

Preface Initiator and Editors

Why another scientific publication on climate change? Is there not sufficient scientific evidence to start implementing the necessary tangible, robust and sustainable measures to mitigate climate change and its effects?

We face an accelerating pace of climate-induced changes to our environment and thus our daily lives, escalating social, economic and health-related costs as well as the risk of these developments becoming irreversible. While an ever-growing and professional interdisciplinary global scientific community provides us with the diagnosis and a range of possible countermeasures, news about broken temperature records leaves the global public largely cold. For instance, as this publication was being finalised, scientific research confirmed that 2023 would go down in history as the hottest year on record (ECMWF, 2023). Yet, there is a high probability that this will not be the last such news.

As a result, the challenge seems to lie in the political sphere: what measures need to be taken and in what time frame? In fact, international negotiations and domestic climate policies usually revolve around these two fundamental questions: how much and how fast?

So why does the issue of climate change and security merit an additional scientific review of its risks, impacts and costs?

Firstly, the security sector itself contributes to climate change. Moreover, its impact is less well understood than that of other sectors. There is still very little research on the amount of annual greenhouse gases emitted by armed forces around the world. Estimates put the total military carbon footprint at approximately 5.5% of global emissions (Parkinson & Cottrell).¹ Furthermore, Russia's ongoing war against Ukraine is seen as a main accelerator in this regard.²

¹ See as well below in this publication: Cottrell, Jalili, and Burbridge: The OSCE and Military Emissions: Next Steps and Mitigation of Greenhouse Gases. 2023.

² See below in this publication: Andrusyeh: Climate Policy in the European Security Context: Implications of the Russian Aggression and Post-War Reconstruction and the Recovery of Ukraine. 2023.

Secondly, security as a global and human good is severely impacted by climate change. Not only is human security affected, there is a risk of massive shifts in the entire global ecosystem. This encompasses many areas of security, such as the environment and economy in general as well as energy, health, food, forest and water management, desertification, infrastructure, housing, migration and many more.

Thirdly, global challenges – or even threats – demand global responses. The Organization for Security and Co-operation in Europe (OSCE), the world’s largest regional security organization, acknowledged the urgency of the matter in its landmark decision at the Stockholm Ministerial Council in December 2021 (OSCE, 2021). This decision, adopted by consensus, gave the Organization a mandate to continue to encourage its participating States to enhance their co-operation in mitigating and adapting to climate change and to intensify their concrete cross-border action. The OSCE’s efforts thereby meet the need for multilateral approaches to counter a global threat to security.

Raising awareness of climate-related challenges and intensifying dialogue and cooperation – as envisaged in Council of Ministers Decision 3/21 (MC.DEC/3/21) – must start at the national level to be effective. Therefore, a joint publication by the Austrian Ministries of Defence and European and International Affairs seems logical. The Permanent Mission of Austria to the OSCE and the National Defence Academy have been working together for many years. Events as part of the Austrian Chairpersonships of the OSCE in 2017 and of the Forum for Security Co-operation in 2021 as well as regular personnel support are evidence of this.

The National Defence Academy has been dealing with the topic of climate and security for some time. Since 2010, it has organised joint seminars with the University of Natural Resources and Life Sciences as part of the lecture series *Global change and sustainability and their relevance to security policy*. Just last year, this seminar was also supported by the Permanent Representation of Austria to the OSCE and an expert from the OSCE’s Office of the Coordinator of Economic and Environmental Activities. In December 2022, the Austrian Ministry of Defence published its National Policy on Climate Change and Defence. Among other objectives, raising awareness and deepening education on climate change, its security policy consequences and its effects on the armed forces was also explicitly assigned to the National De-

fence Academy. In this regard, this publication intends to contribute to national and multi-lateral efforts.

Today, climate change is a driver of conflict and a threat multiplier affecting many areas of life. These “*can exacerbate economic challenges and environmental degradation, which may negatively affect prosperity, stability and security in the OSCE area*” (OSCE, 2021). MC.DEC/3/21 as well as the manifold programmatic activities of the OSCE’s Office of the Coordinator of Economic and Environmental Activities, the Field Operations and the Economic and Environmental Committee, provide the impetus and framework for the publication at hand. To illustrate the diverse effects of climate change, national and international experts from the OSCE participating States were asked to share their expertise and views. As women and girls are often among the groups most vulnerable to the adverse impacts of climate change, the authors were particularly asked to give due consideration to gender-specific aspects where deemed appropriate.

Chapter 1 provides the background for the publication. The latest scientific findings on climate change, political developments and assessments are highlighted, as is the link between greenhouse gases and the role of the military. Despite clear evidence of climate change, the factor of disinformation must not be underestimated. It is on the rise, *inter alia*, in the form of climate denialism, which falsely states that there is no man-made climate change (iep. 2023). In May 2023, the 28 organisations contributing to the European Digital Media Observatory (EDMO) fact-checking network revealed that 12% of 1,361 articles checked focussed on climate change-related disinformation, a figure which even exceeded disinformation on Ukraine (11%). Therefore, a historical perspective presents the difference between the two “*climate-change*” phenomena – “*natural climate change*” and “*man-made (anthropogenic)*” climate change.

Chapter 2 focuses on impacts of climate change on different regions. Five international experts provide their views on the Middle East and North Africa (MENA) region, South-Eastern Europe, the Dniester River basin shared between the Republic of Moldova and Ukraine, Ukraine and Central Asia. The geographical diversification offers insight into some very different challenges related to climate change: Why is the MENA region, including the six Mediterranean Partners for Co-operation, highly vulnerable to further warming effects? Why are proactive approaches regarding mitigation, adaptation

and migration governance needed so much? Which results can we observe in the co-operation between the OSCE and a Berlin-based think tank in the Shar/Šara Mountains and the Korab Massif area in South-Eastern Europe? What are the local, national and regional impacts on water management and biodiversity in the Dniester River basin between the Republic of Moldova and Ukraine? What are the implications of the Russian aggression on climate and security policies in Ukraine? A final view is dedicated to Central Asia. It discusses, *inter alia*, regional impacts on water and energy management and how inclusion of women in decision-making processes can provide appropriate measures to tackle the climate crisis.

A multitude of perspectives is offered in Chapter 3, which explains how climate change affects various sectors. A team of experts, bringing together three Austrian research institutions and universities, highlight the challenges and opportunities in facilitating the transition of Austria's electricity system towards a safe and sustainable future. An expert of the Austrian Armed Forces describes the role of the Military Geoservices in preparing the Armed Forces in times of climate change. Austria's leading environmental organisation, Global 2000, provides insights into why security is a key issue for civil society. Finally, a classic security topic from the politico-military dimension – land mines – authored by an international team of experts sheds light on the long-term legacy of explosive ordnance on climate change.

The willingness to co-operate was not only the unifying principle behind the founding of the OSCE, but it is also an essential prerequisite for such a publication. Therefore, we would like to express our sincere gratitude to the team of skilled experts willing to share their expertise and insights. Short CVs of all authors can be found at the end of the publication. In addition, we thank Ms Eva Widhalm, responsible Desk Officer in the Defence Policy and Strategy Division of the Ministry of Defence for sharing her rich expertise and all colleagues at the National Defence Academy, in particular Ms Heidemarie Lenz, Sergeant Lorenz Sack, Ms Ruža Marie Groffmann, Colonel Robert Romano and Mr Werner Pack, for their editing, administrative and technical support. This publication would not have been possible without their contribution.

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