**Note:** This form should be used in conjunction with a dataset metadata definition form.

If you do not know the required information, or need help completing this form, please contact the GIOS Information Manager [[caplter.data@asu.edu](mailto:caplter.data@asu.edu)] for assistance).

## List of Data Tables / Worksheets

Please list the data tables / worksheets you are submitting.

|  |  |  |
| --- | --- | --- |
| Filename | Data table / worksheet name | Table / worksheet description |
| tr\_agpp\_data\_CAPdb.csv | **Tres Rios – Above Ground Primary Productivity** | Bi-monthly field measurements of various plant characteristics to determine above ground biomass |
| tr\_irga\_fielddata\_CAPdb.csv | **Tres Rios - Transpiration** | Leaf-specific transpiration rates and related outputs as measured by a LICOR LI-6400XT Infrared Gas Analyzer |
| tr\_waterquality\_fielddata\_CAPdb.csv | **Tres Rios - Water Quality** | Bi-monthly field measurements of water quality as measured at both whole-site inflow/outflow and three transects |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Notes:**

1. For EACH data table, worksheet, csv file, above. Use the table BELOW to define EACH tables contents by attribute.
2. GEO Spatial Files? If you use esri, please select the fgdc documentation standard and update the documentation within each file submitted. Please contact the Informatics Department at GIOS [**caplter.data@asu.edu**](mailto:caplter.data@asu.edu) for instructions on different applications.

## Attribute Metadata

For each data table or worksheet, please complete a table in a similar manner to the example below. For metric data please include units of measurement, e.g. meters, g/L, for latitude/longitude (degrees, decimal degrees, etc.) for UTM (UTM zone), etc.

## Example of Attribute Metadata – Data Table 1: Field Surveys

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute Name | Attribute Description | Units | Unit definition/details | Other notes |
| Date | Date of observation | mm/dd/yy | Details on data format, valid ranges, etc |  |
| Time | Time of observation | hh:mm | e.g. time in 24 hour format based on MST |  |
| UTM N | 7 figure UTM northing | Integer | UTM coordinates based on zones 12N |  |
| UTM E | 6 figure UTM easting | Integer | UTM coordinates based on zones 12N |  |
| Quantity | Number of Birds seen | Integer |  |  |
| Distance (m) | Distance from observer | Meters |  |  |
| Species | Four letter ABA species code | Text |  |  |
| Activity | Classification of observed bird activity at time of observation | Text | either “flying”, “perching”, “nesting” or “feeding” |  |

## Data Table 1: Tres Rios - Macrophyte Primary Productivity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute Name | Attribute Description | Units | Unit definition/details | Other notes |
| date | Date of observation | mm/dd/yy | Date on which measurement was taken |  |
| transect | Transect ID | string | Transect in which measurement was taken | See project description for details on experimental design |
| quadrat | Location of quadrat along transect | m | Represents distance (m) of quadrat from shoreline/beginning of transect |  |
| species | Plant species | string | Plant species on which measurements were taken |  |
| cdb | Culm diameter at base | cm | Culm diameter of plant stem taken at water surface |  |
| stem\_height | Stem height | cm | Height of plant stem (*Schoenoplectus spp.* only) |  |
| num\_seed\_stems | Number of seed stems at plant tip | integer | Count of seed steams at plant tip (*Schoenoplectus spp.* only) |  |
| leaf\_1 : leaf\_22 | Length of individual plant leaves | cm | Length of individual plant leaves (*Typha spp.* only) | Represents all columns from leaf\_1 through leaf\_22 |
| pistillate\_length | Pistillate length | cm | Length of pistillate, if present (*Typha spp.* only) |  |
| pistillate\_width | Pistillate width | cm | Width of pistillate, if present (*Typha spp.* only) |  |
| data\_book\_ID | Field data book ID number | integer | Indicates which field data book measurements were recorded in |  |
| notes | Notes | string | “Airboat trail” or “thatched” indicates anthropogenic or natural toppling of plant stands, respectively. |  |

