**INDICATOR 5: Real Abandoned’ and Temporarily Used Built-up Areas**

1. **File Name: Sh\_LA\_Class\_Settl**

* Coordinate Reference Systems: WGS 84 / UTM zone 34N (EPSG:32634)

1. **File Name: Sh\_LA\_Class\_Mun**

* Coordinate Reference Systems: WGS 84 / UTM zone 34N (EPSG:32634)

| **Attribute** | **Alias** | **Pseudonim** |
| --- | --- | --- |
| MatBrO | Municipality identification number | Matični broj opštine |
| MatBrNas | Settlement identification number | Matični broj naselja |
| ImeNasCir | Name of the settlement in Cyrillic | Ime naselja (ćirilica) |
| ImeNasLat | Name of the settlement in Latin | Ime naselja (latinica) |
| ImeOpsCir | Name of the municipality in Cyrillic | Ime opštine (ćirilica) |
| ImeOpsLat | Name of the municipality in Latin | Ime opštine (latinica) |
| P\_0 | Share of built-up areas with irradiance 0 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom 0 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_1 | Share of built-up areas with irradiance from > 0 to ≤ 1 nW cm–2 sr–1 (%)in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_2 | Share of built-up areas with irradiance from > 1 to ≤ 2 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 1 do ≤ 2 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_3 | Share of built-up areas with irradiance from > 2 to ≤ 4 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_4 | Share of built-up areas with irradiance from > 4 to ≤ 6 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_5 | Share of built-up areas with irradiance from > 6 to ≤ 8 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_6 | Share of built-up areas with irradiance from > 8 to ≤ 10 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_7 | Share of built-up areas with irradiance from > 10 to ≤ 15 nW cm–2 sr–1 (%)in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_8 | Share of built-up areas with irradiance from > 15 to ≤ 30 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_9 | Share of built-up areas with irradiance from > 30 to ≤ 50 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_10 | Share of built-up areas with irradiance from > 50 to ≤ 100 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_11 | Share of built-up areas with irradiance from > 100 to ≤ 200 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom od > 0 do ≤ 1 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |
| P\_12 | Share of built-up areas with irradiance > 200 nW cm–2 sr–1 (%) in total built-up area of settlement | Učešće izgrađenih površina sa radijansom > 200 nW cm–2 sr–1 (%) u ukupnoj izgrađenoj površini naselja |

1. **File Name: Ngt\_Lt\_Built-Up**

* Coordinate Reference Systems: WGS 84 / UTM zone 34N (EPSG:32634)
* Resolution: 19.1093 m × 19.1093 m
* Max: 213.7830657959
* Min: 0
* No Data: –3.40282e+38
* Unit: nW cm-2 sr-1

**Description of Indicator:** Real Abandoned’ and Temporarily Used Built-up Areas serve to indicate the poorly used and potentially abandoned built-up areas. The data about built-up areas was overlapped with satellite images of nighttime lights to determine their radiance (nW cm-2 sr-1). In the second step, built-up areas were classified according to the radiance intensity in 12 classes: 0, 0–1, 1–2, 2–4, 4–6, 6–8, 8–10, 10–15, 15–30, 30–50, 50–100, 100–200, > 200 nW cm-2 sr-1. The shares of radiance classes in the total built-up area of settlements/municipalities were calculated. The nighttime lights dataset for 2015 was used in calculations. The data are filtered to exclude impact by stray light, lightning, lunar illumination, cloud-cover, fires and other ephemeral light, and with the background (non-lights) set to zero. Additionally, the dataset was checked on outliers that have been removed from the analysis.

**Source data for Indicator calculation**

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| --- | --- |
| **Type of data** | **Source** |
| Built-up area | [GHS\_BUILT\_S1NODSM\_GLOBE\_R2018A [European Commission, Joint Research Center, 2019](https://ghsl.jrc.ec.europa.eu/ghs_bu_s1.php?sl=2) |
| Nighttime Lights | [Version 1 VIIRS DNB [Earth Observation Group (EOG); Colorado Mining School, 2015]](https://eogdata.mines.edu/download_dnb_composites.html) |
| Administrative units\* | [GeoSrbija [Open data of the National Data Infrastructure, Republic Geodetic Authority, n.d.]](https://geosrbija.rs/usluge/otvoreni-podaci-nigp/) |

\* GeoSrbija (Open Data of the National Data Infrastructure, Republic Geodetic Authority, n.d.) from which the administrative settlements boundaries were taken have no data for the province Kosovo and Metohija. Accordingly, these administrative units were not included in the analysis.