

TWENTY-NINTH
SESSION OF

THE ASIA
AND PACIFIC COMMISSION
ON AGRICULTURAL
STATISTICS

Ulaanbaatar, Mongolia
22-25 November 2021

Earth observation
derived crop mapping
to help produce
agriculture statistics

APCAS29

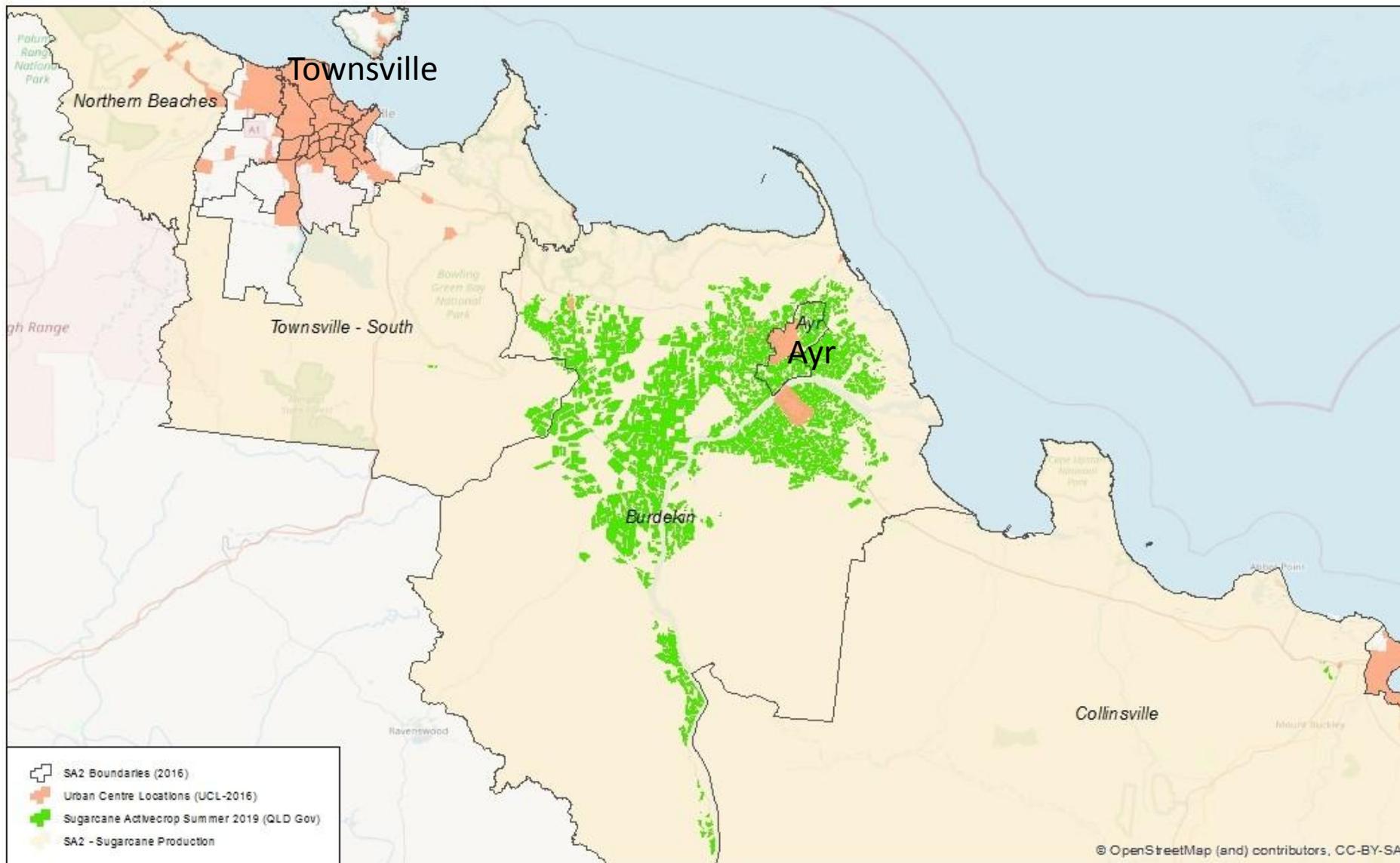
Rob Walter, Director, Physical Environment
Statistical Solutions (ABS)
presented by Jo Edwards, Program Lead,
Agricultural Data Integration and Labour
Market Analysis (ABARES)
Australia

