



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

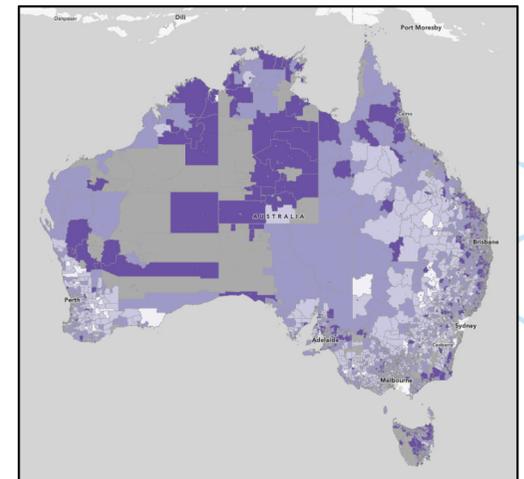
Michael Chadbourne
Assistant Director,
Geospatial Services

AUSTRALIAN BUREAU OF STATISTICS
Informing Australia's important decisions

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

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

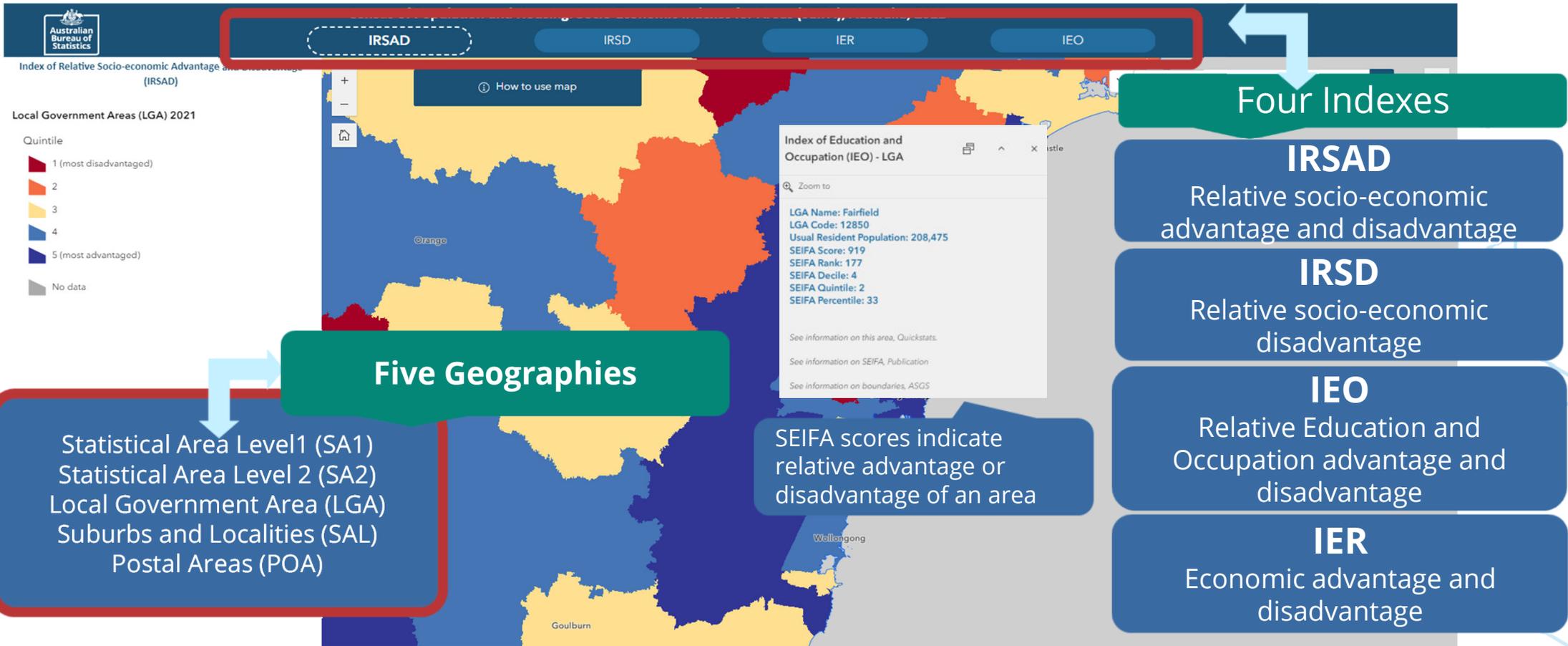


ability to collectively
share these resources
to participate in society

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

3 measures

Scores Ranks Quantiles



Four Indexes

Five Geographies

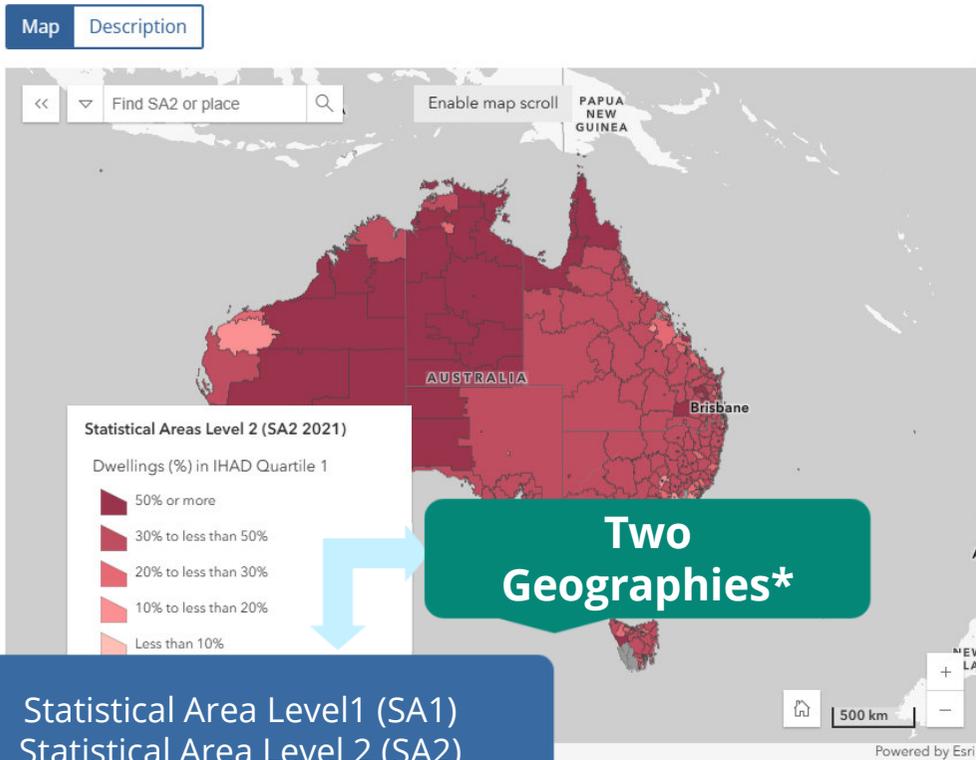
SEIFA scores indicate relative advantage or disadvantage of an area

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

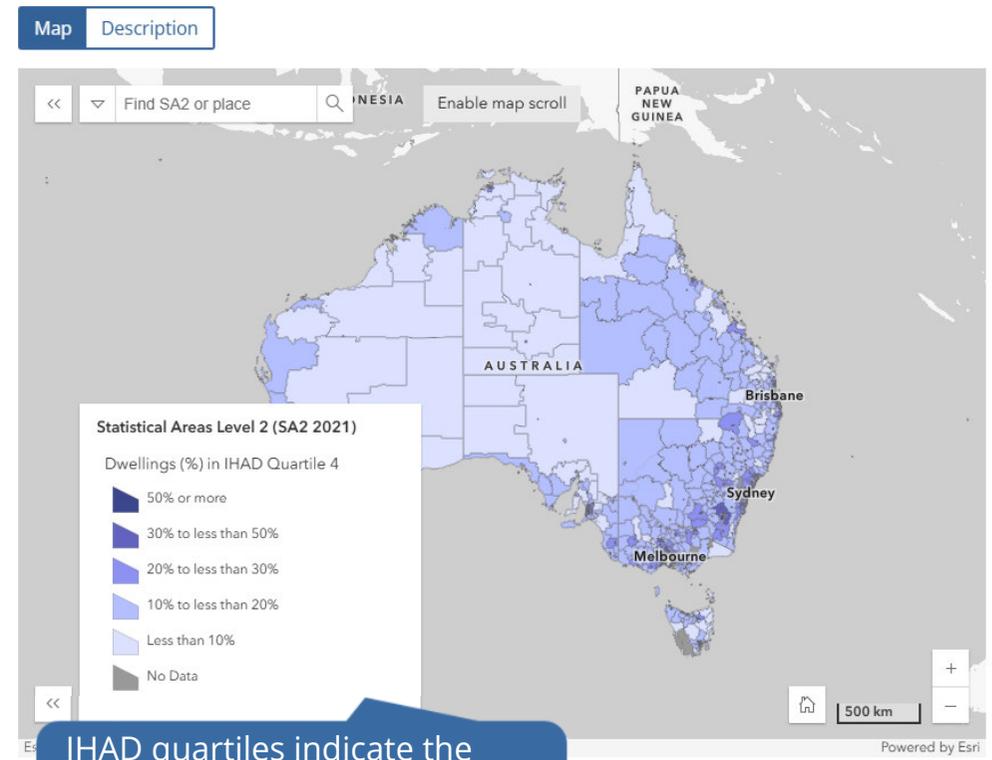
1 measure

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?

