

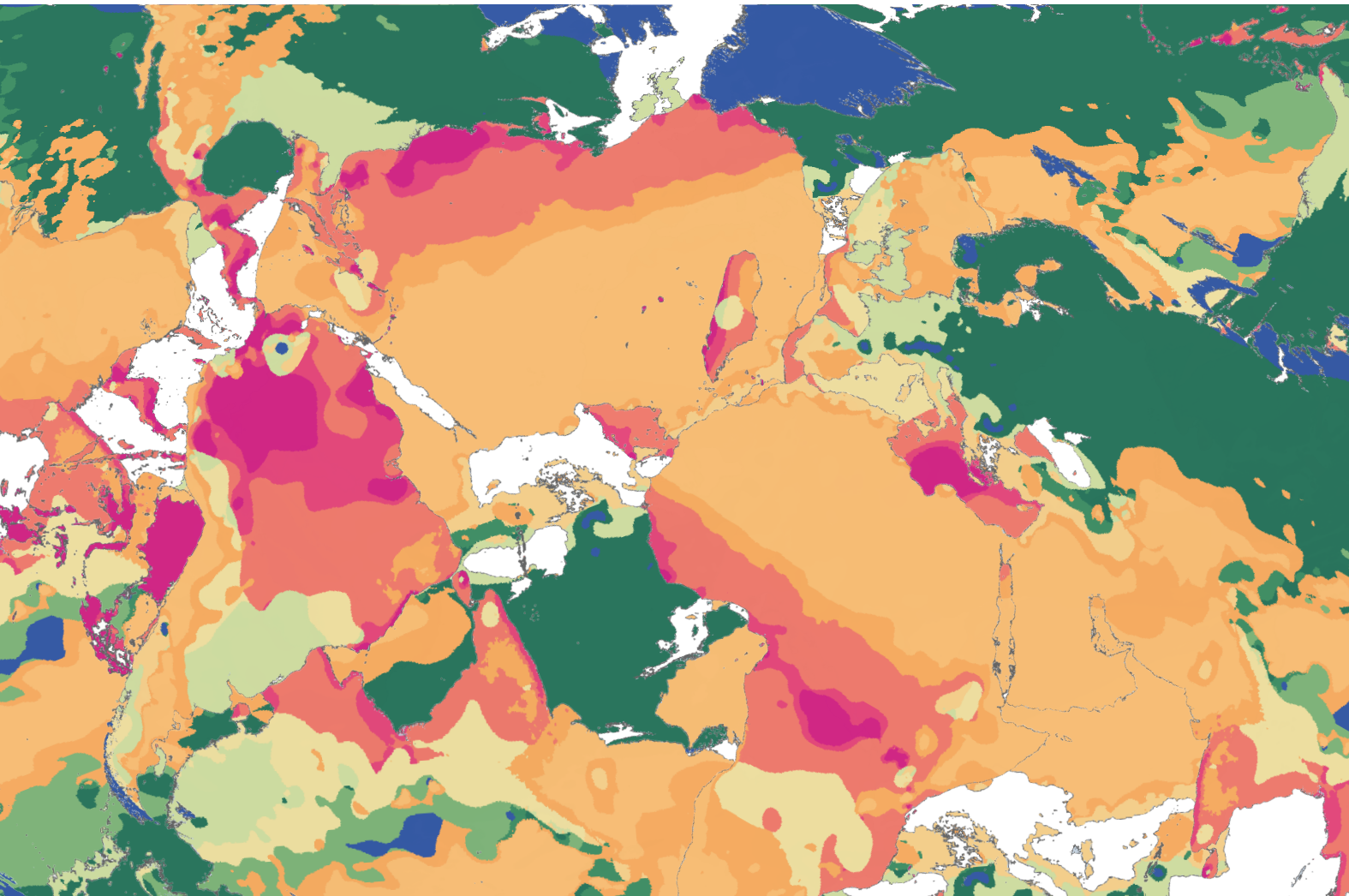


Global Peatland Hotspot Atlas:
The State of the World's Peatlands in Maps
Download the full Global Peatland Hotspot Atlas here



Peatland within global climate zones

Differing climatic conditions on Earth play a crucial role in shaping distinct types of peatlands. Each unique set of conditions determines the development of specific peatland types with different hydrological and ecological characteristics.



© 2024 United Nations Environment Programme
ISBN: 978-92-807-4197-1
Job Number: DEP/2684/NA
DOI: <https://doi.org/10.59117/20.500.11822/46635>

This publication may be reproduced in whole or in part and in any form for educational or non-profit services without special permission from the copyright holder, provided acknowledgement of the source is made. The United Nations Environment Programme would appreciate receiving a copy of any publication that uses this publication as a source.

