Shocking new images illustrate Arctic glacier melt over last century

October 2024







Greenpeace has commissioned photographer Christian Åslund to continue a project he started for the environmental organisation in 2002 to carry out visual research of glaciers in Svalbard and document their retreat over time, juxtaposing them with pictures from the Norwegian Polar Institute archives from the early 1900s.

Onboard Greenpeace's ship The Witness, the photographer revisited in August 2024 some of the glaciers he first documented in 2002 as well as documenting others, new to his project.

Christian Åslund works regularly with Greenpeace. Since 1998, he has been onboard with Greenpeace to the Arctic and the Antarctic, but also followed several missions in Japan around Fukushima, Ukraine, Finland, Norway, Sweden.

 All pictures from this project are available for the press on Greenpeace media Library:

 https://media.greenpeace.org/collection/27MZIFJV30HJN

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The pictures

• Panoramic pictures of glaciers' comparaison

Stitched photos to creating a panorama, showing the Kongsvegen and Pedersenbreen glaciers merging and surrounding the mountain of Nielsenfjellet outside Ny Ålesund, Svalbard.



<u>Top</u>: Historical panorama image from the Norwegian Polar Institute from 1967, shows the glaciers Kongsbreen and Kronobreen merging and surrounding Collethøgda Island, outside Ny Ålesund, Svalbard.

Bottom: Panorama image taken from the same position on the 24th August 2024.



<u>Top</u>: Panorama image from the Norwegian polar institute archive, taken in 1967.

Bottom: Panorama taken 24th August 2024.

• Iconic Blomstrandbreen glacier



Ny Alesund, Svalbard.

<u>Left</u>: Historical image from 1918 from the Norwegian Polar Institute , with the glacier Blomstrandbreen visable in the background. At the time it was thought to be a peninsula, but after the glacier melted it was realised that it was an island.

Middle: taken in 2002 by photographer Christian Åslund.

<u>Right</u>: taken by photographer Christian Åslund from the same position. 23rd August 2024.

• Witnesses from the past and today



<u>Left</u>

Top: Archive image from Blomstrands havn with the glacier Blomstrandbreen in the background taking during the Hoels Spitsbergen expedition year 1908.

Bottom: Image taken by photographer Christian Aslund from the same position, 23rd August 2024.

<u>Right</u>

Top: Historical image by geologist Anders K. Orvin in 1924, with the glaciers Kongsbreen, Kronobreen and Kongsvegen surrounding Collethøgda Island.

Bottom: Image taken at the same location by photographer Christian Åslund. 26th August 2024



<u>Left</u>: A Greenpeace crew member aboard the Witness holds a historical image by geologist Anders K. Orvin taken, 1917 - 1924, with the glacier Vestre Lovénbreen ahead of the mast, outside Ny Alesund in Svalbard.

<u>Right</u>: member of the Greenpeace team holds up a historical panorama image from the Norwegian Polar Institute showing the glaciers Kongsbreen and Kronobreen surrounding Collethøgda Island, outside Ny Ålesund, Svalbard. from 1967.

The lack of sea ice, snow on the mountains and light since it's dark in the winter season on Svalbard shows that the archive comparison images are taken around the same season as the archive images in the summer season.



More about this project

The Norwegian archipelago of Svalbard, in the Arctic Circle, is home to the world's northernmost city, Longyearbyen. Svalbard's name means "the land with the cold coasts".

Glaciers in Svalbard have been losing mass over the past decades, concurrent with a persistent decline in glaciers globally.

Across the Arctic region, glaciers are in many places smaller than they have been in thousands of years.

Glaciers are one of the myriad of physical systems and ecosystems under threat from climate change. Over the past 60 to 100 years, glaciers worldwide have been retreating as global average temperature increase. Globally most glaciers have been shrinking since mid-1800s with an increase in the declining trend since 1970s.

The Arctic has been warming more than twice as fast as the rest of the world, due to "Arctic amplification" observed by scientists. Arctic ways of life and livelihoods are at risk, and life in the warming Arctic waters is faced with dramatic changes. Rapid warming of the Arctic region has global consequences. Melting glaciers and ice sheets are causing sea levels to rise. Melting sea ice reveals the dark ocean that absorbs heat instead of reflecting it like ice and snow and has far-reaching impacts on weather patterns.

Climate breakdown is wreaking havoc, and the melting Arctic sea ice reveals the scale of this breakdown. Satellite monitoring has provided insight to the Arctic sea ice extent for 46 years. The annual minimum extent - the Arctic sea ice minimum - is on clear decline over this period, with 18 lowest sea ice minimums recorded in the last 18 years. **The Arctic sea ice minimum in 2024 was the seventh lowest on the satellite record.**

Climate change in the Arctic

From the Norwegian Polar Institute:

"Ongoing and expected climate changes in polar regions over the next decades influence and will continue to influence atmospheric circulation, vegetation and the carbon cycle – and have impact on the climate system both within and outside the polar regions. The consequences of climate change in these areas are numerous. Sea ice melts, influencing the radiation balance in the global climate system through the albedo effect?. Warming may influence bottom water formation? through surface warming and increased input of fresh water; this would have impact on the "motor" in the ocean system, which in turn defines the framework for the world's climate. Glaciers melt and contribute strongly toward rising sea levels. Thawing permafrost contributes to release of greenhouse gases (chiefly methane) that are presently "locked away" underground. Ecosystems are adapted to the climate in a certain area, and climate change will therefore influence ecosystems. However, the various ecosystems in the Arctic will react differently to such changes."

Climate change & ocean

The climate crisis is changing the very chemistry of the oceans themselves. As the oceans warm and acidify because of our warming climate, their ability to absorb heat and carbon is being damaged irreparably.

Protecting 30% of the oceans can restore ocean resilience, restore and protect blue carbon habitats, and protect the beautiful marine life that calls the oceans home. Ocean protection will restore the ability of the oceans to fight against climate change, and create space for ocean life to recover and thrive.

Governments must honour their commitments to the Paris Agreement and act to reduce fossil fuel and other emissions at the pace and scale required to stay below 1.5°C of heating.

Greenpeace is calling for a global moratorium on deep sea mining, to stop this new extraction industry before it begins, and for governments to protect 30 percent of the world's oceans by 2030 in ocean sanctuaries.

Ressources

 All pictures from this project are available for the press on Greenpeace media Library: <u>https://media.greenpeace.org/collection/27MZIFJV30HJN</u>
 © Christian Åslund / Norwegian Polar Institute / Greenpeace

 Website of the Norwegian Polar Institute <u>https://www.npolar.no/en/</u>
 "Circulation responses to surface heating and implications for polar amplification" https://wcd.copernicus.org/articles/5/985/2024/ "Arctic sea ice has reached minimum extent for 2024" (NSIDC) https://nsidc.org/news-analyses/news-stories/arctic-sea-ice-has-reached-minimum-extent-2 024 IPCC Sixth Assessment report Chapter 2: Changing State of the Climate System https://www.ipcc.ch/srocc/chapter/chapter-3-2/ Chapter 9: Ocean, Cryosphere and Sea Level Change https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-9/ IPCC Special Report: Special Report on the Ocean and Cryosphere in a Changing Climate - Polar regions https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-2/#2.3.2.3 "The melting Arctic: What does it mean for wildlife and people?" https://unearthed.greenpeace.org/2015/07/31/the-melting-arctic-what-does-it-mean-for-wild life-and-people/

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