UN52SC Side Event: Modernization of Statistical Systems with GIS

Linda Peters lpeters@esri.com


GIS
MODERNIZATION OF
STATISTICAL SYSTEMS
WITH GIS
أهلا وسهلا
TERVETULOA
BIENVENIDO
VELKOMMEN
ようこそ
Добро пожаловать
BIENVENUE
SELAMAT DATANG
VÄLKOMMEN
WELCOME
WELKOM
ยินดีต้อนรับ

Agenda

- Introduction/Overview
- UAE – The Federal Competitiveness and Statistics Centre (FCSC)
  - HE Mohammad Hassan
- Australia – Australian Bureau of Statistics (ABS)
  - Mr. Martin Brady for Alexis McIntyre
- Colombia - National Administrative Department of Statistics (DANE)
  - Ms. Sandra Liliana Moreno Mayorga
- Esri technology demonstrations:
  - SDMX – Adam Pfister
  - Data Dissemination – Kate Hess
- UN GGIM – Mr. Greg Scott
- Open Q/A
- Close

GIS Is Organizing the World's Geographic Knowledge

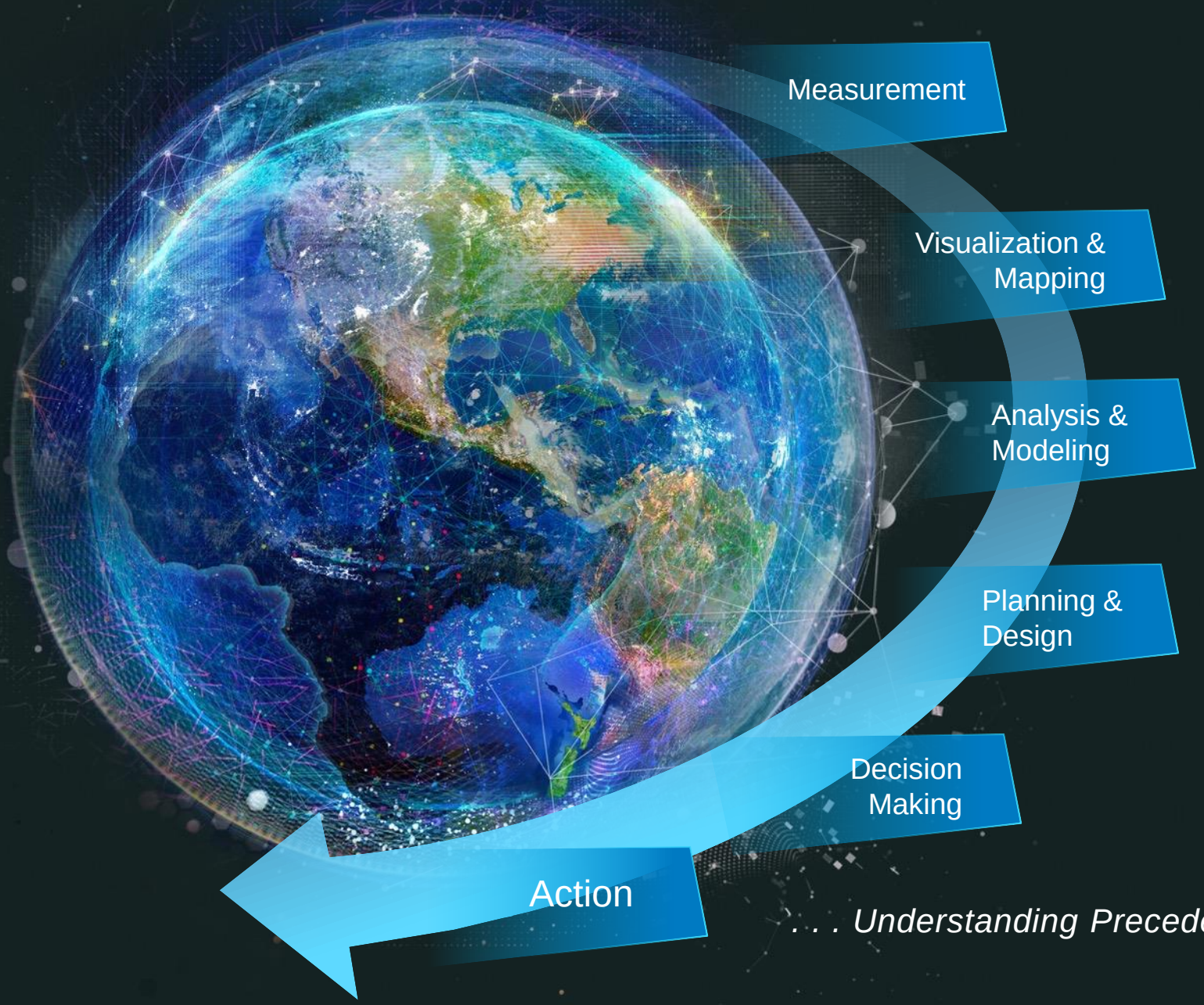
Transforming How
We See the World

Creating Building Blocks for Shared Understanding

GIS

Provides a Process
and Framework . . .

. . . for Creating and
Applying Geographic
Knowledge Widely



. . . Understanding Precedes Action

GIS Hubs Are Transforming Communities

Engaging People, Organizations and Stakeholders In Community Initiatives

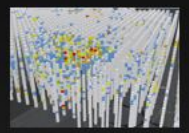
Empowering Citizens
with GIS Capabilities

Improving Citizen Participation . . .
. . . Collaborating Around Common Interests

