Use of registers in statistical – geospatial integration

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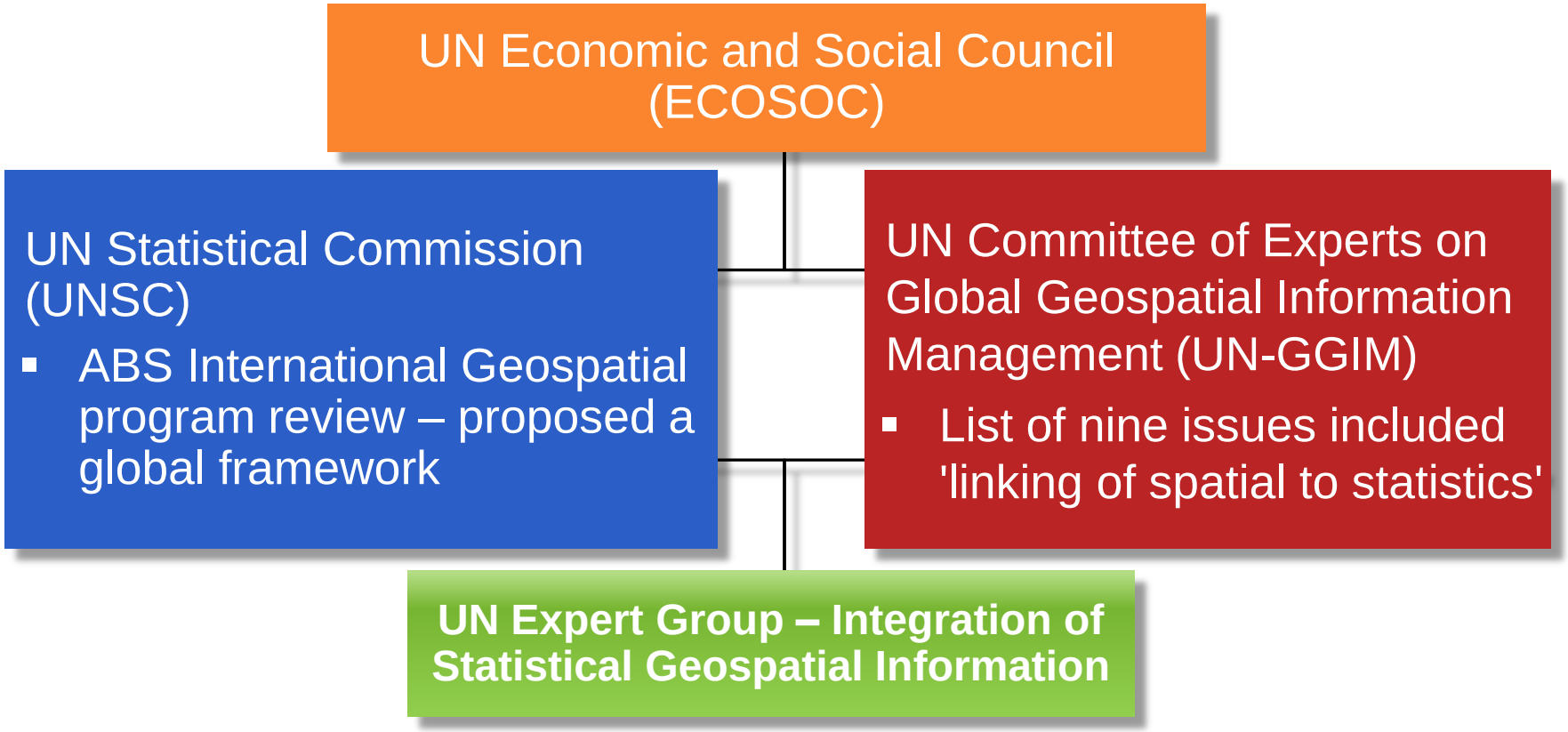
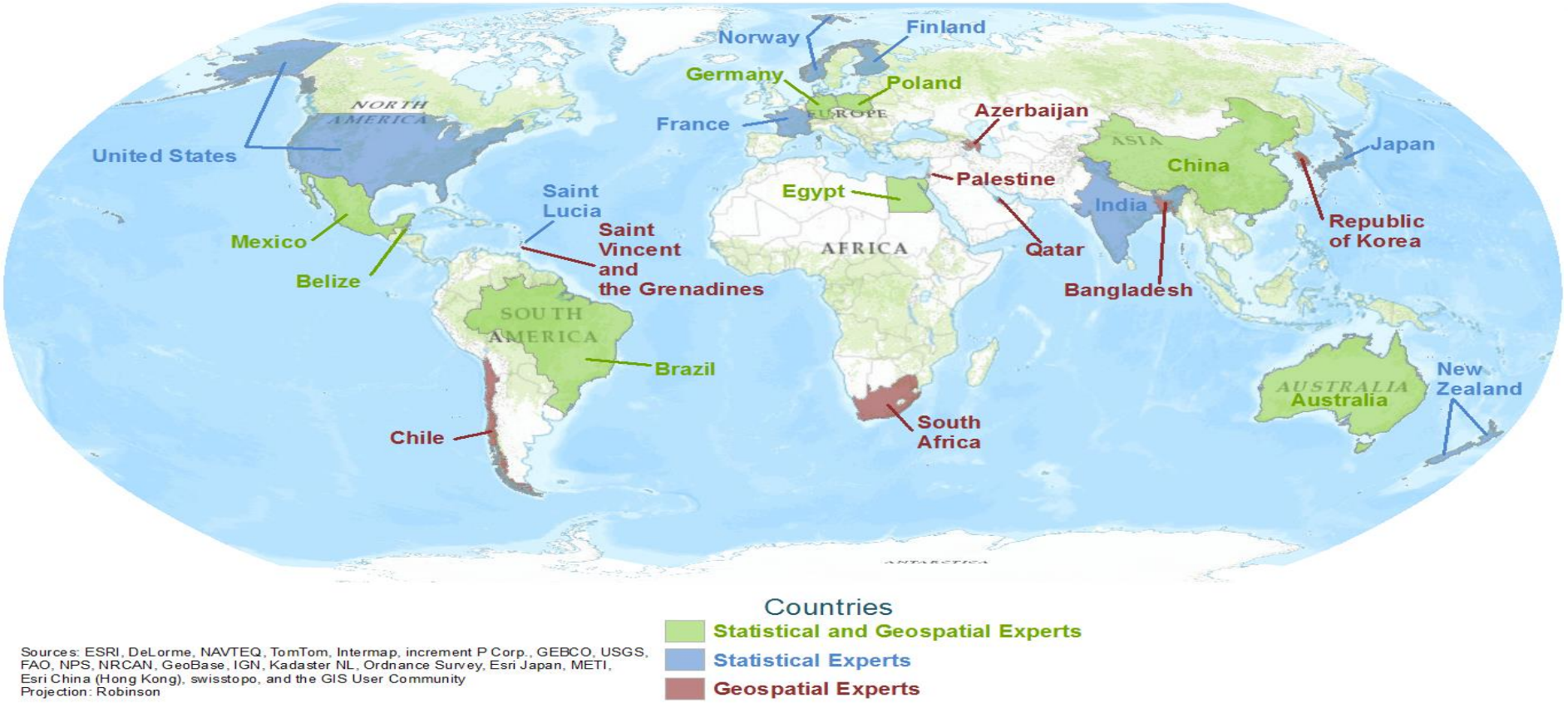
- **Role of registers in the Global Statistical Geospatial Framework**
- **Use of registers in Australia in Statistical – Geospatial integration**
- **Statistical modernisation and interoperability of statistical and geospatial data and metadata**