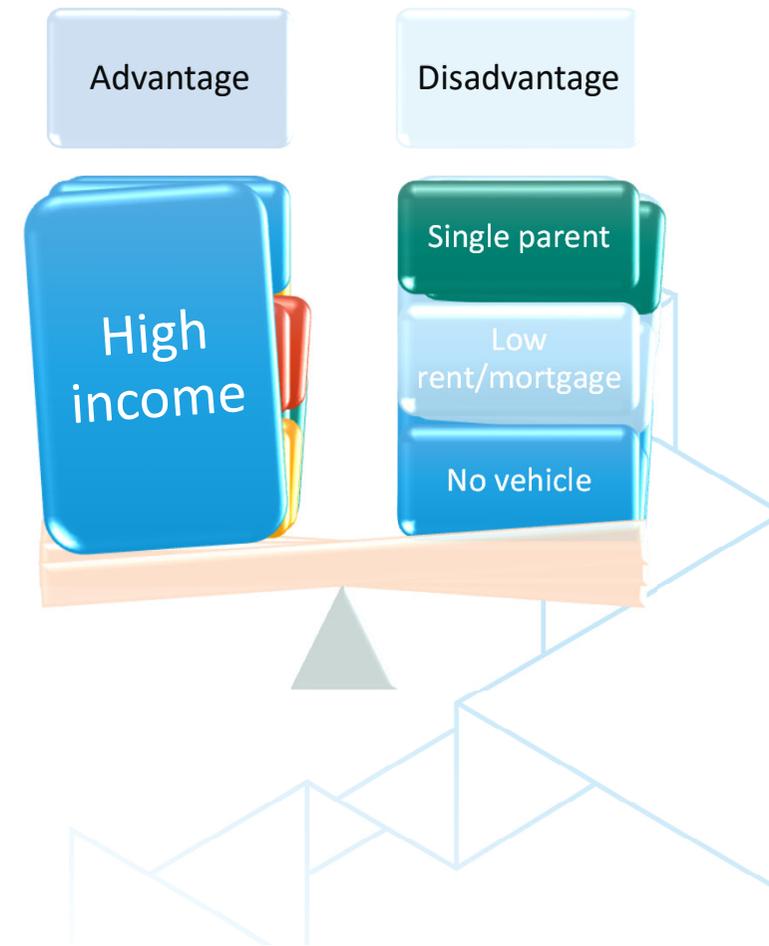
Census 2021
data

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

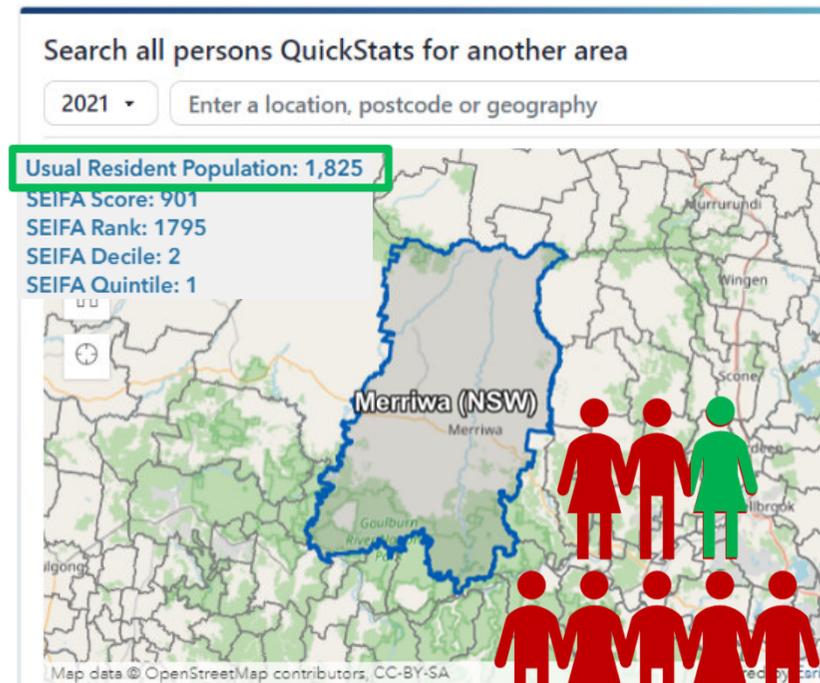
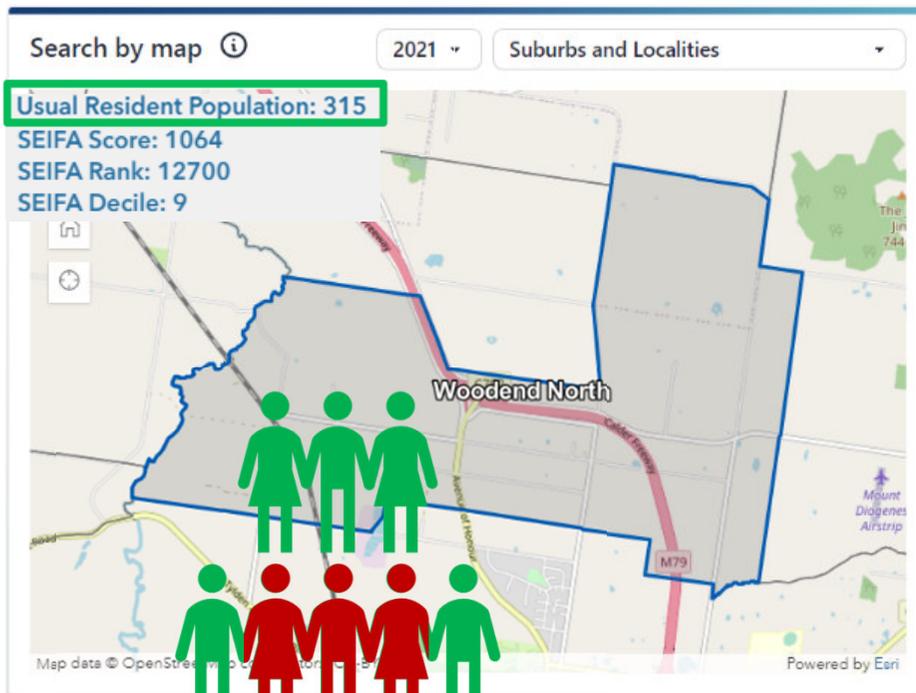
Data-driven
statistical
method

- 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?



If we have SEIFA, why do we need IHAD?



What are the benefits of SEIFA?

Geospatial

Tells the story spatially

Relative ranking of areas

Summarises many characteristics of
advantage and/or disadvantage

Allows for consideration of socio-economic status for research and planning

What are the benefits of IHAD?

