Australia Exposed

Exposure information for ensuring Australia’s community safety

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Geoscience Australia
Geoscience Australia (GA)
- Department of Industry, Innovation and Science
  - Custodian of geoscience data and knowledge
  - Technical advisor
  - Key role in ensuring Australia’s community safety

Emergency Management Australia (EMA)
- Attorney General’s Department
  - Support States and Territories
  - Policy Development
  - Disaster Recovery Assistance
Disaster Recovery starts at the same time

Figure 4.1: Effect of disaster on ongoing community development and interface with relief and recovery
What’s the problem?

- Different datasets from different data sources with different attributes needing different processes
  - Efficient
  - Timely
  - Consistent

- EMA are not data-people
  - Suitable Format
  - Easy-to-interpret

How can GA best provide our data?
Geoscience Australia Exposure Report

- Snapshot two-page document
- 95% Automated
- Less than 10 minutes
- Area of interest polygon
  - Hazard footprint
  - Administration boundary
- Building and business counts
- Infrastructure lengths
- Agriculture commodities
- Demographic statistics
## 1. Event description and location

## 2. Building Exposure

- **Residential**
  - Population count: 771
  - Dwelling count: 281
  - Building count: 281
  - Pre 1980 construction count: 138
  - Reconstruction value: $94,850,000
  - Contents value: $39,920,000

- **Commercial**
  - Building count: 1
  - Reconstruction value: $2,430,000

- **Industrial**
  - Industrial Building count: -
  - Reconstruction value: $-

### 2011 SEIFA IRSAD

- **Dwellings in area with a SEIFA decile 10 score**: -
- **Dwellings in area with a SEIFA decile 9 score**: 87
- **Dwellings in area with a SEIFA decile 8 score**: 162
- **Dwellings in area with a SEIFA decile 7 score**: 19
- **Dwellings in area with a SEIFA decile 6 score**: 4
- **Dwellings in area with a SEIFA decile 5 score**: -
- **Dwellings in area with a SEIFA decile 4 score**: 9
- **Dwellings in area with a SEIFA decile 3 score**: -
- **Dwellings in area with a SEIFA decile 2 score**: -
- **Dwellings in area with a SEIFA decile 1 score (most disadvantaged)**: -
- **Dwellings in area without a SEIFA score**: -

### Demographic *

- **Are all aged 65 or over**: 12.3% 18.7%
- **Includes persons aged 14 years and under**: Not Avail Not Avail
- **Includes an Indigenous person**: 0.1% 1.9%
- **Are a single parent family**: 1.2% 4.2%
- **Are in need of assistance for self-care activities**: 7.8% 9.4%
- **Include persons not proficient in English**: 0.1% 1.1%
- **Do not have access to a motor vehicle**: 0.9% 8.0%
- **No one has completed Year 12 or higher**: 14.7% 22.3%
- **Moved to the region in the last 1 year**: 3.8% 8.0%
- **Moved to the region in the last 5 years**: 19.0% 25.4%

### Economic *

- **Are low income ($1-599/week)**: 29.5% 40.9%
- **Are medium income ($600-$1,999/week)**: 61.8% 53.6%
- **Are high income ($2,000+/week)**: 7.2% 4.3%
- **Are in public housing**: 0.3% 6.8%
- **Are all unemployed**: 1.2% 1.0%

*Residential demographic and economic information is not provided for dwelling counts less than 20
### Business Exposure, ABR 2015

<table>
<thead>
<tr>
<th>Number of businesses</th>
<th>Number of Registered Charity Organisations</th>
<th>Number of Primary Producers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and Food Services</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Administrative and Support Services</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>11</td>
<td>Agriculture and Fishing Support Services</td>
</tr>
<tr>
<td>Arts and Recreation Services</td>
<td>1</td>
<td>Aquaculture</td>
</tr>
<tr>
<td>Construction</td>
<td>21</td>
<td>Dairy Cattle Farming</td>
</tr>
</tbody>
</table>

### Agricultural Exposure

<table>
<thead>
<tr>
<th>Agriculture Commodity Estimated Value 2013-14:</th>
<th>Event</th>
<th>SA (Prop)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Agricultural Area (Ha):</td>
<td>$9,274,000</td>
<td>0.2%</td>
</tr>
<tr>
<td></td>
<td>5,469</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Commodities include: Apples, Apricots, Broccoli, Cauliflowers, Cereal for hay, Cherries, Chickens layers, Cut flowers, Dairy cattle, Deer, Eggs, Goats, Grapes, Horses other, Horses stud, Lemons, Lettuces, Limes, Meat cattle, Mushrooms, Nectarines, Nurseries, Olives, Other crops for hay, Other livestock, Other nuts, Other pome fruit, Other poultry, Other stone fruit, Other vegetables, Pasture for hay, Peaches fresh, Pears, Plums, Potatoes, Prunes, Sheep lambs, Tomatoes, Vegetables seed, Walnuts, Wheat

<table>
<thead>
<tr>
<th>Industry</th>
<th>Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Trade</td>
<td>4</td>
<td>Sheep, Beef Cattle and Grain Farming</td>
</tr>
<tr>
<td>Transport, Postal and Warehousing</td>
<td>3</td>
<td>&lt;5 - Primary producer information not provided for counts less than 5</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Unclassified businesses</td>
<td>9</td>
<td>-</td>
</tr>
</tbody>
</table>
How it works...

Sources 30 different datasets
Filters attributes
Spatial intersection
Aggregation
Identifies Localities
Formatted document

Australian Business Register data

Infrastructure and Institutions data

Control

Agricultural data

Building, dwelling and demographic data

Locality data

Output

Control
User Interface – 10 parameters

![FME Quick Translator interface with 10 parameters](image-url)
How it’s being used

Recovery
- Accurate representation
- Targeted support
- Policy refinements

Standard Operating Procedures

Ongoing support ensured uptake
- Training
- Product Description
Integration

Incident Management System
- Accountable
- Transparent
- Standardised boundaries
- Accessible

Batch Script
- 128 Fire Weather Maps
- 544 Local Government Area

Community Profiles
- Preparation, Planning, Response
- States and Territories
Future developments

Generic version

Online self-service tool

Automated map creation

Automated event maps
Australia Exposed

Exposure information for ensuring Australia’s community safety

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