

**United Nations Expert Group on the Integration of  
Statistical and Geospatial Information**  
**First Meeting**  
**New York, 30 October - 1 November 2013**

**Agenda: Item 5**

## **Towards a global statistical geospatial framework <sup>1</sup>**

Prepared by Australia Bureau of Statistics

---

<sup>1</sup> This document is being produced without formal editing



# Towards a global statistical geospatial framework

**SSF – Supporting the integration of socio-economic and spatial data for official statistics**

Presentation to UN Statistical-Geospatial Expert Group  
October 2013



## Statistical Spatial Framework

### Background



**Increasing demand for location based information about places, people, human activity, business, economic growth, wellbeing, ....**

**Recognition of the value of linking socio-economic information to location.**



## Statistical Spatial Framework

The challenge ...

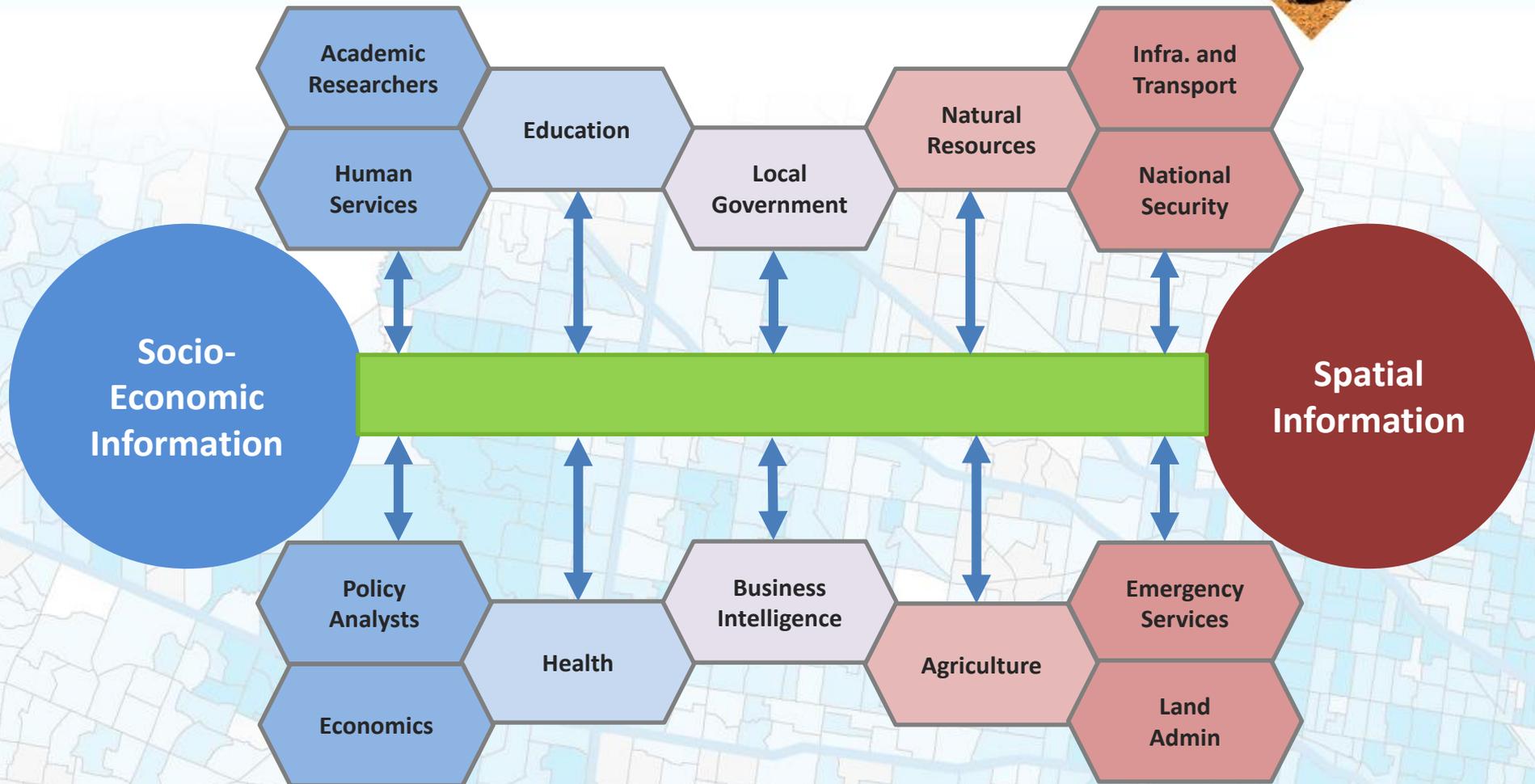
***‘The work on global geospatial information management over the past two to three years has confirmed that one of the key challenges is a better integration of geospatial and statistical information as a basis for sound and evidence-based decision-making.’***

