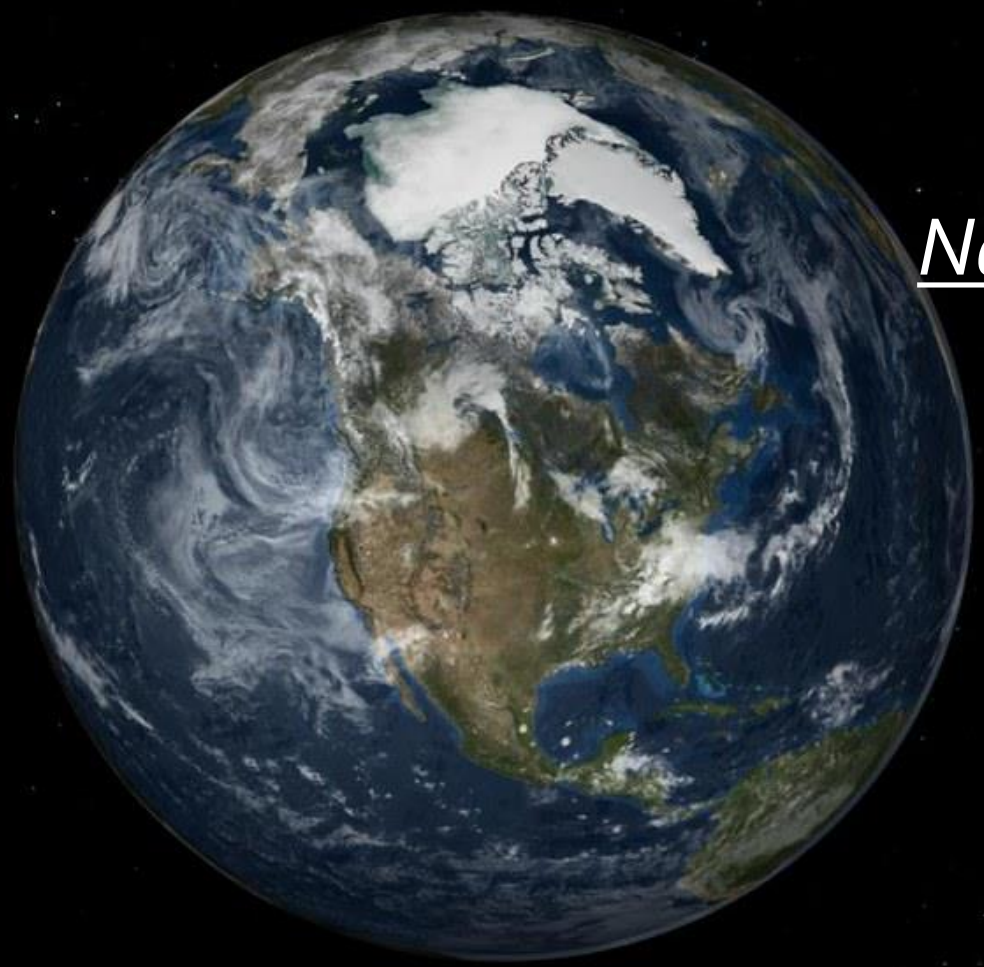


WGGI's Indicators shortlist:

National assessment of the SDG indicators & observations

JIMENA JUÁREZ
jimena.juarez@inegi.org.mx

15:
geospatial data is needed

The IAEG-SDG WGGI has reported on a "Geospatial" Shortlist

9:
geospatial data can support

SDG GEODATA SHORTLIST

SDG	A: Geospatial data is needed	B: Geospatial data can support
1		1.1.1 (I)/ 1.4.2 (III)
2	2.4.1 (III)	
4		4.5.1 (I/II/III)
5		5.2.2 (II)/ 5.4.1 (II)/ 5.a.1 (III)/ 5.a.2 (III)
6	6.3.2 (III)/ 6.5.2 (III) / 6.6.1 (III)	
9	9.1.1 (III) / 9.c.1 (I)	
11	11.2.1 (II)/ 11.3.1 (II)/ 11.7.1 (II)	11.7.2 (III)
14	14.2.1 (III)/ 14.5.1 (I)	
15	15.1.1 (I)/ 15.1.2 (I)/ 15.3.1 (III)/ 15.4.1 (I)	15.4.2 (II)
TOTAL	**15**	**9**