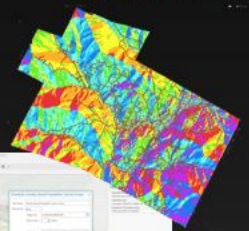
Spatial Modeling and Analytics

Advancing Science and Creating New Insights

Spatiotemporal analysis

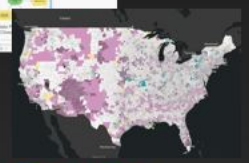


Suitability Modeling

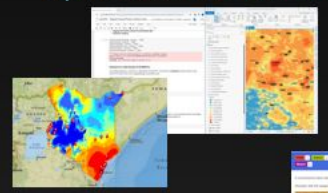


Geoprocessing

Spatial Stats



Spatial Machine Learning



Object Extraction

Object detection

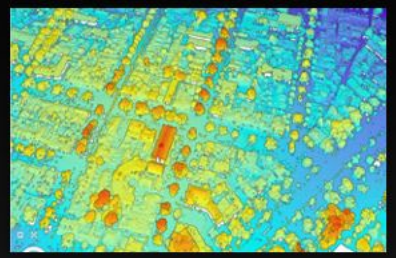
Deep learning

Natural Language Processing

Vehicle Tracking

Real-Time / IoT

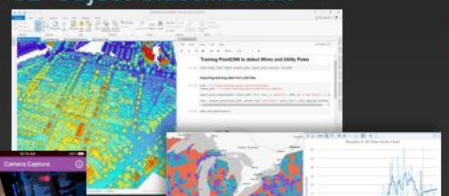
Object Detection



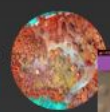
AI and Machine Learning

3D Cities

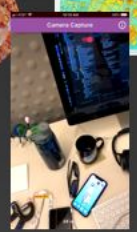
3D Object Classification



Multi-dimensional

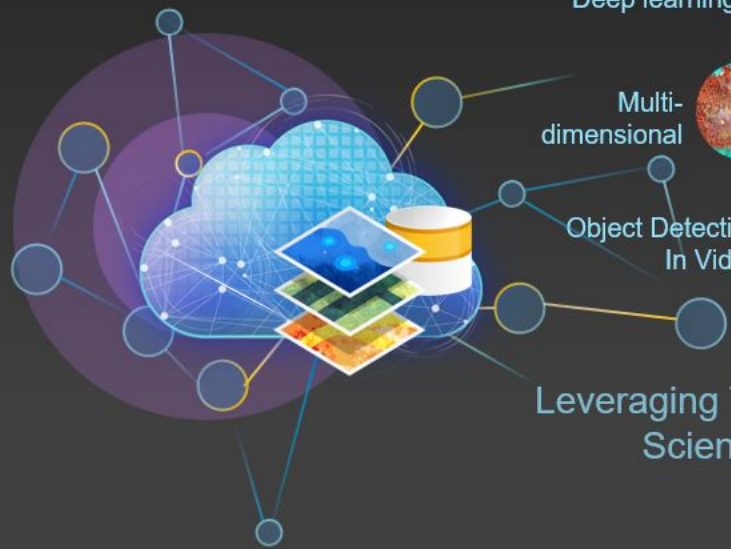


Object Detection In Video



Time-Series Forecasting

Integrating Open Data Science and Tools

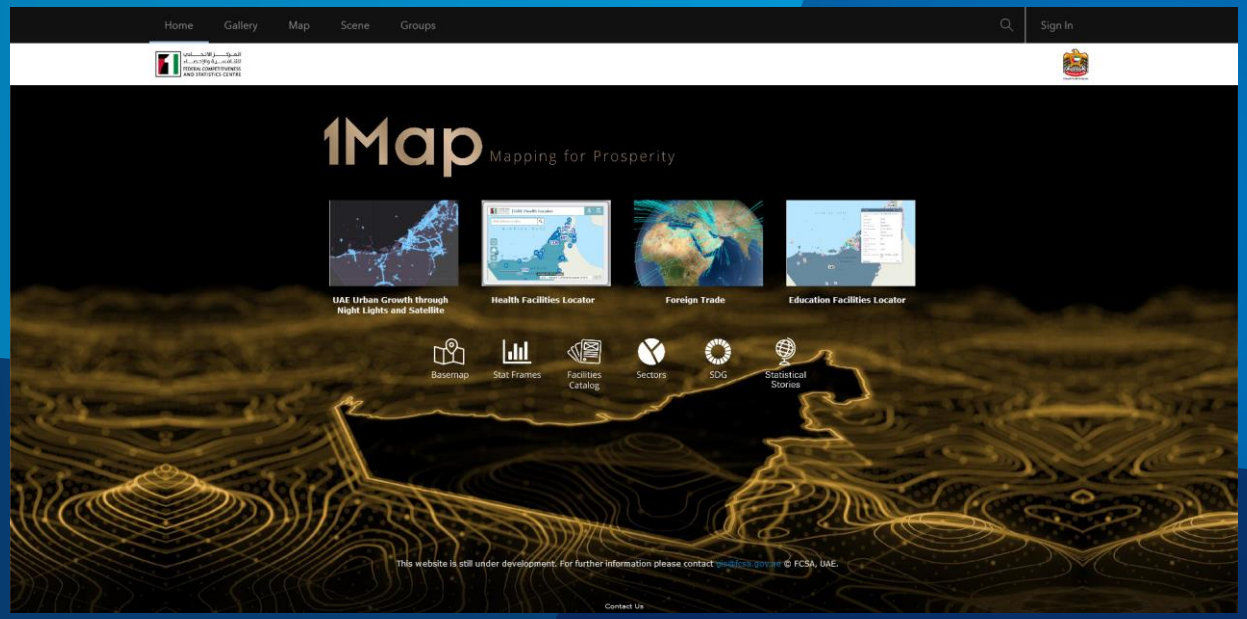


Leveraging Technical and Scientific Innovations

Open source data science ecosystem

ArcGIS

Pro | Notebooks | Python & R



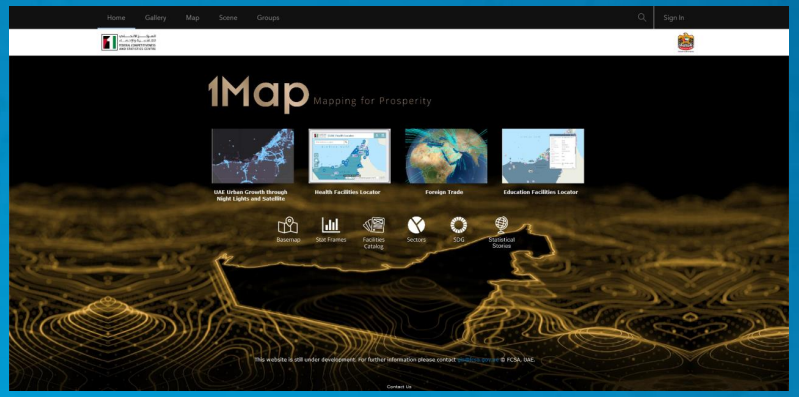
HE Mohammad Hassan

FCSC: The Federal Competitiveness and Statistics Centre

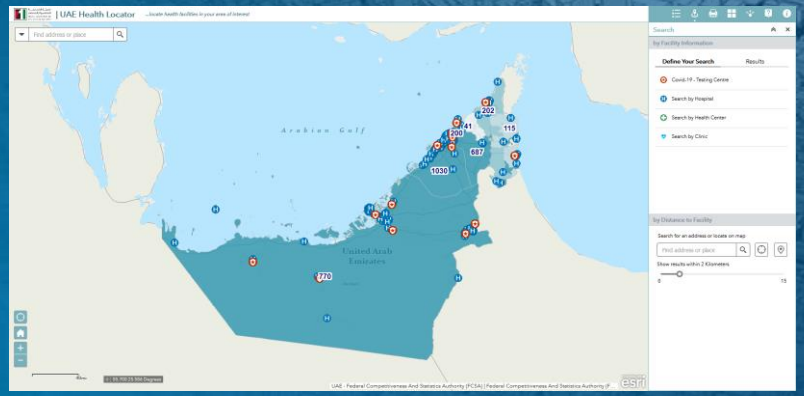
FCSC live presentation/ demonstration

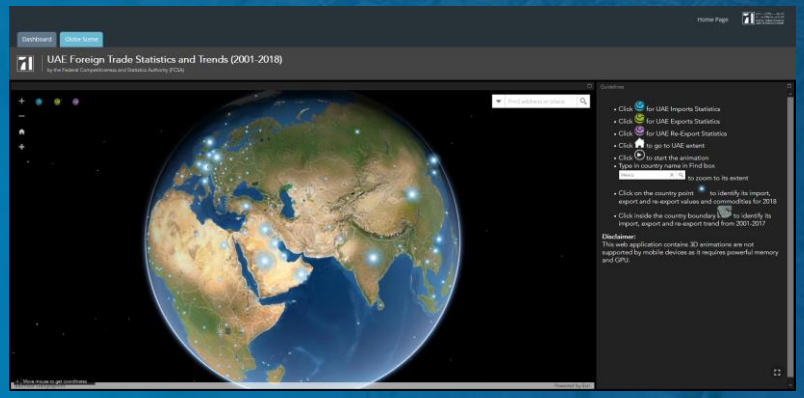
https://geostat.fcsa.gov.ae/gisportal/home/

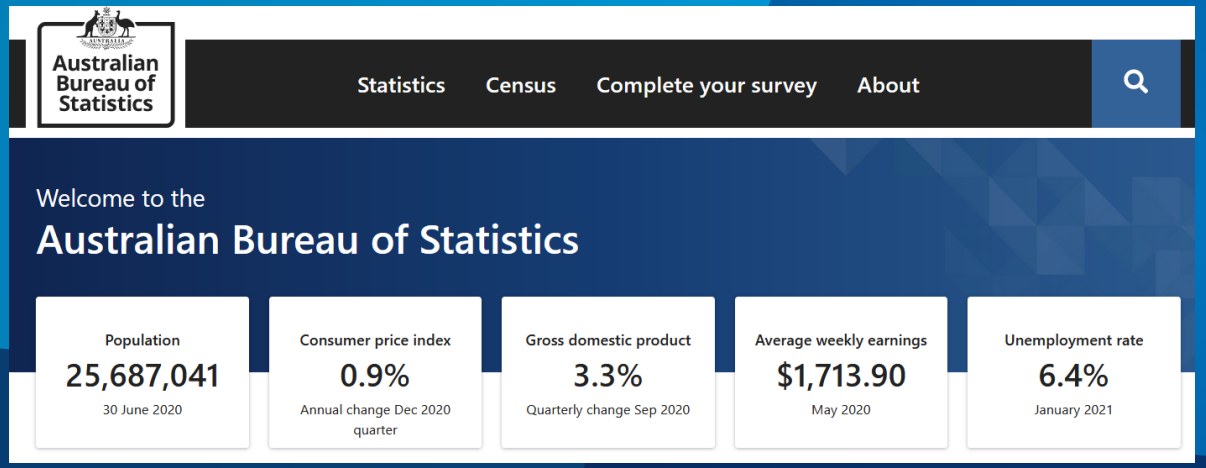
Q/A – FCSC UAE


1Map
Mapping for Prosperity
UAE Urban Growth through Night Lights and Satellite
Health Facilities Locator
Foreign Trade
Education Facilities Locator
Basemap
Stat Frames
Facilities Catalog
Sectors
SDG
Statistical Stories


UAE | Foreign Trade 2018 Dashboard
Total Trade (AED)
1.54T
Total Exports (AED)
206.05Bn
Total Re-Exports (AED)
431.55Bn


UAE Health Locator
Arabian Gulf
United Arab Emirates


UAE Foreign Trade Statistics and Trends (2001-2018)



