



# Solargis yearly maps

## Global Horizontal Irradiation

### Product note

#### Solargis s.r.o.

Bottova 2A, 811 09 Bratislava, Slovakia  
contact@solargis.com, solargis.com

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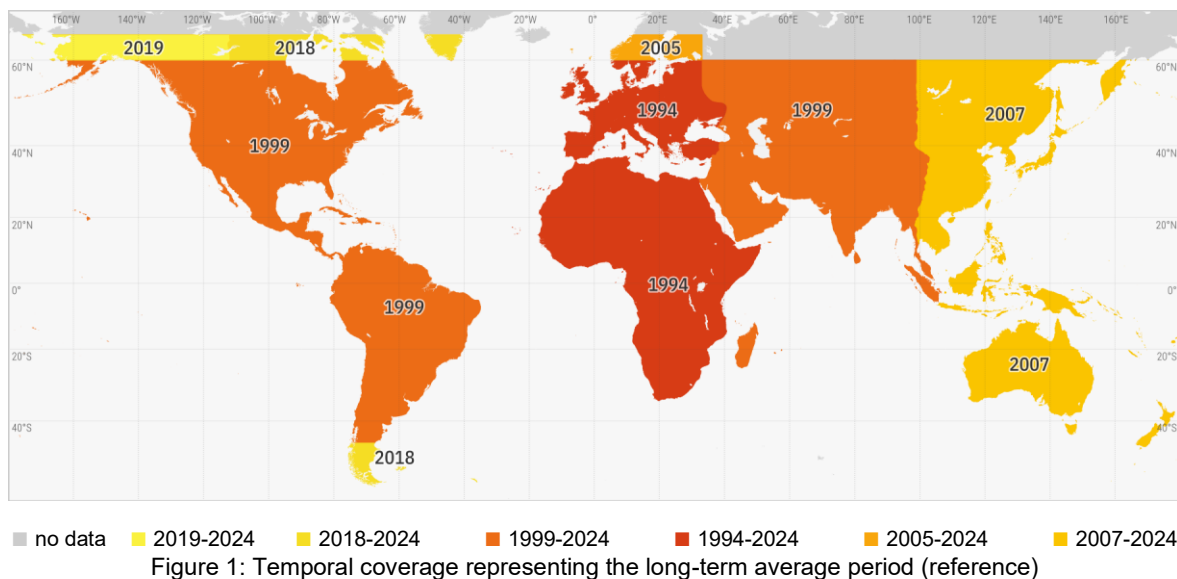
## YEARLY MAPS OF GLOBAL HORIZONTAL IRRADIATION

This Product Note accompanies the map images (see the snapshots in the *Annex*), accessible from the Solargis Monitor website: <https://solargis.com/products/monitor/>

Global Horizontal Irradiation (GHI) is the most important weather factor affecting the energy production of solar photovoltaic power plants. Therefore, it is critical to have reliable information on recent GHI for understanding whether PV power plants perform optimally or not.

For each region, two maps are provided for year 2025:

- **GHI yearly totals** [kWh/m<sup>2</sup>]: amount of solar energy received by a horizontal plane in a particular year. Warm colours (orange, red) indicate higher values, cold colours (green, blue) lower values.
- **GHI yearly difference** [%]: relative difference between the GHI yearly totals and the long-term average (a reference period) of the yearly totals. The long-term average is defined by the period from 1994/1999/2005/2007/2018/2019 (depending on the region, see Figure. 1) to the last complete year. Warm colours (orange, red) indicate more solar resource available in a particular year compared to the reference ("average") year. The opposite is indicated by cold colours (green, blue).



For solar energy sector, the maps are used for identification of the **yearly variability** of solar resource. Maps showing recent values can be used as a **preliminary and approximate reference**, and they can help to identify the need for a more detailed energy assessment for your PV power plant.

## SOLARGIS SOLAR RESOURCE DATABASE

Solargis database is organised in segmented data files that include grid (raster) data layers structured for a given period of time. **Table 1** shows technical features of Solargis solar resource data. Temporal coverage varies by region and the variability is given by historical availability and features of different satellite missions. At present, we are processing data from three meteorological data centres operating geostationary satellites at five key positions that cover by data entire Earth (valid data is not available for polar regions).

Table 1: Solargis solar resource data: Summary of technical features

| Parameters                             | Description  |
|--|--|
| <b>Spatial coverage</b>                | Land surface and coastal seas<br>between latitudes 60°N (65°N in America, Greenland and Scandinavia) to 60°S   |
| <b>Time representation</b>             | Time series since 1994/1999/2005/2007/2018/2019 depending on the satellite region<br>( <a href="#">Figure 1</a> )  |
| <b>Spatial (grid) resolution</b>       | Primary data resolution 2 to 6 km<br>Enhanced resolution by downscaling: <ul style="list-style-type: none"><li>- ~90 m for time series and TMY</li><li>- ~250 m for Solargis Prospect and Global Solar Atlas</li></ul>   |
| <b>Temporal resolution (time step)</b> | Primary time series: 10/15/30 minutes depending on the satellite region and historical operation<br>Derived data products: <ul style="list-style-type: none"><li>- Aggregated into hourly, daily, monthly and yearly values</li><li>- Synthetically generated solar resource data: 1-minute step</li></ul> |

For a more complete description of the modelling approaches and related uncertainties please refer to the [Solargis website](#).

## SOLARGIS MAPS TERMS OF USE

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You are free to share, adapt, use the maps but you must credit the source on the appropriate place as follows:

**Solar resource map © 2026 Solargis**

We also request you to provide a backlink to <https://solargis.com> website when appropriate. You also need to put a note if any changes to the original map were made.

## BACKGROUND ON SOLARGIS

Solargis is a technology company offering energy-related meteorological data, software and consultancy services to solar energy. We support industry in the site qualification, planning, financing and operation of solar energy systems for more than 20 years. We develop and operate a new generation high-resolution global database and applications integrated within Solargis® information system. Accurate, standardised and validated data help to reduce the weather-related risks and costs in system planning, performance assessment, forecasting and management of distributed solar power.

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## LEGAL INFORMATION

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Considering the nature of climate fluctuations, interannual and long-term changes, as well as the uncertainty of measurements and calculations, the company Solargis cannot take guarantee of the accuracy of estimates. The company Solargis has done maximum possible for the assessment of climate conditions based on the best available data, software and knowledge. Solargis® is the registered trademark of company Solargis. Other brand names and trademarks that may appear in this study are the ownership of their respective owners.

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**ISO 9001**

LL-C (Certification)

Solargis is ISO 9001:2015 certified company for quality management.

## **ANNEX**

### **Map snapshots of the GHI yearly totals in 2025 and difference from the long-term average**

Full resolution maps can be accessed from  
<https://solargis.com/products/monitor/>

