

CHAPTER 13 - LOCATIONAL DATA

1. PURPOSE. This policy establishes the principles for collecting and documenting latitude/longitude coordinates for facilities, sites and monitoring and observation points regulated or tracked under Federal environmental programs within the jurisdiction of the Environmental Protection Agency (EPA). The intent of this policy is to extend environmental analyses and allow data to be integrated based upon location, thereby promoting the enhanced use of EPA's extensive data resources for cross-media environmental analyses and management decisions. This policy underscores EPA's commitment to establishing the data infrastructure necessary to enable data sharing and secondary data use.

2. SCOPE AND APPLICABILITY. This policy applies to all Environmental Protection Agency (EPA) organizations and personnel of agents (including contractors and grantees) of EPA who design, develop, compile, operate or maintain EPA information collections developed for environmental program support. Certain requirements of this policy apply to existing as well as new data collections.

3. BACKGROUND.

a. Fulfillment of EPA's mission to protect and improve the environment depends upon improvements in cross programmatic, multi-media data analyses. A need for available and reliable location identification information is a commonality which all regulatory tracking programs share.

b. Standard location identification data will provide a return yet unrealized on EPA's sizable investment in environmental data collection by improving the utility of these data for a variety of value-added secondary applications often unanticipated by the original data collectors.

c. EPA is committed to implementing its locational policy in accordance with the requirements specified by the Federal Interagency Coordinating Committee for Digital Cartography (FICCDC). The FICCDC has identified the collection of latitude/longitude as the most preferred coordinate system for identifying location. Latitude and longitude are coordinate representations that show locations on the surface of the earth using the earth's equator and the prime meridian (Greenwich, England) as the respective latitude and longitude origins.

d. The State/EPA Data Management Program is a successful multi-year initiative linking State environmental regulatory agencies and EPA in cooperative action. The Program's goals include improvements in data quality and data integration based on location identification.

e. Readily available, reliable and consistent location identification data are critical to support the Agencywide development of environmental risk management strategies, methodologies and assessments.

f. OIRM is committed to working with EPA Programs, Regions and Laboratories to apply spatially related tools (e.g., geographic information systems (GIS), remote sensing, automated mapping) and to ensure these tools are supported by adequate and accurate location identification data. Effective use of spatial tools depends on the appropriate collection and use of location identifiers, and on the accompanying data and attributes to be analyzed.

g. OIRM's commitment to effective use of spatial data is also reflected in the Agency's comprehensive GIS Program and OIRM's coordination of the Agency's National Mapping Requirement Program (NMRP) to identify and provide for EPA's current and future spatial data requirements.

4 AUTHORITIES.

a. 15 CFR, Part 6 Subtitle A, Standardization of Data Elements and Representations

b. Geological Survey Circular 878-B, A U.S. Geological Survey Data Standard, Specifications for Representation of Geographic Point Locations for Information Interchange

c. Federal Interagency Coordinating Committee on Digital Cartography (FICCDC)/U.S. Office of Management and Budget, Digital Cartographic Data Standards: An Interim Proposed Standard

d. EPA Regulations 40 CFR 30.503 and 40 CFR 31.45, Quality Assurance Practices under EPA's General Grant Regulations.

5. POLICY.

a. It is EPA policy that latitude/longitude ("lat/long") coordinates be collected and documented with environmental and related data. This is in addition to, and not precluding, other critical location identification data that may be needed to satisfy individual program or project needs, such as depth, street address, elevation or altitude.

b. This policy serves as a framework for collecting and documenting location identification data. It includes a goal that a 25 meter level of accuracy be achieved; managers of individual data collection efforts determine the exact levels of precision and accuracy necessary to support their mission within the context of this goal. The use of global positioning systems (GPS) is recommended to obtain lat/longs of the highest possible accuracy.

c. To implement this policy, program data managers must collect and document the following information:

(1) Latitude/longitude coordinates in accordance with Federal Interagency Coordinating Committee for Digital Cartography, (FICCDC) recommendations. The coordinates may be present singly or multiple times, to define a point, line, or area, according to the most appropriate data type for the entity being represented.

The format for representing this information is:

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+/-DD MM SS.SSSS (latitude)
+/-DDD MM SS.SSSS (longitude)
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where:

! Latitude is always presented before
longitude

! DD represents degrees of latitude; a

two-digit
through 90

decimal number ranging from 00

! **DDD** represents degrees of longitude; a
three- digit decimal number ranging number
ranging from 000 through 180

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! **MM** represents minutes of latitude or
 longitude; a two-digit
decimal number ranging from 00 through 60

! **SS.SSSS** represents seconds of latitude or
 longitude, with a format
allowing possible precision
to the ten-thousandths of seconds

! + specifies latitudes north of the equator
 and longitudes east of the prime meridian

! - specifies latitudes south of the equator
 and longitudes west of the prime meridian

(2) Specific method used to determine the lat/long
coordinates (e.g., remote sensing techniques, map
interpolation, cadastral survey)

(3) Textual description of the entity to which the
latitude/longitude coordinates refer (e.g., north-east
corner of site, entrance to facility, point of discharge,
drainage ditch)

(4) Estimate of accuracy in terms of the most precise units
of measurement used (e.g., if the coordinates are given to
tenths-of-seconds precision, the accuracy estimate should be
expressed in terms of the range of tenths-of-seconds within
which the true value should fall, such as "+/- 0.5 seconds")

d. Recommended labelling of the above information is as
follows:

! "Latitude"
! "Longitude"

! "Method"
! "Description"
! "Accuracy."

e. This policy does not preclude or rescind more stringent regional or program-specific policy and guidance. Such guidance may require, for example, additional elevation measurements to fully characterize the location of environmental observations.

f. Formats, standards, coding conventions or other specifications for the method, description and accuracy information are forthcoming.

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6. RESPONSIBILITIES.

a. The Office of Information Resources Management (OIRM) shall:

(1) Be responsible for implementing and supporting this policy

(2) Provide guidance and technical assistance where feasible and appropriate in implementing and improving the requirements of this policy

b. Assistant Administrators, Associate Administrators, Regional Administrators, Laboratory Directors and the General Counsel shall establish procedures within their respective organizations to ensure that information collection and reporting systems under their direction are in compliance with this policy.

While the value of obtaining locational coordinates will vary according to individual program requirements, the method, description and accuracy of the coordinates must always be documented. Such documentation will permit other users to evaluate whether those coordinates can support secondary uses, thus addressing EPA data sharing and integration objectives.

7. WAIVERS. Requests for waivers from specified provisions of the policy may be submitted for review to the Director of the Office of Information Resources Management.

Waiver requests must be based clearly on data quality objectives and must be signed by the relevant Senior IRM Official prior to submission to the Director, OIRM.

8. PROCEDURES AND GUIDELINES. The Findings and Recommendations of the Locational Accuracy Task Force supplement this policy. More detailed procedures and guidelines for implementing the policy are issued under separate cover as the Locational Data Policy Implementation Guidelines.