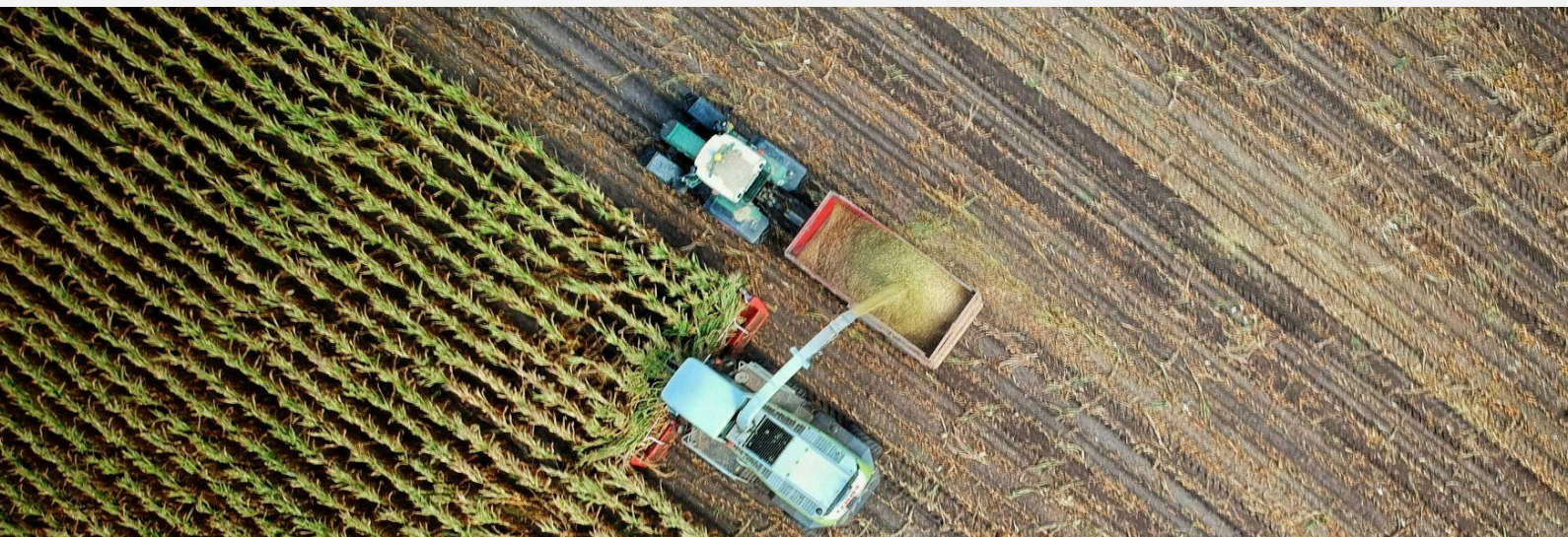# EARTH BLOX

Earth Blox
Dataset catalogue

The Earth Blox catalogue is designed to accelerate your work with quick, easy access to over 100 of the most reliable nature and climate datasets. Curated by our expert science team, the catalogue features data from globally recognised organisations known for their scientific excellence.

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Dataset catalogue

SRTM Digital Elevation Data 2000 (90m)
A near-global elevation map. Good for regional analysis of topography or visual hillshading. License: Public Domain

Sentinel-1 SAR GRD
Weekly near-global radar coverage of land surface and coastal zones. Suitable for mapping land cover, cropland classifications, detecting ships and sea ice, forest disturbance, etc. License: Open Access

Sentinel-2 MultiSpectral
Weekly near-global coverage of visible and infrared data of land surface and coastal zones, with missing data for cloudy areas. Suitable for land cover classification including cropland and forestry. License: Open Access

ESA WorldCover 2020 and 2021 (10m)
ESA land cover map for 2020/21 with global coverage. License: CC-BY-4.0

JRC Global Surface Water Mapping Layers (30m)
Maps of the location and temporal distribution of surface water from 1984 to 2021 License: Open Access

Biomass Carbon Density Maps 2010 (300m)
Provides global baseline estimates of above and below-ground biomass for the year 2010. License: Public Domain

Copernicus Global Land Cover (100m)
Coverage of the Earth's surface by type (forest, wetland, urban etc.) for years 2015 – 2019. Suitable for showing land cover at a regional scales. License: Open Access

