SDG Goal 11   **Sustainable cities and communities**

SDG Target 11.7   By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

SDG Indicator 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

Time series   Share of open space to total area in cities with more than 100,000 inhabitants

1. General information on the time series

- Date of national metadata: 3 August 2022
- National data: http://sdg-indicators.de/11-7-1/
- Definition: The time series measures the average share of the built-up area of cities that is potentially open space for public use.
- Disaggregation: Not available.

2. Comparability with the global metadata

- Date of global metadata: March 2021
- Global metadata: https://unstats.un.org/sdgs/metadata/files/Metadata-11-07-01.pdf
- The time series is partly compliant with the global metadata. The determination of built-up areas follows the old methodology of the global metadata (as of 28/03/2020). Also, only cities larger than 100.000 inhabitants are considered.

3. Data description

- The data is based on a special evaluation by the Federal Agency for Cartography and Geodesy (BKG). Information on land cover and land use categories is taken from the digital land cover model for Germany (LBM-DE). Since the time series is based on remote sensing data, only potential open public spaces can be identified, and it cannot be determined which of the areas are accessible to the public and are free of charge.
The time series is based on special evaluation. The build-up areas are derived from Rapid Eye satellite data, and stored as the LBM-DE feature attribute "degree of imperviousness". Then the following steps were carried out during the calculation:
    1. Selection of all digital land cover model objects with a degree of sealing of more than 25% equivalent to the metadata description.
    2. These objects were transformed into a grid with 10m grid widths (sentinel-2 resolution for future calculations).
    3. A spatial analysis was performed for these pixels. Then, the pixels were divided into three groups according to their density, in a circle having a radius of 564 m.
    4. The classes urban and suburban were combined to form an urban cluster.
    5. Appending a 100m buffer around the urban clusters and selecting the included open spaces whose contiguous areas are smaller than 200ha.
    6. The urban clusters determined are clipped to the administrative boundaries of the municipalities. For the derivation of the time series it is necessary to determine the "total surface of open public space" as well as the "total surface of land allocated to streets", to then calculate the total area. By using the LBM-DE, the two areas can be surveyed together in one step. This is done by selecting the objects according to land use, which also includes streets.

4. Access to data source

- Not available.

5. Metadata on source data

- Digital Land Cover Model for Germany, state 2015 (LBM-DE2015) (only available in German): https://gdz.bkg.bund.de/index.php/default/digitales-landbedeckungsmodell-fur-deutschland-stand-2015-lbm-de2015.html
- Digital Land Cover Model for Germany, state 2018 (LBM-DE2018) (only available in German): https://gdz.bkg.bund.de/index.php/default/digitales-landbedeckungsmodell-fur-deutschland-stand-2018-lbm-de2018.html

6. Timeliness and frequency

- Timeliness: t + 6 months
- Frequency: Every 3 years

7. Calculation method

- Unit of measurement: Percentage
- Calculation:

  Complex calculation method.