BITRE STATISTICAL ALERT

3218.0 - Regional Population Growth, Australia, 2016-17	27 April 2018

Overview

The latest release of the ABS publication Regional Population Growth provides new insight into population change in Australia.

1. For the first time the release includes small area estimates of the components of population change: natural increase, internal migration and overseas migration.
2. Australia's estimated resident population (ERP) reached 24.6 million at 30 June 2017, increasing by 388,100 people or 1.6% since 30 June 2016.
3. The most rapid population growth occured in capital cities, reflecting high levels of overseas migration to these areas. Melbourne, Brisbane, Hobart and the ACT all have positive net internal migration while Darwin, Adelaide, Sydney and Perth have varying degrees of negative net internal migration. Over the period the population increased in all BITRE Migration Geography classifications, with the exception of remote areas.
4. The release includes a 2017 estimated residential population on the Australian population grid, allowing for consistent comparisons of population density over time and improved spatial accuracy in regional Australia.

Components of population change

How were they estimated?

*   **Natural increase** is calculated based on births and deaths data provided to the ABS by the state and territory Registries of Births, Deaths and Marriages.
*   **Internal migration** is calculated using de-identified Medicare change of address data provided by the Department of Human Services, with adjustments to take into account undercoverage of certain subpopulations.
*   **International migration** is calculated using a model to allocate state/territory overseas arrivals and departures into sub-state areas, based on information from the Census.

How can we use them?

The estimates can be used to get a more detailed picture of population change. They have been released at a small area (Statistical Area level 2, or SA2) scale and can be usefully aggregated to larger geographies of interest, like the BITRE Migration Geography classification shown below. Like all modelled estimates, care needs to be taken when interpreting the results, especially of small areas and small populations.

The new information shows a similar (although more up to date) story to the population change between the 2011 and 2016 Censuses. An overview using BITRE's Migration Geography classification is shown in Figure 1, while Figure 2 presents the components for the greater capital cities.

Insights from the latest release:
*   Overseas migration is the largest component of population change for capital city areas, although they also have a high rate of natural increase.
*   Overall, capital city areas have a small net internal migration outflow to other parts of Australia.
*   Among the capital cities there is signification variation in the internal migration direction of flows. Melbourne, Brisbane, Hobart and the ACT all have positive net internal migration while Darwin, Adelaide, Sydney and Perth have varying degrees of negative net internal migration.
*   On net, internal migrants are moving to coastal city and country areas.
*   On net, internal migrants are moving out of inland cities and country areas.
*   Remote areas, which are the only areas to have seen a net loss in population, have the highest rate of natural population increase as a proportion of the population, as well as the highest net outward internal migration.

Figure 1: components of population change
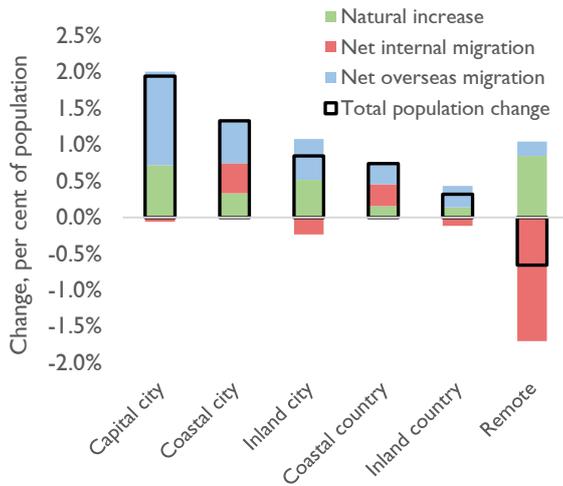
BITRE Migration Geography

