

## Exploring Ice and Snow in the Cold War

**27-29 January 2011, Kerschensteiner Kolleg, Deutsches Museum, Munich**

**Sponsors:** Deutsches Museum; Rachel Carson Center for Environment and Society (RCC), Munich

**Conveners:** Julia Herzberg (RCC/Munich), Christian Kehrt (Helmut Schmidt University Hamburg) and Franziska Torma (RCC/Munich) in cooperation with Cornelia Lüdecke (RCC/Scientific Committee on Antarctic Research)

**Participants:** Dania Achermann (LMU Munich), Ron Doel (Florida State University), Sophie Elixhauser (LMU Munich), James R. Fleming (Colby College), Sebastian Gresvmühl (CNRS, Paris), Ingo Heidbrink (RCC / Old Dominion University), Matthias Heymann (Aarhus University), Anne M. Jensen (Ilisaġvik College), Paul Josephson (Colby College), Christian Kehrt (Helmut Schmidt University), Roger D. Launius (Smithsonian Institution), Cornelia Lüdecke (RCC), John McCannon (University of Saskatchewan), Peder Roberts (University of Strasbourg), Pascal Schillings (University of Cologne), Anni Seitz (film director), Glenn W. Sheehan (Barrow Arctic Science Consortium), Sverker Sörlin (Royal Institute of Technology, Sweden), Franziska Torma (RCC / LMU Munich), Lize-Marie van der Watt (Stellenbosch University), Pei Yi-Chu (Princeton University)

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The inherent nature of ice and snow allows historians to view them as multifaceted objects in which environmental and socio-cultural aspects are intertwined with one another. As elements positioned at the interface of materiality and cultural construction, the study of ice and snow fits within the realm of the history of the environment, science, and technology. At the same time, the history of ice and snow tells the story of geopolitical actors, and how they dealt with and colonized the environment. This is especially true of the Cold War era, during which a boom in scientific research on ice and snow took place. Between the end of the Second World War and the collapse of the bipolar world in the 1990s, formerly stable perceptions of the cold, ice, and snow changed. Landscapes like Siberia, Alaska, or the Polar Regions transformed into extensive laboratories for the Arctic Sciences. A large number of army bases and research stations traversed the icy domain, often leading to a narrow connection between military and scientific interests. Thus, the goal of the conference, initiated by the Rachel Carson Center for Environment and Society and the Deutsches Museum, was to explore the history of ice, snow, and the Cold War from a number of different cultural and political perspectives and to discuss relevant conceptual approaches. Between 27 - 29 January 2011, a group of established experts and junior researchers with diverse approaches and traditions met in

the rooms of the Kerschensteiner Kolleg on Munich's museum island. The conference's topics' multidimensionality was reflected in the disciplinary and national diversity of its participants and the new methodological and theoretical concepts presented in the course of the event.

After the directors of the Rachel Carson Center, **HELMUTH TRISCHLER** and **CHRISTOF MAUCH** welcomed the participants, the conference's conveners, **JULIA HERZBERG**, **CHRISTIAN KEHRT** and **FRANZISKA TORMA**, opened the conference with introductory remarks on the analysis of the Cold War from the perspective of environmental history. With the exception of Polar research efforts, the study of ice and snow must be seen as an underrepresented field within environmental humanities. For example, subject areas such as the cold, whose consistent presence dictated the way of life in many countries, still attract little academic interest and theoretical funding. The conveners therefore understood the word "exploring" to be not just a descriptive, but also a methodological metaphor reflecting the possibility of learning from different approaches and meanings of ice and snow and of conceptualizing and embracing this new field of research. The keynote speaker, **SVERKER SÖRLIN** presented early findings of his ongoing study entitled "Cryohistory in the Making." As a turning point in the history of the cryosphere—the part of the Earth's surface covered in ice—he identified the Arctic Sea Ice Minimum in 2007. The effects of the melting of the polar caps exceeded all scientific prognoses, which attracted an unprecedented amount of interest from the media, and took on characteristics of a global event. Sörlin called for a *longue durée* examination of the event in order to more accurately evaluate discontinuities and changes in the perception of the cryosphere. While the minimum sea ice cover had already been researched and predicted, only in recent times was the issue understood as an "environmental problem." In the 1940s, Swedish climatologist Hans W:son Ahlmann interpreted the previously diagnosed atmospheric warming as a form of climate improvement. Due to the power of these open debates on the perception of the environment, the history of glaciology and climate change should in the future also be told as a story of scientific politics and popular culture.