UN Economic and Social Council (ECOSOC)
UN Statistical Commission (UNSC)
ABS International Geospatial program review – proposed a global framework
UN Committee of Experts on Global Geospatial Information Management (UN-GGIM)
List of nine issues included 'linking of spatial to statistics'
UN Expert Group – Integration of Statistical Geospatial Information

United Nations Expert Group on the Integration of Statistical and Geospatial Information

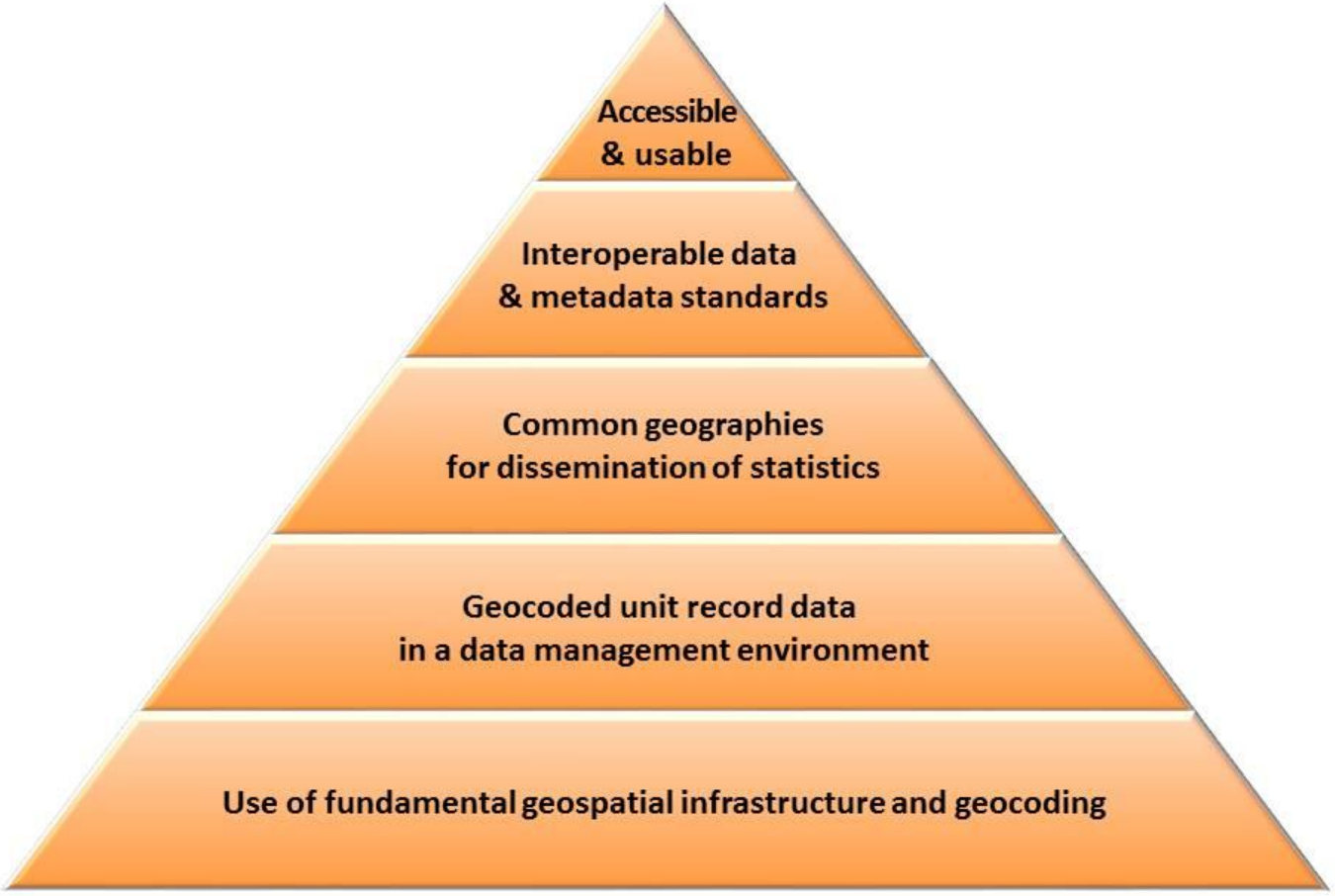


UN Expert Group

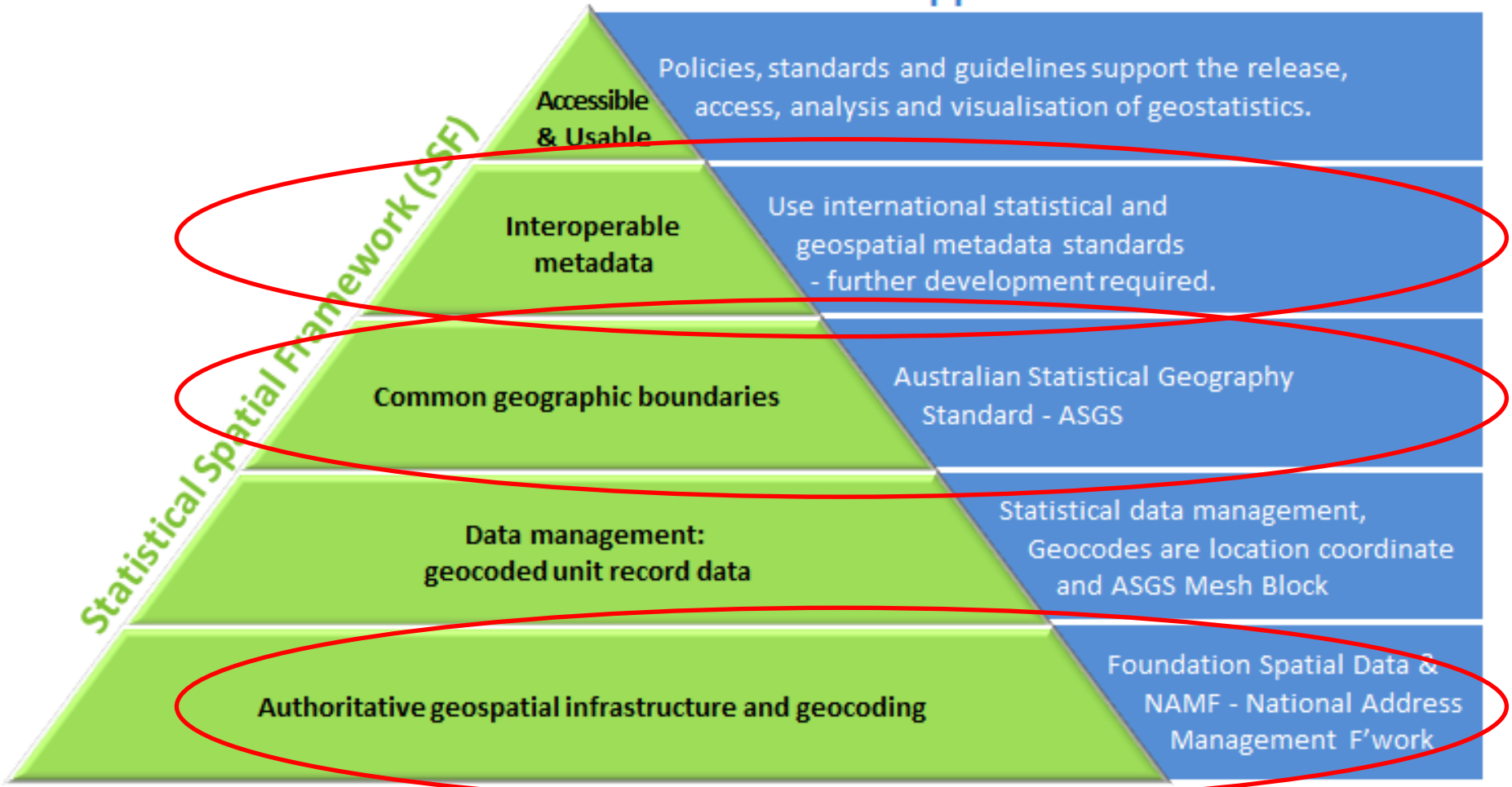
Global Statistical Geospatial Framework

- Draft proposal tabled at UNSC
- Adapted from Australia's Statistical Spatial Framework
- Includes input from:
  - Mexico's National Geostatistical Framework.
  - EFGS/Eurostat GSBPM model for geospatial.
  - Other country examples of adoption/application.

Global Statistical Geospatial Framework



Australian application of SSF



Statistical Community

Socio-Economic Datasets

- **Core Statistical** — Census, Demographics, Agriculture, Building, Labour Force, etc.
- **Tax** — Income and Business Tax
- **Immigration**
- **Health** — Medicare, Pharmaceuticals, Workforce
- **Land** — Valuation and Use
- **Social Welfare** — Unemployment, Disability, Family Support
- **Others …**

SSF bridge

Spatial Community

Foundation Spatial Data Framework – Fundamental Elements

- Admin. & statistical boundaries
- Addressing, Place Names
- Transport, Water
- Land and Property
- Elevation and Depth
- Imagery
- Positioning

