

ICS 07.060

CCS A 47



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

GB/T 45424-2025

**Technical guidelines for satellite monitoring - Cyanobacterial
bloom**

卫星遥感监测技术导则 蓝藻水华

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

Preface	III
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Monitoring content	1
5 Data requirements	1
5.1 Satellite data	1
5.2 Auxiliary Data	2
5.3 Data Preprocessing	2
6 Monitoring and processing flow	2
7 Identification of cyanobacterial blooms	2
8 Monitoring of cyanobacterial bloom coverage	3
8.1 Single pixel cyanobacteria bloom coverage	3
8.2 Cyanobacteria bloom coverage classification	3
9 Total area monitoring of cyanobacteria blooms	3
9.1 Total area of cyanobacteria blooms	3
9.2 Total area actually covered by cyanobacterial blooms	4
References	5

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 Satellite Meteorology and Space Weather Standardization Technical Committee (SAC/TC347).

This document was drafted by: National Satellite Meteorological Center.

The main drafters of this document. Wang Meng, Han Xiuzhen, Zheng Wei, Geng Weicheng, and Liu Cheng.

Technical Guidelines for Satellite Remote Sensing Monitoring of Cyanobacterial Blooms

1 Scope

This document specifies the monitoring content and data requirements for satellite remote sensing monitoring of cyanobacteria blooms, and describes the monitoring process and monitoring indicators. Calculation method.

This document applies to satellite remote sensing monitoring and treatment of cyanobacterial blooms.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Cyanobacterial bloom

A natural ecological phenomenon in which cyanobacteria multiply in large numbers in eutrophic water bodies and float on the water surface, causing abnormal water color.

3.2 Cyanobacterial bloom coverage of one pixel

The actual coverage area of cyanobacteria bloom in a single pixel is the percentage of the pixel area.

3.3 Total cyanobacterial bloom area

The total area of pixels where cyanobacterial blooms occur.

3.4 [Source. GB/T 34814-2017, 2.10]

Normalized difference vegetation index normalized difference vegetation index; NDVI The difference in reflectivity between the near-infrared and red light bands divided by the sum of the two.

4 Monitoring content

Satellite remote sensing monitoring of cyanobacteria blooms should include the following.

- a) Information on cyanobacteria blooms;
- b) Cyanobacteria bloom coverage information. single-pixel cyanobacteria bloom coverage and cyanobacteria bloom coverage classification;

c) Information on the area of cyanobacterial blooms. the total area of cyanobacterial blooms and the total area actually covered by cyanobacterial blooms.

5.1 Satellite data

Satellite data should come from remote sensing satellites carrying visible light, near infrared and other band detection instruments. Among them, the visible light band range should be