sublist A

geospatial data is needed

Indicator	
2.4.1	Proportion of agricultural area under productive and sustainable agriculture
6.3.2	Proportion of bodies of water with good ambient water quality
6.5.2	Proportion of transboundary basin area with an operational arrangement for water cooperation
6.6.1	Change in the extent of water-related ecosystems over time
9.1.1	Proportion of the rural population who live within 2 km of an all-season road
9.c.1	Proportion of population covered by a mobile network, by technology
11.2.1	Proportion of population that has access to public transport, by age, sex and persons with disabilities
11.3.1	Ratio of land consumption rate to population growth rate
11.7.1	Average share of the built-up area of cities that is open space for public use for all, by sex, age etc
14.2.1	Proportion of national Exclusive Economic Zones managed using ecosystem-based approaches
14.5.1	Coverage of protected areas in relation to marine areas
15.1.1	Forest area as a proportion of total land area
15.1.2	Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type
15.3.1	Proportion of land that is degraded over total land area
15.4.1	Coverage by protected areas of important sites for mountain biodiversity

sublist B

geospatial data can support

Indicator	
1.1.1	Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)
1.4.2	Proportion of total adult population with secure tenure rights to land, by sex and by type of tenure
4.5.1	Parity indices (female/male, rural/urban etc as data become available)
5.2.2	Proportion of women and girls aged 15 years and older subjected to sexual violence, by age and place of occurrence
5.4.1	Proportion of time spent on unpaid domestic and care work, by sex, age and location
5.a.1	a. Proportion of total agricultural population with ownership or secure rights over agricultural land, by sex; and (b) share of women among owners or rights-bearers of agricultural land, by type of tenure
5.a.2	Proportion of countries where the legal framework (including customary law) guarantees women's equal rights to land ownership and/or control
11.7.2	Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months
15.4.2	Mountain Green Cover Index

SHORTLIST Assessment

- Possible to report or already being reported
- Possible to develop: data integration needed or changes to current surveys
- Very difficult to report, no current survey, no available method
- Not relevant / Global data enough

Voluntary national assessment of Member's readiness to apply geospatial information in the production of indicators

A voluntary review of readiness
to utilize global and national geospatial data and satellite earth observations data sets in the production of indicators (*based on the shortlist of 24 indicators*)

Indicator	Global	National	Global	National	National	Global	National	National
2.4.1	🔴	🟢	🟡	🟡	🟡	🔴	🟢	🟢
6.3.2	🟢	🟢	🟡	🟡	🟡	🟡	🟢	🟡
6.5.2	🟢		🟢	🟢	🟡	🟢	🟡	⚪
6.6.1	🔴	🟡	🟡	🟡	🟡	🟡	⚪	🔴
9.1.1	🔴	🟡			🟢	🔴	⚪	🟢
9.c.1	🟢		🟢	🟢	🔴	🟢		🟢
11.2.1	🟡	🟡	🟡	🟡	🔴	🔴	⚪	🟢
11.3.1	🟡		🟢	🟢	🟡	🟡	🟢	🟢
11.7.1	🔴	🟢			🟡	🔴	🔴	🔴
14.2.1	🔴					🔴	🟢	🔴
14.5.1	🟢		🟡	🟡	🟡	🟢	🟢	🟡
15.1.1	🟢		🟢	🟢	🟢	🟢	🟢	⚪
15.1.2	🟢	?	🟡	🟡		🟢	🟢	🟡
15.3.1	🔴		🟢	🔴	🟢	🟡	🟡	🟡
15.4.1	🟢	?	🟡	🟡	🟡	🟢	🔴	⚪