Mr. Martin Brady
for Alexis McIntyre

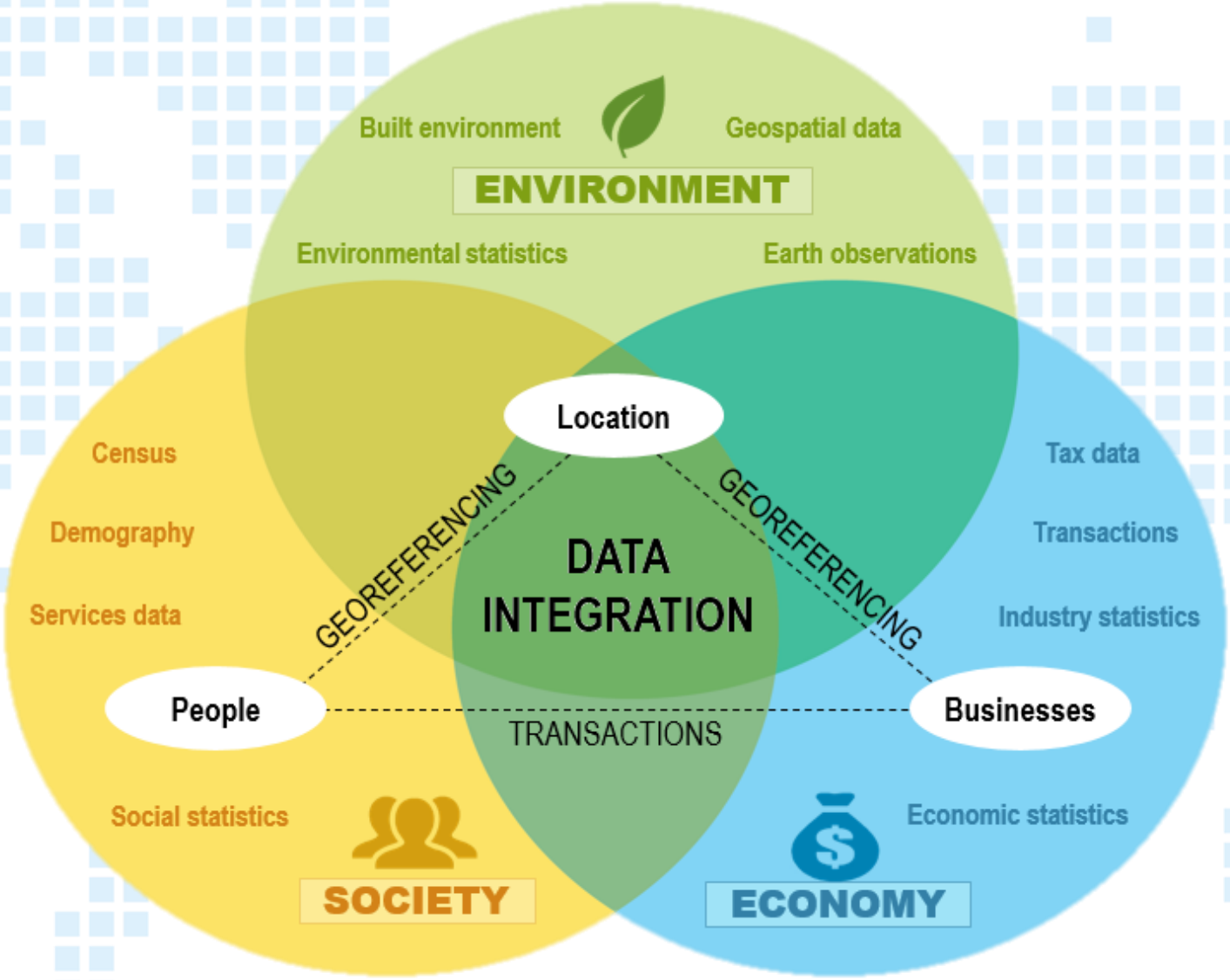
ABS: Australian Bureau of Statistics

Geospatial enablement of official statistics

Martin Brady
for Alexis McIntyre
Director – Geospatial Solutions

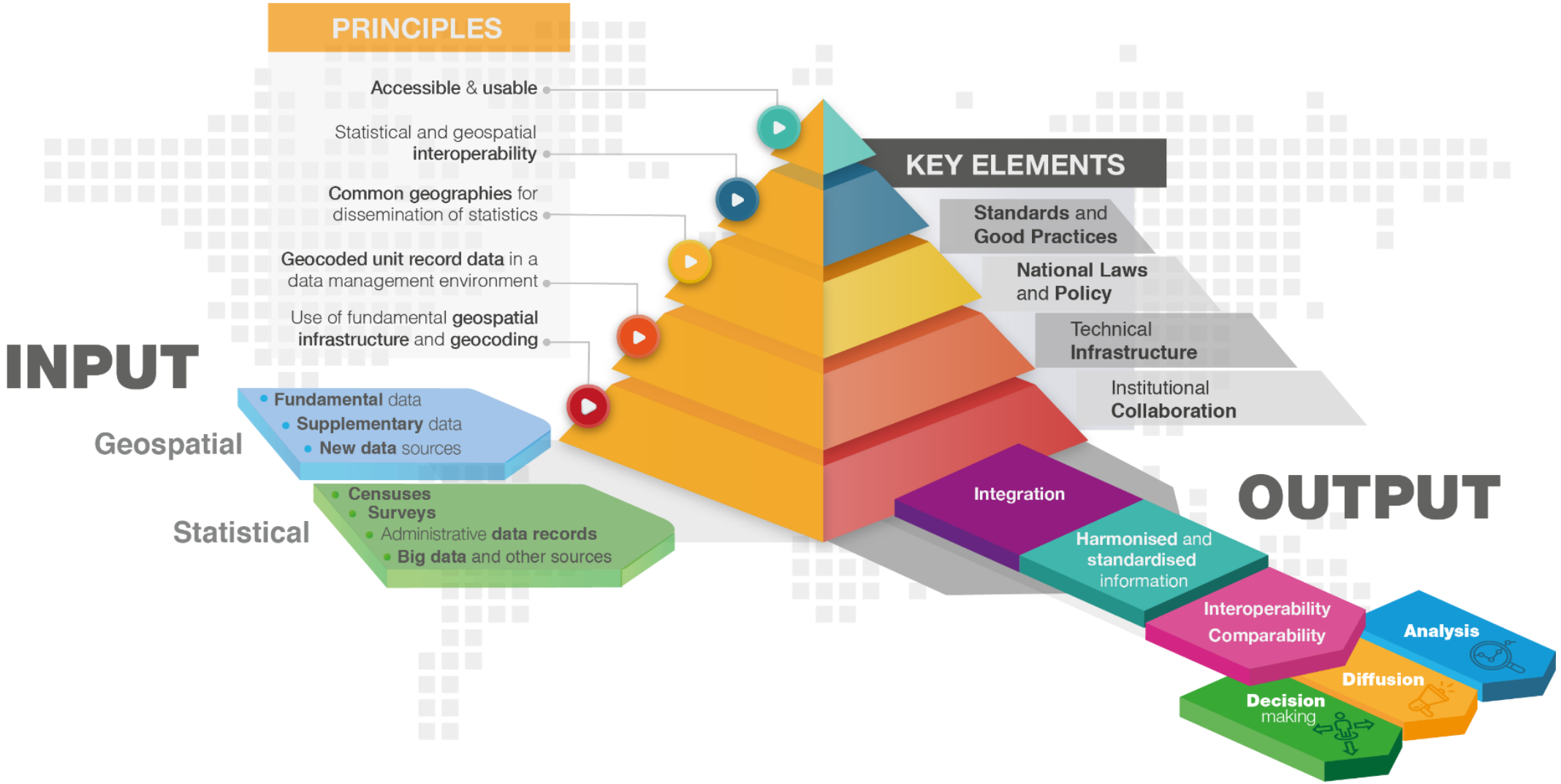
February 2021

Australian Bureau of Statistics
Informing Australia's important decisions

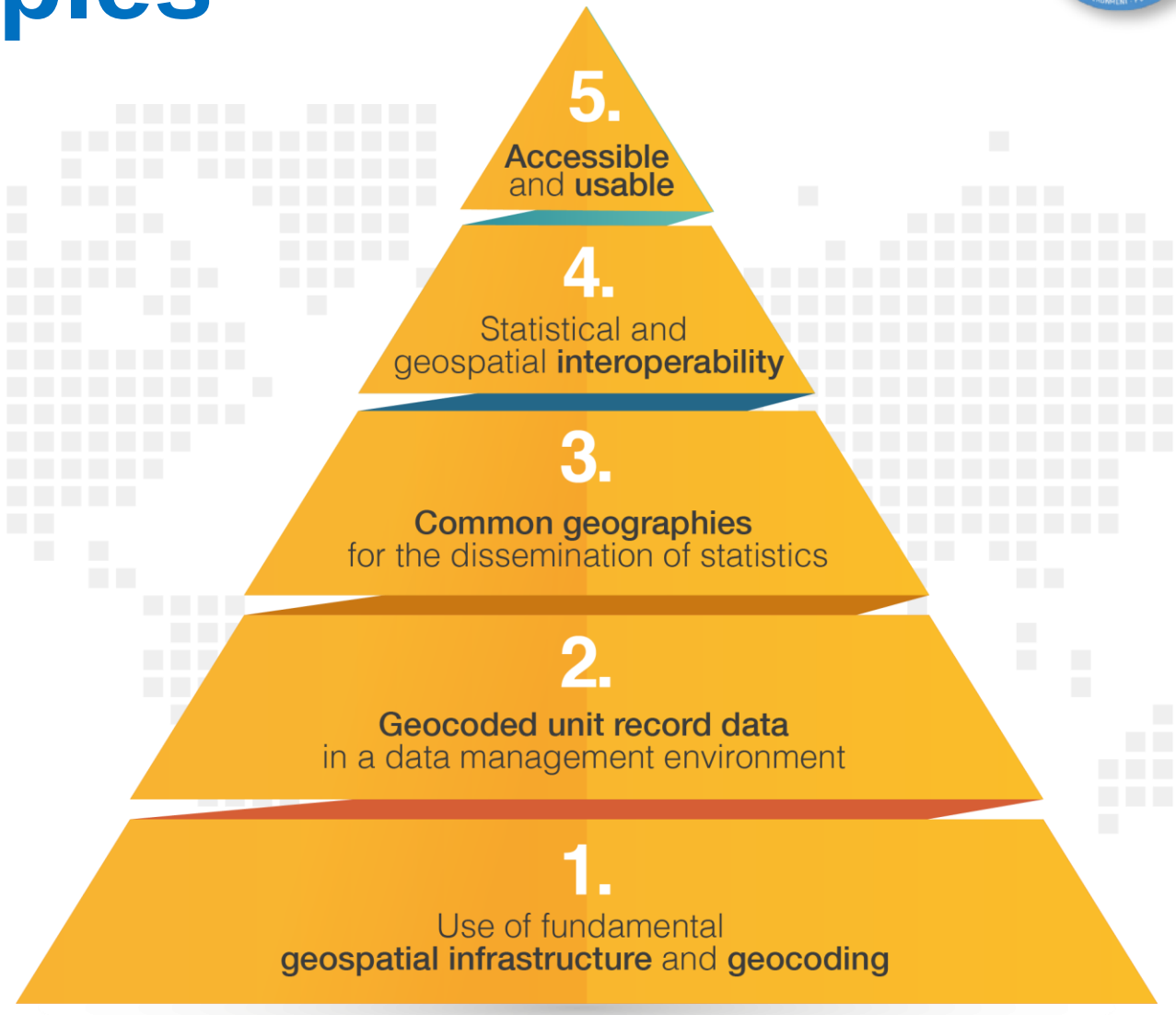


Who, what , when, where

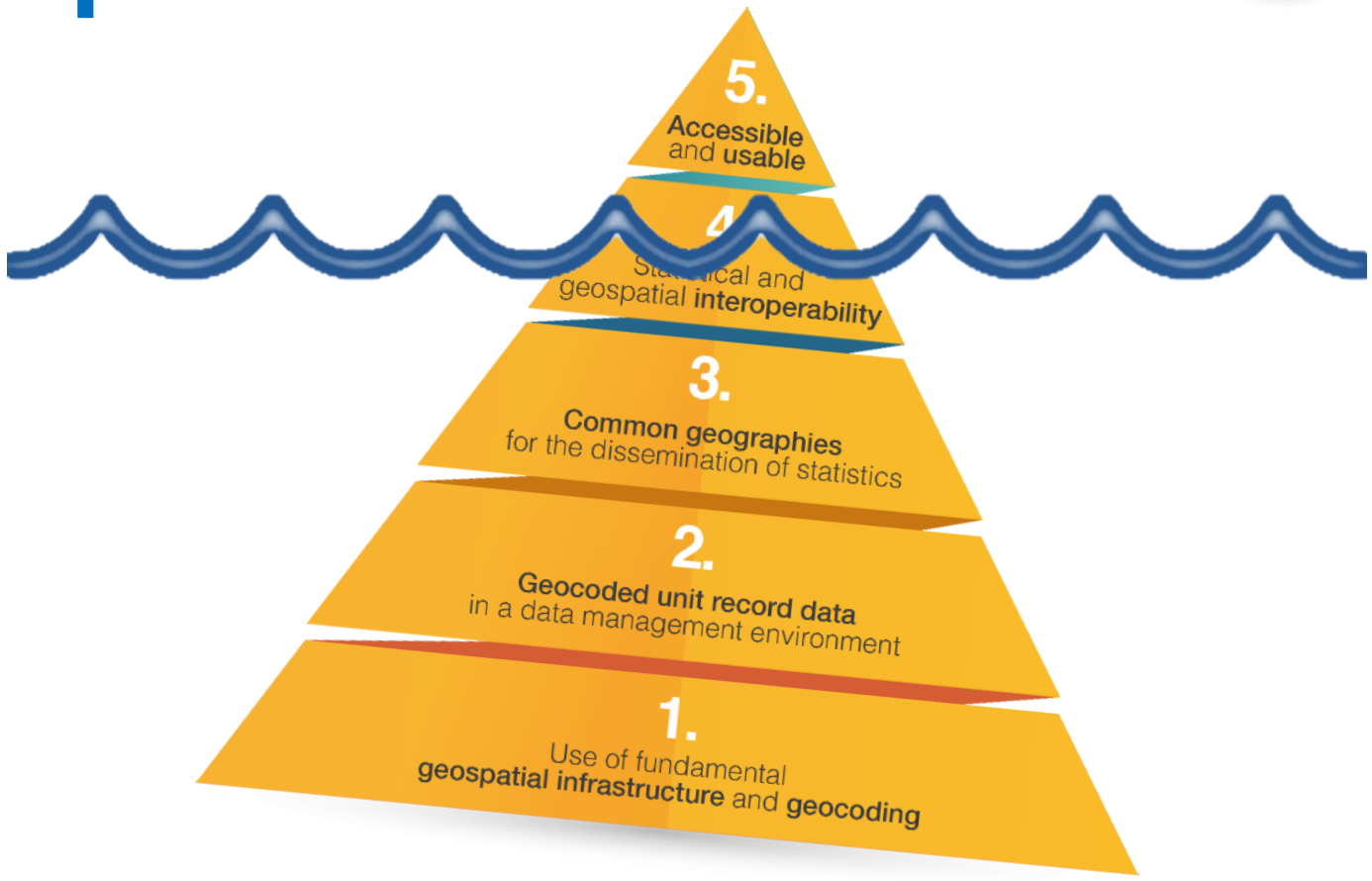
Global Statistical Geospatial Framework



GSGF
5 Principles



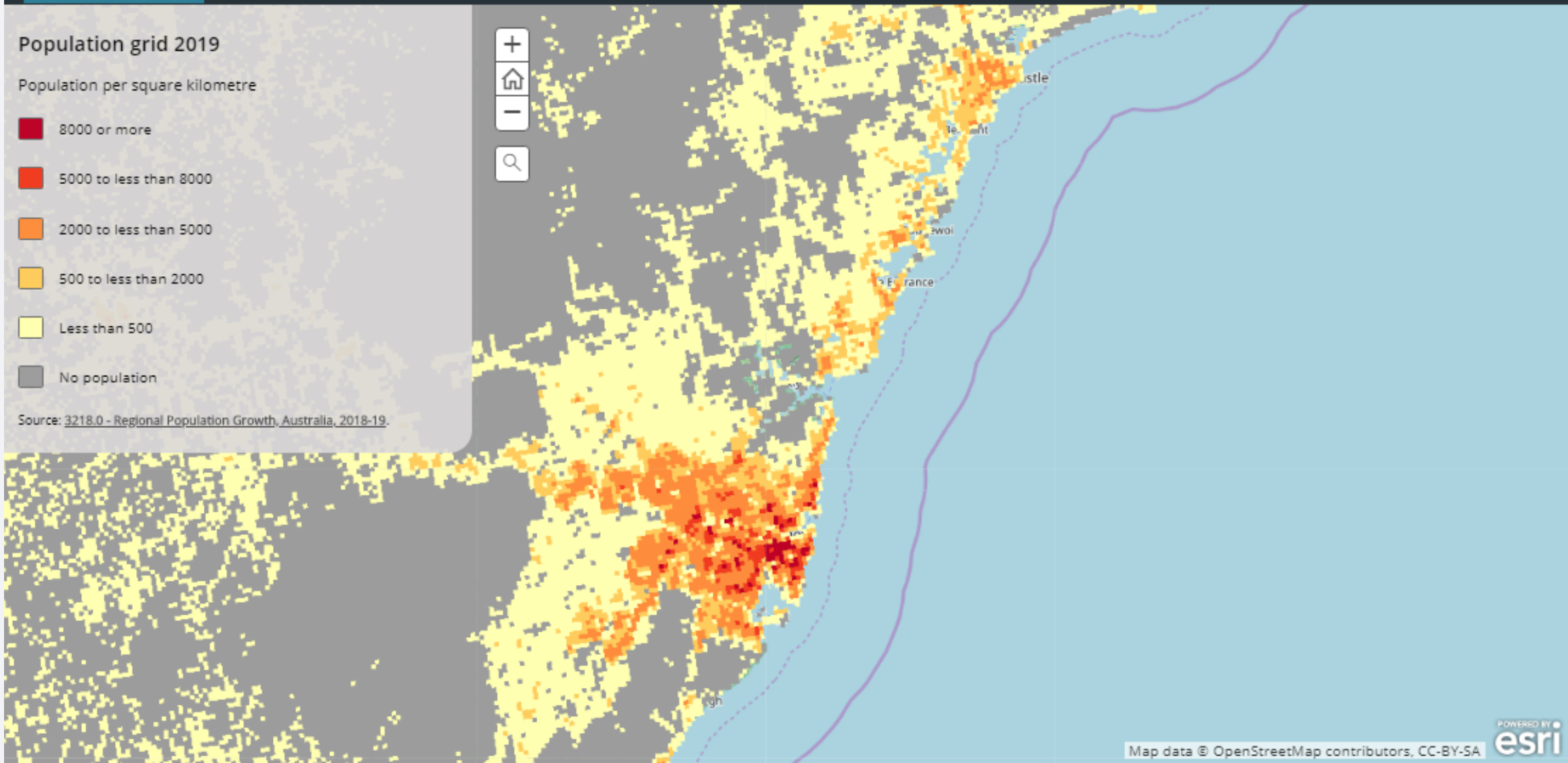
GSGF
5 Principles



Population Grid

Australian Bureau of Statistics

Population grid 2019



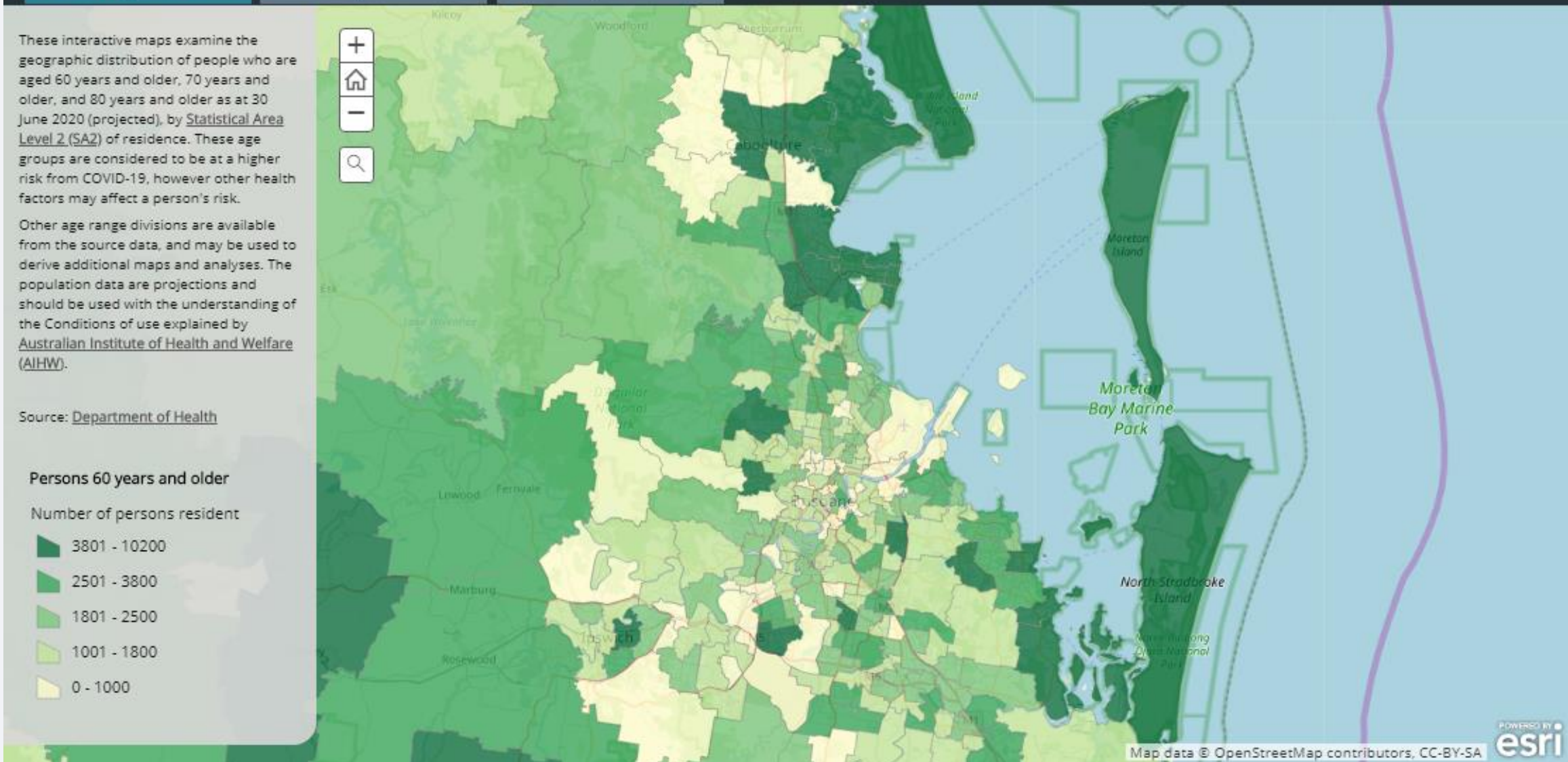
Health – At risk populations: age distribution

Persons 60 years and older | Persons 70 years and older | Persons 80 years and older

These interactive maps examine the geographic distribution of people who are aged 60 years and older, 70 years and older, and 80 years and older as at 30 June 2020 (projected), by Statistical Area Level 2 (SA2) of residence. These age groups are considered to be at a higher risk from COVID-19, however other health factors may affect a person's risk.

Other age range divisions are available from the source data, and may be used to derive additional maps and analyses. The population data are projections and should be used with the understanding of the Conditions of use explained by Australian Institute of Health and Welfare (AIHW).

Source: Department of Health



