

Use CF Bounds Attributes

Recommendation:

We recommend that spatio-temporal and other coordinate boundaries be specified by adding CF "bounds" attributes.

Recommendation Details: The CF conventions are widely employed guidelines for Earth Science data and metadata storage. The purpose of the CF conventions is to require conforming datasets to contain sufficient metadata that they are self-describing in the following ways: Each variable in the file has an associated description of what it represents, including physical units if appropriate; and each value can be located in space (relative to Earth-based coordinates) and time. Thus, adhering to CF guidelines will increase completeness, consistency, and interoperability of conforming datasets.

CF conventions state: "When gridded data does not represent the point values of a field but instead represents some characteristic of the field within cells of finite 'volume,' a complete description of the variable should include metadata that describes the domain or extent of each cell, and the characteristic of the field that the cell values represent." Bounds are implemented by adding a `bounds` attribute to each applicable coordinate dimension, and the attribute specifies the name of the variable that contains [the edges of the respective coordinate](#).

Example: Data representative of a time interval (rather than a specific time) might annotate the `time` coordinate with a `bounds` attribute with value `"time_bounds"`. The `time_bounds` variable would be a multi-dimensions array of the intervals for each value of "Time."

Similar conventions apply to spatial and other coordinates.