SUB-LIST A:

GEOSPATIAL DATA IS NEEDED

Voluntary national assessment of Member's readiness to apply geospatial information in the production of indicators

A voluntary review of readiness
to utilize global and national geospatial data and satellite earth observations data sets in the production of indicators (*based on the shortlist of 24 indicators*)

Indicator								
	Global	National	Global	National	National	Global	National	National
1.1.1	●		●			●	●	
1.4.2	●		●	●		●	●	
4.5.1	●		●	●		●	●	●
5.2.2	●	●	●	●	●	●	●	●
5.4.1	●		●	●	●	●		
5.a.1	●		●	●		●	●	●
5.a.2	●		●	●		●	●	●
11.7.2	●	●			●	●	●	
15.4.2	●	?	●	●	●	●	●	●

SUB-LIST B:

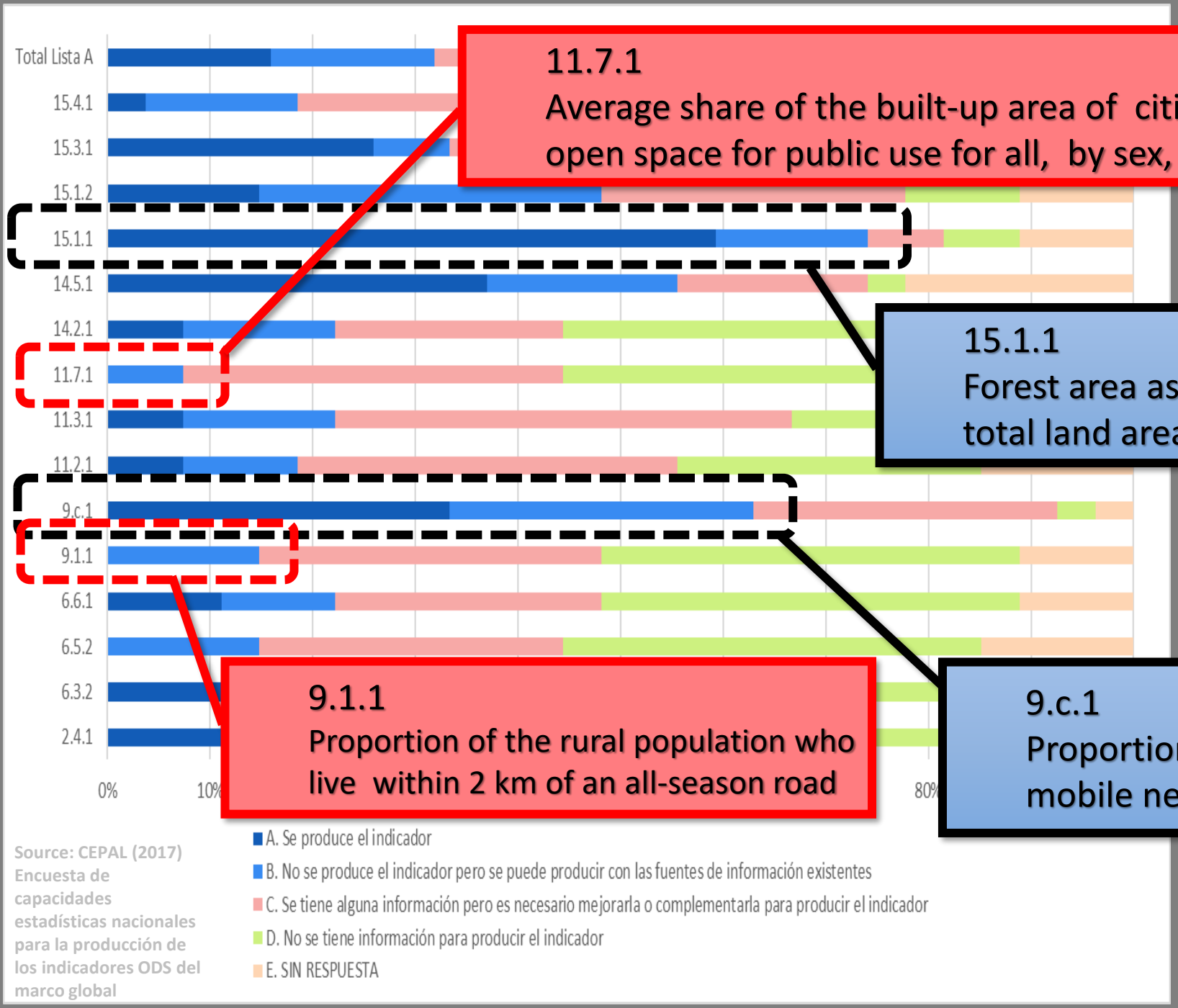
GEOSPATIAL DATA CAN SUPPORT

15:
geospatial
data is
needed

The IAEG-SDG WGGI has reported on a "Geospatial" Shortlist

Regional Panorama

9:
geospatial
data can
support



Source: CEPAL (2017) Encuesta de capacidades estadísticas nacionales para la producción de los indicadores ODS del marco global

11.7.1
Average share of the built-up area of cities that is open space for public use for all, by sex, age etc

15.1.1
