



BSI Standards Publication

Acoustics — Soundscape

Part 3: Data analysis

National foreword

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Acoustics — Soundscape —

**Part 3:
Data analysis**

*Acoustique — Paysage sonore —
Partie 3: Analyse de données*





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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 43, *Acoustics*, Subcommittee SC 1, *Noise*.

A list of all parts in the ISO 12913 series can be found on the ISO website.

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

The ISO 12913 series on soundscape was developed in order to enable a broad international consensus and to provide a foundation for communication across disciplines and professions with an interest in soundscape. ISO 12913-1 provides the definition of and a conceptual framework for the term 'soundscape'. ISO/TS 12913-2 provides requirements and supporting information on data collection and reporting for soundscape studies, investigations and applications. This document provides guidance on how to analyse data collected in agreement with ISO/TS 12913-2.

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Acoustics — Soundscape —

Part 3: Data analysis

1 Scope

This document provides requirements and supporting information on analysis of data collected in-situ through methods as specified in ISO/TS 12913-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12913-1, *Acoustics — Soundscape — Part 1: Definition and conceptual framework*

ISO/TS 12913-2:2018, *Acoustics — Soundscape — Part 2: Data collection and reporting requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12913-1 and ISO/TS 12913-2 and the following apply.

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

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

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factor influencing the collected responses that is not controlled or systematically considered

EXAMPLE Sequential effect, certain scaling effects like the range effect, or demand characteristics.

4 General

As mentioned in the Introduction of ISO/TS 12913-2:2018, “*The concept of soundscape was adopted to provide a holistic approach to the acoustic environment, beyond noise, and its effect on the quality of life. Soundscape investigations intend to assess all sounds perceived in an environment in all its complexity. To do this, soundscape studies use a variety of data collection methods related to human perception, the acoustic environment and the context. Importantly, the study of soundscape relies primarily upon human perception, and only then turns to physical measurement.*” Data collection is based on this focus and requires a respective analysis (see References [1],[2]).

For the analysis of qualitative and quantitative data through methods specified in ISO/TS 12913-2, methods and tools shall be applied as provided in this document. Given the diversity of the data collected (qualitative and quantitative), corresponding analysis methods could take precedence depending on the needs of the project or the research question, and should be integrated for a holistic understanding of the soundscape. In general, descriptive statistics are used to describe and summarize the collected perceptual data, such as measures of central tendency, measures of dispersion (see Reference [3]).