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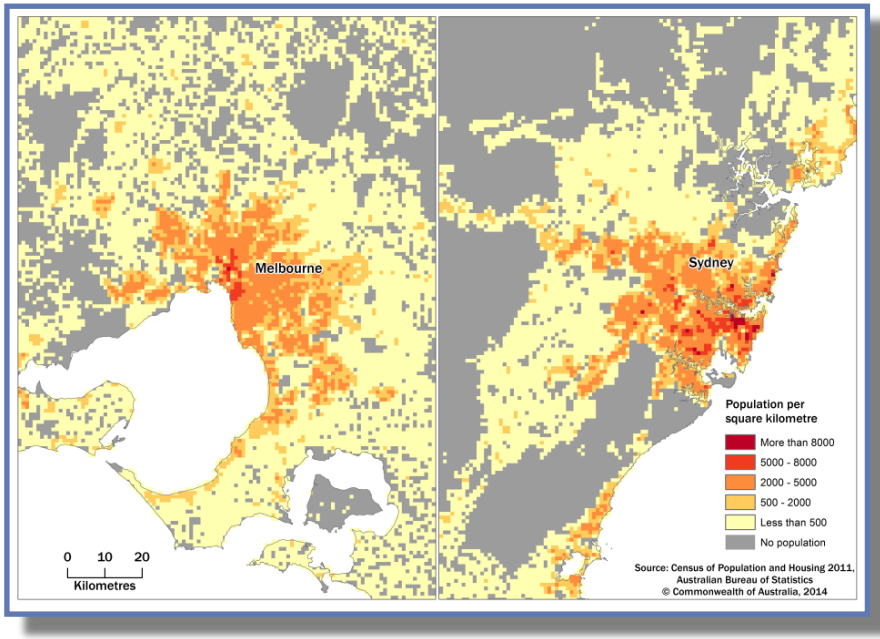
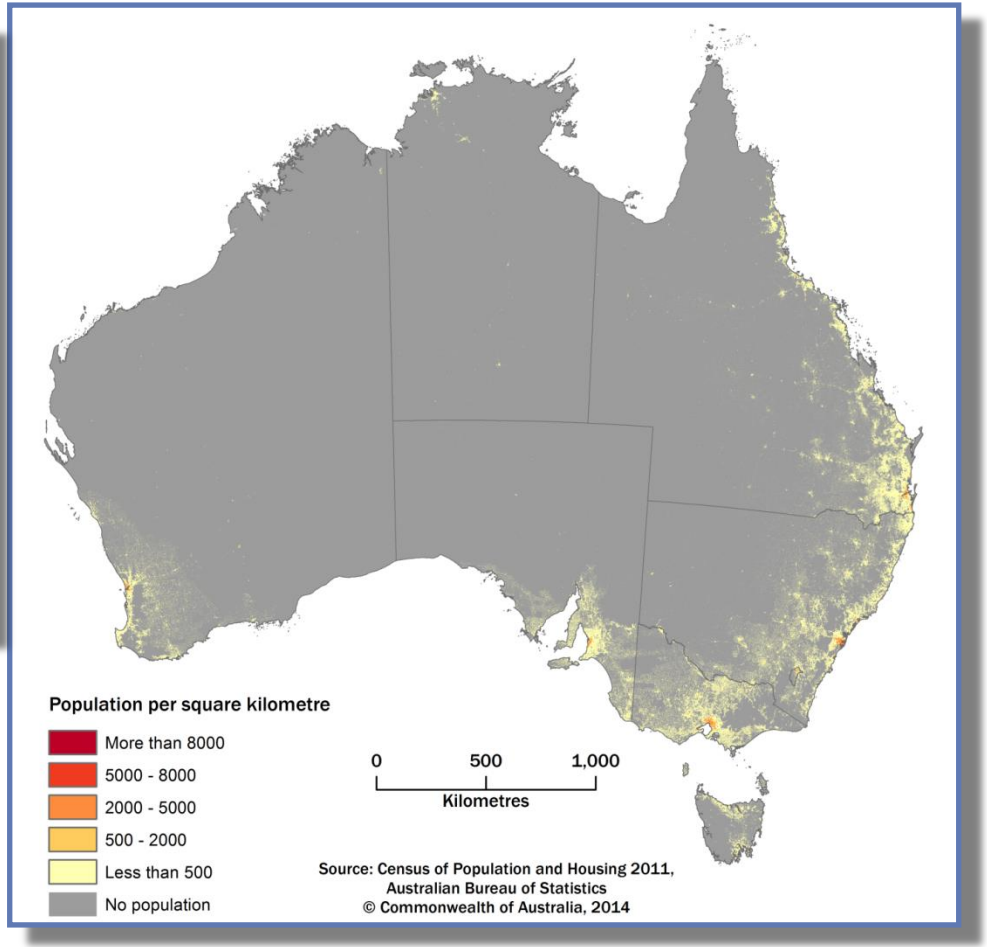
Population grid – geospatial from statistics



