

# The Global Environmental History of World War I in Perspective

Rachel  
Carson  
Center

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**Sponsors:** Rachel Carson Center for Environment and Society (Munich) and Mortara Center for International Studies, Georgetown University (Washington, DC)

**Conveners:** John McNeill, Martin Schmid, Richard Tucker, and Helmuth Trischler

**Presenters:** Gerard Fitzgerald (George Mason University), Zachary Foster (Princeton), Jack Hayes (Kwantlen University, Vancouver), Ingo Heidbrink (Old Dominion University), Tait Keller (Rhodes College), Ernst Langthaler (Institute of Rural History, Austria), James Lewis (Forest History Society), Roy MacLeod (University of Sydney), Graham Pitts (Georgetown University), Dan Tamir (Arava Institute, Israel), Gene Tempest (Boston University), Steven Serels (Zentrum Moderner Orient, Berlin), Maria Six-Hohenbalken (Institute for Social Anthropology, Vienna), Frank Uekoetter (University of Birmingham), Alice Weinreb (Loyola University, Chicago), Anna-Katharina Wöbse (Bremen)

**Other participants:** Mustafa Aksakal (Georgetown University), Kyle Bracken (Florida State University), Charles Cange (Center for Public Health and Human Rights, Johns Hopkins University), Roger Chickering (Georgetown University), Thomas Pipoli (Loomis Chaffee School)

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The RCC and Georgetown University co-sponsored a workshop that addressed the environmental dimensions of World War I. This workshop brought together a wide range of historians and anthropologists to explore the environmental history of World War I within the broader context of the history of warfare and militarization in a global perspective. The centennial of the Great War is an appropriate time for drawing lines between environmental history and military history. The scope of these presentations greatly strengthens our understanding of the complexities of the war, its unprecedented technological acceleration, its demands on natural resources as well as total populations, its reach into lands and waters remote from the region of fighting in Europe and the Middle East, and its massive impact on civilian populations and natural environments—total war in a

new perspective. In the course of the workshop we identified areas and methodologies of research, and also major regions (most glaringly Eastern Europe and Russia) that remain to be covered in further studies of this wartime era and others.

Among the themes that arose repeatedly in the papers were:

1. The environmental dimension greatly expands the complexity, geography, duration, and legacy of the war far beyond what is generally discussed: from national to global, from four years to the immediate aftermath and the shaping of the “interwar” world.
2. The environmental dimension blurs the distinction between battle zones and support regions. In this war it particularly blurred the distinction between military and civilian, and war-related environmental stresses resulted in the vulnerability of entire populations.
3. As a great industrial war, World War I marks a phase in the long transition from an agrarian era (based on biomass energy) to an industrial era (based on fossil fuels).
4. The war greatly changed the relations of states to the environment; states became more efficient in managing natural resources and expanding their struggle for control of strategic resources in new parts of the globe, including minerals, petroleum, and natural rubber.
5. The postwar environmental legacy revealed many indistinct boundaries, including food supplies and deficiencies and the postwar influenza epidemic.
6. The war was a turning point in global ideas about nature and its significance to civilization, as reflected in the postwar conservation movement.

Papers from the workshop will be edited for publication as an edited volume.

On the first morning, after introductory remarks by **HELMUTH TRISCHLER** and the three organizers, **FRANK UEKÖTTER** opened the workshop with a consideration of the place of the centennial of the war in collective memories, as a major example of the newly emerging field of memory history.

The first panel presented papers on the global extraction of natural resources for the war. **ROY MACLEOD** framed the global scope with his discussion of the wartime emergence of the Great Powers’ competition for controlling the sources of strategically vital minerals and other natural resources. **DAN TAMIR** surveyed the emergence of petroleum as a critically important source of

energy for warfare, complementing (and ultimately surpassing) coal as the engine of war. **JACK HAYES** expanded the geographical scope of the discussion by demonstrating how Japan used the conditions of the war to establish its hegemony over regions whose natural resources were basic to its industrial power—pointing toward the militarization of later years. **TAIT KELLER** expanded the substantive scope of the resources map to include global food production and its converse, food deprivation, as a strategy of warfare that deliberately weakened the central powers' civilian support.

The afternoon panel discussed food and animals in greater detail. **ALICE WEINREB** analyzed food as a weapon of war, especially in Germany. **ERNST LANGTHALER** surveyed the collapse of food production, distribution, and consumption systems in Austria-Hungary as a central element of that empire's collapse. **INGO HEIDBRINK** moved the discussion to the world's oceans, demonstrating that the catch of fish dropped significantly during the war, while the availability of more powerful vessels and fishing technologies increased the catch figures after the war, especially in the North Sea. **GENE TEMPEST** discussed the roles of horses in the war, as enormous numbers of horses were introduced to both the front lines and the wider transport networks, including a steady supply of equines from the Americas to Europe.

On the second morning four panelists discussed a less-known region of the war, the Middle East. **MARIA SIX-HOHENBALKEN** analyzed the Austro-Hungarian Empire's relations with the Ottoman Empire before the war and in the process of both empires' collapses, as Vienna attempted to acquire some of the natural resources of Upper Mesopotamia; she also discussed how Austrians perceived genocide, mass atrocities to famine, and epidemics in the region. **STEVEN SERELS** described the Red Sea region, especially its northeastern African hinterland, in its increasing prewar food deficits and dependence on grain imports from India; wartime conditions severely disrupted the flow of food across the Arabian Sea, resulting in famine conditions in northeastern Africa. **ZACHARY FOSTER** extended the geographical reach of that food deprivation to Syria, where exceptional drought and a great locust plague produced mass famine and severe disruptions of land use in agricultural areas. **GRAHAM PITTS** added the agricultural heartland of what became modern Lebanon, showing how the experience of famine in 1915 helped to inform the re-drawing of political boundaries after the war.

On the second and final afternoon, **GERALD FITZGERALD** presented new details on the US production of chemical warfare agents at the Edgewood Arsenal outside Baltimore in a study that included the environmental costs of emergency production—as one power launched its long-term program of chemical weaponry. Forests took the spotlight in **JAMES LEWIS's** paper on the US forestry profession's reorganization for military purposes and its support of French forest

extraction for military purposes. Finally, **ANNA-KATHARINA WÖBSE** surveyed the wartime collapse of the previously emerging international wildlife conservation movement and its rebirth, with new priorities, in the wake of the conflict.

**ROGER CHICKERING** provided running commentaries on the other papers during the two days, from the perspective of military history, German history, and especially World War I history—his specializations.

-- Richard Tucker