

# Geospatial information support to SDG Indicator Framework :

## 15.1.1 Forest area as a proportion of total land area

Regional Workshop on the Integration of Big Data and Geospatial Information for the Compilation of SDG Indicators in Arab Countries  
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# Outline

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- ❖ **Context: Importance of Geospatial Information**
- ❖ **Integration of Statistical and Geospatial Information: Need for a Statistical-Geospatial Framework**
- ❖ **Geospatial Information in Support of the SDGs Indicator Framework**
- ❖ **Illustrative Example**
- ❖ **Recommendations/Conclusion**

## Context

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### ❖ 2030 Agenda for Sustainable Development

- 17 Goals, 169 Targets, 232 Indicators
- Sustainable Development Goals (SDGs) Indicator Framework
- It 'calls out **geospatial information** and **earth observations** as key methods for tracking progress and informing people about these global development policies'

### ❖ 2020 Round of Censuses

- Adoption of **GIS** should be a major **strategic decision**
- See: UN Principles and Recommendations – Revision 3, 2017, United Nations Publications, New York. Available at:  
[https://unstats.un.org/unsd/publication/seriesM/Series\\_M67Rev3en.pdf](https://unstats.un.org/unsd/publication/seriesM/Series_M67Rev3en.pdf)

## Location is...the 'link'.

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- ❖ “Knowing where people and things are, what the things are, and their relationship to each other, are essential for informed decision-making”.
- ❖ ‘Link’, as a common reference frame.
- ❖ **Geographic location:** An important **link** to enable a richer picture of our countries, and what is happening in and across them.
- ❖ Enabling data from diverse sources to be brought together - **for analysis and decision making”**.

# Integration of Statistical and Geospatial Information

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- ❖ **Integrating statistical and geospatial information is critical for:**
  - **Measuring and monitoring** the targets and global indicator framework for SDGs of the 2030 Agenda for Sustainable Development;
  - Being needed for **small geographic areas** to monitor the development goals and indicators at local and community scales
  - Supporting data sharing between institutions and enhancing the **interoperability** of geospatial and statistical information;
  - Unlocking **new insights** and data relationships that would not have been possible by analyzing socio-economic, environmental or geospatial data in isolation;
  - Building **institutional collaboration** between geospatial and statistical communities; and
  - Examining **new sources of data** that includes geospatial information, for example mobile phone data.

# Need for a Statistical Geospatial Framework

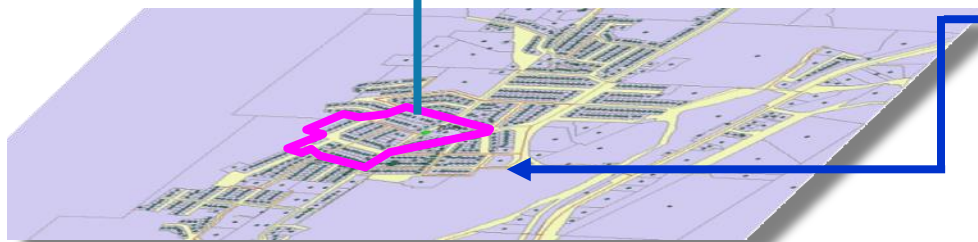
Analysis and aggregation across geographies



Aggregated to Local Government area or higher



Aggregated to an administrative unit



Aggregated to a district level



Geocoded unit level data

25 Dupont St = x,y: 35.5676, 135.6587



A common geographic framework is fundamental to integration  
Need for appropriate standards to support the linking of socio-economic information to location  
The Global Statistical Geospatial Framework

# Global Driver: The 2030 Agenda for Sustainable Development

- ❖ The blueprint to guide the world until 2030, is reflected by **17** goals, **169** targets, and **232** indicators (The global indicators will be yearly refined and comprehensively reviewed by the UNSC 51st session in 2020 and its 56th session in 2025).
- ❖ Measuring and monitoring, from local to global, requires ‘**data**’. But how many of these goals capture or include elements of **geography**, **place**, and **location**?
- ❖ **By 2020....**’increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, **geographic location** and other characteristics relevant in national contexts’ – 17.18 Final Draft, 8 July 2015.







