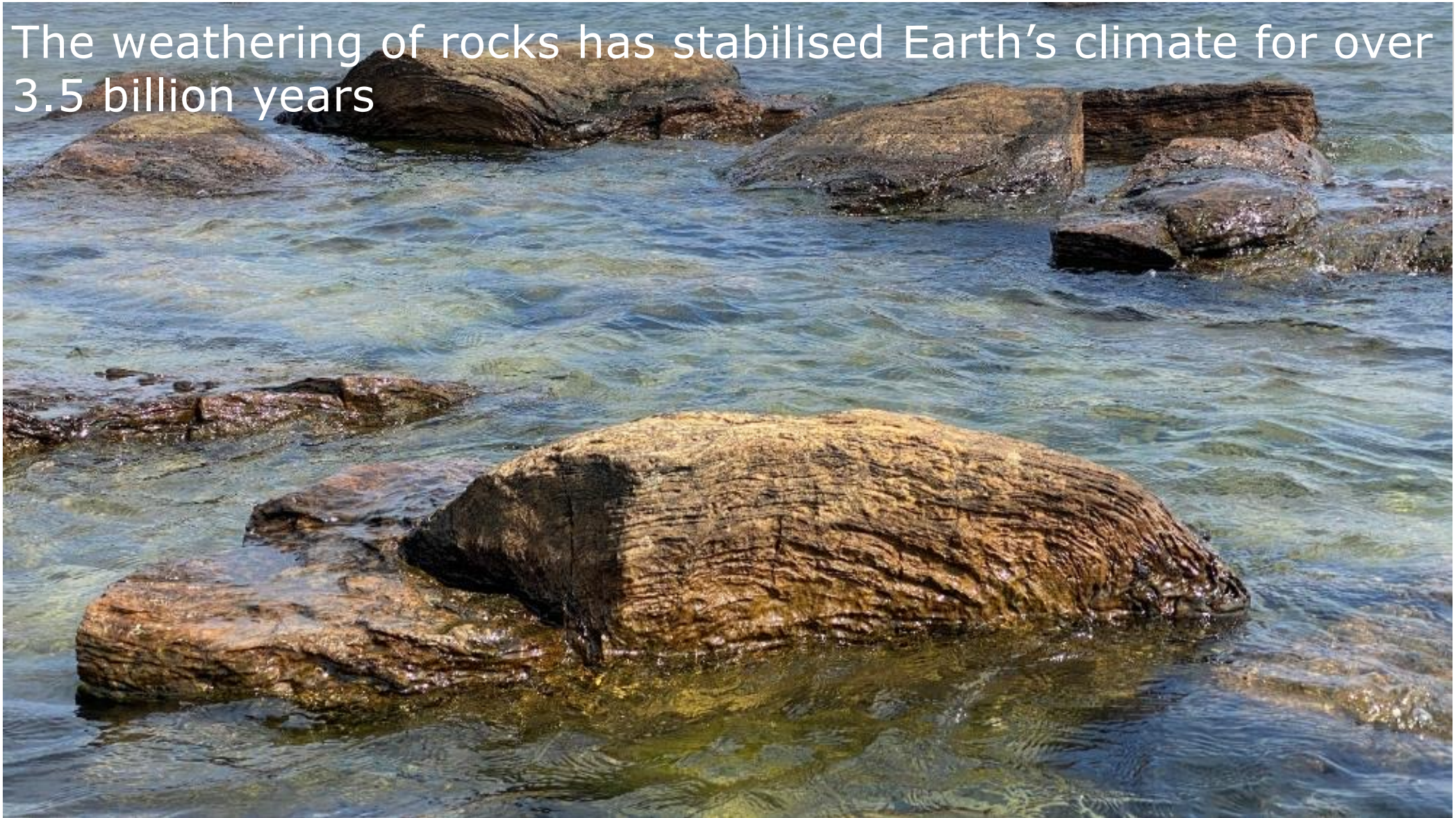


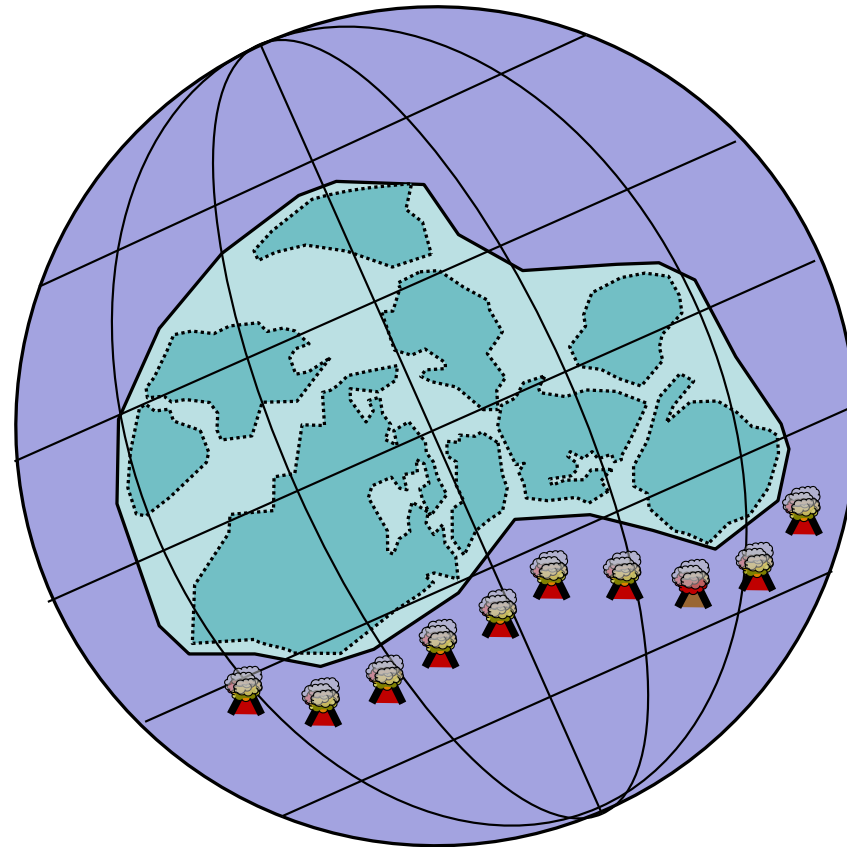
The weathering of rocks has stabilised Earth's climate for over 3.5 billion years



Our story continues ...

