
**Adaptation to climate change —
Guidelines on vulnerability, impacts
and risk assessment**

*Adaptation au changement climatique — Lignes directrices sur la
vulnérabilité, les impacts et l'évaluation des risques*



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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 207, *Environmental management*, Subcommittee SC 7, *Greenhouse gas management and related activities*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/SS S26, *Environmental management*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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

Climate change is impacting organizations in various ways and it is anticipated that these impacts will continue well into the future. Organizations have an increasing need to understand, mitigate and manage climate change risks. Climate change risk assessment is key in this context. For responses to be delivered at the necessary pace and scale, it is important that risk assessment approaches are systematic and replicable, permitting learning within and between assessments as new knowledge, technology and experience arise. This document provides guidelines on approaches to assess climate change-related risks.

Risk assessments improve planning of adaptation to climate change and inform the implementation and monitoring of climate change adaptation activities. Adaptation is usually more effective when initiated at an early stage of project development, and when undertaken as a planned process rather than in response to experienced impacts. Better knowledge of climate change risks will make it easier and less costly to respond.

Climate change risks differ from other risks. It is often difficult or even impossible to quantify their short- or long-term probability so a conventional risk assessment that uses statistical probabilities can be ineffective. For this reason, various approaches have been developed for assessing climate change risks. This document provides guidance on the use of screening assessments and impact chains. The screening approach can serve as a stand-alone, simplified risk assessment for a straight-forward system at risk or for organizations with a limited budget, or serve as a pre-assessment prior to the use of impact chains. Based on a participatory and inclusive process, impact chain approaches are more comprehensive, providing an opportunity to address all relevant factors. Both screening assessments and impact chain assessments allow for qualitative and quantitative analysis.

This document is relevant to any organization regardless of size, type and nature. For example, it can help financial institutions with decisions in project financing, companies operating in climate-sensitive business sectors or local governments developing adaptation strategies.

This document covers risks that result from a changing climate. It does not address risks that result from the transition to a low carbon economy. This document recognizes that climate risks can be threats or opportunities.

This document emphasizes comprehensive documentation and communication of climate change risks; these are essential for all subsequent activities. Risk assessments, among other purposes, provide information on identifying adaptation actions and prioritizing them. Risk assessments conducted in accordance with this document also strengthen planning activities on disaster risk reduction (DRR).

This document can be applied by organizations that want to carry out climate change risk assessments [in the sense of the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC)] as well as by organizations that want to carry out vulnerability assessments (in the sense of the IPCC AR4). However, it uses risk assessment as the central term.

This document belongs to an emerging family of standards on adaptation to climate change under the umbrella of ISO 14090, which describes the following elements of climate change adaptation:

- pre-planning;
- assessing impacts including opportunities;
- adaptation planning;
- implementation;
- monitoring and evaluation;
- reporting and communication.

This document is part of the second item on the above list: “assessing impacts including opportunities”. ISO/TS 14092:2020 helps define adaptation planning for local governments and communities. Other