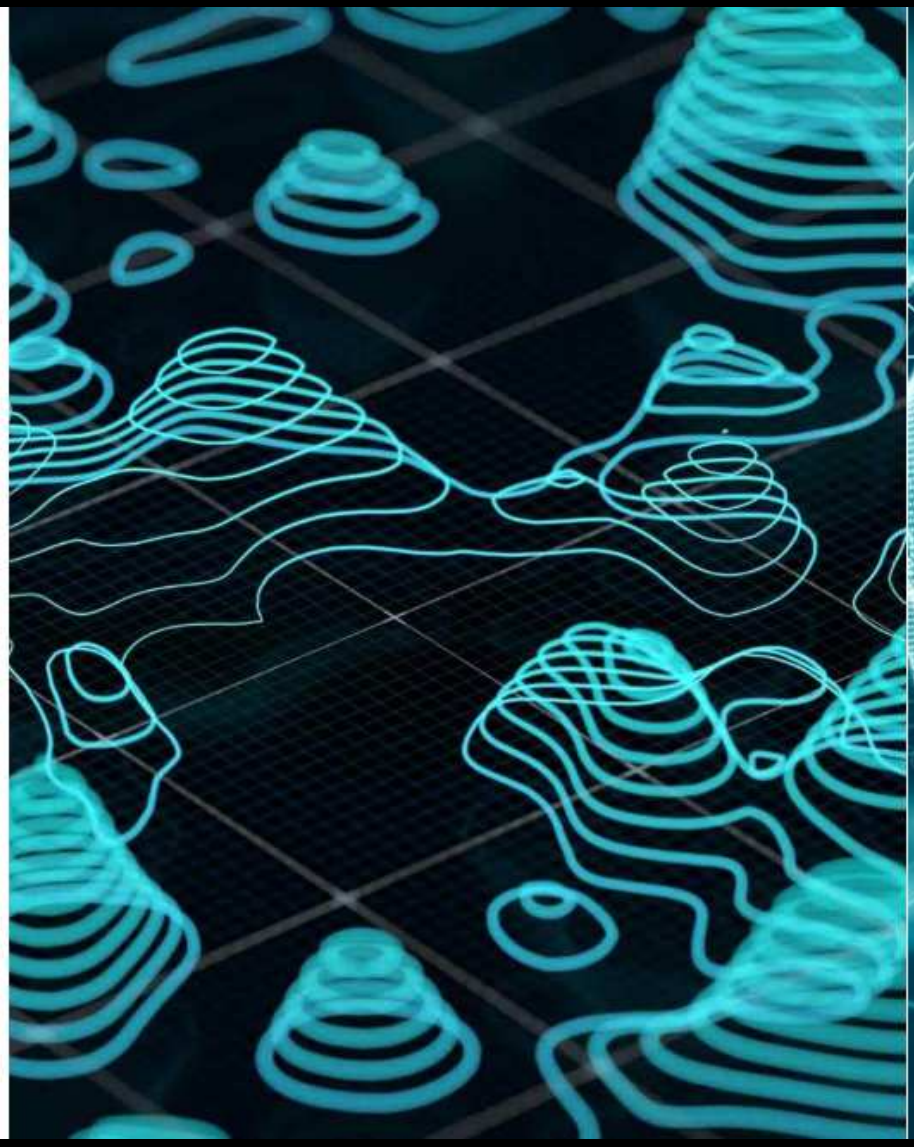
Integrating geospatial and statistical information

Integration of geospatial information and statistical data will be *particularly important* for the production of several indicators

