# INTRODUCTION TO VOLUME 12: CLIMATE CHANGE-THE HOMELAND ADAPTS

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**ABSTRACT**

In 2021, the U.N. Secretary-General said that climate change was a "code red for humanity," the Intergovernmental Panel on Climate Change concluded that unprecedented changes in the Earth's climate due to human influence; the Office of the Director of National Intelligence projected an increased risk of geopolitical tensions such as cross-border migration, strategic competition leading to conflict, and nations resisting clean energy transitions due to climate change; and leaders from almost 200 countries gathered in Glasgow, Scotland, at the U.N. Climate Change Conference of the Parties to build upon the 2015 Paris Climate Agreement. All present agreed that much work is to be done to protect Earth for future generations. In this Special Edition of JSIRE, "Climate Change-The Homeland Adapts," multidisciplinary approaches to teaching climate change and climate security at higher education institutions are examined. The five articles, authored by professors at higher education institutions, detail various andragogical and pedagogical approaches to integrating climate change into courses taught to students across multiple disciplines and provide insights and guidelines for academics from all fields.

*Keywords: climate change, climate security, higher education*

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In November 2021, leaders from almost 200 nations gathered in Glasgow, Scotland, at the U.N. Climate Change Conference of the Parties (COP26) to build upon the 2015 Paris Climate Agreement. COP26's proceedings focused on mitigation, adaptation, financing, and collaboration. All present agreed that much work must be done to protect Earth for future generations. Present in the leaders' minds was the August 2021 Intergovernmental Panel on Climate Change *Climate Change 2021: The Physical Science Basis* report, which detailed unprecedented changes in the Earth's climate due to human influence, especially greenhouse gas emissions. U.N. Secretary-General António Guterres said of the report, this is a "code red for humanity." (Guterres, 2021: IPCC, 2021). The code red was affirmed by the Office of the Director of National Intelligence's (2021) *National Intelligence Estimate on Climate Change* report that projected an increased risk of geopolitical tensions such as cross-border migration, strategic competition leading to conflict, and nations resisting clean energy transitions due to global warming.

*Climate security* examines the exacerbation of risks caused by climate change that will multiply direct and indirect threats to the nation (Buxton, 2021). Comiskey and Larrañaga (2019) defined climate security as "the coordinated and sustained implementation of prevention, mitigation, and resilience measures necessary to permit the responsible management of risks inherent to climate change throughout all levels of U.S. governance." In this special edition of the *Journal of Security, Intelligence, and Resilience Education*, "Climate Change-The Homeland Adapts," multidisciplinary approaches to teaching climate change and climate security at higher education institutions are examined. The special edition is brought to readers through the efforts of Dr.

Caroline Hackerott (North Dakota State University), Dr. Geoffrey Fouad (Monmouth University), and Dr. George Schwartz (Immaculata University), who served as Special Editors.

"Climate Change-The Homeland Adapts" comprises five articles authored by academics representing diverse disciplines such as emergency management, military education, and intelligence analysis at U.S. and Australian universities. Medbury and Corkill (2021) leverage the inherent complexity of climate change to teach intelligence analysis to undergraduate students. Cameron (2021) employs a social-constructivist and anagogical approach to teaching climate change in joint professional military education. Corlew (2021) provides an overview of a discussion-based graduate course intended to give emergency management students a greater understanding of psychological interactions with disaster and climate change. Pollock and Ellis (2021) detail their experiences with integrating global climate change issues into professional military education aimed at helping national security practitioners and military officers address climate security matters. Hackerott (2021) delivers an interdisciplinary, problem-based approach to developing an undergraduate climate change course that integrates service-learning projects into its coursework. In recognizing the value provided in these climate courses and looking towards the future, the authors remarked on the high likelihood of climate security curriculum evolving.

## CLIMATE CHANGE AND INTELLIGENCE ANALYSIS

Professors Jennifer Medbury and Jeff Corkill's, *Using the Complexity of Climate Change to Teach Intelligence Analysis* explores climate change as a complex strategic security problem and a means to teach intelligence analysis at Edith Cowan University. In two courses offered in the University's intelligence program, *Applied Intelligence* and *Intelligence Analysis*, climate change is used to develop analytical skills and put them into practice. Students explore problems that stem from climate change, such as water scarcity and food security. Climate change is examined as a "fuzzy problem," a complex problem requiring in-depth analysis. In 2021, the course's final unit required students to prepare a strategic intelligence assessment on the future of water security in the Amazon Basin and its implications. Student feedback towards these courses was consistently positive, with most students reporting favorable dispositions toward the class. Looking towards the future, Edith Cowan University plans to integrate climate change and climate security in its intelligence curriculum with in-depth case studies and intelligence assessment tasking.

