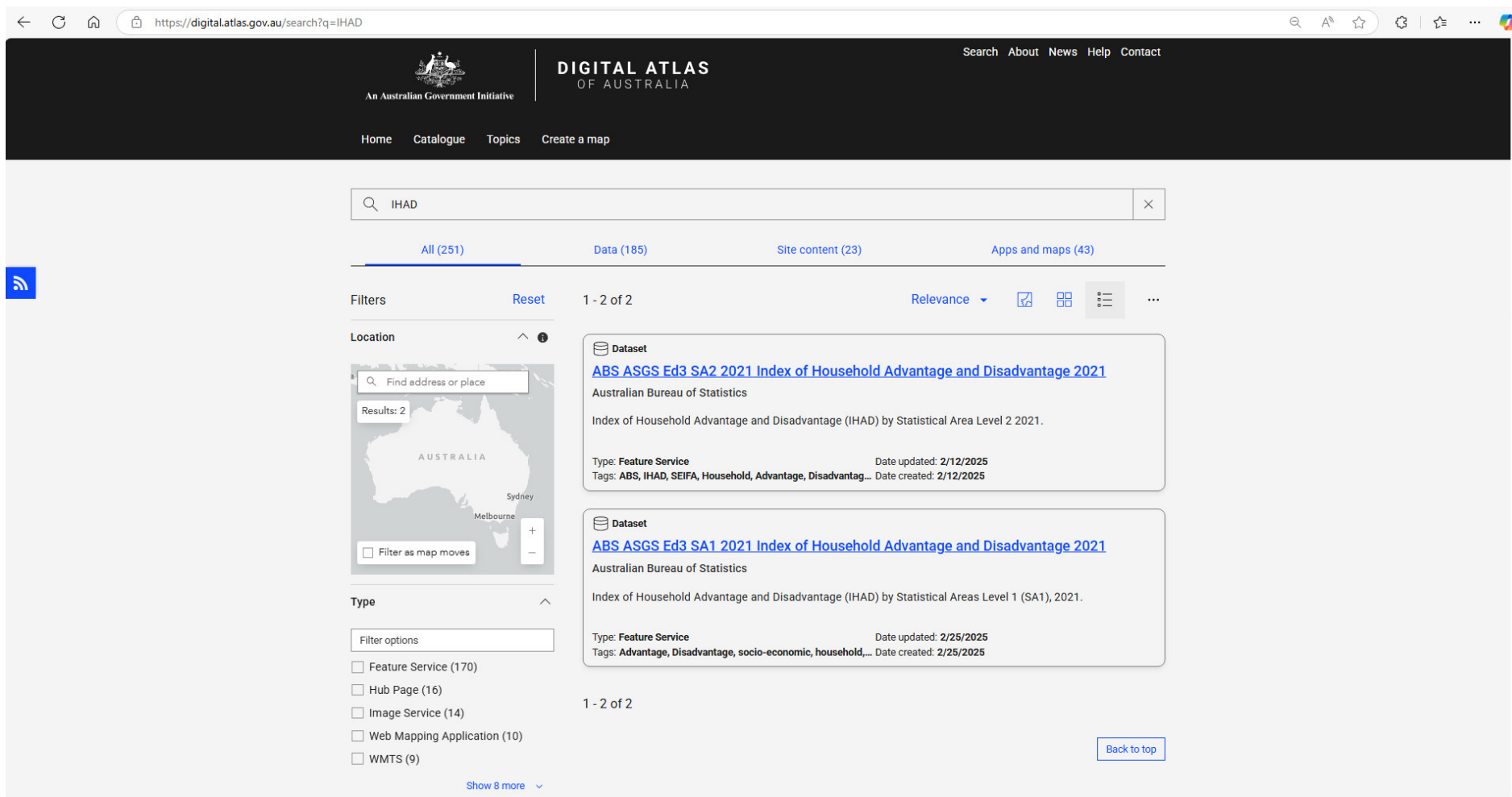


GEOSCIENCE AUSTRALIA

Australian Government Historical Aerial Photo Explorer

[Australian Government Historical Aerial Photo...](#)

Where to find IHAD and SEIFA data on the Digital Atlas



The screenshot shows the Digital Atlas of Australia website with a search for "IHAD". The results are categorized into "All (251)", "Data (185)", "Site content (23)", and "Apps and maps (43)". The "Data" category is selected, showing two results for "ABS ASGS Ed3 SA2 2021 Index of Household Advantage and Disadvantage 2021". The first result is for "Statistical Area Level 2 (SA2)" and the second is for "Statistical Areas Level 1 (SA1)". Both results are "Feature Service" type, updated on 2/12/2025 and 2/25/2025 respectively. The left sidebar includes a "Location" map and a "Type" filter with options like "Feature Service (170)", "Hub Page (16)", "Image Service (14)", "Web Mapping Application (10)", and "WMTS (9)".

https://digitalatlas.gov.au/search?q=IHAD

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Search IHAD

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Filters Reset 1 - 2 of 2 Relevance

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Results: 2

AUSTRALIA

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Type

Filter options

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☐ Hub Page (16)

☐ Image Service (14)

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Show 8 more

Dataset

[ABS ASGS Ed3 SA2 2021 Index of Household Advantage and Disadvantage 2021](#)

Australian Bureau of Statistics

Index of Household Advantage and Disadvantage (IHAD) by Statistical Area Level 2 2021.

Type: Feature Service Date updated: 2/12/2025

Tags: ABS, IHAD, SEIFA, Household, Advantage, Disadvantage, ... Date created: 2/12/2025

Dataset

[ABS ASGS Ed3 SA1 2021 Index of Household Advantage and Disadvantage 2021](#)

Australian Bureau of Statistics

Index of Household Advantage and Disadvantage (IHAD) by Statistical Areas Level 1 (SA1), 2021.

Type: Feature Service Date updated: 2/25/2025

Tags: Advantage, Disadvantage, socio-economic, household, ... Date created: 2/25/2025

1 - 2 of 2

Back to top

Where to find SEIFA and IHAD data on the Digital Atlas



Application ...

