# Idaho Technology Authority (ITA)

# ENTERPRISE STANDARDS – S4000 – INFORMATION AND DATA

## Category: S4XXX –Standard for Radon Layer

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**I.** **DEFINITION**

See ITA Guideline [G105](https://ita.idaho.gov/psg/g105.pdf) (ITA Glossary of Terms) for definitions.

**II.** **RATIONALE**

A statewide Radon layer and data standard, which is part of the Hazards data theme is a critical source of information for the community, many of the trades (developers, plumbers, builders, etc.), realtors and homebuyers, school officials, healthcare professionals, and more. Standardized Radon data supports those groups by showing the percentage of tests with radon results that would be equal to or above the 4.0 pCI/L guidance. This map gives individuals an idea of what the radon levels are throughout the state

**III.** **APPROVED STANDARD(S)**

See Attachment

**IV.** **APPROVED PRODUCTS(S)**

Any GIS Software, either desktop or online, capable of ingesting and displaying Open Geospatial Consortium (OGC) Web Map Standard (WMS) services.

**V.** **JUSTIFICATION**

A statewide Radon dataset is a critical source of information as stated under ‘II Rationale’ in this standard. A data exchange standard supports the use of the Radon to facility a predictable format, improve collaboration and encourage use of this dataset.

**VI.** **TECHNICAL AND IMPLEMENTATION CONSIDERATIONS**

Any GIS Software, either desktop or online, capable of ingesting and displaying Open Geospatial Consortium (OGC) Web Map Standard (WMS) services.

**VII.** **EMERGING TRENDS AND ARCHITECTURAL DIRECTIONS**

Data will be shared in accordance with Enterprise Standard [S4250](https://ita.idaho.gov/psg/s4250.pdf) – Enterprise

Geographic Information System (GIS) Data Sharing Standards.

**VIII.** **PROCEDURE REFERENCE**

The format, content and development of this standard adhere to Policy [P5030](https://ita.idaho.gov/psg/p5030.pdf) for Framework Standards, [S4250](https://ita.idaho.gov/psg/s4250.pdf) for Data Sharing Standards and [S4220](https://ita.idaho.gov/psg/s4220.pdf) for Geospatial Metadata.

**IX. REVIEW CYCLE**

Review will occur at least annually.

**X. CONTACT INFORMATION**

For more information, contact the ITA Staff at (208) 605-4064.

**REVISION HISTORY**

XX/XX/202X – Standard Presented to the IGC-EC

 

STATE OF IDAHO

**Idaho Radons Data Standard**

Part of the Hazards Theme

Version 1

Effective Month Day, 2023

Developed by the Hazards Technical Working Group

Contact

ITA Staff

Office of Information Technology Services

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1. **Introduction to the Radon Data Exchange Standard**

A statewide radon dataset is a critical source of information for the community, many of the trades (developers, plumbers, builders, etc.), realtors and homebuyers, school officials, healthcare professionals, and more. Those groups will benefit from this data showing the percentage of tests with radon results that would be equal to or above the 4.0 pCI/L guidance. This map gives individuals an idea of what the radon levels are throughout the state. As can be seen from the above examples, many private sector and local, state, and federal government agencies have business needs for Radon data.

A Radon Standard is intended to facilitate integration and sharing of up-to-date Radon data and enhance the dissemination and use of Radon information. This standard does not instruct on how Radon databases are designed for internal use.

This standard was developed by the HazardsTechnical Working Group, a subgroup of the Idaho Geospatial Council – Executive Committee (IGC-EC). This standard will be reviewed on a regular basis and updated as needed.

* 1. **Mission and Goals of the Standard**

The Radon Standard supports a statewide dataset that is consistent with applicable state and national standards. It establishes the minimum attributes and geospatial database schema for the Radon Framework. The Standard will communicate with and may have similar attributes to other Idaho Framework data standards. It encourages all Idaho-based agencies with geospatial Radon data to contribute to Radon Framework.

The Radon Framework will be appropriately shared and beneficial to all. The fields in the Radon Data Exchange Standard will be general enough to incorporate basic information without requiring major changes in internal data models. This standard allows for expansion to a more complex data structure and schema.