## BRIDGING CLIMATE SCIENCE AND SECURITY

In 2017, the U.S. Naval War College (NWC) established the Climate and Human Security Group to address the lack of climate change and climate security education at the NWC. In 2020, climate change and national security electives began being taught at the institution. Dr. Andrea Cameron's article, *Bridging Climate Science and Security: Teaching Climate Change and National Security at the U.S. Naval War College*, provides an overview of teaching the *Climate Change and National Security* elective course to military professionals at the NWC. The course combines climate science, international relations, and policy analysis to enable students to consider the threats that stem from climate change holistically. The course combines a social constructivist strategy and an adult learning-oriented pedagogical approach by cross-utilizing

course framing, educational materials, and assessment deliverables. The approach facilitates different learning styles and addresses a significant concern of teaching climate change, climate skepticism and denialism. The nature of the course led to unexpected feelings from students related to climate change ranging from indifference to helplessness to despair, necessitating a reframing of the course. The course now encourages students to develop a problem-solving mindset. Student engagement for this course was highly successful, and this course will continue to be taught at the NWC.

## THE PSYCHOLOGY OF CLIMATE CHANGE IN EMERGENCY MANAGEMENT

Dr. Laura Corlew's article, *The Psychology of Climate Change in Emergency Management Graduate Education,* provides an overview of the *Psychology of Disaster and Climate Change* elective course offered at the University of Maine at Augusta. This graduate course is taught as part of the University's Trauma-Informed Emergency Management Program. The course explores the psychological interactions with climate change, such as decision-making, uncertainty, mental health, migration, and impacts on vulnerable populations. The course is discussion-based, meaning students must engage in discussions based on course readings. The discussion of contentious topics allows students to understand the world views of others. Case studies are also integrated into the course, enabling students to understand climate change as human and psychological problems fully. This course will likely continue to be offered in the future, and Corlew notes the importance of including climate change in the graduate professional curriculum.

## CLIMATE CHANGE AND PROFESSIONAL MILITARY EDUCATION

Professors Greg Pollock and John Ellis'article, *Integrating Climate Change into Professional Military Education* details the integration of climate change issues into professional military education (PME) at the U.S. National War College. The College's curriculum was developed to prepare military and civilian national security practitioners for the future. Incorporating climate security and climate change in PME is critical in ensuring that future policy-making agendas will similarly cover such topics. In 2021, the College offered its first course exploring climate change and national security, *The Threat of the Century: Global Climate Change and its Implications for National Security*. The course was designed to educate national security practitioners on climate-related issues, their impact on the United States, and how they should be incorporated into national security policy. Divided into three blocks, the course emphasizes the security and diplomatic dimensions of climate change, economic implications, and past efforts in managing climate change. Student reception towards this course was positive, with most students reporting a greater understanding of the impacts of climate change. The course will continue to be taught, with the expectation of further integrating climate security issues into the National War College curriculum.

## INTERDISCIPLINARY CLIMATE CHANGE COURSE DEVELOPMENT

Dr. Caroline Hackerott's article, *An Interdisciplinary Approach to Undergraduate Climate Change Course Development*, introduces climate change as a wicked problem that impacts all aspects of society. A single-discipline cannot address all of these aspects, necessitating an

interdisciplinary approach to climate change. Hackerott developed a problem-based collaborative undergraduate course that brings together students from multiple disciplines to meet this challenge. The fields of enrolled students included emergency management, nursing, sociology, psychology, political science/pre-law, hospitality, journalism, wildlife and fisheries, biology, engineering, physics, chemistry, and business. The course integrates service learning, which requires students to collaboratively plan an event that addresses climate change to benefit the greater community. In assessing course outcomes, students were found to have met or exceeded performance goals 100% of the time. Students reacted positively to the problem-based approach and believed that integrating service projects enhanced their learning when reflecting on the course. Students also appreciated working collaboratively with other students as it introduced new perspectives.

## CONCLUSION

Advances in climate science, including attribution science, modeling, and a growing network of Earth-orbiting satellites point in one direction; anthropogenic greenhouse emissions and other activities are warming planet Earth at an alarming rate. Impacts for the Unites States and the global threat landscape are manifold. This special edition of JSIRE, "Climate Change-The Homeland Adapts," provides a sample of five institutions of higher education's efforts to prepare homeland security professionals for a rapidly evolving threat landscape. The five articles exemplify the efforts of higher education instructors in teaching climate change and climate security using various andragogical and pedagogical methods. The teaching and the learning outcomes they encourage will likely translate into future policy and enhance the analytical capabilities of professionals. With risks to U.S. national security interests predicted to be exacerbated by climate change, the instruction of these issues to stakeholders is a homeland security imperative.

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