Secretary General of the  
UN Economic and Social Council, 2012.





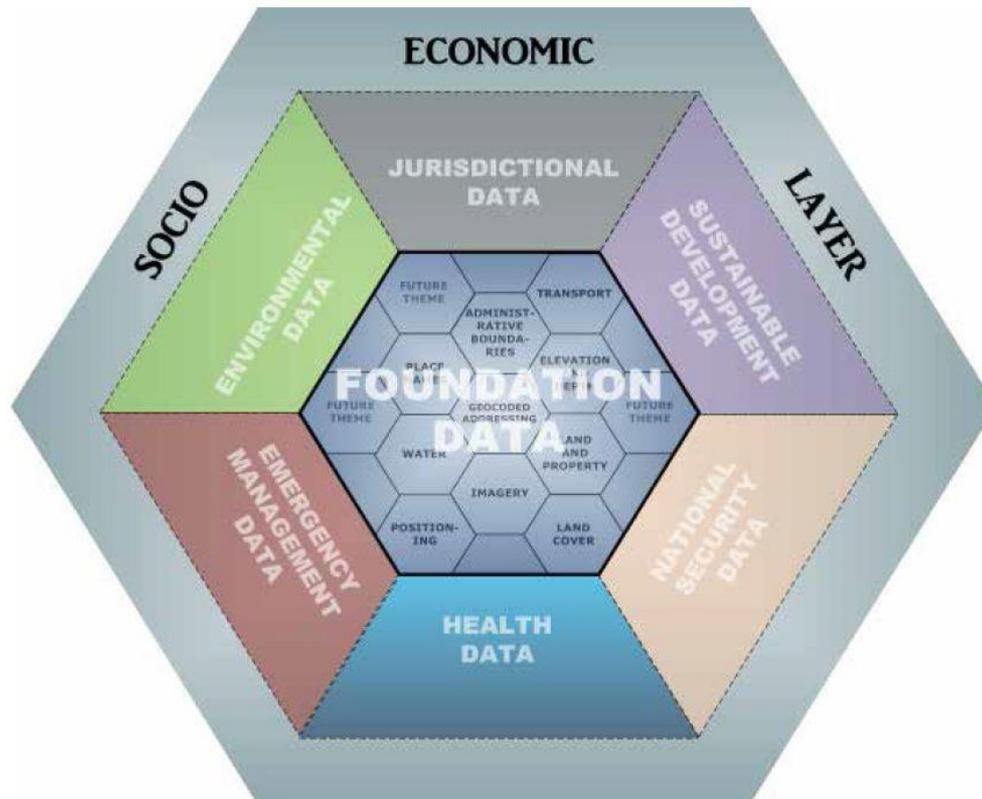
## Continuum of user needs





## ANZLIC

### One ANZ Foundation Spatial Data Framework





## Statistical Community

## Spatial Community

### Socio-economic datasets

#### Core NSO datasets

Census, Demographics, Agriculture, Building, Labour Force, etc.

