|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Product | Evaporation Method | Land cover types |  |  |  |  |  |  |  |
| GLEAM | Priestly Taylor | Bare soil  Low-vegetation (grass)  Tall vegetation (trees)  Open water |  |  |  |  |  |  |  |
| HOLAPS | Priestly Taylor |  |  |  |  |  |  |  |  |
| MODIS | Penman Montieth | No Open Water |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

All driven by remote sensing observations

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | GLEAM (v3) | HOLAPS (v1) | MODIS (V1.6) |
| Evaporation Method |  | Priestly Taylor | Priestly Taylor | Penman Montieth |
| Land cover types |  | Bare soil  Low-vegetation (grass)  Tall vegetation (trees)  Open water  (MOD44B – Global Vegetation Continuous Fields)  Change the Priestly Taylor Coefficient from 1.26 for low vegetation (grass) and 0.96 for tall vegetation (Trees) |  | MODIS landcover classification (14 different classes) MDCLCHKM |
| Inputs | Radiation |  |  | MERRA GMAO incident PAR |
|  | Air Temperature |  |  | MERRA GMAO – minimum temp and average temp |
|  | Precipitation |  |  |  |
|  | Soil Moisture |  |  |  |
|  | Humidity |  |  | MERRA GMAO humidity |
|  | Snow Cover |  |  |  |
|  | Albedo |  |  | MCD43A2/A3 16 day moving window albedo |
|  | Vegetation |  |  | Biome specific physiological parameters = lookup table of values  8day FPAR (max across 8 days selected) – MOD15A2H |
|  |  |  |  |  |
| Validation | Station Hourly |  |  |  |
|  | Station Daily |  |  |  |
|  | Station Monthly |  |  |  |
| Regions not calculated |  |  | Open water bodies. | Non vegetated pixels.  Perennial salt or water bodies;  Perennial snow/ice;  Permanent wetlands/marshland;  Urban areas;  Unclassified land cover; |
|  |  |  |  |  |