# Activities of UN GGIM Europe regarding geospatial data management

UN-GGIM

UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

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**International Conference:**
**"NSDI: TOWARDS DATA SOCIETY"**

# Content of presentation

- **Why UN GGIM ?**
- **How it works and organisational structure**
- **Work plan of UN GGIM Europe**
- **The United Nations Sustainable Development Agenda 2030**
- **Defining the Indicators**
- **The Geospatial Dimension to measure and monitoring SDG**
- **Conclusions**

# Why UN GGIM?

To make **accurate, reliable and authoritative geospatial information** readily available to support national, regional and global development

# How it works?

- INITIATIVE OF UNITED NATIONS (2009)
- COMMITTEE OF EXPERTS (7 sessions)
- BUREAU (3 members and rapaurter)
- REGIONAL ENTITIES (5)
- HIGH LEVEL FORUM (4)
- EXPERT (2) and WORKING (5) GROUPS
- THEMATIC GROUPS (3)
- KNOWLEDGE BASE **www.ggim.un.org**

GGIM
UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

UN-GGIM: AFRICA
UNITED NATIONS INITIATIVE ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

UN-GGIM
PRIVATE SECTOR NETWORK

UN-GGIM:Américas
COMITÉ REGIONAL DE LAS NACIONES UNIDAS SOBRE LA GESTIÓN GLOBAL DE INFORMACIÓN GEOESPACIAL PARA LAS AMÉRICAS

UN-GGIM
ACADEMIC NETWORK

Support Global Geospatial Management w

UN-GGIM-AP

# UN GGRF RESOLUTION

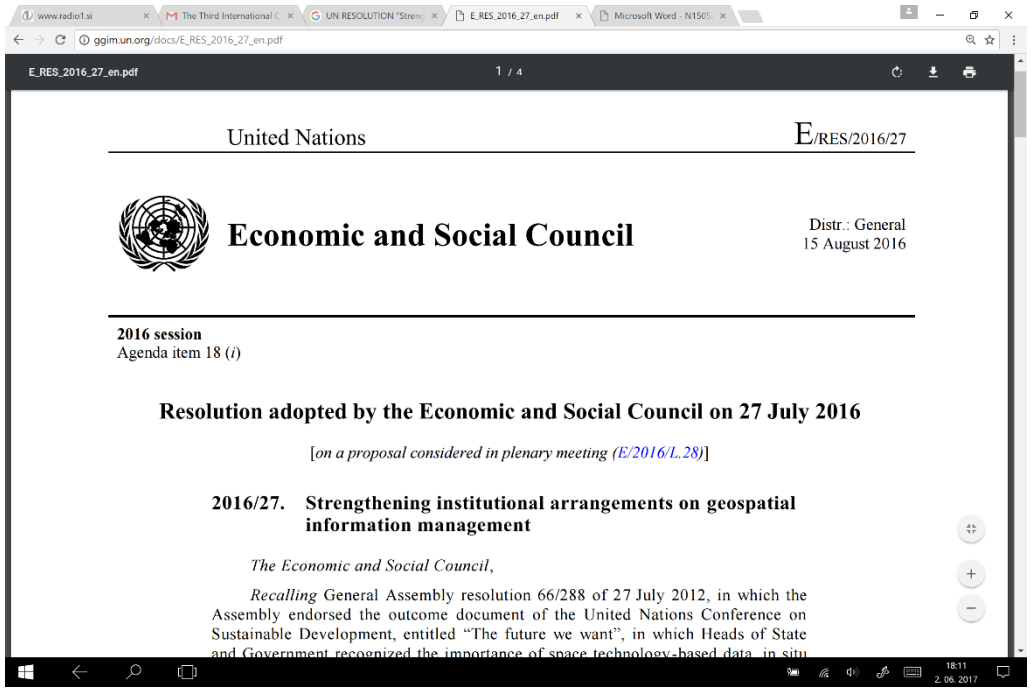
- Resolution 69/266. A global geodetic reference frame for sustainable development adopted by the General Assembly on 26 February 2015





# ECOSOC RESOLUTION ON GEOSPATIAL INFORMATION MANAGEMEN

- On 27 July 2016 the Committee of Experts on Global Geospatial Information Management (UN-GGIM), the Economic and Social Council (ECOSOC) adopted a draft resolution (E/2016/L.28) entitled **“Strengthening institutional arrangements on geospatial information management”**



ggim.un.org/docs/E_RES_2016_27_en.pdf

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United Nations E/RES/2016/27

**Economic and Social Council**

Distr.: General
15 August 2016

**2016 session**
Agenda item 18 (*i*)

**Resolution adopted by the Economic and Social Council on 27 July 2016**

[*on a proposal considered in plenary meeting (E/2016/L.28)*]

**2016/27. Strengthening institutional arrangements on geospatial information management**

*The Economic and Social Council*,

*Recalling* General Assembly resolution 66/288 of 27 July 2012, in which the Assembly endorsed the outcome document of the United Nations Conference on Sustainable Development, entitled “The future we want”, in which Heads of State and Government recognized the importance of space technology-based data, in situ

# GUIDELINES AND DOCUMENTS

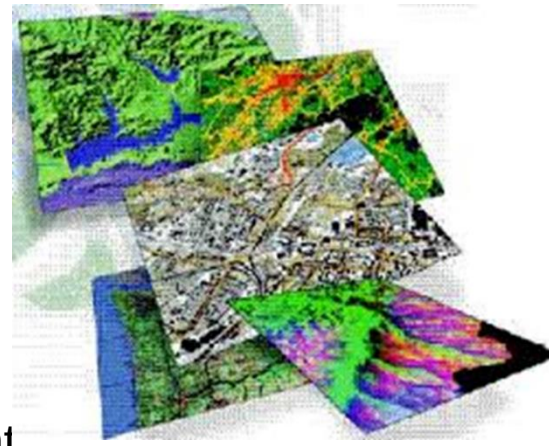
# UN-GGIM Expert and Working Groups

- **IAEG-SDGs Working Group on Geospatial Information**
- **EG: Integration of Statistical and Geospatial Information**
- **EG: Land Administration and Management**
- **WG: Global Geodetic Reference Frame (Sub-Committee)**
- **WG: Geospatial Information and Services for Disasters**
- **WG: Trends in National Institutional Arrangements**
- **WG: Fundamental Data Themes**



# UN-GGIM Thematic Groups

- **Joint Board of Geospatial Information Societies (JBGIS)**
  - a coalition recognised international organisations involved in the coordination, development, management, standardisation or regulation of geospatial information and related matters.
  - concerns of the group included strengthening collaboration across the UN-GGIM architecture
- **UN-GGIM Academic Network**
  - to capture and include the role and contributions of academia in global geospatial information management
    *http://unggim.academicnetwork.org/*
- **UN-GGIM Private Sector Network**
  - capture and include the role and contributions of the private sector in global geospatial information management




