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

GB/T 43858-2024

**Specification for long-term biological observation in terrestrial
ecosystems**

陆地生态系统生物长期监测规范

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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 Ministry of Science and Technology of the People's Republic of China: This document is under the jurisdiction of the National Science and Technology Platform Standardization Technical Committee (SAC/TC486): This document was drafted by: Institute of Botany, Chinese Academy of Sciences, Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, Agricultural Sciences, Chinese Academy of Agricultural Sciences Institute of Industrial Economics and Development, National Science and Technology Infrastructure Platform Center, China National Institute of Standardization, Northwest Ecological Environment and Resources of the Chinese Academy of Sciences Institute of Geography and Agroecology, Chinese Academy of Sciences, and Nanjing Institute of Soil Science, Chinese Academy of Sciences: The main drafters of this document are: Wu Dongxiu, Wei Wenshan, Zhang Lin, Song Chuangye, Yu Guirui, Li Jiahong, He Honglin, Wang Zhiqiang, Huang Jianhui, Xie Zongqiang, Bai Yongfei, Huang Zhenying, Li Xinrong, Song Changchun, Pan Xianzhang, Guo Xuebing, Li Linghao, Yang Yuanhe:

Organisms are the core components of ecosystems, the real implementers of ecosystem functions, and the direct embodiment of ecosystem structure and function: Therefore, long-term monitoring of biological factors is the core content of long-term monitoring of ecosystems: According to a unified design, high-quality data are obtained through long-term monitoring of important parameters of the biological community status and key

habitat factors in the ecosystem: High-quality, standardized and comparable data on the dynamics and changes of biological communities can reveal the changes in the structure and function of major ecosystems in my country: The process and mechanism of ecosystem conservation and its relationship with environmental change and human activities, as well as the ways and methods for sustainable use of ecosystems are provided: Serve: Specification for long-term monitoring of terrestrial ecosystem organisms

1 Scope

GB/T 43858-2024 is the Chinese specification for long-term biological monitoring of terrestrial ecosystems, the discipline behind the national ecological observation network. Long-term ecological monitoring has a requirement that ordinary survey work does not: the measurements have to remain comparable across decades and across sites run by different institutions, which means the plot layout, the sampling design and the observation methods must be fixed in advance and then not changed. The standard sets the objectives and principles of long-term biological monitoring, then the establishment and management of monitoring plots in detail, the plot types, their layout, the rules for setting a plot, its area, its internal arrangement, the sampling design within it and the recording of the site conditions; and then the observation content and methods for the biological components, the vegetation composition, structure and productivity, the animal and microbial communities and the phenological observations, together with the sampling frequency, the data recording and quality control and the management and archiving of the resulting data series. It took effect on 25 April 2024.

This document establishes the normative system, objectives, and principles for long-term monitoring of terrestrial ecosystem biomes, and specifies the establishment and management of sample sites, monitoring Monitoring content, monitoring indicator system, monitoring methods and monitoring data content and quality control: This document is applicable to long-term positioning ground surveys at the sample and regional scales in biomes of forest, grassland, desert, wetland and farmland ecosystems: Monitoring is not applicable to inland waters, cities and other ecosystems:

2 Normative references

The contents of the following documents constitute the 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 4883 Statistical processing and interpretation of data - Determination and processing of outliers in normal samples

GB/T 20533 Metadata for Ecological Science Data

GB/T 30523 Core metadata for scientific and technological resources

GB/T 32740-2016 Guidelines for long-term soil monitoring in natural ecosystems

GB/T 32843 Identification of scientific and technological resources

GB/T 33027-2016 Long-term positioning observation method for forest ecosystems

GB/T 39468-2020 General method for authenticity verification of land quantitative remote sensing products

3 Terms and definitions

The following terms and definitions apply to this document: 3:1 community A collection of various biological populations occupying a certain space:

Note: Further divided by biological type, such as plant community, animal community, microbial community, etc: 3:

2 Ecosystemecosystem All organisms living together in a certain space (i.e., biological communities) and their environment undergo constant material circulation and energy flow: A unified whole formed by movement: 3:

3 Terrestrial ecosystem The Earth's land surface is a unified entity consisting of the interaction between terrestrial organisms and their environment:

Note: A general term for various types of ecosystems other than water bodies on the continent, mainly including forests, grasslands, deserts, wetlands (excluding inland waters and urban wetlands) and Types of farmland ecosystems: 3:4 forest ecosystemforestecosystem An ecosystem composed of biological communities dominated by trees and their non-biological environment: