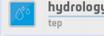
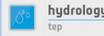
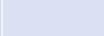


Platform	logo of platform	EO service name	Owner of Algorithm/Dataset	Country of service owner	logo of service owner	Information content	Description	Type of service	Supported EO missions	Temporal frequency of measurement	Coverage	Accuracies and constraints	API access (report standard)
Coastal TEP (https://www.coastal-tep.eu)		Water Mask	ACRI-ST	FR			Generates a water mask at 10 m resolution in GeoTIFF format. Input data: Sentinel 2 L1C product. Provided by CTEP.	on-demand	Sentinel-2		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		S2 Extract	ACRI-ST	FR			Extract pointwise values from Sentinel-2 Level1C or Level2A images from all spectral bands. Output recorded in a csv file. Provided by CTEP.	on-demand	Sentinel-2		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		SENZCOR 2.5.5	ACRI-ST	FR			ESA's Level 2A processor for Sentinel 2. Input product: Sentinel 2 Level 1C. Output product: Sentinel 2 Level 2A product. See http://step.esa.int/main/third-party-plugins-2/senzcor/	on-demand	Sentinel-2		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		Meet_C2_v2 of Atmospheric corrections above waters for the Sentinels 2	ACRI-ST	FR			Atmospheric Corrections for the Sentinels 2, extension of the Meet_C2 algorithm, Salliquin et al. 2017. Normalised reflectances, Chl-a, Euphotic depth, RGB L1, RGB L2, and cloud mask are provided as outputs.	on-demand	Sentinel-2		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		Co-registers two Sentinel-2 L1C or L2A images. Input: Sentinel 2 products 1 and 2. Output: co-registered RGB images in GeoTIFF format and change detection mask.	ACRI-ST	FR			Co-registers two Sentinel-2 L1C or L2A images. Input: Sentinel 2 products 1 and 2. Output: co-registered RGB images in GeoTIFF format and change detection mask. Provided by S. Clerc (ACRI-ST).	on-demand	Sentinel-2		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		Water Quality from GlobColour	PLANETEK	IT			Extract CHL1 or TSM or CHL2 parameters from a single GlobColour daily L3m product over a given AOI (default: Mediterranean sea). The result is composed by two GeoTIFF files: a numeric map and a thematic map (RGB). To be able to compute temporal statistics over several dates, you can use the "copyfrom" option and select the processing result from a previous run of the processor. Making so iteratively for a certain number of runs will allow to accumulate all the generated products in the results of the last run.	on-demand	GlobColour		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		COIN SNAP S1 processor	RSS	IT			This service provides geocoded composites of coherence and amplitude images from a pair of Sentinel-1 TOPSAR IW data pairs. SNAP is a common architecture for all Sentinel Toolboxes, which is ideal for Earth Observation processing and analysis.	on-demand	Sentinel-1		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		SNAC - SNAP S-1 GRD Amplitude Change	RSS	IT			The S-1 Amplitude change on-demand processing service provides RGB composite of backscattering from a pair Sentinel-1 GRD IW and EW products (e.g. pre- and post-event) processed in SNAP.	on-demand	Sentinel-1		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		ECOBAW	Céline Danilo	FR			estimation of the bathymetry from S2, comparison with ground truth data	on-demand	Sentinel-2		Global (tested over Hawaii)		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		Altimetry Match-up	CNR	IT			This processor computes the correlation coefficient between satellite altimetry and in-situ tidal gauge measurements (Nb: current version only Venice Acqua Alta Platform). Output: measurement time series and correlation map.	on-demand	altimetry satellite / IN-SITU data		Regional (Mediterranean)		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		WQ Spatial Statistics ext. shape	PLANETEK	IT			Calculate spatial statistics from a single raster. tif file over a set of pre-defined sub-areas provided as input shapefile	on-demand	GlobColour		Global		OGC WPS
Coastal TEP (https://www.coastal-tep.eu)		WQ Temporal Statistics	PLANETEK	IT			Calculates arithmetic mean, geometric mean and Percentile 90 from a set of files placed in the input folder. A GeoTIFF is generated for each statistic and optionally generating a RGB GeoTIFF applying a thematic color legend. Input files MUST HAVE EXACTLY the same AOI. Extension of input files needs to be specified.	on-demand	GlobColour		Global		OGC WPS
Food Security TEP (https://foodsecurity-tep.net/)		LAI (VISTA)	VISTA Gmb	DE		Leaf Area Index (LAI)	Leaf Area Index (LAI) measures the amount of leaf material in an ecosystem, which imposes important controls on photosynthesis, respiration, rain interception, and other processes that link vegetation to climate. Consequently, LAI appears as a key variable in many models describing vegetation-atmosphere interactions, particularly with respect to the carbon and water cycles	Systematic produced dataset over Pilot Areas / On demand	Sentinel-2 L1C	Systematic: every 5 days on-demand: up to 6-days	Systematic: Kenya On demand: Global		Systematic dataset: OGC WMS, WCS On demand: bespoke REST API