Health – At risk populations: health conditions

Australian Bureau of Statistics

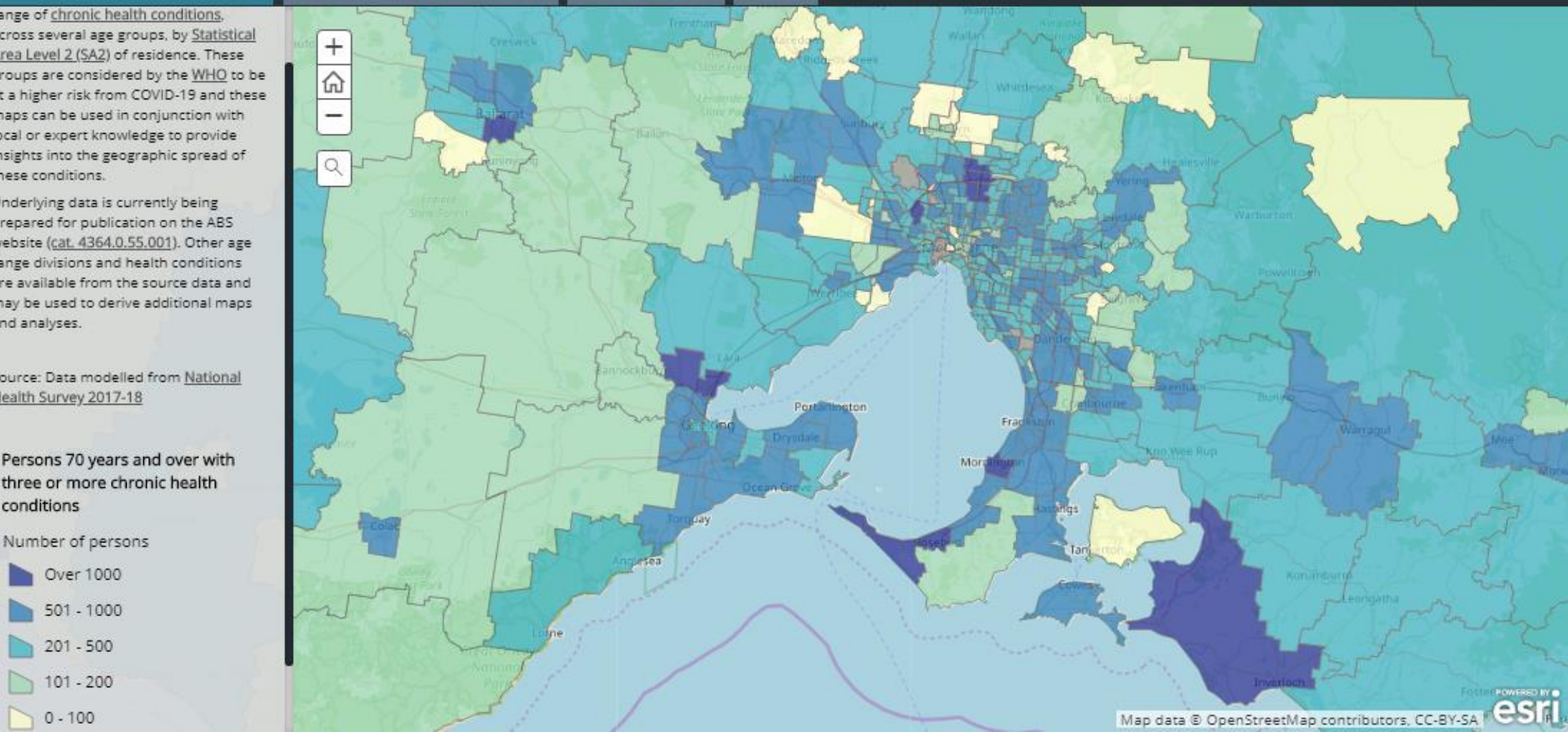
Total population | Persons 60 years and over | Persons 70 years and over

Three or more chronic conditions | Heart, stroke, or vascular disease | Diabetes mellitus | Asthma

range of chronic health conditions, across several age groups, by Statistical Area Level 2 (SA2) of residence. These groups are considered by the WHO to be at a higher risk from COVID-19 and these maps can be used in conjunction with local or expert knowledge to provide insights into the geographic spread of these conditions.

Underlying data is currently being prepared for publication on the ABS website (cat. 4364.0.55.001). Other age range divisions and health conditions are available from the source data and may be used to derive additional maps and analyses.

Source: Data modelled from National Health Survey 2017-18



Economy – Weekly payroll jobs in Australia

Australian Bureau of Statistics

Statistical Area Level 3 | Statistical Area Level 4

Time Slider | Week ending 30 January, 2021

This interactive map examines the percentage change in payroll jobs between the week ending 14 March 2020 (the week Australia recorded its 100th confirmed COVID-19 case) and the week ending 30 January 2021, by Statistical Area Level 3 (SA3) of jobholder's residence. The map provides indicative information on the economic impacts of COVID-19. This map was last updated on 19 February 2021.

