

# CCOE Seminar Series: 'Climate Change and its Implications for Military Operations'

## Seminar Minutes

**Format:** Expert Talk and Q&A

**Moderators:** Major Ralf Baur

**Keynote speaker:** none

**Experts:**

- Mr Jordan Beauregard, Senior Environmental Security Advisor at the United States Geological Survey, Virginia (USA)
- Dr Kira Vinke, Head of Center for Climate and Foreign Policy at the German Council on Foreign Relations, Berlin (GER)
- Ms Maartje van Reedt Dortland, Climate Security Expert and Reserve Officer at 1 Civil Military Interaction Command, Apeldoorn (NLD)

**Audience:** Open to the public. Practitioners, experts, academics, and advanced, students

**Date:** 29 JUN 22, 14:30 - 17:00 UTC+2

**Duration:** 150 min

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## Guiding Questions:

- *What is Climate Change in general and what are the strategic consequences of the changing climate?*
- *How does the changing climate affect (future) military operations?*
- *How will Civil-Military Cooperation and Civil Affairs have to adapt to the consequences arriving from rapidly changing environmental conditions and circumstances?*

## Executive Summary:

1. To **identify and plan** the appropriate response strategies to climate change, NATO CIMIC needs to utilise a **comprehensive CIMIC Analysis and Assessment** concept which aids officers in understanding the natural environmental factors of the Civil Environment.
2. Climate change and human conflict development are interrelated issues, where one can induce and reinforce the other, regardless of which one precedes the other. Therefore, NATO CIMIC must **both prepare and react** to the environmental effects of climate change as well as those of human conflicts.
3. To **reduce, prepare for and react** to the negative effects of climate change, a **whole-society approach** is needed, where strong civil-military cooperation enables and enhances joint knowledge production and awareness.

**Expert:**

**Mr Jordan Beauregard, Senior Environmental Security Advisor at the United States Geological Survey, Virginia (USA)**

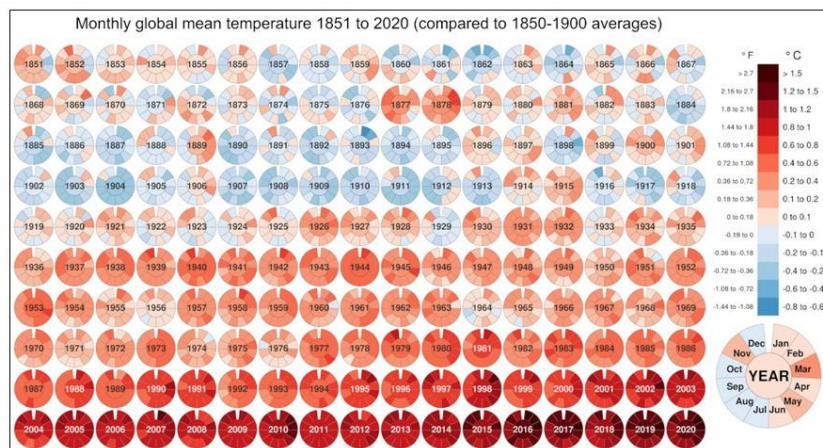
**Title: Defense Climate Security: Military Implications in a Changing Climate**

**1) Introduction to Climate Change**

- Definitions:
  - a. Weather: short-term atmospheric conditions over a particular area or region
  - b. Climate: the average of those short-term weather conditions over a long period of time, usually measured in several decades
  - c. Climate change: an overall trend, or trends, of change in the climate
  - d. Global change: changes in the global environment that may alter the capacity of the Earth to sustain life. Global change encompasses climate change, but it also includes other critical drivers of environmental change that may interact with climate change, such as land use change, the alteration of the water cycle, changes in biogeochemical cycles, and biodiversity loss.
- Most important trend: rising temperature
  - Human activity is the predominant cause of this.
  - Note: official definitions tend to emphasise human agency according to institutional mandates, interests and cultures



**What is Climate Change?: Weather, Climate, and Climate Change**



Slide content from a presentation by NOAA's Dr. Wassila Thiaw. Graphic produced by Neil R. Hayes and published by Iman Ghosh from Visual Capitalist

Slide 5 of Mr Beauregard's presentation

- Is climate change just a problem of the future?
  - No! - Climate change has immediate and detectable effects already today.
  - Nonetheless, the climate will change and it will cause effects regardless of human attribution. But the human aspects of it are the ones we are most able to influence.