[ABS SEIFA with IRSD Indicators by 2021 SA1](#)

Digital Atlas of Australia

Explore local area socio-economic disadvantage and its drivers (2021)

Type: **Web Experience** Date updated: 12/16/2024
Tags: ABS, Census, Census 2021, Socio-economics, Socio-E... Categories: Population distribution, Population

Dataset ...

[ABS Socio-Economic Indexes for Areas \(SEIFA\) by 2021 SA2](#)

Australian Bureau of Statistics

Socio-Economic Indexes for Areas (SEIFA) by Statistical Area Level 2 (SA2), 2021.

Type: **Feature Service** Date updated: 12/9/2024
Tags: ABS, Census, Socio-Economic Indexes for Areas, SEIF... Categories: Population distribution, Population

Dataset ...

[ABS Socio-Economic Indexes for Areas \(SEIFA\) by 2021 SA1](#)

Australian Bureau of Statistics

Socio-Economic Indexes for Areas (SEIFA) by Statistical Area Level 1 (SA1), 2021.

Type: **Feature Service** Date updated: 12/13/2024
Tags: ABS, Census, Socio-Economic Indexes for Areas, SEIF... Categories: Population distribution, Population

Dataset ...

[ABS Socio-Economic Indexes for Areas \(SEIFA\) by 2021 POA](#)

Australian Bureau of Statistics

Socio-Economic Indexes for Areas (SEIFA) by Postal Area (POA), 2021.

Type: **Feature Service** Date updated: 12/13/2024
Tags: ABS, Census, Socio-Economic Indexes for Areas, SEIF... Categories: Population distribution, Population

Dataset ...

[ABS Socio-Economic Indexes for Areas \(SEIFA\) by 2021 LGA](#)

Australian Bureau of Statistics

Socio-Economic Indexes for Areas (SEIFA) by Local Government Area (LGA), 2021.

Type: **Feature Service** Date updated: 12/13/2024
Tags: ABS, Census, Socio-Economic Indexes for Areas, SEIF... Categories: Population distribution, Population

Dataset ...

[ABS Socio-Economic Indexes for Areas \(SEIFA\) by 2021 SAL](#)

Australian Bureau of Statistics

Socio-Economic Indexes for Areas (SEIFA) by Suburbs and Localities (SAL), 2021.

Type: **Feature Service** Date updated: 12/13/2024
Tags: ABS, Census, Socio-Economic Indexes for Areas, SEIF... Categories: Population distribution, Population

Dataset ...

[ABS Socio-Economic Indexes for Areas \(SEIFA\) by 2021 SA1 with IRSD Indicators](#)

Australian Bureau of Statistics

Socio-Economic Indexes for Areas (SEIFA) IRSD indexes by Australian Statistical Geography Standard (ASGS) 2021 SA1.

Type: **Feature Service** Date updated: 12/9/2024
Tags: ABS, Census, Census 2021, Socio-economics, Socio-E... Categories: Population distribution, Population

Dataset ...

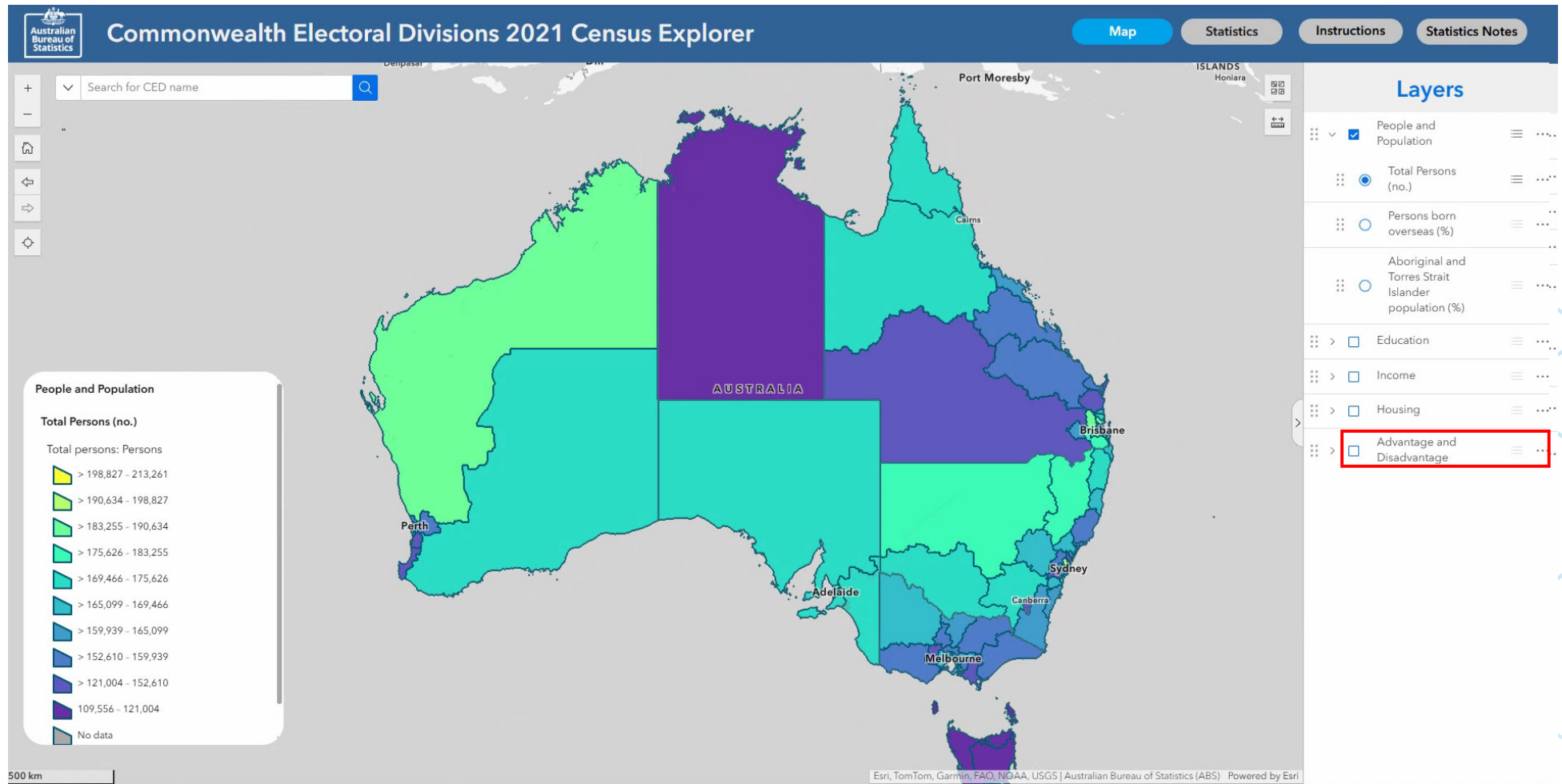
[ABS ASGS Ed3 SA2 2021 Index of Household Advantage and Disadvantage 2021](#)

