*Table 1. List of GEE Dataset*

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Type** | **Data** | **Data Set**  **Provider** | **Resolution** | **Coverage** | **Temporal** | **Products** | **Purpose** |
| **Landsat** | Landsat-4 MS  [Christopher Potter,19] | https://earthexplorer.usgs.gov/ |  |  |  |  | Agriculture and forestry, land use and mapping,geology,hydrology, coastal resources and environmental monitoring.Land cover monitoring, land use land cover classificationwater resource management, wildfire area mapping,vegetation cover mapping, Snow areamapping,urban planning, Road map plaining etc |
| 30 m | Global | 16 day  (1982-1993) | Burn Area Index (BAI) ,Enhanced Vegetation Index (EVI) ,NormalizedDifference  Vegetation Index (NDVI) ,Normalized Burn Ratio Thermal (NBRT) , Normalized  Difference Snow Index (NDSI) ,  Normalized DifferenceWater Index (NDWI) |
| Landsat-5 MS  [Ibrahim,19] ,[Christopher Potter,19] | 16 day  (1984-2012) |
| Landsat-7 MS  [Ibrahim,19] | 30 m  (Pan- 15 m) | 16 day (1999- Present) |
| Landsat-8 MS  [Ibrahim,19] ,[Yinghuai, 18] ,[Christopher Potter,19] ,[Bikash,19] ,  [X. Liu, 18] ,[Nataliia,17] | 16 day  (2013- Present) |
| **Land Cover** | GlobCover  [O. Arino, 07] ,[Yu, 14] | <http://due.esrin.esa.int/page_globcover.php> | 300 m | 90°N–65°S | 2009 | Non-periodic | Use the GlobCover land cover map for educational and/or scientific purposes for land cover change study. |
| USGS National  Landcover Database  [Ibrahim,19] | <https://www.usgs.gov/centers/eros/science/national-land-cover-database> | 30 m | CONUS | (1992-2016) | Non-periodic | NLCD is used for thousands of applications that require information on landcover location or where it is changing. |
| UMD global forest change  [Galiatsatos, 20] | <https://earthenginepartners.appspot.com/science-2013-global-forest> | 1 arc | 80°N–57°S | (2000-2018) | Annual | Used to analysis Tree Cover. Forest Cover Loss, Forest Cover Gain, Annual time scale Forest change. |
| JRC global surface water  [Ji, 18] | https://global-surface-water.appspot.com/ | 30 m | 78°N–60°S | (1984-2018) | Monthly | the location and temporal distribution of water surfaces at the global scale over the past 3.6 decades, and provides statistics on their extent and change to support better informed water-management decision-making. |
| GLCF tree cover  [Feng,16] | https://gee.stac.cloud/ | 30 m | Global | (2000-2010) | 5 year | Tree cover provides a measurable attribute upon which to define forest cover and its changes. Changes in tree cover over time can be used to monitor and retrieve site-specific histories of forest change. |
| USDA NASS cropland  data layer  [Tyler, 17] | https://nassgeodata.gmu.edu/CropScape/ | 30 m | CONUS | (1997-now) | Annual | Povide acreage estimates to the Agricultural Statistics Board for major commodities and to produce digital, crop-specific, categorized geo-referenced output products. |
| GFSAD1000  [Thenkabail, 09] | <https://www.usgs.gov/centers/wgsc/science/global-food-security-support-analysis-data-30-m-gfsad?qt-science_center_objects=0#qt-science_center_objects> | 1 km | Global | Once (2010) |  | Provide high-resolution global cropland data and their water use that contributes towards global food security in the twenty-first century. |
| Canada AAFC  [Yinsuo, 19] | <https://open.canada.ca/data/en/dataset/ba2645d5-4458-414d-b196-6303ac06c1c9> | 30 m | Canada | Yearly  (2009- Present) | Annual Crop  Inventory | Deliver a crop inventory per year |
| Copernicus CORINE Land Cover  [B. Cole, 18] | https://land.copernicus.eu/pan-european/corine-land-cover/view | 100 m | Europe | 5 images  (1986-2018) | 1990-2000-2006-2012-2018 | Allow for assessing changes in land cover types |
| CGLS-LC100  [Dainius¸21] | https://land.copernicus.eu/global/lcviewer | 100 m | Global | Once (2015) | Copernicus Global Land Cover Layers | provides a primary land cover scheme, Land Cover Classification |
| CSP gHM  [Kennedy, 19] | http://www.csp-inc.org/ | 1 km | Global | 2016 | Global Human Modification | Provides a cumulative measure of human modification of terrestrial lands globally at 1 square-kilometer resolution |
| PDSI  [Yihdego,19] ,[Jacobi,13] | https://gee.stac.cloud/ | 2.5 arc | CONUS | 10 day  (1979- Present) | University of Idaho Palmer Drought Severity Index | measure of integrated water supply and demand anomalies across the contiguous United States from 1979-present. |
| **Sentinel** | Sentinel-1 SAR  [Nataliia,17] ,[R. Torres,12] | https://sentinel.esa.int/web/sentinel/ | 10 m | Global | 6 day  (2014- Present) | - | Maritime operation, sea-ice mapping, humanitarian relief, disaster response, and forest management are only a few of the applications. |