* 1. **Relationship to Existing Standards**

This Radon Exchange Standard relates to existing standards as follows:

* No other standards apply.
  1. **Description of the Standard**

This standard describes the vision and geospatial data structure of a Radon Framework in the state of Idaho. This standard is devised to be:

* Simple, easy to understand, and logical
* Uniformly applicable, whenever possible
* Flexible and capable of accommodating future expansions
* Dynamic in terms of continuous review
  1. **Applicability and Intended Uses**

This standard applies to the Radon element of the Hazards theme of The Idaho Map (TIM).

When implemented this standard will enable access and exchange of the data. A predictable standard will support data collaboration, improve data collaboration, help identify and report errors and allow agencies to incorporate this data into their own data products.

This standard does not consider data sharing agreements, contracts, transactions, privacy concerns, or any other issues relating to the acquisition and dissemination of Radon data.

* 1. **Standard Development Process**

The Hazards Technical Working Group is a voluntary group of private, city, county, tribal, state, and federal representatives. In 2023 the Radon Lead began developing the standard for the Radon Framework using the standard development automation tools developed by the IGC-EC to generate the first draft of the Standard. This standard was then reviewed and edited by the members of the HazardsTechnical Working Group.

After initial development the draft standard document was shared with the Idaho Geospatial Council Executive Committee (IGC-EC) and the Idaho Geospatial Council (IGC) in accordance with the review and approval process described in ITA Policy [P5030](https://ita.idaho.gov/psg/p5030.pdf) Framework Standards Development.

The standard was presented to the IGC-EC in <<insert month and year>> and approved by the IGC-EC in <<insert month and year>>.

* 1. **Maintenance of the Standard**

This standard will be revised as needed and in accordance with the ITA Framework Standards Development Policy ([P5030](https://ita.idaho.gov/psg/p5030.pdf)).

1. **Body of the Standard**
   1. **Scope and Content**

The scope of the Radon Data Exchange Standard is to describe a statewide layer which identifies the physical locations and attributes of Radon in Idaho.

* 1. **Need**

Radon is a key dataset needed for community, real estate (buying and selling a home), and safety. This standard provides the foundation to aggregate Radon data for centralized access and stewardship information.

Radon data is needed to keep track of tests each year, and it helps the Idaho Department of Health and Welfare Environmental Health Program pick areas of focus for outreach and education.

* 1. **Participation in the Standard Development**

The development of the Radon Data Exchange Standard adheres to the ITA Framework Standards Development Policy ([P5030](https://ita.idaho.gov/psg/p5030.pdf)). The Hazards Standard Team tasked with developing this standard invite input and comments from private, county, state, and federal organizations. As the standard is reviewed in accordance with Policy [P5030](https://ita.idaho.gov/psg/p5030.pdf) requirements, there will be opportunity for broad participation and input by stakeholders in the development of this standard. The process will be equally broad for input on updates and enhancements to the standard. As with all Idaho Framework standards, public review, and comments on the Radon Data Exchange Standard is encouraged.

* 1. **Integration with Other Standards**

The Radon Data Exchange Standard follows the same format as other Idaho geospatial framework data standards. The Radon standard may contain some of the same attributes as other framework standards and may adopt the field name, definition, and domain from the other standards to promote consistency.

* 1. **Technical and Operation Context**
     1. **Data Environment**

The data environment is a digital polygon with a specific, standardized set of attributes pertinent to the Radon Framework. Radon data shared under this standard must be in a format supporting polygons.

* + 1. **Reference Systems**

The Radon Framework will be published in the Web Mercator coordinate system, which is the State of Idaho’s single-zone coordinate system. Data is not required to be submitted in the Idaho Transverse Mercator NAD83 (IDTM83) coordinate system but must have a defined coordinate system clearly described in the metadata.

* + 1. **Global Positioning Systems (GPS)**

Some data provided might contain geometry from GPS methods, and the provided metadata should describe this, if applicable.

* + 1. **Interdependence of Themes**

Radon geometry data may be coincident with other framework data as the radon test results are aggregated by zip code.

* + 1. **Encoding**

When data is imported into and exported from the Radon Framework, encoding will take place to convert data formats and attributes.

* + 1. **Resolution**

No specific requirements for resolution are specified in this standard. Resolution will be documented in the metadata. Resolution will be documented in the metadata.

