

Data management plan

Data Types:

The gridded O₂ data created by this project will be stored as netCDF files, which is a machine-independent, self-describing data format which includes metadata within itself. The gridded data will have four dimensions, longitude, latitude, depth and time. Development data products entail gridded O₂ maps conducted to evaluate the algorithm behavior during the development cycle, including for the purposes of tuning and testing the performance. Development data products do not typically have much use beyond the completion of developments and parameter turning, thus these will not be archived or made publicly available. The final, completed data products are what will be used to conduct the proposed research; these data will be made publicly available and archived.

Data Format:

The gridded O₂ data will be in the netCDF format, and the file size will range from 100 MB to 50 GB depending on the horizontal and vertical resolutions. The data files will be named and structured using the following convention: *OutputType_CaseName_Version_Date.nc*. Data analysis products other than the gridded O₂ data will also be stored in the netCDF format, and the file size will be less than 1 GB. The data analysis software will be in commonly used language such as Python and MATLAB.

Metadata

File level metadata for each data file will be recorded automatically through the built-in header section of the netCDF file.

Access to Data and Data Sharing Practices and Policies:

During the project lifetime, all data generated during the project will be stored and available for project use and for other interested parties on a request basis that recognizes proprietary access to the project members. The final results of the project will be moved into the public domain and be made publicly available through Biological and Chemical Oceanography Data Management Office (BCO-DMO). Examples from our earlier modeling project are available at <https://www.bco-dmo.org/dataset/706167>.

Policies for Re-Use, Re-Distribution:

Those who are interested in using the project's final data can obtain access via BCO-DMO as described in the above section. Users are expected to cite the project and the corresponding data according to the citations.