Nuna existed 1.8 billion years ago

14:30



Modified from Wan et al. (2015)

Mountains as tall as the Himalaya

14:30

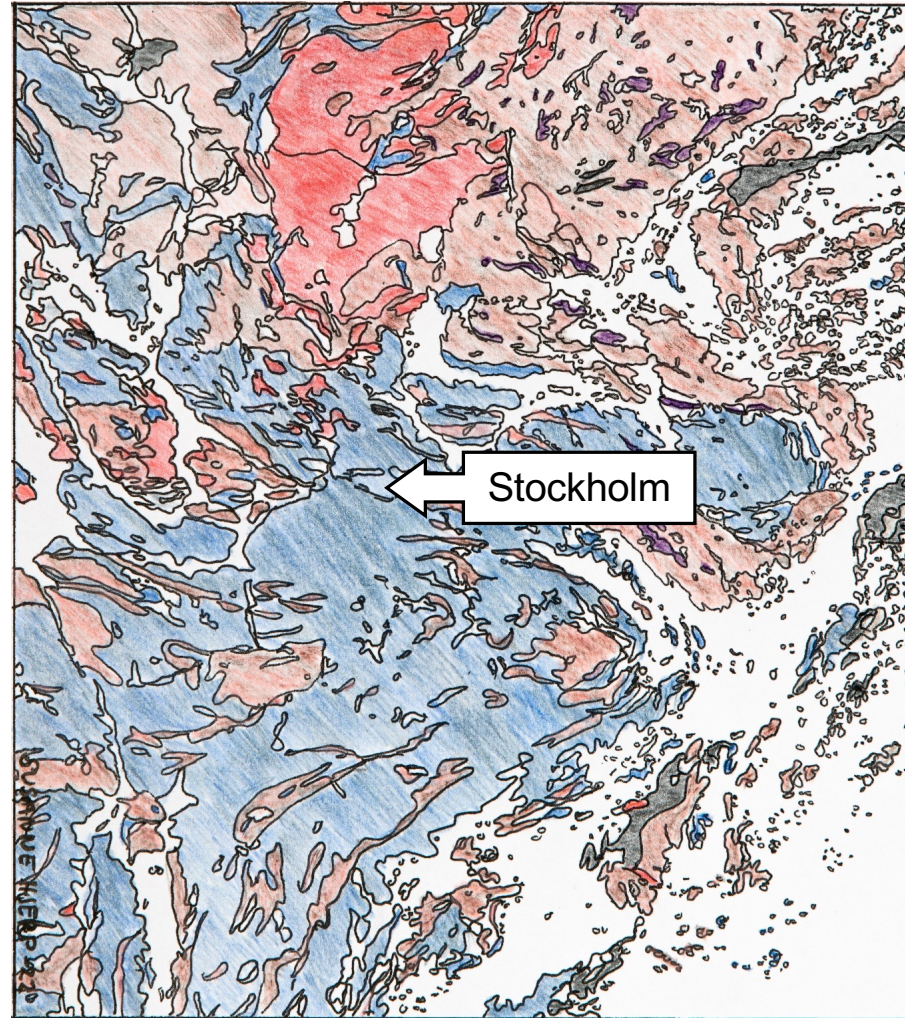


Bild: Susanne Hjerp

Mountains as tall as the Himalaya

14:30

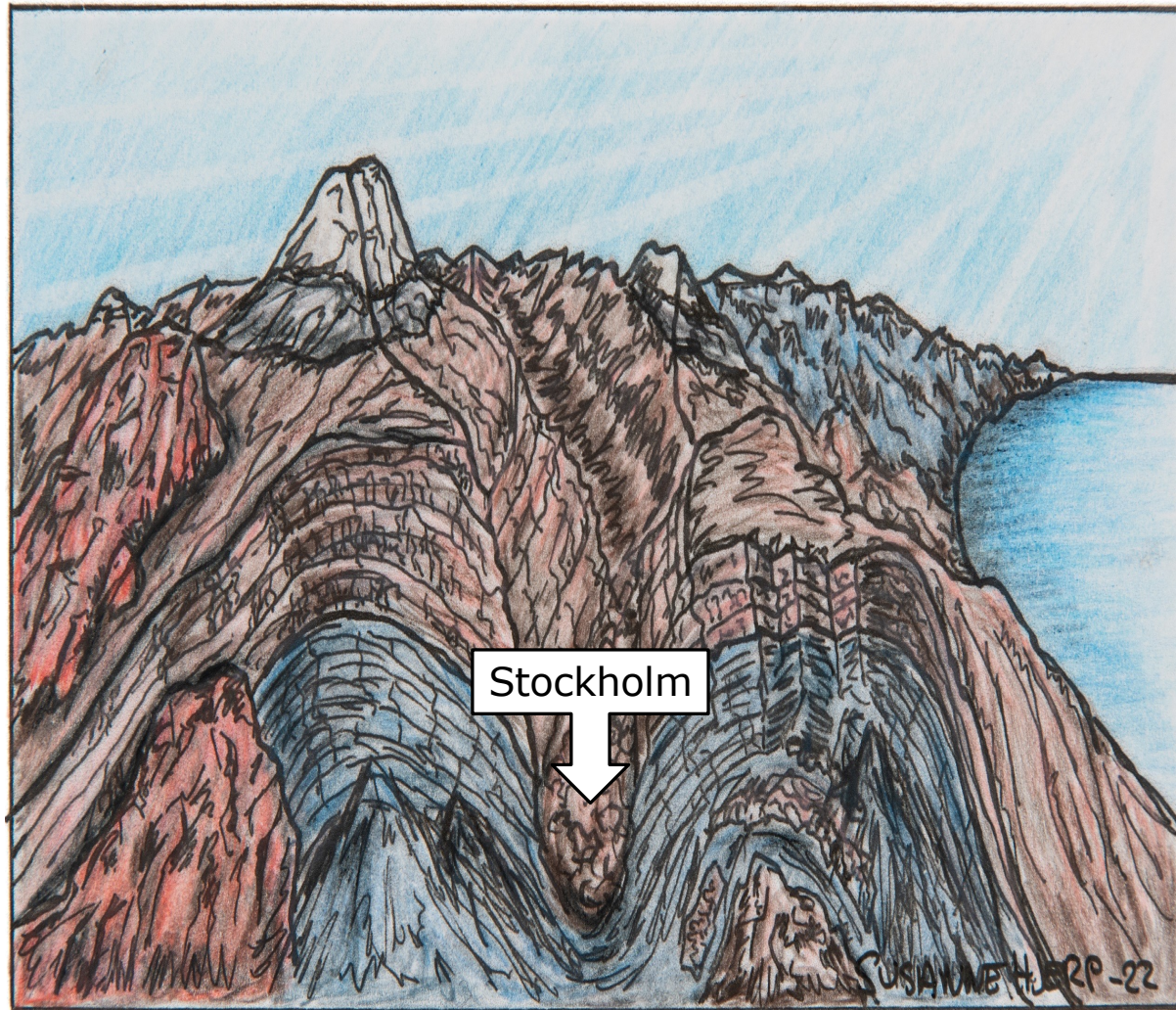
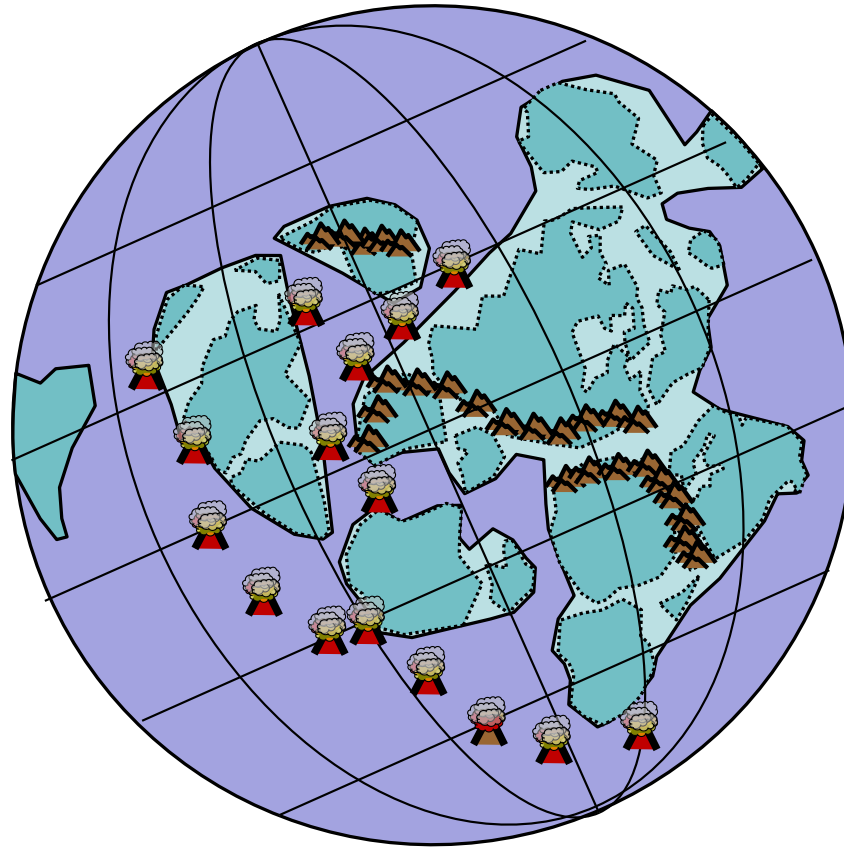


Bild: Susanne Hjerp