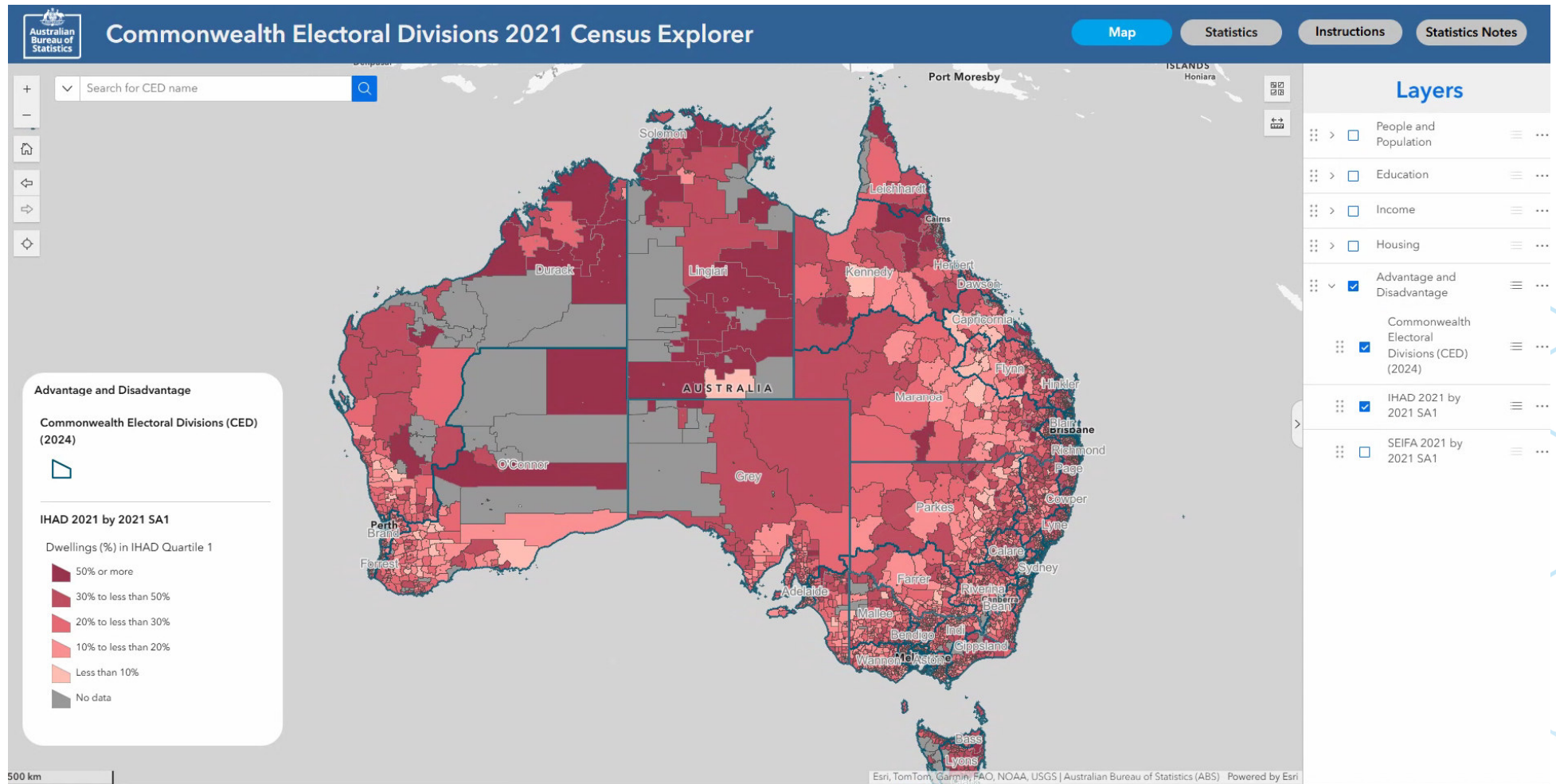
Australian Bureau of Statistics

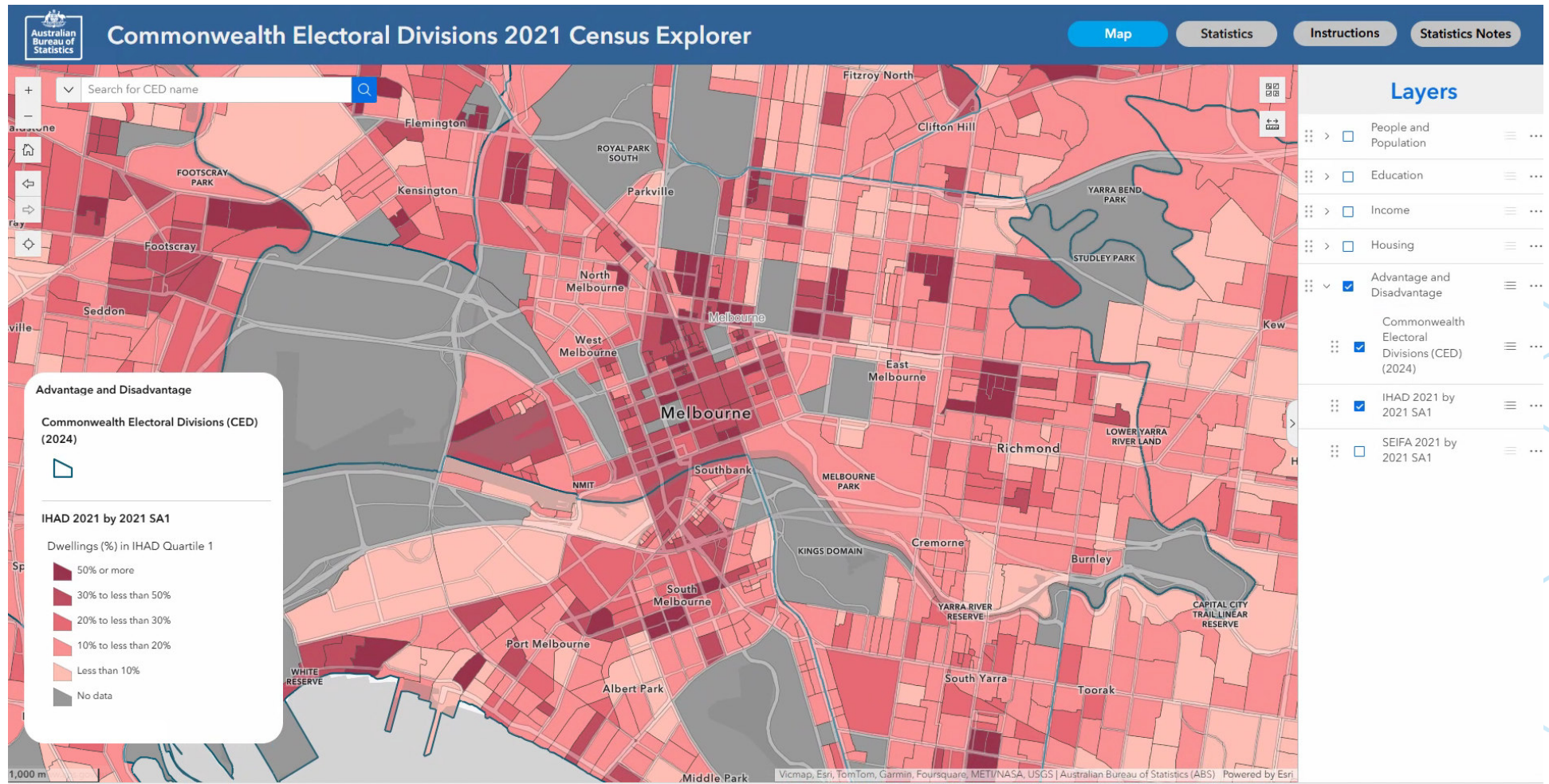
Index of Household Advantage and Disadvantage (IHAD) by Statistical Area Level 2 2021.