#### Tax

Income and business tax

#### Electoral Role

#### Health Services

Medicare, Pharmaceuticals, Medical workforce

#### Land Valuation and Land Use

#### Social Welfare Services

Unemployment, Disability, Family Support

#### Others ...

SSF  
bridge

### Spatial Data Frameworks – Fundamental Elements

#### Themes:

Admin. & statistical boundaries

Addressing, Place Names

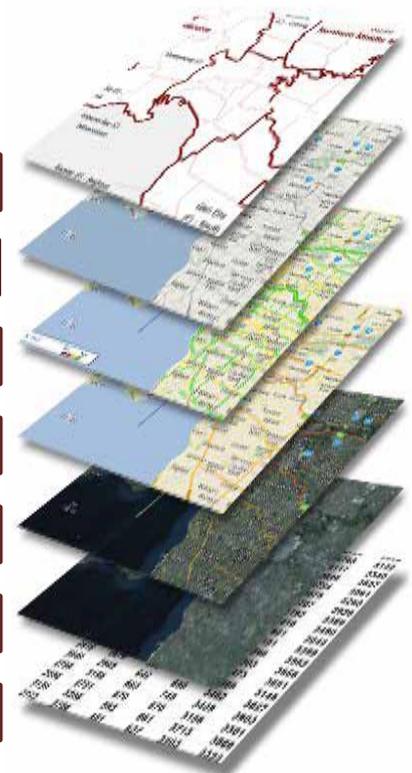
Transport, Water

Land and Property

Elevation and Depth

Imagery

Positioning





## How do socio-economic focussed agencies use spatial information?

- Developing policy
- Evaluation of policy
- Administration of Programs with a location factor
  - Contracts based on operations within regions
  - Use of spatial analysis in fraud control
- Reporting
  - By region eg State, Postcode, ABS Statistical Area
  - By electorate
  - Info supplied to ABS for national statistics





## Challenges

- How should we geocode socio-economic data?
- What information management practices and infrastructure is required to ensure accessibility and utility, as well as maintaining confidentiality and privacy?
- What is the most appropriate geography for analysis and dissemination of geospatially enabled data?
- How can I convert data between geographies?
- How can we maximise the use of administrative data for national statistics?