Food Security TEP (https://foodsecurity-tep.net/)		Cab (VISTA)	VISTA Gmb	DE		Leaf chlorophyll content (Cab)	Leaf chlorophyll content (Cab) is an indicator for crop nutrition status and photosynthetic capacity. Remote sensing of Cab plays an important role in crop growth monitoring, pest and disease diagnosis, and crop yield assessment	Systematic produced dataset over Pilot Areas / On demand	Sentinel-2 L1C	Systematic: every 5 days on-demand: up to 6-days	Systematic: Kenya On demand: Global		Systematic dataset: OGC WMS, WCS On demand: bespoke REST API
Food Security TEP (https://foodsecurity-tep.net/)		FAPAR (VITO)	VITO	BE		Fraction of Absorbed Photosynthetically Active Radiation	The Fraction of Absorbed Photosynthetically Active Radiation (FAPAR, sometimes also noted FAPAR or FPAR) is the fraction of the incoming solar radiation in the Photosynthetically Active Radiation spectral region that is absorbed by a photosynthetic organism, typically describing the light absorption across an integrated plant canopy. This biophysical variable is directly related to the primary productivity of photosynthesis and some models use it to estimate the assimilation of carbon dioxide in vegetation	Systematic produced dataset over Pilot Areas / On demand	Sentinel-2 L1C	Systematic: every 5 days on-demand: up to 6-days	Systematic: Kenya On demand: Global		Systematic dataset: OGC WMS, WCS On demand: bespoke REST API
Food Security TEP (https://foodsecurity-tep.net/)		FCOVER (VITO)	VITO	BE		Fraction of Vegetation Cover	The Fraction of Vegetation Cover (FCover) corresponds to the fraction of ground covered by green vegetation. Practically, it quantifies the spatial extent of the vegetation. Because it is independent from the illumination direction and it is sensitive to the vegetation amount, FCover is a very good candidate for the replacement of classical vegetation indices for the monitoring of ecosystems.	Systematic produced dataset over Pilot Areas / On demand	Sentinel-2 L1C	Systematic: every 5 days on-demand: up to 6-days	Systematic: Kenya On demand: Global		Systematic dataset: OGC WMS, WCS On demand: bespoke REST API
Food Security TEP (https://foodsecurity-tep.net/)		LAI (VITO)	VITO	BE		Leaf Area Index (LAI)	Leaf Area Index (LAI) measures the amount of leaf material in an ecosystem, which imposes important controls on photosynthesis, respiration, rain interception, and other processes that link vegetation to climate. Consequently, LAI appears as a key variable in many models describing vegetation-atmosphere interactions, particularly with respect to the carbon and water cycles	Systematic produced dataset over Pilot Areas / On demand	Sentinel-2 L1C	Systematic: every 5 days on-demand: up to 6-days	Systematic: Kenya On demand: Global		Systematic dataset: OGC WMS, WCS On demand: bespoke REST API
Food Security TEP (https://foodsecurity-tep.net/)		NDVI (VITO)	VITO	BE		Normalized difference vegetation index (NDVI)	The normalized difference vegetation index (NDVI) is a simple graphical indicator that can be used to analyse remote sensing measurements, typically but not necessarily from a space platform, and assess whether the target being observed contains live green vegetation or not.	Systematic produced dataset over Pilot Areas / On demand	Sentinel-2 L1C	Systematic: every 5 days on-demand: up to 6-days	Systematic: Kenya On demand: Global		Systematic dataset: OGC WMS, WCS On demand: bespoke REST API
Forestry TEP (https://f-tep.com/)		Forest cover/S1	F-TEP - VTT	Finland		Mapping of forest or land cover/Sentinel-1	Land cover mapping with image classification trained by Random Forest model. Based on the random forest algorithm as implemented in the Orfeo toolbox by CNES.	on-demand	S1	6 days	Global	20m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Forest cover/S2	F-TEP - VTT	Finland		Mapping of forest or land cover/Sentinel-2	Land cover mapping with image classification trained by Random Forest model. Based on the random forest algorithm as implemented in the Orfeo toolbox by CNES.	on-demand	S2	5 days	Global	10m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Forest cover/General	F-TEP - VTT	Finland		Mapping of forest or land cover with an EO image as a geoTIFF file	Land cover mapping with image classification trained by Random Forest model. Based on the random forest algorithm as implemented in the Orfeo toolbox by CNES.	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Forest cover change	F-TEP - VTT	Finland		Bi-temporal forest cover change	Forest change mapped by difference in the red band between two Sentinel-2 images.	on-demand	S2	5 days	Global	10m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Vegetation indices	F-TEP - VTT	Finland		Vegetation indices maps	Radiometric indices for single-tile Sentinel-2 images	on-demand	S2	5 days	Global	10m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Forest biomass	F-TEP - VTT	Finland		Forest biomass estimation	Stem volume calculation from multi-temporal Sentinel-1 data and a pre-defined biomass model	on-demand	S1	6 days	Global	20m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		S1stack	F-TEP - VTT	Finland		Stack of same-geometry images from Sentinel-1	Mosaic images along orbit and stack acquisition days as image bands	on-demand	S1	6 days	Global	20m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Monteverdi	F-TEP - VTT	Finland		Interactive Monteverdi session	An interactive session using the graphical Monteverdi application by CNES (via F-TEP in the browser on the user's computer)	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		QGIS	F-TEP - VTT	Finland		Interactive QGIS session	An interactive session using the open-source GIS (Geographic Information System) application QGIS (via F-TEP in the browser on the user's computer)	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		SNAP	F-TEP - VTT	Finland		Interactive SNAP session	An interactive session using the ESA-supplied Sentinel exploitation application SNAP (via F-TEP in the browser on the user's computer)	on-demand	N/A	N/A	Global	5-60m	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		Environ	VTT	Finland		Environ pre-processing package	Data extraction, calibration, and rectification package for many satellite image data types including Sentinel-2 and Landsat 7 and 8.	