# UN-GGIM: Integration of needs and activities

## Why a global mechanism?

- Significant gap among countries
- Lack of global decision-making
- Mandate of Governments
- High level coordination
- National and global policy frameworks
- Geospatial capacity building
- Address global issues as a community

## Global agenda


Global geodetic reference frame


Global fundamental geospatial data themes


Institutional arrangements, legal and policy frameworks


Standards and technical specifications


Integration of geospatial and statistical information


Land administration and management


Sustainable development and disaster risk reduction

# UN-GGIM: Integration of regions

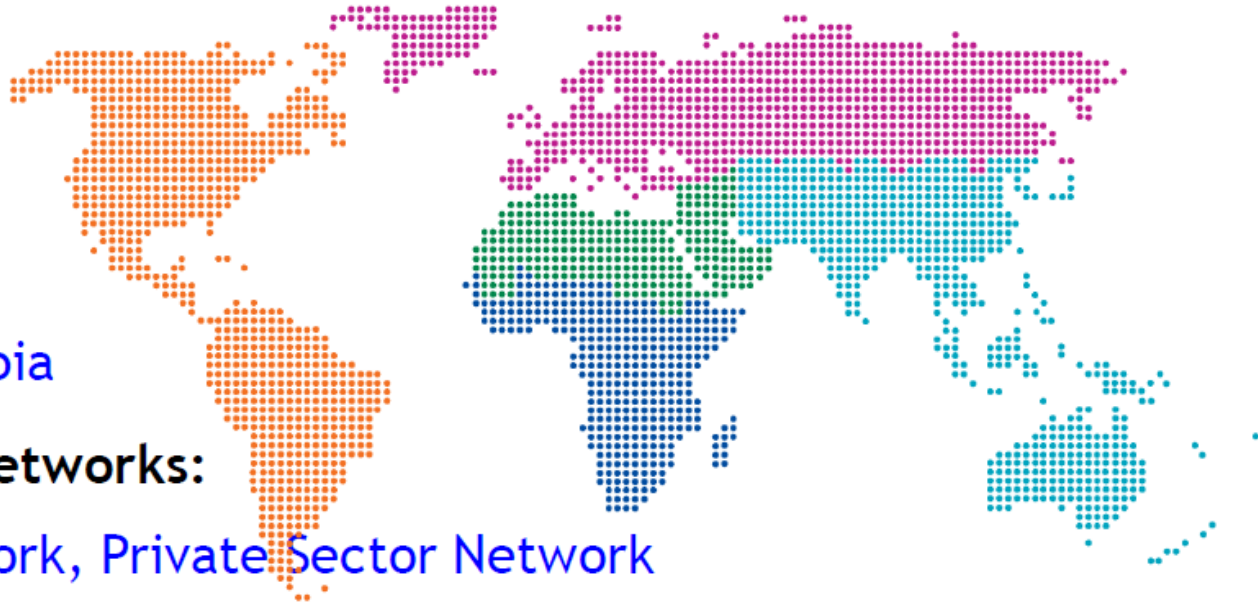
## Establishing a regional architecture of UN-GGIM

**UN-GGIM Bureau:**

Co-Chairs: USA, China and Mexico; Rapporteur: Burkina Faso

**UN-GGIM Regional Committees & Chairs:**

- Asia-Pacific: Japan
- Americas: Mexico
- Europe: Sweden
- Africa: Ethiopia
- Arab States: Saudi Arabia



**UN-GGIM International Networks:**

- JBGIS, Academic Network, Private Sector Network

**UNGGIM Regional Entities:**

- UN-GGIM ASIA-PACIFIC
- UN-GGIM AMERICAS
- UN-GGIM ARAB STATES
- UN-GGIM AFRICA
- UN-GGIM EUROPE

UN GGIM Europe established on 1 October 2014 in Chisinau, Moldova

UN-GGIM EUROPE
UNITED NATIONS COMMITEE OF EXPERTS ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

# 48 European UN Member States


http://un-ggim-europe.org/content/member-states

# Four plenary meetings of UN GGIM Europa

First plenary meeting; Chisinau, Moldova, October 2014

Second Plenary Meeting, Belgrade, Serbia, October 2015


3rd Plenary Meeting of UN-GGIM: Europe, Budapest, Hungary October 2016

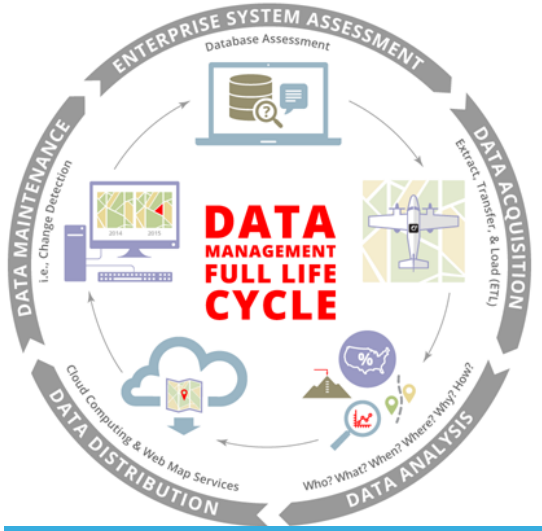
4th Plenary Meeting of UN-GGIM Bruseless, Belgium, June 2017

# Observer Organizations

## of UN-GGIM Europe:

- Eurostat
- Joint Research Centre
- European Environment Agency
- EuroGeographics
- EuroSDR
- Eurogi
- European Forum for Geography and Statistics (EFGS)
- European Spatial Planning Observation Network (ESPON)
- GSDI Association
- ConsultingWhere

**The aim of UN - GGIM Europe** is to *identify European issues relevant to geospatial information management and recomended necessary actions on them.*



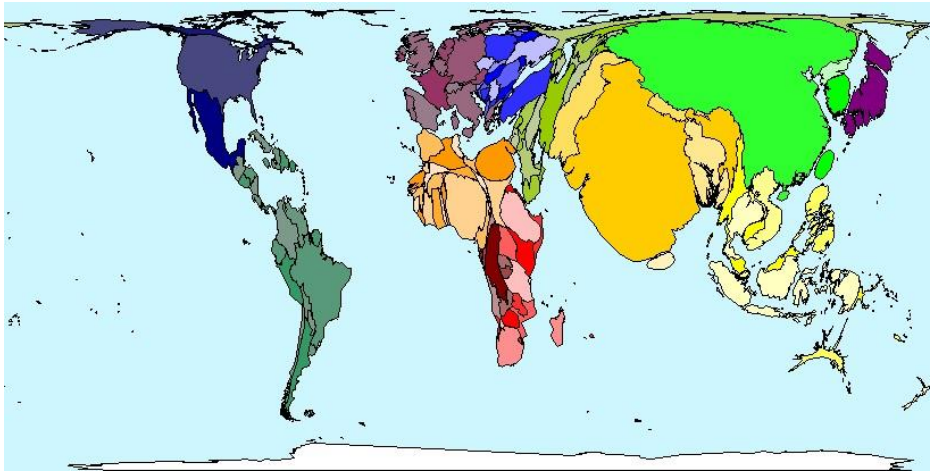

UN GGIM Europe should ensure that the national mapping and cadastral authorities and national statistical institutes in the European UN Member States, the European Institutions and associated bodies **work together** to contribute to the ***more effective management and availability of geospatial information*** **in Europe**, and its integration with other information, based on user needs and requirements .