-SDGs Report 2019



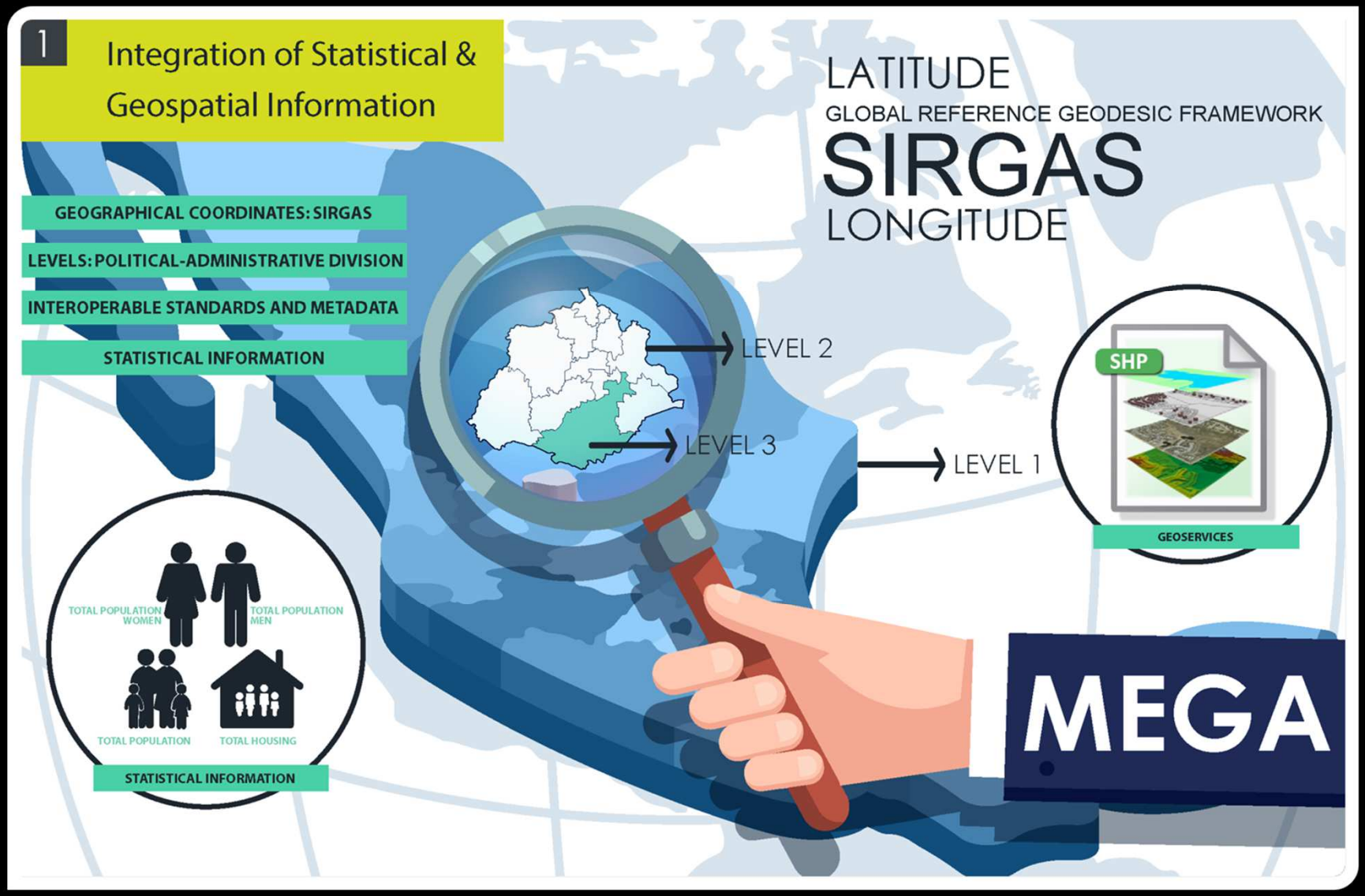
Global Statistical Geospatial Framework

The Global Statistical Geospatial Framework (GSGF) is a high-level framework which facilitates consistent production and integration approaches for geo-statistical information. It is generic and permits application of the framework principles to the local circumstance of individual countries.

UN-GGIM's endorsement July 2019

a common method of geospatially enabling statistical and administrative data and integrating this with geospatial information through an internationally agreed framework