Using satellite derived crop mapping to create agriculture statistics – sugarcane case study

- Australian Sugar Milling Council - Regional production totals from Sugar Mills
- Levy Payers Register - Unit record production data with addresses
- Government Satellite Mapping of Sugarcane

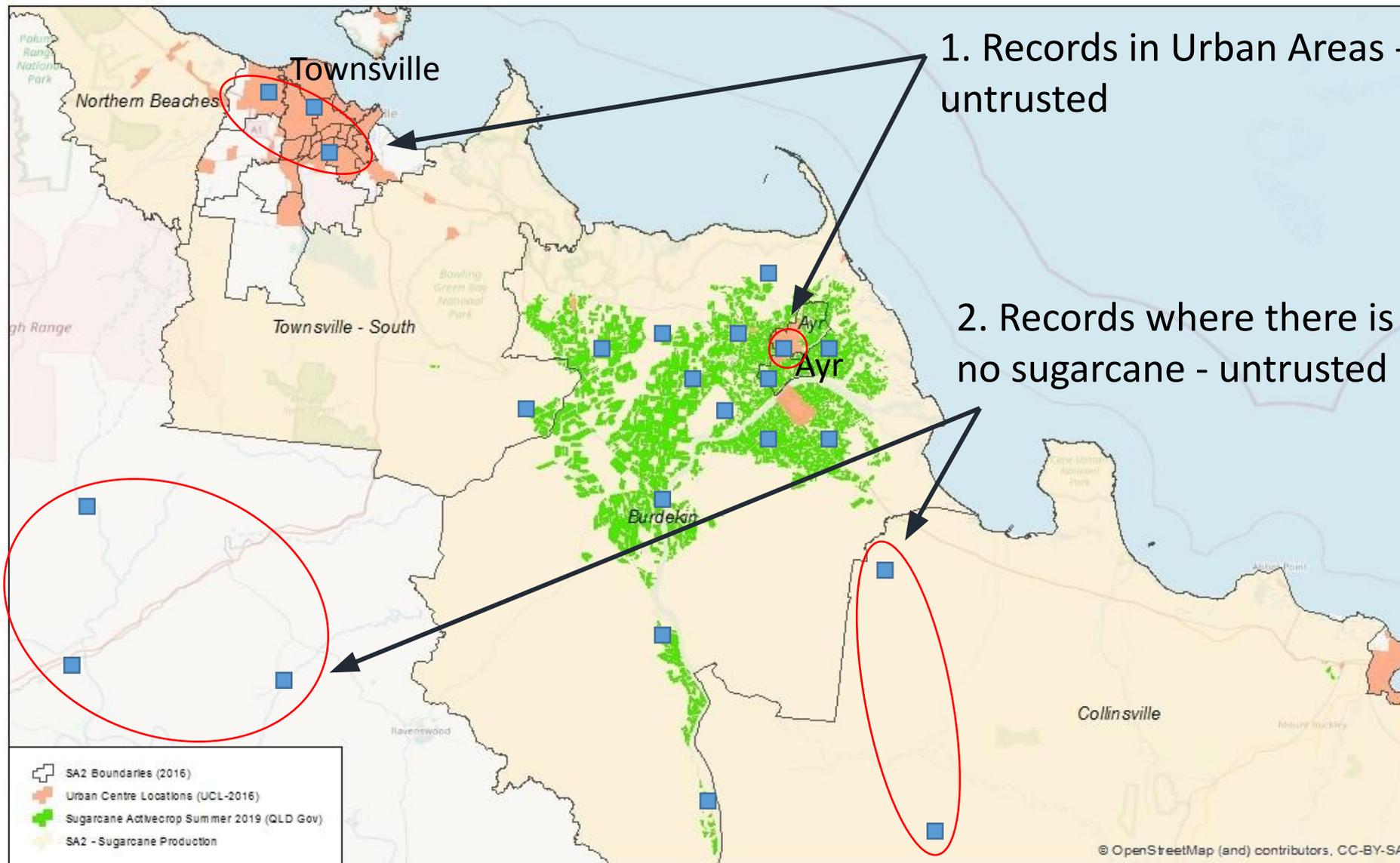


Satellite derived sugarcane crop map