Geospatial

Use alongside
SEIFA IRSAD

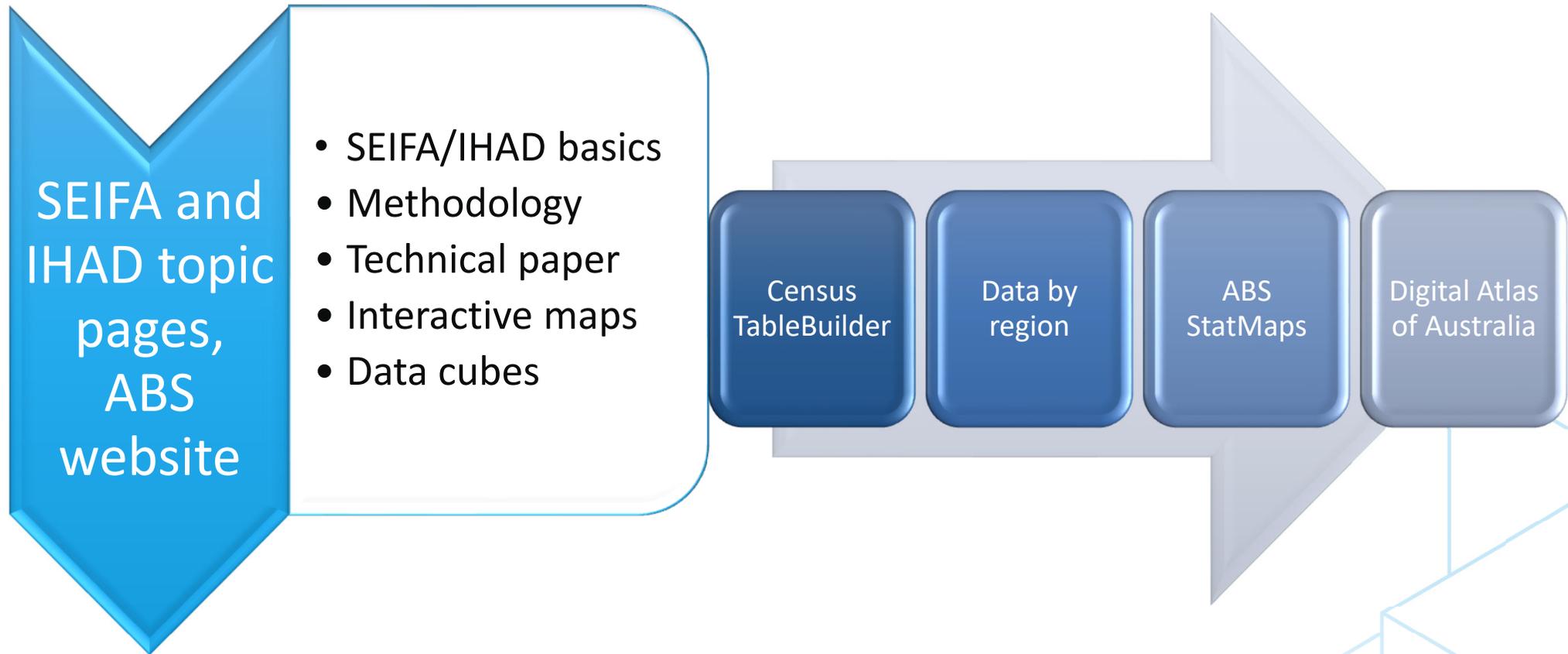
Quantifies diversity of
area level advantage
and disadvantage

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



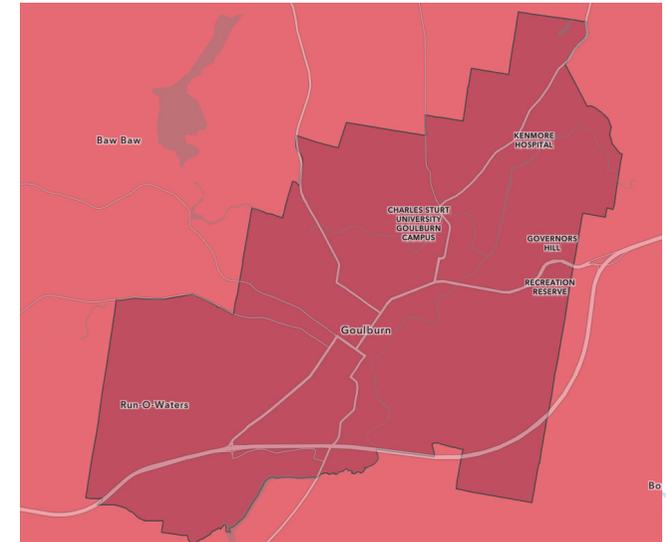
Australian Bureau of Statistics

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

2021 Statistical Area Level 2 (SA2)	2021 Statistical Area Level 2 (SA2)	Percentage of households in the IHAD(a)(b):				Occupied private dwellings(c)	SEIFA IRSAD(d) quartile	Usual resident population(e)	Dwellings(f)	
		Quartile 1	Quartile 2	Quartile 3	Quartile 4					
7	101021007	Braidwood	23.4	29.7	27.4	19.4	1720	3	4343	2778
8	101021008	Karabar	26.3	24.6	26.0	23.2	3052	2	8517	3451
9	101021009	Queanbeyan	29.2	27.6	24.8	18.3	4891	3	11342	5710
10	101021010	Queanbeyan - East	25.0	28.5	26.3	20.5	2261	3	5085	2589
11	101021012	Queanbeyan West - Jerrabomberra	10.6	16.5	24.8	47.9	4297	4	12744	4624
12	101021610	Googong	2.5	10.1	25.0	62.7	1923	4	6224	2091
13	101021611	Queanbeyan Surrounds	8.5	15.8	27.9	47.8	5368	4	16539	6105
14	101031013	Bombala	39.8	24.1	24.5	12.1	981	1	2454	1408
15	101031014	Cooma	34.9	28.0	22.5	14.3	2726	2	6761	3396
16	101031015	Cooma Surrounds	23.1	25.8	30.6	20.8	1272	3	3472	1887
17	101031016	Jindabyne - Berridale	19.2	29.5	28.9	22.5	2728	3	8035	5207
18	101041017	Batemans Bay	39.4	32.6	20.0	8.1	3445	1	8581	4877
19	101041018	Batemans Bay - South	33.2	33.3	22.8	10.8	3675	2	8938	5870
20	101041019	Bega - Tathra	32.7	29.2	23.4	14.7	3544	2	8872	4282
21	101041020	Bega-Eden Hinterland	28.1	31.9	26.7	13.2	3684	2	9557	4610
22	101041021	Broulee - Tomakin	25.4	32.4	23.2	19.3	1505	3	3792	2600
23	101041022	Deua - Wadbilliga	30.0	90.0	0.0	0.0	10	1	43	20
24	101041023	Eden	45.8	30.9	16.0	6.7	1371	1	3425	1777
25	101041024	Eurobodalla Hinterland	29.5	30.7	28.6	11.5	1318	2	3525	2097
26	101041025	Mferimbula - Tura Beach	30.0	25.2	21.8	12.9	1946	2	11513	6467
27	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
30	101051540	Goulburn Surrounds	25.3	25.7	29.8	19.2	5034	2	13839	7223
31	101061541	Yass	25.1	25.5	25.5	23.7	2513	2	6763	2902
32	101061542	Yass Surrounds	10.3	17.1	29.1	43.4	4165	4	12713	4928
33	101061543	Young	41.7	24.4	21.5	12.4	4180	1	11004	4930
34	101061544	Young Surrounds	37.7	24.6	22.8	14.8	2968	2	7677	4007
35	102011028	Avoca Beach - Copacabana	11.2	21.6	27.3	40.0	2522	4	7513	3653
36	102011029	Box Head - MacMasters Beach	20.2	25.7	25.4	28.8	4213	3	11042	5489
37	102011030	Calga - Kulnura	22.9	25.4	24.7	27.2	1634	3	4716	2196
38	102011031	Erina - Green Point	29.2	24.7	20.2	25.9	5584	3	14758	6133
39	102011032	Gosford - Springfield	31.3	28.8	22.1	17.7	9188	2	21204	10669



SEIFA and IHAD webinars

SEIFA



IHAD





An Australian Government Initiative

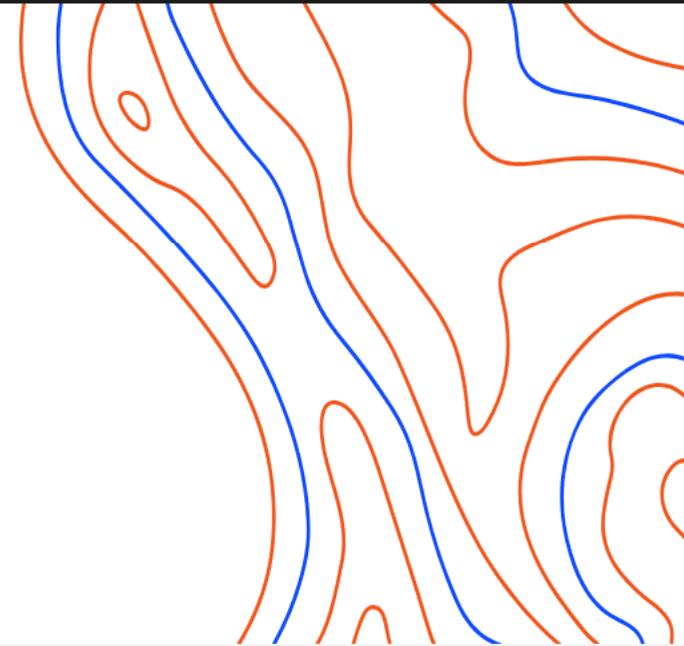
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ABS data on the Digital Atlas of Australia