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		AutoChange	VTT	Finland		AutoChange (automatic change detection between two optical images)	Change detection between two multispectral images from (preferably) the same satellite system. The service is based on VTT-developed AutoChange methodology, which utilizes K-means clustering and subdivision of clusters of the first image.	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		ProbaUI	VTT	Finland		Interactive ProbaUI session (classification by the Probability method)	An interactive session using the VTT-developed application ProbaGUI (via F-TEP in the browser on the user's computer)	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		ProbaCluster	VTT	Finland		Unsupervised clustering of a multispectral EO image	K-means clustering. The service is part of the VTT-developed Probability classification and estimation chain.	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)

Forestry TEP (https://f-tep.com/)		ProbaEstimates	VTT	Finland		Continuous-valued estimates (forest or other spatial) of variables	Weighted average of (forest or other) spatial variables using clusters from ProbaCluster and cluster content data from ProbaModel. The service is part of the VTT-developed Probability classification and estimation chain.	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Forestry TEP (https://f-tep.com/)		ProbaModel	VTT	Finland		Variable averages for clusters	Compute variable (forest or other spatial) averages for clusters from ProbaCluster using ground reference data. The service is part of the VTT-developed Probability classification and estimation chain.	on-demand	N/A	N/A	Global	N/A	WPS (F-TEP internal)
Geohazards TEP (https://geohazards-tep.eu)		MPIC OPT		FR		Horizontal displacements maps	The MPIC-OPT (Multiple Pairwise Image Correlation of Optical Image Time-series) service enables the processing of optical image time-series for the monitoring of persistent surface deformation (continuously moving landslides and glaciers). It enables the on-demand processing of time series of Sentinel-2 (Pleïades and Spot6/7 in its VHR0 version) if time series (of at least 5 dates) are available over an area. It comprises three components for i) the measurement of sub-pixel displacement among one or multiple optical image pairs (sub-pixel image correlation), ii) the correction outlier and geometric residuals and iii) a component for multi-temporal fusion. It is used to measure large terrain motion phenomena such as landslides, earthquakes, lava flows and glacier movements.	on-demand	Sentinel-2 Pleïades (planned 2019)	Pleïades-2: 3 days Pleïades: upon request (daily)	Global	Typically cm to m (sub-pixel accuracy); depends on motion type, vegetation, cloud coverage and spatial resolution of the input images.	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		DSM -OPT		FR		Digital Surface Models from optical stereo and tri-stereo images	This service allows to generate digital surface models (DSM) and orthoimages from stereo- and tri-stereo satellite images acquired by the VHR Pleïades satellites. The service has two user modes (simple, expert). The simple mode allows the generation of DSM for pre-defined topographies/landscapes (plain relief, hilly relief, mountain relief, urban environment); the expert mode allows the generation of DSM with the possibility to tune the algorithm parameters. Additional capabilities such as hillshade and slope derivatives calculation are offered. The service builds on the open source MicMac library.	on-demand	Pleïades stereo and tri-stereo, Primary	Pleïades: upon request (daily)	Global	Typically 50 cm to 1 m in elevation. Stereo and tri-stereo Pleïades pairs acquired with convergence angles in the range 5° to 15°, and the absence of clouds.	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		ALADIM		FR		A database of polygons corresponding to an EO derived landslide inventory	This service allows the automatic mapping of landslides triggered by large forcing events (e.g. rainstorms, earthquakes). It currently supports the use of pairs of Sentinel-2 images, and current 2019 of pairs of multi-spectral + panchromatic orthoimages. The images should be pre- and post- the triggering event.	on-demand	Sentinel-2 Pleïades + Spot6/7 (planned 2019)	Sentinel-2: 3 days Pleïades: upon request (daily)	Global	The accuracy of the automatic detection depends on the quality of the initial training set (landslide polygons) introduced to learn the model. The completeness of the inventory map depends as well on the image used as input.	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		FASTVEL		ES		Differential Interferograms (IFG mode) or PSI-based mean displacement velocity maps (MTA mode) f	The output of this service can help in assessing suitability for building of specific areas and risks of landslides. This service generates differential interferograms (IFG mode) or PSI-based mean displacement velocity maps (MTA mode) from a set of Sentinel-1 (SM and IW), ENVISAT-ASAR (RAW and SLC) or ERS (RAW and SLC) images.	