The global framework has been developed by the joint UNSC/UN-GGIM Expert Group on Integration of Statistical and Geospatial Information, based on a national framework in Australia.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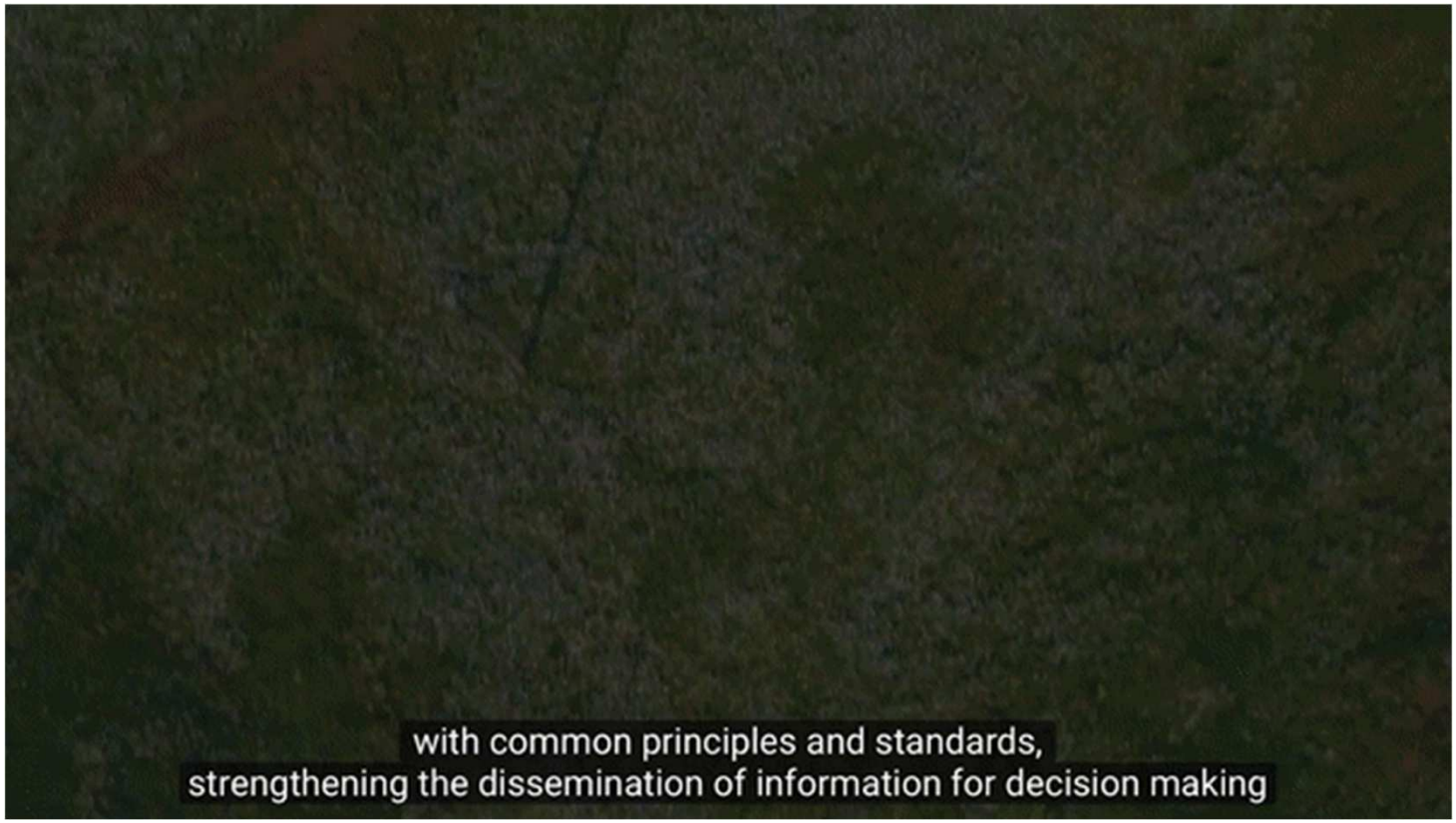
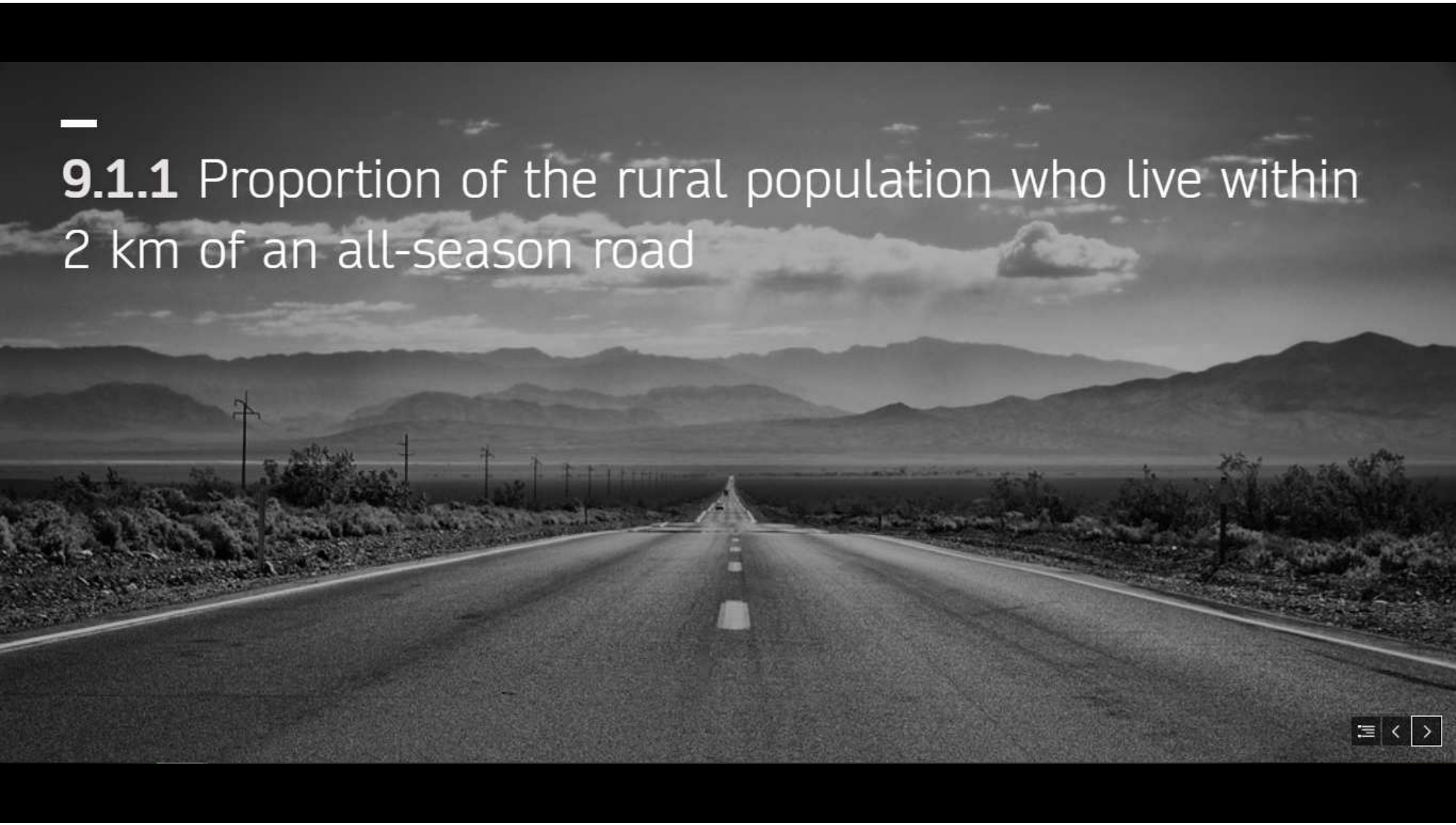
Integration of Statistical & Geospatial Information
LATITUDE
GLOBAL REFERENCE GEODESIC FRAMEWORK
SIRGAS
LONGITUDE
GEOGRAPHICAL COORDINATES: SIRGAS
LEVELS: POLITICAL-ADMINISTRATIVE DIVISION
INTEROPERABLE STANDARDS AND METADATA
STATISTICAL INFORMATION
LEVEL 2
LEVEL 3
LEVEL 1
SHP
GEOSERVICES
TOTAL POPULATION WOMEN
TOTAL POPULATION MEN
TOTAL POPULATION
TOTAL HOUSING
STATISTICAL INFORMATION
MEGA