✓ Latest release

↓ Data download

Socio-Economic Indexes for Areas (SEIFA), Australia

Australian Bureau of Statistics

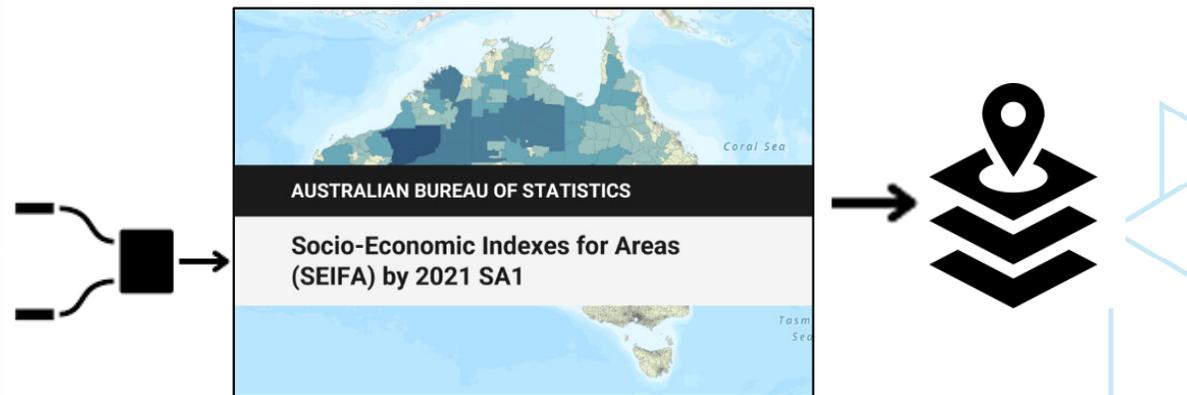
Socio-Economic Indexes for Australia (SEIFA), 2021
Released at 11.30 am (Canberra time) 27 April 2023

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

2021 Statistical Area Level 1 (SA1)	Usual Resident Population	Ranking within Australia			Ranking within State or Territory				
		Score	Rank	Decile	Percentile	State	Rank	Decile	Percentile
10102100701	305	1017	28267	5	48	NSW	9972	5	48
10102100702	301	1097	52131	9	88	NSW	15957	9	88
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	6391	4	34
10102100707	418	1033	32658	6	56	NSW	10341	6	55
10102100708	843	1051	35283	7	65	NSW	11968	7	63
10102100709	437	1058	40730	7	69	NSW	12995	7	67
10102100710	541	1010	26493	5	45	NSW	8543	5	46
10102100801	382	1026	30604	6	53	NSW	9162	6	52
10102100802	574	1074	45658	8	78	NSW	13969	8	74

Statistical Areas Level 1 - 2021 - Shapefile

DIGITAL ATLAS OF AUSTRALIA



70+ total ABS web services available with more to come

1000s of data items available

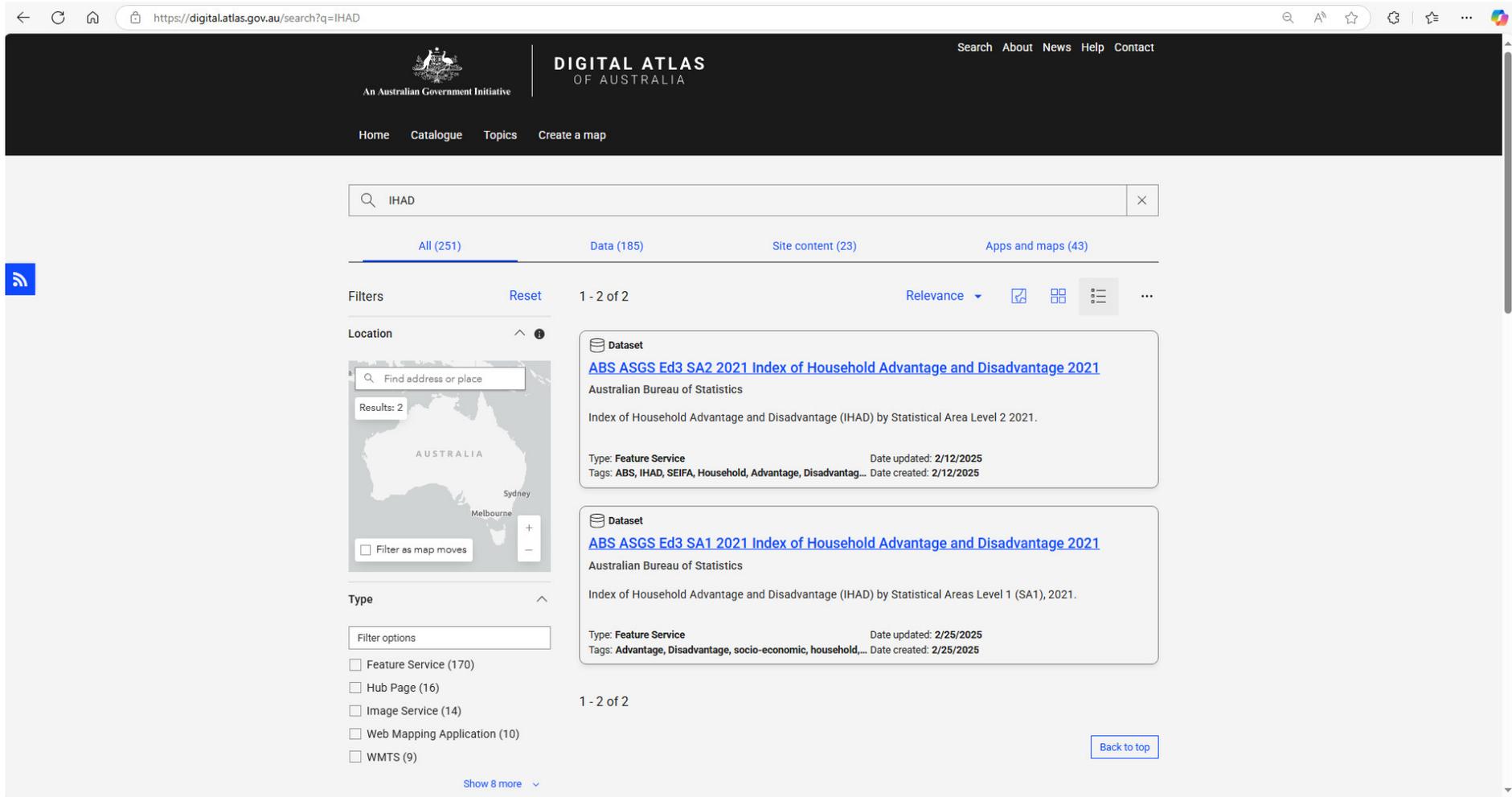
Web Services = stream content/data on-demand

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 Initiative logo, the text "DIGITAL ATLAS OF AUSTRALIA", and navigation links for "Search", "About", "News", "Help", and "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 subtext "Bringing together curated and trusted national datasets." A search bar is highlighted with a red box, containing the text "IHAD". Below the search bar, there is a section titled "Featured maps and apps" with the description "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".

Where to find IHAD and SEIFA data on the Digital Atlas



The screenshot shows the Digital Atlas search results for 'IHAD'. The search bar at the top contains 'IHAD'. Below the search bar, there are tabs for 'All (251)', 'Data (185)', 'Site content (23)', and 'Apps and maps (43)'. The 'Data' tab is selected. On the left side, there are filters for 'Location' and 'Type'. The 'Location' filter shows a map of Australia with a search bar and 'Results: 2'. The 'Type' filter has a dropdown menu and a list of options: Feature Service (170), Hub Page (16), Image Service (14), Web Mapping Application (10), and WMTS (9). The main content area displays two dataset results. The first result is 'ABS ASGS Ed3 SA2 2021 Index of Household Advantage and Disadvantage 2021' by the Australian Bureau of Statistics. It is a Feature Service, updated on 2/12/2025, and created on 2/12/2025. The second result is 'ABS ASGS Ed3 SA1 2021 Index of Household Advantage and Disadvantage 2021' by the Australian Bureau of Statistics. It is a Feature Service, updated on 2/25/2025, and created on 2/25/2025. A 'Back to top' button is located at the bottom right of the results area.