| Sentinel-2 MS  [Nataliia,17] ,[M. Drusch, 12] | 10/20 m | 10 day  (2015- Present) | - | Monitoring of vegetation, soil and water cover, land cover transition, and humanitarian and disaster risk are all included. Risks related to humanitarian aid and disasters |
| Sentinel-3 Ocean and Land Color Instrument  [Toming ,17] | 300 m | 2 day  (2016- Present) | - | Temperature, color, and height of the sea surface, as well as the thickness of sea ice, are all part of standardized measurements of the planet's oceans, land, ice, and atmosphere. |
| Sentinel-5PTROPOspheric  MonitoringInstrument  [Kaplan,19] | 0.01 arc | 1 day  (2018- Present) | UV Aerosol Index  Cloud  Carbon Monoxide  Formaldehyde  Nitrogen Dioxide  Ozone  Sulfur Dioxide  Methane | Usefulfor measuring air  quality as well as concentrations of: ozone, methane, formaldehyde, aerosol, carbon monoxide, nitrogen oxide, and Sulphur dioxide. |
| **ModisDaily** | MOD09GQ.006  [S. Testa, 18] ,[Zhuosen, 18] | https://lpdaac.usgs.gov/ | 250 m | Global | 1 day  (2000- Present) | Terra Surface Reflectance | Daytime and nighttime surface temperatures, snow cover, snow albedo, fractional snow covermonitoring the spatial and temporal spread of fires in various habitats, detecting changes in fire distribution and recognizing new fire frontiers, wildfires, and changes in the frequency or relative intensity of fires |
| MCD43A4.006  [D.P. Roy, 16] ,[Zhuosen, 18] | 500 m | MODIS Nadir BRDF-Adjusted Reflectance |
| MCD43A3.006  [D.P. Roy, 16] ,[Zhuosen, 18] | MODIS Albedo Daily |
| MCD43A2.006  [Zhuosen, 18] | MODIS BRDF-Albedo Quality |
| MCD43A1.006  [Zhuosen, 18] | MODIS BRDF-Albedo Model  Parameters |
| MOD10A1.006  [Liang, 08] | Terra Snow Cover |
| MOD11A1.006  [Laskin,19] | 1 km | Terra Land Surface Temperature and Emissivity |
| MOD09GA.006  [Zhuosen, 18] | Terra Surface  Reflectance |
| MODOCGA.006  [Chong, 61] ,[Sánchez, 16] | Terra Ocean  Reflectance |
| MOD14A1.006  [Zhengyang, 18] | Terra Thermal Anomalies & Fire |
| **MODIS** | MOD09Q1.006  [Lu, 17] |  | 250 m | Global | 8 day  (2000- Present) | Terra Surface  Reflectance | LST, vegetation, and built-up areas were studied in terms of their spatial-temporal relationships. |
| MOD13Q1.006  [Yinghuai, 18] ,[Bikash,19] ,[Christopher, 19] | 16 day  (2000- Present) | Terra Vegetation Indices | Vegetation Status Monitoring |
| MOD44W.006  [Yu, 14] | Yearly  (2000- Present) | Terra Land Water Mask | To firecognized issues such as terrain darkness, burn scars,cloudiness, or ice cover in oceans, a set of masks are added. |
| MCD15A3H.006  [Campos,18] | 500 m | 4 day  (2002- Present) | MODIS Leaf Area Index | For measuring the productivity of vegetation |
| MOD09A1.006  [Lu, 17] | 8 day  (2000- Present) | Terra Surface Reflectance | It's been used to look at the spatial-temporal relationships between LST and other variables. |
| MOD17A2H.006  [Park, 16] | Terra Gross Primary Productivity | Data models are used to quantify terrestrial resources, biomass, water cycle processes, and vegetation biogeochemistry. |
| MOD16A2.006  [María, 21] | 8 day  (2001- Present) | Terra Net Evapotranspiration | Land cover, albedo, and vegetation property dynamics. |
| MOD13A1.006  [Yinghuai, 18] ,[Bikash,19] ,[Christopher, 19] | 16 day  (2000- Present) | Terra Vegetation Indices | per-pixel basis, this product provides a Vegetation Index (VI) value.  EVI, NDVI |
| MCD64A1.006  [Christopher, 20] | Monthly  (2000- Present) | MODIS Burned Area | mapping of burned-out areas |
| MCD12Q1.006  [Bikash,19] ,[Yu, 14] | Yearly  (2001- Present) | MODIS Land Cover Type | at yearly intervals, offers global land cover forms |
| MOD17A3H.006  [Kun, 19] | Yearly  (2000- Present) | Terra Net Primary Production | Used for annual Net Primary Productivity details |
| MOD11A2.006  [Laskin,19] | 1 km | 8 day  (2000- Present) | Terra Land Surface Temperature and Emissivity | Used to get an average of 8-day land surface temperature (LST). |
| MOD14A2.006  [Zhengyang, 18] | 8 day  (2000- Present) | Terra Thermal Anomalies & Fire | Provides composites of 8-day fire masks at 1km resolution |
| MOD13A2.006  [Christopher, 19] | 16 day  (2000- Present) | Terra Vegetation Indices | The Normalized Difference Vegetation Index (NDVI) and the Enhanced Vegetation Index (EVI) are two Vegetation Indices (VI) (EVI). Used for vegetation cover analysis. |
| MOD08\_M3.006 | 1 arc | Monthly  (2000 -Present) | Terra Atmosphere | Aerosol particle properties, total ozone burden, ambient water vapor, cloud optical and physical properties, and atmospheric stability indices are all things that can be calculated |