on-demand	Envisat, ERS, Sentinel-1 data as follows: Envisat ASAR Image Mode Level 0 (RAW) ERS 1/2 Level 0 (RAW) Sentinel-1 Level 0 (RAW) ERS 1/2 Level 1 (SLC) Sentinel-1 Level 1 (SLC IW/EW modes)	- ERS & Envisat ASAR: Maximum temporal frequency of 35 days. - Sentinel-1: Maximum temporal frequency of 6 days	Depending on the used satellite and area of interest: - ERS & ENVISAT: Maximum of 100 x 100 Km. - Sentinel-1A: Maximum of 250 x 250 Km.	90mx90m (ERS/ENVISAT) 40m x 40m (Sentinel-1) pixel spacing, accuracy typically millimetric but depends on the land cover and dataset distribution, minimum number of 25 images	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		Sentinel-1 High-Resolution InSAR Browse Service		DE		Automatic and systematic provision of InSAR products over volcanic areas:	The primary focus is on geohazard science users exploiting InSAR. The continuous systematic approach to processing allows for inter- and post-seismic, and pre- and post-eruption monitoring. Tectonics geohazard users can view co-seismic interferograms directly after an event in order to determine event magnitude, nature and extent, to assess damage, or to identify acquisitions for a refined analysis. General InSAR users can view coherence products to assess the feasibility of Sentinel-1 interferometry over their area of interest.	systematic	Sentinel-1 SLC pairs	InSAR Revisit Time, S1A 12 days (ASC+DES) 24 days (ASC+DES)	List of selected active volcanoes	Interferometric product at 50m resolution and 25m pixel spacing	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		Sentinel-1 Medium-Resolution InSAR Browse Service		DE		Automatic and systematic provision of InSAR products over the global tectonic areas:	The primary focus is on geohazard science users exploiting InSAR. The continuous systematic approach to processing allows for inter- and post-seismic, and pre- and post-eruption monitoring. Tectonics geohazard users can view co-seismic interferograms directly after an event in order to determine event magnitude, nature and extent, to assess damage, or to identify acquisitions for a refined analysis. General InSAR users can view coherence products to assess the feasibility of Sentinel-1 interferometry over their area of interest.	systematic	Sentinel-1 SLC pairs	InSAR Revisit Time, S1A 12 days (ASC+DES) 24 days (ASC+DES)	Global	Interferometric product at 100m resolution and 50m pixel spacing	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		P-SBAS Sentinel-1 TOPSAR		IT		(Default) LOS Displacement time series; Mean LOS Velocity; Temporal Coherence; Average scatterer elevation (Topography). Format: CSV. (On-demand only) Wrapped Interferograms; Unwrapped Interferograms; Spatial coherence; Map of LOS vector. Format: GeoTIFF	Systematic or on-demand service to accomplish the continuous monitoring of Earth's surface deformation on critical areas by exploiting Sentinel-1 data. Service outputs are mean deformation velocity maps and time series generated in a systematic and fully unsupervised way through the SBAS InSAR algorithm applied to Sentinel-1 data.	on-demand and systematic	Sentinel-1 SLC	Systematic: every 6 days on-demand: up to 6-days	Global	80x80m	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		DIAPASON InSAR - StripMap(SM)		FR/ES		Interferograms, amplitude and coherence maps	DIAPASON is an InSAR tool suite developed by the French Space Agency (CNES) and maintained by TRE Altamira. This service performs an InSAR workflow on ENVISAT, ERS (RAW and SLC) or Sentinel-1 (SLC) stripmap data, producing interferograms, amplitude and coherence maps. To run this service, specify a master and a slave image of the same mission.	on-demand	Envisat ASAR ERS (RAW and SLC) Sentinel-1 StripMap SLC		Global	90m x 90m pixel spacing, in case of PHUW the accuracy depends on the coherence	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		DIAPASON InSAR Sentinel-1 TOPSAR		FR/ES		Interferograms, amplitude and coherence maps	DIAPASON is an InSAR tool suite developed by the French Space Agency (CNES) and maintained by TRE Altamira. This service performs an InSAR workflow on Sentinel-1 TOPSAR (IW,EW) data, producing interferograms, amplitude and coherence maps. To run this service, specify master and slave Sentinel-1 SLC images.	on-demand	Sentinel-1 SLC		Global	40m x 40m pixel spacing, in case of PHUW the accuracy depends on the coherence	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		GMTSSAR ENVISAT		US/IT		amplitude of interferogram phase of interferogram correlation of interferogram	GMTSSAR is an open source (GNU General Public License) InSAR processing system. This service provides standard 2-pass processing of a master product against one or more slave products.	on-demand	ERS-1/2 SAR Envisat ASAR Image Mode Level 1 (ASA_IMS_1P)		Global		OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		GMTSSAR Sentinel-1		US/IT		amplitude of interferogram phase of interferogram correlation of interferogram	GMTSSAR is an open source (GNU General Public License) InSAR processing system. This service provides standard 2-pass processing of a master product against one or more slave products.	