## Challenges for UN-GGIM: Europe:

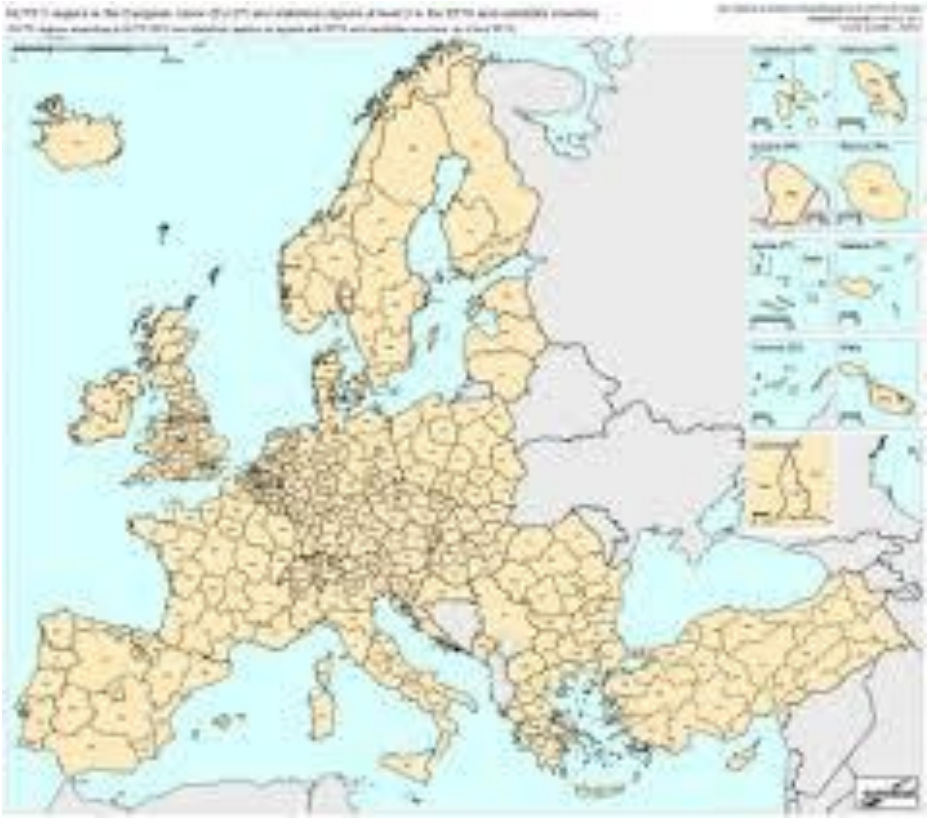
### Achieve true cooperation between NMCAs and NSIs

Statistical and geospatial information providers are a powerful couple, joint geospatial-statistical information systems are needed to inform evidence-based decision making:

- Globally - *for example the achievement of the Post-2015 targets*
- Regionally - *for example implementation of the Europe 2020 strategy*



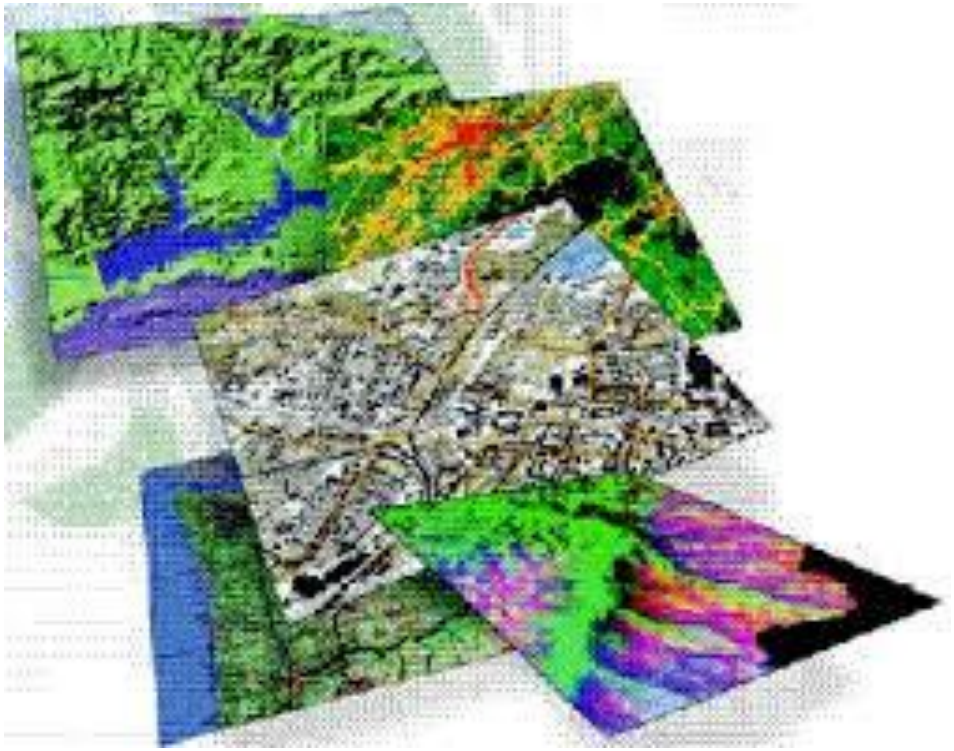
**The size of each territory shows the relative proportion of the world's population living there**



## Ensure the highest possible level of active participation from other communities

Engaging with all the stakeholders will ensure a wider dialogue and awareness of the benefits and importance of geospatial and statistical information

- Raise interest from observing bodies, currently four organisations granted observer status in UN-GGIM: Europe
- The European Commission is granted permanent observer status in the Articles of UN-GGIM: Europe.