The Boring Billion

Rodinia existed 800 million years ago

19:46



Modified from Bogdanova et al. (2009)

Snowball Earth started 716 million years ago

20:14

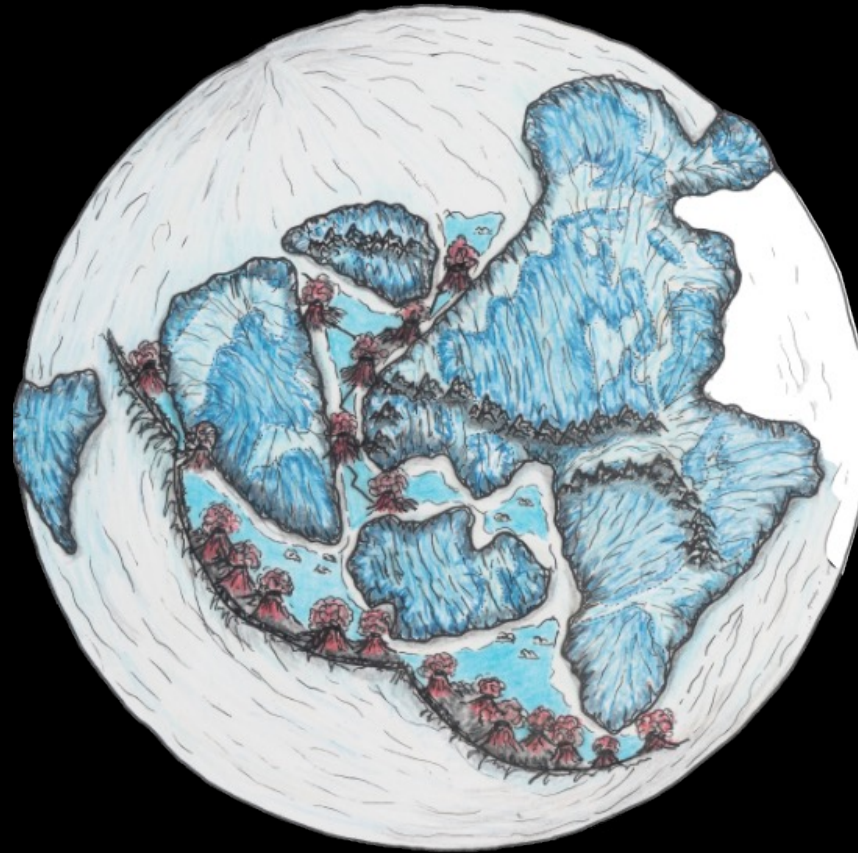


Image: Susanne Hjerp

... and was ended by **carbon dioxide** emissions from volcanoes 635 million years ago.