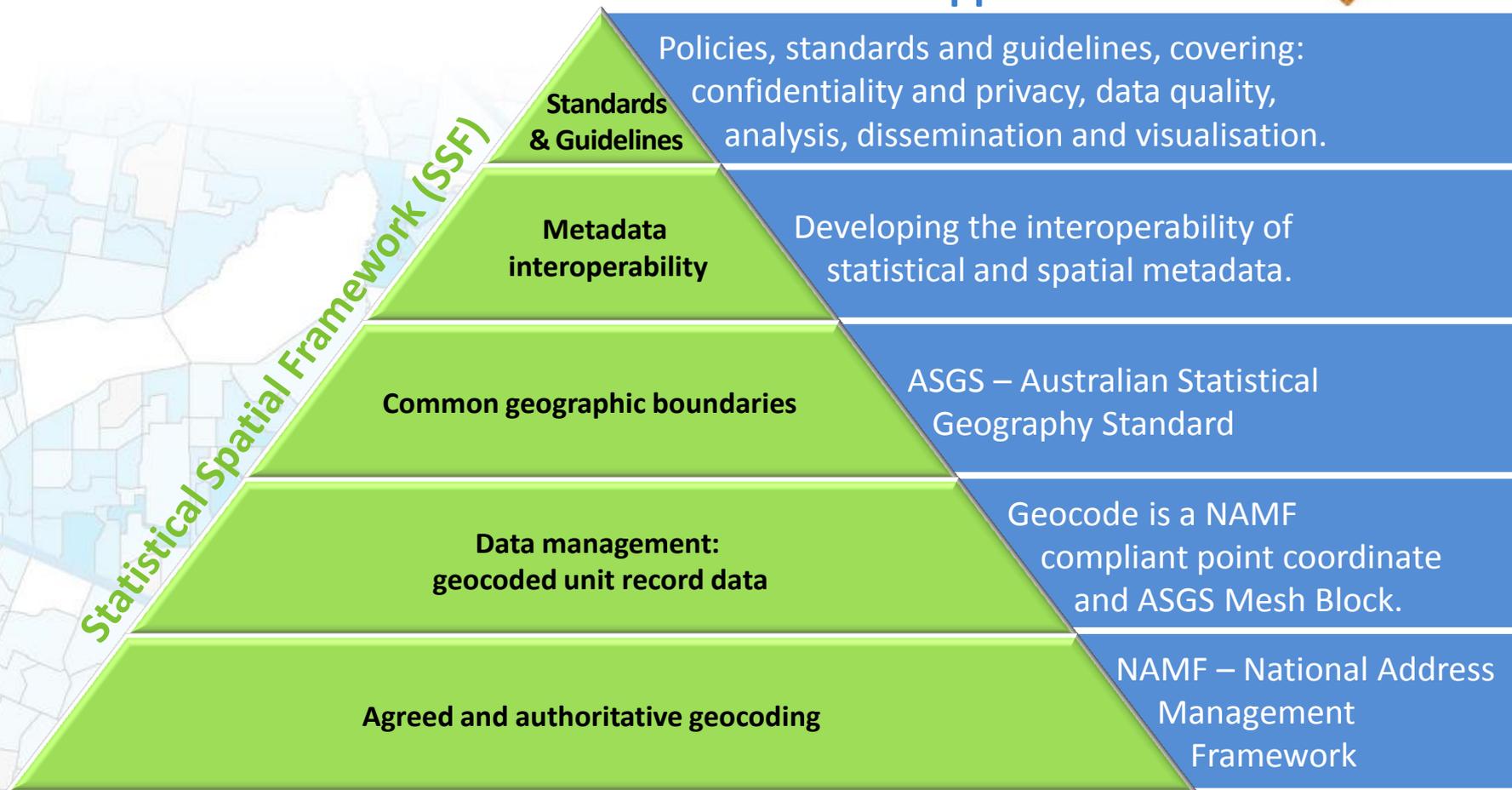


# Statistical Spatial Framework

## The Framework



### Australian application of SSF



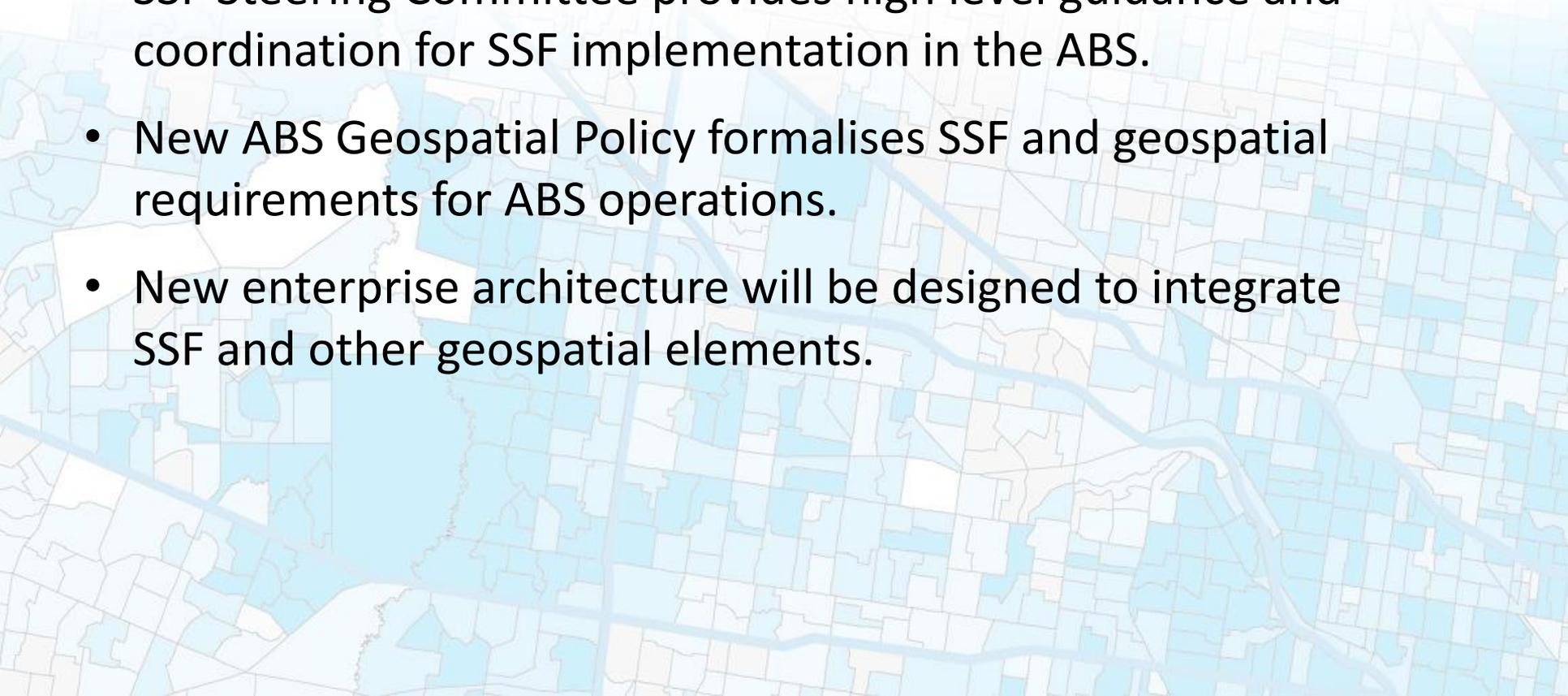


## Statistical Spatial Framework

# SSF in the ABS

### Overarching SSF elements

- SSF Steering Committee provides high level guidance and coordination for SSF implementation in the ABS.
- New ABS Geospatial Policy formalises SSF and geospatial requirements for ABS operations.
- New enterprise architecture will be designed to integrate SSF and other geospatial elements.





## Statistical Spatial Framework

### SSF elements

#### Agreed and authoritative geocoding

- Australia has a Geocoded National Address File (G-NAF), part of the National Address Management Framework (NAMF).
- However geocoding currently required commercial software and G-NAF licence.
- Also, there are some gaps in coverage and some accuracy issues, so rules and procedures are necessary to code addresses not in the file.
- Sometimes geocoding is necessary when a full address is not available. May only have a suburb or postcode available.





## SSF elements

### Data management: geocoded unit record data

- ABS is building an address register, initially based on G-NAF, that will be a geospatially enabled frame. Will try to maintain using G-NAF and administrative data sources.
- Policy challenges exist in retaining and storing address and geocode information for households.
- Businesses are now being geocoded.
- Technical work remains to be completed to develop metadata and data management protocols, standards and content.





## Statistical Spatial Framework

### SSF elements

#### Common Geographic Boundaries

- ABS has implemented a new statistical geography: the Australian Statistical Geography Standard (ASGS).
- Mesh Blocks are the new stable, small area building block.
- Larger Statistical Area regions are based on population size and functional relationships rather than administrative areas.
- Ongoing task to support the use of ASGS by ABS statistical areas and other agencies.





## Statistical Spatial Framework

### SSF elements

#### Metadata interoperability

- Metadata driven processes require full and accurate metadata to a standard.
- ABS will be looking to adopting relevant International Metadata Standard such as ISO 19115 and statistical metadata standards such as SDMX, DDI.
- Work will need to be done to determine how geographic referencing can be correctly represented in the statistical metadata standards. Will involve UNECE - HLG



