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Urban Insights from Space: Enhancing EO applications for Sustainable Urbanisation



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UN-Habitat at a glance

UN-Habitat's mandate is to promote socially and environmentally sustainable **towns** and **cities** with the goal of **providing adequate shelter for all**.

Our Key Focus Areas:

- Enhanced Shared Prosperity for **Cities & Regions**
- Effective Urban Crisis Prevention & Response
- Strengthened Climate Action & Improved Urban environment
- Reduced Spatial Inequality & Poverty in Communities across the **Urban-Rural Continuum**



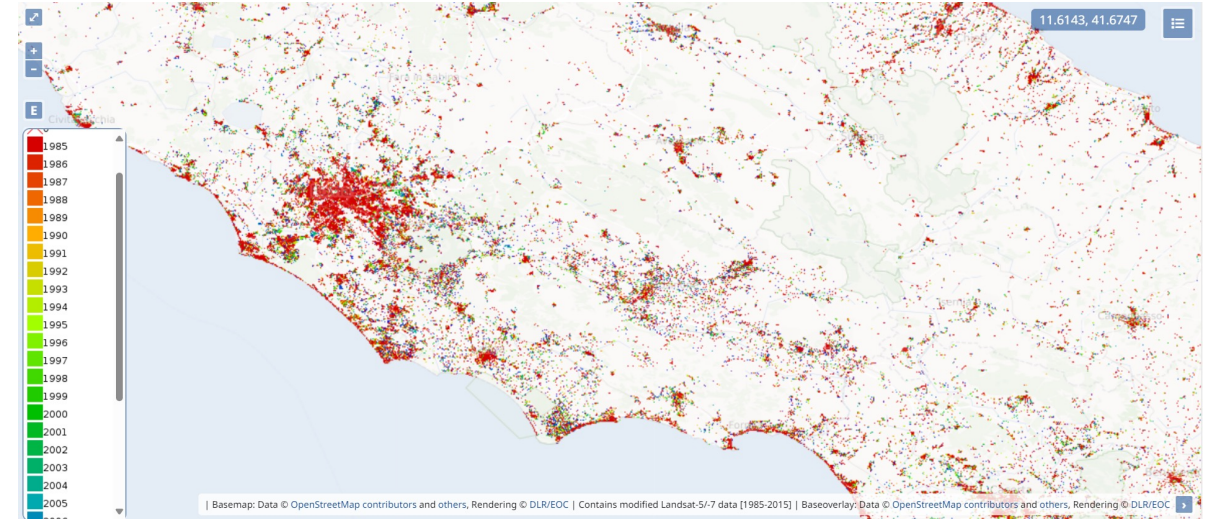
Supporting sustainable urbanization entails, among other things;

- Clear understanding of **human settlement systems** (and needs) in diverse contexts
 - Production of accurate & up to date data **disaggregated** by settlement type + sub-type
- Supporting production of accurate, up to date data
- Encouraging commitment to, and implementation of data-informed actions
- Direct support through sustainable urbanization projects, policy development and implementation
- Good/ best practice documentation, sharing and knowledge transfer
- Multi-stakeholder, expert and partner engagements

Earth Observations and geospatial analysis changing the urbanisation data landscape

