



Tinkering with the Past - Spatializing Historical Census Data in Australia

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Census at ADA

- Two core collections
- ABS Census tables collection
 - All census tables (organised in “Data Pack” type format) from 1966 to the present
 - <http://legacy.ada.edu.au/historical/abs-census>
- HCCDA: The Historical and Colonial Census Data Archive
 - Digitised version of the pre-Federation and 1901 censuses for all the colonies from 1834 to 1901
 - <http://hccda.ada.edu.au>

Post-1966 files

Table	Mnemonic	1961	1966	1971	1976	1981	1986	1991
Collection District Master File	CDMF		Online	Online	Online	Online	Online	
Collection District Summary File	CDSF		14 Files	9 Files	12 Files	7 Files		1 File
Collection District Summary File - Preliminary	CDPF				2 Files			
Local Government Area Summary File	LGASF		16 Files	8 Files	1 File	2 Files		
Local Government Area Summary File - De Facto	LGDEF1				2 Files			
Local Government Area Summary File, Occupations, Industry, Qualifications - De Facto	LGDEF2				1 File			
Local Government Area / Geographic Descriptor File	LGAD / GDF				1 File	1 File		
Journey to Work Tables	JTW	Online	4 Files	7 Files				
Aboriginal Collection District Summary File	ABCDSF				3 Files			
Australian/Federal Electoral Division Summary File	AEDSF / FEDSF				1 File	1 File		
Urban Centres Summary File	UCSF					1 File		
Postcode Summary File	PCSF						1 File	
Statistical Local Area Summary File	SLASF						1 File	
ASCO/CCLO Link File	ASCO						Online	
Socio-economic Indicator File	SES						1 File	
Detailed / Special Tables	DT		Online	5 Files				Online



HCCDA

- The Historical Census and Colonial Data Archive (HCCDA) is an archive of Australian Colonial census publications and reports. It's a sub-archive of the Australian Data Archive (ADA)
 - Collaboration between ABS archive and ADA from 2007 - 2011
- Note that the archive contains colonial census reports and not the individual census returns

HCCDA Document 'NSW-1891-census' page 3:

CENSUS OF NEW SOUTH WALES, 1891.—AGES., TABLE II.—Showing the Number of Persons, Males and Females (exclusive of Aborigines), at, above, and under each Year of Age.

Ages.	Population at each Year of Age.			Population at and above each Year of Age.			Population under each Year of Age.		
	Males.	Females.	Total	Males.	Females.	Total.	Males.	Females.	Total.
0	17,488	17,141	34,629	608,003	515,951	1,123,954			
1	16,380	15,724	32,104	590,515	498,810	1,089,325	17,488	17,141	34,629
2	17,055	16,423	33,478	574,135	483,086	1,057,221	33,868	32,865	66,733
3	16,520	16,321	32,841	557,080	466,663	1,023,743	50,923	49,288	100,211
4	16,197	15,745	31,942	540,560	450,342	990,902	67,443	65,609	133,052
5	15,734	15,250	30,984	524,363	434,597	958,960	83,640	81,354	164,994
6	14,988	14,759	39,747	508,629	419,347	927,976	99,374	96,604	195,978
7	14,564	14,247	28,811	493,641	404,588	898,229	114,362	111,363	225,725

Census data in Australia

Year(s)	Geography	Base unit	Census tables	Data provider	Census sample file
2011 – present	ASGS	Mesh block	Community profiles; TableBuilder (ABS)	ABS	ACLD Census sample file (1%, 5%)
1996 – 2006	ASGC	Census collection district (CCD)	CDATA; Community profiles	ABS	2006: 1%, 5%, 1996-2001: 1%
1991	ASGC	CCD	CDATA; Community profiles	ADA	1% only
1986	ASGC	CCD	CDATA; SLA summary file	ADA	1% only