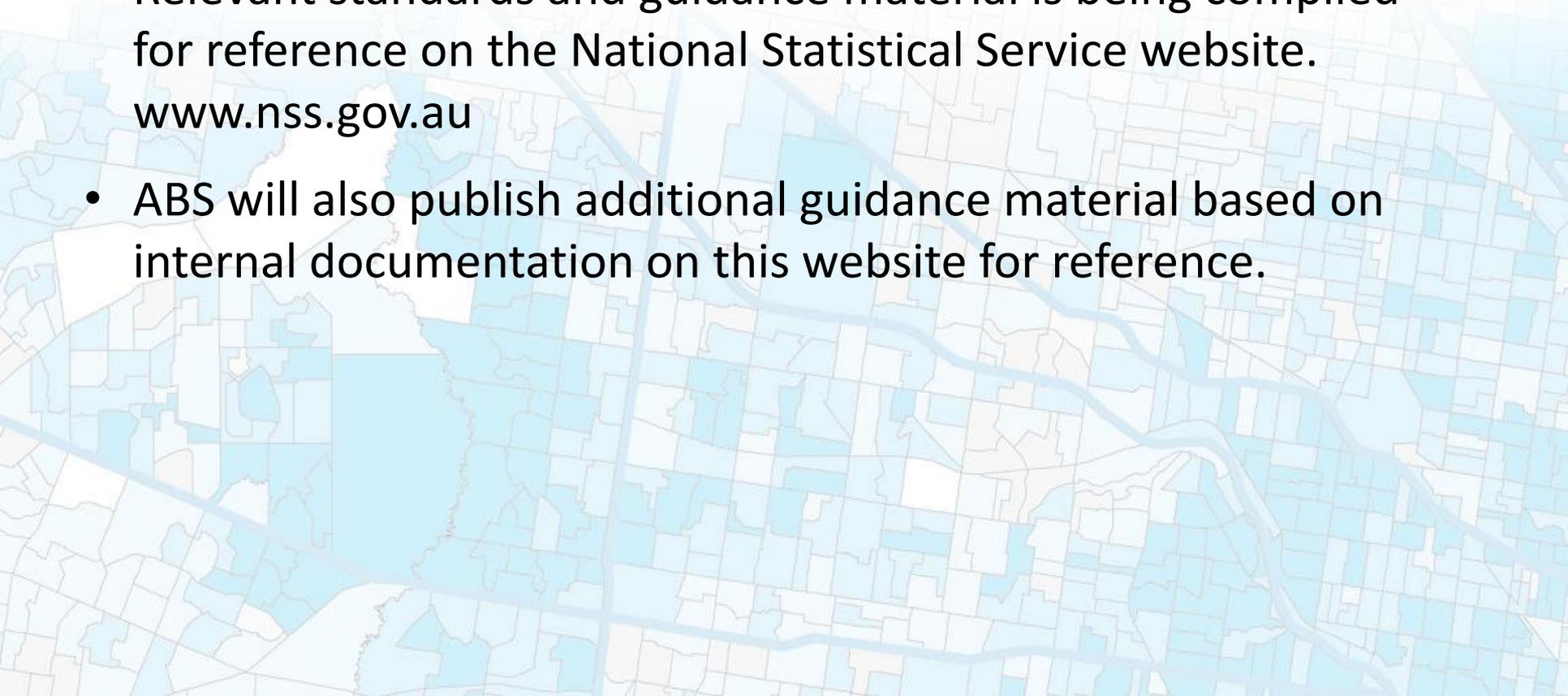


## Statistical Spatial Framework

### SSF elements

#### Standards & Guidelines

- Relevant standards and guidance material is being compiled for reference on the National Statistical Service website.  
[www.nss.gov.au](http://www.nss.gov.au)
- ABS will also publish additional guidance material based on internal documentation on this website for reference.





## Develop a global framework

UN Economic and Social Council (ECOSOC)

UN Statistical Commission (UNSC)

- ABS Geospatial program review – proposed a global SSF

UN Committee of Experts on Global Geospatial Information Management (UN-GGIM)

- List of nine issues included 'linking of spatial to statistics'

UN Statistical-Geospatial Expert Group (UN SGEG)

UN Statistical-Geospatial Integration Conference





## Statistical Spatial Framework

ABS would be happy to meet your agency to discuss or present

For more information

E-mail: [geography@abs.gov.au](mailto:geography@abs.gov.au)

Visit: [www.nss.gov.au](http://www.nss.gov.au)