* + 1. **Accuracy**

No specific requirements for accuracy are specified in this standard. Accuracy will be documented in the metadata.

* + 1. **Edge Matching**

No edge matching is required between jurisdictions, or between this and other framework layers.

* + 1. **Unique Identifier**

The unique identifier is ZIP\_CODE.

* + 1. **Attributes**

Attributes for public and intergovernmental distribution are described in Section 3 of this standard.

* + 1. **Stewardship**

Perpetual maintenance and other aspects of lifecycle management are essential to Radon Framework. Details of stewards, their roles and responsibilities, and processes are set forth, or are being planned to set forth in a Radon Framework Stewardship Plan and related documents.

* + 1. **Records Management and Archiving**

The Idaho Department of Health and Welfare Environmental Health Program keeps data in an excel spreadsheet and updates the map annually. The program also keeps track on how many tests are conducted annually.

* + 1. **Metadata**

The Radon Framework metadata will describe the methods used to update and aggregate the individual Radon data contributions, processes or crosswalks performed, definition of attributes, and other required information. This metadata will conform to the metadata standards as set out in ITA Standard [S4220](https://ita.idaho.gov/psg/s4220.pdf) Geospatial Metadata.

1. **Data Characteristics**
   1. **Minimum Graphic Data Elements**

The geometry of the features in Radon Framework is polygon.

* 1. **Optional Graphic Data Elements**

Not applicable.

* 1. **Standard Attribute Schema**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field Name** | **Data Type** | **Length** | **Description** | **Examples** |
| ZIP\_CODE | String | 10 | Zip code of polygon | 83201 |
| PO\_NAME | String | 100 | City associated with the zip code | Pocatello |
| N | Integer |  | Number of radon test results for that zip code | 100 |
| Percent\_High | Integer |  | The percentage of radon test results that were >3.9 | 50 |
| NumTestOver3\_9 | Integer |  | Number of radon test results that were >3.9 | 50 |

* 1. **Data Quality**

Data quality considerations for Radons include:

a) All Radons should have Radon IDs.

b) Other?

**Appendix A: References**

Idaho Technology Authority (ITA). *Information and Data Policy P5000, Category: P5030 Framework Standards Development Policy.* [https://ita.idaho.gov/psg/P5030.pdf](https://ita.idaho.gov/psg/p5030.pdf)

Idaho Technology Authority (ITA). *Enterprise Standards S4000 Geographic Information Systems (GIS) Data, Category: S4220 Geospatial Metadata.* [https://ita.idaho.gov/psg/S4220.pdf](https://ita.idaho.gov/psg/s4220.pdf)

<< Add More References as Needed>>

# Appendix B: Glossary

See ITA Guideline [G105](https://nam01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fita.idaho.gov%2Fpsg%2Fg105.pdf&data=01%7C01%7Cpbond%40cityofboise.org%7C2ca8b62d08b14c86824608d6d25b20ad%7Cda3e15835c884f8ea832bd79cbd319cb%7C0&sdata=Nsvlb1tLNvY1YuorWK8VNvl5P4gRou8Pk0AkKq6iNp8%3D&reserved=0) (ITA Glossary of Terms) for definitions.

|  |
| --- |
| **Radon Nomination** |
| **Framework Data Theme:** Hazards |
| **Framework Dataset:** Radon |
| **Proposed Framework Dataset Name:** Radon |
| **Link to Publication Dataset of Proposed Framework Dataset:** <https://services1.arcgis.com/CNPdEkvnGl65jCX8/arcgis/rest/services/ZIP_Codes_joined_to_Radon_Data/FeatureServer> |
| **Link to Metadata of Proposed Framework Dataset:** |
| **Authoritative Source(s) Description:** Idaho Department of Health and Welfare |
| **Link to Data Exchange Standard:** <Will be added when standard is approved> Will be updated in the near future – before nomination is shared with full IGC. |
| **Trusted Source Description:** |
| **Please attach copies of the agreements between Authoritative Source(s) and Trusted Source.** |
| **Minimum Scale of Dataset:** |
| **Please describe the proposed maintenance schedule for the dataset:** data will be updated as needed. |
| **If this dataset is not a statewide coverage, please describe the methodology for developing or incorporating other data to make a statewide coverage:** data coverage is statewide |