20:39

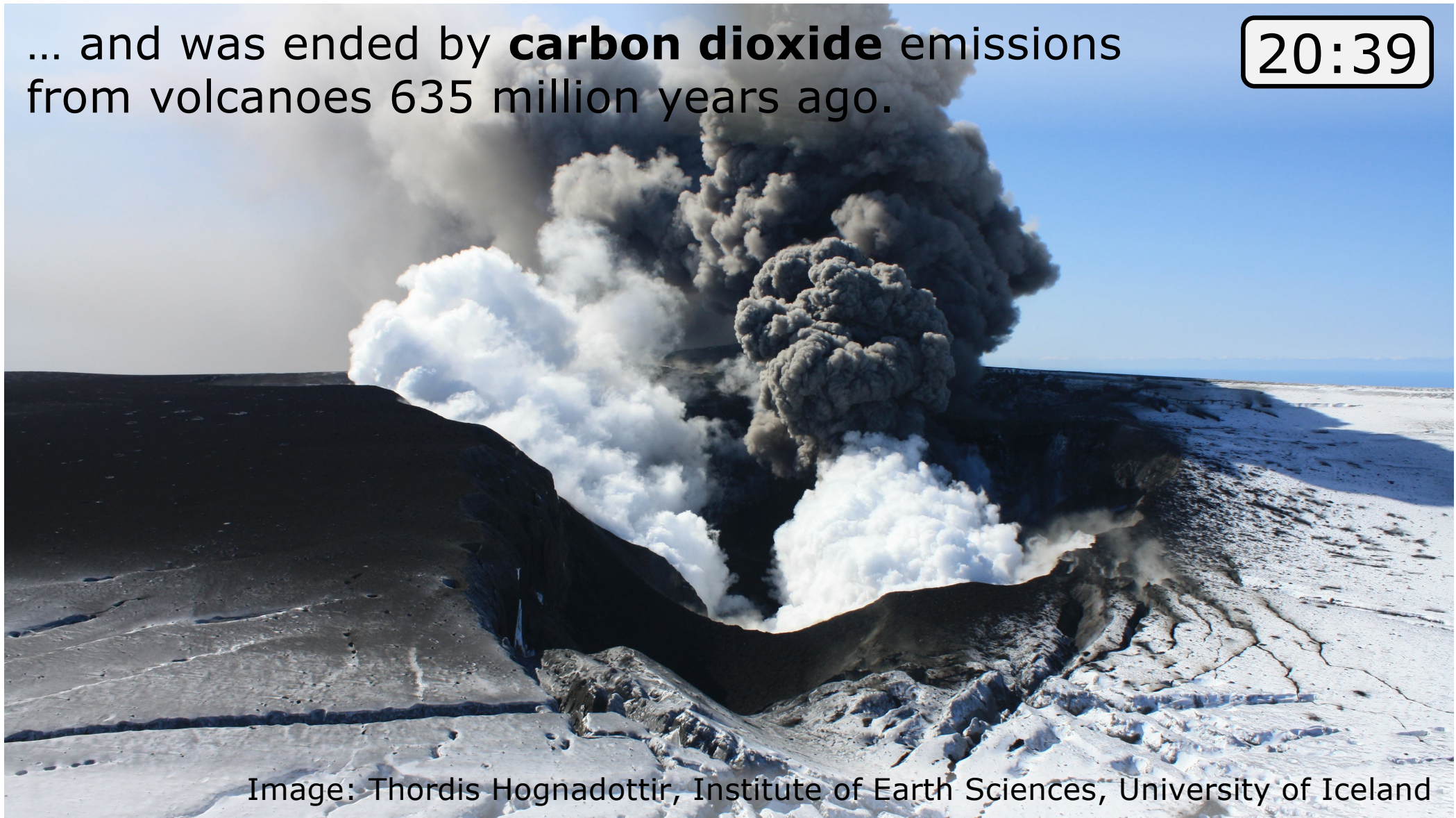


Image: Thordis Hognadottir, Institute of Earth Sciences, University of Iceland

The Explosion of Life happened 541 million years ago

21:09



Image: Susanne Hjerp

Coal started accumulating 359 million years ago ...
... and has continued to do so since then.