Forest area as a proportion of total land area

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

9.c.1
Proportion of population covered by a mobile network, by technology

Latin American and the Caribbean:

% of countries by production level of sublist A indicators

(27 countries, 2016)

geospatial data is needed

Latin American and the Caribbean:

% of countries by production level of sublist B indicators

(27 countries, 2016)

geospatial data can support

[Example]

15:
geospatial
data is
needed

The IAEG-SDG WGGI has reported on a "Geospatial" Shortlist

Regional Panorama

9:
geospatial
data can
support

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.

Currently implementing Open Data Cube at INEGI

WORKS ON indicator 15.4.2
mountain Green cover index

First classification is a conversion from the 2014 Land Use/Land Cover map to 6 classes

ODC process allows constant update to the national classification because it is generated automatically

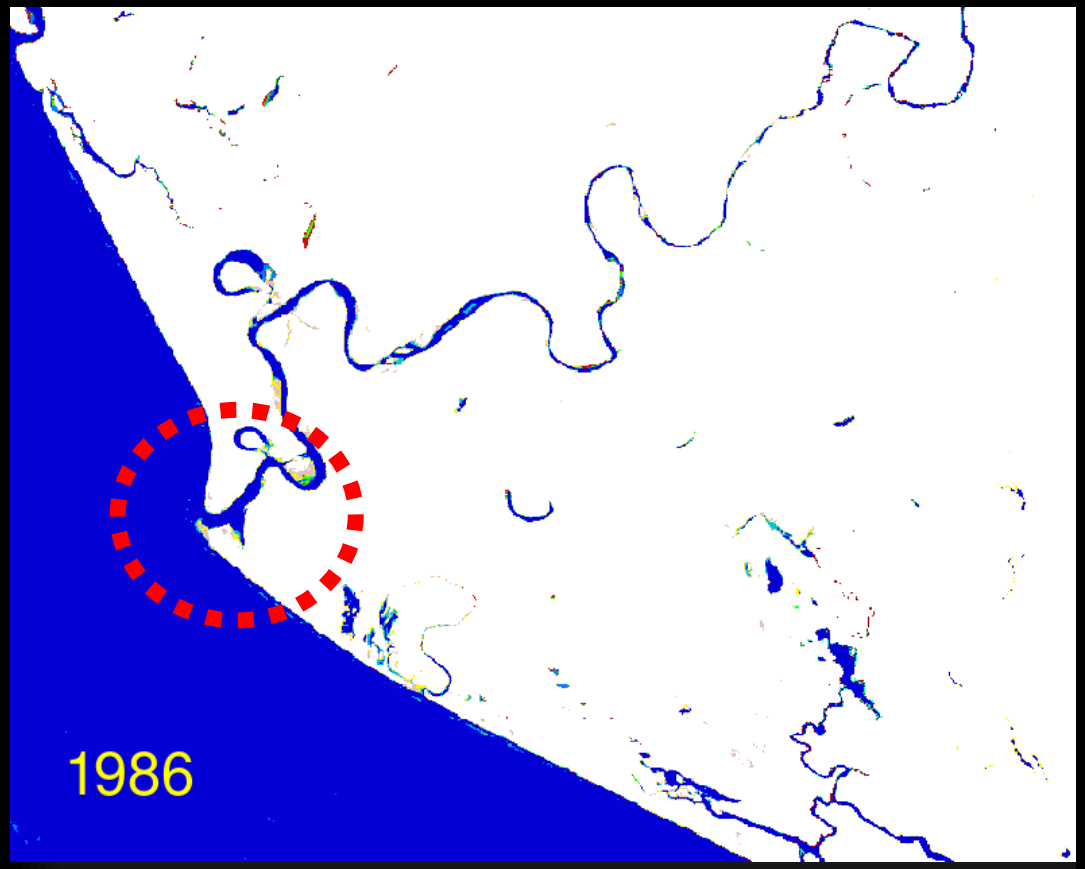
Spared resources can be applied to expert and field validation for quality assessments