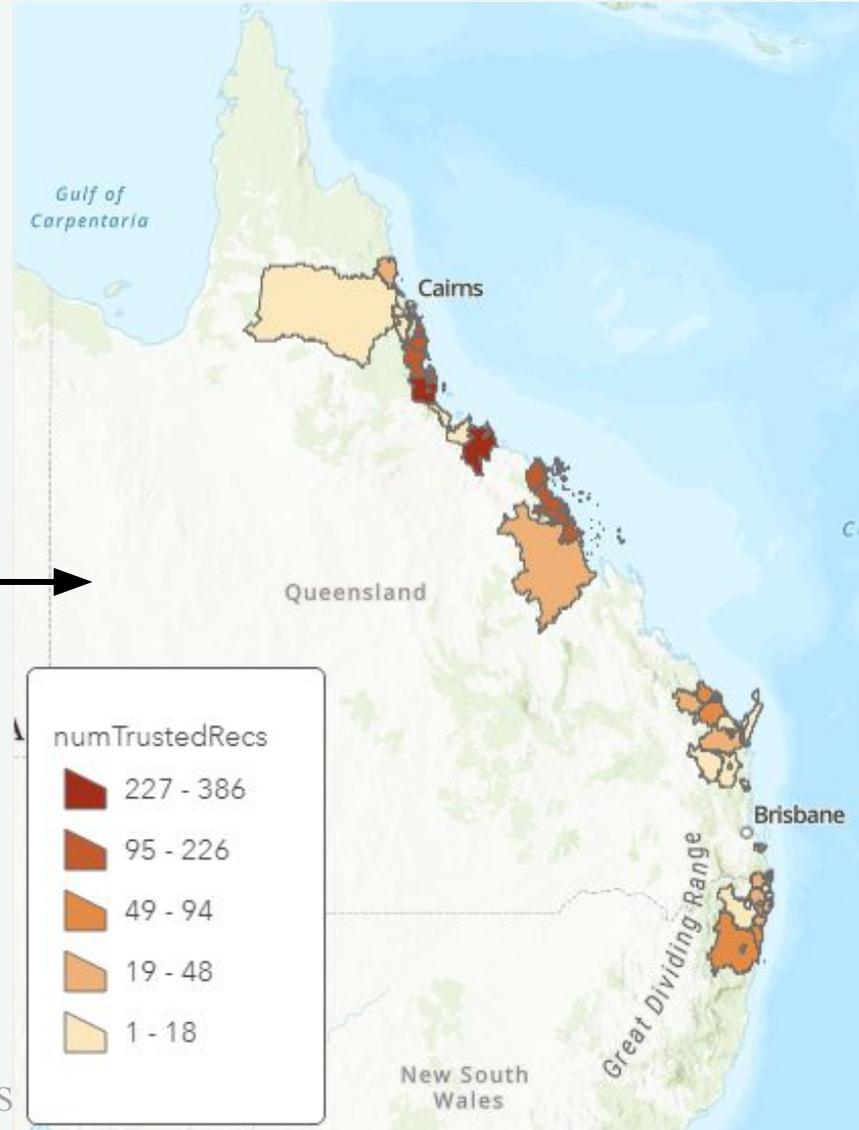


Sugar Cane Levy Payers Register

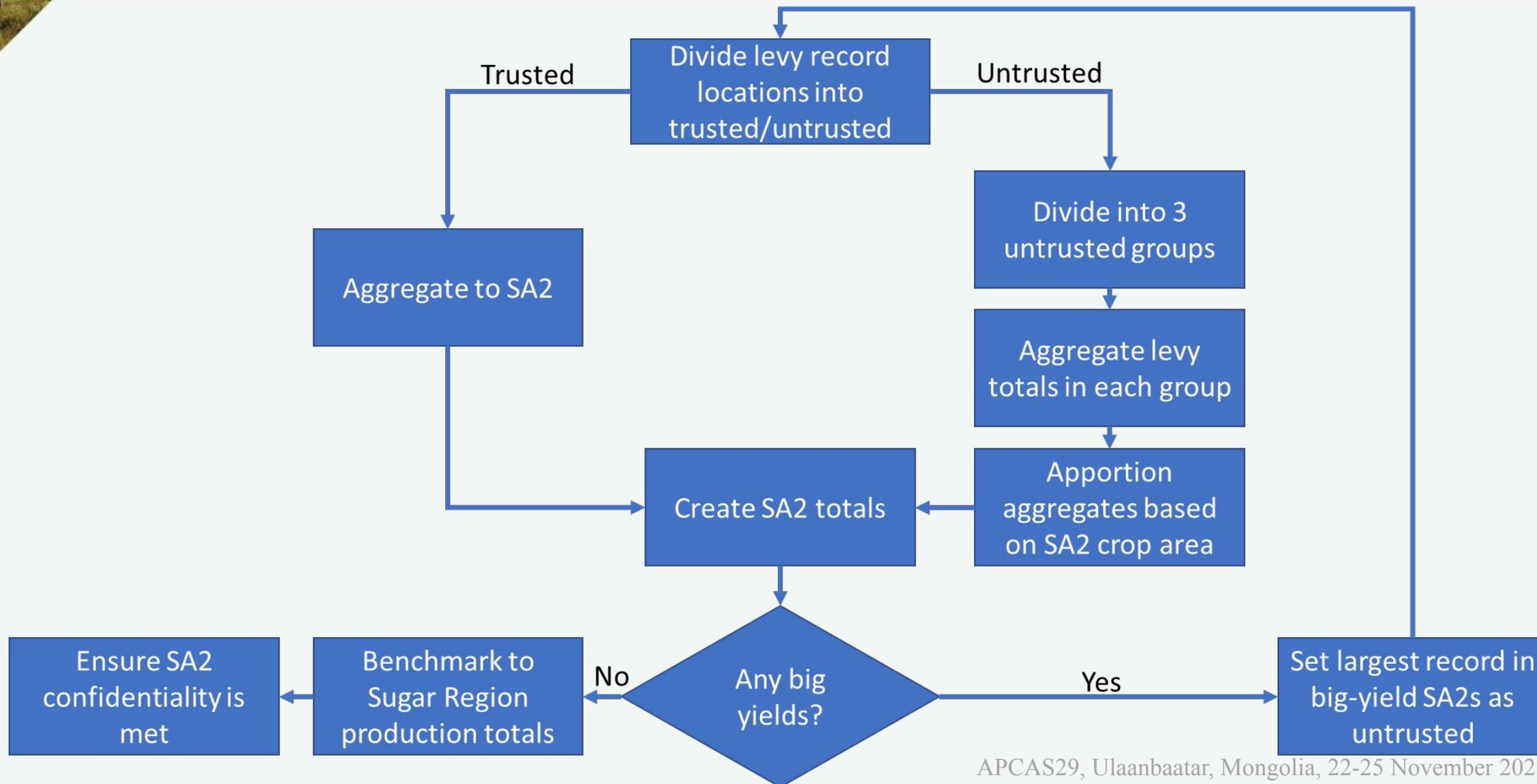
Business locations and tonnes of sugarcane harvested