Type: **Feature Service** Date updated: 2/12/2025
Tags: ABS, IHAD, SEIFA, Household, Advantage, Disadvantag... Date created: 2/12/2025

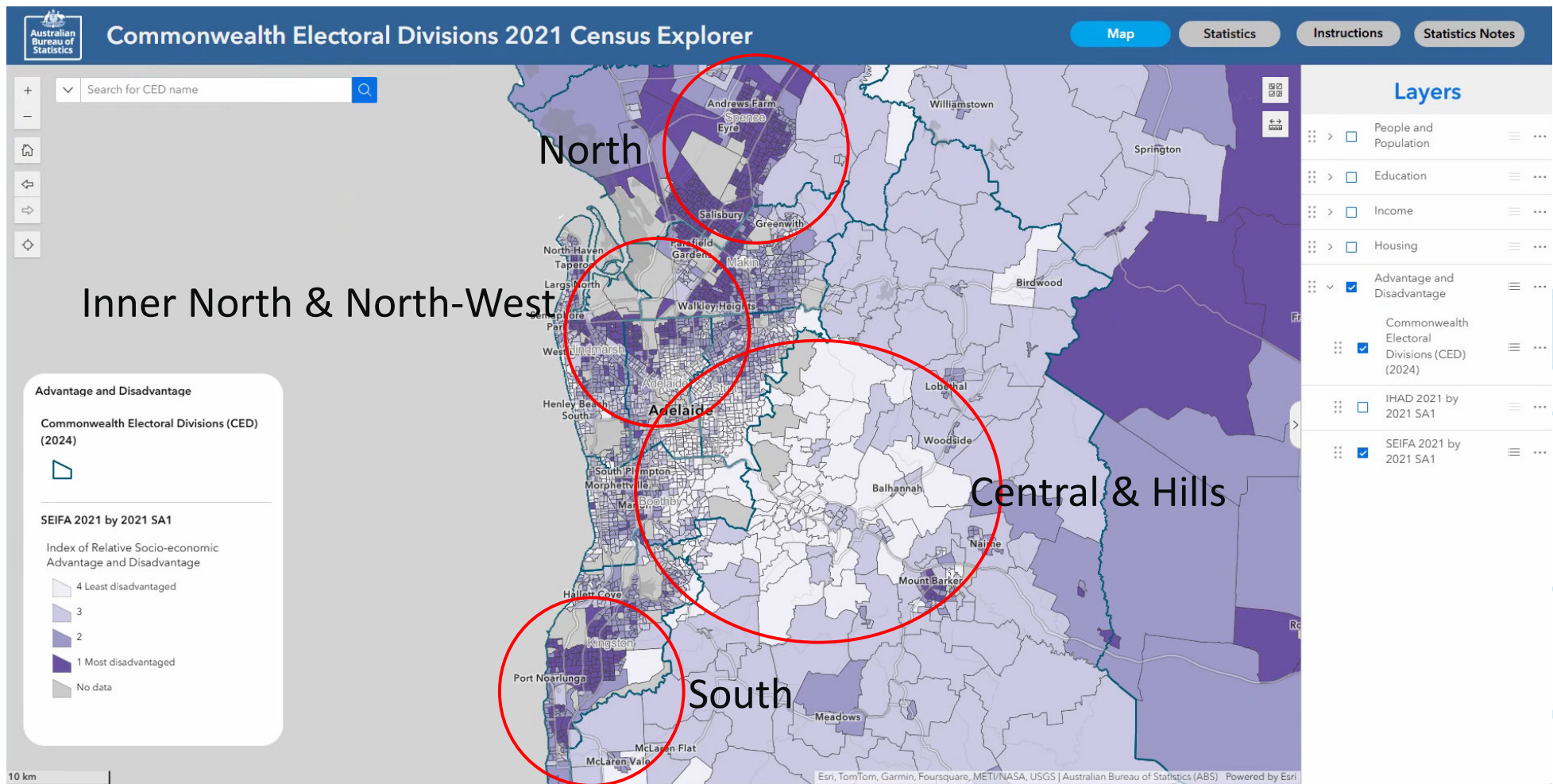
Commonwealth Electoral Divisions 2021 Census Explorer









