GRIIDC Experimental Lab Data Submission Guidance

Rationale and Purpose

As part of GRIIDC's mission to ensure a data and information legacy to promote continual scientific discovery, GRIIDC accepts a breadth of data generated by a variety of methods. Data submitted to GRIIDC includes environmental data collected though field studies, large-scale climate and ocean models, and data generated solely through lab activities. GRIIDC requests that data be shared in the rawest format that permits the widest reuse; however, this format depends on the QA/QC performed at each level of processing, the size of data files, and the standards in the field of study. The purpose of this document is to outline general requirements for sharing data generated through experimental lab activities. This may include data generated from samples collected in the field and exposed to manipulated conditions in the lab (e.g., microcosms, mesocosms) and activities such as analyzing the structure of chemicals and/or spectral analysis in the laboratory that may not have a relevant field component. This document does not describe requirements for sharing genetics data; please see the related guidance documents Genetics Data Guidance and Genetics Data Guidance Table.

Data Sharing Requirements for Experimental Data

Data File

1. Data should be in raw non-proprietary formats that permit the widest reuse. Please refer to the GRIIDC guidance document Preferred File Formats for additional information.
2. Data file should not contain graphs, figures, tables, or text published in peer review journals or any other copyright material.
3. Please provide the data for each replicate in each treatment rather than averages and/or standard deviations.
4. Please provide the data used to calculate values (e.g. percentages, LC50, LD50, proportions, ratios) rather than the final calculated values.
5. Please provide the blanks information or calibration files use for spectral analysis, if applicable.
6. Please provide enough information to understand the treatment and replicate that generated each data point. Additional information can be provided in a readme file or in the dataset description.
7. If a dataset includes images or videos, a readme file should be provided that describes the images and videos and explains the experimental conditions or sample reflected in each image.
8. If the data is organized into multiple folders, please provide a readme file that explains the organization and/or naming convention.

Dataset Description

The dataset description (also called metadata) provided during submission should allow another person to understand the contents of the dataset without referencing an external resource, such as a publication.

1. In the dataset description the following information should be provided, if applicable:

- Experimental setup:
    i. Initial concentration of chemicals used in different treatments
    ii. Volume of vessel
    iii. Number of organisms in each replicate
    iv. Dimensions of tank
    v. Wave production method
    vi. Standards used to spike samples
    vii. Number of replicates in each treatment
    viii. Velocity of jets
    ix. Method used to generate water accommodated fraction
- Duration of experiment and timepoint when measurements were performed
- Reference to specific EPA methods (e.g. EPA Method 537)
- Brief description of methods (do not rely on a citation of publication to describe methods)

2. In the dataset description, define all parameters, variable names, acronyms, and units.
3. If a dataset was generated solely in the lab or through microcosm/mesocosm experiments where field samples are brought into the lab and then exposed to manipulated conditions:
    - Do not provide a place keyword
    - In the Data Extent tab select “Define Spatial Extent” and select “Non-Spatial” to provide a short sentence that explains why the data does not have a relevant geographic component. For example: “Dataset contains dynamic light scattering measurements of oil droplets dispersed with food-grade dispersants, no relevant geographic component”.
4. Please include the UDI (or DOI) of any related datasets in the metadata abstract.

This document provides general guidance that is applicable to the majority of experimental data GRIIDC receives; however, it does not address specific data types. If you have questions, concerns, or your data do not fit the description above please contact GRIIDC at griidc@gomri.org.