- The problem with human contribution to climate change is that human activity may turn over the delicate balance of nature and the constituting ecosystems of the Earth. Therefore, the issue is not climate change, but the human contribution to climate change which accelerates natural processes.

## 2) The Three Faces of Climate Security

- Environmental: environmental symptoms resulting from changes in the climate system. – Ask: *is it attributable to human activity partly or entirely?*
- Human: the ways in which the exposure and risks of climate change contribute to the development of the human condition. – Ask: *how does human behaviour influence this?*
- Geopolitical: human governance instructions and activity that influences climate change or human resilience to climate change. In terms of military operations, *resiliency means the readiness of forces to execute a mission.*
  - But we should not treat military operations in isolation, because they interact with other spheres of life. → Therefore, the climate security picture of a country, area or region can be understood via...



### *Measuring Military Implications: PROPs\**

*Will depend on the **environment**, the **time**, the **objective**, and the **level of war** (strategic, operational, tactical)*

Policy (P)	Resources (R)	Operations (O)	Partnerships (P)
National Policy	Infrastructure	Combat	Public-Private
Authorities	Information	Stability	Security-Science
Budget	Personnel	Freedom of navigation	Civil-Military
Strategy & Priority	Materiel	Humanitarian	Military-Military
Plans & Actions	Energy	Law enforcement*	Defense-Diplomacy-Development

\*This is a very nascent framework to support understanding and is open to revision

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Slide 15 of Mr Beauregard's presentation

## 3) Summary

- Climate change poses challenges for **physical, human, and institutional** operating environments for global militaries
- Climate change implications for military operations must be understood based on how they **affect and are affected by** governmental **and** human implications from climate change
- The **capability** to be ready for climate security impacts means little in the absence of national and military **intention** to acknowledge and address it.

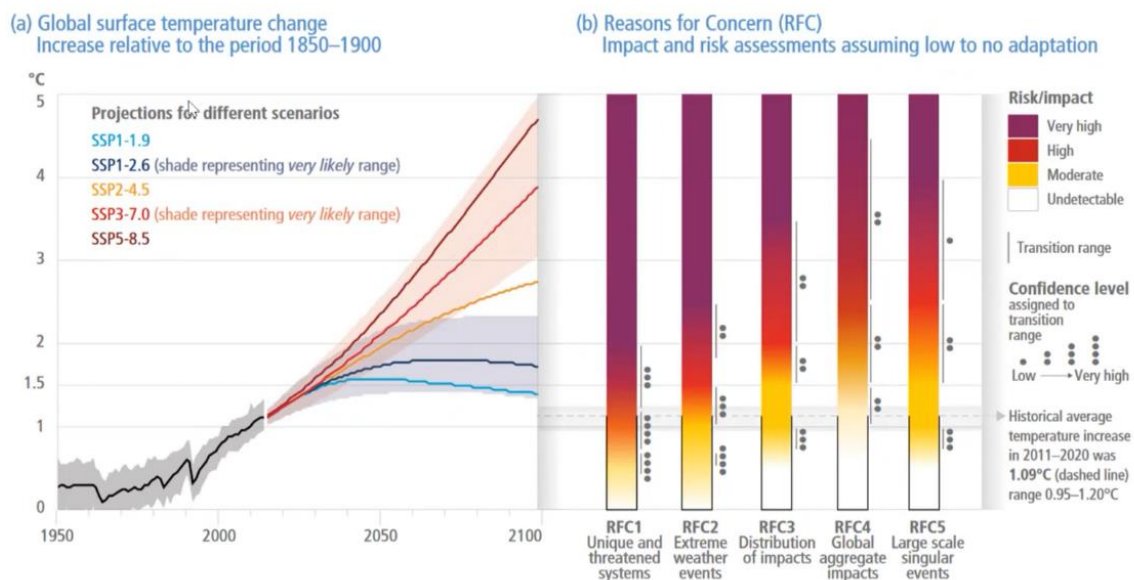
- **Even in the absence of political direction**, militaries can enhance their defense climate security by understanding how climate change-related activities support their existing authorities and directives.
- A particular country, community, region, or organization's climate security relies on international and domestic political, military, societal, and scientific partnerships.

