

ICS 07.060
CCS A47



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 45423-2025

Data element for meteorology - General

气象数据元总则

Issued on: February 28, 2025

Implemented on: June 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Meteorological data element determination rules	2
5 Classification and description methods of meteorological data elements	2
6 Meteorological data element attributes and description methods	5
13 Reference	14

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the China Meteorological Administration. This document is under the jurisdiction of the National Technical Committee for Standardization of Basic Meteorological Information (SAC/TC346). This document was drafted by: National Meteorological Information Center, 93213 Unit of the Chinese People's Liberation Army, National Satellite Meteorological Center, China Meteorological Administration Meteorological Observation Center, National Meteorological Center. The main drafters of this document are: Wang Ying, Gao Yunxiao, Cui Peng, Qin Shiguang, Li Xuan, Cao Lijuan and Wang Jiaqiang. General principles of meteorological data elements

1 Scope

GB/T 45423-2025 sets the general rules for meteorological data elements. Meteorology generates more data than almost any other Chinese scientific enterprise, from surface stations, radiosondes, radars, satellites and models, and the same physical quantity arrives in each stream with a different name, unit, precision and missing-value convention; unless the element itself is defined once, every exchange between systems requires a translation that someone has to maintain. The standard sets the rules for determining what constitutes a meteorological data element, the classification and description methods for the elements, the attributes of an element and the methods of describing them, and the rules for compiling those attributes, with an informative annex working a temperature data element through as an example. It takes effect on 1 June 2025.

This document establishes the determination rules, attribute content and attribute compilation rules of meteorological data elements, and provides corresponding classification and description methods. This document is used to guide the preparation of meteorological data metadata files.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 7408.1-2023 Date and time information exchange representation Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 dataelement A unit of data whose definition, identification, representation, and allowed values are specified by a set of attributes.

Note. Data elements are inseparable in a specific context. [Source: GB/T 18391.1-2009, 3.3.8, modified]

3.2 meteorological data element Data elements involved in meteorological data.

Note. Used for meteorological data format formulation, database construction, service interface development, classification and coding, file naming, core metadata compilation, etc.

3.3 objectclass Things and concepts that can be perceived or described, have clear boundaries and meanings, and share common characteristics. [Source: GB/T 18391.1-2009, 3.3.22, modified]

3.4 property Characteristics common to all members of a class of objects. [Source: GB/T 18391.1-2009, 3.3.29]

3.5 valuedomain A collection of allowed values. [Source: GB/T 18391.1-2009, 3.3.38]