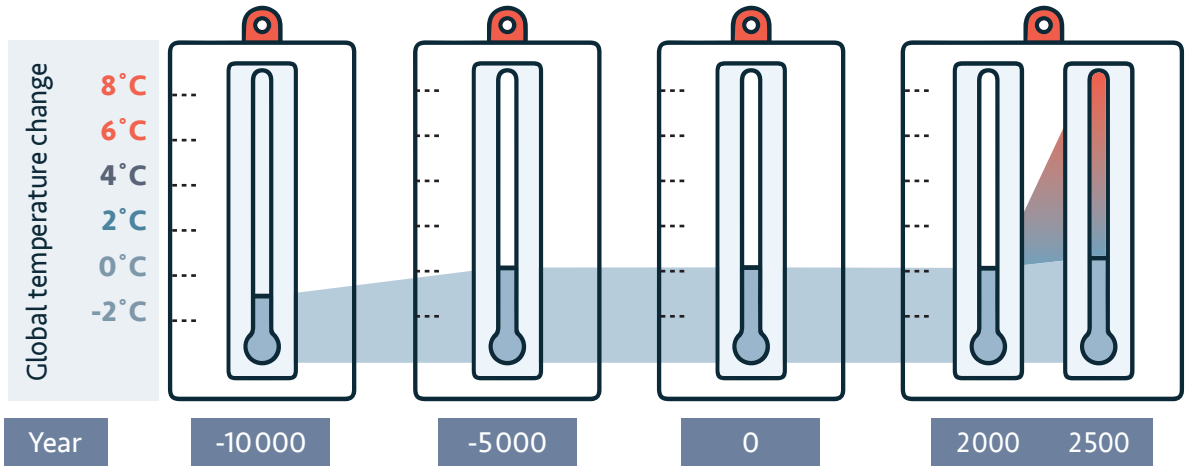
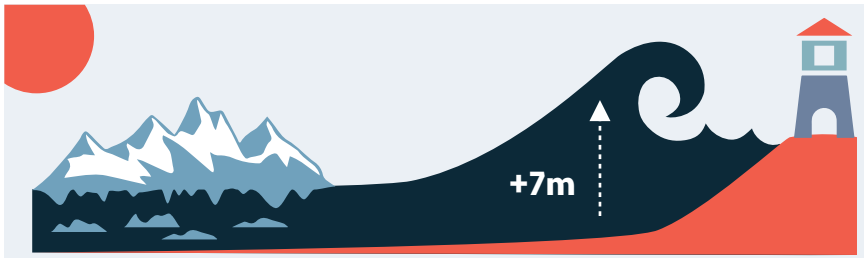
THE ARCTIC CLIMATE CRISIS – CALLING GLOBAL SHIPPING TO ACTION

OUR CLIMATE IN PERSPECTIVE

Our civilization has developed during a period of incredibly **stable climate over the past 10000 years**. The predicted changes for **the next few hundred years are in steep contrast**.