on-demand	Sentinel-1 SLC		Global		OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		STEMP-L8		IT		surface temperature map	Land surface temperature map (Celsius degrees) obtained by multi-spectral optical sensors (LANDSAT8) generated in GeoTIFF format. Supported sensor: LANDSAT-9	systematic	Landsat-8 L1B ASTER L1T		List of selected active volcanoes	Surface temperature map at 90 m of spatial resolution	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		STEMP-S3		IT		surface temperature map	Land surface temperature map (Celsius degrees) obtained by multi-spectral optical sensors (Sentinel-3 SLSTR) generated in GeoTIFF format. Supported sensor: Sentinel-3 It works on a fixed list of volcanoes world-wide.	systematic	Sentinel-3 SLSTR L1		List of selected active volcanoes	Surface temperature map at 1km of spatial resolution	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		STEMP-S2		IT		Hot spots map	ERUPTIVE HOT SPOT detection obtained by multi-spectral optical sensors (Sentinel-2) generated in GeoTIFF format. Supported sensor: Sentinel-2 It works on a fixed list of volcanoes world-wide.	on-demand	Sentinel-2 MSI L1C		Global	Hot spot detection map at 20 m of spatial resolution	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		VEGAN Hot Spots Maps		FR		Hot spots map	Hot Spot Maps. This service shows high temperature phenomena, such as burnt areas by fires/lava flows.	systematic	Sentinel-2 MSI L1C		Global	Hot spot detection map at 20 m of spatial resolution	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		VEGAN Vegetation Vigor Maps		FR		Vegetation vigor maps (NDVI)	Vegetation Vigor Maps. This service shows instant greenness of the vegetation through NDVI.	systematic	Sentinel-2 MSI L1C		Global		OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		ADORE DORIS interferometric processor		NL/IT		co-seismic interferogram	ADORE stands for Automated DORIS Environment. DORIS is a standalone program that can perform most common steps of the interferometric radar processing in a modular set up. DORIS handles SLC (Single Look Complex) data to generate interferometric products, and can be used to georeference unwrapped products. This service supports processing of ENVISAT ASAR Image Mode Level 1 (ASA_IMS_1P) data	on-demand	Envisat ASAR Image Mode Level 1 (ASA_IMS_1P)		Global		OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		MineSAR		PL		alerts map	Automatic detection and analysis of ground deformations within large areas based on the results of satellite SAR data processing	on-demand	Sentinel-1 SLC		Global		OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		COIN – Coherence and intensity change for Sentinel-1		IT		Coherence and Intensity RGB Composite Master and Slave Amplitude Change RGB Composite Interferometric Coherence Product Backscatter Intensity average in dB Backscatter Intensity difference in dB Master and Slave image SAR backscatter calibrated and terrain corrected in dB	The COIN (Coherence and Intensity change for Sentinel-1) service provides geocoded composites of coherence and amplitude images from a pair of Sentinel-1 TOPSAR IW data pairs. SNAP is a common architecture for all Sentinel Toolboxes, which is ideal for Earth Observation processing and analysis.	On-Demand	Sentinel-1 IW SLC	>6days (minimum Sentinel-1 revisit time within the same track)	Global (Sentinel-1 IW coverage)	Global (Sentinel-1 IW coverage)	OGC WFS
Geohazards TEP (https://geohazards-tep.eu)		SNAC - SNAP S-1 GRD Amplitude Change		IT		Master and Slave Amplitude Change RGB Composite Master and Slave image SAR backscatter calibrated and terrain corrected in dB	The S-1 Amplitude change on-demand processing service provides RGB composite of backscattering from a pair Sentinel-1 GRD IW and EW products (e.g. pre- and post-event) processed in SNAP.	On-Demand	Sentinel-1 IW and EW GRD	>6days (minimum Sentinel-1 revisit time within the same track)	Global (Sentinel-1 IW and EW coverage)	Global (Sentinel-1 IW and EW coverage)	OGC WFS

Geohazards TEP (https://geohazards-tep.eu)		COMBI - Band Combination	RSS Team	IT		RGB Composite with user defined source bands	The Band Combination on-demand processing service provides RGB band combination from user defined bands of single or multiple EO data products. All bands are in their native format (no radiometric correction applied) thus can serve only for fast screening of the data, not for further processing.	On-Demand	Sentinel-2 L1C UK-DMC2 L1T Komsat-2/3 L1G Landsat-8 L1 Pleiades ORTHO SPOT-6/7 ORTHO VRSS1 L2B RapidEye L3A GF2 L2A Kanopus-V MSS Resurs-P MSS Sentinel-1 GRD RadarSat-2 SGF Komsat-5 L1D Alos-2 L1.5 TerraSAR-X EEC	The temporal frequency is mission dependent. (Except for Sentinel-1, Sentinel-2, Landsat 8, the products availability on the hosting platform is currently linked to Disaster Charter activations.)	Global	Global	OGC WPS	
Geohazards TEP (https://geohazards-tep.eu)		RASTER - Full Resolution Rasterization	RSS Team	IT		Visualization product based Optical or SAR EO data at full resolution (RGB composite for Optical data and single band product Sigma0 in dB for SAR)	This service allows to generate full resolution RGB (optical) and single-channel (SAR) GeoTIFF images from EO data products. The output GeoTIFF is displayed in geobrowser with the possibility to access product metadata and download original dataset to be used in further processing.	On-Demand and Systematic (currently triggered by Disaster Charter activations and data availability on COS2 system)	Sentinel-2 L1C UK-DMC2 L1T Komsat-2/3 L1G Landsat-8 L1 Pleiades ORTHO SPOT-6/7 ORTHO VRSS1 L2B RapidEye L3A GF2 L2A Kanopus-V MSS Resurs-P MSS Sentinel-1 GRD RadarSat-2 SGF Komsat-5 L1D Alos-2 L1.5 TerraSAR-X EEC	The temporal frequency is mission dependent. (Except for Sentinel-1, Sentinel-2, Landsat 8, the products availability on the hosting platform is currently linked to Disaster Charter activations)	Global	Global	OGC WPS	