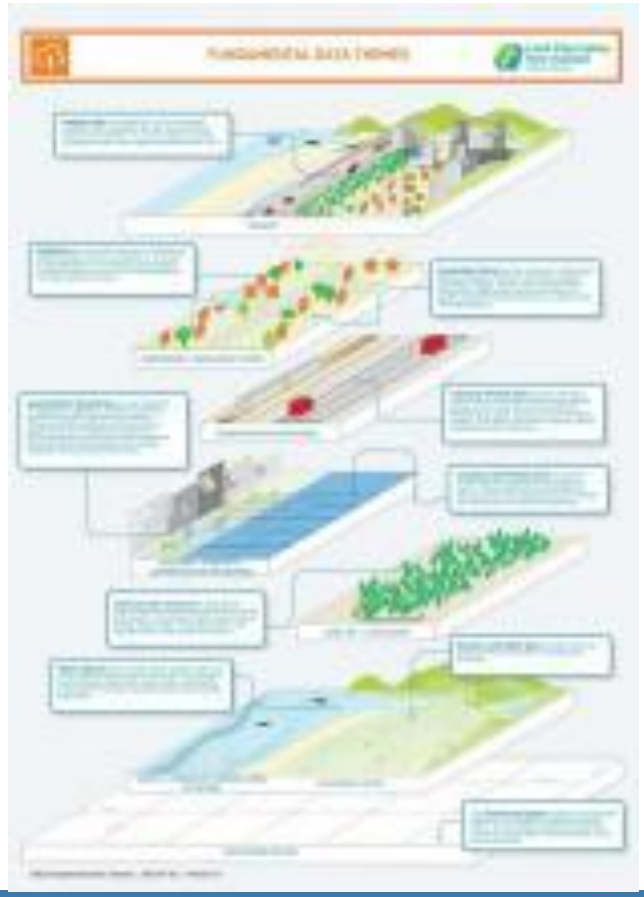



## Ensure that the regional efforts contribute to the global initiative

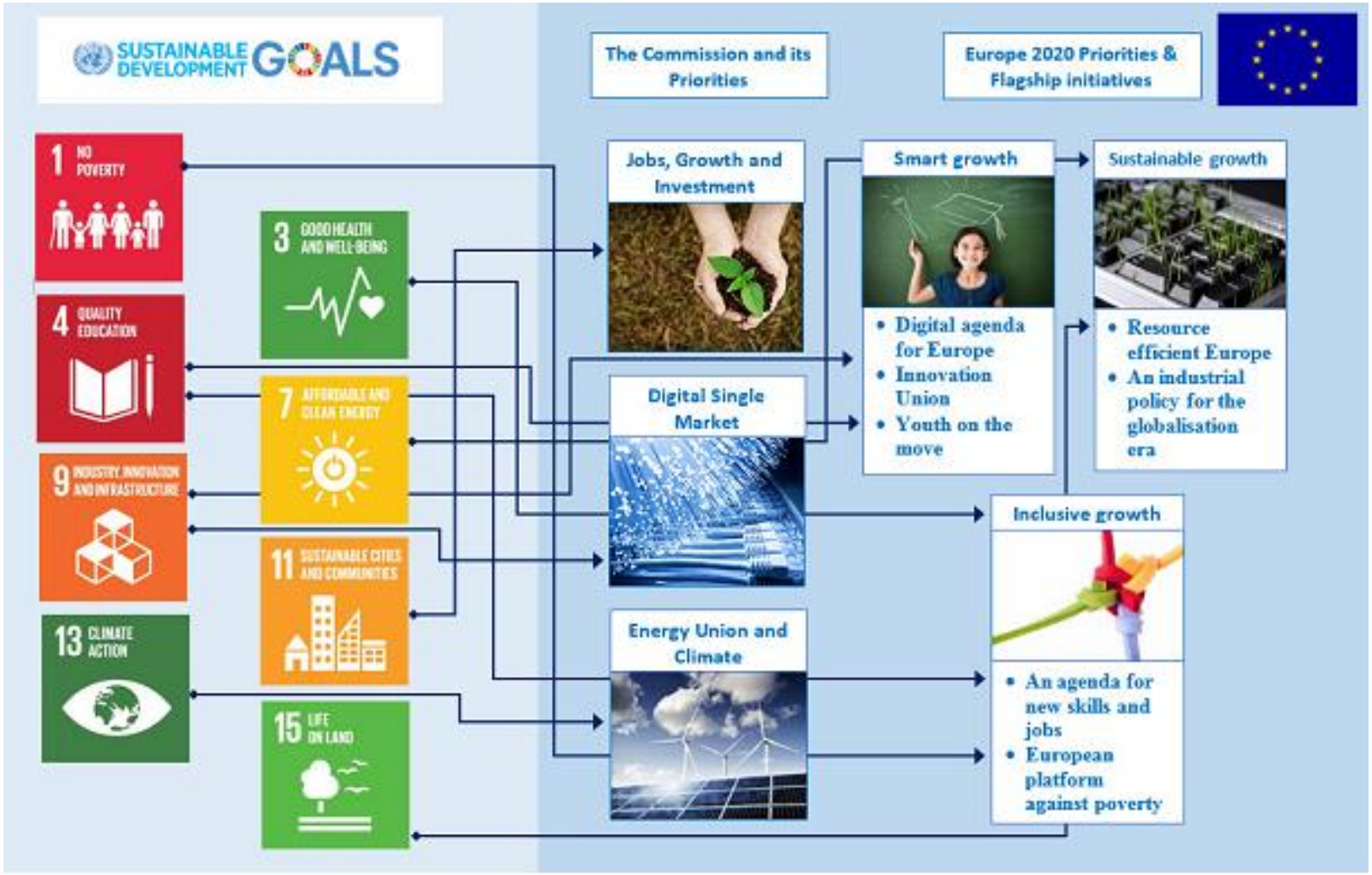
- European's mature experience in geospatial management is a strength where the region can offer a valid contribution to the global initiative. By identifying global fundamental geospatial data themes; legal and policy frameworks, including issues related to authoritative data. And contribute to the SDGs by illustrating the importance of geospatial data to Post2015 Goals.

SUSTAINABLE DEVELOPMENT GOALS

UNITED NATIONS SUSTAINABLE DEVELOPMENT SUMMIT 2015
25 - 27 SEPTEMBER



# Link between UN SDG‘s and EU initiatives



# Geospatial in the 2030 Agenda for Sustainable Development


(g) **They will be rigorous and based on evidence**, informed by country-led evaluations and **data which is high-quality, accessible, timely, reliable and disaggregated by** income, sex, age, race, ethnicity, migration status, disability **and geographic location** and other characteristics relevant in national contexts.

