

P02 — FAIR Data Standards

SCD-P02 · Principle 2 of 10

FAIR Data Standards

“Findable. Accessible. Interoperable. Reusable.”

Technical Layer

Definition

Climate data must conform to FAIR principles: Findable (machine-readable metadata, persistent identifiers such as DOIs or stable URLs), Accessible (open API or public download, no authentication required), Interoperable (standard open formats: JSON-LD, GeoJSON, CSV, NetCDF), and Reusable (explicit open licence, fully documented provenance).

Rationale

FAIR compliance is a prerequisite for integration into global platforms (Climate TRACE, GFW, EDGAR) and for citation in ISSB S2 and EU CSRD disclosures. Data that is not FAIR cannot contribute to the AI-driven due-diligence economy. The 'From FAIR to FAIR²' framework (Frontiers, 2025) extends FAIR to also require machine-actionability — data that an AI agent can not only read but act upon.

Implementation Steps

1. Assign a persistent identifier (DOI or stable public URL) to every dataset.
2. Publish data in at least one open format: JSON, CSV, GeoJSON, or NetCDF.
3. Add schema.org or DataCatalog markup to all public data pages.
4. Declare a Creative Commons or equivalent open licence on every dataset.
5. Register datasets with a public catalogue (CKAN, DataCite, or national open data portal).

Compliance Checklist

	Criterion	What it means
?	Persistent identifiers assigned	Every dataset has a DOI or stable URL that will not change.
?	Open format export available	Data downloadable as JSON, CSV, or GeoJSON without login.
?	schema.org markup present	Dataset metadata is readable by Google Dataset Search and AI agents.

	Criterion	What it means
?	Licence declared	Explicit open licence (CC-BY 4.0 recommended) on every dataset.

Regulatory References

- FAIR Data Principles — Wilkinson et al., Scientific Data (2016)
- EU CSRD — Art. 8 Digital Tagging & Machine-Readable Reporting
- ISSB IFRS S2 — Appendix A (Definitions, data quality)

Recommended Tools and Platforms

schema.org DataCite CKAN Zenodo OpenAire

Keywords

FAIR principles open data interoperability schema.org machine-readable data catalogue

Related Principles: [SCD-P01](#) · [SCD-P06](#)

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