In the first presentation from the panel "Environmental Knowledge," **ROGER D. LAUNIUS** explored the history of the conquest of Antarctic and extraterrestrial spaces. Here, he pointed out the similarities of the two spaces' scientific exploration and geopolitical occupation in the 1950s and 1960s. Unlike the rest of the world, these spaces were not allowed to be subject to any claims of sovereignty. Launius interpreted these "free spaces" to be part of a nascent new colonialism of unknown territories that had developed in the shadow of the emerging dualistic world system dominated by the United States and the Soviet Union. In terms of methodology, Launius suggested a "middle interpretation" in which geopolitics and science act as the two intertwined driving forces in the colonization of Antarctica and outer space. In his talk, **RON DOEL** addressed the construction

mechanisms of mental interpretation structures of nature and the environment. Doel suggested that, in the Cold War era, national security interests were the dominant motives driving the human relationship to the environment. Using the example of the US exploration of the Polar Regions, he showed how military institutions and the applied physical sciences like geology, oceanography, or meteorology had developed a close connection with one another. The environmental sciences were thus established as a research area that increasingly focused on utilitarian and operative concerns, rather than dealing with the ecological problems of a globally endangered world. The decisions regarding which forms of environmental knowledge could be classified as useful influenced our perceptions of nature until today. The following presentation was given by **PEDER ROBERTS**, who used the sub-arctic island of Bouvetøya as an example to discuss scientific collaboration between Norway and South Africa in the early phase of the Cold War. The approach he had developed, together with **LIZE-MARIE VAN DER WATT**, made a transnational analysis of polar research and geopolitics separate from the hegemony of the superpowers possible. Also, the limits of attempts to completely control the environment through science and technology became visible. Due to the extreme conditions on Bouvetøya, a planned measuring station could not be built, and the colonization of the island failed. Roberts's presentation was followed by a screening of a film produced by **SOPHIE ELIXHAUSER** together with director **ANNI SEITZ**. This film about family structures in Greenland concluded the first day of the conference. Based on verbal and non-verbal communication patterns, the producers demonstrated the tension between traditional ideas and the modern ways of life of the younger generations, and proved the high value of personal autonomy in Greenlandic communication structures.

The next part of the conference was opened by **MATTHIAS HEYMANN**, who analyzed scientific and military activities as part of Danish and US initiatives on Greenland. The relationship between these two states was characterized by a strong asymmetry. On an official level, Denmark had sovereignty over Greenland, but on a practical level, the scientific exploration of the island was dictated by the United States. Because the United States saw their strategic and security-political interests best protected by the geophysical sciences, they were subsidized by the US military. In reflecting upon his research, Heymann noted that he saw a gap to be filled in Greenland Cold War history research, which until now has largely failed to consider the political implications of scientific practices. **INGO HEIDBRINK'S** presentation tied into Heymann's discussion. Using the example of Project Iceworm, a US plan to build a nuclear missile launching site under Greenland's ice caps, he not only identified the expectations and strategies used in polar research, but also visualized the effects of these military activities on the local Inuit population, from a local-historical perspective. Both presentations emphasized that obtaining natural resources was not the primary goal of all efforts in Greenland, but rather the conquest of Arctic space itself. Here, trust in scientific knowledge

and technology in conquering extreme environments was almost limitless. Contact with the indigenous population or the use of their knowledge was not of interest.