Hydrology TEP (https://hydrology-tep.eu)		WOIS	TIGER-NET project (IsardSat)	NA		Several EO products: water quality, surface water, land degradation index, desertification process, long term change analysis	monitoring, assessing and inventorying water resources	on-demand	S1,S2,S3	Sentinel-1: 6 days Sentinel-2: 5 days Sentinel-3: 2 days	Global	Sentinel-1: 5m Sentinel-2: 10m Sentinel-3: 300m	OGC WPS	
Hydrology TEP (https://hydrology-tep.eu)		Flood monitoring	Altamira	Spain		Map with the required output (water mask, flood frequency...)	generate water mask, water frequency maps, flood maps, flood frequency maps and produce statistics	on-demand	S1,S2	Sentinel-1: 6 days Sentinel-2: 5 days	Global	Sentinel-1: 5m Sentinel-2: 10m	OGC WPS	
Hydrology TEP (https://hydrology-tep.eu)		Hydrological modelling	SMHI	Sweden		Assimilation of EO data in hydrological models	service providing data on river discharge, lake outflow, water level in lakes and rivers, as well as land surface water balance components (precipitation, evapotranspiration, soil moisture) within the area covered by the model domain. The service generates maps of different Water Quality parameters: Chlorophyll, Total Suspended Solids and Colored Dissolved Organic Matter based on Organic Absorption	on-demand	S2	Sentinel-2: 5 days	Regional	Sentinel-2: 10m	OGC WPS	
Hydrology TEP (https://hydrology-tep.eu)		Water quality	EOMAP	Germany		Assess a variety of physical and biological parameters in aquatic ecosystems over large areas	nominal tracks from Jason, AltiKa, and Sentinel-3 can be activated as layers, in order to perform a visual inspection of the water bodies that are crossed by tracks. The user selects tracks over the defined waterbody and generates the water level time series	on-demand	S2,L8	L8: 16 days Sentinel-2: 5 days	Regional	L8: 30m Sentinel-2: 10m	OGC WPS	
Hydrology TEP (https://hydrology-tep.eu)		Water level	IsardSAT	Spain		Time series of water level of lakes and rivers	provides the extent and temporal evolution of permanent and non-permanent water bodies in the form of detailed mapping, time series and evolution of water bodies' surface in time	on-demand	S3 altimetry data	Sentinel-3: 1 day	Global	Sentinel-3: 300m	OGC WPS	
Hydrology TEP (https://hydrology-tep.eu)		Small water body mapping	Altamira	Spain		Time series and maps of water bodies temporal evolution		on-demand	S1,S2	Sentinel-1: 6 days Sentinel-2: 5 days	Global	Sentinel-1: 5m Sentinel-2: 10m	OGC WPS	
Polar TEP (http://www.polar-tep.io)		Iceberg detection - IDET	C-CORE	Canada		Detects icebergs and calculates basic features. Input: zipped Sentinel-1 image; output: zipped ESRI shapefile.	The Iceberg detection processor (IDET) detects icebergs in Sentinel-1 imagery and computes basic statistics for each target such as area and maximum length. The detection is based on Constant False Alarm Rate (CFAR) approach, frequently used for detection of bright targets on dark background. It is applied in a moving window taking into account the local background statistics.	on-demand	Sentinel-1				OGC WPS	
Polar TEP (http://www.polar-tep.io)		Iceberg trajectory - IBT	Canadian Ice Service	Canada		Calculates iceberg drift and deterioration using IDET iceberg inputs and corresponding DMI environmental forcing data	The iceberg drift and deterioration processor will predict the future location and size of icebergs, given initial iceberg information and environmental forcing information. Users provide initial iceberg information including location, size and valid time and can choose the duration of the forecast and the output interval.	on-demand	Sentinel-1				OGC WPS	
Polar TEP (http://www.polar-tep.io)		Iceberg areal density - IDEN	C-CORE	Canada		Calculates iceberg density in grid of user specified cell size. Input: zipped Iceberg detection output (targets and footprint)	The Iceberg areal density processor calculates the count and iceberg density per km ² in user specified grid.	on-demand	Sentinel-1				OGC WPS	
Polar TEP (http://www.polar-tep.io)		Times series - TS	DMI	Denmark		Reads a series of zipped netCDF file and output time series as zipped .png	The time series processor reads data from one or more netcdf files and creates a time series(s) for each individual point(s). Velocity parameters (Wind, ice drift, and ocean currents) are split in two plots (eastward and northward). Waves include three parameters and therefore also three sub-plots. These are Wave speed, wave direction and the peak period. All other variables yields one figure. In addition to the image files a shape file is also created for display on the map of the portal. Input files are all snapshots and the timing and type of these should correspond with the data source variable, the start and end time. If these are not chosen to match the time series will be empty.	on-demand	Sentinel-1					OGC WPS