SEIFA IRSAD



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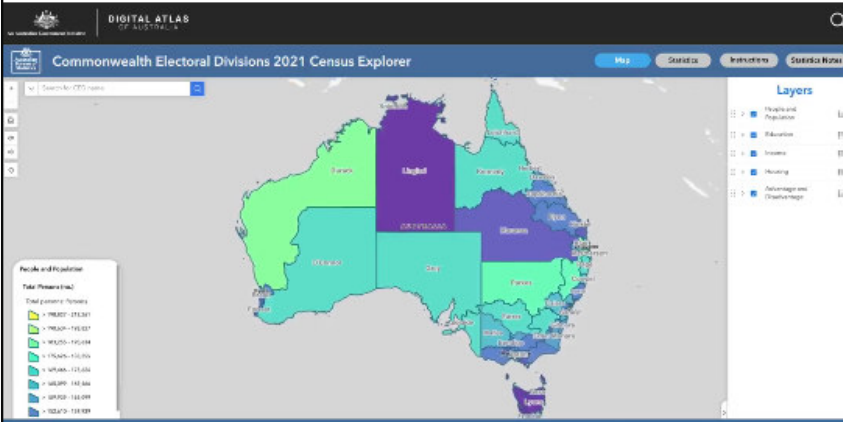
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We have released a new app where you can explore, analyse and visualise data by electorate on population, age and sex breakdown, Indigenous status, education, transport, household composition, income, and dwelling structures. The app is a collaboration with the Digital Atlas of Australia team at [Geoscience Australia](https://www.geoscience.gov.au/) to showcase simple statistics for Commonwealth Electoral Division (CED) boundaries across Australia.

Our 2021 Census TableBuilder datasets are also now available by the latest CED boundaries, including recent redistributions.

Explore the datasets in TableBuilder here <https://lnkd.in/gV5vwb5u> and check out the new CED app on the [#DigitalAtlas](https://nuvi.me/q07pph) today <https://nuvi.me/q07pph>



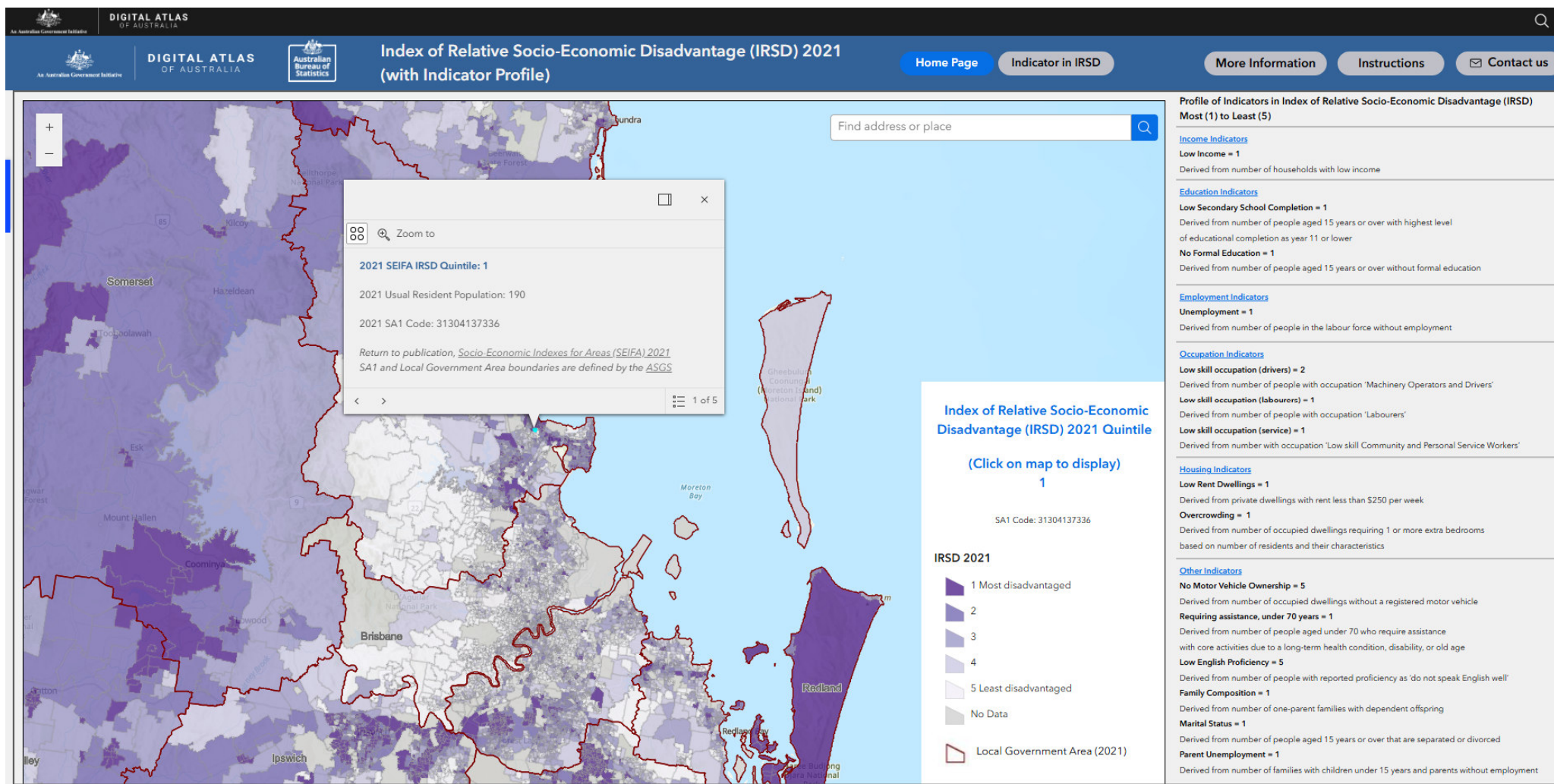
Commonwealth Electoral Divisions 2021 Census Explorer