# 2030 Agenda: Requires Integration of Information Systems

Statistics

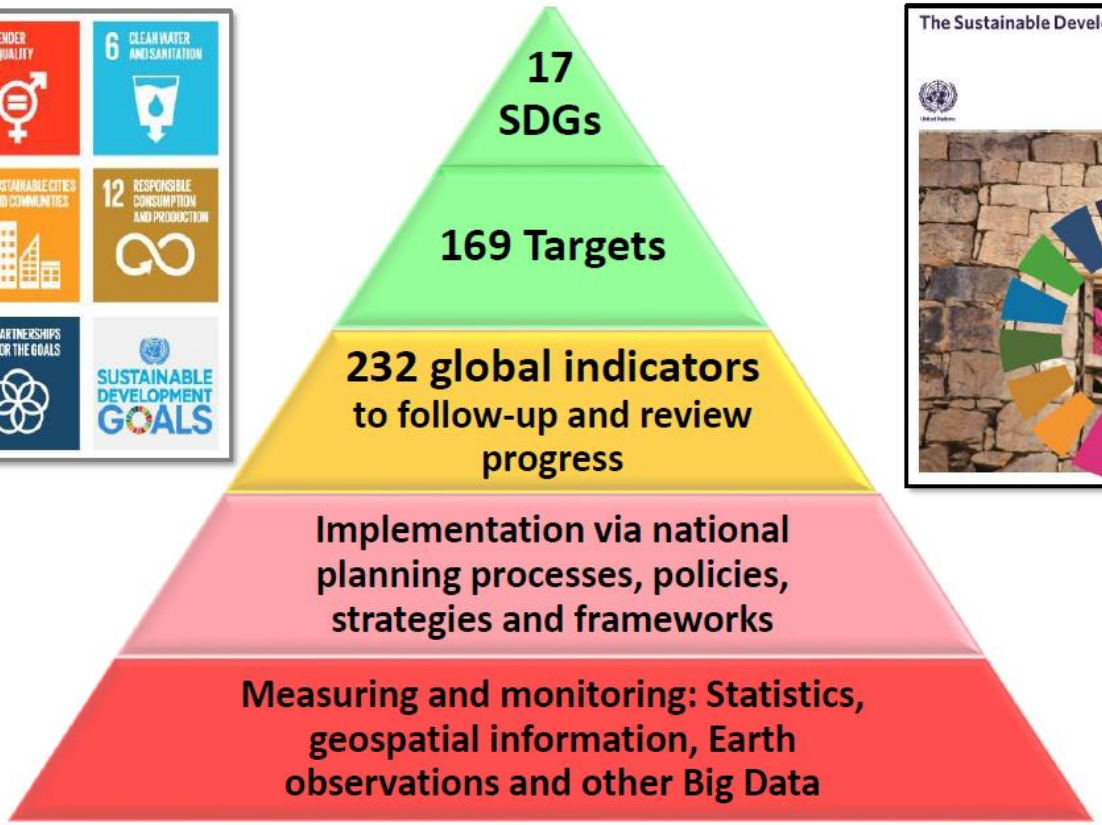
Geospatial

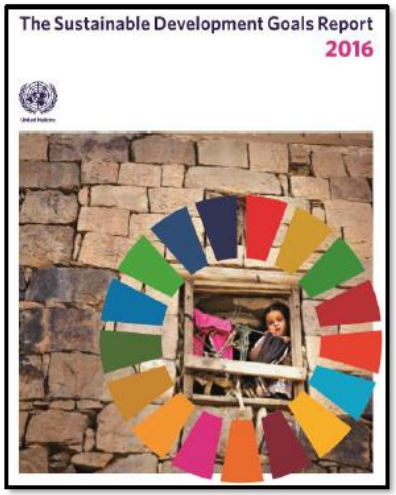
Observations

Other data

# Sustainable Developement Goals
## 2030 Agenda

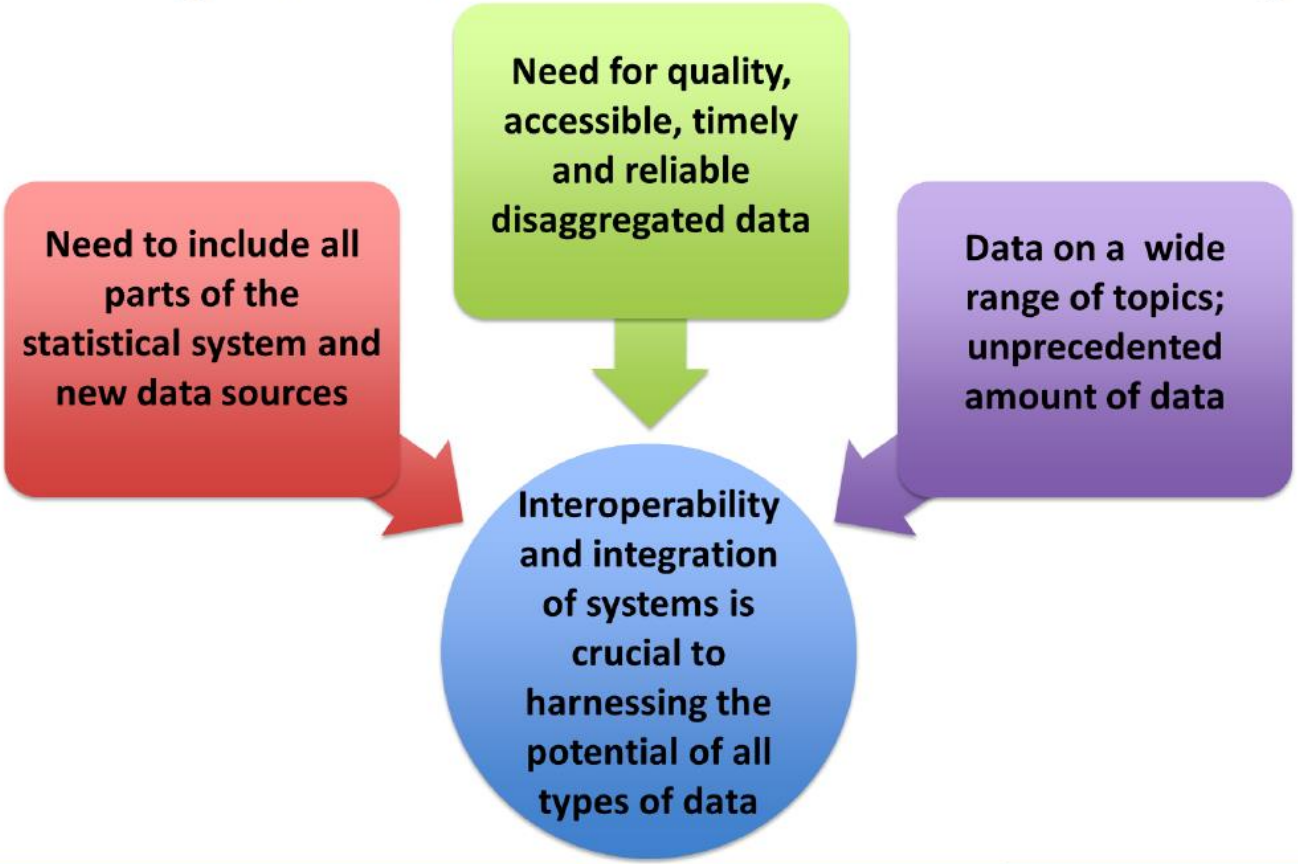
### The 2030 Agenda: Goals, Targets, Indicators