No use of this publication may be made for resale or any other commercial purpose whatsoever without prior permission in writing from the Secretariat of the United Nations. Applications for such permission, with a statement of the purpose and extent of the reproduction, should be addressed to: unep-communication-director@un.org.

Disclaimers:

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory or city or its authorities, or concerning the delimitation of its frontiers or boundaries.

Some illustrations or graphics appearing in this publication may have been adapted from content published by third parties to illustrate the authors' own interpretations of the key messages emerging from such third-party illustrations or graphics. In such cases, the material in this publication does not imply the expression of any opinion whatsoever on the part of United Nations Environment Programme concerning the source materials used as a basis for such graphics or illustrations.

Mention of a commercial company or product in this document does not imply endorsement by the United Nations Environment Programme or the authors. The use of information from this document for publicity or advertising is not permitted. Trademark names and symbols are used in an editorial fashion with no intention on infringement of trademark or copyright laws.

The views expressed in this publication are those of the authors and do not necessarily reflect the views of the United Nations Environment Programme. We regret any errors or omissions that may have been unwittingly made.

The boundaries and names shown, and the designations used on the maps provided in this publication do not imply official endorsement or acceptance by the United Nations.

© Maps, photos and illustrations as specified

Suggested Citation

United Nations Environment Programme (2024). Global Peatland Hotspot Atlas: The State of the World's Peatlands in Maps. Visualizing global threats and opportunities for peatland conservation, restoration, and sustainable management. Nairobi.

Production

United Nations Environment Programme (UNEP).
<https://www.unep.org/resources/report/global-peatland-hotspot-atlas-2024>

Supported by:

The Global Peatland Hotspot Atlas is a product supported by the Michael Succow Foundation, partner in the Greifswald Mire Centre, under the umbrella of the Global Peatlands Initiative: Assessing, Measuring and Preserving Peat Carbon project (GPI project) which is funded by the International Climate Initiative (IKI) of Germany.

Supported by:



based on a decision of the German Bundestag



Acknowledgements

The United Nations Environment Programme (UNEP) would like to thank the Greifswald Mire Centre (GMC) for the access to their Global Peatland Database (GPD) and for the production of the Global Peatland Map and all Thematic Maps.



UNEP would also like to thank the Global Peatlands Initiative (GPI) Team for the overall coordination of this Atlas.

Authors

Alexandra Barthelmes (GMC/DUENE e.V.), Cosima Tegetmeyer (GMC/DUENE e.V.), Hans Joosten (GMC/University of Greifswald), Patrick Scheel (UNEP).

Production, Coordination and Review

Patrick Scheel (UNEP), Jan Peters (GMC/MSF), Dianna Kopansky (UNEP).

Design and layout

igel+ente, Büro für Gestaltung, Fotografie und Kommunikation Greifswald, Germany
Anna Knüppel & Michael Schröder (www.igelundente.de)
Nora Prinz (www.noraprinz.de)

Thanks also to:

Caroline Borowski, Martha Burckhardt, the Global Peatland Database mapping team, the contributors of the UNEP 2022 Global Peatland Assessment, Susan Gardner, Jane Muriithi, Mónica López Conlon, Cisca Devereux, and Fabrice Inkonyo