Discover Australia through the 2021 Census Explorer

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SEIFA IRSD Application



Data used in this app

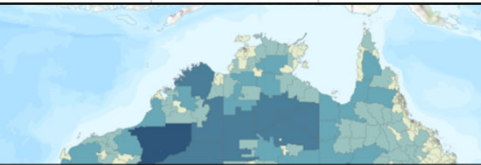


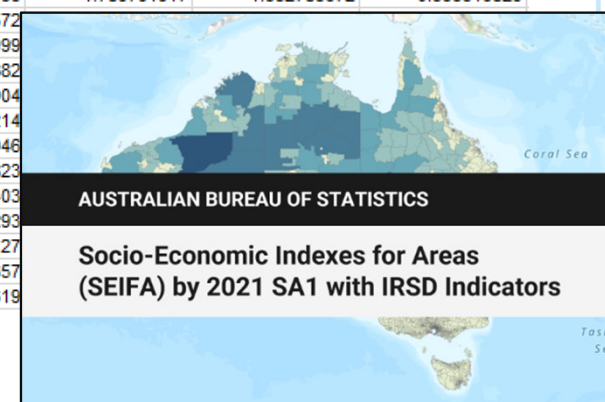
Australian Bureau of Statistics

Socio-Economic Indexes for Australia (SEIFA), 2021

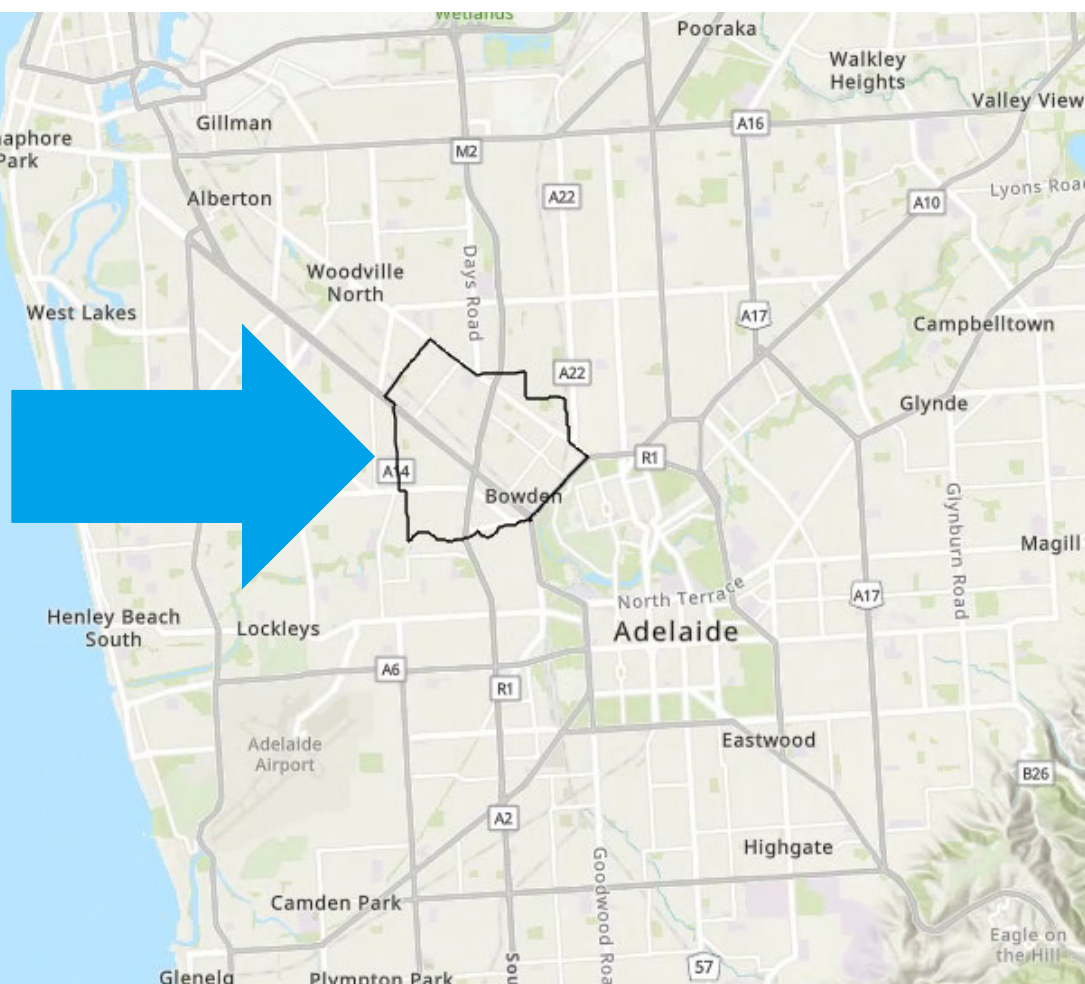
Released at 11.30am (Canberra time) 6 October 2023

Table 2 Statistical Area Level 1 (SA1), Index of Relative Socio-economic Disadvantage, Standardised variable proportions, 2021

