

AmeriFlux Data Submission Guidelines

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One of the fundamental requirements of being a participant in the AmeriFlux network is to submit data within two years of data collection to the central AmeriFlux data repository located at the Carbon Dioxide Information Analysis Center (CDIAC). Investigators are expected to provide a core suite of flux and micrometeorological measurements reported on 30-min (preferred) or 1 hr reporting intervals referenced to the beginning of the interval.

The preferred data submission format is a comma-separated, ASCII file. Data may also be submitted as fixed-format, ASCII files. Each file should contain a header identifying the site, investigator, and submission date. The header should also identify the contents and units of each column, measurement heights, the offset between local standard time and UTC, missing value representations (there should be no blank entries), and any flagging schemes. Further details may be furnished in a companion descriptive "readme" file. Items may include, gap filling techniques, quality control and assurance protocols, additional filtering (e.g., exclusion of rain data, use of wind variances, u^* filters, integral turbulent statistics, etc...), sampling rate, system design (type of instruments, flow rate, etc...), software design (averaging operator, type of high or low frequency corrections, etc...), or further descriptions of what the micrometeorological data represent (for example, soil heat flux estimate is an average of 10 sensors that were spatially independent, or air temperature was aspirated using model xxx shield).

The minimum AmeriFlux data reporting elements include the following.

Date & Time

Year
Julian day
Sampling time (local standard time)

Flux and Radiation Measurements

Carbon dioxide flux (F_c) – please indicate any corrections (e.g., high and/or low frequency corrected, WPL, etc.) that are applied
Carbon storage in canopy (S_c)
Net ecosystem exchange (NEE)
Atmospheric CO₂ concentration (CO₂)
Water vapor flux (F_{h2o})
Net radiation (R_n)
Latent heat flux (LE)
Sensible heat flux (H)
Heat storage in canopy (Sh)
Friction velocity (U^*)

Micrometeorological Measurements

Incoming photosynthetically active radiation/Photon flux density (PAR/PPFD)

Soil heat flux (G)

Global solar radiation (Rg)

Air temperature (Ta)

Relative humidity (Rh)

Wind speed (Ws)

Wind direction (Wd)

Precipitation (PREC)

Barometric pressure (PRESS)

Soil temperature (Ts) – please indicate depths

Soil moisture (SWC) – please indicate depths

Reporting additional measurements (e.g., direct and diffuse radiation) is encouraged, as are ecophysical and biometric measurements, phenology measurements, plant-level and leaf-level chemistry measurements, isotopic analyses, etc., as listed in “AmeriFlux Core and Desired Measurements” (<http://public.ornl.gov/ameriflux/Standards/def1112.cfm>). CDIAC will accept any data the investigator wishes to submit to the AmeriFlux data repository. Participants are encouraged to submit preliminary data as soon as practical in order to foster inter-site collaborations.

To submit data simply contact Tom Boden using the information furnished below. Data may be submitted in a variety of ways including sending electronic mail with file attachments, mailing data to CDIAC on transfer media (e.g., CD-ROM, DLT), or transmitting data to the CDIAC server directly using the File Transfer Protocol (FTP). If your data are already posted somewhere, it is also possible for CDIAC to mirror the location periodically and automatically transfer data. The present CDIAC mirroring schedule is every Monday from 1-5 AM EST.

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