

## Data Policy

### Purpose

The Mission of the International Soil Carbon Network (ISCN) is to improve the understanding of C dynamics in soils across the world, including the spatial and temporal distribution and stability of C forms. The soil C database component of this network depends on community-based data sharing efforts. Those who contribute to or use the database agree to the following data policies:

### Policy on Data Contribution

Researchers are encouraged to contribute spatially explicit soil carbon datasets to the community-accessible ISCN database. Soil datasets are requested to consist primarily of raw, measured values associated with accurate geocoordinates. The recommended level of precision for geocoordinates is five decimal degrees (latitude and longitude), but in cases where the locations of sites are sensitive to long-term monitoring or landowner agreements, contributors may choose to obscure the coordinates to a tenth of a decimal degree (0.1 degree). For these special cases, users desiring exact locations will have to contact the data contributor directly.

Data contributions generally progress through three phases:

**Phase I, data entry.** The preparation of data for ingestion into the database, using standardized templates. If the data pass basic quality checks performed by the ISCN Coordinator and the database curator, they are ingested into an access-restricted portion of the database. Essential criteria for ingestion are summarized below:

- 1) Dataset Quality- In order to be ingested, a dataset must not duplicate data already in the database and must clearly attribute its provenance, including contributor/curator, methodology, citation and acknowledgment information.
- 2) Measurement Quality- A dataset must have observations with unique names, relevant measurements with reasonable values, units, and coordinates of the sampled locations.

**Phase II, validation.** Upon ingestion into the database, data enter Phase II. This stage allows the ISCN database team, the data contributor and her/his authorized collaborators to validate and explore that contributor's data, and alert database managers to quality concerns. General database users are unable to see Phase II data. Phase II is intended to allow data contributors sufficient time to analyze their data and submit results for independent publication, but Phase II data should transition in a reasonable timeframe into Phase III. A maximum timeframe for Phase II is yet to be established by the ISCN Scientific Steering Group. Conversely, contributors may wish to submit their data, validate it, and transition it to Phase III as soon as possible, without any additional holding time for publication. In all cases, no Phase II data will be transitioned to Phase III before the ISCN Coordinator has communicated with the data contributor about such a transition.

**Phase III, data release.** Phase III data will be used to populate a database accessible to ISCN members via a link from the ISCN website (<http://www.soilcarb.net>). Summary information about the Phase III data (e.g., number of contributors, geographic distribution of data) may be released to public-accessible portions of the ISCN website in order to encourage the recruitment and participation of new members. Data contributors are encouraged to remain accessible to correspondence from the database team and database users to answer questions and provide data updates or revisions, or to nominate a curator who can share this long-term responsibility.

Responsibilities pertaining to data contribution and management:

- *It is the responsibility of the data contributor to ensure that her/his dataset is reasonably accurate at the time of submission*
- *It is the responsibility of the data contributor to identify sites that are location sensitive.*
- *It is the responsibility of database managers to earmark such sites, generalize their coordinates to 0.1 degree, and identify the data contributor in possession of the detailed coordinates.*
- *It is the responsibility of data contributors to identify the data phase at the time of submission, and in the event of any data status changes (e.g., after the contributor has analyzed her/his data and the results have been accepted for publication)*
- *It is the responsibility of database managers to release data according to data phase assignments.*

### **Policy on Fair Use**

**Data use:** Use of data assumes that the user has joined the ISCN and will act according to the mission and guidelines stated in the [Charter](#). Phase II data are available to select users on the condition that contributors will be invited to assist with interpretation, presentations, and publications, if these tasks are being performed by a user other than the original contributor of the data (such as a colleague of the contributor). When using Phase III data, users are encouraged to contact original data contributors for questions or clarifications; users agree to cite and/or acknowledge the data contributors and the ISCN in presentations and publications. References of all accepted papers developed from ISCN data products must be sent to the ISCN Coordinator. Although these policies are intended to encourage communication between data contributors and data users, the interpretation of data and adherence to fair use guidelines are ultimately the responsibility of the user of ISCN products.

**Site information:** When using site coordinates, it is not appropriate to revisit or reoccupy those locations without first contacting the data contributor to be aware of land access or impact restrictions, landowner and leasor rights and permissions.

**Transfer of ISCN data to other databases or networks:** In the event that ISCN data products are redistributed to scientific partners such as other databases, networks and/or synthesis efforts, they are subject to the following criteria:

1. The transferred data shall include the citations and acknowledgments necessary to identify and properly credit the original data contributors and the ISCN
2. The manager(s) of a recipient database shall make reasonable efforts to: a) require its users to abide the fair use and citation policies of the ISCN; b) maintain and communicate a list of data users to the manager(s) of the ISCN database
3. Users accessing the ISCN database via a recipient database are encouraged to join the ISCN in order to facilitate communication, transparency, and appropriate attribution of data provenance in the spirit of the ISCN Charter

These criteria will be explicitly affirmed in a Memorandum of Understanding to be signed by the individuals with executive responsibilities for the ISCN database (*i.e.*, the Chair of the SSG) and the recipient database, before initiation of such a transfer. This memorandum will be cataloged on the ISCN website with other materials, including the list of products developed from ISCN data by users of the recipient database. Collectively, these documents will form the core of a set

of information management and communication tools on the ISCN website designed to enhance interaction between data users and data contributors, and to provide the ISCN community and Scientific Steering Group with up-to-date knowledge of the uses of shared resources.

These fair use directives will facilitate proper documentation of data provenance and ensure that the recipient database accommodates the version control mechanisms of the central, regularly updated ISCN Database. Because the ISCN database is the result of tremendous scientific cooperation, proper documentation of data contributions will help ensure good faith and broad participation in this community effort. The components of the data policy related to citations and acknowledgments are itemized below:

### **Citation guidelines**

1. Cite each ISCN Database report that you use to prepare your work. Example citation for your References section:

International Soil Carbon Network, 2012. ISCN Database report: Profile Carbon to 1m. <<http://www.fluxdata.org/nscn/Data/AccessData/SitePages/Carbonto1M.aspx>>. Accessed 12 October 2012.

2. If you use *any* of the USDA-NRCS Soil Survey data contained in the ISCN database, include this exact citation in your References along with the provided access date:

Soil Survey Staff, 2011. National Cooperative Soil Characterization Data. Soil Survey Laboratory, National Soil Survey Center, USDA-Natural Resources Conservation Service, Lincoln, NE. <<http://ssldata.nrcs.usda.gov>>. Accessed 11 January 2011.

3. Cite each contributor whose data you access via the ISCN database, using the citations provided by data contributors [here](#). Determine who provided the data you used by checking the contributor organization and curator name columns in the database reports from which you developed your product. Note that some data contributions will have more than one associated citation; we recommend either including all citations provided by the contributor in your literature cited section or contacting her/him directly to ascertain which are appropriate for the data used. If you have any doubts about proper citation procedures contact [ISCN Support](#).

### **Acknowledgment guidelines**

1. We request that you include the following text in your Acknowledgments:

"This work was facilitated by the International Soil Carbon Network."

2. If you use USDA-NRCS Soil Survey and/or U.S. Geological Survey data, explicitly acknowledge these important data contributors with this text:

"This work benefited from extensive data contributions to the International Soil Carbon Network from the (i) USDA Natural Resources Conservation Service, National Cooperative Soil Survey, and (ii) the U.S. Geological Survey."

3. If you use the ISCN database to access unpublished data from individual contributors (which will accordingly have no citation per #3 above), acknowledge those contributors by name here.

Your adherence to the above citation and acknowledgment recommendations is vital to the success of ISCN.