



DPC: 24/30505907 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

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Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 13208

Biodiversity — Vocabulary

Biodiversité — Vocabulaire

ICS: 13.020.20; 01.040.13

ISO/TC 331

Secretariat: **AFNOR**

Voting begins on:
2024-11-25

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2025-02-17

This document is circulated as received from the committee secretariat.

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 331 *Biodiversity*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

ISO/TC 331 committee started in 2020 due to an extensive pressing need for standardisation concerning biodiversity. The work scope of ISO/TC 331 is standardization in the field of biodiversity to develop principles, framework, requirements, guidance, and supporting tools in a holistic and global approach for all organizations, to enhance their contribution to sustainable development.

Creating a common terminology is the foundation for effective standardisation (which is the focus of ISO) and more effective communication.

However, creating a complete list of terms before understanding the needs of specific terminology is challenging, and new needs and standards will develop continuously requiring new terminology. This document intends to align terminology between the different areas of biodiversity standardization. This document will be revised as needed.

In drafting this standard, terms and definitions have been determined in accordance with a source hierarchy method developed in a drafting team. The intention was to follow a decision scheme when selecting source references for terms posts. The hierarchy served as guidance when choosing sources to which we refer when numerous definitions are available. As specified in ISO Directives x, paragraph y, referencing ISO standards is preferred. However, when ISO reference is not available, the hierarchy method was applied.

The hierarchy may be subject for revision in future versions of this document.

Terms and definitions are determined in accordance with the following source hierarchy method:

- Level 1: definition given in an ISO standard (<https://www.iso.org/obp/ui>)
- Level 2: definition given by "The Convention on Biological Diversity (CBD)" (<https://www.cbd.int/convention/articles/?a=cbd-02>) and other equivalent relevant UN documents (IPCC, Nagoya, etc.)
- Level 3: definition given by "The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)" (<https://www.ipbes.net/glossary>)
- Level 4: other data source
- Level 5: drafting new definitions.

Terms and definitions are listed in alphabetical order within the subsections.

Biodiversity — Vocabulary

1 Scope

This document defines the terms and definitions related to the work of the ISO/TC 331. It includes terms related to the drivers of biodiversity loss (climate change, pollution, invasive species, erosion, soil degradation, deforestation, etc.). It also includes technical terms for quantification (measurement, monitoring, methods, and assessment), impact (on species or ecosystems), the means of action to protect biodiversity (conserve, restore, and use sustainably) to create a regenerative and resilient ecosystem. The components of biodiversity covered within this document are genetic, species, ecosystem and functional diversity.

This document is applicable to any entity working directly with or needs to consider biodiversity for any reason or aspect.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 General terms

3.1.1

abiotic factor

any of the non-living factors that make up the abiotic *environment* (3.1.18) in which living organisms occur

Note 1 to entry: They include all the aspects of climate, geology, and atmosphere that may affect the biotic environment.

[SOURCE: Oxford Dictionary of Biology]

3.1.2

artificial ecosystem

ecosystem (3.1.16) dominated by human artifacts or human-induced material and energy flows

Note 1 to entry: Examples include heathland, quarry lakes.

[SOURCE: Gadgil M (2001). Poverty and Biodiversity. In: Levin SA (editor, 2013). Encyclopedia of Biodiversity, Second Edition, pp. 845-856, modified - Note 1 to entry was added.]

3.1.3

biodiversity footprint

potential *impact* (3.4.16) of a good, service, organization, person, or community on biodiversity, measured in terms of biodiversity change, as a *result* (3.4.26) of the associated production or consumption

Note 1 to entry: Ecological footprint is understood to be a kind of biodiversity footprint.

[SOURCE: IEEP. Nigel Dudley, Marianne Kettunen, Giulia Costa Domingo. Biodiversity footprints in policy and decision-making: State of play and future opportunities. 2021,^[24] modified - Note 1 to entry was added.]

3.1.4

biodiversity Hot Spot

regions with at least 1500 vascular plants as endemics and has only 30 % or less of its natural vegetation

3.1.5

biodiversity loss

reduction or *degradation* (3.3.7) of any aspect of *biological diversity* (3.1.5)

Note 1 to entry: The main causes of biodiversity loss include human activities, such as *land use change* (3.3.37), *habitat loss* (3.1.29) and fragmentation, overexploitation of biodiversity, *pollution* (3.3.46), introduction of an alien species (3.3.32) that might become invasive, and climate change (3.3.4).

[SOURCE: IPBES, Core Glossary, modified - "or degradation" was added after "reduction", "(i.e. diversity at the genetic, species and ecosystem levels) is lost in a particular area through death (including extinction), destruction or manual removal; it can refer to many scales, from global extinctions to population extinctions, resulting in decreased total diversity at the same scale" was deleted, and Note 1 to entry was added.]

3.1.6

biological diversity

biodiversity

variability among living organisms on the earth, including the variability within and between species (3.1.45), and within and between *ecosystems* (3.1.16)

[SOURCE: ISO 14050:2020, 3.8.22]

3.1.7

biotic factor

any of the factors of an organism's *environment* (3.1.18) that consist of other living organisms and together make up the biotic environment

[SOURCE: Oxford Dictionary of Biology. Available at Biotic factor - Oxford Reference. "These factors may affect an organism in many ways, for example, as competitors, predators, parasites, prey, or symbionts. In time, the distribution and abundance of the organism will be affected by its interrelationships with the biotic environment." was deleted]

3.1.8

biotope

area of uniform environmental conditions providing a living place and is inhabited by specific community of living organisms

[SOURCE: ISO 6107:2021, 3.77, modified - "for a specific assemblage of plants and animals" was replaced by "and is inhabited by specific community of living organisms", Note 1 to entry was deleted.]

