

## **Constructions of Weather and Climate: Epistemic challenges and shifts in investigating the atmosphere**

*Tuesday, August 8, 2023 2:50 PM (25 minutes)*

Efforts to investigate, understand and, eventually, predict weather and climate have changed significantly from the late 18th to the late 20th century. For a long time, physicists struggled and failed to establish a causal understanding of weather and climate based on the laws of physics. Instead, observation and experienced-based research traditions emerged, culminating in synoptic meteorology and a geographical tradition of climatology. Only during the twentieth century, theoretical advances as well as the technology of digital computers caused an increasingly deep transformation from empirical geographical to theory-based physical science. This fundamental shift produced not only a new understanding of weather and climate, including new and very different research interests and strategies such as climate change. It also largely marginalized geographical interests in weather and climate, which receives new interest and importance for understanding and managing local challenges of adaptation to climate change.

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