Polar TEP (http://www.polar-tep.io)		2dmap processor - 2DM	DMI	Denmark		Reads a netCDF file and output maps of png, jpg or pdf	The 2D Map processor creates maps for a given region based on gridded input from a netCDF file. The aim is to produce png maps that are of a quality that can be used for outreach publication etc. All vector fields (wind speed, wave height and direction, current speed and ice drift) shown as magnitude (colors) and arrows that shows the direction with amplitude 1.	on-demand	Sentinel-1					OGC WPS
Polar TEP (http://www.polar-tep.io)		Iceberg calving	DTU/DMI	Denmark		Calculates volume output from selected glaciers. Input: ESA CCI Ice sheet velocities; output: zipped ESRI shapefile.	Calculates volume output from selected glaciers. Input: ESA CCI Ice sheet velocities; output: zipped ESRI shapefile.	on-demand	n/a					OGC WPS
Polar TEP (http://www.polar-tep.io)		Iceberg_warning_zone	Canadian Ice Service	Canada		Reads iceberg number densities and derives risk map including sea-ice cover - output as colored geotiff	Reads iceberg number densities and derives risk map including sea-ice cover - output as colored geotiff	on-demand	n/a					OGC WPS
Polar TEP (http://www.polar-tep.io)		Iceberg consecutive association - IBA	C-CORE	Canada		Matches trajectory forecasts to icebergs detected in next image in time series or matches consecutive trajectory forecasts.	Matches trajectory forecasts to icebergs detected in next image in time series or matches consecutive trajectory forecasts.	on-demand	Sentinel-1					OGC WPS
Polar TEP (http://www.polar-tep.io)		Iceberg trajectory animation - IBAM	DMI	Denmark		Reads the trajectories from a IBT output. Input one trajectory file. Creates a mp4 and a gif file	Reads the trajectories from a IBT output. Input one trajectory file. Creates a mp4 and a gif file	on-demand	Sentinel-1					OGC WPS
Polar TEP (http://www.polar-tep.io)		SnowSense S1 Preprocessor	VISTA Gmb	Germany		Performs Terrain Correction (Range Doppler) with local incidence angle calculation. Input: zipped Sentinel-1 image; output: GeoTIFF.	Performs Terrain Correction (Range Doppler) with local incidence angle calculation. Input: zipped Sentinel-1 image; output: GeoTIFF.	on-demand	Sen					OGC WPS
Polar TEP (http://www.polar-tep.io)		Iceberg detection S1 dual-pol HHHV	DMI	Denmark		Detecting icebergs in Sentinel dual-pol HHHV images, supports EW and IW scanning modes	Detecting icebergs in Sentinel dual-pol HHHV images, supports EW and IW scanning modes	on-demand	Sentinel-1					OGC WPS
Urban TEP (https://urban-tep.eu)		WSF	DLR	DE		Binary map with information on urban settlements	World Settlement Footprint: human settlements pattern in urban and rural environments	Stand alone dataset	S1 / S2 / L1		Global	10 m	OGC WMS	
Urban TEP (https://urban-tep.eu)		GUF	DLR	DE		Binary map with information on urban settlements	Global Urban Footprint: human settlements pattern in urban and rural environments	Stand alone dataset	L5/7, S2		Global	12 m	OGC WMS	
Urban TEP (https://urban-tep.eu)		GUF - Density	DLR	DE		Impervious surface map	The Global Built-up Density 2012 (GUF-DenS 2012) product provides information about the percentage of sealed surface or greenness per raster cell. This dataset is limited to areas which are classified as built-up in the GUF 2012 layer and is derived at a spatial resolution of about 30 m by means of optical Landsat imagery.	Stand alone dataset	L5/7		Global	30 m	OGC WMS	
Urban TEP (https://urban-tep.eu)		Timescan	DLR	DE		31 bands - 30 bands related to indices statistics (6 indices x 5 statistics) plus one band providing the number of valid input acquisitions per pixel.	higher-processing level baseline products providing a harmonized representation of the spectral (optical data) or backscatter-related (SAR) properties over a defined period of time. Cloud-free dataset based on statistical ranges of 6 indices (NDI, MNDVI, NDVI, ND-b5/b7, ND-b4/b2, ND-b3/b2) for such aspects as the state of vegetation, water cover, or bare ground (e.g., built-up, rock, soil). For each of the indices temporal statistics are determined based on the entire period from 1989 to 1991, including the maximal, minimal, mean, stdev and mean slope values.	Stand alone Dataset for Landsat, on demand for S1 and S2	L8,S1,S2	L8: 16 days Sentinel-1: 6 days Sentinel-2: 5 days	Global	L8: 30m Sentinel-2: 10m	Dataset: OGC WM On demand processing: OGC WPS	
Urban TEP (https://urban-tep.eu)		Geotagged Tweets	DLR	DE		Geotagged Tweets for a 10-months period published in 2016 (rasterized)	Geotagged Tweets for a 10-months period published in 2016. The data was collected via a REST API that provides programmatic access to read and write Twitter data.	Stand alone dataset	S2		Global		OGC-WMS	

Urban TEP (https://urban-tep.eu)		Regional LU-LC	Gisat	CZ		LU-LC	This product represents seamless extent of land use / land cover classes as extracted from source satellite imagery for Asian urban zones as of 2010. The full data set contains 2 Land Use / Land Cover (LULC) status layers, each for reference year stipulated in the file name, and LULC Changes layer showing LULC changes and flows as identified between reference years. These represent up-to-date (2010) and retrospective state of the Land Use / Land Cover in given cities.	Stand alone datasets			Regional (Cities SE-Asia)		OGC-WFS
Urban TEP (https://urban-tep.eu)		HAPS	DLR	DE		HAPS Demo study dataset	High Altitude Pseudo Satellites (HAPS) flying at stratospheric level for several weeks can provide promising opportunities for high-frequency monitoring and analysis with hourly, daily, weekly repetition cycles. U-TEP presents simulated HAPS data for exemplary use cases such as rapid mapping, 3D mapping, and traffic as well as pedestrian monitoring.	Stand alone datasets			Wittenberg, Germany		OGC-WMS