STEPS (chronological)	without ODC	Progress	with ODC	Progress
Use Intergovernmental Panel on Climate Change definitions (6 classes)	✓	✓	✓	✓
Land Use/Land Cover Map	✓	✓	✓	✓
Obtain converted classification (original to 6 classes)	✓	✓	✓	✓
Draw sample from converted data			✓	design
Use sample and *6 other ODC indicators* as training dataset for classification			✓	ODC indicator (geomedian)
Run national classification with Machine Learning			✓	
Link result raster to Digital Elevation Model (DEM) for mountain areas	✓	✓	✓	
Calculate Green Cover index on DEM mountain area mask	✓	✓	✓	
Possible field validation for quality assurance in subsampled dataset			✓	
Provide feedback to FAO	✓	✓	✓	

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

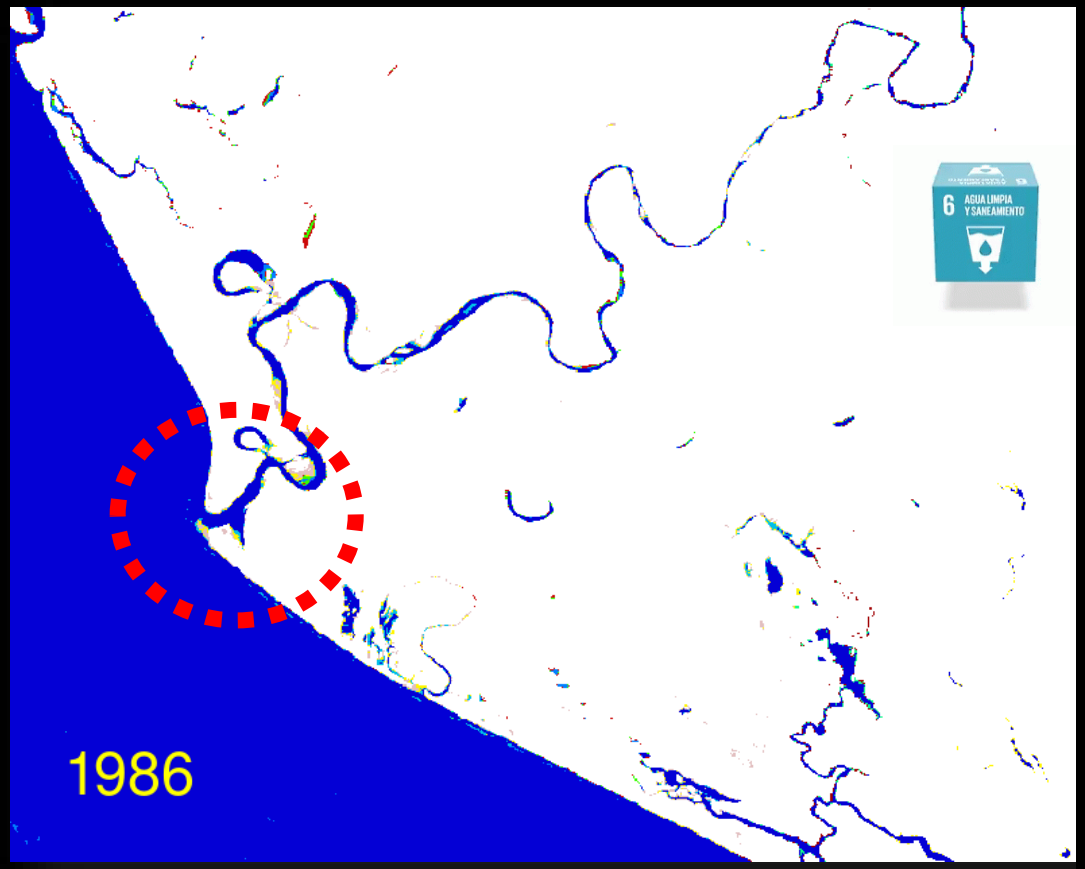
Mexican Geospatial Data Cube

Coast Erosion in the Mouth of Santiago River → Open Data Cube Altorithm:
Water Observations from Space,(WOfS)