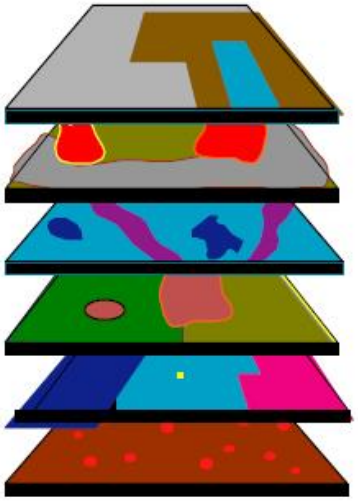
# Quality geospatial data in space & time

## Addressing the data needs for the 2030 Agenda

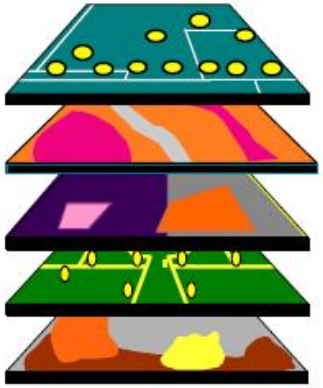


**High quality, timely and reliable data**

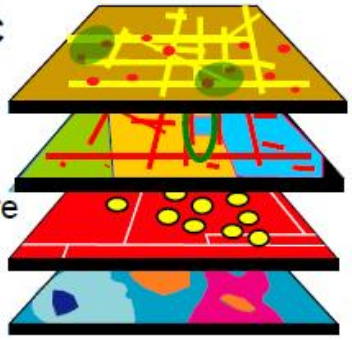
Geodetic
Elevation
Water/Ocean
Land use/cover
Transport
Cadastre
Population
Infrastructure
Settlements
Admin. Bdys.
Imagery
Geology/soils
Observations
etc.



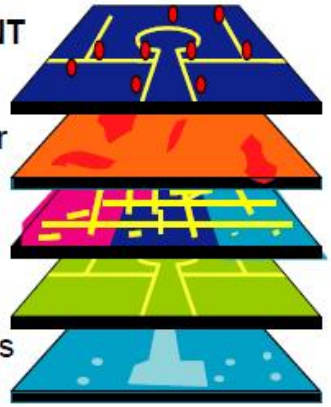
**SOCIAL**
Society
Poverty
Education
Health
Population
Employment
Water
Sanitation
Equality
Gender
Governance



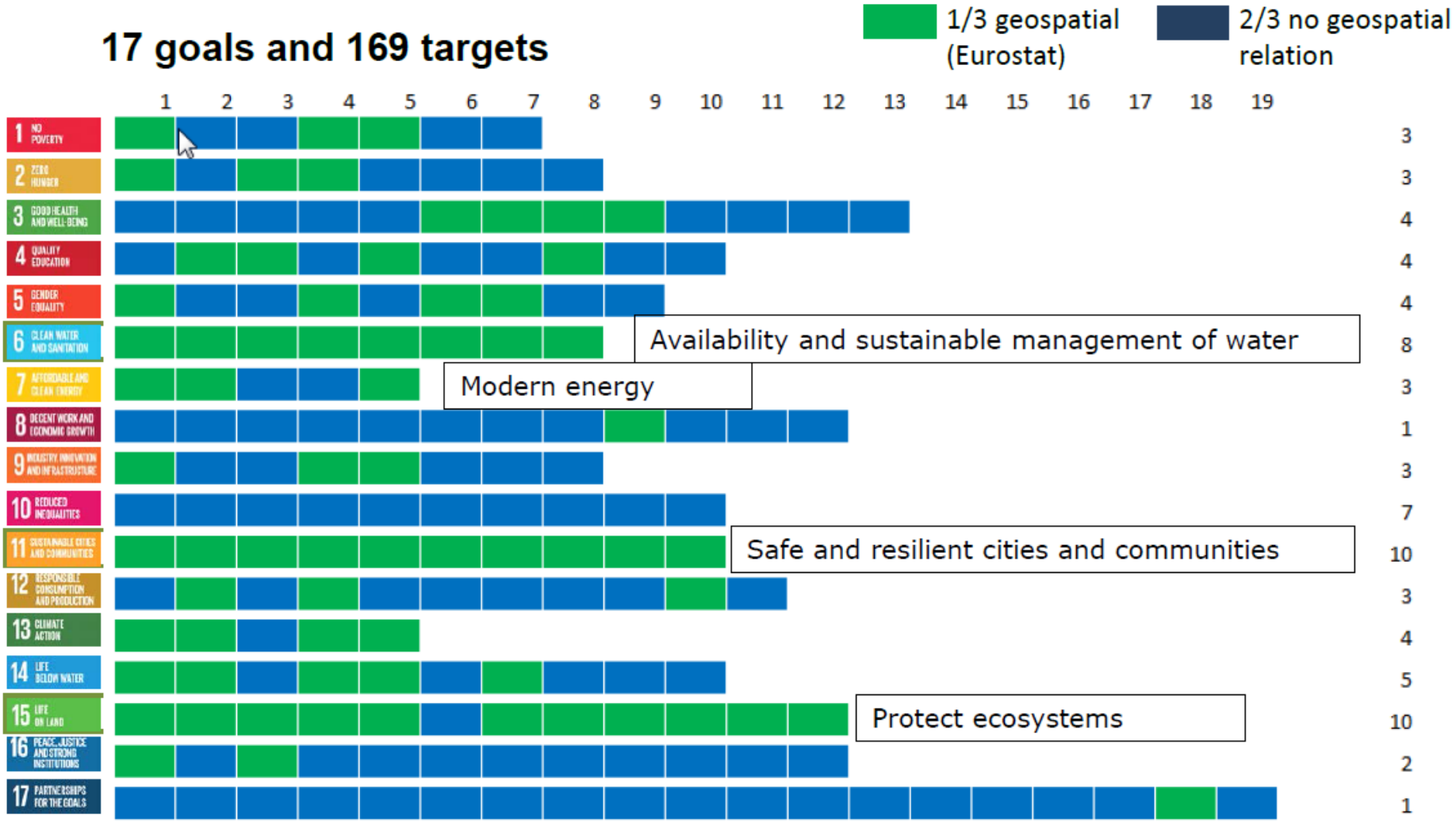
**ECONOMIC**
Well-being
Cities
Water
Energy
Infrastructure
Industry
Sanitation
Economy