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

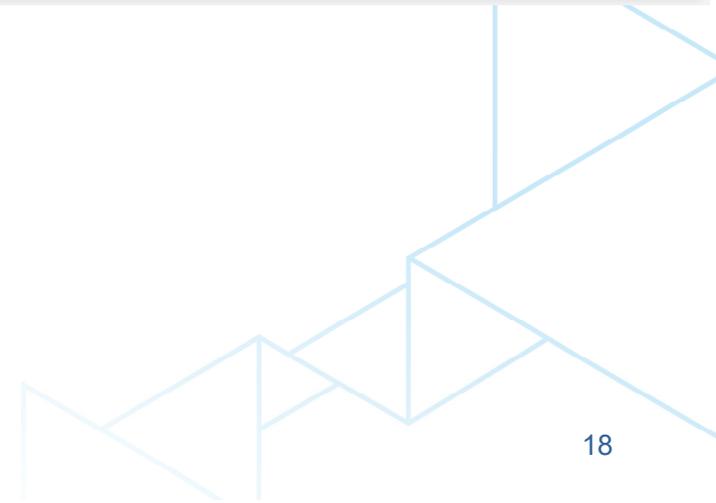
Dataset ...

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

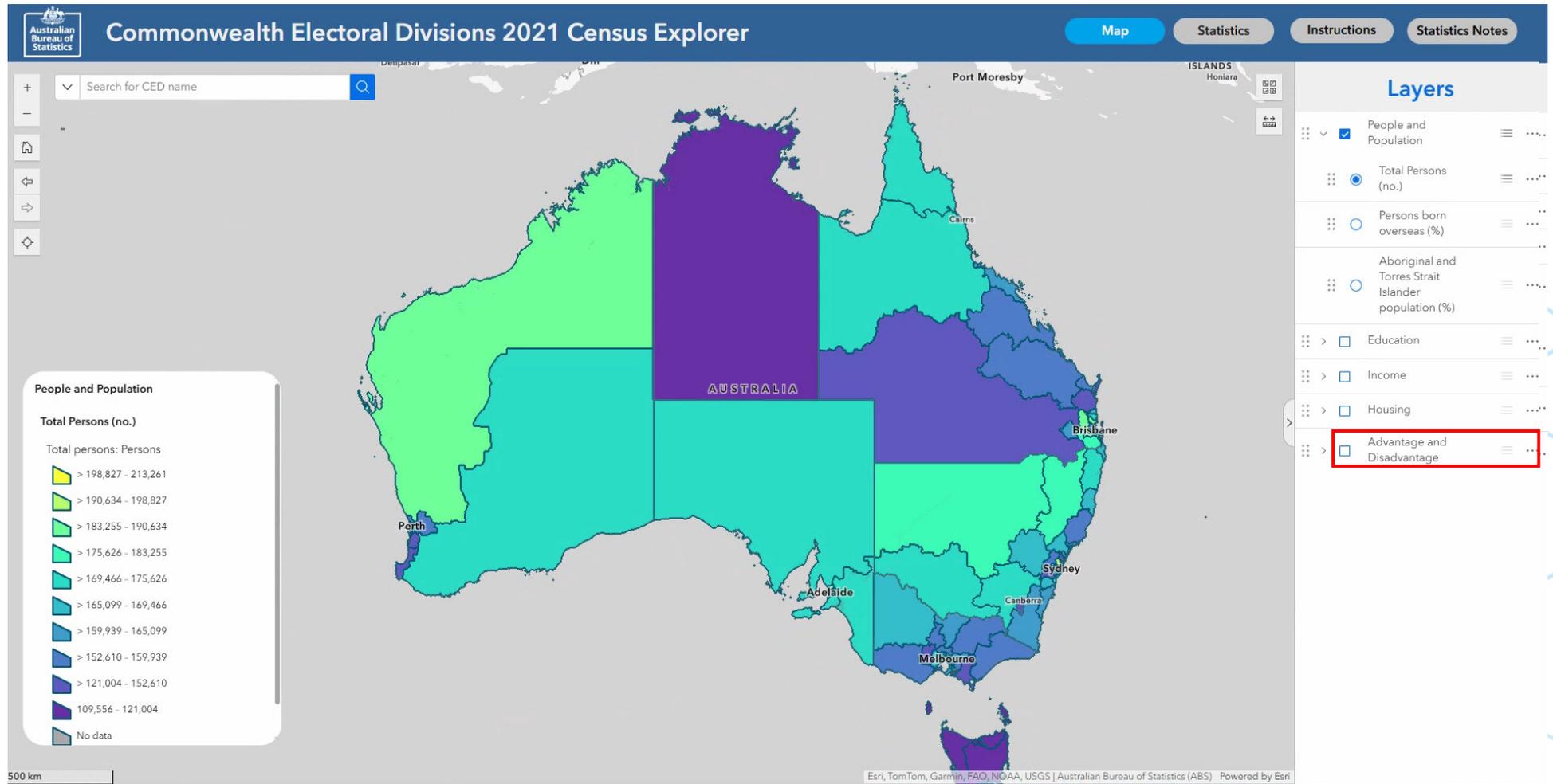
Australian Bureau of Statistics

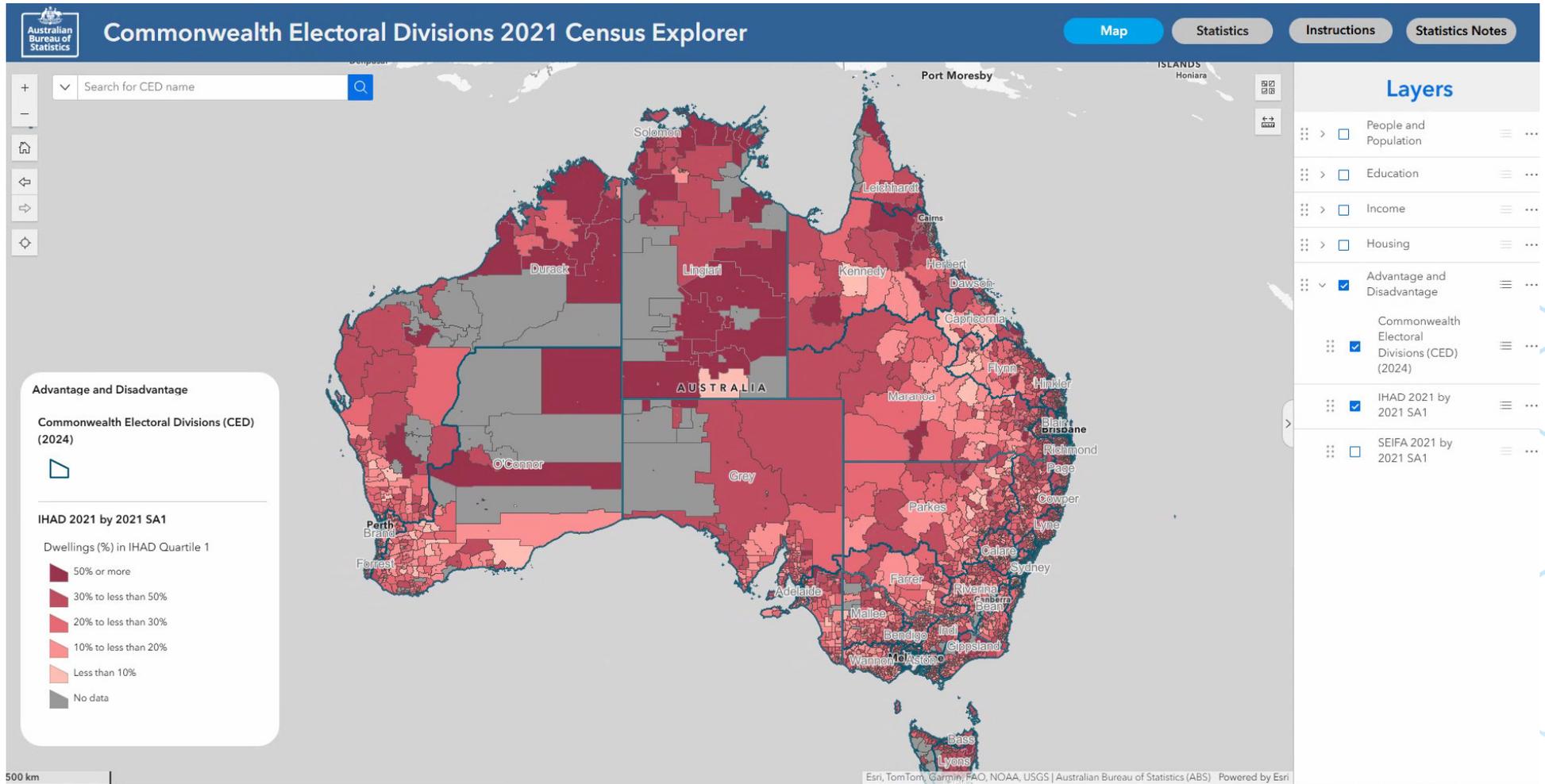
Index of Household Advantage and Disadvantage (IHAD) by Statistical Area Level 2 2021.