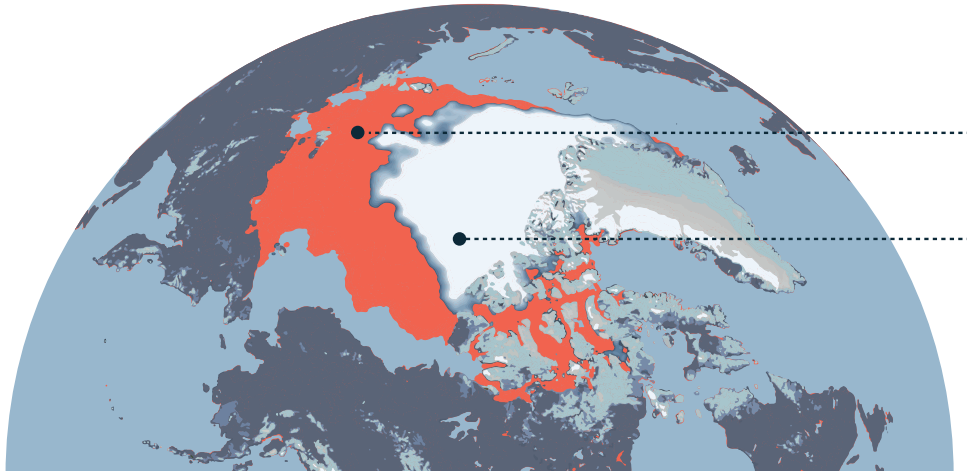




The **Greenland ice** sheet could **destabilise completely** with around **1.5 - 2.0˚C global warming**. Complete melt of the ice sheet would lead to **sea levels rising by about 7m**.

THE ARCTIC: OUR EARLY WARNING SYSTEM

The **Arctic** is the most important **early warning system for climate change** on our planet. **Rapid loss of Arctic sea ice** is a clear indicator of changing climate.



3/4 volume of Arctic summer sea ice has **disappeared since the 1970s**.

The **remaining 1/4** is projected **to disappear before 2050** if we fail to fulfill the Paris Climate Agreement to limit global mean warming to well below 2°C and pursue efforts for 1.5°C.

Sources: Schellnhuber et al., Nature Climate Change, 2016; Notz and Stroeve, Science, 2016; Notz, 2018 Shipping and climate change presentation, Arctic Climate Crisis Panel Event, MEPC 72; Potsdam Institute for Climate Impact Research, 2012.

THE OBSERVED CHANGES CAN CLEARLY BE LINKED TO HUMAN ACTIVITIES

CO_2

On average, around **3 m²** of Arctic summer sea ice disappear when a person emits **1 tonne of CO_2**.

1 tonne of CO_2 per person

OR

OR

driving an average car for about 6,000 km

flying from Europe to the US and back

sailing 900 nautical miles on board an average Arctic cruise

BC

On average, heavy fuel oil (**HFO**) combustion produces **33% more black carbon (BC)** than distillate fossil fuels.

BC

Distillate

+33% BC

Heavy Fuel Oil

BC

CO_2

BC is **3200** times more powerful a climate forcer than CO_2 per tonne, on a 20-year timescale.

INCREASED SHIPPING IN THE ARCTIC CONTRIBUTES TO CO2 AND BC EMISSIONS AND THEREFORE ICE MELTING

1000 $MtCO_2$

Global shipping emits **1 billion tonnes of CO_2** every year.

These emissions melt around **3000 km²** of sea ice every year.

2x London

Twice the size of London every year!

+2°C

Current global **CO_2 emissions** hover around **40 Gt per year**. With an **additional 800 $GtCO_2$**, Arctic **summer sea ice will be gone** in most years.

Heavy Fuel Oil

2015

2017

The number of **HFO-fuelled ships operating** in the Arctic **increased 35%** between 2015 and 2017.

Heavy Fuel Oil

131 t BC in 2015

In 2015, **2/3 of ship-sourced BC emissions in the Arctic** (131 t) came **from ships using HFO**, which made up less than half the fleet.

CALLING ON THE SHIPPING COMMUNITY TO ACT NOW

X **Heavy Fuel Oil**

Adopt a ban on HFO use and carriage as fuel by ships in the Arctic as a first urgent and indispensable step towards reducing warming and stopping the loss of Arctic sea ice.

X **GHG**

Implement measures to reduce GHG emissions immediately to keep the 1.5°C goal achievable. Develop binding mid- and long-term measures, in IMO's revised GHG strategy in 2023, to eliminate emissions.

Sources: Third IMO GHG Study 2014; Comer et al. 2017 ICCT, https://www.theicct.org/publications/prevalence-heavy-fuel-oil-and-black-carbon-arctic-shipping-2015-2025; Olmer et al. 2017 ICCT, https://www.theicct.org/publications/GHG-emissions-global-shipping-2013-2015.

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