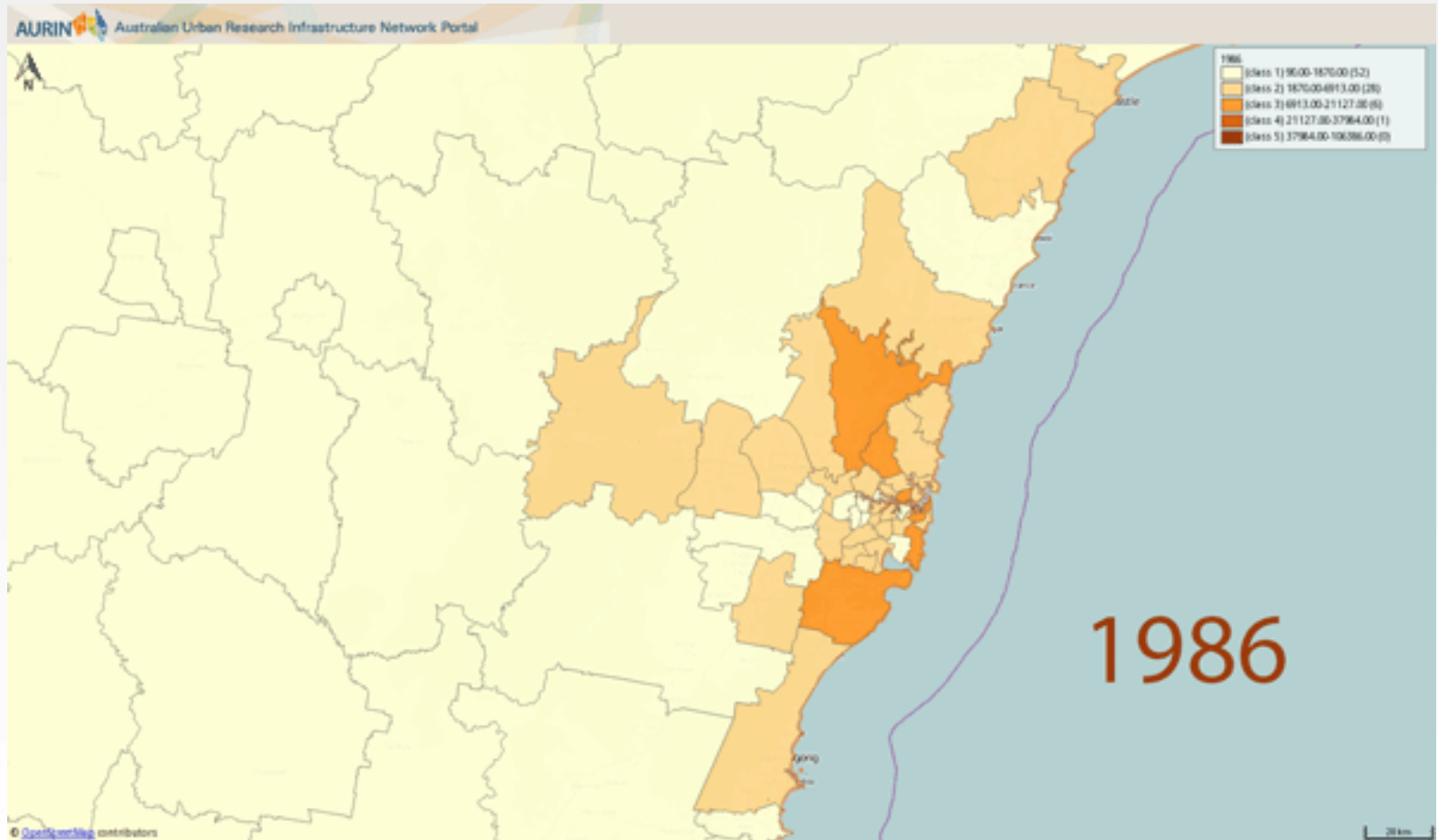
Census data in Australia

Year(s)	Geography	Base unit	Census tables	Census sample file	Maps
1981	ASGS	CCD	Summary file (CD and LGA)	Census sample file (1%)	Digital boundaries
1966 – 1976		Census collection district (CCD)	Summary file (CD and LGA)		Paper
1911 – 1961		Municipality	Statistical tables (print)		?
1834 – 1901		Municipality	Statistical tables (print)		?



Spatialising the census

Where are we now?