22:06



Fyledalen, Skåne

The Age of Dinosaurs began 228 million years ago ... **22:48**

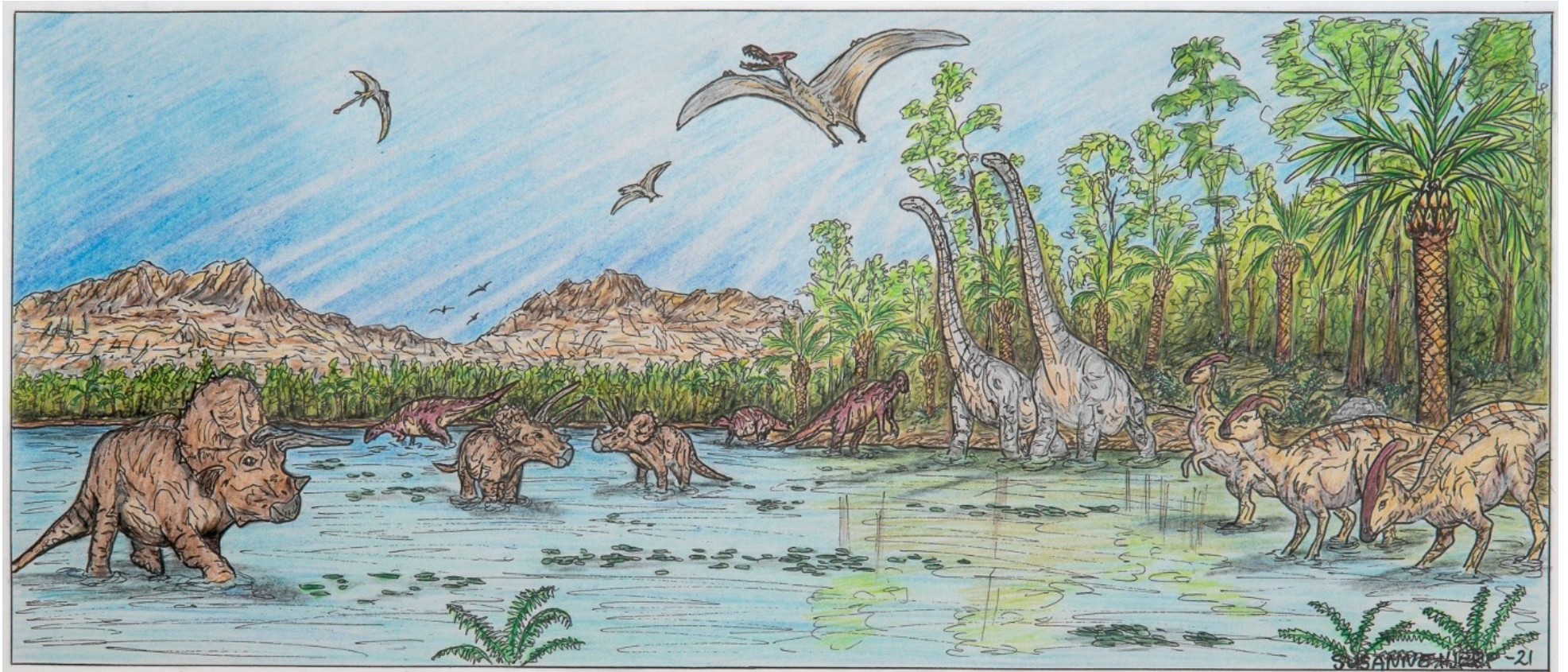
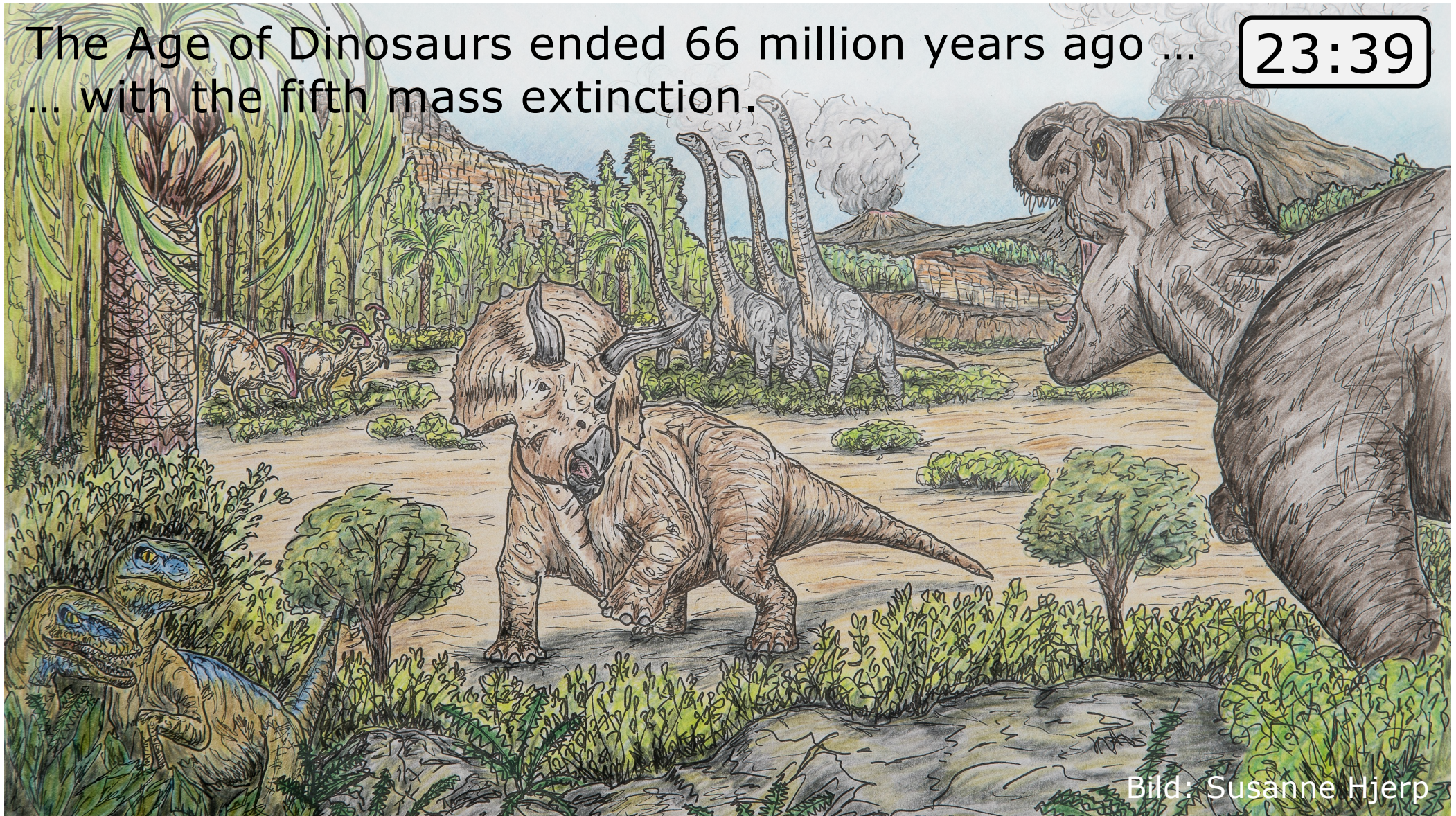


Image: Susanne Hjerp

The Age of Dinosaurs ended 66 million years ago ...
... with the fifth mass extinction.