Determining trusted sugarcane business locations – business counts by statistical area level 2 (SA2)



Automated, iterative process to aggregate & apportion levy payer data to statistical areas level 2



Measures of re-allocation of levy payer data

Quality of Levy Payer Location Information	Number of businesses (%)	Production amount (%)
Trusted – Location not changed	91.8	87.3
Trusted – Re-allocated due to size within Sugar Region	2.3	7.0
Untrusted		
- Re-allocated to all SA2s within Sugar Region	4.3	3.0
- Re-allocated to all SA2s within State	1.3	2.5
- Re-allocated to all SA2s within Australia	0.3	0.2
Total	100	100

Timely, regional statistics without survey questions

Sugarcane: experimental regional estimates 2019-2020

Sugarcane estimates: ABS cat no 7128.0



Sugarcane harvested

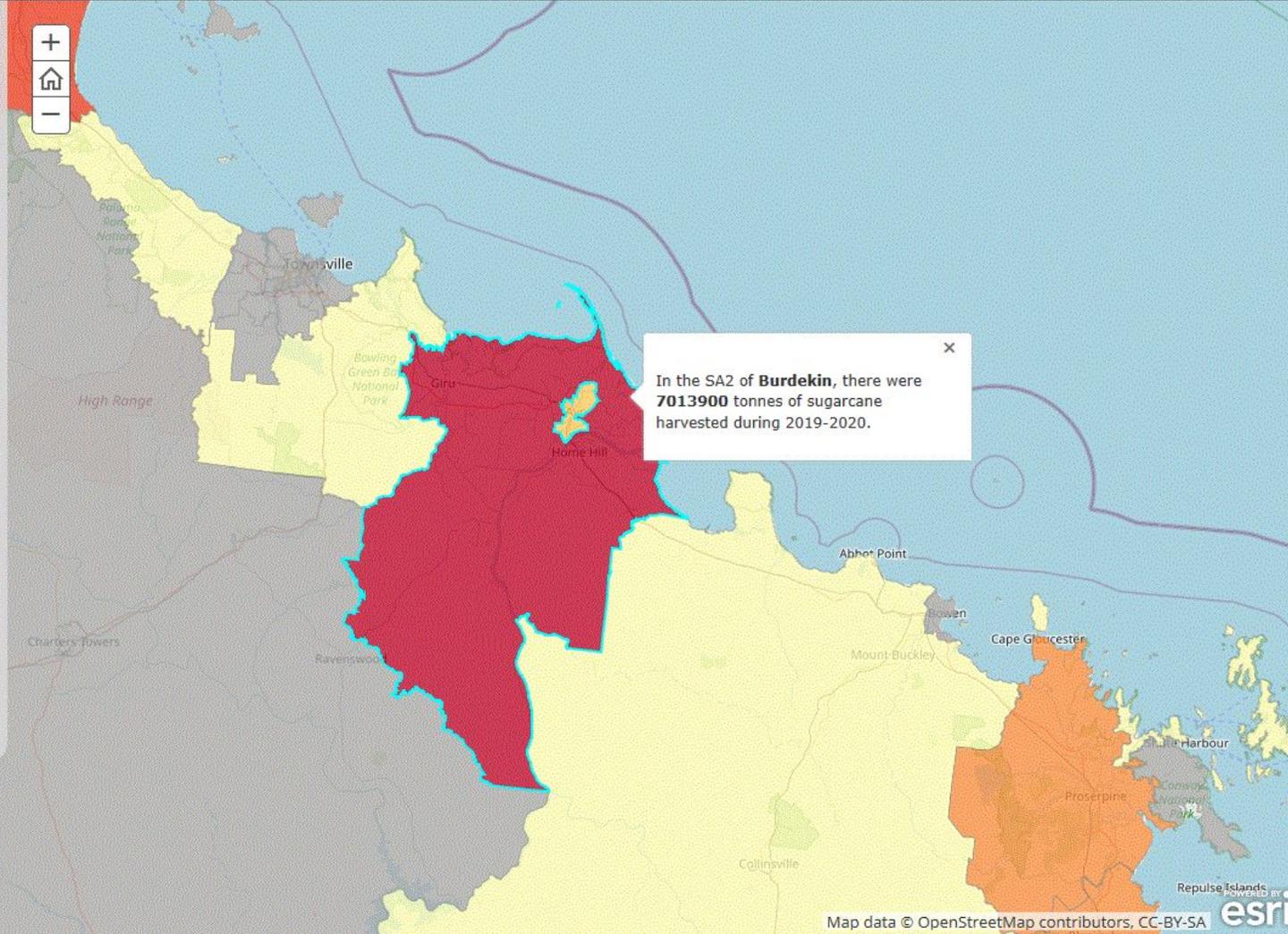
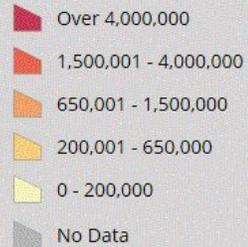
This interactive map examines the geographic distribution of Sugarcane production in 2019-2020 using Statistical Area Level 2 (SA2) regions.