**Expert:**

**Dr Kira Vinke, Head of Center for Climate and Foreign Policy at the German Council on Foreign Relations, Berlin (GER)**

**Title: No Peace without Climate Protection: Security in a Changing Climate**

**Global and regional risks for increasing levels of global warming**



Slide 4 of Dr Kiara Vinke's Presentation

- Predictive Analysis Process
  - assessment of multiple climate impacts on key sectors
  - nexus approach & strengthened foresight capacities necessary to mitigate risk
  - Product: **UN Climate Risk Profiles**
- Climate can contribute to conflict development
  - the area of habitable land reduces with increases in temperature
  - climate migration intensifies the security issues related to migration
  - resources becoming scarce as an effect of climate change may deprive populations of occupations, healthcare, etc., leading to displacement, deteriorating healthcare situations and ideological radicalisation
- Conflict can contribute to climate change
  - Examples:
    - Iran-Iraq War → ecological weapons (oil spills, WMDs)
    - War in Ukraine → ecosystem loss (destruction, pollution)
  - Attacks on fuel reserves → pollution

- Movement of troops and equipment → increased demand for energy and resources
- Destruction of infrastructure → need for reconstruction <> green reconstruction?
- Local Environmental Effects:
  - toxic remnants of ammunition
  - attacks on industrial and chemical plants
  - destruction of agricultural lands and forests → species loss, degradation of soil, freshwater contamination

**Expert:**

**Ms Maartje van Reedt Dortland, Climate Security Expert and Reserve Officer at 1 Civil Military Interaction Command, Apeldoorn (NLD)**

**Title: Climate Change - The effects on Civil-Military Cooperation**

**1) Major risks related to climate change**



Slide 4 of Ms van Reedt Dortland's Presentation

- Conflicts related to climate change
  - Climate change is not a reason for conflict
  - Climate change as threat multiplier
  - Climate change affects natural resources
  - Understanding of natural environment is key
- Scarcity of resources
  - Climate change leads to scarcity of resources
  - Prevent competition over resources with military
  - Communication is key: bushfires and water resources in Lebanon

**2) Main implications for military operations**

- Extreme weather and natural disasters → HADR



- Sea level rise and change of landscape → displaced persons, military infrastructures threatened
- Change in geopolitics → shift in focus areas, adaptation of material
- Change availability of natural resources → (inter) state conflicts, displaced persons, natural resources as weapon
- Gender perspective
  - Climate change affects women more
  - Female headed households increase
  - Women provide water and fuel
  - 43% female agricultural labour
  - 10% of aid goes to women

### 3) The Role of CIMIC:

#### Adaptation of armed forces

- Extreme weather circumstances
- Reducing logistical footprint
- Reusing material
- Decreasing waste
- Renewable energy
- Reducing footprint of missions

#### Natural disasters and CIMIC

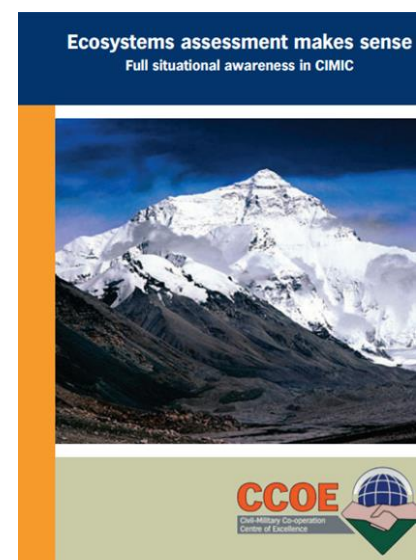
- Liaise with civilian actors
- Long term preparation
- Advice on resilience; 'building back better'
- Support training military in HADR

#### CIMIC A&A: Understanding the natural environment

- What is the impact of the military on the environment?
- Providing a safe and secure environment: what is the role of nature?
- On what natural resources are people dependent?
- How are these natural resources used? (socio-economic system)
- What or who threatens these natural resources?

#### CIMIC A&A: Analytic Frameworks:

- PMESII-TE (Political, Military, Economic, Social, Information, Technology, Environment) → each observes



the Area, Structure, Capabilities, Organisations, People, Events

- NAPRI (Needs, Access, Participation, Resources, Impact)

CIMIC A&A: Analysing the natural environment

- Step 1: resource base description
- Step 2: describe the resource use
- Step 3: describe resource management
- Step 4: Environmental precaution & planning

CIMIC preparation of the environment

- Physical terrain: geography and climate
- Environment is the complex of physical, chemical, and biological factors that act upon an organism or an ecological community and ultimately determine its form and survival. And the aggregate of social and cultural conditions that influence the life of an individual or community.