

WITHDRAWING LAND ICE

What is land ice?

GLACIERS

masses of moving ice on land, caused by extensive accumulation of snow

ICE CAPS

masses of land ice less than 50 000km² in size

ICE SHEETS

masses of land ice greater than 50 000km² in size [1]

Image Source: [2]

AND WHY YOU SHOULD CARE ABOUT IT

How does land ice develop?

With time and magnitude, snowfall:

- **COMPRESSES**
Addition of snow results in greater pressure & density for underlying snow
- **MELTS**
Varying temperatures & seasons allow for meltwater infiltration that reduces pore space
- **RECRYSTALLIZES**
Structural compaction develops what is called granular firns [1]

Why is it important?

1

Major **freshwater** source

2

Delicate ecosystem, minor change = drastic consequences

3

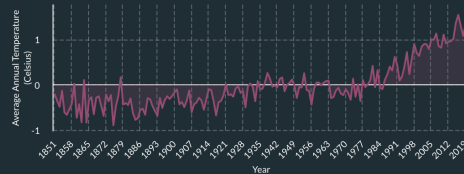
Power to influence **landforms**

4

Contributes to **sea level rise** [1]

Response to Climate Change

Annual Average Temperatures in the Northern Hemisphere [3]



Arctic temperatures predicted to increase by **4-8°C** in this century [4]

Other impacts:



Sea level rise



Enhanced positive feedback loop



Increased rate of glacial thinning



Increased melt velocities [5]

Nunavut's **Queen Elizabeth Islands** contain

1/3 of the **land ice** outside Greenland & Antarctica.



Rates of land ice lost from 2005-2014 increased by **425%** [5]

IMPACTS: Indigenous populations are disproportionately affected

Weather & landscape changes force community displacement & threat to livelihoods

Clash of ideologies between Indigenous worldviews and science

Theft of land in the name of 'research' or 'conservation' [4]

Bridging the Gap Intersecting Narratives

NUNAVUT CLIMATE CHANGE PARTNERSHIP

"Community-level adaption planning" between government of Nunavut, Aboriginal Affairs & Northern Development Canada [6]

Utilizing **oral contributions** and **Indigenous ways of knowing** into modern understanding of these dynamic landscapes

Image Source: [7]

References: https://utoronto-mysharepoint.com/w/g/personal/teagan_sharrock_mail.utoronto.ca/E45v0VZyDZCeu-ug5DuMB6ZDZfH7j5RfVjA0X6qWGezg7e-nH4pBo