MEGA

- Fundamental geospatial infrastructure and geocoding
- Geocoded unit record data in a data management environment
- Common geographies for statistics dissemination
- Interoperable data and metadata standards
- Accesible and usable





9.1.1 Proportion of the rural population who live within 2 km of an all-season road

Integrating statistical (census) data with geospatial data (roads)

Rural settlements:

…closer than 2km (green)

24,259,295

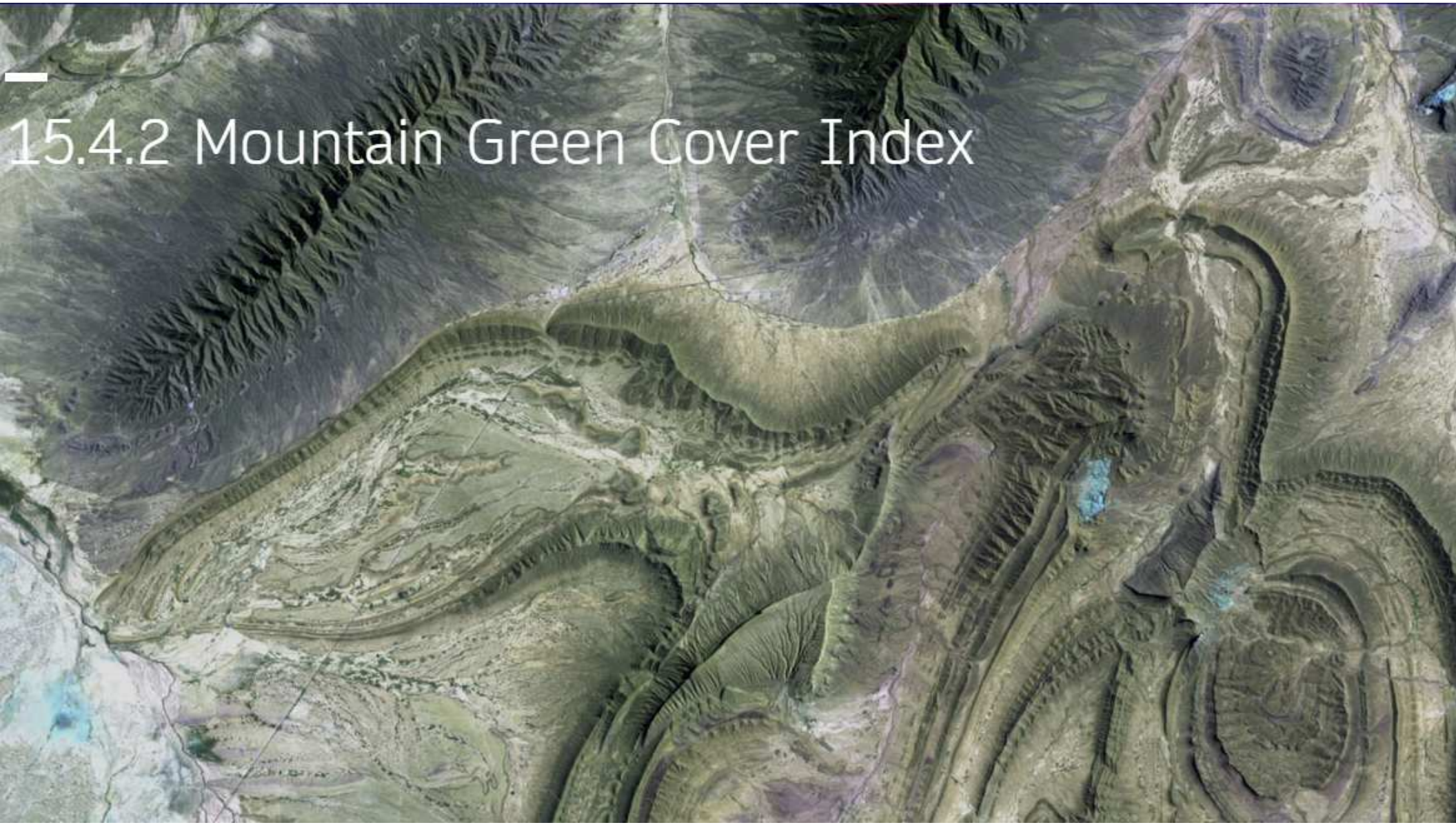
…more than 2km (pink)