Urban TEP (https://urban-tep.eu)		Ground Surface Movement	Planetek	IT		Ground surface movements	Automatic geo-information service provided by Planetek Italia delivering data for the monitoring of ground surface movements	Stand alone dataset	SI		Rome, Italy		OGC-WFS
Urban TEP (https://urban-tep.eu)		WorldPop	CIESIN, Columbia University	US		Rasterized population distribution	The WorldPop program provides high resolution, open and contemporary data on human population distributions, allowing accurate measurement of local population distributions, compositions, characteristics, growth and dynamics, across national and regional scales. WorldPop datasets include estimates of numbers of people residing in each 100 x 100 m grid cell and their age/sex structures for every low and middle income country. Through integrating census, survey, satellite and GIS datasets in a flexible machine-learning framework, high resolution maps of population counts and densities from 2000-2020 are produced, along with accompanying metadata and peer-reviewed academic papers on methods. Where census data are outdated or unreliable, satellite and survey-based population estimation approaches are being implemented in collaboration with national statistical offices. The WorldPop Global data collection includes population surfaces for total populations as well as breakdowns by age and sex classes, at annual time-steps between 2000 and 2020, with a spatial resolution of 3 arc seconds (approximately 100 m at the equator). Seamless global layers are implemented using consistent analytical methods and are accompanied by metadata outlining inputs and quality assessments.	Stand alone dataset			Global South	100m	OGC-WMS
Urban TEP (https://urban-tep.eu)		Gridded population World	CIESIN, Columbia University	US		Rasterized population distribution	The Gridded Population of the World (GPW) series, now in its fourth version (GPWv4), models the distribution of human population (counts and densities) on a continuous global surface. Since the release of the first version of this global population grid in 1995, the essential inputs have been population census tables and corresponding geographic boundaries. For GPWv4, population input data are collected at the most detailed spatial resolution available from the results of the 2010 round of censuses, which occurred between 2005 and 2014. The input data are extrapolated to produce population estimates for the years 2000, 2005, 2010, 2015, and 2020. A set of estimates adjusted to national level, historic and future, population predictions from the United Nation's World Population Prospects report are also produced for the same set of years. GPWv4 is gridded with an output resolution of 30 arc-seconds (approximately 1 km at the equator). More information can be found at http://sedac.ciesin.columbia.edu/data/collection/gpw-v4	Stand alone dataset			Global	1 km	OGC-WMS
Urban TEP (https://urban-tep.eu)		VIIRS Nighttime Lights	NOAA	US			Nightfire data make use of six spectral bands to detect and characterize subpixel infrared emitters. Provides locations and times of hot pixel detections along with estimates of temperatures and source sizes. For cloud-free gas flares a calculation is performed to estimate the flared gas volume in methane equivalents. Nighttime data are available on 24 hour increments. Monthly and annual cloud-free composites are in preparation. More information can be found at https://www.ngdc.noaa.gov/eog/viirs/	Stand alone dataset			Global		OGC-WMS
Urban TEP (https://urban-tep.eu)		ESA CCI Landcover	ESA				The ESA Land Cover CCI dataset shows land cover in 300m resolution with a LULC legend of 22 classes. The data has been derived from several medium-resolution satellites. The legend is available at http://maps.elie.ucl.ac.be/CCI/viewer/download/CCI-LC_Maps_Legend.pdf . More information can be found at https://www.esa-landcover-cci.org/	Stand alone datasets				300m	OGC-WMS
Urban TEP (https://urban-tep.eu)		Urban Heat Island Modelling	Gisat + VITO	CZ/BE			Generated Neural Network processor for given city, which evaluates the impact of the Land Use on the temperatures in the city. The inputs to the processor are interactive with the possibility to simply compare the scenarios	on-demand			Global		
Urban TEP (https://urban-tep.eu)		LU/LC	Gisat	CZ		Vector product representing the Land Use and Land Cover for given city.	Generation of a detailed Land Use / Land Cover in the Urban Atlas.	on-demand		WorldView Pleiades GeoEye			
Urban TEP (https://urban-tep.eu)		Zonal Statistics	Gisat + BC	CZ/DE			General zonal statistics service for any raster or vector data	on-demand			Global		OGC-WFS
Urban TEP (https://urban-tep.eu)		Night Lights Statistics	Gisat	CZ			Zonal statistics based on the VIIRS Night Lights product	on-demand			Global		
Urban TEP (https://urban-tep.eu)		Building Inventory	Gisat	CZ		Vector product representing the footprints of the buildings and typology of the buildings in the area	Generate the footprint of the buildings.	on-demand		WorldView Pleiades GeoEye			
Urban TEP (https://urban-tep.eu)		Functional Urban Area	Gisat	CZ			Service for filtering the settlements derived from GUF and WSF based on the population statistics and area.	on-demand			Global		