## Data Table 2: Tres Rios – Transpiration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute Name | Attribute Description | Units | Unit definition/details | Other notes |
| date | Date of observation | mm/dd/yy | Date on which measurement was taken |  |
| time | Time of observation | hh:mm:ss | Time at which measurement was taken |  |
| obs\_num | Observation Number | integer | Sequential order in which samples were taken on a given day |  |
| transect | Transect | string | Transect on which measurement was taken. | Beginning in July 2014, all measurements taken at boardwalk transect. See project description for details on experimental design. |
| plant\_spp | Plant species | string | Plant species on which measurements were taken | See project description for species codes |
| section | Plant section | string/cm | Vertical location along plant where measurement was taken. T = tip of leaf/stem, B = bottom of leaf/stem; integers represent total distance (cm) above water surface. |  |
| photo | Photosynthetic rate | μmol CO2 m-2 s-1 | Rate of photosynthesis | IRGA Output |
| cond | Conductance to H2O | mol H2O m-2 s-1 | Conductance to H2O | IRGA Output |
| ci | Intercellular CO2 concentration | μmol CO2 mol-1 | Intercellular CO2 concentration | IRGA Output |
| trmmol | Transpiration rate | mmol H2O m-2 s-1 | Transpiration rate | IRGA Output |
| vpdl | Vapor pressure deficit based on Leaf temperature | kPa | Vapor pressure deficit based on Leaf temperature | IRGA Output |
| area | Leaf area | cm2 | Area of leaf surface in IRGA chamber head | IRGA Output |
| stm\_rat | Stomatal ratio estimate | integer | Stomatal ratio estimate | IRGA Output |
| blcond | Total boundary layer conductance for the life (includes stomatal ratio) | mol m-2 s-1 | Total boundary layer conductance for the life (includes stomatal ratio) | IRGA Output |
| tair | Air temperature | °C | Temperature in the sample cell | IRGA Output |
| tleaf | Leaf Temperature | °C | Temperature of the leaf thermocouple | IRGA Output |
| tblk | Cooler Block Temperature | °C | Temperature of the cooler block | IRGA Output |
| co2r | Reference cell CO2 | μmol CO2 mol-1 | CO2 concentration inside the reference cell | IRGA Output |
| co2s | Sample cell CO2 | μmol CO2 mol-1 | CO2 concentration inside the sample cell | IRGA Output |
| h2or | Reference cell H2O | μmol H2O mol-1 | H2O concentration inside the reference cell | IRGA Output |
| h2os | Sample cell H2O | μmol H2O mol-1 | H2O concentration inside the sample cell | IRGA Output |
| rh\_r | Reference cell relative humidity | % | Relative humidity in the reference cell | IRGA Output |
| rh\_s | Sample cell relative humidity | % | Relative humidity in the sample cell | IRGA Output |
| flow | Flow rate to the sample cell | μmol s-1 | Flow rate to the sample cell | IRGA Output |
| pari | In-chamber quantum sensor | μmol m-2 s-1 | Photosynthetically active radiation as measured by in-chamber sensor | IRGA Output |
| paro | External quantum sensor | μmol m-2 s-1 | Photosynthetically active radiation as measured by external sensor | IRGA Output |
| vp\_kPa | Vapor pressure deficit | kPa | Average vapor pressure deficit | IRGA Output |
| vpdA | Vapor pressure deficit based on air temperature | kPa | Vapor pressure deficit based on air temperature | IRGA Output |

## Data Table 3: Tres Rios –Water Quality

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attribute Name | Attribute Description | Units | Unit definition/details | Other notes |
| date | Date of observation | mm/dd/yy | Date on which sample was taken |  |
| transect | Transect | string | Transect on which sample was taken. | See project description for details on experimental design |
| location | Sampling location | string | Location where sample was taken within transect |  |
| sample\_id | Sample ID | string | Sample ID for analysis |  |
| doc\_id | DOC ID | string | Dissovled Organic Carbon sub-sample ee |  |
| tp\_mgL | Total phosphorus concentration | mg/L | Total phosphorus concentration |  |
| tn\_mgL | Total nitrogen concentration | mg/L | Total nitrogen concentration |  |
| doc\_mgL | Dissolved organic carbon concentration | mg/L | Dissolved organic carbon concentration |  |
| tdn\_mgL | Total dissolved nitrogen concentration | mg/L | Total dissolved nitrogen concentration |  |
| no3\_mgL | Nitrate (NO3) concentration | mg/L | Nitrate (NO3) concentration |  |
| no2\_mgL | Nitrite (NO2) concentration | mg/L | Nitrite (NO2) concentration |  |
| nh4\_mgL | Ammonia (NH4) concentration | mg/L | Ammonia (NH4) concentration |  |
| cl\_mgL | Chloride (Cl) concentration | mgL | Chloride (Cl) concentration |  |
| po4\_ugL | Phosphate (PO4) concentration | µg/L | Phosphate (PO4) concentration |  |
| ph | pH level | integer | pH level |  |
| temperature | Water temperature | °C | Water temperature |  |
| conductance\_us | Conductance | µS | Conductance |  |
| spec\_cond\_us | Specific conductance | µS | Specific conductance |  |
| o2\_mgl | Oxygen concentration | mg/L | Oxygen concentration |  |
| o2\_percent | Oxygen concentration | integer | Oxygen concentration |  |