# SDGs Indicator Framework : Contribution of Geospatial Information

Geospatial data can contribute to monitoring of the 2030 Agenda in four ways:

- ❖ As data in itself – geospatial data is used directly for the indicator construction (geospatial data = indicator)
  - ✓ **Indicator 15.1.1:** Forest area as a percentage of total land area
- ❖ Support statistical data – geospatial data is used in combination with other data to estimate an indicator (geospatial and other data -> indicator)
  - ✓ **Indicator 11.2.1:** Proportion of the population that has convenient access to public transport, by age, sex and persons with disabilities
- ❖ Enrich statistical data – geospatial data is used to enrich the indicators, although the indicator does not require a geospatial breakdown (analysis, enrichment of the indicators)
  - ✓ **Indicator 6.3.2:** Percentage of water bodies with good ambient water quality
- ❖ Geospatial data can help in communication and gives possibilities for geographical disaggregation of data:
  - **232 Indicators** disaggregated by **geographic location, urban/rural, region**, etc.
  - Administrative data often come with geospatial information (e.g. address, administrative unit, etc.).

# Indicator 15.1.1 - Forest area as a percentage of total land area

As data in itself – geospatial data is used directly for the indicator construction (**geospatial data = indicator**)

- ❖ This indicator measures the proportion of the world's land area that is forested and is expressed as a percentage.
- ❖ Changes in forest area reflect changes in demand for land for other uses and may help in identifying unsustainable practices in the forest and agriculture sectors.
- ❖ The indicator will measure progress towards **SDG Target 15.1.** :
  - *“By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.”*

15 LIFE ON LAND



## Indicator 15.1.1

Forest area as a percentage of total land area



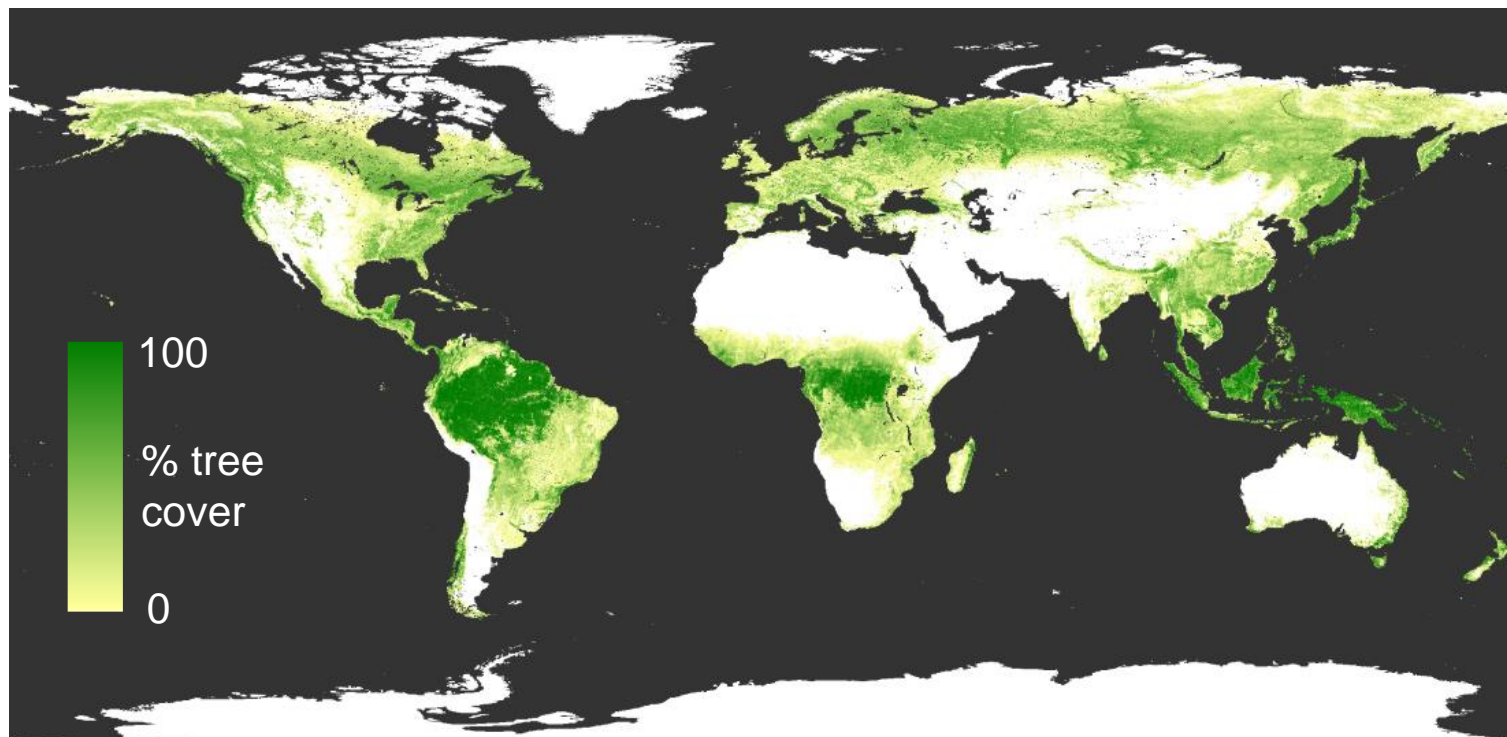
THE GLOBAL GOALS  
For Sustainable Development