CHIRPS Daily Precipitation (5.5km)
Global rainfall dataset for years 1981-present. License: Public Domain

MODIS Land Cover Type Yearly Global (500m)
Global land cover types at yearly intervals for years 2001-2021, derived from five different classification schemes (MOD12Q1.061). License: Open Access

ERA5 Land Monthly - ECMWF Climate Reanalysis (~11 km)
Collection of land variables for years 1981-present with a monthly revisit period, useful for exploring changes in climate. License: Open Access

MODIS Burned Area Monthly Global (500m)
Burned Area product from both Terra and Aqua satellites at 500m for years 2000-present with global coverage (MCD64A1.061). License: Open Access

FIRMS: Fire Information for Resource Management System (1km)
Data from the LANCE fire detection product in raster form for years 2000-2023 with global coverage, useful for early identification of fires and recent fires. License: Open Access

MODIS Terra Snow Cover Daily Global (500m)
The MOD10A1 V6 Snow Cover Daily Global 500m product contains snow cover, snow albedo, fractional snow cover, and quality assessment (QA) data License: Open Access

Dynamic World Landcover (10m)
Coverage of the Earth Surface by type (water, trees, crops etc.). Suitable for detailed land cover mapping and change over time. License: CC-BY-4.0

PALSAR(-2) Yearly Mosaic (25m)
Annual global radar imagery for most years between 2007 and 2021. Suitable for estimating forest biomass trends. License: Open Access

MODIS Terra Thermal Anomalies & Fire Daily Global (1km)
Daily fire masks at 1km, useful for identification, monitoring, and detecting changes in fire distribution and frequency (MOD14A1.061). License: Open Access

GLDAS-2.1: Global Land Data Assimilation System (~30km)
A range of land surface variables for years 2000-present with global coverage. License: Open Access

Earth Blox GEDI Global Biomass 2020 (30m)
Global forest biomass estimate based on canopy height for the year 2020. License: Open Access

JRC Monthly Water History (30m)
Maps of the location of surface water with global coverage for years 1984-2021. License: Open Access

Large Scale International Boundary Polygons, Simplified 2017
Large Scale International Boundary of countries in 2017 License: Public Domain

NEX-GDDP: NASA Earth Exchange Global Daily Downscaled Climate Projections
The NASA NEX-GDDP dataset is comprised of daily global climate scenarios up to 2100. License: Public Domain

WWF HydroATLAS Basins Level 10
Detailed hydro-environmental information about the world's watersheds at high spatial resolution. License: CC-BY-4.0

Global Canopy Height 2020 (10m)
A high-resolution canopy height model of the Earth for the year 2020. License: CC-BY-4.0

CHIRPS Pentad Precipitation (5.5km)
Global rainfall dataset for years 1981-present. WARNING: No correction for the length of pentads which vary with the days in a particular month. License: Public Domain

NASADEM Digital Elevation (30m)
A near-global elevation map using data from STRM augmented with other data to improve accuracy and fill in missing data. Good for regional analysis of topography or visual hillshading. License: Open Access

ERA5-Land Daily Aggregated - ECMWF Climate Reanalysis
Daily aggregates of ECMWF ERA5-Land hourly assests, providing a consistent view of a range of land variables at an enhanced resolution compared to ERA5. Daily aggregated data is available from 1950 to three months from real-time with global coverage. License: Open Access

VIIRS Stray Light Corrected Nighttime Day/Night Band Composites (500m)
Monthly global map of nighttime lights at 500m from 2014 – present, with a three month delay, with some cloud impact. Can be used as a proxy for population density and development. License: Public Domain

Sentinel-5P NRTI NO2 – Near Real-Time Nitrogen Dioxide (1.1km)
Near real-time global maps of atmospheric NO2 concentrations. License: Open Access

WWF HydroSHEDS Void-Filled DEM 3 Arc-Seconds (90m)
A near-global elevation map. Good for regional analysis of topography or visual hillshading. This data has been optimised for hydrological studies. License: Open Access

WorldPop Global Project Population Data (93m)
Population distrubtion for years 2000-2021 with global coverage. License: CC-BY-4.0

Forest proximate people (100m)
Estimate of human population within 1km of forests for 2019. Suitable for development and social impact studies, and modelling forests at risk. License: CC-BY-4.0