23:39



The Himalaya were born 50 million years ago ...

23:44



Image: NASA

Glaciers formed in Antarctica 35 million years ago.

23:49

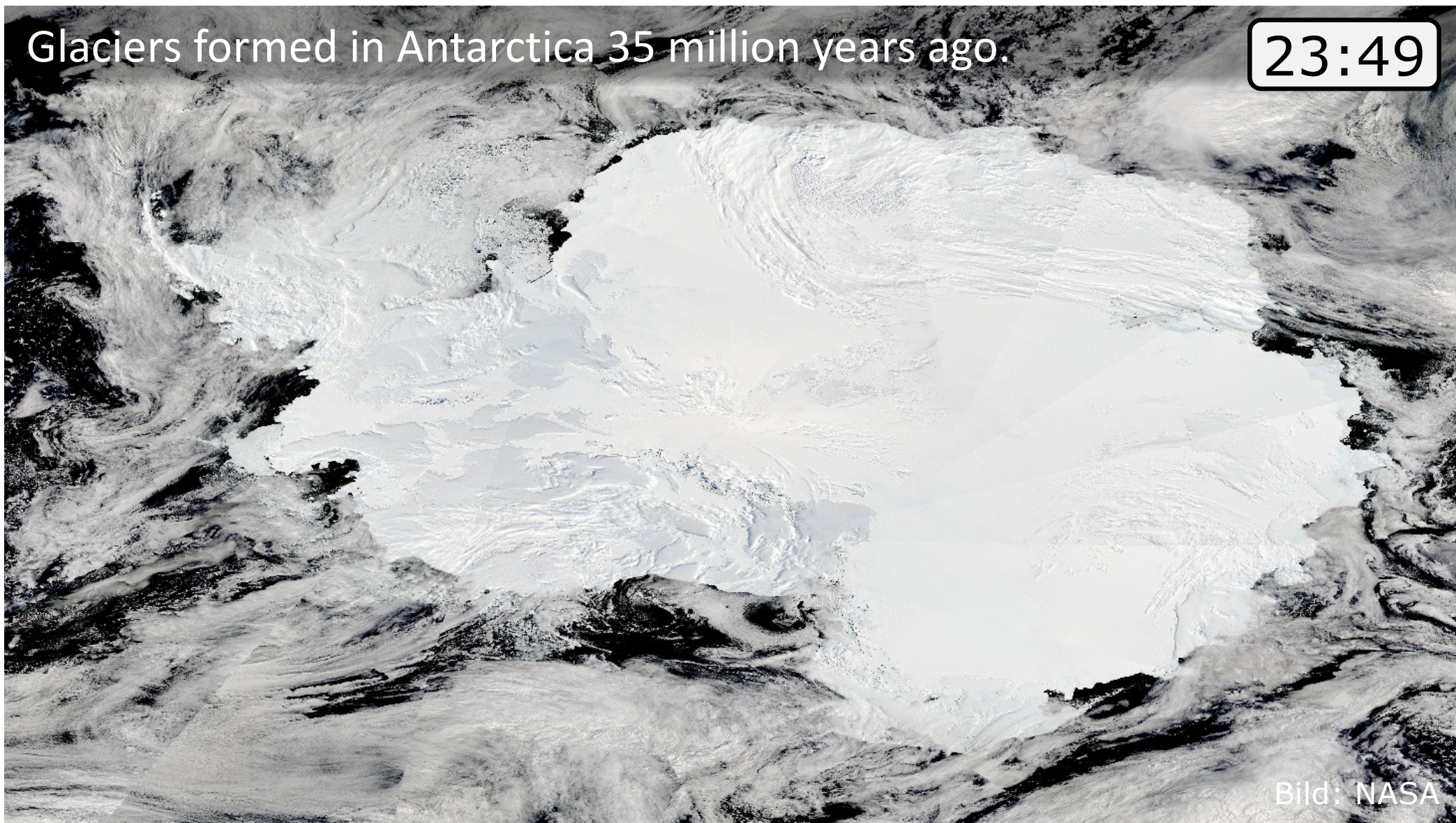


Bild: NASA

The Arctic Ocean froze over 2.6 million years ago ...

23:59



Image: NASA

... and the Ice Age began.