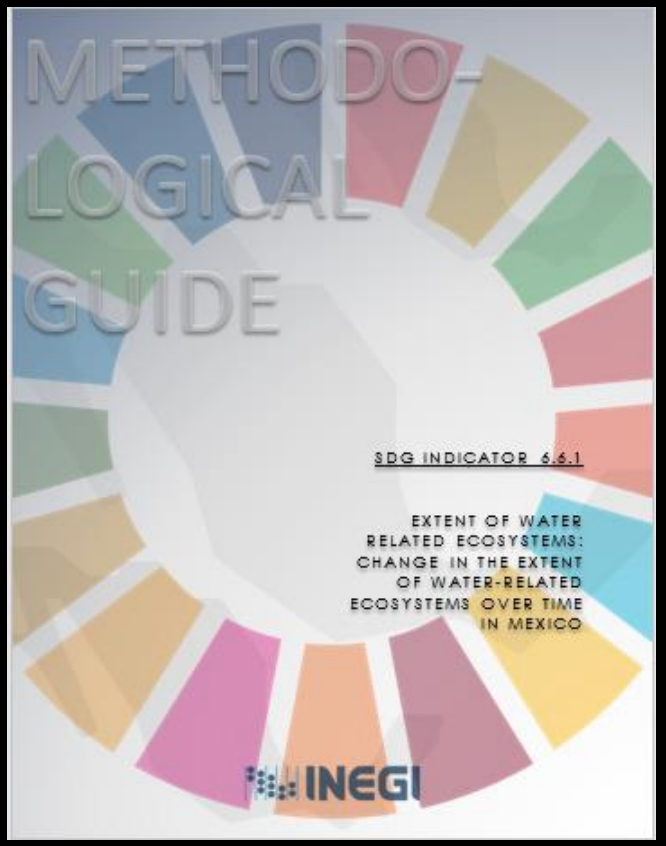


Mexican Geospatial Data Cube

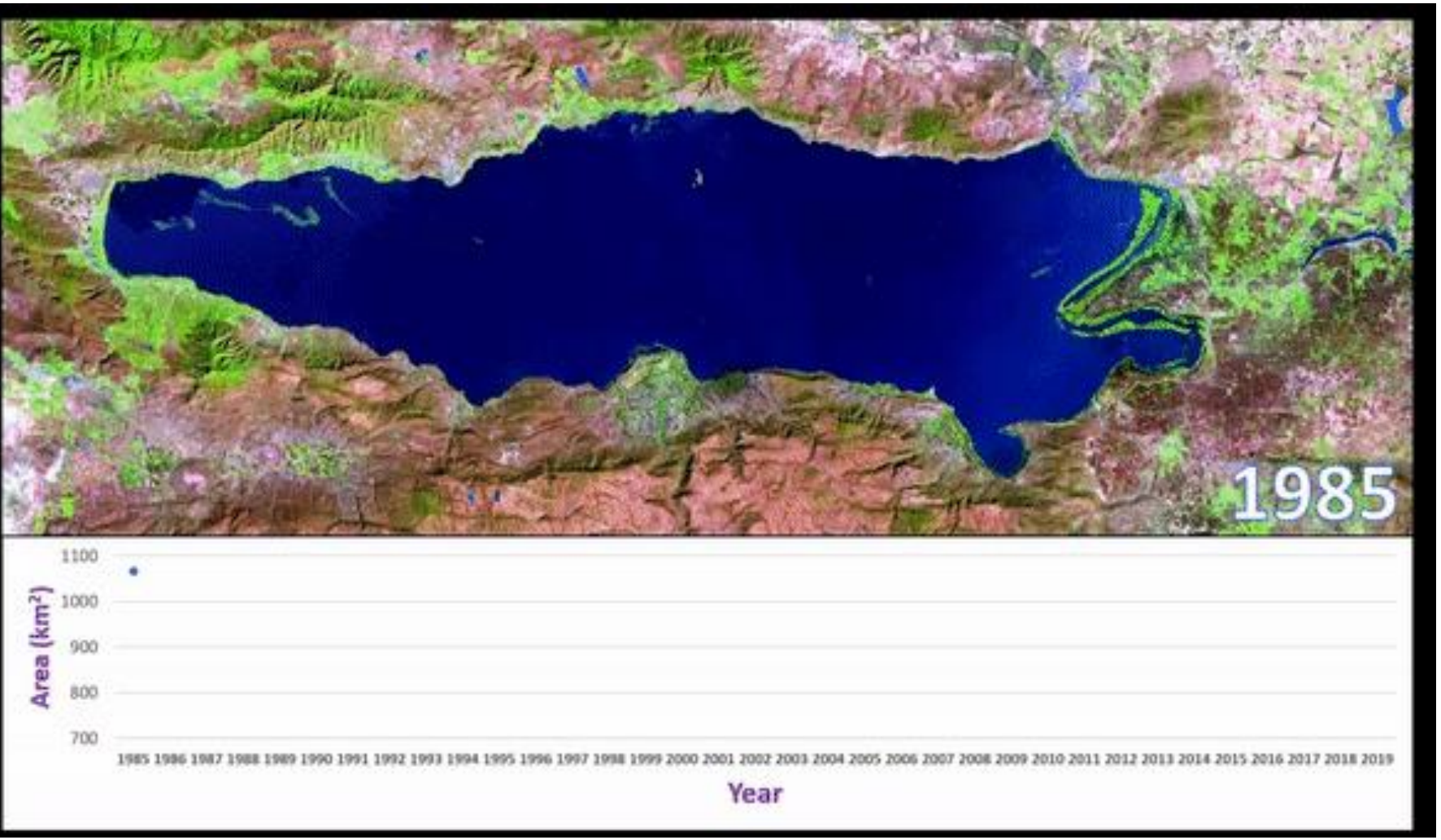
Coast Erosion in the Mouth of Santiago River → Open Data Cube Altorithm:
Water Observations from Space,(WOfS)