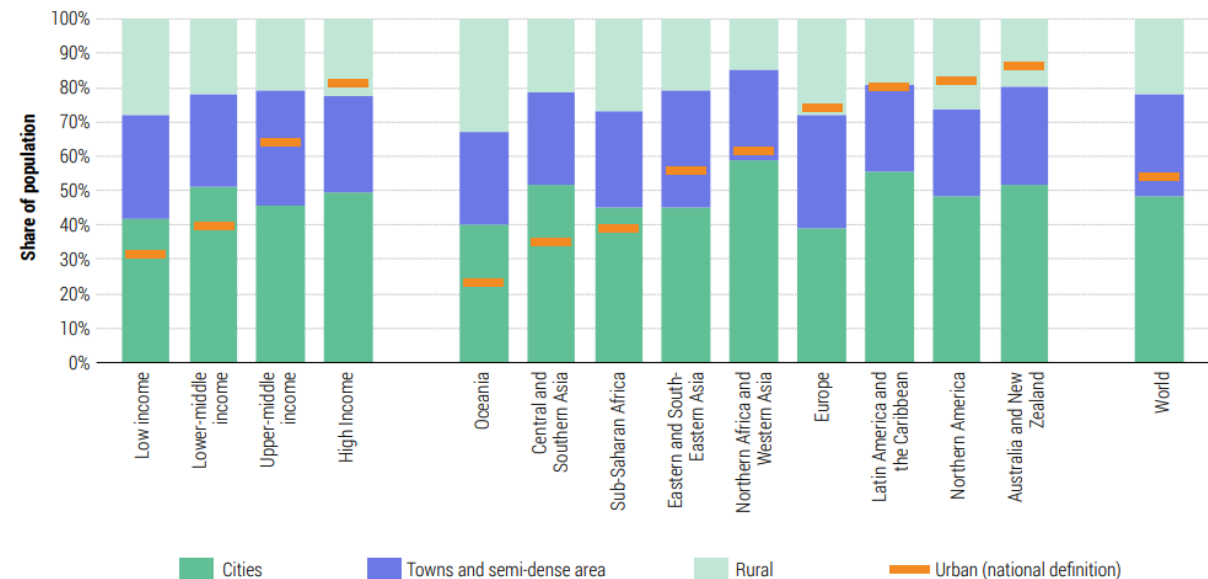
EO based analyses of urbanization are changing our understanding of global, national and local trends

- Are reported trends representative of the true levels of urbanisation?
- How are different sizes of cities changing, why?
- How is urbanisation manifesting in space and impacting on other land uses?
- Which areas and populations are most vulnerable to climate risks?



<https://geoservice.dlr.de/web/maps/eoc:wsfevolution#>

Figure 2.1: Population by Degree of Urbanization and in nationally defined urban areas by SDG regions and income group, 2015



Earth Observations, geospatial analysis improving urban data availability

List of Indicators where geospatial information has a direct contribution

Table A
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
11.1.1
11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities
11.3.1 Ratio of land consumption rate to population growth rate
11.6.2. Concentrations of fine particulate matter (PM2.5)
11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities
14.1.1 Index of coastal eutrophication and floating plastic debris density
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

United Nations
Statistical Commission
55th Session
ECONOMY · ENVIRONMENT · POPULATION · SOCIETY · TRADE

Side event at the UN Statistical Commission
THE IAEG-SDGS WORKING GROUP ON GEOSPATIAL INFORMATION: RESCUING THE SDGS WITH GEOSPATIAL INFORMATION