23:59



The Rise of Humans

6 seconds before midnight



Image: Susanne Hjerp

Agricultural Revolution

6 milliseconds before midnight

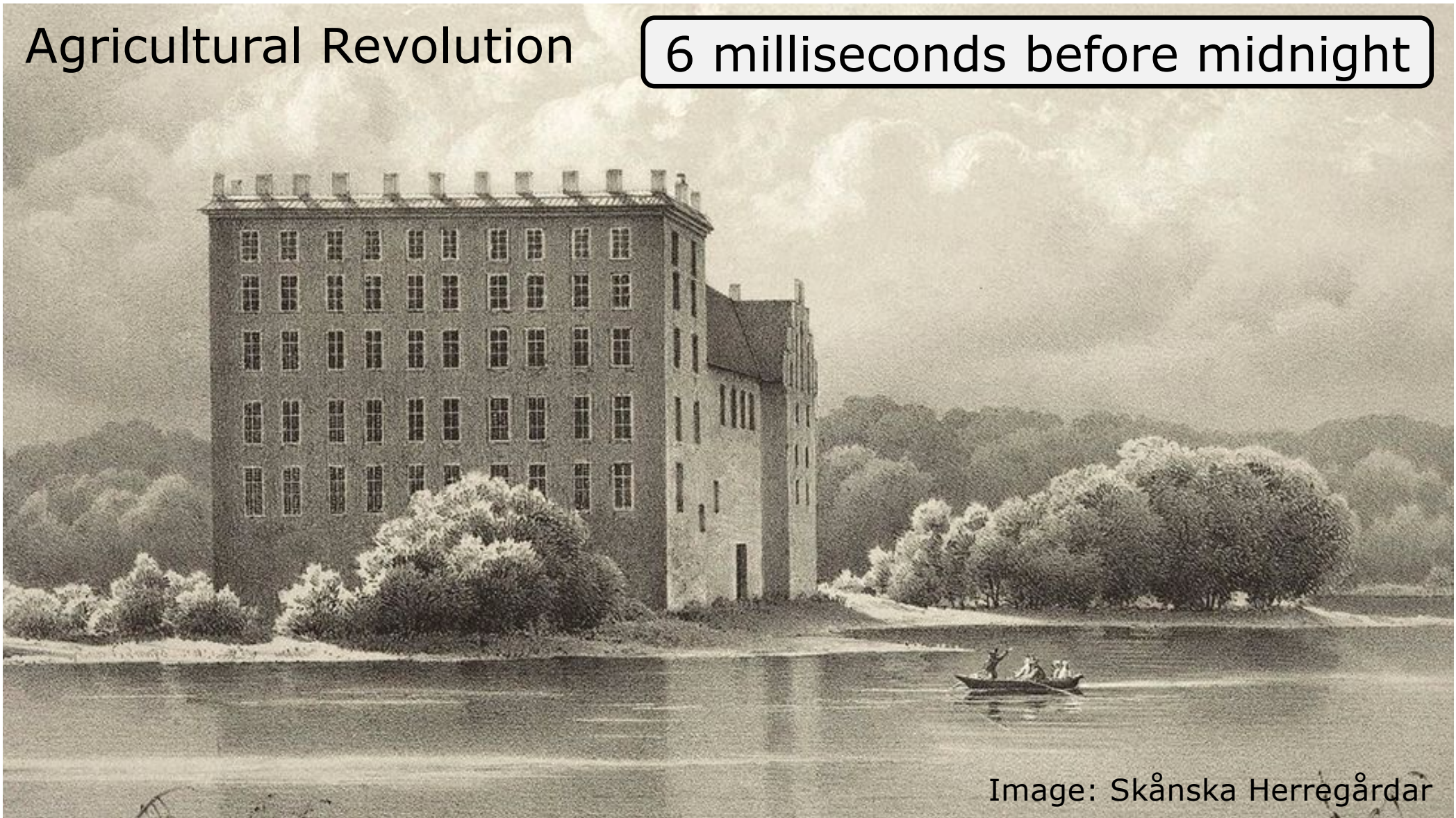


Image: Skånska Herregårdar

Industrial revolution

5 milliseconds before midnight

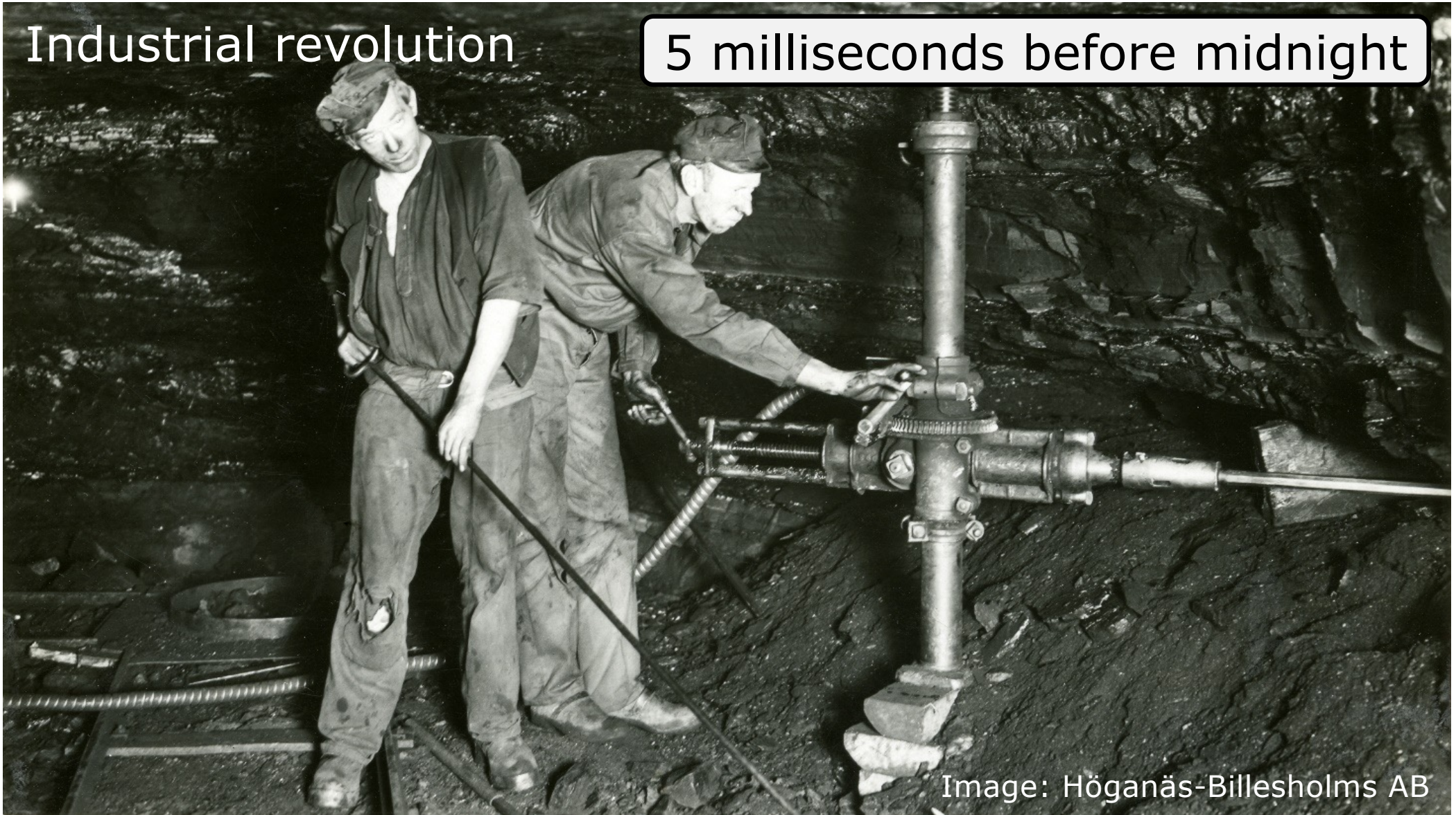
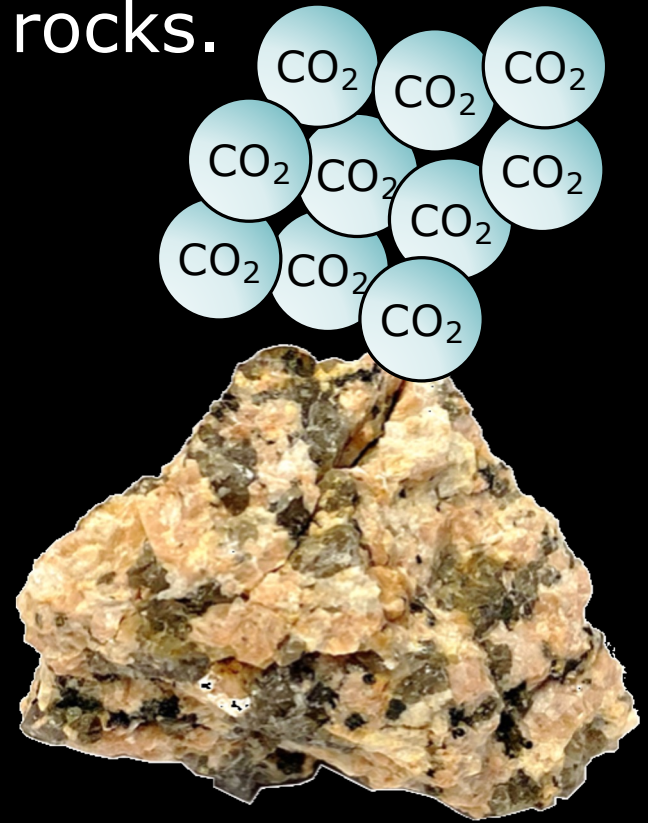
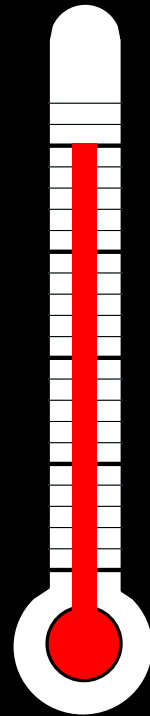