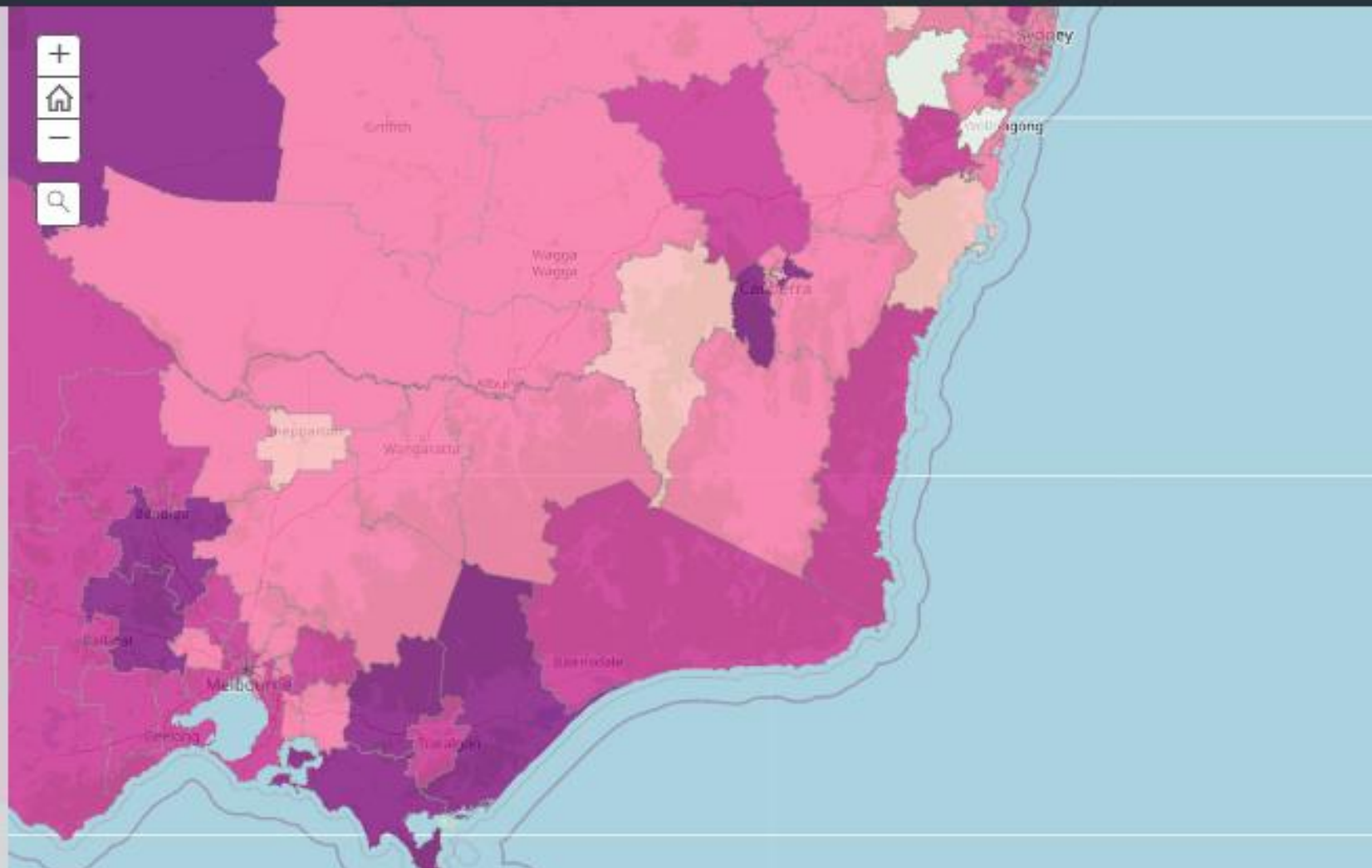
Other information on payroll jobs (for example, changes in total wages paid by State & Territory) is available from the source data, and may be used to derive additional maps and analyses.

Source: Weekly Payroll Jobs and Wages in Australia

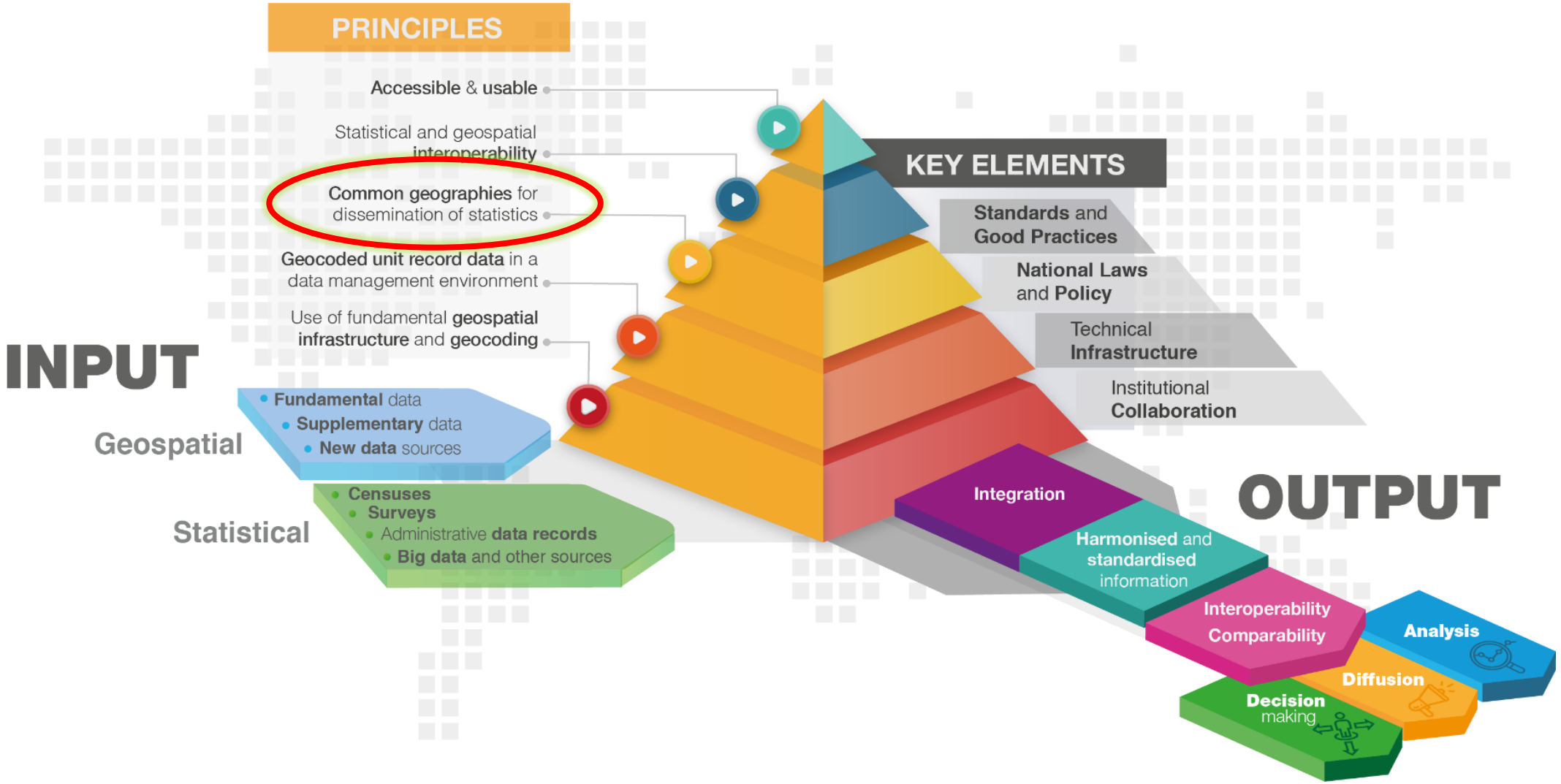
Week ending 30 January, 2021

Change in number of jobs (%) since 14 March

- 5.1% or more increase
- 2.6 - 5.0% increase
- 0.1 - 2.5% increase
- No change
- 0.1 - 2.5% decrease
- 2.6 - 5.0% decrease
- 5.1 - 7.5% decrease
- 7.6% or more decrease

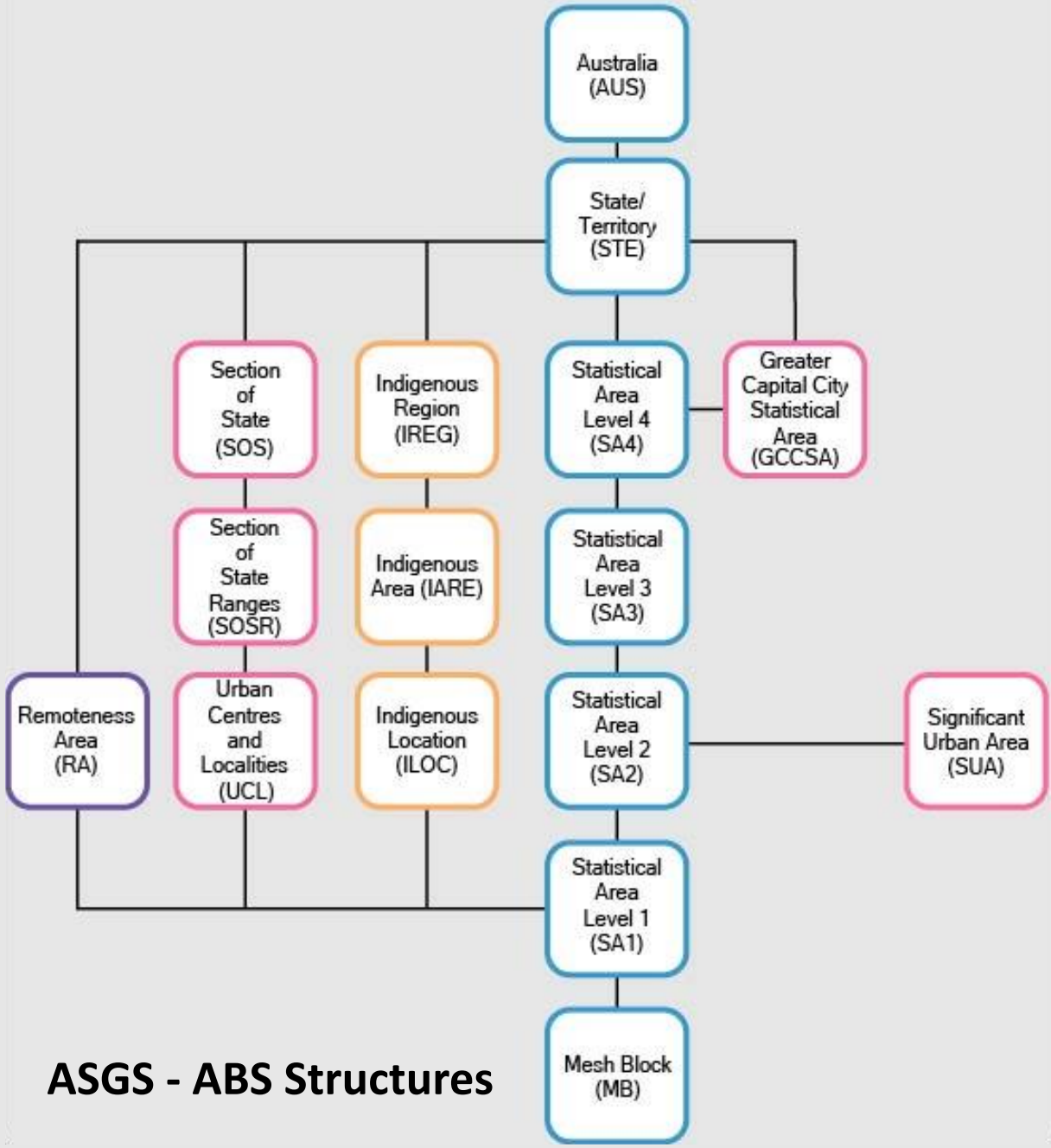


Global Statistical Geospatial Framework



Australian Statistical Geography Standard (ASGS)

