RS/EO directory - what is it?

The Remote Sensing / Earth Observation directory is just another website (based on GitHub pages) where you can find some useful resources in Remote Sensing (RS) & Earth Observation (EO). From data sources, learning resources, software and processing platforms you can find many potentially useful things! 😄 (Almost) everything around here is alphabetically arranged so I am not organizing things according to my taste or preferences 😉 Let me know if you have suggestions to include here.

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Searching, visualizing and downloading RS/EO data

Free satellite data

Multi-platform

. ESA EOLi (ESA client for Earth Observation Catalogue and Ordering Services / not web-based) link

. Land Viewer EOS Data Analytics link

. NASA Earth Observations (NEO) link

. NASA EarthData search link

. Planet Explorer Beta link

. Sinergise EO Browser link

. USGS EarthExplorer link

. USGS GloVis link

. Vertex - Alaska Satellite Facility (ASF) Data Portal link

. Vito Data Portal link

Landsat

. USGS ESPA Landsat data ordering interface link

. EarthNow! Landsat Image Viewer link

MODIS

. MODIS Web Earth Observation Monitor (webEOM) link

Sentinel

. BOKU Sentinel-2 data pre-processing service link

. ESA SciHub Sentinels Data link

. IPSentinel - Sentinel data hub for Portugal link

. Sentinel-2 World cloudless mosaic browser link

. Theia/CNES Sentinel-2 data pre-processing service link

Commercial satellite data

. Airbus Satellite Imagery link

. ASTRO DIGITAL link

. DigitalGlobe link

. Planet Labs link

. SkyWatch / Techstars link

. Urthecast link

RS/EO-based data sets, data sources and 'high-level' products

Digital Elevation/Surface Models

. ASTER GDEM Elevation data link 1 link 2

. JAXA ALOS Global Digital Surface Model "ALOS World 3D - 30m" (AW3D30) link

Forest data layers

. Global 1km Forest Canopy Height ICEsat/GLAS link

. Global Forest Cover Change v-1.4 (2000-2016) / U. Maryland link 1 link 2

. Global PALSAR-2/PALSAR/JERS-1 Mosaic and Forest/Non-Forest map link

. Global Tree Density dataset link

. JRC Forest cover mapping (1990, 2000 and 2006) link

Fused data sets

. Harmonized Landsat / Sentinel data link

Land cover / land use

. GLOBELAND30 (Global Land Cover data at 30m) link

. USGS 30 Meter Global Land Cover link

Monitoring programmes/initiatives

. Global Forest Watch link

. Global Land Cover Facility (GLCF) / U Maryland / NASA / GOFC-GOLD link

. Global Observation for Forest Cover and Land Dynamics (GOFC-GOLD) link

. USGS Early Warning and Environmental Monitoring Program (EWEM) link

Fires

. Global Fire Emissions Database, Version 4.1 (GFEDv4) link

Multiple themes (land cover, vegetation, water, energy, climate, ...)

. Copernicus Land Monitoring Service and high-level products link

. ESA Climate Change Initiative (CCI) / Open Data Portal link

. EarthEnv (global environmental layers for assessing status and trends in biodiversity, ecosystems, and climate) link

. NOAA/EOG/NCEI (nighttime observations of lights and combustion sources worldwide) link

. SEDAAC datasets (mangroves, fires, urban extent, demography, etc) link

. WCMC-UNEP datasets (biodiversity, SST, ecoregions, protected areas, mangrove ecosystems, marine species, coral reefs, ...) link

Catalogs and databases of EO missions

. Dept. of Space / Indian Space Research Organization link

. ESA Satellite Missions Database link

. Gunter's Space Page (space missions) link

. ITC database of satellites and sensors link

. NASA missions link

. Observing Systems Capability Analysis and Review Tool (OSCAR / WMO) - List of satellites link

. Wikipedia List of Earth observation satellites link

Learning RS/EO

Courses

. Australian National University / Water & Landscape dynamics / Advanced remote sensing course resources link

. GIS and Earth Observation University courses link

. NASA Applied Remote Sensing Training (ARSET) link

. ESA course on FutureLearn: "*Earth Observation from Space: the Optical View*" link

. ESA course on "*Radar Remote Sensing*" at *eo-college* link

. ESA Radar Courses / Earth Online link

Books

. 2016 . *Land Resources Monitoring, Modeling, and Mapping with Remote Sensing* link

. 2016 . *Practical Handbook of Remote Sensing* link

. 2016 . *Remote Sensing and GIS for Ecologists - using Open Source Software* link

. 2016 . *Remote Sensing of Water Resources, Disasters, and Urban Studies* link

. 2016 . *Remotely Sensed Data Characterization, Classification, and Accuracies* link

. 2015 . *Remote Sensing Image Fusion* link

. 2015 . *Remote Sensing Time Series - Revealing Land Surface Dynamics* link

. 2014 . *Remote Sensing of Natural Resources* link

. 2013 . *Advances in Mapping from Remote Sensor Imagery - Techniques and Applications* link