Example 1. Sample ASCII CTD file showing metadata header and data.

```
$ LATEX Version: Last Modified 04-Sep-98
*********************************************************
**              Texas-Louisiana Shelf                  **
** Circulation and Transport Processes Study (LATEX-A). **
**                                                     **
** Data produced by;                                   **
**                                                     **
**            The LATEX-A PROGRAM OFFICE               **
**            Department of Oceanography               **
**              Texas A&M University                   **
**          College Station, TX 77843-3146             **
**                                                     **
** Sponsored by;                                       **
**                                                     **
**      The U.S. Minerals Management Service (MMS)     **
**         MMS Project: OCS No.14-35-0001-30509        **
**                                                     **
**                  (409) 862-4169                     **
** Archived by;                                        **
**                                                     **
**    The National Oceanographic Data Center (NODC)    **
**              NODC Project Code 0212                 **
**                                                     **
** Please direct any questions about these data to     **
** Dr. Matthew Howard or Dr. Ann Jochens at Texas A&M. **
*********************************************************
*                                                     **
* Oxygen sensor data are provided as probe current in **
* column 8, oxygen probe temperature in column 9, and **
* descent rate in column 10 (to compute dOc/dt). The  **
* user may wish to convert the oxygen data to oxygen  **
* concentrations using the method of Millard (1993,   **
* CTD oxygen calibration procedure, WOCE Operations   **
* Manual, 3.1.3. WHP Operations and Method, WOCE Report **
* No. 68/9, Section 4). Bottle oxygen data for use in **
* calibrations are in the bottle data files submitted **
* to NODC along with these data. For more information **
* on these data see Jochens, A. E., D. A. Wiesenburg, **
* L. E. Sahl, C. N. Lyons, and D. A. DeFreitas, 1998, **
* "LATEX Shelf Data Report: Hydrography, April 1992   **
* through November 1994", TAMU Oceanography Technical **
* Report 96-6-T.                                      **
*********************************************************
*********************************************************
* Instrument Type: Sea-Bird SBE 9
* SB Software Ver: 4.026
* Vessel         : J.W. Powell
* Cruise         : H06 aka 93F
```

* Station : 066
* Cast Date-Time : 1993-06-30T00:32:00Z

```
* Latitude       :  29.0808 N
* Longitude      :  92.0027 W
* Water Depth (m):   12.9
* $LATEX VERSION 05/29/1996 14:58- added lat/lon, times and depths to headers
*********************************************************
* Column  1: Pressure (decibars)
* Column  2: Depth (salt water) (meters)
* Column  3: Temperature (deg C)
* Column  4: Potential temperature (deg C)
* Column  5: Conductivity (S/m)
* Column  6: Salinity (PSS-78 psu)
* Column  7: Sigma-theta (kg/m^3)
* Column  8: Oxygen current (microamps)
* Column  9: Oxyyen temperature (deg C)
* Column 10: Instrument package descent rate dz/dt (m/s)
* Column 11: Transmission (percent)
* Column 12: Transmission (volts)
* Column 13: Irradiance (PAR) (microEinsteins/m^2/sec)
* Column 14: Irradiance (PAR) (volts)
* Column 15: Relative fluoresence (volts)
* Column 16: Relative Backscatterance (volts)
*********************************************************
* Press   Depth  Temp   PoTemp     Cond     Sal   Sig-Th   O2-Cur  O2Temp  dz/dt  %Tran Tran-V     PAR     PAR-
V  FL-V   OBS-V
*END*
1.510    1.5 31.9436 31.9432  4.538019 25.3898 13.8863  0.67400 29.728  0.230  74.10  3.706  0.653E+02  2.103
1.960 -9.000
2.013    2.0 31.7050 31.7045  4.559254 25.6442 14.1577  0.69300 29.747  0.391  74.47  3.725  0.532E+02  2.014
1.977 -9.000
2.517    2.5 31.4458 31.4451  4.539849 25.6556 14.2551  0.72300 29.765  0.409  74.71  3.737  0.421E+02  1.912
1.950 -9.000
3.020    3.0 31.4269 31.4261  4.535501 25.6379 14.2484  0.74200 29.774  0.481  74.83  3.743  0.346E+02  1.827
1.916 -9.000
3.524    3.5 31.2298 31.2289  4.548492 25.8220 14.4526  0.94700 29.785  0.451  75.30  3.766  0.280E+02  1.736
1.873 -9.000
4.027    4.0 31.1081 31.1071  4.572930 26.0402 14.6565  1.01600 29.799  0.381  76.10  3.807  0.226E+02  1.643
1.843 -9.000
4.530    4.5 31.0523 31.0512  4.617626 26.3537 14.9092  0.98000 29.816  0.211  78.60  3.932  0.184E+02  1.553
1.749 -9.000
5.034    5.0 30.8866 30.8854  4.660203 26.7139 15.2337  0.88000 29.854  0.127  81.53  4.078  0.156E+02  1.481
1.687 -9.000
5.537    5.5 30.7995 30.7981  4.671602 26.8340 15.3529  0.88300 29.891  0.137  80.24  4.014  0.138E+02  1.428
1.795 -9.000
6.041    6.0 30.6972 30.6958  4.677743 26.9291 15.4583  0.87400 29.928  0.133  80.96  4.050  0.124E+02  1.383
1.802 -9.000
```