- Framework of statistical areas
- Enable the publication and analysis of statistics that are comparable and spatially integrated
- Help to manage confidentiality
- ASGS updated five yearly, aligned to Population Census
- Provide a balance between stability and relevance to the changing underlying geography



ASGS - ABS Structures

Confidentiality protection with ASGS

- Standard data suppression and category collapsing mechanisms are generally used in the ABS
- Population Census use data perturbation due to volume of data released for small areas and detailed statistical classifications
- Several additional processes are used where risks of geographic differencing exists:
  - mapping, identification and suppression
  - randomised reallocation

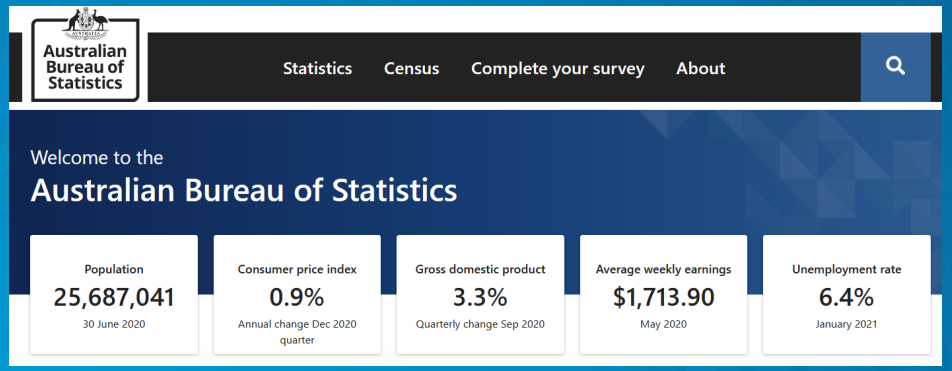
Main points

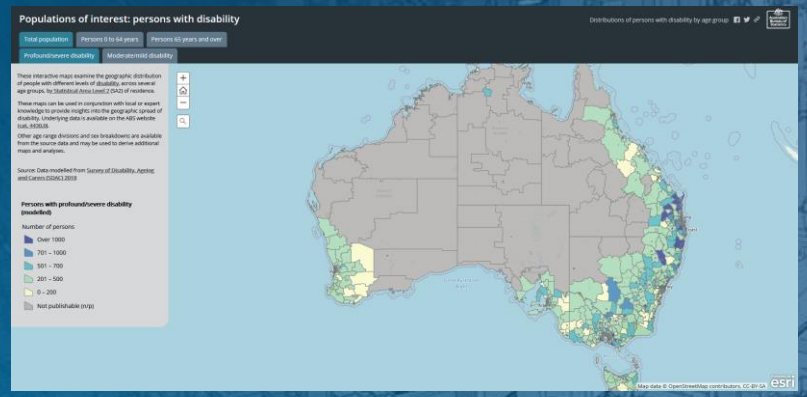
- Small area data and visualisation is useful for policy and decision makers, particularly when it is timely.
- National statistical offices need to invest in geospatially enabling data and put in place the technical infrastructure to use the data.
- A common geography is very useful for this process, particularly a statistical geography.
- The Global Statistical Geospatial Framework will assist with this process.

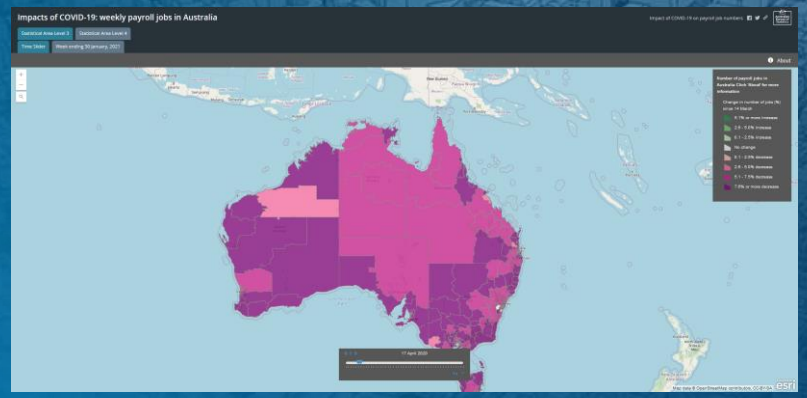
Australian Bureau of Statistics

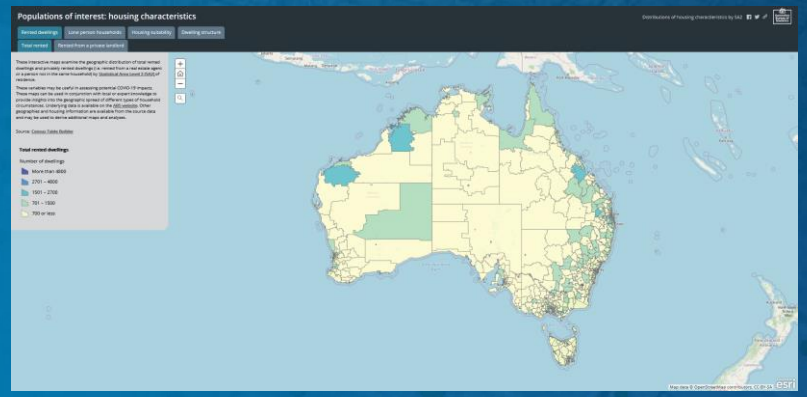
End

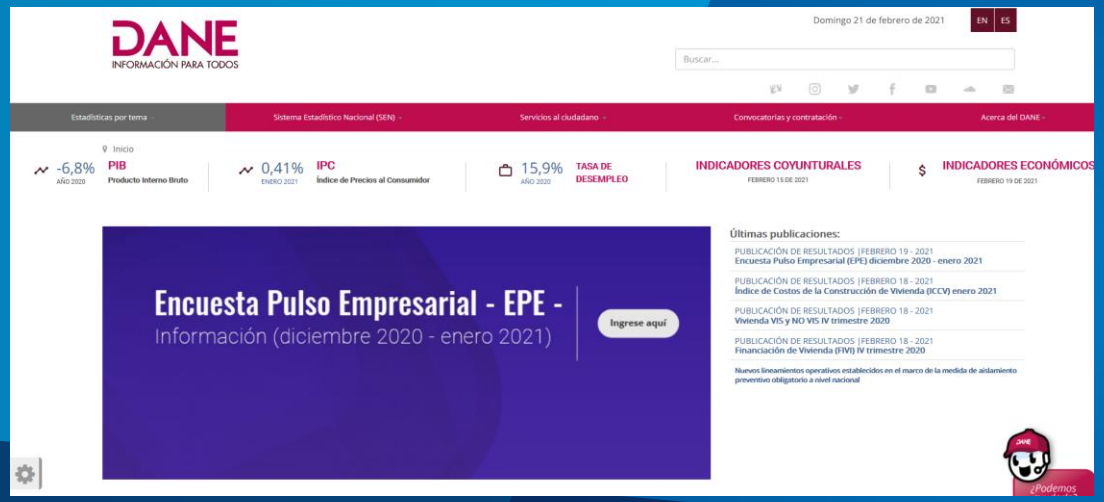
Q/A – ABS Australia











Sandra Moreno

DANE: National Administrative Department of Statistics

DANE
INFORMACIÓN PARA TODOS

Statistics Division

COVID-19 Vulnerability Index Geovisor

Modernization of Statistical Systems with GIS

Sandra Liliana Moreno
Geostatistics Directorate
National Administrative Department of Statistics
Colombia

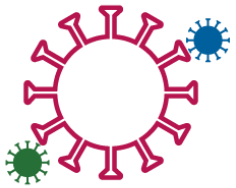
El futuro es de todos
Gobierno de Colombia

Statistics Division

General Context

Interinstitutional group

- Provide statistical information and build tools.
- Facilitate decision-making for the line ministries to create the adequate policies within the COVID-19 emergency.



Vulnerability to COVID-19

- Age and comorbidity conditions that represent greater frailty in patients who acquire COVID-19.
- Population: older tan 60 years; comorbidities; cohabitation conditions.

Vulnerability index

- Construction of the index from the identification and selection of 13 variables.
- Sources: 2018 National Population and Housing Census, and administrative records.
- Groups generated by k-means method.

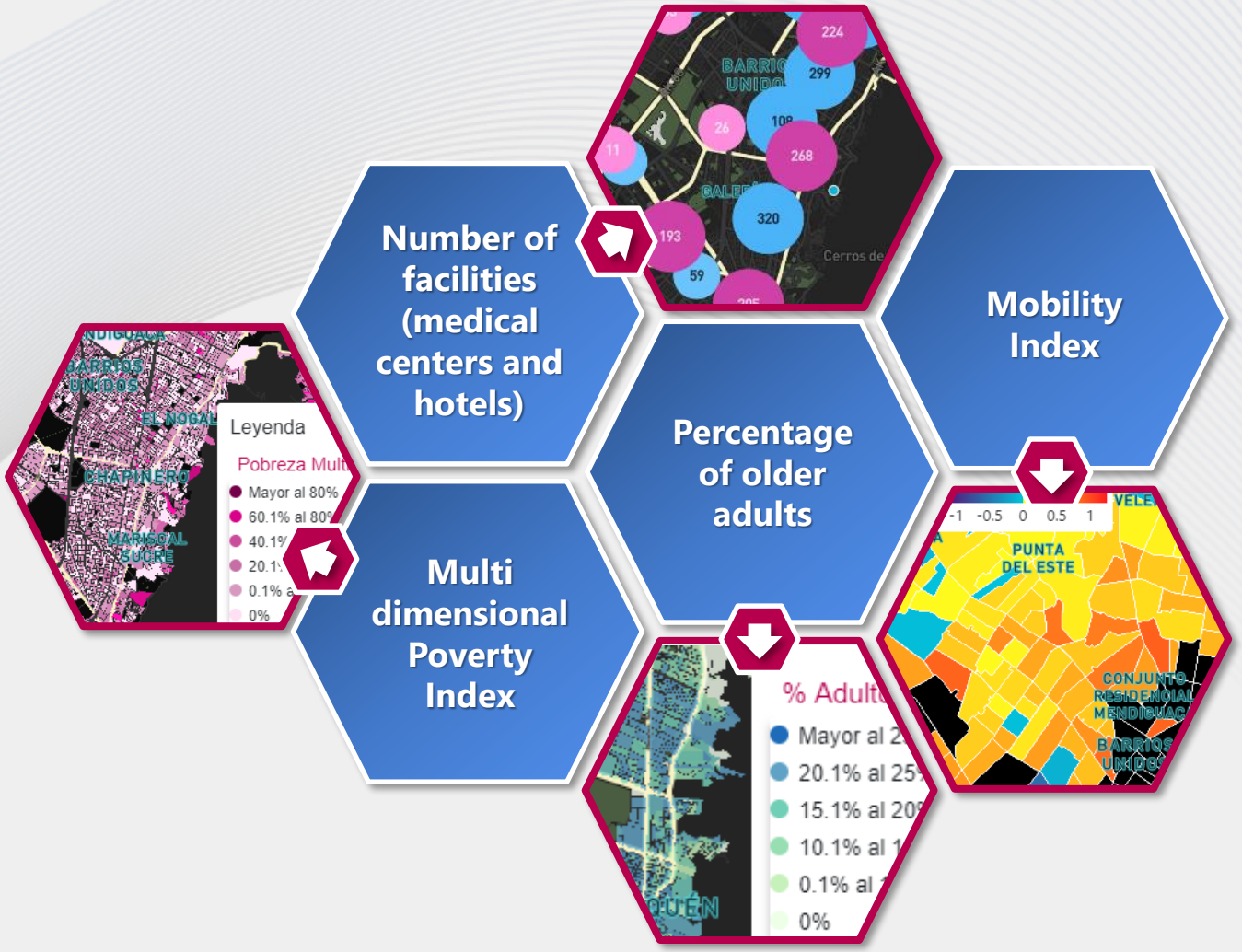
INFORMACIÓN PARA TODOS

Statistics Division

Per block Vulnerability Geovisor

Geovisualization platform, generated from development in MapBox, in which it is possible to identify, by census block in urban areas of the country's municipalities, both vulnerability and other associated variables of interest. The geospatial inputs and applied symbologies were developed in GIS software (Esri ArcGIS)