DMSP Annual Nighttime Lights Time Series Version 4 (1km)
Annual global map of nighttime lights visible from space for years 1992-2013. Useful for investigating population density and development. License: Public Domain

PALSAR(-2) Forest/Non-Forest Map: 3 Class (25m)
Annual forest/non-forest map for most years between 2007 and 2021 from radar data. Suitable for vegetation monitoring and deforestation estimates License: Open Access

MODIS Terra Land Surface Temperature and Emissivity 8-Day Average (1.2km)
Global 8-day land surface temperature (LST) on ~1.2km grid for years 2000-present (MOD11A2.061). License: Open Access

MODIS Terra Leaf Area Index and FPAR 8-Day (500m)
8-day composites of Fraction of Photosynthetically Active Vegetation (FPAR) and Leaf Area Index (LAI) for years 2000-2023 with global coverage. License: Open Access

MODIS Terra Net Primary Productivity (500m)
Gross and Net Primary Productivity (GPP and NPP) at 500m for years 2001-2022 with global coverage (MOD17A3HGF.061). License: Open Access

Global Friction Surface 2019 (~1km)
Global friction surface measuring travel speed based on land cover type for the year 2019. Useful for investigating accessibility and travel times of infrastructure or areas. License: CC-BY-4.0

MODIS Terra Vegetation Indices (250m)
Normalized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI) at 250m for years 2000-2023 with global coverage (MOD13Q1.061). License: Open Access

NEX-GDDP-CMIP6: NASA Earth Exchange Global Daily Downscaled Climate Projections
The NASA NEX-GDDP-CMIP6 dataset is comprised of global downscaled climate scenarios License: Various licenses, see link for more information

GCOM-C/SGLI Leaf Area Index (~5km)
Leaf area index in 3-4 day intervals for years 2021-present at medium resolution, useful for monitoring the health and density of vegetation. License: Open Access

Murray Global Tidal Wetland Change (30m)
Global extent of tidal wetlands and their change at 30m for years 1999-2019. License: CC-BY-4.0

RESOLVE Ecoregions 2017
The RESOLVE Ecoregions dataset, updated in 2017, offers a depiction of the 846 terrestrial ecoregions that represent our living planet. License: CC-BY-4.0

GRIDMET CONUS Drought Indices (4km)
Range of drought indices aggregates including PDSI and Palmer Z Index for years 1980-2018. US coverage only. License: Public Domain

WHRC Pantropical National Level Carbon Stock 2012 (500m)
Map of above-ground live woody biomass at 500m for tropical countries for the year 2012. License: Open Access

MODIS Aqua Net Primary Production (500m)
Annual Gross and Net Primary Productivity (GPP and NPP) for years 2001-2022 with global coverage. License: Open Access

MODIS Leaf Area Index and FPAR 4-Day (500m)
4-day composites of Fraction of Photosynthetically Active Vegetation (FPAR) and Leaf Area Index (LAI) for years 2002-2023 with global coverage (MCD15A3H.061). License: Open Access

MODIS Terra Vegetation Continuous Fields (250m)
Vegetation Continuous Fields (VCF) is a representation of surface vegetation cover at 250m for years 2000-2020 with global coverage (MOD44B.006). License: Open Access

MOD13A2.061 Terra Vegetation Indices 16-Day Global 1km
This dataset provides two Vegetation Indices (VI): the Normalized Difference Vegetation Index (NDVI) and the Enhanced Vegetation Index (EVI). License: Open Access

Ocean Color SMI: Standard Mapped Image MODIS Aqua Data (~4.6km)
Ocean colour and satellite ocean biology for years 2002-2022 with global coverage. Useful for exploring biology and hydrology of coastal zones and marine habitats. License: Public Domain

TOMS and OMI Merged Ozone Data (~100km)
The Total Ozone Mapping Spectrometer (TOMS) data on ~1 degree grid, for use in monitoring global and regional trends in total ozone over the past 25 years. License: Open Access

Allen Coral Atlas (ACA) - Geomorphic Zonation and Benthic Habitat - v2.0
The Allen Coral Atlas dataset maps the geomorphic zonation and benthic habitat for the world's shallow coral reefs at 5 m pixel resolution. License: CC-BY-4.0

Global Human Settlement Layers, Built-Up Characteristics (10m)
Human settlement classification including information such as building height and surface type with global coverage for the year 2018. License: Open Access

