**Evapotranspiration (ET)**

* **Before 2008:**
  + **Model:** PT-JPL
  + **Units:** mm/month (daylight hours)
  + **Satellites:** Landsat 5, 7, 8
  + **Resolution:** 30 m
  + **Source:** <https://landsat.gsfc.nasa.gov/satellites/>
  + **Data Availability:** 1985 - 2007
  + **Description:** ET is calculated daily using the PT-JPL model on Landsat overpass days. Values are then interpolated across each day of the month by using the nearest clear-sky Landsat observation for each pixel. This produces a monthly ET product in mm/month.
* **2008 and Later:**
  + **Model:** OpenET Ensemble
  + **Units:** mm/month
  + **Satellites:** Landsat 5, 7, 8, 9
  + **Resolution:** 30 m
  + **Source:**
    - <https://etdata.org/methodologies>
    - <https://developers.google.com/earth-engine/datasets/catalog/OpenET_ENSEMBLE_CONUS_GRIDMET_MONTHLY_v2_0>
  + **Data Availability:** 2008 - 2023
  + **Description:** Monthly evapotranspiration is provided by OpenET. Monthly ET is calculated as the mean of multiple remote sensing models (ALEXI/DisALEXI, eeMETRIC, geeSEBAL, PT-JPL, SIMS, SSEBop), with outliers removed using the Median Absolute Deviation.

**Potential Evapotranspiration (PET)**

* **Before 2008:**
  + **Model:** PT-JPL
  + **Units:** mm/month (daylight hours)
  + **Satellites:** Landsat 5, 7, 8
  + **Resolution:** 30 m
  + **Source:** <https://landsat.gsfc.nasa.gov/satellites/>
  + **Data Availability:** 1985 - 2007
  + **Description:** PET is derived by dividing daily ET by the Evaporative Stress Index (ESI), both calculated using the PT-JPL model. Like ET, the data is temporally interpolated to generate monthly mm/month values using the nearest cloud-free Landsat pass.

**Reference Evapotranspiration (ETo)**

* **2008 and Later:**
  + **Dataset:** University of Idaho EPSCOR GRIDMET (modified)
  + **Units:** mm/month (daylight hours scaled, ET-corrected)
  + **Resolution:** 4 km
  + **Source:** 
    - <https://www.climatologylab.org/gridmet.html>
    - <https://developers.google.com/earth-engine/datasets/catalog/IDAHO_EPSCOR_GRIDMET>
  + **Data Availability:** 2008 - 2023
  + **Description:** Daily ETo is calculated using the Penman-Monteith method and aggregated monthly (mm/month). Since the product is 24-hour-based, we scale it to daylight hours using average latitude and day-of-year data. To improve comparability with PET, ETo is adjusted: if it falls below the maximum ET value from any ensemble model, it is replaced with that maximum. Both the original and adjusted ETo values are included in the CSV export.

**Precipitation (PPT)**

* **Dataset:** Oregon State PRISM
* **Units:** mm/month
* **Resolution:** 4 km
* **Source:** <https://prism.oregonstate.edu>
* **Data Availability:** 1985 - 2023
* **Description:** Monthly mm/month precipitation data is provided by the Oregon State PRISM dataset.

**Cloud Cover and Missing Data** *(Computed)*

* **Before 2008:**
  + Cloud cover and missing data are calculated as the ratio of cloudy or missing pixels to the total number of pixels in a region, averaged monthly.
* **2008 and Later:**
  + Cloud cover and missing data are calculated by comparing the number of Landsat passes with valid, good-visibility pixels (as provided by OpenET) to the total number of Landsat passes available for the month. Total available passes are determined on-demand via the Microsoft Planetary Computer STAC API.
    - Algorithm: (Number of Landsat Passes – Average Passes Used per Pixel) / Number of Landsat Passes