**ENVIRONMENT**
Water
Seas/oceans
Land use/cover
Ecosystems
Forests
Agriculture
Climate
Biodiversity
Natural hazards
Pollution



# 17 goals and 169 targets




Source: Eurostat

# Geospatial data can support the indicator measurement

SUSTAINABLE DEVELOPMENT GOALS


Indicator 2.4.1: Percentage of agricultural area under sustainable agricultural practices

**Denominator**: Agricultural Area = sum of arable land + permanent crops + permanent meadows and pastures (FAOSTAT)

**Numerator**: Land areas under productive and sustainable agricultural practices are those where indicators selected across the environmental, economic and social dimensions reach certain predefined values


Indicator 6.5.2: Proportion of transboundary basin area with an operational arrangement for water cooperation

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


Indicator 15.1.1: Forest area as a proportion of total land area

Indicator 15.3.1: Proportion of land that is degraded over total land area

Indicator 15.4.2: Mountain Green Cover Index

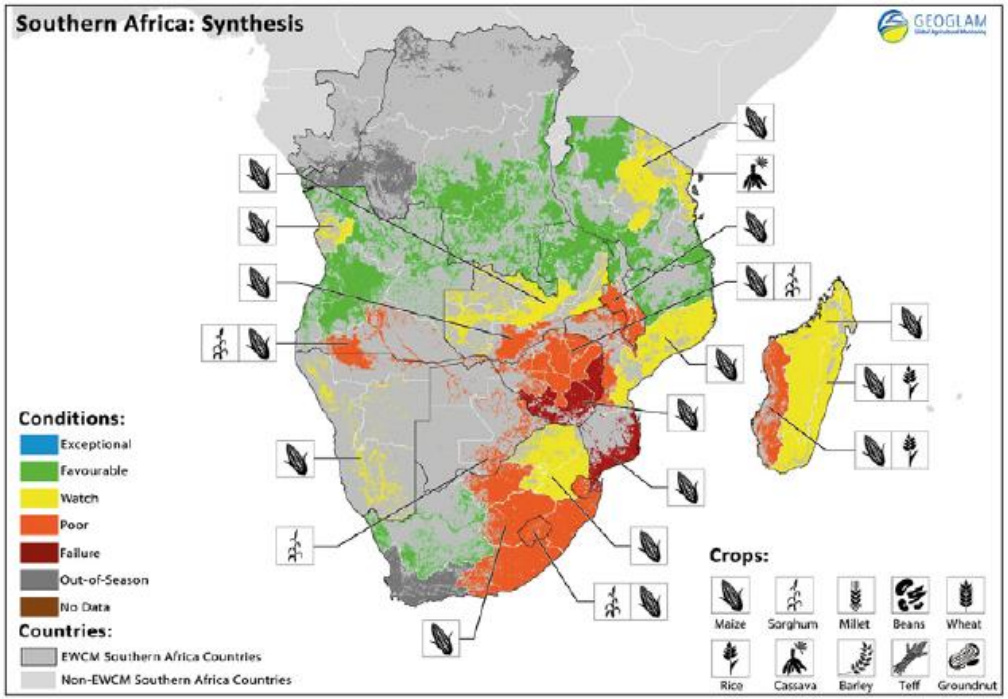
2 ZERO HUNGER

**Target 2.c** Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.

## MONITORING CROP CONDITIONS WITHIN COUNTRIES AT RISK OF FOOD INSECURITY

Crop condition map synthesizing information for all Early Warning Crop Monitor (EWCM) crops. Crop conditions over the main growing areas are based on a combination of national and regional crop analyst inputs along with Earth observation data. Crops that are in other than favourable conditions are displayed on the map with their crop symbol.

*"Development planning and SDG outcomes can be visualized with maps." (CIESIN)*

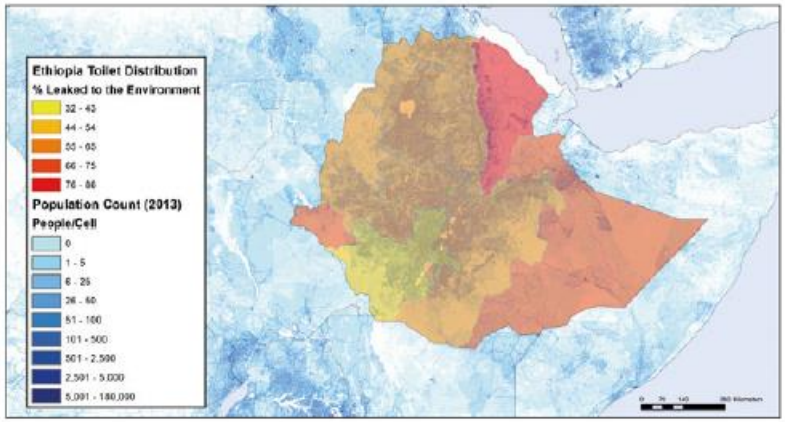


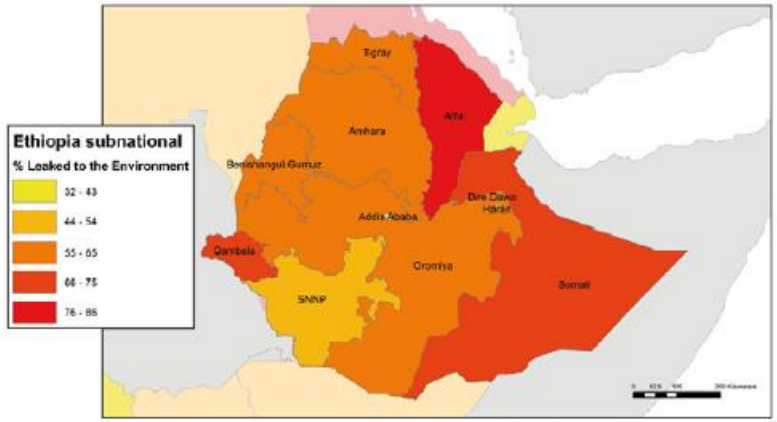

GEOGLAM Early Warning Crop Monitor

6 CLEAN WATER AND SANITATION

**Target 6.3** By 2030, improve water quality by reducing pollution, illuminating dumping and minimizing the least hazardous chemicals and materials, halving the proportion of untreated waste water and substantially increasing recycling and safe reuse globally.