Monday 19 February 2024
8:00 am – 9:00 am (EST)
Virtual

SUSTAINABLE DEVELOPMENT GOALS
SDGS GEOSPATIAL ROADMAP

unstats.un.org | @UNStats | #UN55SC

Source: IAEG-SDGs Working Group on Geospatial Information



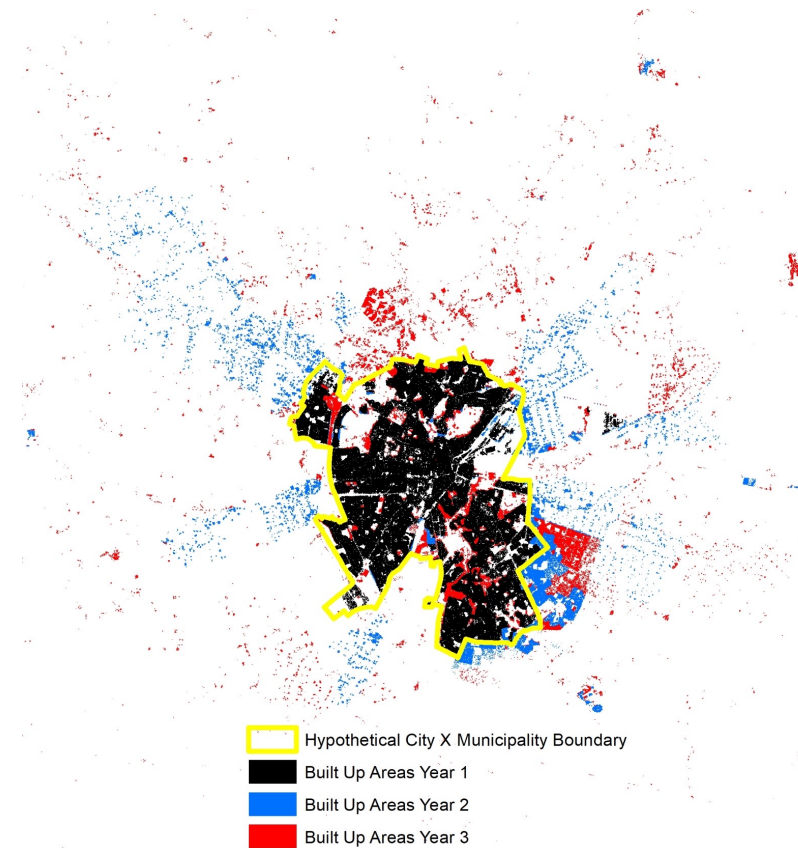
Rescuing SDG 11 for a Resilient Urban Planet

