

Table S2. Review protocol and classification framework created for this review.

Title 1	Title 2
Type of Protected area	The type of protected area refers to the legal or administrative description of the study area. This is typically based on cross-referencing the study's description of the site. This includes categories such as national parks, wildlife sanctuaries, biosphere reserves, etc.
Type of disturbance (Wildfire, Drought, Deforestation, Meteorological-related, Biological invasions, Human impact, Landslides etc.)	The type of disturbance describes the specific environmental or anthropogenic phenomenon that is affecting the study area. The classification is based on the event that is explicitly declared or investigated within the study as a driver of change. This is typically found in the introduction or methods section, and it includes phenomena such as wildfire, drought, deforestation, insect outbreaks or invasive species, infrastructure development, etc.
Study area (Global, Continental, Country, Province, City Level)	The study area scale defines the spatial extent of the research, ranging from global to local levels. It should be noted that the level is determined based on the description of the study site in the study, and by comparing the size of the site with its country's whole extent area. In this category, the specific geographic name of the study area is also included, typically including the region and the country that the site is in. This is extracted directly from the study's description of the research area, often found in the abstract or study area section.
Location (Country)	The location refers to the country which officially geographically concludes the study area.
Temporal range (Intra-annual, multi-annual, selected date(s))	The temporal range describes the structure of the temporal period analyzed. Selected years refer to discrete, non-consecutive years; multi-annual refers to continuous, consecutive years; and intra-annual refers to seasonal or monthly data within a single year. This is determined by examining the years of data acquisition and analysis.
Temporal range information (e.g., 2010, 2000-2020, 2013 and 2015)	The temporal range information category lists the specific years or periods studied. This helps clarify whether the study uses snapshots or continuous monitoring and it is often specified in the methods or results section.
Ecosystem type(s) etc. (Cropland, Grassland, Woodland and forest, Heathland and shrub, Sparsely vegetated land, Wetlands)	The ecosystem type refers to the ecological classification of the land cover in the study area. This is determined by the land cover maps or ecological descriptions provided in the study and then cross-referenced with the Mapping and Assessment of Ecosystems (MAES) Level 2 Protocol.

Dynamics (Recovery detection, Disturbance detection, Recovery modelling, Disturbance modelling)	The dynamics category refers to the ecological processes studied. Recovery detection involves identifying regrowth after disturbance. Disturbance detection identifies where and when degradation occurred. Recovery modelling simulates regrowth patterns. Disturbance modelling explains or predicts degradation. This is interpreted from the study's objectives and analytical methods.
Restoration measures monitored (0 = No, 1 = Yes)	The restoration measures category indicates whether the study monitors or models any restoration actions. This is based on the presence or absence of restoration tracking in the methods or results section.
Type of restoration measures (as mentioned in the study) i.e., reforestation, erosion prevention etc.	The type of restoration measures describes the specific actions taken to restore ecosystems if they were included. These may include reforestation, erosion prevention, or habitat connectivity. This is marked only if restoration monitoring is present in the study descriptions.
EO spaceborne platforms (0 = No, 1 = Yes)	This category provides information on whether satellite-based EO data was used. This is determined by the data sources listed in the study.
Sensor names (e.g., Landsat 8; Sentinel-2, 0= None)	The sensor names specify satellite sensors, if there are any used, for data acquisition. This information is extracted from the data acquisition or methods section and helps identify the resolution and spectral capabilities of the imagery in the study.
EO Auxiliary data (Aerial, Ground-based, 0 = none)	The EO platform other category refers to non-satellite EO sources such as aerial photography, UAVs, or ground-based EO observations. This does not include field surveys that are non-EO methods, or any EO-derived products. This is determined by reviewing the data sources and the results or methods section.
EO Products (e.g., biomass, maps)	The EO-derived products refer to metrics calculated directly from EO data and formed as a product to be used as acquisition data, such as digital elevation models and index or land cover maps. This does not include data calculated within the study, presented as results (outputs). This category is identified from the data processing section.
Non-EO data (e.g., In situ, Precipitation)	The non-EO data refers to auxiliary datasets, such as in situ measurements, precipitation records, or field surveys. This information is not derived from EO platforms and is used as a source to calculate or validate the study's results. This is found in the data sources and the methods or validation sections.

Processing methods – Algorithms	The algorithms category lists the specific analytical methods used within the study. Any method that was used to create outputs that were used within the study or presented as results are included. This is extracted from the methods and analysis or the results sections. The algorithms are further classified in the following columns; by processing-type, temporal design, and unit of spatial analysis.
Processing type (1 = Traditional statistics / index-based, 2 = Shallow ML, 3 = DL)	The processing type category distinguishes the algorithms used. If it is only an index threshold method, NDVI differencing, regression, correlation, drought indices, etc. the algorithm is considered traditional statistical. The machine learning class indicates whether the study used machine learning techniques, excluding deep learning. This includes supervised/unsupervised classification, Random Forest, SVM, OBIA segmentation, etc. The deep learning category indicates whether the study used deep learning techniques, such as neural networks, CNNs, LSTMs, Transformers. This is identified in the methods section.
Temporal design (1 = Bi-temporal, 2 = Time-series, 3 = uni-temporal / atypical designs)	This is identified in the methods and results section. Bi-temporal change detection focuses on comparing two points in time, even if there are multiple comparisons taking place. It includes studies that focus on comparing data between two or a few epochs. Time-series monitoring focuses on analyzing continuous and consecutive data across multiple points in time, using trajectories, trends, or cumulative sums. Multiple bi-temporal comparisons do not account for time-series. Uni-temporal assessments were classified neither as bi-temporal or time-series data, and were considered as atypical time-frames.
Unit of spatial analysis (1 = Pixel-based, 2 = Object-based)	This is identified in the methods and results sections. Pixel-based can be determined by indices computed per pixel/grid cell, while object-based analyses include classified patches, OBIA segments, polygons, plots, etc.
Formal validation (i.e., comparison against readily available data) (0 = No, 1 = Yes)	The formal validation category indicates whether the study performed accuracy assessment or validation of its results. This is found in the results or validation section.
Validation dataset from third-party sources (0 = No, 1 = Yes)	The validation dataset from third-party sources refers to whether the validation data came from an external, unbiased published source. This does not include in situ data, or non-EO data that were used as sources but are not independently published. This is determined by the source of the validation dataset.

Brief description of validation dataset	The validation dataset describes what data was used to assess the accuracy of the study's outputs. This is determined by the results or validation section.
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