

DATA MANAGEMENT PLAN

Internal BIOS Data:

Data and samples generated by BIOS personnel over the course of this project are comprised of the following, and data and aliquots of samples are made freely available to interested parties:

- 1) Meteorological data: wind speed; wind direction; ambient air temperature and relative humidity; rainfall amount (automatic); barometric pressure;
- 2) Aerosol sampling timing, flow rates and duration;
- 3) Rainfall amount (manual);
- 4) Observations and records of site and equipment maintenance;
- 5) Rainwater samples;
- 6) Aerosol filter samples.

Categories 1 and 2 are automatically recorded by the Campbell Scientific data control system and stored on the on-site personal computer (PC). This PC performs automatic back-up to an external hard-drive on a regular basis. These data are also manually transferred to a project-dedicated data management PC at BIOS each week. This in turn is backed-up on the BIOS central server managed by the BIOS IT team approximately once a month.

As of 2018, all digital data are submitted for archiving at the Biological and Chemical Oceanography Data Management Office (BCO-DMO), as per NSF-OCE requirements. Data will be uploaded to BCO-DMO on a regular basis and historical data will also be added as available and appropriate.

Categories 3 and 4 are recorded manually in the site log book during the regular visits made by the project technician. These data are then transcribed to electronic format at regular intervals and files are stored as described above. When full, the physical logbooks are stored at BIOS.

Category 5: Weekly rainwater samples are collected using N-CON automatic deposition samplers equipped with acid-washed polyethylene buckets. Using trace-metal clean protocol, two rainwater samples (suitable for major ion analysis and trace-metals) are transferred into acid-cleaned 125 mL low-density polyethylene bottles and stored frozen at BIOS. Rainwater samples for the NADP National Trends Network will be processed on site, stored overnight at BIOS, and dispatched the following day to the NADP laboratory at the University of Wisconsin using an express courier service. Data for these samples are managed by NADP.

Category 6: Using clean methods, weekly bulk aerosol samples are folded into quarters, placed in labeled double Ziploc bags, and stored in evacuated desiccators at BIOS.

External Users' Data:

Other data and samples collected at the site are those specific to external users' projects. Data and samples are collected according to the protocols specified by the external users and vary on a case-by-case basis. A range of methods of data handling have been or are currently used for external users, including: direct transmission to the user's data system using satellite telemetry (NASA AERONET); data exchange via DSL (Steen-Larsen); transfer of data to CD and subsequent mailing (NOAA ozone data); and transfer of data by e-mail. Physical samples (rainwater, air, and/or aerosol) are handled according to the users' specific protocols, stored appropriately at BIOS (e.g. refrigerated or frozen if necessary), and shipped according to the method and schedule requested by the user.