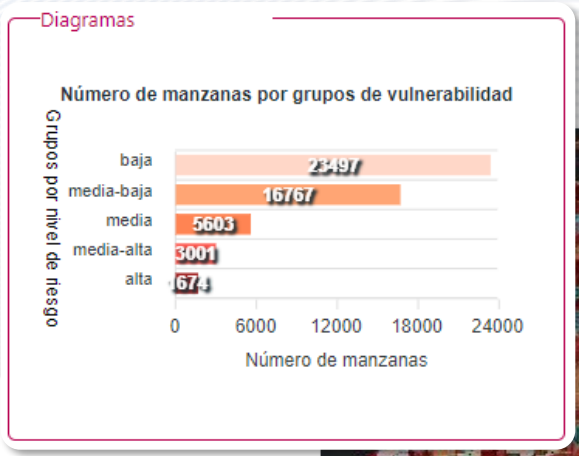
http://visor01.dane.gov.co/*visor-vulnerabilidad/*

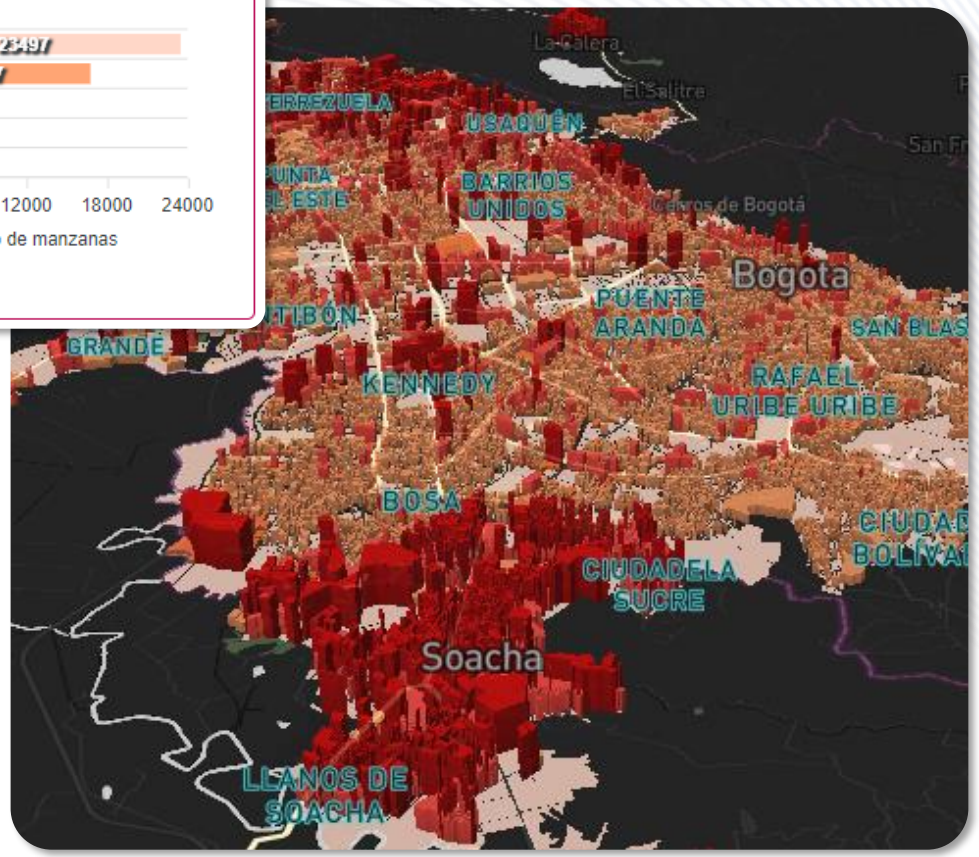


Statistics Division

Geovisualization of vulnerability

- Groups by levels of vulnerability at the block level.
- Multidimensional poverty measure per block.
- Associated variables: elderly population and facilities.
- Displaying the mobility index dynamically over time.
- Diagrams and filters by territorial levels.
- Enable layers, transparencies, and 3D views.
- Video tutorial, methodological note and shapefile download.