## POPULATION DENSITY OVERLAID ON UNTREATED WASTEWATER LEAKING TO THE ENVIRONMENT, ETHIOPIA SUB NATIONAL



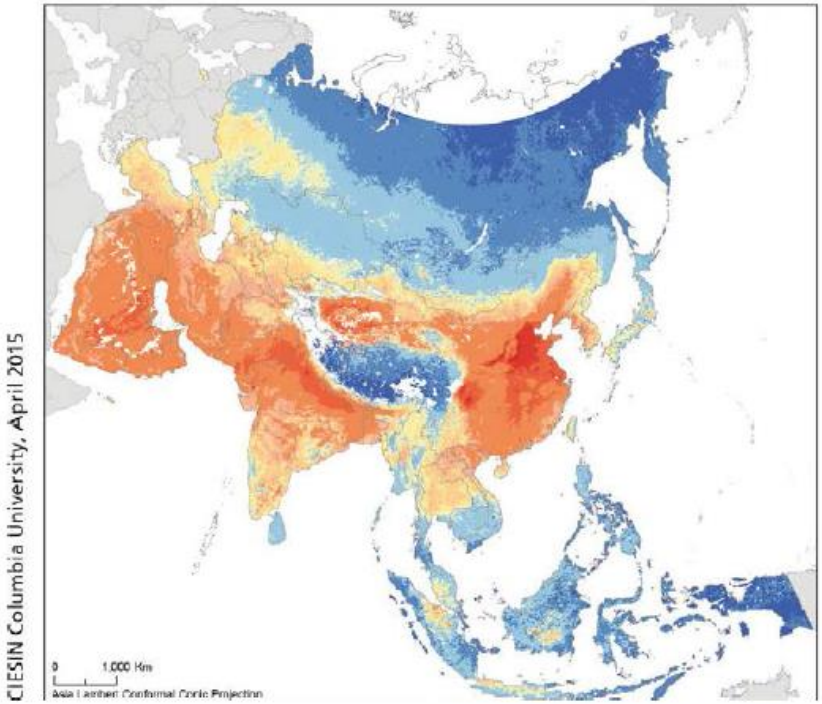




WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply and Sanitation

Integrating data from Earth observations and geospatial information with national surveys to monitor the impact of untreated wastewater on the population. The map on the left shows the extent of leakage of wastewater, excreta and grey water, with areas in red denoting extensive pollution. The map on the right integrates all data and shows where there is high impact, i.e., high leakage in densely populated areas.

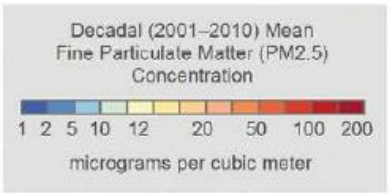

**Target 11.6** By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

## MEASURING AIR QUALITY IN CITIES AND ACROSS REGIONS




**Global Annual PM2.5 Grids from MODIS, MISR and SeaWiFS Aerosol Optical Depth (AOD), 2001–2010: Asia**

Measurements from satellites provide information on air quality in communities and regions. For example, this map shows baseline data on particulate matter that could be used by statistical agencies, public health organizations, and environmental protection officials to develop more in-depth indicators, for example by deploying sensor networks to efficiently generate complete national data in near real-time.

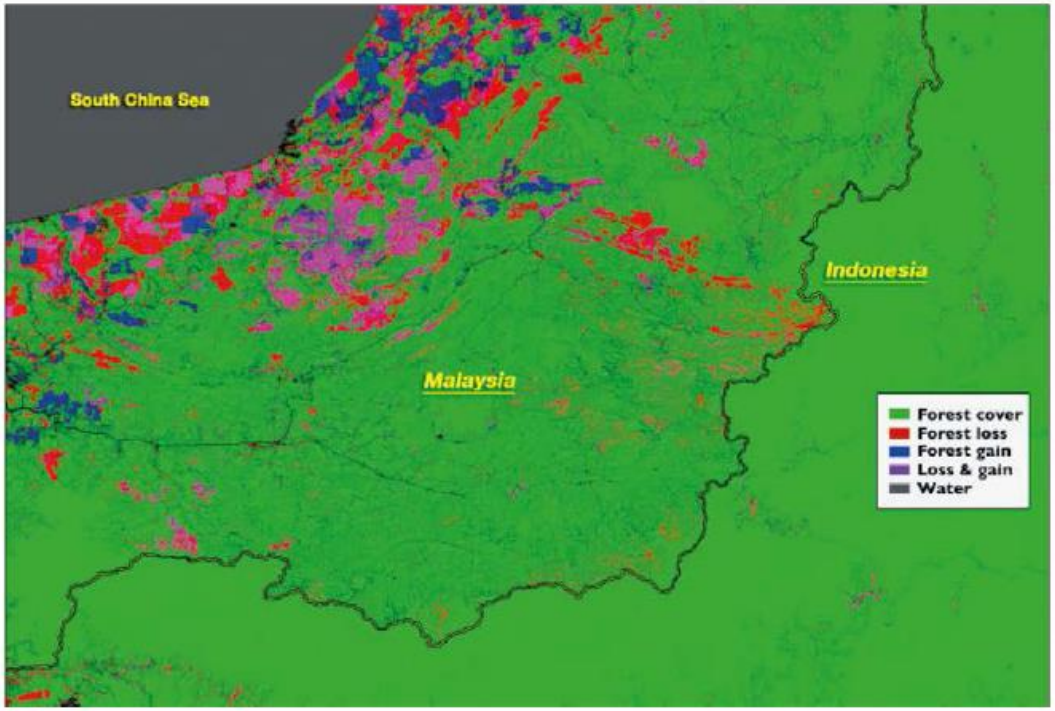


15 LIFE ON LAND

**Target 15.2** By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

## EARTH-OBSERVING SATELLITES CAN TRACK TREE COVER EXTENT AND FOREST LOSS AND GAIN OVER TIME

The border between Malaysia and Indonesia on the island of Borneo stands out in the Landsat-based map of forest disturbance. Red pixels represent forest loss between 2000 and 2012.




NASA Goddard, based on data from Hansen et al., 2013.

*"Mapping SDG-related data will improve measuring and monitoring of progress toward the SDG Indicators."*

# Conclusions

- **Geospatial information and analyses can significantly enhance the effectiveness of the SDG indicators in monitoring and guiding sustainable development from global to local scales,**
- **The value of statistical and geospatial data compilation for the implementation and monitoring of the 2030 Agenda constitutes an important basis for the continued collaboration between our two communities,**
- **This requires of us, not only to promote the use of statistical and geospatial data as reporting and monitoring tools for achieving the SDGs, but also to support capacity building in the intersection of our distinct disciplines and development of the requisite infrastructure.**

# Unleashing the power of 'Where' ….

**THANK YOU!**

**more info at: www.un-ggim-europe.org**

… to make the world a better place.