



# Correction to: A comparative analysis of deep learning models for soil temperature prediction in cold climates

Hanifeh Imanian<sup>1</sup> · Abdolmajid Mohammadian<sup>1</sup> · Vahid Farhangmehr<sup>2</sup> · Pierre Payeur<sup>3</sup> · Danial Goodarzi<sup>1</sup> · Juan Hiedra Cobo<sup>4</sup> · Hamidreza Shirkhani<sup>4</sup>

Published online: 16 January 2025  
© The Author(s) 2025

**Theoretical and Applied Climatology (2023)  
155:2571–2587**  
<https://doi.org/10.1007/s00704-023-04781-x>

The article “A comparative analysis of deep learning models for soil temperature prediction in cold climates”, written by Imanian, H., Mohammadian, A., Farhangmehr, V., Payeur, P., Goodarzi, D., Hiedra Cobo, J., and Shirkhani, H., was originally published under exclusive license to The Author(s), under exclusive licence to Springer-Verlag GmbH Austria, part of Springer Nature. As a result of the subsequent decision to publish the article under the open access model, the article’s copyright notice was changed on 17 December 2024 to © The Author(s) 2023 and the article is now distributed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made.

The images or other third party material in this article are included in the article’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material

is not included in the article’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0>.

The original article has been corrected.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article’s Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article’s Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

**Publisher’s Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

The online version of the original article can be found at <https://doi.org/10.1007/s00704-023-04781-x>

✉ Hanifeh Imanian  
himania3@uottawa.ca

Abdolmajid Mohammadian  
majid.mohammadian@uottawa.ca

Vahid Farhangmehr  
vfarhang@uottawa.ca

Pierre Payeur  
ppayeur@uottawa.ca

Danial Goodarzi  
dgood006@uottawa.ca

Juan Hiedra Cobo  
juan.hiedracobo@nrc-cnrc.gc.ca

Hamidreza Shirkhani  
hamidreza.shirkhani@nrc-cnrc.gc.ca

<sup>1</sup> Department of Civil Engineering, University of Ottawa, K1N 6N5 Ottawa, ON, Canada

<sup>2</sup> Department of Mechanical Engineering, University of Bonab, P.O. Box 55517, 61167 Bonab, Iran

<sup>3</sup> School of Electrical Engineering and Computer Science, University of Ottawa, K1N 6N5 Ottawa, ON, Canada

<sup>4</sup> National Research Council Canada, K1A 0R6 Ottawa, ON, Canada