Image: Höganäs-Billesholms AB

And humans emitted carbon dioxide **faster** than it could be taken away by the weathering of rocks.



The Climate Crisis

1 millisecond before midnight



Image: Emmy Skelton Kockum

The Climate Crisis



Photo taken by an anonymous photographer, 10:27, December 26, 2004, Khao Lak, Thailand

A geologist called Niko



Image: General-Anzeiger (2023)

In 2008, Bert Bolin, first chairperson of the IPCC, published an article in a Swedish newspaper ...

“Serious – but not hopeless”
- Bert Bolin, Svenska Dagbladet (2008)

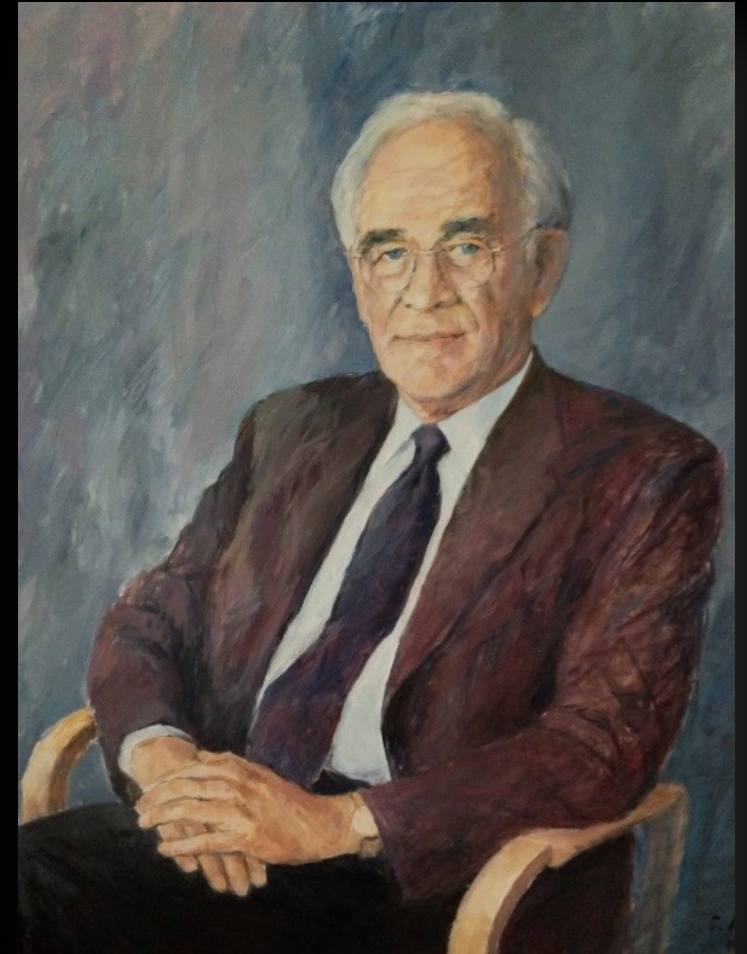


Image: MISU

Is there hope?

Inspired by Under the Sky We Make (Kimberly Nicholas)



The **Climate Crisis** from the perspective of geological time

Keynote – ICT4S Stockholm 27 June 2024

Alasdair Skelton
Stockholm University
Researchers' Desk
alasdair.skelton@geo.su.se