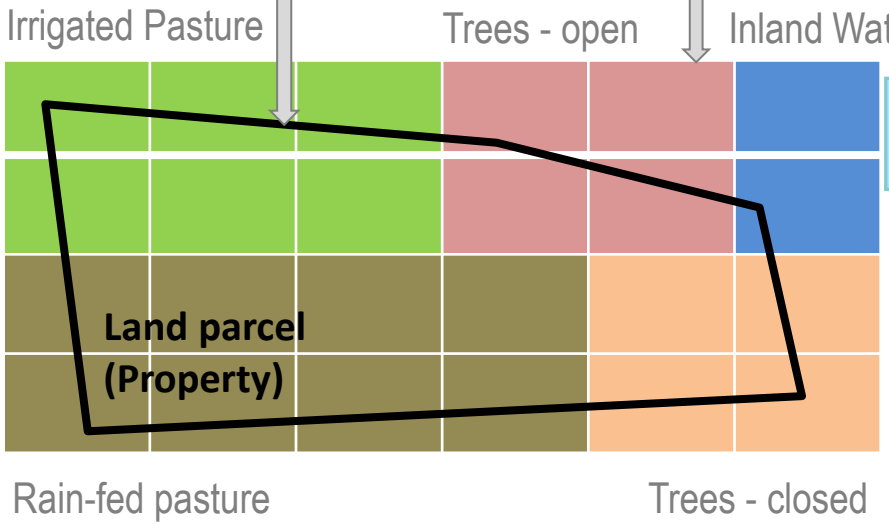


Land Account – statistics from geospatial

Geospatial Input

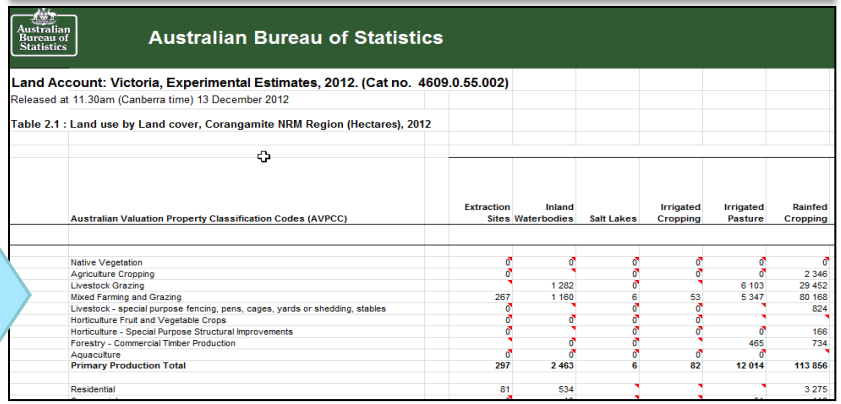
State Valuations:
- Land use
- Land value

Geoscience Australia's Dynamic Land Cover grid



Statistical Output

Detailed Land Account tables:
Land cover by land use, area and value



Australian Bureau of Statistics

Land Account: Victoria, Experimental Estimates, 2012. (Cat no. 4609.0.55.002)

Released at 11.30am (Canberra time) 13 December 2012

Table 2.1 : Land use by Land cover, Corangamite NRM Region (Hectares), 2012

Australian Valuation Property Classification Codes (AVPCC)	Extraction Sites	Inland Waterbodies	Salt Lakes	Irrigated Cropping	Irrigated Pasture	Rainfed Cropping
Native Vegetation	0	0	0	0	0	0
Agriculture Cropping	0	0	0	0	0	2 346
Livestock Grazing	0	1 282	0	0	6 103	29 452
Mixed Farming and Grazing	267	1 160	6	53	5 347	80 168