3.1.9

deoxynucleic acid

DNA

carrier of genetic information

Note 1 to entry: It is made up of four types of nucleotide bases, adenine A, cytosine C, guanine G and thymine T, and a backbone of alternating phosphate and sugar, 2-deoxyribose, groups.

[SOURCE: Roth SC. What is genomic medicine? Journal of Medical Library Association, 2019, 107(3), pp. 442-448]

3.1.10

ecological engineering

management of systems of human and environmental self-design or light management that joins human design and environmental self-design

Note 1 to entry: The design of sustainable ecosystems that integrate human society with its environment for the benefit of both.

[SOURCE: IUCN 2016 Publication on Nature based Solutions (Odum, 1996) & (Mitsch, 2012)]

3.1.11

ecological niche

position of a *species* (3.1.41) within an *ecosystem* (3.1.16), describing both the range of conditions necessary for the persistence of the *species* and its ecological role in the *ecosystem*

Note 1 to entry: It subsumes all the interaction between species and the biotic and abiotic environment.

[SOURCE: Jitka Polechová, David Storch. Ecological niche. *Encyclopedia of Ecology* (2nd Ed.) 2008, pp. 1088-1097]

3.1.12

ecosystem collapse

transformation of identity, a loss of defining features, and a replacement by a different *ecosystem* (3.1.16) type

[SOURCE: IUCN Red List OF Ecosystems glossary]

3.1.13

ecosystem diversity

variability of *ecosystems* (3.1.16) that occurs in a given area

[SOURCE: Frits Hesselink et al. Communication, Education and Public Awareness, a toolkit for the Convention on Biological Diversity, Montreal 2007^[27] c - "within a larger landscape, ranging from biome (the largest ecological unit) to microhabitat" was replaced by "in a given area".]

3.1.14

ecosystem function

flow of energy and materials through the biotic and abiotic components of an *ecosystems* (3.1.16)

Note 1 to entry: It includes many processes such as biomass production, trophic transfer through fauna, flora, fungi, algae and microbial species (3.1.45), nutrient cycling, water dynamics and heat transfer.

[SOURCE: IPBES, Core Glossary, modified - Note 1 to entry was added.]

3.1.15

ecosystem structure

composition of an *ecosystem* (3.1.16) including the living and the non-living components, their age and spatial distribution

3.1.16

ecosystem

ecological system

dynamic complex of plants, animals, and micro-organisms communities, and their non-living *environment* (3.1.18) interacting as a functional entity

EXAMPLE Deserts, coral reefs, wetlands, rain forests, boreal forests, grasslands, urban parks, cultivated farmlands.

Note 1 to entry: Ecosystems can be influenced by human activity.

Note 2 to entry: Examples include heathland, quarry lakes.

[SOURCE: ISO 14008:2019, 3.1.6]

3.1.17

endemic species

species (3.1.41) for which the entire global range is strictly limited to a specified region or locality

[SOURCE: Food and Agriculture Organization of the United Nations. Reducing Emissions from Deforestation and Forest Degradation (UN-REDD), modified - "restricted to the site, the region or the country (the level of endemism must be defined)" was replaced by "strictly limited to a specified region or locality".]

3.1.18

environment

surroundings in which an organization operates, including air, water, land, *natural resources* (3.1.40), species (3.1.45), and their interrelation

[SOURCE: ISO/Guide 64:2008, 2.1, ^[1] modified - "human" and Note 1 to entry were deleted, "flora, fauna" was replaced by "species (3.1.45)".]

3.1.19

exome

entirety of *exons* (3.1.20)

Note 1 to entry: approximately 1 % of the *genome* (3.1.26).

[SOURCE: Roth SC. What is genomic medicine? Journal of Medical Library Association, 2019, 107(3), pp. 442-448.]

3.1.20

exon

protein-coding sequence of the *DNA* (3.1.9)

Note 1 to entry: Examples include heathland, quarry lakes.

[SOURCE: Roth SC. What is genomic medicine? Journal of Medical Library Association, 2019, 107(3), pp. 442-448.]

3.1.21

extinction debt

future *biodiversity loss* (3.1.4) that current or past *damage* (3.3.5) will incur but which have yet to be realized because of time delays in extinction

[SOURCE: Wearn OR, Reuman DC, Ewers RM. Extinction Debt and Windows of Conservation Opportunity in the Brazilian Amazon. *Science*, 2012, 337(6091), pp. 228-232.]

3.1.22

functional diversity

component of *biodiversity* (3.1.5) that generally concerns the range of things that organisms do in communities and *ecosystems* (3.1.16)

[SOURCE: Petchey and Gaston 2006. *Ecol Lett* 9:741-758.]

3.1.23

genetic diversity

gene diversity

level of variety of genetic data within a *sample* (3.2.21) or population, species (3.1.45), variety, or breed, commonly measured through *metrics* (3.2.17) such as heterozygosity and allelic richness

[SOURCE: Frits Hesselink et al. Communication, Education and Public Awareness, a toolkit for the Convention on Biological Diversity, Montreal 2007.]

3.1.24

genetic material

any material of plant, animal, microbial, or other biotic origin containing nucleotide units which can have function on heredity

[SOURCE: Convention on Biological Diversity, article 2, use of terms ^[13], modified - "or other related" was deleted.]

3.1.25

genetic resources

genetic material (3.1.24) of actual or potential value

Note 1 to entry: The value goes beyond value for humanity (as specified in biological resources) to avoid confusion.

[SOURCE: Convention on Biological Diversity, article 2, use of terms.]