JRC Dataset

GHS built-up grid, derived from Landsat, multitemporal (1975-1990-2000-2014), R2018A

Description:

Multi-temporal information layer on the presence of built-up surfaces derived from global Landsat satellite data collected from 1975 to 2014, at the native spatial resolution varying from 80 meters (Landsat MSS sensor), 30 meters (Landsat TM sensor), and 15/30 meters (Landsat ETM sensor). The image data collections were prepared by the Global Land Survey (GLS1975, GLS1990, GLS2000) and by the JRC (Landsat 8 collection for 2014). The data was processed by fully automatic and reproducible methods based on statistical learning (Symbolic Machine Learning). No manual or ad-hoc rule-based editing of the results was applied in the post-processing. The product it is provided with a spatial resolution of 30 meters.

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How to cite:

Corbane, Christina; Florczyk, Aneta; Pesaresi, Martino; Politis, Panagiotis; Syrris, Vasileios(2018): GHS built-up grid, derived from Landsat, multitemporal (1975-1990-2000-2014), R2018A. European Commission, Joint Research Centre (JRC) [Dataset] doi:10.2905/jrc-ghsl-10007 PID: http://data.europa.eu/89h/jrc-ghsl-10007

Keywords:

GHSL, GLS1975, GLS1990, GLS2000, LANDSAT8, Landsat, Landsat ETM, Landsat MSS, Landsat MT, built-up areas, global map, land cover, multi-temporal classification, remote sensing, urban

Related resources:

Data access

GHS_BUILT_LDSMT_GLOBE_R2018A

The data are organised in several datasets. The main product (GHS_BUILT_LDSMT_GLOBE_R2018A_3857_30) is a multitemporal built-up grid (built-up classes: 1975, 1990, 2000, 2014 epoch), which has been produced at high resolution (30m). Multi-temporal built-up area classification map: 0 = no data; 1 = water surface; 2 = land no built-up in any epoch; 3 = built-up from 2000 to 2014 epochs; 4 = built-up from 1990 to 2000 epochs; 5 = built-up from 1975 to 1990 epochs; 6 = built-up up to 1975 epoch. Data organisation: VRT file (with GeoTIFF tiles) or GeoTIFF files; pyramids ArcGIS users of the 30-m product: *ESRI.vrt.file. Resolution: 30m. Projection: Spherical Mercator (EPSG:3857). The 30m grid has been used to derive additional layers per each epoch, offered at middle and low resolution (250m in Mollweide and 1km in Mollweide). Each dataset is distributed in a compressed ZIP, that contains TIF file with pyramids and documentation.

http://cidportal.jrc.ec.europa.eu/ftp/jrc-opendata/GHSL/GHS_BUILT_LDSMT_GLOBE_R2018A/

Publications

A New Method for Earth Observation Data Analytics Based on Symbolic Machine Learning

Pesaresi M; Syrris V; Julea A. A New Method for Earth Observation Data Analytics Based on Symbolic Machine Learning. REMOTE SENSING 8 (5); 2016. p. 399. JRC99747

DOI:10.3390/rs8050399

Additional information:

Issue date: 2018-07-18

Landing page: https://ghsl.jrc.ec.europa.eu/

Geographic area: World

Temporal coverage: From: 1975-01-01 – To: 2014-12-30

Update frequency: None
Language: English
Data theme(s): Regions and cities; Science and technology
EuroVoc domain(s): 36 SCIENCE; 72 GEOGRAPHY
Identifier: http://data.europa.eu/89h/jrc-ghsl-10007
Digital Object Identifier: 10.2905/jrc-ghsl-10007