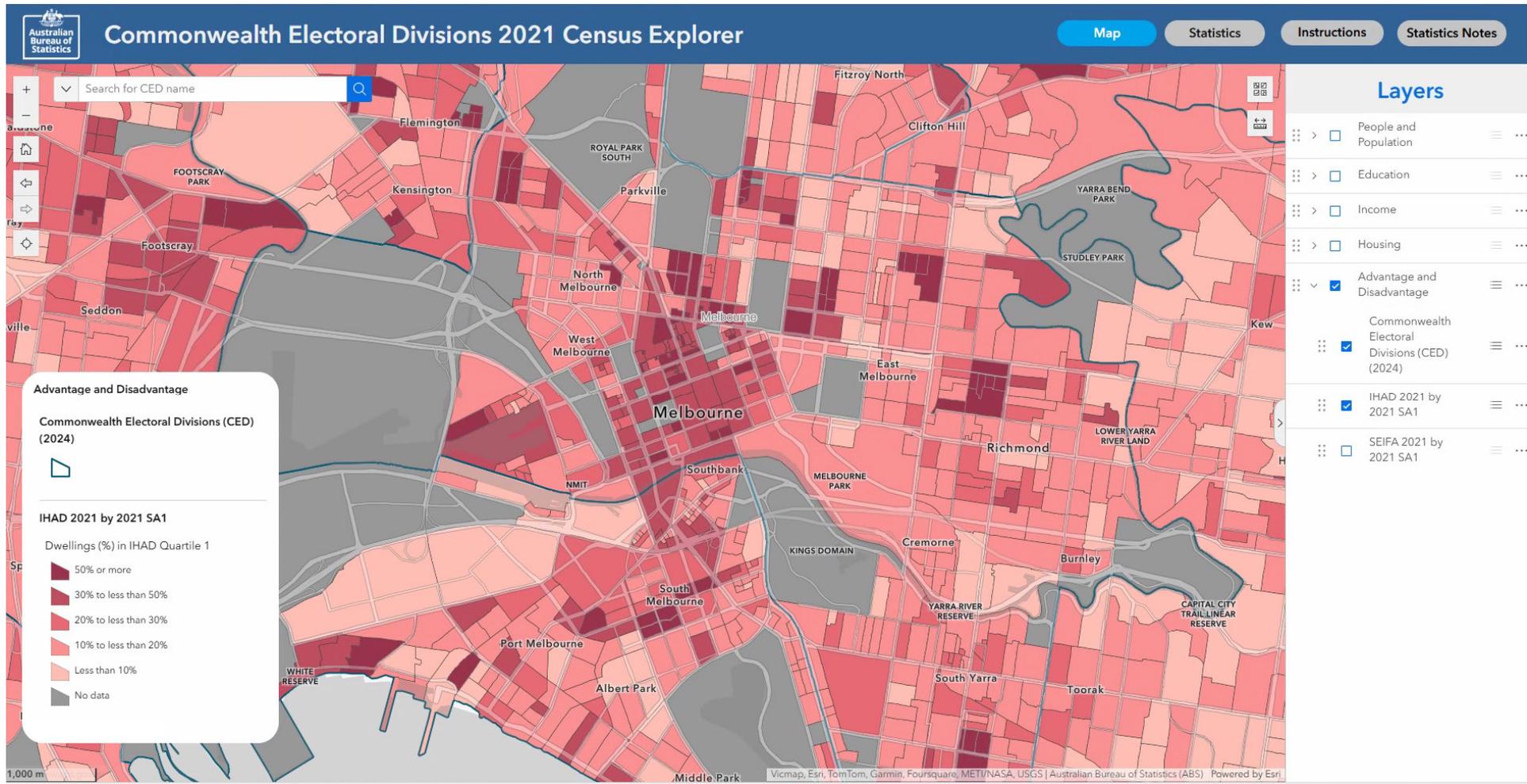
Type: **Feature Service** Date updated: 2/12/2025
Tags: ABS, IHAD, SEIFA, Household, Advantage, Disadvantag... Date created: 2/12/2025



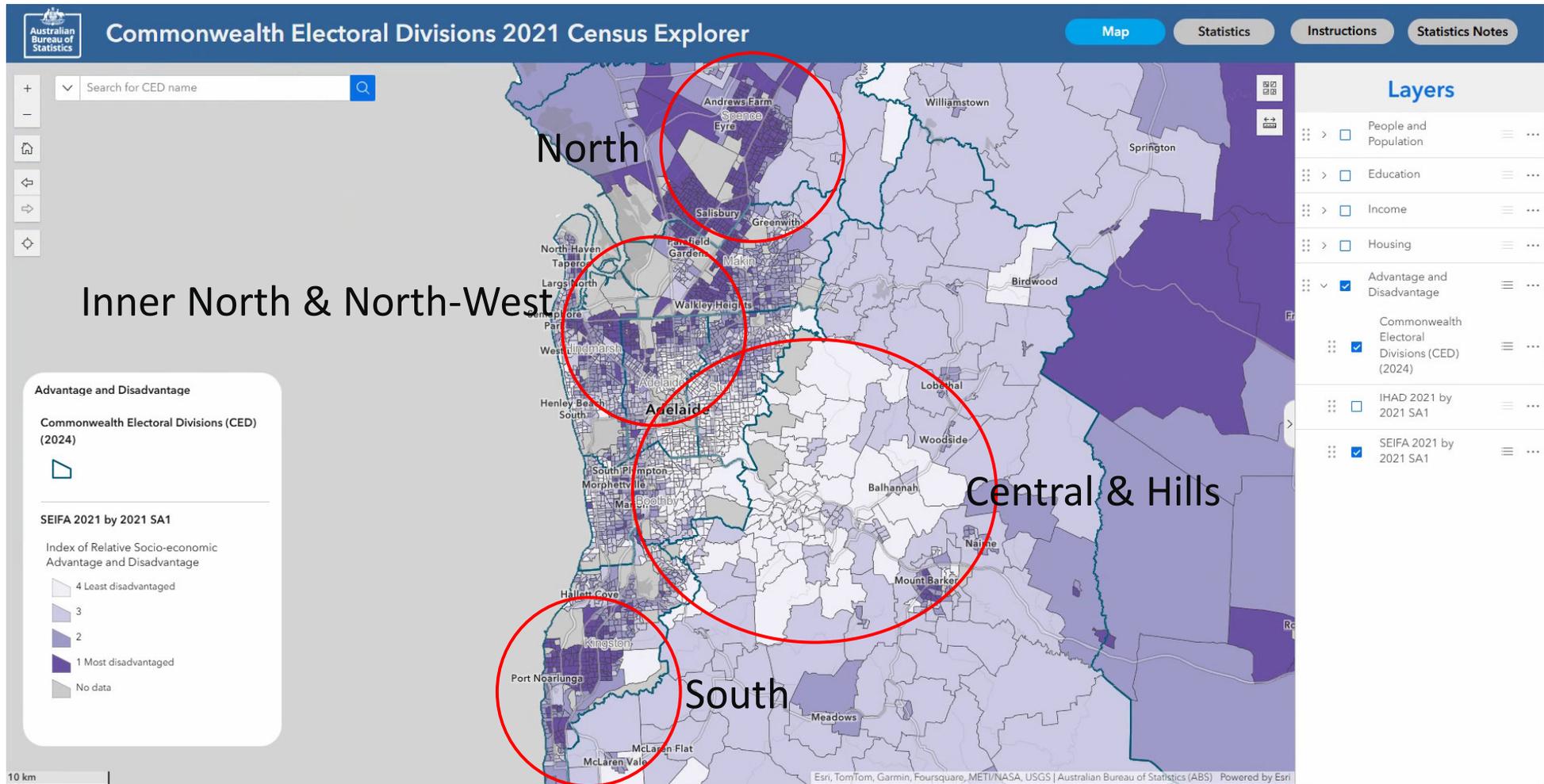
Commonwealth Electoral Divisions 2021 Census Explorer







