Title of data set

Authors

Date

Class I. Data set descriptors

A. Data set identity

Title or theme of data set

B. Data set identification code

Database accession numbers or site-specific codes used to uniquely identify data set

C. Data set description

1. Originator(s)

Names and addresses of principal investigator(s) associated with data set

2. Abstract

Descriptive abstract summarizing research objectives, data contents (including temporal, spatial, and thematic domain), context and potential uses of data set

D. Key words

Location (spatial scale), time period and sampling frequency (temporal scale), theme or contents (thematic scale)

Class II. Research origin descriptors

A. "Overall project" description

[Note: this section may be essential if data set represents a component of a larger or more comprehensive database; otherwise, relevant items may be incorporated into II.B.]

1. Identity

Project title or theme

2. Originator(s)

Name(s) and address(es) of principal investigator(s) associated with the project

3. Period of study

Date commenced, date terminated, or expected duration

4. Objectives

Scope and purposes of research program

5. Abstract

Descriptive abstract summarizing broader scientific scope of "overall" research project

6. Source(s) of funding

Grant and contract numbers, names and addresses of funding sources

B. "Specific subproject" description

1. Site description

a. Site type

Descriptive (e.g., short-grass prairie, blackwater stream, etc.)

b. Geography

Location (e.g., latitude/longitude), size

c. Habitat

Detailed characteristics of habitats sampled

d. Geology, landform

Soils, slope/elevation/aspect, terrain/physiography, geology/lithology

e. Watersheds, hydrology

Size, boundaries, receiving streams, etc.

f. Site history

Site management practices, disturbance history, etc.

g. Climate

Description of statistical/sampling design

2. Experimental or sampling design

a. Design characteristics

Description of statistical/sampling design

b. Permanent plots

Dimension, location, general vegetation characteristics (if applicable)

c. Data collection period, frequency

Information necessary to understand temporal sampling regime

3. Research methods

a. Field/laboratory

Description or reference to standard field/laboratory methods

b. Instrumentation

Description and model/serial numbers

c. Taxonomy and systematics

References for taxonomic keys, identification and location of voucher specimens, etc.

d. Permit history

References to pertinent scientific and collecting permits

e. Legal/organizational requirements

Relevant laws, decision criteria, compliance standards, etc.

4. Project personnel

Principal and associated investigator(s), technicians, supervisors, students

Class III. Data set status and accessibility

A. Status

1. Latest update

Date of last modification of data set

2. Latest archive date

Date of last data set archival

3. Metadata status

Date of last metadata update and current status

4. Data verification

Status of data quality assurance checking

B. Accessibility

1. Storage location and medium

Pointers to where data reside (including redundant archival sites)

2. Contact person

Name, address, phone, fax, electronic mail

3. Copyright restrictions

Whether copyright restrictions prohibit use of all or portions of the data set

4. Proprietary restrictions

Any other restrictions that may prevent use of all or portions of data set

a. Release date

Date when proprietary restrictions expire

b. Citation

How data may be appropriately cited

c. Disclaimer(s)

Any disclaimers that should be acknowledged by secondary users

5. Costs

Costs associated with acquiring data (may vary by size of data request, desired medium, etc.)

Class IV. Data structural descriptors

A. Data set files

1. Identity

Unique file names or codes

2. Size

Number of records, record length, total number of bytes, etc.

3. Format and storage mode

File type (e.g., ASCII, binary, etc.), compression schemes employed (if any), etc.

4. Header information

Description of any header data or information attached to file [Note: may include elements related to ''variable information'' (IV.B.); if so, could be linked to appropriate section(s)]

5. Alphanumeric attributes

Mixed, upper, or lower case

6. Special characters

Methods used to denote comments, ''flag'' modified or questionable data, etc.

7. Authentication procedures

Digital signature, checksum, actual subset(s) of data, and other techniques for assuring accurate transmission of data to secondary users

B. Variable information

1. Variable identity

Unique variable name or code

2. Variable definition

Precise definition of variables in data set

3. Units of measurement

Units of measurement associated with each variable

4. Data type

a. Storage type

Integer, floating point, character, string, etc.

b. List and definitions of variable codes

Description of any codes associated with variables

c. Range for numeric values

Minimum, maximum

d. Missing value codes

Description of how missing values are represented in data set

e. Precision

Number of significant digits

5. Data format

a. Fixed, variable length

b. Columns

Start column, end column

c. Optional numbers of decimal places

C. Data anomalies

Description of missing data, anomalous data, calibration errors, etc.

Class V. Supplemental descriptors

A. Data acquisition

1. Data forms or acquisition methods

Description or examples of data forms, automated data loggers, digitizing procedures, etc.

2. Location of completed data forms

3. Data entry verification procedures

Procedures employed to verify that digital data set is error free

B. Quality assurance/quality control procedures

Identification and treatment of outliers, description of quality assessments, calibration of reference standards, equipment performance results, etc.

C. Related materials

References and locations of maps, photographs, videos, GIS data layers, physical specimens, field notebooks, comments, etc.

D. Computer programs and data-processing algorithms

Description or listing of any algorithms used in deriving, processing, or algorithms transforming data

E. Archiving

1. Archival procedures

Description of how data are archived for long-term storage and access

2. Redundant archival sites

Locations and procedures followed

F. Publications and results

Electronic reprints, lists of publications resulting from or related to the study, graphical/statistical data representations, etc.

G. History of data set usage

1. Data request history

Log of who requested data, for what purpose, and how data set was actually used

2. Data set update history

Description of any updates performed on data set

3. Review history

Last entry, last researcher review, etc.

4. Questions and comments from secondary users

Questionable or unusual data discovered by secondary users, limitations or ondary users problems encountered in specific applications of data, unresolved questions or comments