Global Human Settlement Layers, Built-Up Surface Grid (100m)
Distribution of built-up (BU) surface estimates for years 1975-2030 in 5 year intervals. License: Open Access

2020 Land Cover of North America (30m)
Land cover classification for North America for the year 2020. License: Public Domain

USGS National Map DEM (10m)
Seamless DEM dataset with full coverage for the continental US states and partial coverage of Alaska, generated with data from 1998-2020. License: Public Domain

USFS Landscape Change Monitoring System (30m)
Change, land cover, and land use outputs from the LCMS data suite with US coverage only for years 1985-2022. License: Open Access

PAD-US Protected Areas Database
The official national inventory of U.S. terrestrial and marine protected areas. License: Open Access

CIESIN Gridded Population of the World (~1km)
Distribution of human population for years 2000, 2005, 2010, 2015, and 2020. License: CC-BY-4.0

Sentinel-2: Cloud Probability
The S2 cloud probability created with the sentinel2-cloud-detector library. License: Open Access

Sentinel-5P: UV Aerosol Index (1.1km)
'Offline' (not near real-time), high-resolution imagery of the UV Aerosol Index (UVAI), also called the Absorbing Aerosol Index (AAI), which is useful for tracking the evolution of aerosol plumes of dust, ash, or smoke. License: Open Access

Sentinel-5P: Carbon Monoxide (1.1km)
'Offline' (not near real-time), high-resolution imagery of CO concentrations, which is useful for exploring combustion of fossil fuels, biomass burning, and atmospheric oxidation of methane and other hydrocarbons. License: Open Access

Sentinel-5P: Formaldehyde (1.1km)
'Offline' (not near real-time), high-resolution imagery of atmospheric formaldehyde (HCHO) concentrations, an intermediate gas in almost all oxidation chains of non-methane volatile organic compounds, leading eventually to carbon dioxide. License: Open Access

Sentinel-5P: Nitrogen Dioxide (1.1km)
'Offline' (not near real-time), high-resolution imagery of atmospheric NO2 concentrations. License: Open Access

Sentinel-5P: Sulfur Dioxide (1.1km)
'Offline' (not near real-time), high-resolution imagery of atmospheric sulfur dioxide (SO2) concentrations, which plays a role in chemistry on a local and global scale and its impact ranges from short-term pollution to effects on climate. License: Open Access

Sentinel-5P: Methane (1.1km)
'Offline' (not near real-time), high-resolution imagery of methane concentrations, which is the second most important contributor to the anthropogenically enhanced greenhouse effect after carbon dioxide. License: Open Access

JRC Global Map of Forest Cover for 2020 (10m)
Dataset showing state of standing forest cover by 31 December 2020, for EUDR compliance. License: Open Access

ALOS Global DSM (30m)
A global Digital Surface Model (DSM) produced with data from the Advanced Land Observing Satellite (ALOS) collected between 2006 and 2011. License: Open Access

HYCOM Hybrid Coordinate Ocean Model (c.9km)
An ocean general circulation model offering water temperature and salinity at various depths. License: Open Access

PALSAR-2 ScanSAR (25m)
A normalized SAR backscatter dataset from PALSAR-2 in broad area observation mode with an observation width of 350 km. License: Open Access

MODIS Terra Daily Surface Reflectance Daily (500m)
A daily surface reflectance dataset with seven optical bands (MOD09GA.061) License: Open Access

SMAP Soil Moisture (11km)
Global 3-hourly, level 4, surface and root zone soil moisture dataset License: Public Domain

NAIP: National Agriculture Imagery Program (1m)
Aerial imagery aquired during the agricultural growing seasons in the continental U.S.A. License: Public Domain

Hansen Global Forest Change (30m)
As per v.1.10 License: CC-BY-4.0

STAR Metric - Species Threat Abatement and Restoration (5km)
Allows quantification of how much species threat abatement and restoration activities contribute towards reducing extinction risk across the world. License: Commercial (at a cost)

Oil Palm Plantation Probability (10m)
Map giving per-pixel probability that the underlying area is in oil palm cultivation License: CC-BY 4.0

OpenLandMap Soil Texture Class (250m)
Soil texture classes (USDA system) for 6 soil depths License: CC BY SA 4.0

OpenLandMap Soil pH (250m)
Soil pH for 6 soil depths License: CC BY SA 4.0