SDG 11 SYNTHESIS REPORT
HIGH LEVEL POLITICAL FORUM 2023

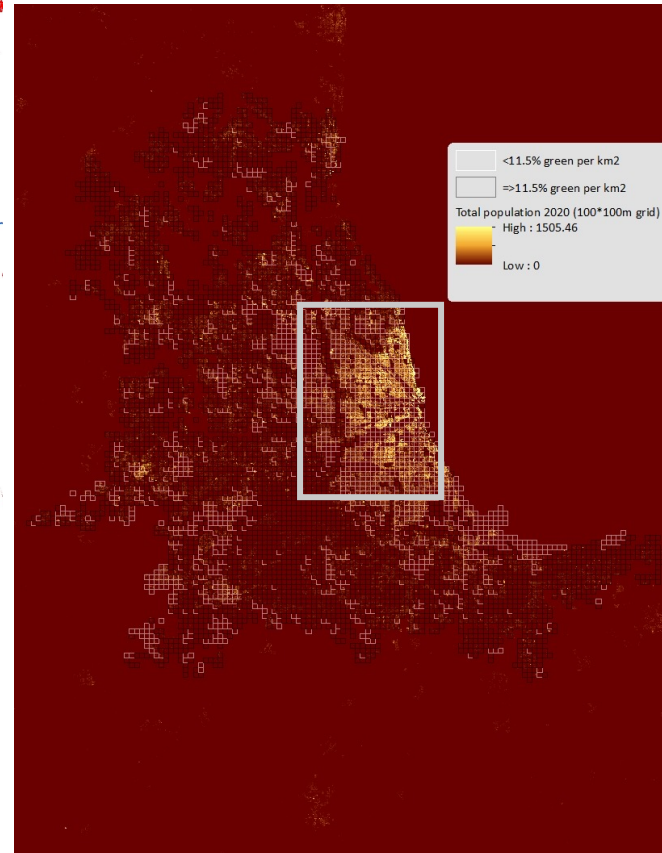


<https://unhabitat.org/rescuing-sdg-11-for-a-resilient-urban-planet>

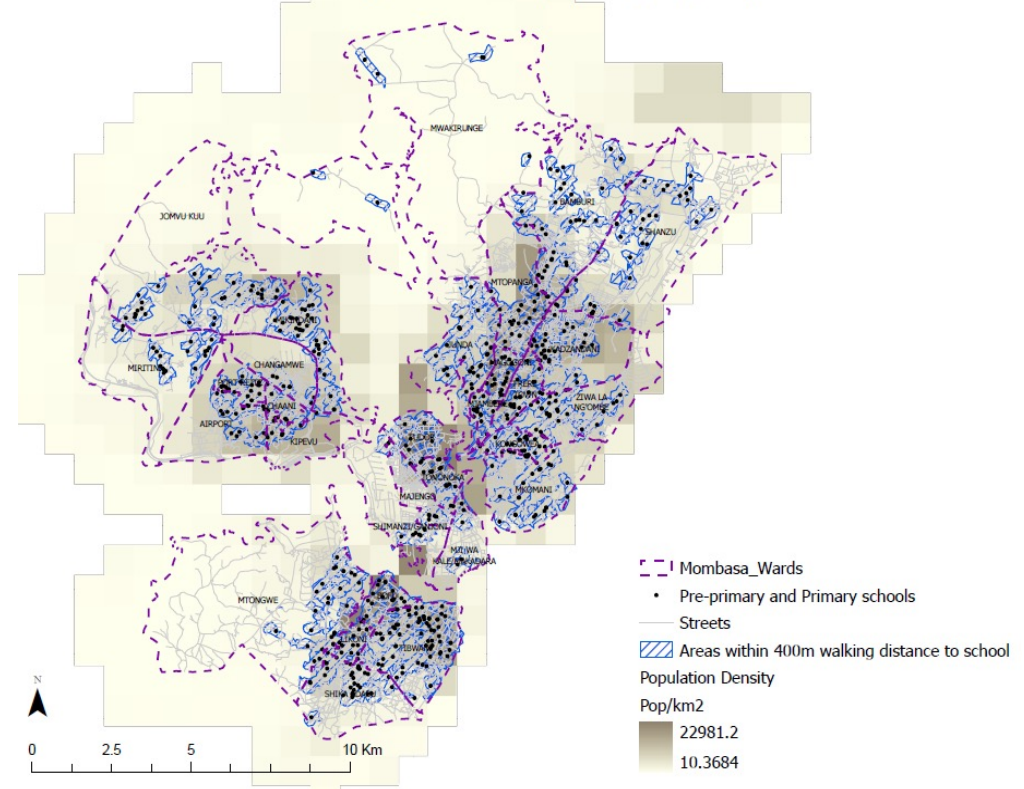
Urban insights from space as key decision support resources



- Hypothetical City X Municipality Boundary
- Built Up Areas Year 1
- Built Up Areas Year 2
- Built Up Areas Year 3



Areas within 400m walking distance access to pre-primary and primary schools



New insights, growing interest and increasing demands on data resolution



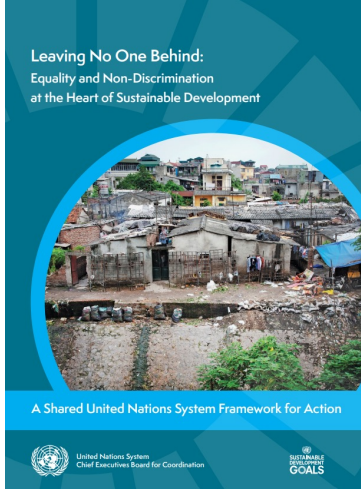
Source: <https://human-settlement.emergency.copernicus.eu/visualisation.php#>



Source: Sirko et al, 2021 (Google Open Buildings)

- Huge opportunities with increasing data resolution, formalization of data sources into national systems
- To maintain growing trust in EO and GI data, adequate assessment and clarity of purpose is crucial
 - *What applications are different data types most relevant for?*
 - *What should the data be used for and what should it NOT be used for?*
 - *How different is one resource from the other?*
- How is the data produced and how scalable, repeatable are the processes adopted? What are the possibilities and limitations?
- How can we ensure continuity and enhanced capacities at the local levels? Integration of local data incl. community generated data?