### Target 15.1

By 2020 ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands...

## Forest Area from Earth-observing Environmental Satellites

*2013 Tree Cover*



Credit: Matthew C. Hansen, Univ. Maryland, et al.



# Indicator 15.1.1

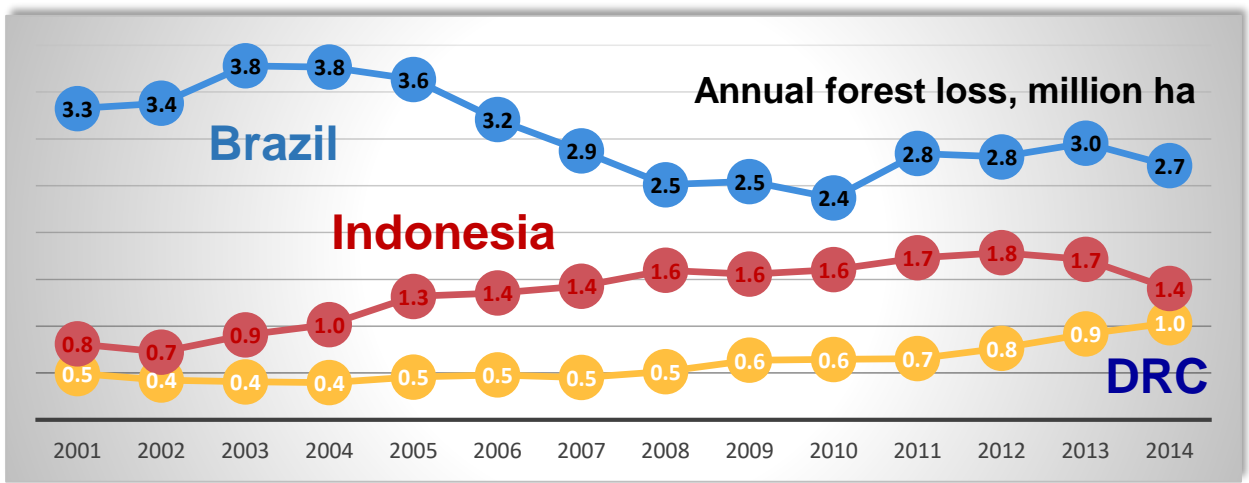
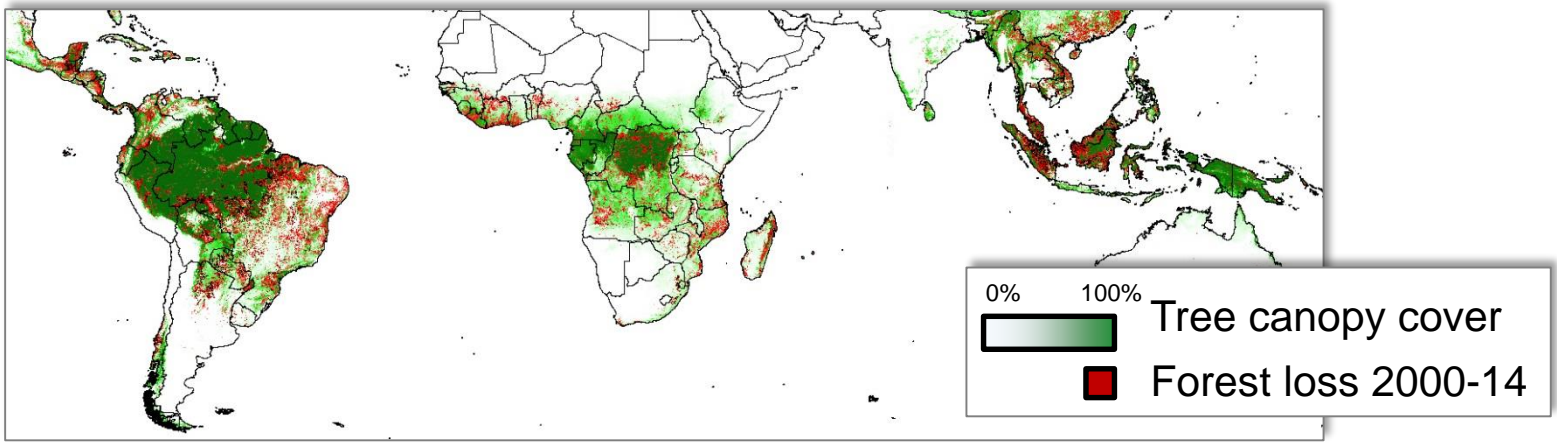
## Forest area as a percentage of total land area



