

Assessing the adverse impact of wildland fires on the environment and to people through environmental exposure

Evaluation de l'impact négatif des feux d'espaces naturels sur l'environnement et les personnes par exposition environnementale

iteh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO/DTS 19677

<https://standards.iteh.ai/catalog/standards/iso/eba3f0b1-6433-4425-a8b7-fd0000000000/iso-dts-19677>

Date: 2025-03-29

ISO/DTS 19677:2025(en)

ISO/TC 92/SC 3

Secretariat: AFNOR

Date: 2025-xx

Formatted

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Style Definition

Formatted: Font: Bold

Formatted: Font: Bold

Formatted: HeaderCentered

Formatted: Default Paragraph Font

Formatted: Default Paragraph Font

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

Formatted: zzCopyright address, Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

Formatted: French (France)

Commented [eXtyle1]: The URL https://www.iso.org/ has been redirected to https://www.iso.org/home.html. Please verify the URL.

Formatted: zzCopyright address, Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

ISO Copyright Office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: + 41 22 749 01 11

Email: [copyright@iso.org](mailto:copyright@iso.org)

E-mail: [copyright@iso.org](mailto:copyright@iso.org)

Website: [www.iso.org](http://www.iso.org)

Published in Switzerland.

# iTeh Standards (<https://standards.iteh.ai>) Document Preview

ISO/DTS 19677

<https://standards.iteh.ai/catalog/standards/iso/eba3f0b1-6433-4425-a8b7-fd4614452228/iso-dts-19677>

Formatted: FooterPageRomanNumber

## Contents

Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	2
4 Wildland fire variables.....	3
5 Environmental impact of wildland fires.....	3
5.1 General.....	3
5.2 Fire testing and data collection.....	4
5.3 Impact of wildland fire on air.....	4
5.4 Impact of wildland fire on water.....	5
5.5 Impact of wildland fire on soil.....	7
5.6 Impact of wildland fire on vegetation.....	8
5.7 Impact of wildland fire on wildlife.....	8
5.8 Impact of wildland fire on exposed human populations.....	9
5.9 Impact of wildland fire on firefighters.....	10
5.10 Impact of wildland fire on food production.....	11
5.11 Impact of wildland fire on land, sea and air traffic.....	11
5.12 Impact of wildland fire on the built environment.....	12
6 The impact of firefighting activities.....	12
6.1 Nature of impact.....	12
6.2 Quantification of impact.....	13
6.3 Mitigation of impact.....	13
Annex A (informative) Wildland fire incidents and their environmental impact.....	14
Annex B (informative) Airborne combustion products identified from wildland fires.....	17
Annex C (informative) Firefighting chemical additives and their environmental impact.....	18
Annex D (informative) Impact of climate change.....	20
Bibliography.....	21

Formatted: Font: Cambria, 11 pt, Bold

Formatted: Font: Cambria, 11 pt, Bold

Formatted: Font: Cambria, Bold

Formatted: HeaderCentered, Left

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: FooterCentered, Left, Space Before: 0 pt, Tab stops: Not at 17.2 cm

Formatted: Font: 11 pt

Formatted: FooterPageRomanNumber, Left, Space After: 0 pt, Tab stops: Not at 17.2 cm

## 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](http://www.iso.org/directives)).

~~Attention is drawn to the possibility that some of the elements implementation of this document may be involve the subjectuse of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). 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](http://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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 3, *Fire threat to people and environment*.

This second edition cancels and replaces the first edition (ISO/TS 19677:2019), which has been technically revised.

The main change is as follows:

- ~~Ann~~ addition on Canadian WUI fires has been added.

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](http://www.iso.org/members.html).

Formatted: Font: Bold

Formatted: Font: Bold

Formatted: HeaderCentered

Formatted: Line spacing: single, Adjust space between Latin and Asian text, Adjust space between Asian text and numbers, Tab stops: Not at 0.71 cm

Formatted: Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

Formatted: Default Paragraph Font

Formatted: Default Paragraph Font

Formatted: Default Paragraph Font

Formatted: Default Paragraph Font

Formatted: Adjust space between Latin and Asian text, Adjust space between Asian text and numbers, Tab stops: Not at 0.7 cm + 1.4 cm + 2.1 cm + 2.8 cm + 3.5 cm + 4.2 cm + 4.9 cm + 5.6 cm + 6.3 cm + 7 cm

Formatted: Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

Commented [eXtyles2]: The URL <https://www.iso.org/members.html> has been redirected to <http://www.iso.org/about/members>. Please verify the URL.

Formatted: FooterPageRomanNumber

## Introduction

This document gives guidance and provides a methodology for assessing the adverse environmental impact of wildland fires and wildland firefighting operations. The serious consequences of the adverse impact of fire effluent from forest, shrubland and grassland fires to the environment and to people, through environmental exposure, have confirmed that it is an important issue that urgently needs to be dealt with internationally and systematically. This document provides a framework for a common treatment of the environmental impact of wildland fires.

General awareness of the fact that large wildland fires present serious and persistent adverse effects on the environment has been accentuated by a number of high impact incidents over the past half century. In Annex A, some recent wildland fire incidents are listed and their environmental impact is described.

Formatted: Font: Cambria, 11 pt, Bold

Formatted: Font: Cambria, 11 pt, Bold

Formatted: Font: Cambria, Bold

Formatted: HeaderCentered, Left

Formatted: Line spacing: single, Adjust space between Latin and Asian text, Adjust space between Asian text and numbers, Tab stops: Not at 0.71 cm

Formatted: Adjust space between Latin and Asian text, Adjust space between Asian text and numbers

iTeh Standards  
(<https://standards.iteh.ai>)  
Document Preview

ISO/DTS 19677

<https://standards.iteh.ai/catalog/standards/iso/eba3f0b1-6433-4425-a8b7-fd4614452228/iso-dts-19677>

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: FooterCentered, Left, Space Before: 0 pt, Tab stops: Not at 17.2 cm

Formatted: Font: 11 pt

Formatted: FooterPageRomanNumber, Left, Space After: 0 pt, Tab stops: Not at 17.2 cm