Livestock - special purpose fencing, pens, cages, yards or shedding, stables	0	0	0	0	0	824
Horticulture Fruit and Vegetable Crops	0	0	0	0	0	0
Horticulture - Special Purpose Structural Improvements	0	0	0	0	0	166
Forestry - Commercial Timber Production	0	0	0	0	465	734
Aquaculture	0	0	0	0	0	0
Primary Production Total	**297**	**2 463**	**6**	**82**	**12 014**	**113 856**
Residential	81	534				3 275

Small area land account summary data:

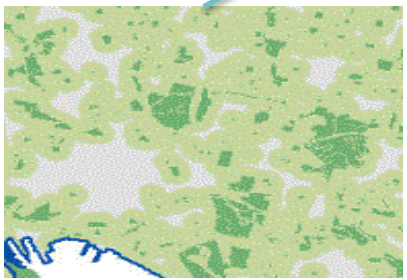
- Land value
- Land cover
- Land use
- Cadastral change

Integrated with other small area data:

+ Population
+ Building approvals

Adding Geospatial Information to Statistics

Address points from Health Survey - spatial link to built environment data



Access to Greenspace

Statistics

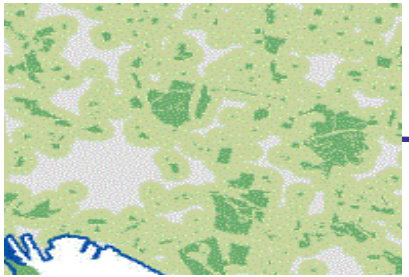
Geo-statistics

Person	Sex	Age	Body Mass Index	Access to Greenspace
1	F	30	19	1 (Close)
2	F	28	32	3 (Distant)
3	M	42	27	2 (Accessible)

