**SSEBop Evapotranspiration (ET) Version 4 Data Management Plan**

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| **Data Inputs** | | | |
| **Title** | **Format** | **Data Vol. Estimate** | **Source/URL** |
| MODIS LST | hdf | 50 GB | https://dds.cr.usgs.gov/emodis/Global\_LST6/ |
| MODIS Emissivity | hdf | 270 GB | https://dds.cr.usgs.gov/emodis/Global\_LST6/ |
| NDVI | hdf | 100 GB | https://lpdaac.usgs.gov/data\_access |
| Air Temperature | tif | 2 GB | http://www.worldclim.org/version1 |
| ETo | tif | 104 GB | https://earlywarning.usgs.gov/fews |
| Albedo | hdf | 10 GB | https://lpdaac.usgs.gov/data\_access |

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| **Data Processing** | |
| **Access and Sharing** | The acquired data is stored on the mass storage system (Stornext) for all project members to access. |
| **Data Storage** | The data will be stored on the mass storage system (Stornext) and processed on a Virtual Server with access to the system at EROS Center. |
| **Processing workflow** | The data is processed using the SSEBop model version 4 which is using python and ArcGIS. |
| **Technology needs** | All technologies and storage demands are meet at the EROS Center. Technology needed is ArcGIS, python, and storage with is provided by the mass storage system. |

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| **Proposed Data Publishing** | |
| **Title** | SSEBop ET data |
| **Description** | On vegetated landscapes, Evapotranspiration (ET) can be simplified as the combination of evaporation from soil and transpiration from vegetation. Actual ET (ETa) is produced using the Operational Simplified Surface Energy Balance (SSEBop) model (Senay et al., 2013) for 2003 to present using data stream from the Aqua satellite. The SSEBop setup is based on the original Simplified Surface Energy Balance (SSEB) approach (Senay et al., 2007, 2011) with unique and improved parameterizations for operational applications. It combines ET fractions generated from remotely sensed MODIS thermal imagery, summarized every 10 days (dekadal), with reference ET, generated from weather data fields using the Penman-Monteith Equation. The unique feature of the SSEBop parameterization is that it uses a pre-defined, seasonally dynamic “surface psychrometer constant” parameter that helps define the “hot/dry” and “cold/wet” reference limits, unique to each pixel. Furthermore, the "cold/wet” limit is determined using the daily maximum air temperature (Ta) using the “c factor” parameter which relates Ta to land surface temperature at well-vegetated/well-watered surfaces. The original SSEB model was formulated based on an adaptation of the “hot and cold” pixel principles of SEBAL (Bastiaanssen et al., 1998) and METRIC (Allen et al., 2007) models. Actual ET and anomaly data are published on the FEWS NET website. |
| **Format** | Geotiff in zip folder |
| **Data Volume Estimate** | 5 TB |
| **Data Storage** | ET dataset will be pusblished at: https://earlywarning.usgs.gov/fews |
| **Metadata Point of Contact** | Stefanie Kagone, stefanie.kagone.ctr@usgs.gov |
| **Restrictions** | None |