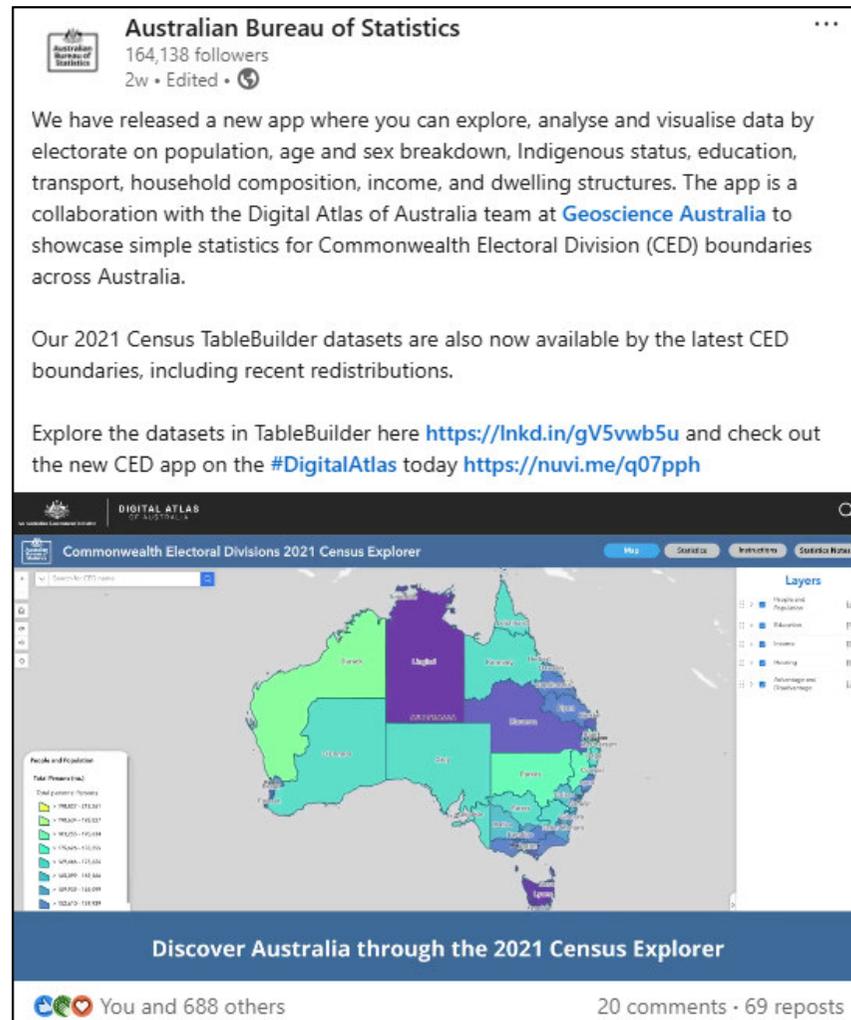
SEIFA IRSAD



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Australian Bureau of Statistics
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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](#) 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>

DIGITAL ATLAS OF AUSTRALIA

Commonwealth Electoral Divisions 2021 Census Explorer

Map | Statistics | Information | Statistics Notes

Layers

- Health and Population
- Education
- Income
- Housing
- Advantage and Disadvantage

People and Population

Total persons (total)

- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331
- > 196,027 - 175,331

Discover Australia through the 2021 Census Explorer

You and 688 others 20 comments · 69 reposts



SEIFA IRSD Application



DIGITAL ATLAS OF AUSTRALIA

Index of Relative Socio-Economic Disadvantage (IRSD) 2021 (with Indicator Profile)

Home Page
Indicator in IRSD
More Information
Instructions
Contact us

Profile of Indicators in Index of Relative Socio-Economic Disadvantage (IRSD) Most (1) to Least (5)

Income Indicators
Low Income = 1
 Derived from number of households with low income

Education Indicators
Low Secondary School Completion = 1
 Derived from number of people aged 15 years or over with highest level of educational completion as year 11 or lower
No Formal Education = 1
 Derived from number of people aged 15 years or over without formal education

Employment Indicators
Unemployment = 1
 Derived from number of people in the labour force without employment

Occupation Indicators
Low skill occupation (drivers) = 2
 Derived from number of people with occupation 'Machinery Operators and Drivers'
Low skill occupation (labourers) = 1
 Derived from number of people with occupation 'Labourers'
Low skill occupation (service) = 1
 Derived from number with occupation 'Low skill Community and Personal Service Workers'

Housing Indicators
Low Rent Dwellings = 1
 Derived from private dwellings with rent less than \$250 per week
Overcrowding = 1
 Derived from number of occupied dwellings requiring 1 or more extra bedrooms based on number of residents and their characteristics

Other Indicators
No Motor Vehicle Ownership = 5
 Derived from number of occupied dwellings without a registered motor vehicle
Requiring assistance, under 70 years = 1
 Derived from number of people aged under 70 who require assistance with core activities due to a long-term health condition, disability, or old age
Low English Proficiency = 5
 Derived from number of people with reported proficiency as 'do not speak English well'
Family Composition = 1
 Derived from number of one-parent families with dependent offspring
Marital Status = 1
 Derived from number of people aged 15 years or over that are separated or divorced
Parent Unemployment = 1
 Derived from number of families with children under 15 years and parents without employment

Index of Relative Socio-Economic Disadvantage (IRSD) 2021 Quintile

(Click on map to display)

1

SA1 Code: 31304137336

IRSD 2021

- 1 Most disadvantaged
- 2
- 3
- 4
- 5 Least disadvantaged
- No Data
- Local Government Area (2021)