These experimental statistics have been produced using new, administrative and satellite data sources, that help to reduce reporting burden on farmers, improve the timeliness of statistics and produce more detailed regional data.

Source: Sugarcane, experimental regional estimates using new data sources and methods, 2019-2020 (Cat. no. 7128.0).

Sugarcane harvested

Tonnes estimated



Next steps

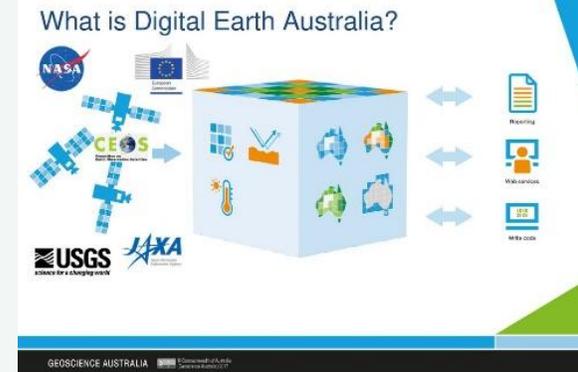
- Apply this method to other Agricultural Commodities
- Explore other applications

Partnerships with government and industry to use satellite data for crop mapping

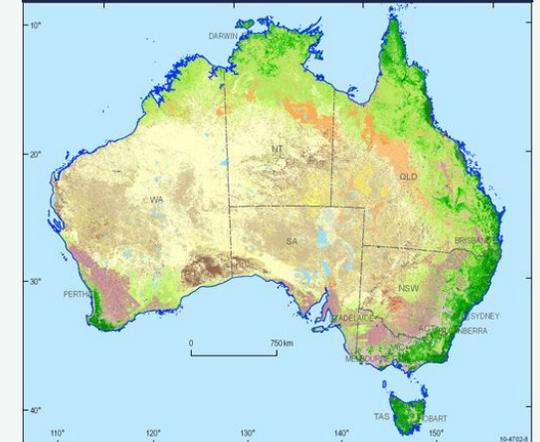
ABS agriculture data on crop type linked to land parcels



Digital Earth Australia satellite data store



Crop mapping products



Other field information on crop type with detailed location to inform algorithms

Machine learning & algorithm development by Industry, Academia and Government

[Link for more information](#)

Proposed Recommendations *in brief (last slide)*

- FAO provide countries with technical assistance to use earth observations data in the production of agricultural statistics

Thank you!

Contact Details:

Email: jo.edwards@awe.gov.au

rob.walter@abs.gov.au