		Variable name							
2021 Statistical Area Level 1 (SA1) 11-Digit Code	Score	INC_LOW	NOYR12ORHIGHER	NOEDU	UNEMPLOYED	OCC_DRIVERS	OCC_LABOUR	OCC_SERVICE_L	LOWRENT
10102100701	1017	0.031159847	0.039551629	-0.49432578	-0.499105536	0.304978177	0.421874067	-1.104686619	-0.19554581
10102100702	1097	-0.745478172	-0.328068429	-0.49432578	-0.594296438	-0.024571341	-0.531523223	-0.420975489	-0.300570365
10102100703	1009	0.207461731	-0.14829177	-0.49432578	-0.892215334	1.14079217	0.905481388	-0.235365681	0.039632825
10102100704	984	0.383411364	0.083634661	0.10897319	-0.378148675	-0.215812511	-0.350864669	-0.379501795	0.175209889
10102100705	1010	0.334498725	0.356361681	-0.49432578	-0.036476717	0.545660408	0.215279149	-0.537894027	-0.369140189
10102100706	979	0.590167689	0.606772634	-0.49432578	-0.278537142	0.720497133	1.789791917	-1.332783672	-0.553516829
10102100707	1033	0.3620388	-0.2230096	-0.49432578	-0.613084116	-0.191961572		AUSTRALIAN BUREAU OF STATISTICS	Socio-Economic Indexes for Areas (SEIFA) by 2021 SA1 with IRSD Indicators
10102100708	1051	0.087603299	-0.192492865	-0.097508974	-0.779540551	-0.885968099			
10102100709	1058	-0.472559822	-0.121637539	-0.49432578	-0.925953301	-0.149572882			
10102100710	1010	0.56913711	0.208192482	-0.49432578	-0.275265828	0.536479904			
10102100801	1026	-0.453766044	0.225043408	0.080600219	-0.888128953	0.101831214			
10102100802	1074	-1.027386982	0.475429734	-0.49432578	-1.095136383	0.350121946			
10102100803	827	1.883189939	1.888338947	-0.49432578	1.662202584	0.619433823			
10102100804	863	0.762831216	0.803087841	-0.49432578	0.124777722	1.071372403			
10102100805	693	2.934254273	2.120238927	1.494288122	1.442104573	1.653135293			
10102100806	1008	-0.514407303	0.498623144	-0.49432578	-0.349688237	0.313605127			
10102100807	978	-0.276244446	0.523780745	-0.49432578	0.674725819	-0.440268657			
10102100808	969	0.332911589	0.25255253	-0.01310319	-0.349688237	0.610116619			



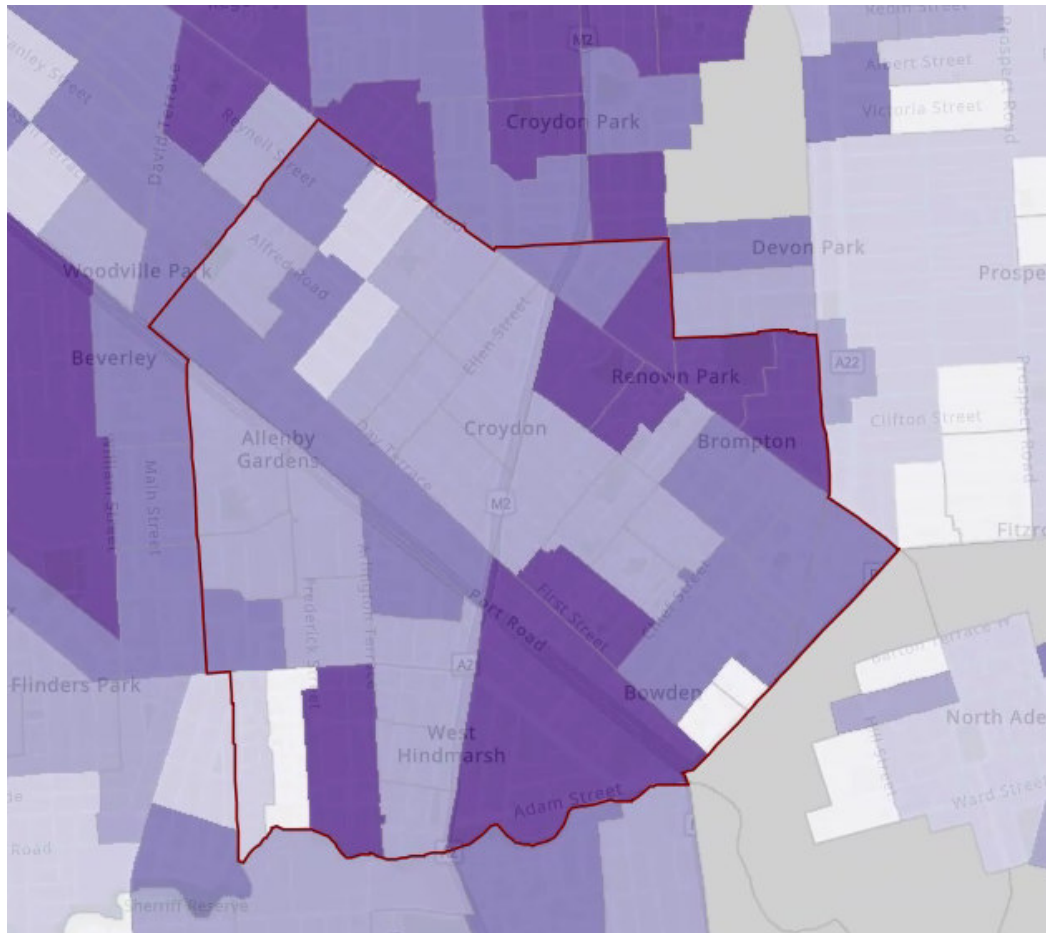
Example: Hindmarsh – Brompton SA2



- Hindmarsh - Brompton, South Australia
- Statistical Area Level 2 (SA2)
- SEIFA Disadvantage Percentile 42
- This area is neither the most disadvantaged nor the least disadvantaged