The next panel concentrated on concrete places of knowledge production. **DANIA ACHERMANN** placed the Swiss Federal Institute of Snow and Avalanche Research in Davos at the center of her presentation. In the Western world, the center was a unique research facility. In the postwar era, the institute established itself as the epicenter of avalanche research and promoted its development into an independent scientific discipline. Achermann interpreted the exploration of ice and snow as part of a Swiss mental, national defense policy that took the form of a patriotic duty. In the next presentation, **SEBASTIAN GREVSMÜHL** described Antarctica as both a real and an imagined laboratory that housed diverse underlying ideas of environmental control. Grevsmühl recognized analogical reasoning and the linking of different spaces as common points within these narratives. He pointed out that the mental construction of the Polar region in the twentieth century was closely related to other exceptional environments, such as outer space or deep waters.

In order to create a comprehensive picture of the production of (environmental) knowledge during the Cold War, the following presentations concentrated on the Soviet Arctic sciences. The analysis of continuities and breaks within Stalinist Soviet Union's exploration of the Arctic allowed **JOHN MCCANNON** to explore contemporary environmental patterns of interpretation. The continual policy of the state to ignore ecological problems can be traced back to the strictly military use of the Arctic environment in the early phase of the Cold War. Nuclear tests, the erection of army bases, or the use of the Siberian oil reserves justified any form of environmental exploitation. Potential knowledge concerning the fragility of nature was blocked. Nevertheless, towards the end of Stalin's reign, the pure military interests of the political regime were faced with a new generation of scientists who propagated a less utilitarian agenda and increasingly prescribed to fundamental research traditions. **PEY-YI CHU** dedicated her presentation to one of those fields of basic research: Soviet permafrost science. Aside from the rivalry with the United States for control of this field, definitional arguments on the meaning of "frozen earth" were central points in scientific reports. Although Soviet scientists were aware that permafrost also existed in other parts of the world, they interpreted its significant presence in the USSR as evidence proving the uniqueness of its environment. The settlement of permafrost regions was seen as a triumph of socialist modernity over nature. Only starting in the 1970s were these territorial expansion plans complemented by discourses on the need for the protection of these areas.

**CORNELIA LÜDECKE'S** and **CHRISTIAN KEHRT'S** reflections on traditions in German Arctic research complimented one another. Both identified the Second World War as a defining

turning point in German Arctic research. The war facilitated a shift from military interests to basic research on snow and ice. Thematically, initial postwar expeditions such as EGIG I (Expédition Glaciologique Internationale au Groenland) in 1959 focused on surveys and movement patterns of the Arctic ice caps. Thereby leaning on Alfred Wegner's 1929 journey as a model, German polar exploration re-entered the international scientific community. However, a non-military German research agenda, according to the speakers, does not so much speak for a *Sonderweg* of the German polar sciences in the Cold War, but instead reflects the geopolitical and diplomatic position of the Federal Republic of Germany in the postwar era. German Arctic exploration took place specifically in the "Western" alliance constellation. Missions like EGIG I were not only executed in the context of Western European cooperation, but also with the infrastructural and financial support of the United States. German research findings eventually flowed back into projects benefitting the military. As a consequence, German polar research must be understood in the context of the Cold War interests.

Afterwards, **ANNE M. JENSEN** and **GLENN W. SHEEHAN** explored the history of military research conducted by the United States Naval Arctic Research Laboratory (NARL) in Alaska. The speakers' main focal point was the appropriation of knowledge from the indigenous Iñupiat by foreign researchers. NARL scientists strategically used the Eskimo's experience with ice and its properties as well as local flora and fauna in order to generate an understanding of the environmental conditions in Alaska. In the end, the Iñupiat themselves became research subjects. In ethnographical examinations, scientists attempted to transfer their genetic ability to adapt to the extreme cold to Euroamericans. Despite the neocolonial behavior of the researchers, interviews conducted in Alaska indicate that a large part of the indigenous population report a positive experience concerning their relationship with the scientists.