Example 2. Sample ASCII CTD File – Sea-Bird CNV file

```
* Sea-Bird SBE 19plus V2 Data File:
* FileName = C:\Documents and Settings\TAMU\Desktop\TAMU_MS07\MS07_L01.hex
* Software Version Seasave V 7.22.3
* Temperature SN = 6073
* Conductivity SN = 6073
* System UpLoad Time = Jun 25 2013 07:37:50
* NMEA Latitude = 28 26.3633 N
* NMEA Longitude = 095 43.6194 W
* NMEA UTC (Time) = Jun 25 2013 07:37:18
* Store Lat/Lon Data = Append to Every Scan
** Ship: R/V Manta
** Station: L01
** Operator: H, Zimmerle, E. Webb
** started at L012
* Real-Time Sample Interval = 0.2500 seconds
* System UTC = Jun 25 2013 07:37:50
# nquan = 19
# nvalues = 360
# units = specified
# name 0 = latitude: Latitude [deg]
# name 1 = longitude: Longitude [deg]
# name 2 = prdM: Pressure, Strain Gauge [db]
# name 3 = depSM: Depth [salt water, m]
# name 4 = tv290C: Temperature [ITS-90, deg C]
# name 5 = potemp090C: Potential Temperature [ITS-90, deg C]
# name 6 = sal00: Salinity, Practical [PSU]
# name 7 = density00: Density [density, Kg/m^3]
# name 8 = sigma-t00: Density [sigma-t, Kg/m^3 ]
# name 9 = sbeox0ML/L: Oxygen, SBE 43 [ml/l]
# name 10 = wetCDOM: Fluorescence, WET Labs CDOM [mg/m^3]
# name 11 = flECO-AFL: Fluorescence, WET Labs ECO-AFL/FL [mg/m^3]
# name 12 = v0: Voltage 0
# name 13 = v1: Voltage 1
# name 14 = v2: Voltage 2
# name 15 = v3: Voltage 3
# name 16 = v4: Voltage 4
# name 17 = v5: Voltage 5
# file_type = ascii
*END*
28.43938 -95.72700 -0.102 -0.102 27.4746 27.4782 0.0000 996.3818 ...
```

Example 2. Sample ASCII CTD File – Sea-Bird CNV file

```
* Sea-Bird SBE 19plus V2 Data File:
* FileName = C:\Documents and Settings\TAMU\Desktop\TAMU_MS07\MS07_L01.hex
* Software Version Seasave V 7.22.3
* Temperature SN = 6073
* Conductivity SN = 6073
* System UpLoad Time = Jun 25 2013 07:37:50
* NMEA Latitude = 28 26.3633 N
* NMEA Longitude = 095 43.6194 W
* NMEA UTC (Time) = Jun 25 2013 07:37:18
* Store Lat/Lon Data = Append to Every Scan
** Ship: R/V Manta
** Station: L01
** Operator: H, Zimmerle, E. Webb
** started at L012
* Real-Time Sample Interval = 0.2500 seconds
* System UTC = Jun 25 2013 07:37:50
# nquan = 19
# nvalues = 360
# units = specified
# name 0 = latitude: Latitude [deg]
# name 1 = longitude: Longitude [deg]
# name 2 = prdM: Pressure, Strain Gauge [db]
# name 3 = depSM: Depth [salt water, m]
# name 4 = tv290C: Temperature [ITS-90, deg C]
# name 5 = potemp090C: Potential Temperature [ITS-90, deg C]
# name 6 = sal00: Salinity, Practical [PSU]
# name 7 = density00: Density [density, Kg/m^3]
# name 8 = sigma-t00: Density [sigma-t, Kg/m^3 ]
# name 9 = sbeox0ML/L: Oxygen, SBE 43 [ml/l]
# name 10 = wetCDOM: Fluorescence, WET Labs CDOM [mg/m^3]
# name 11 = flECO-AFL: Fluorescence, WET Labs ECO-AFL/FL [mg/m^3]
# name 12 = v0: Voltage 0
# name 13 = v1: Voltage 1
# name 14 = v2: Voltage 2
# name 15 = v3: Voltage 3
# name 16 = v4: Voltage 4
# name 17 = v5: Voltage 5
# file_type = ascii
*END*
28.43938 -95.72700 -0.102 -0.102 27.4746 27.4782 0.0000 996.3818 ...
```