Figure 2: components of population change
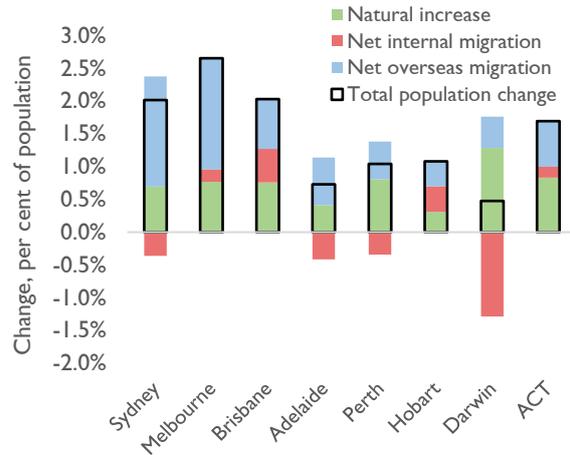
Greater capital cities

Source: BITRE analysis of 3218.0 - Regional Population Growth, Australia, 2016-17

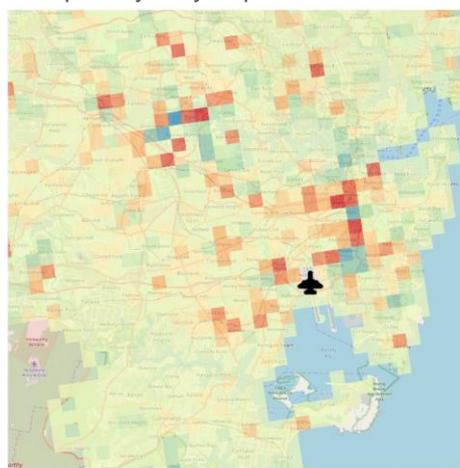## The Australian population grid 2017

How was it estimated?

The Australian population grid represents the area of Australia as 1km square grid cells. The population value represented in the grid cells has been modelled from the preliminary 2017 population estimates at the very small area scale (SA1).

How can we use it?

Foremost the population grid allows for the consistent measurement and comparison of population density. This is especially useful in making comparisons where the units of statistical geography would otherwise be inconsistent, especially over time and to other countries. As an example, Maps 1 and 2 show the change in population density around the Western Sydney Airport site (map 1) and Sydney Airport (map 2).