Calling on partnerships around EO applications for measuring housing indicators



Statistics Division

TOPICS DATA METHODOLOGY EVENTS PUBLICATIONS ABOUT


Expert Group on Identifying Slum and Non-slum Enumeration Areas



DRAFT – VERSION 9 AUGUST 2024

Principles and Recommendations for Population and Housing Censuses

Revision 4



United Nations

Background

The case for identification of slums as specific areas within city precincts turns on the idea that space is an important determinant of many aspects of urban life including health, well-being and net of poverty. The crowded and unsanitary conditions in slums, as well as the intimately shared social environment, indicates that people



NATIONS

UN HABITAT United Nations Human Settlements Programme

HSP/HA.2/Res.7
Distr.: General
6 July 2023
Original: English

United Nations Habitat Assembly of the United Nations Human Settlements Programme
Second session
Nairobi, 5–9 June 2023

Resolution adopted by the United Nations Habitat Assembly on 9 June 2023

2/7. Adequate housing for all

The United Nations Habitat Assembly,

Recalling the 1948 Universal Declaration of Human Rights and the 1948 Universal Declaration of Human Rights, which states that adequate housing is part of the right to an adequate standard of living,

Recalling also the Vancouver Declaration on Human Settlements, which states that adequate housing and services are a basic human right, which places an obligation on all people,

Recalling further the Istanbul Declaration on Human Settlements, which states that adequate housing is a progressive realization of the right to adequate housing,

Recalling General Assembly resolution 70/1 of 25 September 2015, which states that adequate housing is a basic human right, and

Recalling the 2030 Agenda for Sustainable Development, which states that adequate housing is a basic human right, and

8. *Requests* the Executive Director to assess available platforms and resources that provide data and tools to national and local authorities or governments and other key stakeholders related to achieving access for all to adequate, safe and affordable housing; to create a publicly accessible, complementary platform that includes summaries of the most recently available data on the provision of adequate housing – disaggregated by factors such as geography, gender, age, disability and any other relevant risks or causes of exclusion – and summarizes relevant policies, case studies, tools and best practices that could be provided and used by Member States, members of United Nations specialized agencies, local and regional authorities or governments, housing providers, academia and other stakeholders; and to provide any other information that the Executive Director may deem relevant to the universal achievement of adequate housing for all;

9. *Urges* Member States to prioritize access to adequate housing, including addressing homelessness and slum transformation, as a central element of inclusive, resilient post-pandemic recovery and achievement of the New Urban Agenda and of the Sustainable Development Goals of the 2030 Agenda;

10. *Calls on* Member States and local and regional authorities to expand access to safe, sustainable, adequate and affordable housing through inclusive, integrated and holistic strategies and programmes, with respect for the human rights of all, targeting all households and all forms of tenure, with targeted efforts aimed at providing housing solutions for lower-income households and those households facing the greatest cost burdens and risk of displacement and the most inadequate housing conditions;



UNITED NATIONS

UN HABITAT United Nations Human Settlements Programme

HSP/HA.2/L.5

Distr.: Limited
3 June 2023
Original: English

United Nations Habitat Assembly of the United Nations Human Settlements Programme
Second session
Nairobi, 5–9 June 2023

Draft resolution on accelerating the transformation of informal settlements and slums by 2030

Submission by Botswana, Brazil, Peru and South Africa

The United Nations Habitat Assembly,

Recalling Governing Council resolution 24/7 of 19 April 2013 on making slums history and Sustainable Development Goal 11 on making cities and human settlements inclusive, safe, resilient and sustainable, along with its target 11.1 – by 2030, ensure access for all to adequate, safe and affordable housing and basic services, and upgrade slums – which together establish the link between well-managed urbanization and improving the lives of slum and informal settlement dwellers,

Recalling also that the New Urban Agenda¹ includes an implementation plan to address sustainable urbanization and human settlements and is a critical lever for accelerating the achievement of the Sustainable Development Goals, particularly Goal 11,

Noting that a slum² is an informal settlement or housing in which the majority of households experience one or more of the following deprivations: lack of secure tenure, lack of access to improved water sources, lack of improved sanitation facilities, lack of security or safety, insufficient living space,

3 (c) ... Improve methodologies for mapping and enumeration to more accurately reflect the reality of informal settlements and households and disaggregate data; collect data across all settlements, regardless of tenure status or legal regularization, through an integrated approach that goes beyond the isolated settlement level, including data on transformation costs and affordability as well as the impact of interventions and the dynamics of movements of households after interventions; ensure data availability and the use of available data for decision-making at the national, subnational, local, city and settlement levels



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Thank You

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