The future…

Statistical data linked with spatial data using registers

Address Register



Greenspace

Geocoded admin. addresses or sample selection from address register

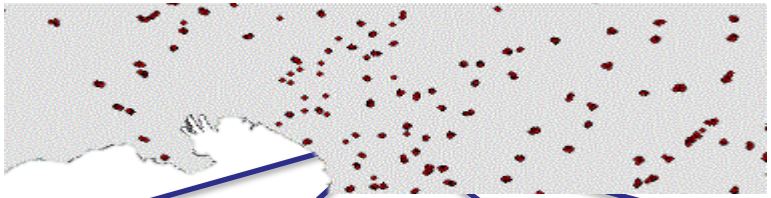
Statistical dataset linked to geocoded addresses

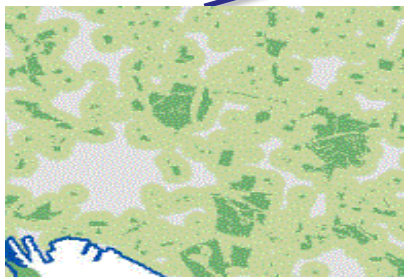
Service overlays address point coordinates and greenspace

Dataset of address points with attribute of distance to greenspace

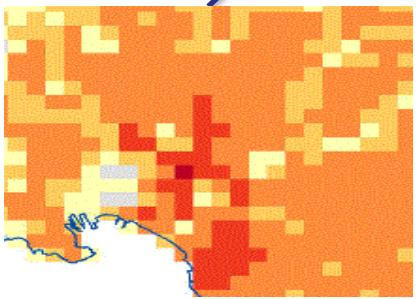
Adding Geospatial Information to Statistics

Spatial link to a wide variety of geospatial and environmental data

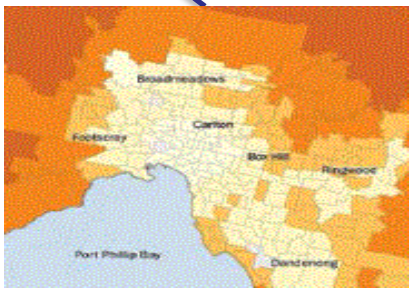




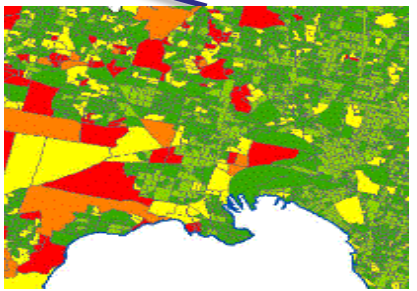
Access to Greenspace



Population Density



Commuting Distance



Access to Health Services

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- Use of registers in Australia in Statistical – Geospatial integration
- **Statistical modernisation and interoperability of statistical and geospatial data and metadata**

Geospatial and statistical data and metadata interoperability

- Statistical and geospatial data is not easily transformed and integrated.
- Too much time is spent preparing and managing data, instead of analysing.
- Machine to machine is not integrated.
- UNSD / UN-GGIM establishing a Working Group.
  - Expert Group and standards organizations

Common Statistical Production Architecture

Business Architecture

- General Statistical Business Process Model – GSBPM

Information Architecture

- General Statistical Information Model – GSIM

Application Architecture

- Data Documentation Initiative – DDI
- Statistical Data and Metadata Exchange – SDMX

Technology Architecture

- National Statistical Office - NSO

Geospatial Data and Metadata

Thank you

For more information

E-mail: geography@abs.gov.au

Search: Statistical Spatial Framework