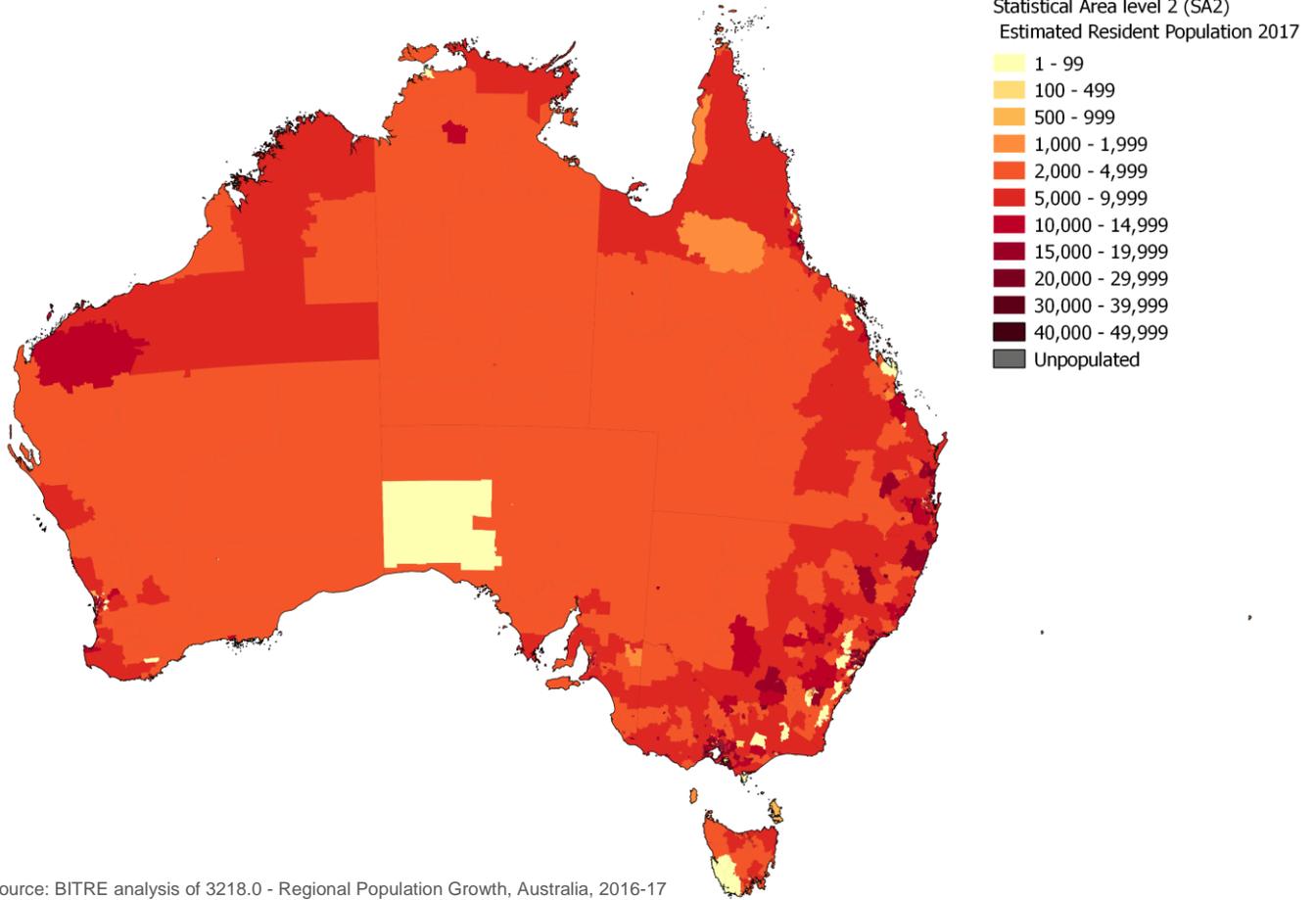Map 1: Western Sydney airport site   Map 2: Sydney airport
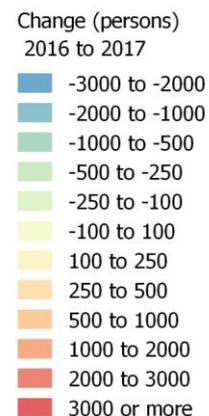
Source: BITRE analysis of 3218.0 - Regional Population Growth, Australia, 2016-17,
Underlay: OpenStreetMaps

