1. **Time series data**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | Explanation | Time step | File name | Data source |
| Tributary Condition | Net Rainfall, Tributary Flow, Palmer Index, Net inflows | Weekly | Trib\_cond\_wkly\_data\_xxx | Rainfall, Tributary flow, and net inflows (DBHYDRO)  Palmer Index (NOAA) |
| Seasonal LONINO | Seasonal Lake Okeechobee Net Inflow Outlooks | Monthly | Seasonal\_LONINO\_xxx | USACE Monthly Reports |
| Multi Seasonal LONINO | Multi Seasonal Lake Okeechobee Net Inflow Outlooks | Monthly | Multi\_Seasonal\_LONINO\_xxx | USACE Monthly Reports |
| Net Inflows | Net Inflows = All tributary inflows – non simulated outflows | Daily | NetFlows\_acft\_xxx | DBHYDRO |
| Water demand | LOSA water demand | Daily | Water\_dmd\_xxx | SFWMD Reports |
| Rainfall | Rainfall Volume | Daily | RF\_Volume\_xxx | DBHYDRO |
| Evapotranspiration | ET Volume | Daily | ETVol\_xxx | DBHYDRO |
| C44 Runoff | St Lucie Watershed Runoff | Daily | C44RO\_xxx | DBHYDRO |
| C43 Runoff | Caloosahatchee Watershed Runoff | Daily | C43RO\_xxx | DBHYDRO |
| EAA\_MIA\_Runoff | Daily flow data for Miami Canal at S3, NNR at S2\_NNR, WPB at S352, S2 pump, and S3 pump. | Daily | EAA\_MIA\_RUNOFF\_Inputs\_xxx | DBHYDRO |
| Storage Deviation | Storage deviation between simulated storage using observed outflows and observed storage to account for unreported outflows. | Daily | Storage\_Dev\_xxx | DBHYDRO |
| External Loads | Phosphorus loads into Lake Okeechobee from the tributaries | Daily | LO\_External\_Loadings\_3MLag\_xxx | DBHYDRO |
| Lake Inflows | Lake Okeechobee inflows from all the tributaries as well as back flows | Daily | LO\_Inflows\_BK\_xxx | DBHYDRO |
| Wind Shear Stress | Wind shear stress function of wind speed | Daily | WindShearStress\_xxx | Calculated |
| Wind Speed | Mean wind speed | Daily | Mean\_WindSpeed\_xxx | DBHYDRO |
| Kinematic viscosity | Kinematic viscosity of Lake Okeechobee water column function of Water Temperature | Daily | nu\_xxx | DBHYDRO |
| Water Temperature | Water column Temperature | Daily | LZ40\_T\_xxx | DBHYDRO |

1. **Initial Values data**

|  |  |  |  |
| --- | --- | --- | --- |
| Variable | Description | Data Source | Value |
| Water level | Initial stage of water in Lake Okeechobee | DBHYDRO | Function of start date |
| TP\_Lake\_N | Total phosphorus concentration in the northern part of Lake Okeechobee | DBHYDRO | Function of start date |
| TP\_Lake\_S | Total phosphorus concentration in the southern part of Lake Okeechobee | DBHYDRO | Function of start date |
| Γ | concentration of sorbed P (mg/kg) |  | 25 |
| Γ\_inf | Maximum concentration of sorbed P in the sediment (mg/kg) |  | 91 |
| DIP\_Pore | Dissolved Inorganic P in the sediment porewater | Literature | 4 different values for each sediment type |
| P\_Sed | P in the sediment (mg/kg) | Literature | 4 different values for each sediment type |
| Θ | fractional porosity of the sediment | Calculated Function of bulk density, particle density, and percentage of H2O | 4 different values for each sediment type |
| Bulk\_density\_M | Bulk density of mud | Literature | 0.15 g/cm3 |
| Bulk\_density\_S | Bulk density of sand | Literature | 1.213 g/cm3 |
| Bulk\_density\_R | Bulk density of rock | Literature | 1.213 g/cm3 |
| Bulk\_density\_P | Bulk density of peat | Literature | 0.14 g/cm3 |
| Particle\_density\_M | Particle density of mud | Literature | 1.2 g/cm3 |
| Particle\_density\_S | Particle density of sand | Literature | 2.56 g/cm3 |
| Particle\_density\_R | Particle density of rock | Literature | 2.56 g/cm3 |
| Particle\_density\_P | Particle density of peat | Literature | 1.2 g/cm3 |