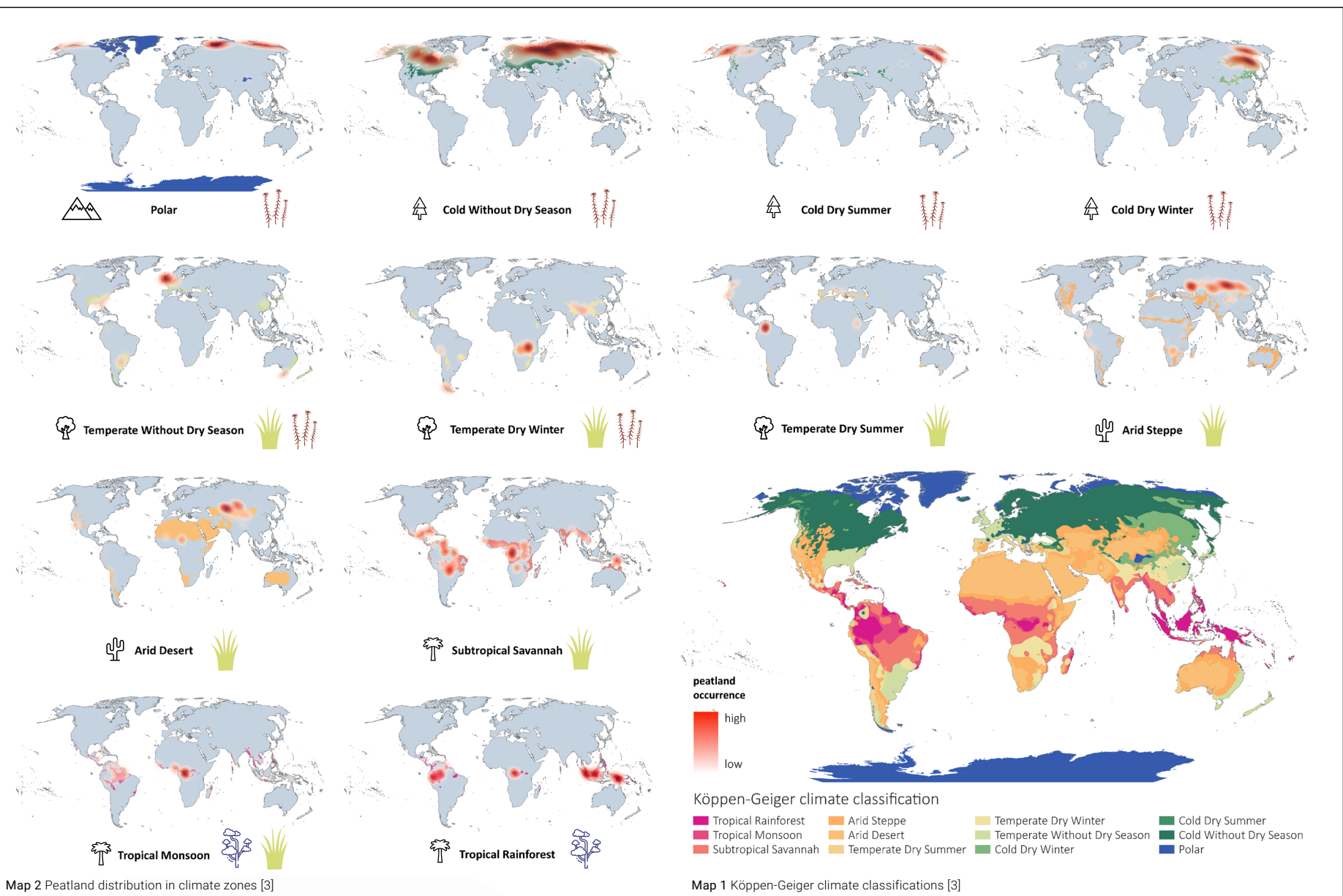
Peatland within global climate zones



Regional humidity and temperatures are significant factors influencing the development of peatlands around the world. Since the Köppen-Geiger climate classification system [3] defines climate by patterns of temperature and precipitation, it provides a rough indication of where peatlands occur worldwide. Furthermore, the Köppen-Geiger climate classification highlights that peatlands exhibit similar characteristics in terms of the type of water supply and dominant vegetation across recur-

ring climatic zones on different continents. For instance, and simply put, we see **1) mosses prevailing in arctic, boreal and humid temperate climates, 2) grass-like plants prevailing in more arid temperate and subtropical climates, and 3) trees prevailing in tropical climates.** However, additional ecological peatland types also occur across all climate zones, often exhibiting distinct characteristics along coastal regions and with increasing altitudes. The vast peatlands in the arctic and

boreal climates of the north and also of peatlands in the temperate climate zones are widely known. Peatlands of the tropical rainforest and monsoon climates are increasingly receiving attention. **Surprisingly, peatlands are also found in subtropical savannah, steppe and arid climate zones,** particularly in major river floodplains, fed by excess rain in their headwater mountains, or in coastal zones and oases, when they may receive sufficient groundwater from large catchments [1, 2].



Differing climatic conditions on Earth play a crucial role in shaping distinct types of peatlands. Each unique set of conditions determines the development of specific peatland types with different hydrological and ecological characteristics.

Sources: 1. UNEP (2022) Global Peatlands Assessment – The State of the World's Peatlands: Evidence for action toward the conservation, restoration, and sustainable management of peatlands. Main Report. Global Peatlands Initiative. United Nations Environment Programme, Nairobi. 2. Greifswald Mire Centre (2022) Global Peatland Map 2.0. Underlying dataset of the UNEP Global Peatland Assessment. 3. Peel, M.C., Finlayson B.L., McMahon, T.A. (2007) Updated World map of the Köppen-Geiger climate classification. Hydrol. Earth Syst. Sci. 11: 1633–1644