In addition, the Australian population grid offers greater spatial accuracy in regional areas where the standard statistical geography is larger than 1 square km.
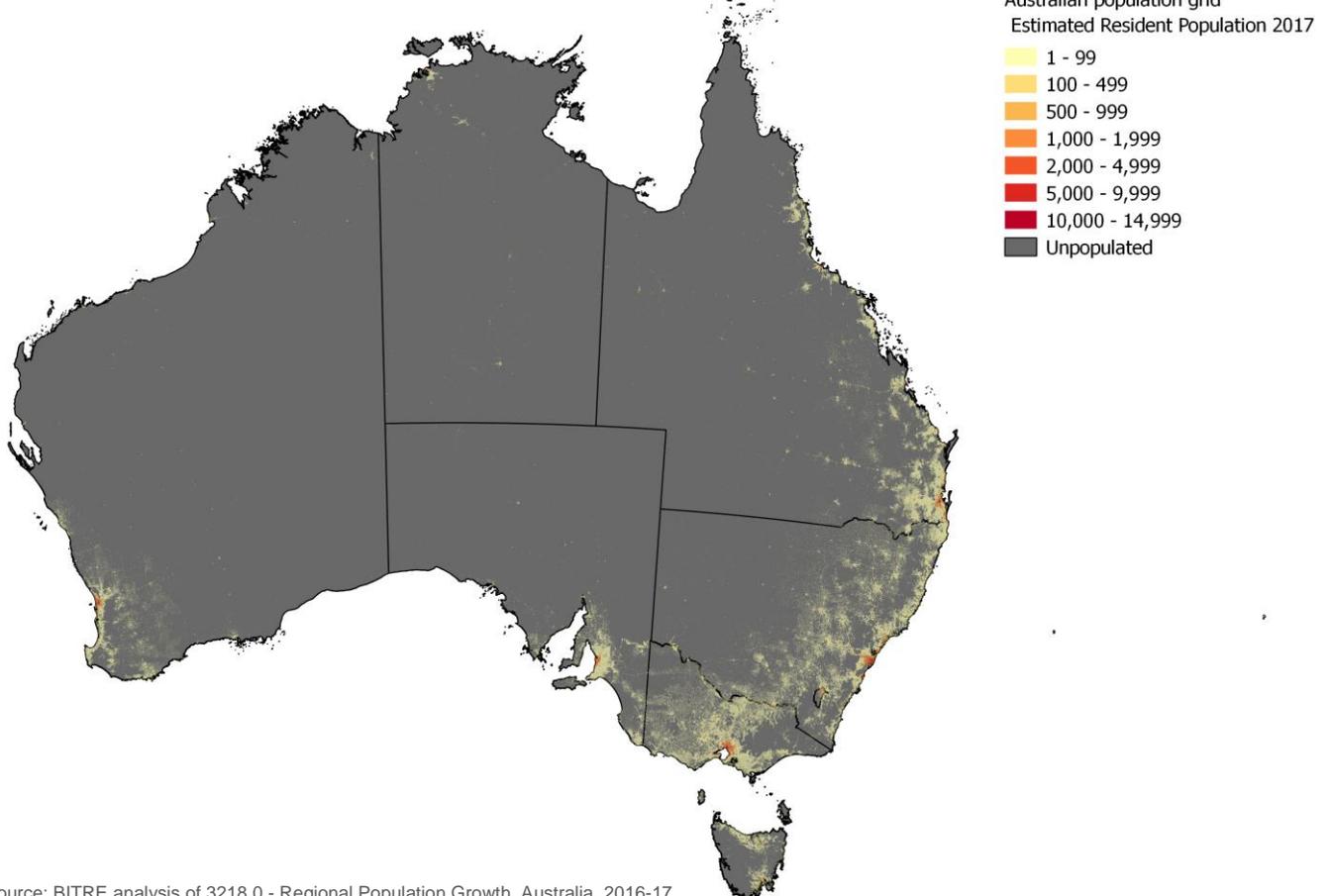
Because statistical geographies are made up of large regions, especially in areas with low populations, we tend to see the population as occupying all of the geographic space. This gives the misleading impression that people are spread across all areas of sparsely populated regions. Maps 3 and 4 illustrate the difference between using standard statistical geography (SA2) (Map 3) and the Australian population grid (Map 4) in understanding the population distribution in regional Australia.

Map 3: Population using standard statistical geography

Statistical Area level 2 (SA2)
Estimated Resident Population 2017

- 1 - 99
- 100 - 499
- 500 - 999
- 1,000 - 1,999
- 2,000 - 4,999
- 5,000 - 9,999
- 10,000 - 14,999
- 15,000 - 19,999
- 20,000 - 29,999
- 30,000 - 39,999
- 40,000 - 49,999
- Unpopulated

Source: BITRE analysis of 3218.0 - Regional Population Growth, Australia, 2016-17

Map 4: Population using the Australian population grid

Australian population grid
Estimated Resident Population 2017

- 1 - 99
- 100 - 499
- 500 - 999
- 1,000 - 1,999
- 2,000 - 4,999
- 5,000 - 9,999
- 10,000 - 14,999
- Unpopulated

Source: BITRE analysis of 3218.0 - Regional Population Growth, Australia, 2016-17

Acknowledgement

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