**Table 1.** Satellite-derived evapotranspiration product specifications including the sensor, temporal resolution and coverage and spatial resolution and coverage.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Product** | **Sensor** | **Temporal resolution** | **Temporal coverage** | **Spatial resolution** | **Spatial coverage** | **ET principle** | **Algorithmic inputs** |
| **Terra-Climate** | Various: MODIS, TRMM, NOAA, ERS 1 and 2, etc. | Monthly | 1958 - 2023 | 4.64 km | Global | Thornwaite-Mather climatic water balance model | Derived from reanalysis product inputs JRA55 WorldClim, and CRU Ts4 which include reference ET, precipitation, temperature and interpolated plant extractable soil water capacity. |
| **SMAP** | Soil Moisture Active Passive (SMAP) | 3 hourly | 2015 - present | 11 km | Global | 2x GEOS models: (i) Catchment Land Surface and Microwave Radiative Transfer Model; (ii) Ensemble-Based Land Data Assimilation Algorithm | Brightness temperatures from the SMAP L1C GEOS, hourly surface meteorology data, NOAA - CPCU gauge based precipitation data, and IMERG precipitation data |
| **WaPOR** | Various:GEOS5, MERRA, CHIRPS, Landsat, VIIRS, ERA5 (Ag), etc. | Monthly | 2009 – 2017 (v2); 2018 - present (v3) | 250 m (v2); 100 m (v3) | Continental: Africa | Penman-Monteith model | Albedo , Soil moisture stress, LST, Light Use Efficiency, NDVI, Precipitation, Solar Radiation, Land cover and other weather data |
| **GLDAS** | Various: GRACE, MODIS, TRMM, CHIRPS, etc. | 3 hourly | 2000 - present | 27.83 km | Global | Various: Land surface models (LSMs) including Noah LSM, Catchment LSM and Variable Infiltration Capacity | NOAH land surface model, GRACE, and Elevation from GTOPO30 |
| **MOD16** | MODIS | 8 day | 2000 - present | 500 m | Global | Penman-Monteith model | Daily meteorological reanalysis data along with vegetation property dynamics, albedo and land cover |
| **PT-JPL** | ECOSTRESS-ISS | ISS dependant | July 2018 – Oct 2022 | 70 m | Global | Priestley-Taylor model | LAI, NDVI , Rn (net Radiation), Relative Humidity, T(mean temp), T(max temp) |
| **FLDAS** | Various: MERRA-2, MODIS, GDAS, SMAP, TRMM, and CHIRPS, etc. | Monthly | 1982 - 2023 | 9.6 km | Global | Noah Land Surface Model | NOAH land surface model including inputs of precipitation, windspeed, solar radiation, wind speed, relative humidity, land use type, and soil moisture |
| **SSEBop** | MODIS | Monthly | 2003 - May 2022 | 1 km | Global | Operational SSEB (Simplified Surface Energy Balance) model | Combines ET fractions generated from MODIS thermal imagery with reference ET using a thermal index approach. Derived from integration of MODIS11A2 LST , maximum air temperature from WorldClim (PRISM) and reference ET from GDAS. Also, elevation from SRTM, Albedo and NDVI from MODIS |