



INTERNATIONAL PERMAFROST ASSOCIATION

**MULTI-LANGUAGE GLOSSARY of
PERMAFROST and
RELATED GROUND-ICE TERMS**

in

**Chinese, English, French, German, Icelandic, Italian
Norwegian, Polish, Romanian, Russian, Spanish, and Swedish**

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INTRODUCTION

Background

During the 5th International Conference on Permafrost, held in Trondheim (Norway) in August 1988, the Council of the International Permafrost Association (IPA) authorized the establishment of a Terminology Working Group with the mandate "to develop a set of internationally accepted permafrost terms for use in engineering and science, with equivalents in various languages, and to disseminate and encourage the use of such terminology". The Terminology Working Group was established in the fall of 1988, with members from Argentina, Canada, China, Finland, France, Germany, the USA, and the (former) USSR. Members from Italy, Norway and Sweden were added later.

The Working Group agreed to use as the basis for its work the "Glossary of Permafrost and Related Ground-Ice Terms", which had just been published (Permafrost Subcommittee, 1988). The initial effort was directed towards the preparation of a multi-language listing incorporating the primary and secondary terms from the 1988 Glossary, and a number of synonyms. The languages to be covered by the glossary were to be English, French, German, Spanish, and Russian. By the end of 1994, Italian, Norwegian, and Swedish were included. The effort was coordinated by the Chair of the Working Group, at the Arctic Institute of North America.

In December 1994 a pre-publication version was printed for limited distribution to solicit comments and corrections. Corrections were made and some additional terms incorporated in 1995, 1996, and 1998. In addition, Chinese, Icelandic, Polish, and Romanian were included.

In order to avoid possible confusion of entries such as "ice, wedge" and "ice wedge", all multi-word terms have been entered using the natural word sequence (i.e. "wedge ice" and "ice wedge" for the above example). The elimination of commas also improves the readability.

Version 2

"Version - 2 (1998)" of the Glossary, published in 1998 at the IPA International Permafrost Conference in Yellowknife, Canada, should be regarded as the latest stage of a work in progress, because the terminology in permafrost science and engineering is continuing to evolve, and the Glossary should evolve with it.

Chinese

Listings of Chinese equivalents were provided by Cheng Guodong, Qiu Guoqing, Zhao Xiufeng and Zhou Youwu. The search for appropriate software delayed the inclusion of Chinese terms in the Glossary database until late 1996. Word-processing for the Chinese entries by Zhao Xiufeng is gratefully acknowledged.

Pinyin Version of Chinese

Pinyin conversions of the Chinese terms have been added to the Glossary for the convenience of non-Chinese users.

French

At the time of publication of the 1988 Glossary (Permafrost Subcommittee, 1988), a French translation was also published (Sous-comité de Pergélisol, 1988). From this, most of the French equivalents of the primary and secondary terms were incorporated in the database without change. Changes were made for 46 of the terms, following suggestions from the French Commission for the Study of Periglacial Phenomena (Commission Française pour l'Étude des Phénomènes Périglaciaires), which were received from J.-P. Lautridou in January 1991. Examples of the changes include: "couche active" instead of "mollisol"; "géli-adhérence" instead of "congélation adhérente"; and "frange gelante" instead of "frange gelée". Corrections and a few additions, provided by B. van Vliet-Lanoe, were incorporated in 1993, 1996, and 1998.

German

A German translation of "Permafrost Terminology" (Brown and Kupsch, 1974) had been prepared in 1982 by J. Karte. The German equivalent terms from that translation were

incorporated in the database, with a number of corrections and additions provided by J. Karte and L.King, in 1991. Additional terms were added in 1994, 1996, and 1998.

Icelandic

Preparation of a listing of Icelandic terms for the glossary was undertaken by H. Pétursson in the spring of 1995. The list of Icelandic terms was received in December 1996, and the terms were incorporated in the database. Corrections were made, and additional terms incorporated in 1997 and 1998.

Italian

Italian translations of the terms from the 1988 Glossary were prepared by C. Ottone and F. Dramis in 1992, and incorporated in the database after they were formally accepted in November 1992 by the Italian adhering body for IPA. Translations for a few additional terms were included in early 1994, in 1996, and in 1998.

