
Dataset name: iCUPE Datasets (DS) from Deliverable 3.2.2:

Datasets on Classification of artificial light sources in the Yamal Peninsula, Western Siberia

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This dataset and code are related to artificial light emissions in the arctic area. They are a supplement to the iCUPE report "Capabilities and limitations of advanced optical satellite missions for snow, vegetation, and artificial light source applications in Arctic areas". The dataset and code are published at the following permanent address: <http://doi.org/10.5880/GFZ.1.4.2019.007>

Code:

The data publication includes the python code "Arctic light pollution clustering script", which identifies areas with bright light emissions in the arctic. The script requires the monthly composite images from the Day/Night Band of the Visible Infrared Imaging Radiometer Suite produced by the Earth Observation Group as an input. These data are currently available here: https://eogdata.mines.edu/download_dnb_composites.html

Dataset:

The Radiance Light Trends app was used to identify artificial light sources on the Yamal Peninsula in Russia. In order to determine whether a location was lit, a threshold of 5 nW/cm² sr (displayed in

yellow in the Radiance Light Trends app) was defined. Visible band daytime imagery from Google Maps and Bing Maps was then used to identify what type of human activity was responsible for the light. The positions of the 78 lit areas and their light source classification are provided in a csv table and kmz file. The classes are defined as: industry, industry / flare, community, ship/ airport, road, water and unknown. This data publication includes the artificial light sources on the Yamal Peninsula (Western Siberia) in .csv and .kmz formats.

Data format:

Two formats are available, csv and kmz. The format for the csv file is as follows:

Index
Latitude
Longitude
Source class