**PASCAL SCHILLINGS** described Reinhold Messner's 1989 Antarctica expedition as an "applied technology of the self (Foucault)." The extreme mountain climber argued that interaction with the cold and ice was a transcendental way of experiencing one's own self, and connected this with moral criticism of society and scientific practices. In his journey, Messner was accompanied by enormous public interest that he used as a platform from which to call for the dismantlement of research stations and environmental protection in Antarctica. This scenario led Schillings to use the media as producers and mediators of a societal narrative of nature and wilderness in the final phase of the Cold War. This story once again showed how public opinion acted as an essential factor in the relationship between humans and nature.

In the last conference panel, concrete historical actors and their environments shifted to the center

of attention. **JAMES R. FLEMING** presented his biographical study on Harry Wexler, whom he described as an “entrepreneur” in the conceptualization of atmospheric research. As such, Wexler neglected financial and political considerations and dedicated himself completely to a reflective science. According to Fleming’s talk, Wexler was not a mere “cold warrior,” but positioned himself as an actor at the interface of politics, research, and the media. Therefore, Wexler could be considered the prototype of a public scientist. In her paper, **FRANZISKA TORMA** linked an analysis of the documentary film *Voyage to the End of the World* (1976) by Yves-Jaques Cousteau and his son Phillippe to a range of mentality and environmental historical questions. In her thesis, the speaker maintained that the documentation, in presenting Antarctica as a space devoid of humans, referred to a specific and contradictory strategy of post-colonial environmental protection. In contrast to geopolitical claims of power, the film places the fragile nature of humans and the environment in the “eternal ice” at the center of focus. Torma’s concentration on iconographic narrative strategies made it possible to understand the film as a rejection of any direct colonial and strategic claims and to see Antarctica as a dynamic environment beyond the sphere of human omnipotence. However, ideas of a human-less space and animal protection were still connected to alternative and subtler forms of European interpretational sovereignty.

In the conference’s final commentary, **PAUL JOSEPHSON** summarized the basic discussion points addressed in the course of the conference. The relationship between the state and science as well as the specific role of the military as an influencing factor of applied research could be identified as a general motif in the environmental history of the Cold War. The dominance of the geophysical sciences was identified as being a part of these developments. Its research findings, which were applicable to useful military research on fields such as nuclear power, was seen by most states as the most worthy of sponsorship. Biological and ecological research, on the other hand, played a subordinate role in science during the Cold War. Metaphors about the conquest and control of icy environments established themselves as central vocabulary in the language of science that facilitated the utilization of environments and local populations under the dogma of progress. Furthermore, the power of language became obvious in the numerous identified narratives in which nature had been conceptualized as different or even hostile towards humans, and its conquest was regarded as a heroic achievement of progress. Overall, the Cold War must be seen as a fundamental catalyst for research on ice, the cold, and extreme environmental conditions. The “International Geophysical Year” (1957-1958), the participants agreed, represented a meaningful caesura in the genesis of the Arctic sciences.

Concerning the result of the final discussion, which incorporated an interdisciplinary perspective on ice and snow as an important part of a global history of the environment and the Cold War, all par-

ticipants were in agreement. For this to occur, further research and modified research questions are indispensable. Aside from internal research aspects such as the exploration of gender aspects or perceptions of nature in science, the participants identified questions concerning environmental knowledge and its production outside of the scientific community as pertinent in this endeavor. Next to an explicit examination of indigenous populations, the role of the public is also important in this respect. The meaning of rising environmental movements and its actors is also just at its beginning. Were there any naturalists like John Muir, Henry David Thoreau, or Rachel Carson in snow and ice environments?

Overall, the conference offered an overview of the basic tendencies and overarching development in this new research field. By focusing on ice and snow, the conference was able to connect the history of the Cold War to environmental historical issues. The plethora of approaches used in the conference indicated that a history of ice and snow in the Cold War has numerous connections to scientific, political, environmental, and cultural history that can be put to good use in further research approaches.

In the future, the Cold War could perhaps be interpreted in a new way if science concentrates more on the matter from which its name was derived: the cold.

—Felix Mauch