Germany

Using geospatial data for calculating the SDG indicators

The Federal Agency for Cartography and Geodesy (BKG) is responsible for calculating the SDG indicator 15.4.2 "Mountain Green Cover Index" for the German national indicator report.

In September 2015, the United Nation's Agenda 2030 for Sustainable Development, including the Sustainable Development Goals (SDGs), was adopted by the heads of state and government. The SDGs consist of 17 goals, subdivided into 169 targets, and address major social, environmental and economic challenges for the next 15 years. National progress of their implementation is measured and assessed using 232 quantitative indicators.

BKG, in cooperation with the Federal Statistical Office of Germany, has conducted feasibility studies regarding the calculation of selected SDG indicators. This activity is part of BKG's research projects 'Cop4SDGs' (verification and monitoring of the SDGs using Copernicus data, a project in co-operation with the German Environment Agency) and 'LaVerDi', a project developing a land cover change detection web service for Germany.
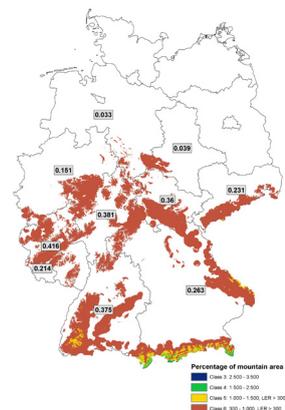
One of the indicators in the studies is 15.4.2 "Mountain Green Cover Index" which expresses the percentage of vegetation on mountainous landscapes. This indicator contributes to the achievement of SDG 15 (life on land), and, more specifically, the conservation of mountain ecosystems including their biodiversity. According to the definition of the custodian agency (FAO - Food and Agriculture Organisation), trees, meadows, shrubs and agricultural fields are considered as vegetation for the calculation of this indicator. The vegetation covered mountainous landscapes are classified according to their elevation, inclination and their mountain class.

For calculating this indicator, BKG uses remote sensing images from Sentinel-1 and -2 as well as geospatial data from the German Digital Terrain Model (DGM-DE) and the Land Cover Model of Germany (LBM-DE). The calculations indicate that 18.6 % of Germany is covered by mountainous landscapes and 96.2 % of these mountainous landscapes are covered with vegetation.
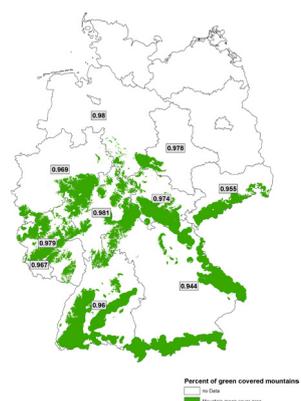
After a joint evaluation of the method and results of this indicator with the Federal Statistical Office, BKG has been assigned with the responsibility of calculating the SDG indicator 15.4.2 in the future and will present these results in the official 2019 national monitoring report for the SDG indicators.

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Percentage of mountain area as per federal states

Mountain green cover index values shown as per their federal states (Laender)