

## **Making governable objects: a history of glaciers and mining activities in the southern Andes 1970-2010**

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This article is part of the research project SPHERE (Study of the Planetary Human-Earth Relationship), a historical study of humanity's relation to planetary conditions and constraints and how it has become understood as a governance issue. The project is led by KTH Royal Institute of Technology in partnership with the University of Cambridge, the University of California, Berkeley, and the University of Sydney.

Theme: I see this paper as belonging to the theme *Histories of energy and mining* or possibly *Political ecology and socio-environmental conflicts in historical perspective*.

### **Abstract**

In Chile and Argentina, conflicts around mining activities are increasingly framed in environmental terms and glaciers and water availability have become central points of contestation. In 2010, Argentina adopted the world's first glacier protection law and a similar law is currently being discussed in Chile. Focusing on mining projects in the southern Andes, this article aims to examine how mining professionals, public officials, and local communities perceive of and configure *glaciers* as an object of environmental governance.

By adopting a historical approach to the relationship between mining activities and the environment this article explores how glaciers have seeped into the mining sector during the second half on the 20<sup>th</sup> century to become a central challenge for the industry today. Dealing with glaciers is not new to the mining industry, during the development of the Andina mine in the 1970s for example, Chilean state-owned Codelco engaged in glacier removal to access the copper deposits below. However, at that point it was renowned as an engineering success. As such, this study examines the historically contingent glacier-mining relationship, the actors and practices involved in the processes, conflicts, and negotiations over configuring glaciers as a governable object, and asks what types of knowledge, why, how and by whom, through what practices, scientific and non-scientific, discursive and material, glaciers are shaped as an environmental governance issue.

The point of departure for analyzing this changing relationship is inspired by the concept of *enviroming technologies* – the process of making environments – referring to human activities that turn nature into environment. This approach is used to understand the transformation of glaciers from belonging to the realm of scientists and the cryosphere, moving into “cryoactivism” and further into “cryopolitics.”

The study uses a case study approach to examine a number of mining projects in the Chilean and Argentinian Andes. The study uses mixed methods and make use of interviews, documents, and archival material. While mining conflicts have seen a growing interest form academia, and there exists an extensive literature on corporate-community relations and CSR practices, the work of mining engineers and scientists, employed by mining companies, consultancies, universities, or research institutes, have received less attention. Even so, these actors produce the knowledge that inform both corporate CSR initiatives and environmental policies, government regulations, and anti-mining arguments put forward by affected communities and environmental NGOs.

As this article is work in progress, I refrain from including any conclusions at this stage. However, an argument to be explored further is how the mobilization of scientific knowledge can be understood as a type of *environing* technology and how it becomes increasingly important that the environment favoring a particular interest is the one that “gets made.” In other words, suggesting that *environing* is a way to exercise political influence.