26,059,128

from an all-season road

93.1 %

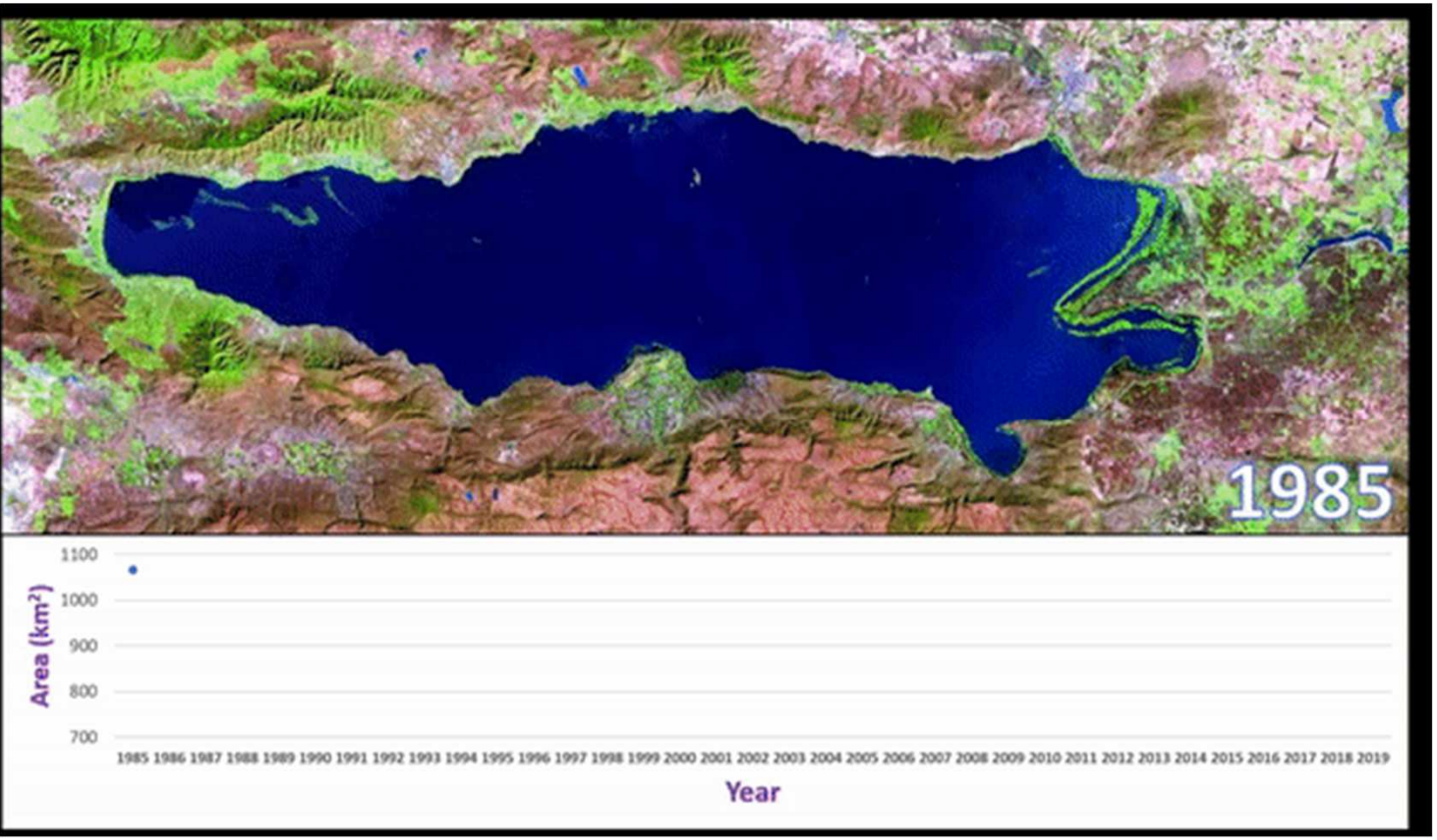
15.4.2 Mountain Green Cover Index



Using data from the Land Use and Vegetation Map and the Digital Elevation Model for training machine learning algorithms, using the the Data Cube (satellite imagery).

This way we may constantly update the classification and report the indicator more frequently.


6.6.1 Change in the extent of water-related ecosystems over time



Time-series analysis is essential to monitor change

With the Data Cube we will be able to better understand the behaviour of our ecosystems.

We've worked on a methodological guide for indicator 6.1.1 based on the Data Cube's algorith: Water Observations from Space,, endorsed by primary author of paper and other scientists involved in water studies in Geoscience Australia.