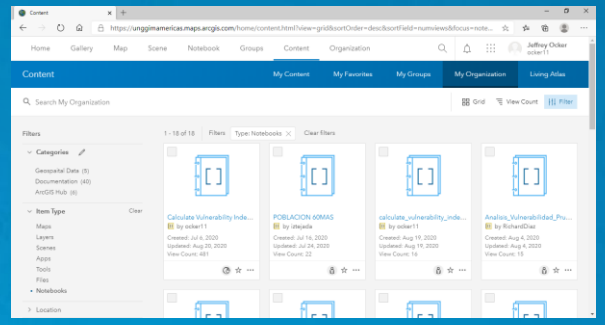


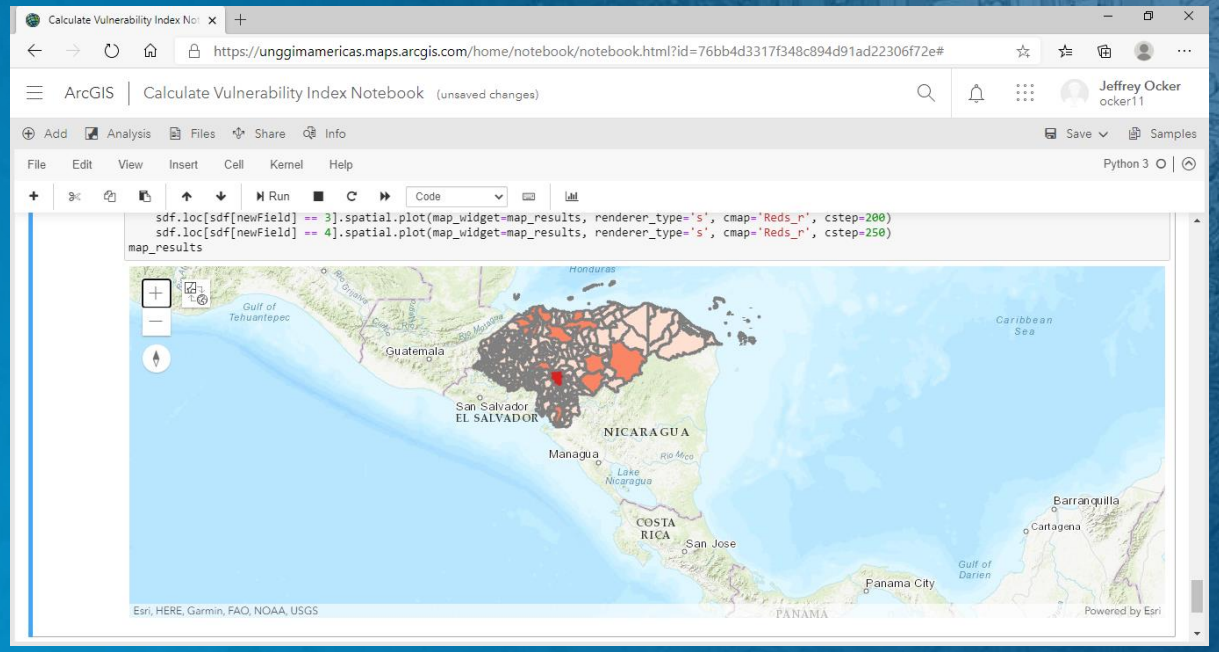
DANE
INFORMACIÓN PARA TODOS

www.dane.gov.co

El futuro es de todos
Gobierno de Colombia

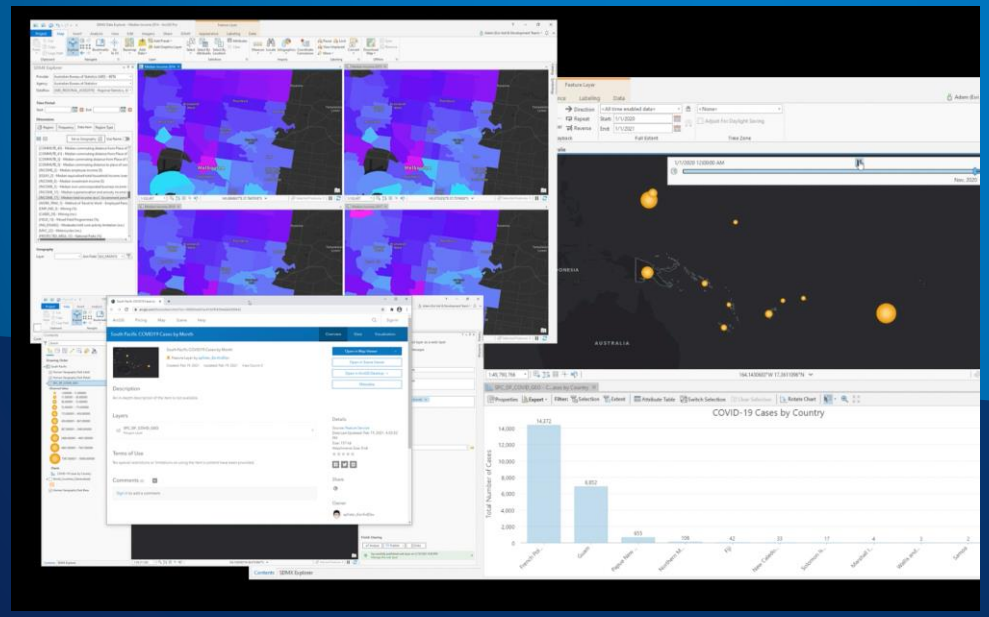
Q/A – DANE Colombia

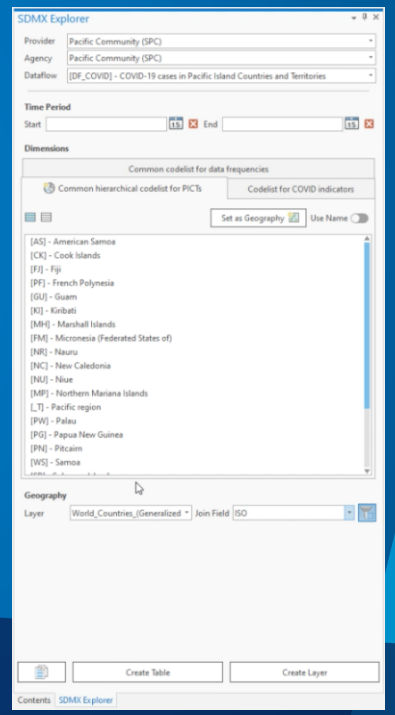


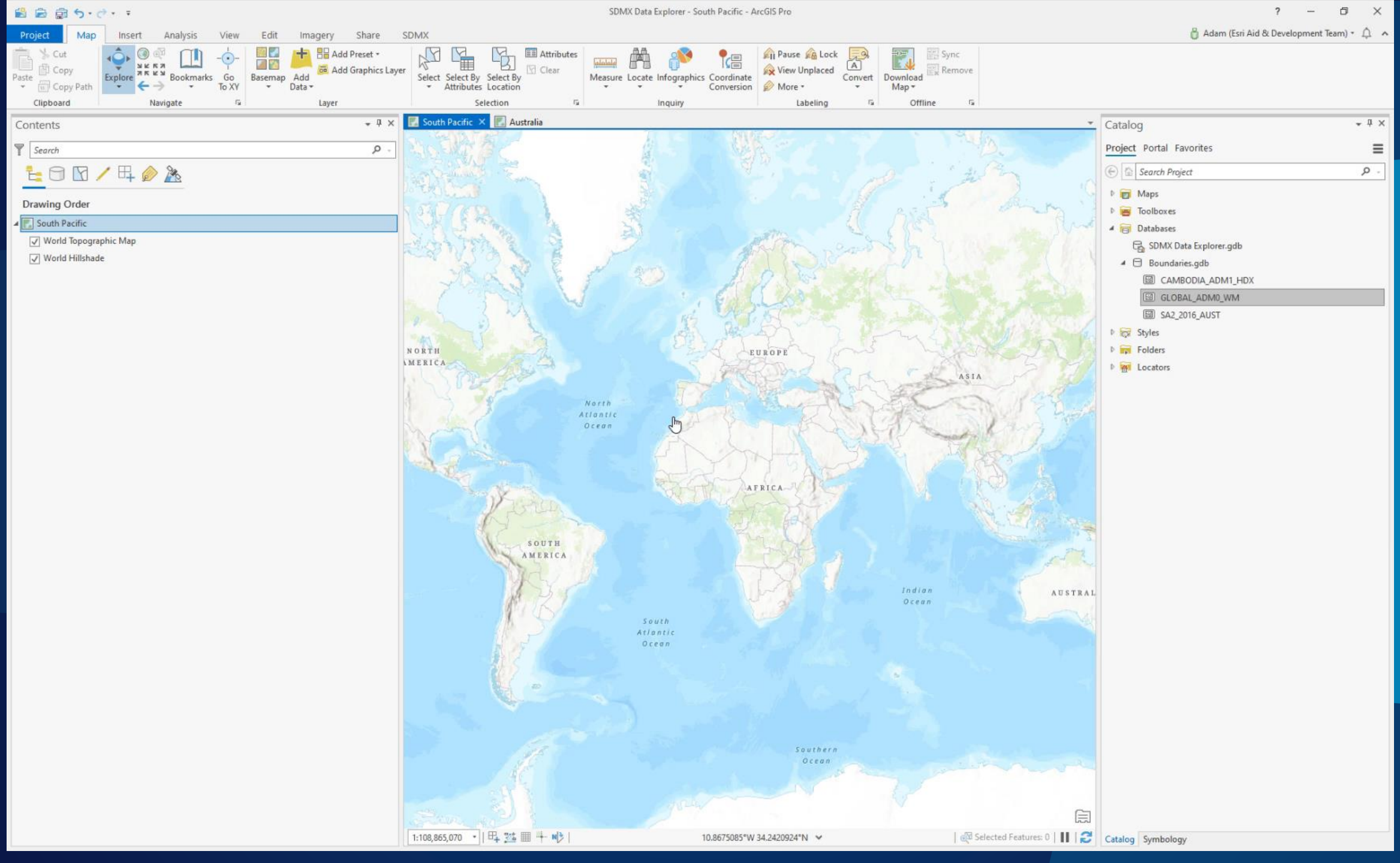


Esri Technical demo: SDMX

Adam Pfister

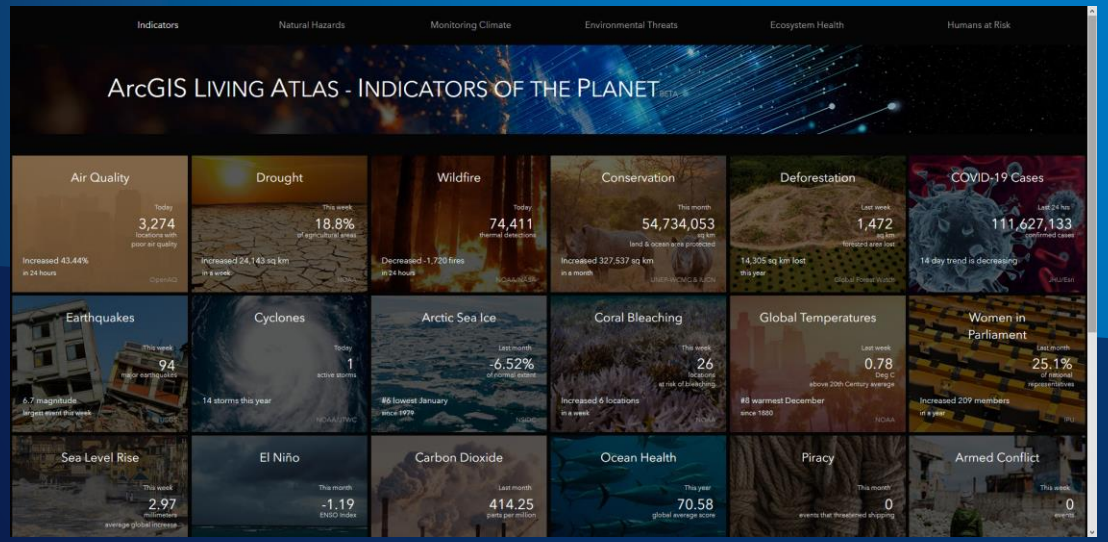


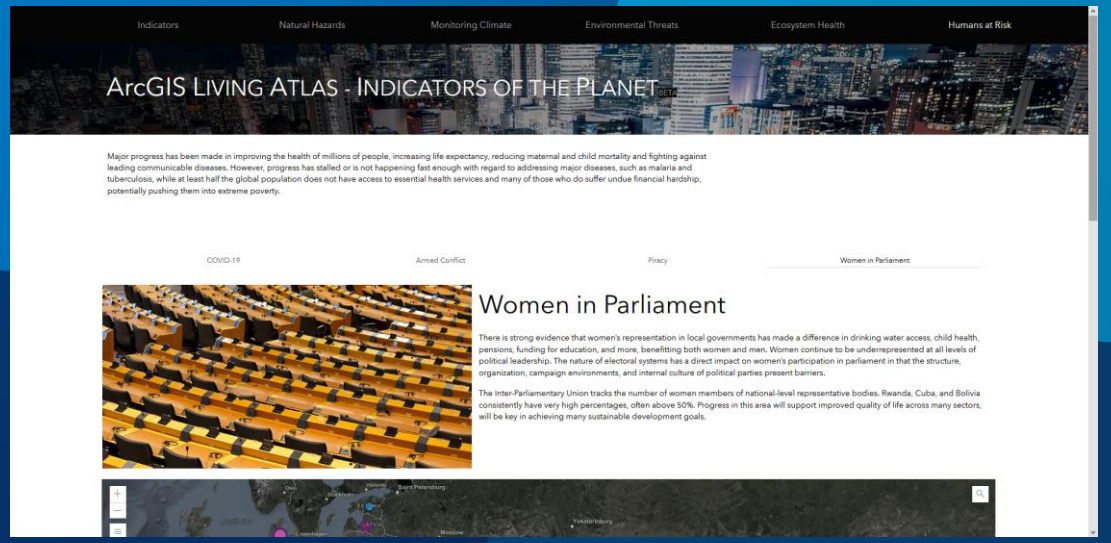



SDMX Data Explorer - South Pacific - ArcGIS Pro
Project
Map
Insert
Analysis
View
Edit
Imagery
Share
SDMX
Adam (Esri Aid & Development Team)
Cut
Copy
Copy Path
Paste
Clipboard
Explore
Bookmarks
Go To XY
Navigate
Basemap
Add Data
Add Preset
Add Graphics Layer
Layer
Select
Select By Attributes
Select By Location
Attributes
Clear
Selection
Measure
Locate
Infographics
Coordinate Conversion
Inquiry
Pause
Lock
View Unplaced
More
Convert
Labeling
Download Map
Sync
Remove
Offline
Contents
Search
Drawing Order
South Pacific
World Topographic Map
World Hillshade
South Pacific
Australia
NORTH AMERICA
EUROPE
ASIA
AFRICA
SOUTH AMERICA
AUSTRAL
North Atlantic Ocean
South Atlantic Ocean
Indian Ocean
Southern Ocean
1:108,865,070
10.8675085°W 34.2420924°N
Selected Features: 0
Catalog
Project
Portal
Favorites
Search Project
Maps
Toolboxes
Databases
SDMX Data Explorer.gdb
Boundaries.gdb
CAMBODIA_ADM1_HDX
GLOBAL_ADM0_WM
SA2_2016_AUST
Styles
Folders
Locators
Catalog
Symbology

Esri Technical demo: Dissemination

Kate Hess





Greg Scott
UNGGIM Secretariat

Subcommittee

1. Subcommittee on Geodesy (formerly WG on Global Geodetic Reference Frame)

Expert Groups

1. Expert Group on the Integration of Statistical and Geospatial Information
2. Expert Group on Land Administration and Management

Working Groups

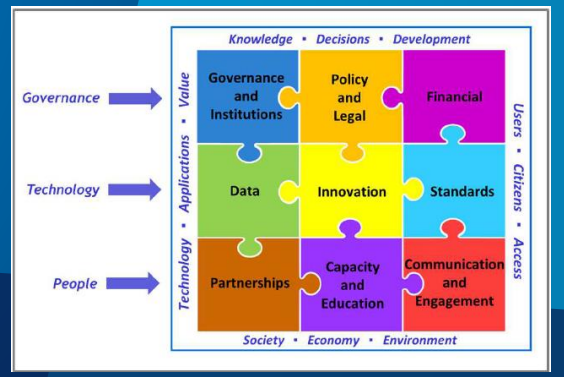
1. Working Group on Geospatial Information and Services for Disasters
2. Working Group on Policy and Legal Frameworks for Geospatial Information Management
3. Working Group on Marine Geospatial Information

Past Working Groups

1. Working Group on Development of a Statement of Shared Principles for the Management of Geospatial Information
2. Working Group on Trends in National Institutional Arrangements in Geospatial Information Management
3. Working Group on Global Fundamental Geospatial Data Themes

Working Group of the IAEG-SDGs

Working Group on Geospatial Information



Open Q/A

Please put questions in the chat window

GIS

TECHNOLOGY

INFORMATION

SCIENCES

HUMAN ACTIVITIES

ORGANIZATIONS

PEOPLE

INTERCONNECTING OUR WORLD

Creating Understanding

Integrating and Transforming Everything

This Past Year… Your Work In Responding to the COVID-19 Pandemic
Is Showing the Power of GIS,

Creating Global Understanding

and Mobilizing Collaborative Action . . .

Everywhere

Thank you

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