. 2012 . *Remote Sensing of Land Use and Land Cover: Principles and Applications* link

. 2011 . *Advances in Environmental Remote Sensing - Sensors, Algorithms, and Applications* link

. 2011 . *Introduction to Remote Sensing, Fifth Edition* link

. 2010 . *Remote Sensing for Ecology and Conservation - A Handbook of Techniques* link

. 2008 . *Advances in Land Remote Sensing System, Modeling, Inversion and Application* link

. 2008 . *Earth Observation of Global Change - The Role of Satellite Remote Sensing in Monitoring the Global Environment* link

. 2006 . *Remote sensing of the environment: an Earth resource perspective* link

Tutorials and other useful websites

. Awesome Sentinel - a curated list of data endpoints, tools for CopernicusEU Sentinel data link

. Copernicus EU YouTube channel link

. Data recipes / Alaska Satellite Facility (ASF) link

. ESA EO Open Science YouTube channel link 1 link 2

. IDB (Index DataBase - database for remote sensing indices) link

. Intro2Radar by Iain Woodhouse link

. NASA - "The Electromagnetic Spectrum" website/booklet / Science Mission Directorate link

. SAR tutorial/glossary by ESA link

. SAR tutorial basics link

. SAR/EDU - Remote Sensing Education Initiative link

. Science Education through Earth Observation for High Schools (SEOS) Project tutorials link

. Tutorial: Fundamentals of Remote Sensing (*Natural Resources Canada*) link

RS & GIS open-source/free software

Free software

. DIVA-GIS link

. E-foto (digital photogrammetric workstation) link

. EnMAP-Box (software for processing hyper- and multispectral data) link

. ESA SNAP (Sentinel Application Platform) link

. ESA SNAP sen2cor (atmospheric correction module) link

. GeoVIS .net (software for photo-interpretation, classification and geo data management) link

. GRASS GIS link

. gvSIG link

. ILWIS link

. INTERIMAGE (open-source, knowledge-based framework for automatic image interpretation) link

. HyperMixTool (hyperspectral imagery tool) link

. MultiSpec (freeware multispectral image data analysis system) link

. Open Foris Geospatial Toolkit link

. Open Jump (open-source java-based GIS) link

. Orfeo Toolbox (OTB) link 1 link 2 link 3

. Optiks (expandable remote sensing and imagery analysis software platform) link

. OSSIM (advanced image processing and geospatial data fusion software) link

. polSARpro (polarimetric SAR data processing and educational tool) link 1 link 2

. PostGIS (support for geographic objects to the PostgreSQL object-relational database) link

. QuantumGIS link

. RSGISLib (Remote Sensing and GIS Software Library) link

. SAGA GIS link

. SPIRITS (Software for the Processing and Interpretation of Remotely Sensed Image Time Series) link

. SPRING link

. TerraView / TerraLib link

. uDig (Java solution for desktop GIS data access, editing, and viewing) link

. Whitebox GAT (Geospatial Analysis Tools) link

R packages

. Acquisition and Processing of MODIS Products (*MODIS*) link

. Bindings for the Geospatial Data Abstraction Library GDAL (*rgdal*) link

. Classes and Methods for Spatial Data (*sp*) link

. Creating and preprocessing MODIS time series (*MODIStsp*) link 1 link 2

. Interactive editing of spatial data in R (*mapedit*) link 1 link 2

. Interactive viewing of spatial objects in R (*mapview*) link 1 link 2

. Interface to Geometry Engine - Open Source GEOS (*rgeos*) link

. Landsat 8 Imagery Rescaled to Reflectance, Radiance and/or Temperature (*landsat8*) link

. MODIS data handling (*MODISTools*) archive-link

. Radiometric and topographic correction of satellite imagery (*landsat*) link

. Geographic Data Analysis and Modeling of raster data (*raster*) link

. Remote Sensing Toolbox (*RSToolbox*) link

. Simple Features for R / Encode and analyze spatial vector data (*sf*) link 1 link 2

. Tools for Reading and Handling Spatial Objects (*maptools*) link

Commercial software

. Agisoft PhotoScan (photogrammetric processing of digital images and 3D spatial model generation) link

. ESRI ArcGIS link

. Harris Geospatial ENVI link

. Hexagon Geospatial ERDAS IMAGINE link

. Clark Labs TerrSet/IDRISI link

. PCI Geomatics link

. Trimble eCognition link

Cloud-based platforms for EO data processing

Free cloud-based platforms

. Google Earth Engine link 1 link 2 link 3

. ESA Earth Science Data Cube (ESDC) link 1 link 2

. remap (large-scale ecosystem mapping and assessment) link

Commercial cloud-based platforms

. Descartes Lab link

. Raster Foundry link

. SpaceAnalyzer link