

Dataset collection

Global Human Settlement Layer

Description:

The Global Human Settlement Layer (GHSL) project is supported by European Commission, Joint Research Centre and Directorate-General for Regional and Urban Policy. The GHSL produces new global spatial information, evidence-based analytics, and knowledge describing the human presence in the planet. The GHSL relies on the design and implementation of new spatial data mining technologies allowing to process automatically and extract analytics and knowledge from large amount of heterogeneous data including: global, fine-scale satellite image data streams, census data, and crowd sources or volunteering geographic information sources. Spatial data reporting objectively and systematically about the presence of population and built-up infrastructures are necessary for any evidence-based modelling or assessing of i) human and physical exposure to threats as environmental contamination and degradation, natural disasters and conflicts, ii) impact of human activities on ecosystems, and iii) access to resources. The project produces thematic information and evidence-based analytical knowledge supporting the implementation of EU regional urban policy and the 4 international post-2015 frameworks, namely: Sustainable Development Goals, Global Urban Agenda, Climate Change and the Sendai Framework for Disaster Risk Reduction. Also, the project supports international scientific partnerships facilitating science-policy interface in the frame of the Group of Earth Observation (GI-21: Human Planet Initiative <https://www.earthobservations.org/activity.php?id=51>), and bi-lateral scientific collaborations with space agencies and scientific organizations of Brazil, China and South Africa. Project home page: <http://ghsl.jrc.ec.europa.eu/> SciHub page: <https://ec.europa.eu/jrc/en/scientific-tool/global-human-settlement-layer?search> The collection consists in three main type of products: built-up (GHS-BUILT), population (GHS-POP) grids, and city model (GHS-SMOD). The datasets are published as raster files together with pyramids (i.e., TIF and OVR files).

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Landing page:

<http://ghsl.jrc.ec.europa.eu/>

Datasets:

- [GHS Urban Centre Database 2015, multitemporal and multidimensional attributes, R2019A](#) [53473144-b88c-44bc-b4a3-4583ed1f547e]
- [GHS built-up grid, derived from Landsat, multitemporal \(1975-1990-2000-2014\), R2018A](#) [jrc-ghsl-10007]
- [GHS built-up grid, derived from Sentinel-1 \(2016\), R2018A](#) [jrc-ghsl-10008]
- [GHS built-up grid input data, Landsat multitemporal collections \(1975-1990-2000-2014\), R2018A](#) [jrc-ghsl-10009]
- [GHS built-up confidence grid, derived from Landsat, multitemporal \(1975, 1990, 2000, 2014\)](#) [jrc-ghsl-ghs_built_ldsmtnfd_globe_r2015b]
- [GHS built-up datamask grid, derived from Landsat, multitemporal \(1975, 1990, 2000, 2014\)](#) [jrc-ghsl-ghs_built_ldsmtm_globe_r2015b]
- [GHS built-up grid, derived from Landsat, multitemporal \(1975, 1990, 2000, 2014\)](#) [jrc-ghsl-ghs_built_ldsmt_globe_r2015b]
- [GHS population grid, derived from EUROSTAT census data \(2011\) and ESM 2016](#) [jrc-ghsl-ghs_pop_eurostat_europe_r2016a]
- [GHS population grid, derived from GPW4, multitemporal \(1975, 1990, 2000, 2015\)](#) [jrc-ghsl-ghs_pop_gpw4_globe_r2015a]
- [GHS settlement grid, following the REGIO model 2014 in application to GHSL Landsat and CIESIN GPW v4-multitemporal \(1975-1990-2000-2015\)](#) [jrc-ghsl-ghs_smod_pop_globe_r2016a]