### Target 15.1

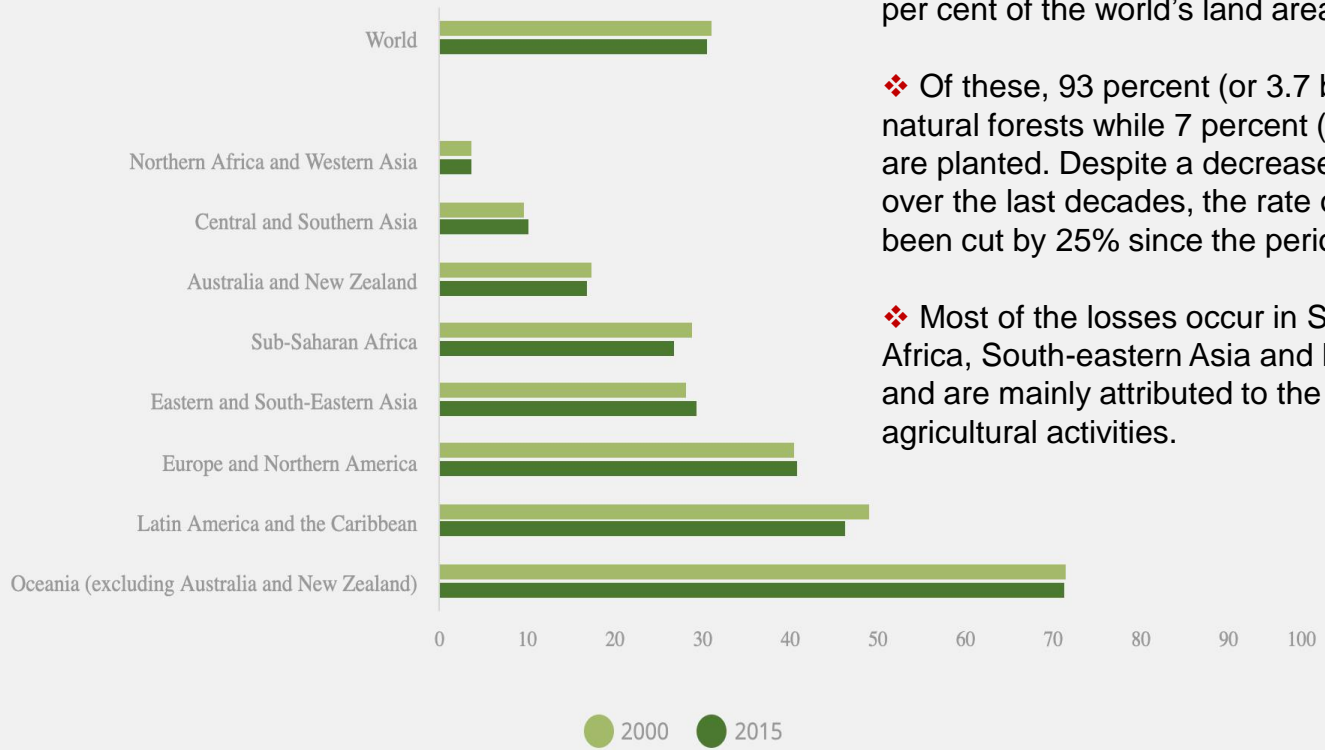
By 2020 ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands...

## Gross Forest Cover Change: 2000-2014



<< Annual loss shown using 3-year mean filter

Credit: M. Hansen, UMD, et al.



- ❖ Forests cover about 4 billion hectares or 30.7 per cent of the world's land area.
- ❖ Of these, 93 percent (or 3.7 billion ha) are natural forests while 7 percent (291 million ha) are planted. Despite a decrease in forest area over the last decades, the rate of forest loss has been cut by 25% since the period 2000-2005.
- ❖ Most of the losses occur in Sub-Saharan Africa, South-eastern Asia and Latin America and are mainly attributed to the expansion of agricultural activities.

International and national references:

UN FAO Global Forest Resources Assessment 2015: Main Report: Food and Agriculture Organization of the United Nations. 2016. Global Forest Resources Assessment 2015 How are the world's forests changing? Second edition. UN FAO, Rome. (<http://www.fao.org/3/a-i4793e.pdf>).

## Conclusions/Recommendations

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- ❖ Recognition of the importance of Geospatial Information Technology - Plays Pivotal Role in SDG Indicators with a **geographic dimension**: Creation of a **WG on Geospatial Information** within the IAEG-SDGs: **Inter-Agency and Expert Group on Sustainable Development Goal Indicators**
- ❖ Developing a National **Statistical-Geospatial Framework** for the integration of statistical and geospatial information.
- ❖ ICT, including Geospatial Information Technology, is a **cross-cutting technology** to help achieve SDGs - It is not a short-cut or panacea to Development, but an **Enabler/Accelerator** to Development
- ❖ At national level: better cooperation/coordination between **NSOs** and **NMAs** to develop a National Spatial-Statistical Information Infrastructure
- ❖ Role of Governments and all stakeholders (**Partnerships**) in Mobilizing **Geospatial Information Technology** for Sustainable Development

## Technical Paper (in progress)

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Few words on the upcoming Technical Paper:

- ✓ Overview on the integration of geospatial information with statistical information and the support it is bringing to the SDGs;
- ✓ Mapping the challenges and opportunities in the production of SDG geospatial indicators using geospatial information technologies; and
- ✓ Examples of using geospatial information in calculation of certain indicators.

Thank you

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