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



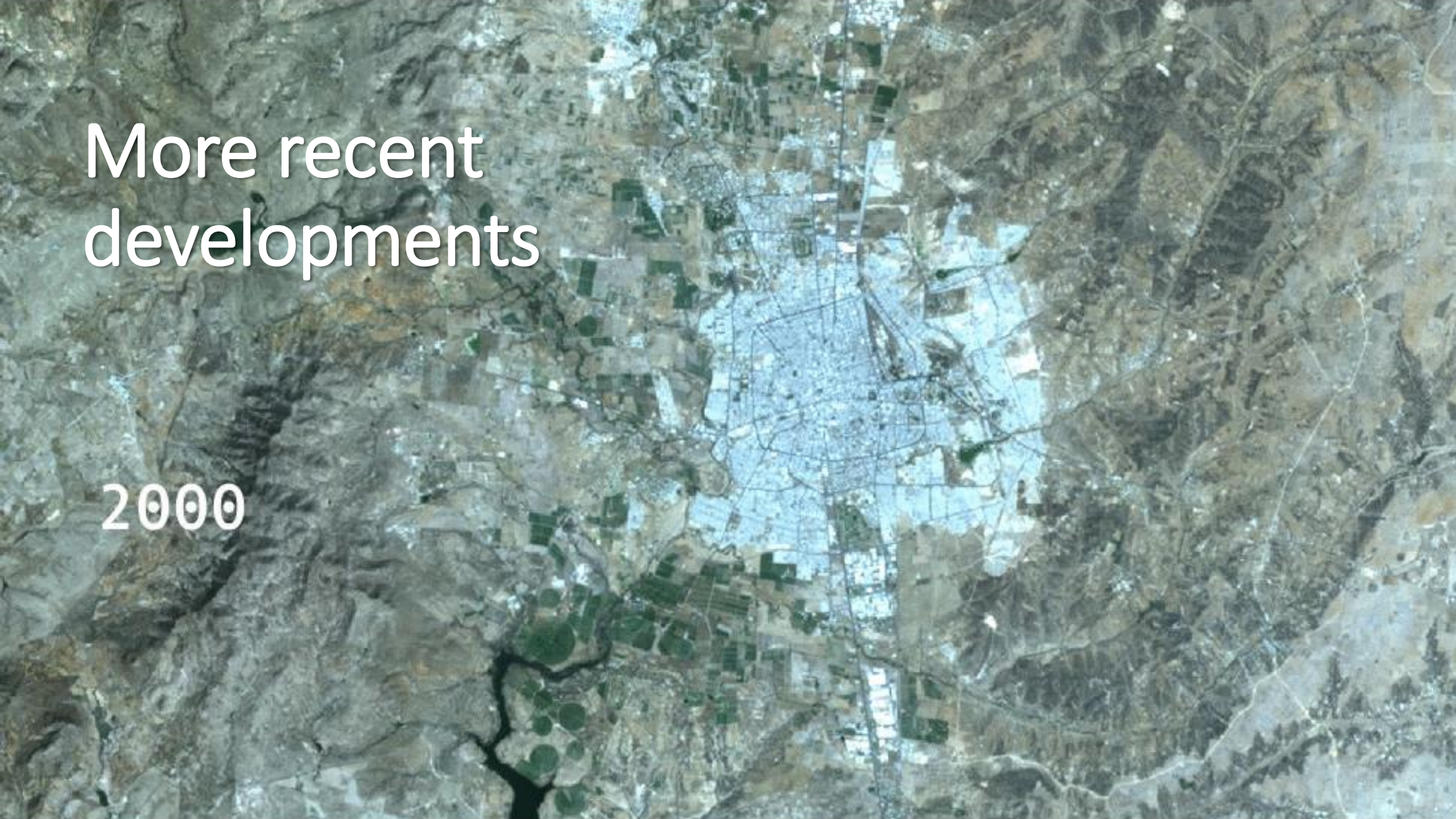
Methodological guide



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

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

Gracias, amigos.

JIMENA JUÁREZ
jimena.juarez@inegi.org.mx