Norwegian

Preparation of a listing of Norwegian terms for the glossary was undertaken by O. Gregersen and O. Salvigsen in the fall of 1992. The list of Norwegian terms was received in April 1993, and the terms were incorporated in the database before the 6th International Conference on Permafrost in Beijing, July 1993. Translations for additional terms were included in March 1994, in 1996, and in 1998.

Polish

Preparation of a listing of Polish terms for the glossary was started by K. Pekala in the spring of 1995, with the cooperation of J. Repelewska-Pekalowa, S. Kozarsky, and L. Marks. The list of Polish terms was received in July 1995, and the terms were incorporated in the database shortly thereafter. A few additional terms were incorporated in 1996 and 1998.

Romanian

Preparation of a listing of Romanian terms for the glossary was undertaken by

P. Urdea in 1996, and a list of Romanian terms was received later that year. A few additional terms were added in 1998.

Russian

A copy of the Russian translation of the whole 1988 Glossary, prepared by N. N. Romanovskiy, G. Rozenbaum, and V. N. Konishchev (Moscow, Russia), was received in February 1991. The Russian equivalents of the primary and secondary terms have been incorporated in the multi-language database. Corrections and translations for a number of additional terms were provided by the same authors in early 1994. Further revisions were made in the fall of 1995 during a visit by N. N. Romanovsky to The Arctic Institute of North America. Additional Russian terms were incorporated in 1996 and 1998.

Transliterated Russian

Transliterations of Russian equivalent terms, from the Cyrillic alphabet to the Latin alphabet, using the Library of Congress system, have been added to the multi-language database for the convenience of non-Russian users.

Spanish

The Spanish translation of the terms from the 1988 Glossary was prepared by A. E. Corte, E. Buk, and D. Trombotto (Argentina). Their listing of the Spanish equivalents of the primary terms was received in February 1990; secondary terms were added in May 1990, some additions and corrections were made in June and July 1993, in July 1995, and in 1996.

Swedish

Preparation of a listing of Swedish terms for the glossary was started by H. J. Åkerman in the fall of 1992. The list of Swedish terms was received in April 1993, and the terms were incorporated in the database before the 6th International Conference on permafrost in Beijing, July 1993. Translations for additional terms were included in late 1993, in 1996, and in 1998.

Synonyms

A number of synonyms (including terms designated as "not recommended" in the 1988 Glossary) are included in the current multi-language database, because many of these terms are found in the early permafrost literature.

Definitions

Definitions for most of the primary terms in the multi-language glossary were adopted, without change, from the 1988 Glossary (Permafrost Subcommittee, 1988). Permission for this was obtained from the copyright holder (National Research Council of Canada). Minor changes for some of the definitions, as well as definitions for the additional terms, have been prepared by O. J. Ferrians, S.A.Harris, J.A. Heginbottom, B. Ladanyi, N. N. Romanovsky, Y. Shur, and R. O. van Everdingen.

In the Definitions section, terms defined elsewhere in the text are printed in *italics*.

Illustrations

Photographs and diagrams illustrating the meaning of various terms were also adopted from the 1988 Glossary (Permafrost Subcommittee, 1988). Permission for this was obtained from the copyright holder (National Research Council of Canada). The original Figure 1, showing the distribution of permafrost in Canada, has been replaced by a new Figure 1 showing the distribution of permafrost in the northern hemisphere, kindly supplied by J. A. Heginbottom. Figures 2 and 3 were modified slightly, and a new Figure 17i (from Mackay, 1990, Fig.3) was added to illustrate the three main types of ice wedges.

Revision - 2005

In 1998 and 2003 an English-only digital version was included on the CAPS versions 1 and 2 CD-ROMS prepared for the IPA by the National Snow and Ice Data Centre. The current "Revision - 2005" digital version has been prepared to enable computer access to the complete text of the Glossary, without the necessity to have Cyrillic and Chinese fonts installed on the computer. Minor corrections have also been incorporated.