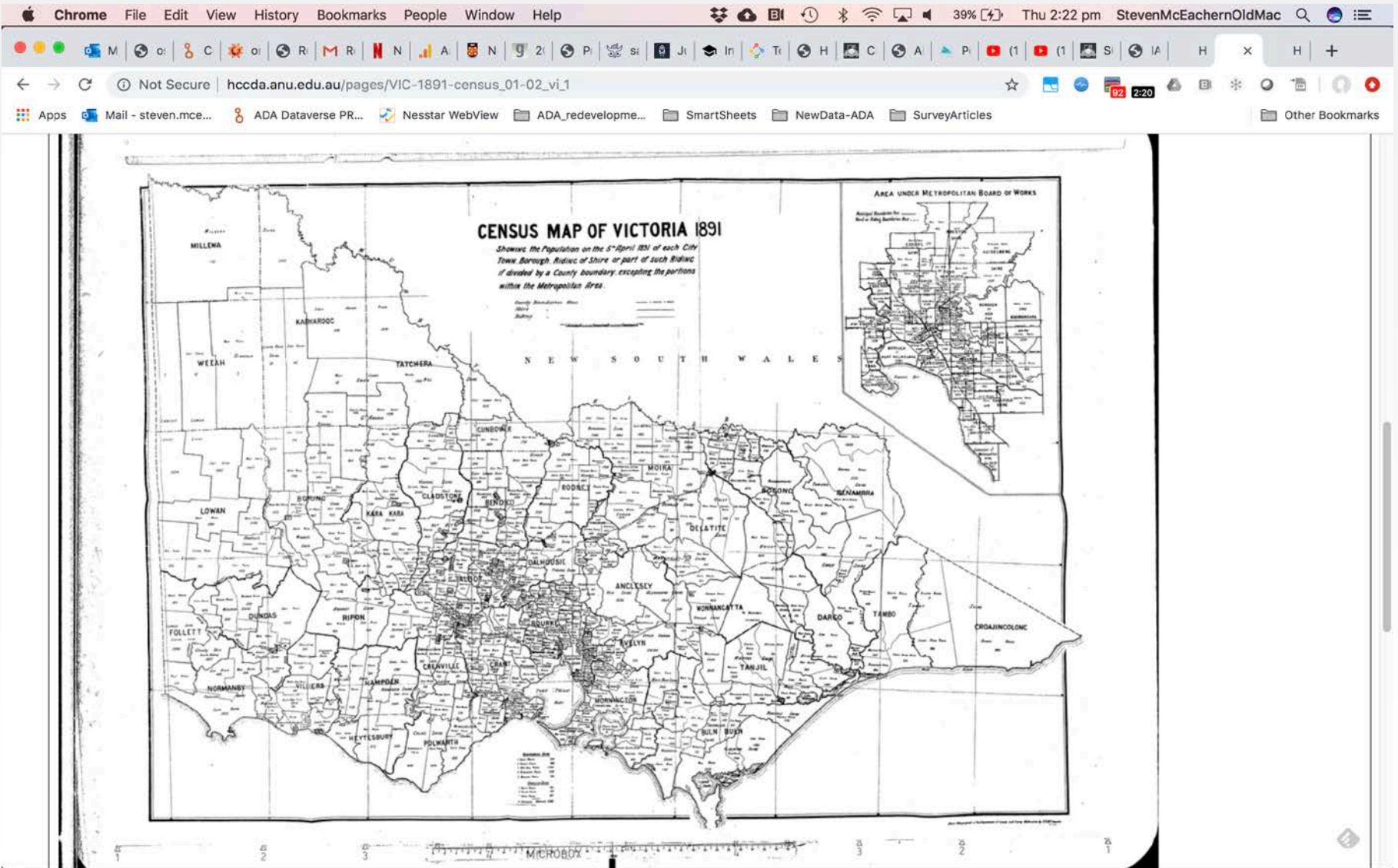


- <https://aurin.org.au/all-the-abs-data-you-ever-wanted/>

What's missing?

- 1966 – 1976: Table data – but no **Digitised boundaries** for Census Collection Districts
 - ABS Archives
 - State and university collections – e.g.
<http://www.library.uow.edu.au/content/groups/public/@web/@lib/documents/doc/uow026897.pdf>
- 1911 – 1961: ABS tables in PDF – but **no machine readable data**
 - PDF: ABS Historical collection
 - Print: various locations
- 1834 – 1901: Digitised images - but **no machine-readable data or maps**
 - HCCDA: some XML
 - Maps: state archives (e.g.
<https://archive.sro.wa.gov.au/index.php/west-and-east-kimberley-electoral-districts-wyndham-dead-horse-station-stud-station-census-sub-districts-on-base-map-10a-undated-01>

Or maybe not...



Or what about...

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Run on the sea-coast ; and thence northerly by the sea-coast to the point of commencement,—including all islands within sixty miles of the mainland, exclusive of Subdivision No. 2.

NO. 15.—TOWNSVILLE.

Commencing at the southern mouth of the Burdekin River, and bounded thence by that river upwards to its confluence with the Bowen River ; thence by a line west to the north-eastern watershed of the Burdekin River ; thence by that watershed north-westerly to the head of Saltwater Creek, intersecting Hinchinbrook No. 2 Run ; thence by that creek easterly to Halifax Bay, and thence by the sea-coast south-easterly to the point of commencement, to include all adjacent islands. This includes the whole of the Division of Thuringowa under "The Divisional Boards Act," and the Municipality of Townsville.