More recent developments
2000

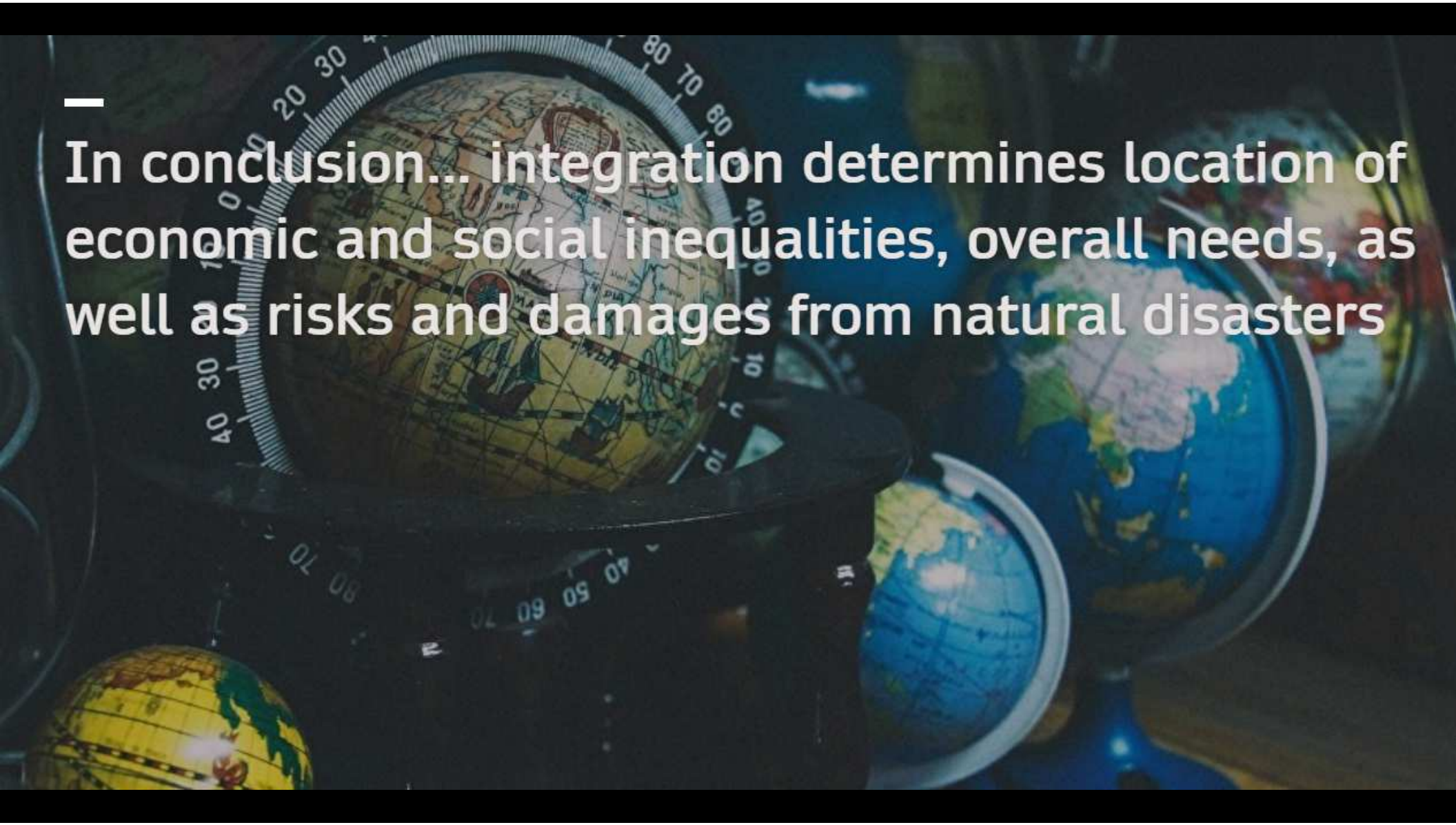
Urban/Rural Grid (1km x 1km)

More recently, we started integrating our Census data, which is already georeferenced, with time-series of satellite images

In order to classify the tiles of a regular grid (1km) into rural or urban. Accuracy at a national level classification in our exercise is around 78%.Among other activities, this data may be used for works related to SDG 11 – Sustainable cities and communities

Having statistics and geography in a single national institution has allowed Mexico for a better integration and use of complementary information systems

With the associated tools from this integration, it is possible to geo-reference relevant statistics


In conclusion... integration determines location of economic and social inequalities, overall needs, as well as risks and damages from natural disasters

The use of integrated geographic and statistical data allows for better design and monitoring of public policies and internationally-agreed goals—such as the SDG