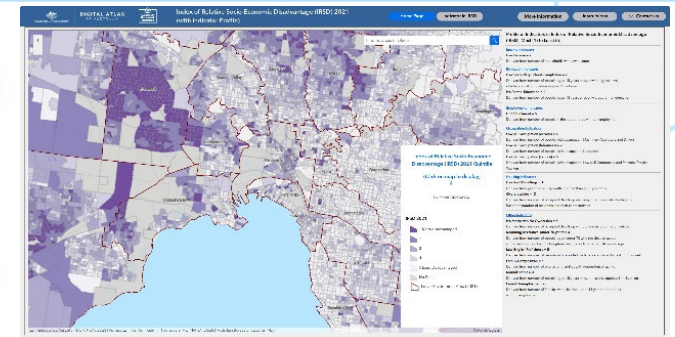


Example: Hindmarsh Brompton SA2 (Statistical Area Level 2)



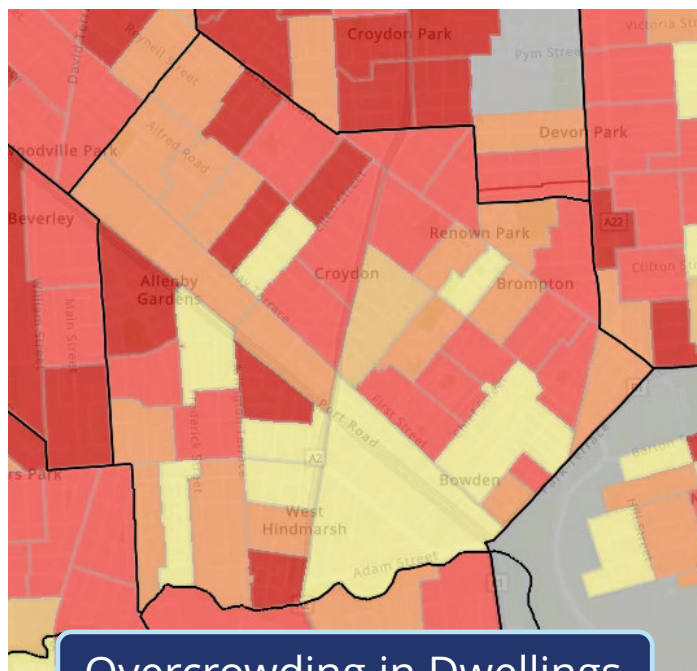
- Hindmarsh – Brompton (SA2) is broken down into smaller areas (SA1s)
- Small area data shown in the app highlights large differences in disadvantage across Hindmarsh - Brompton
- This detail adds huge value for targeted policy interventions and programs

IRSD 2021

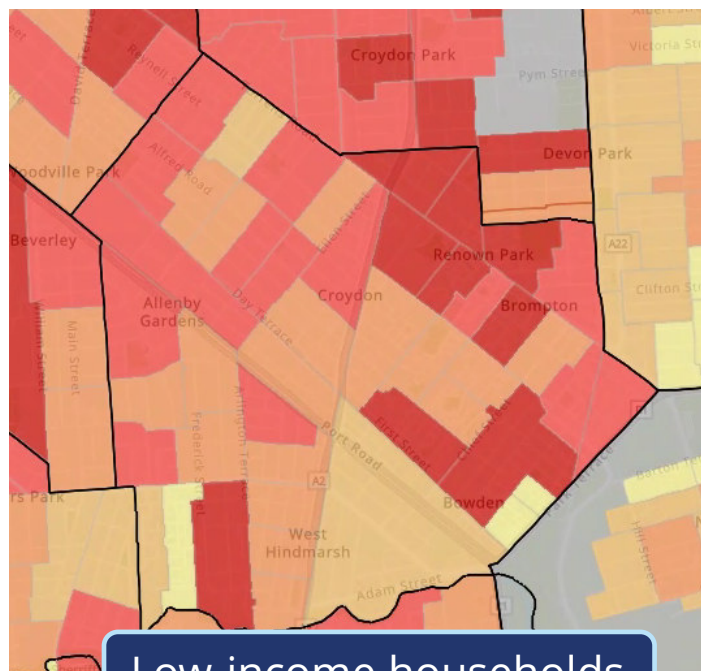


Unpacking SEIFA for Hindmarsh – Brompton SA2

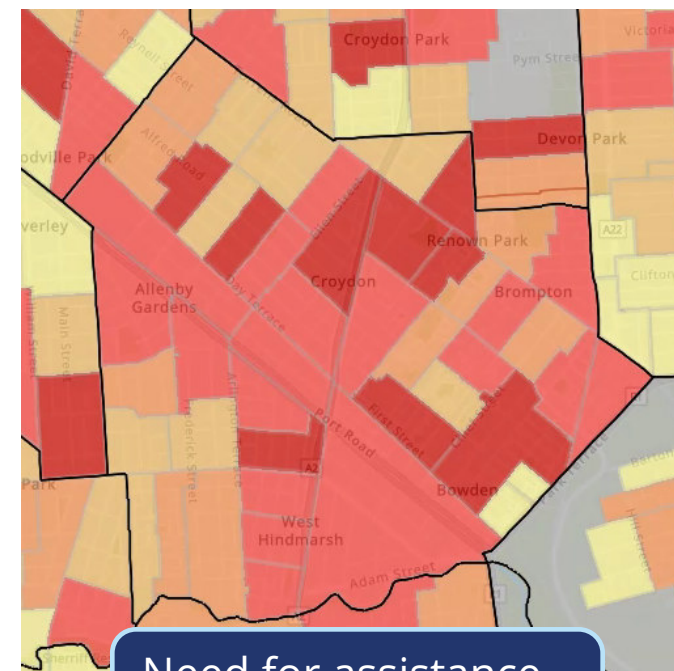
Examples of Indicator Pages at Small Area (SA1 level)



Overcrowding in Dwellings



Low-income households



Need for assistance
under 70 years



The background is a solid light blue. In the top left corner, there is a series of overlapping blue-outlined triangles pointing towards the center. In the bottom right corner, there is a larger, more complex arrangement of blue-outlined triangles, some pointing upwards and others downwards, creating a sense of depth and movement.

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ABS data and providing users with
new and valuable ways to
understand Australian communities.**

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