SUBDIVISION NO. 1.

Commencing on the Burdekin River at the north boundary of Northcote Run, and bounded thence by the Burdekin River upwards to the confluence of the Bowen River ; thence by a line west to the north-eastern watershed of the Burdekin River ; thence by that watershed north-westerly to the Northern Railway line ; thence by that railway line to the west boundary of Magenta Run ; thence by the west boundary of that run and by the north boundary of same, passing along the south boundary of portion 119 to Major Creek ; thence by Major Creek downwards to the Houghton River ; thence by that river upwards to the north boundary of Barratta West Run ; thence by the north boundaries of Barratta West and Barratta East Runs, and part of the west and north boundary of Northcote Run to the point of commencement. This includes part of the Division of Thuringowa under "The Divisional Boards Act."

SUBDIVISION NO. 2.

Commencing at the mouth of the Ross River, and bounded thence by that river upwards to the south-west corner of portion 62, parish of Landsdowne ; thence by the south boundaries of portions 62 and 247, and a line in continuation east to Five head Creek ; thence by that creek upwards to the south-east corner of portion 308, parish of Stuart ; thence by a line east to the south-west boundary of portion 311 parish of Beor ; thence by part of the south-west boundary of that portion, by a line along its south boundary east to the east boundary of Landsdowne Run ; thence by the east boundary of that run, part of the north and west boundaries of Magenta Run to the Northern Railway line ; thence by that railway line to the north-eastern watershed of the Burdekin River ; thence by that watershed north-westerly to the head of Saltwater Creek, intersecting Hinchinbrook No. 2 Run ; thence by that creek easterly to Halifax Bay ; thence by the sea-coast south-easterly to the point of commencement,—inclusive of all islands adjacent thereto, and exclusive of the Municipality of Townsville. This includes part of the Division of Thuringowa under "The Divisional Boards Act."

SUBDIVISION NO. 3.



A grand idea: A 250 year census time series of Australia

- The year 2020 is the 250th anniversary of Cook's landing at Botany Bay
- What if we could create a 250 year census time series of the historical population of Australia?
- We know what we have
- We know what else is needed

- What resources would be needed?
- How long would it take?

Data sources

Year	Data	Images	Maps
1834 – 1901	~ HCCDA	HCCDA	Archives, HCCDA
1911 – 1961		PDF images (ABS)	Archives, National Library
1966 – 1976	ADA Census collection	N/A	ABS and other archives
1981 – 1991	ADA Census collection	N/A	ABS digital boundaries
1996 – Present	ABS Census products	N/A	ABS digital boundaries

Extensions

- Vital statistics
 - Births, deaths and marriages, e.g. <https://www.bdm.vic.gov.au/research-and-family-history/apply-for-registry-data>
 - Australian Demographic Databank
- Aboriginal population
 - e.g. The Annual Aboriginal Census 1921-1944 (Smith and Briscoe)
 - Smith, L.R. (1980) The Aboriginal Population of Australia. *Aborigines in Society*; no. 14. Canberra: ANU Press
 - Briscoe, G. and Smith, L.R. (2001) *The Aboriginal Population Revisited: 70,000 years to the present*. Canberra: Aboriginal History Incorporated.
- Election results
 - <http://psephos.adam-carr.net/>
 - <http://elections.uwa.edu.au/>
- Crime
 - Australian Crime and Economic Statistics, 1900 – 1980
 - Australian Institute of Criminology - <http://aic.gov.au/statistics/homicide.html>
- Weather and climate
 - Bureau of Meteorology

Why does this matter?

- Studying long-term trends in the Australian population and related measures helps us to better understand the relationships between social, economic and environmental change
- Studying such changes requires long-term time series from multiple data sources – **including population estimates**
- e.g. relationship between drought and suicide in Australia
 - Page, A., Morrell, S. & Taylor, R. (2002). Suicide and political regime in New South Wales and Australia during the 20th century. *Journal of Epidemiology and Community Health*, 56, 766.
 - Hanigan, I.C., Butler, C.D., Kokic, P.N. & Hutchinson, M.F. (2012). Suicide and drought in New South Wales, Australia, 1970-2007. *Proceedings of the National Academy of Sciences of the United States of America*, 109, 13950{13955.



Questions?

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