Data used in this app



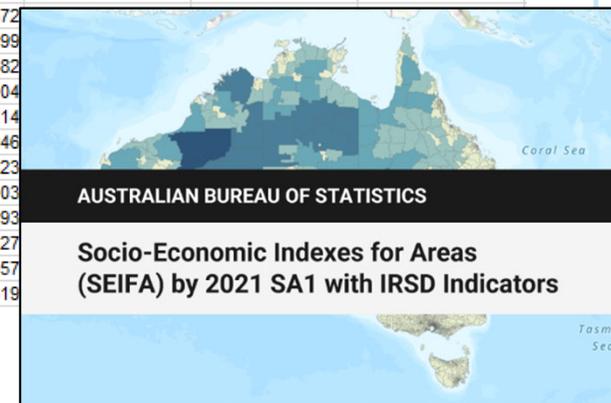
Australian Bureau of Statistics

Socio-Economic Indexes for Australia (SEIFA), 2021

Released at 11.30am (Canberra time) 6 October 2023

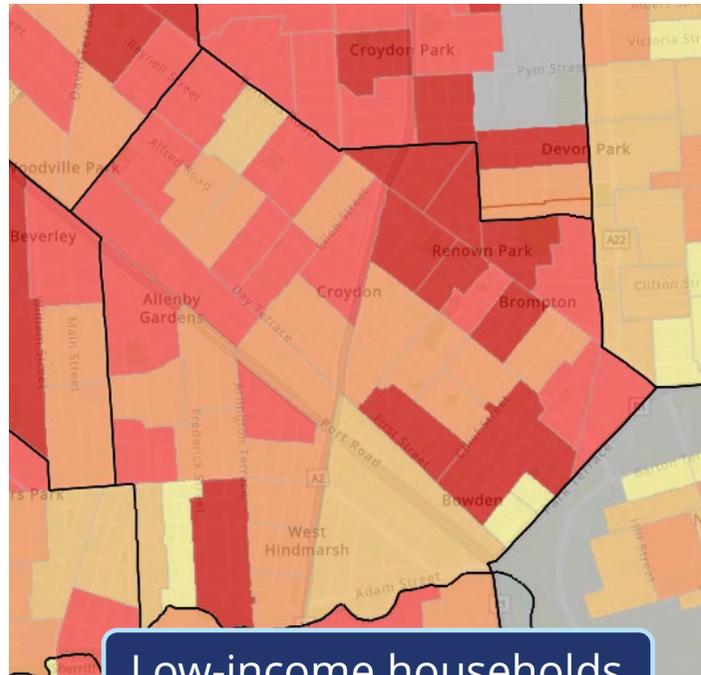
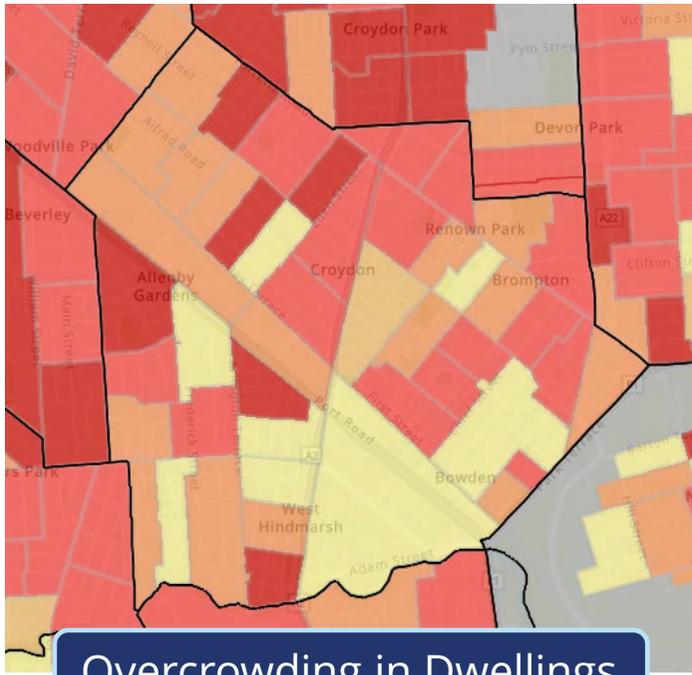
Table 2 Statistical Area Level 1 (SA1), Index of Relative Socio-economic Disadvantage, Standardised variable proportions, 2021

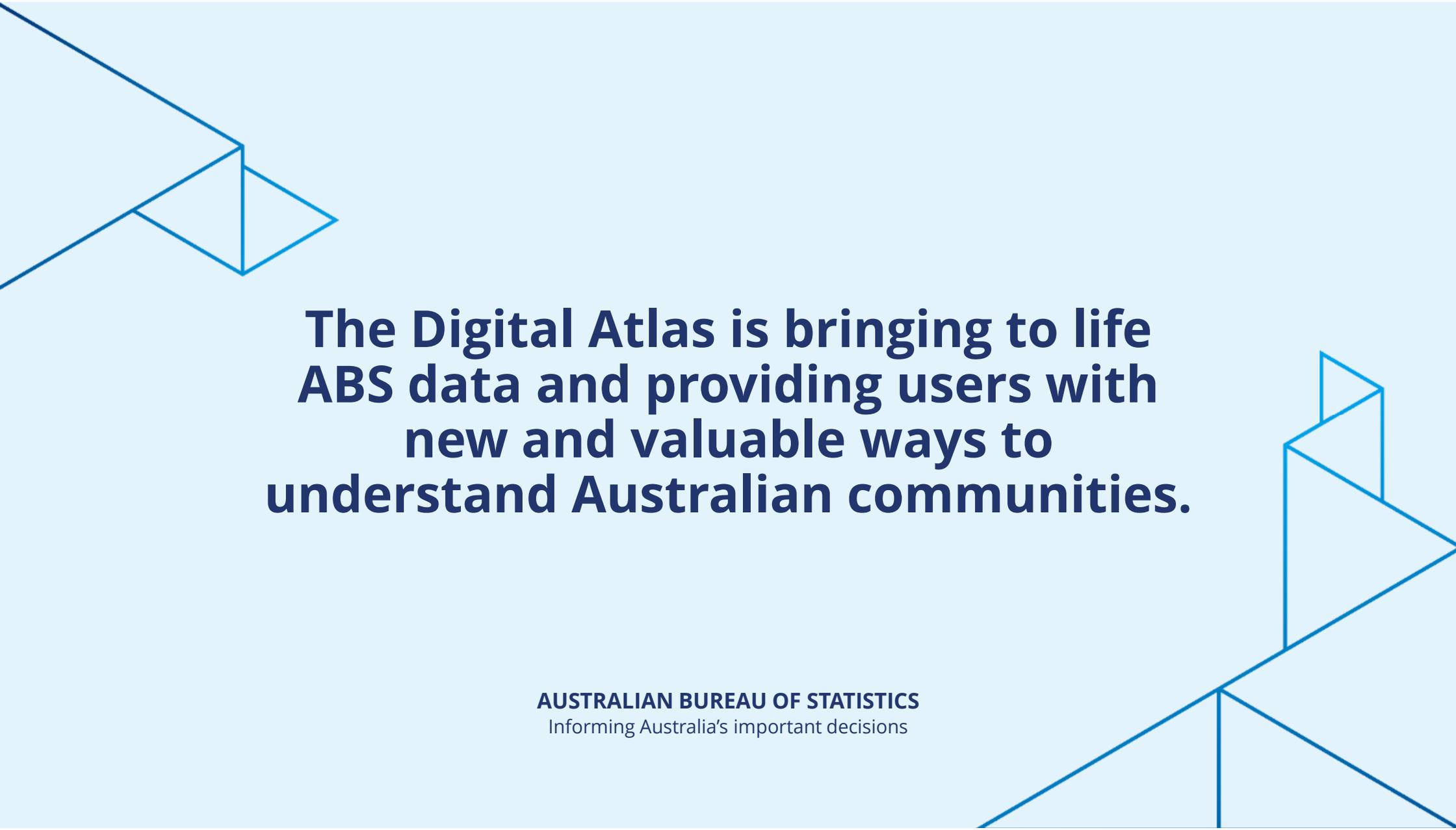
2021 Statistical Area Level 1 (SA1) 11-Digit Code		Score	Variable name							
			INC_LOW	NOYR12ORHIGHER	NOEDU	UNEMPLOYED	OCC_DRIVERS	OCC_LABOUR	OCC_SERVICE_L	LOWRENT
10102100701	1017	1017	0.031159847	0.039551629	-0.49432578	-0.499105536	0.304978177	0.421874067	-1.104686619	-0.19554581
10102100702	1097	1097	-0.745478172	-0.328068429	-0.49432578	-0.594296438	-0.024571341	-0.531523223	-0.420975489	-0.300570365
10102100703	1009	1009	0.207461731	-0.14829177	-0.49432578	-0.892215334	1.14079217	0.905481388	-0.235365681	0.039632825
10102100704	984	984	0.383411364	0.083634661	0.10897319	-0.378148675	-0.215812511	-0.350864669	-0.379501795	0.175209889
10102100705	1010	1010	0.334498725	0.356361681	-0.49432578	-0.036476717	0.545660408	0.215279149	-0.537894027	-0.369140189
10102100706	979	979	0.590167689	0.606772634	-0.49432578	-0.278537142	0.720497133	1.789791917	-1.332783672	-0.553516829
10102100707	1033	1033	0.3620388	-0.2230096	-0.49432578	-0.613084116	-0.191961572			
10102100708	1051	1051	0.087603299	-0.192492865	-0.097508974	-0.779540551	-0.885968099			
10102100709	1058	1058	-0.472559822	-0.121637539	-0.49432578	-0.925953301	-0.149572882			
10102100710	1010	1010	0.56913711	0.208192482	-0.49432578	-0.275265828	0.536479904			
10102100801	1026	1026	-0.453766044	0.225043408	0.080600219	-0.888128953	0.101831214			
10102100802	1074	1074	-1.027386982	0.475429734	-0.49432578	-1.095136383	0.350121946			
10102100803	827	827	1.883189939	1.888338947	-0.49432578	1.662202584	0.619433823			
10102100804	863	863	0.762831216	0.803087841	-0.49432578	0.12477722	1.071372403			
10102100805	693	693	2.934254273	2.120238927	1.494288122	1.442104573	1.653135293			
10102100806	1008	1008	-0.514407303	0.498623144	-0.49432578	-0.349688237	0.313605127			
10102100807	978	978	-0.276244446	0.523780745	-0.49432578	0.674725819	-0.440268657			
10102100808	969	969	0.332911589	0.25255253	-0.01310319	-0.349688237	0.610116619			



Unpacking SEIFA for Hindmarsh – Brompton SA2

Examples of Indicator Pages at Small Area (SA1 level)



The background features abstract geometric shapes in the top-left and bottom-right corners, composed of blue lines forming various triangles and polygons. The main text is centered in the middle of the page.

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