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Testimony to the House Foreign Affairs Subcommittee on Europe, Energy, the Environment and Cyber

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**Woodwell
Climate
Research
Center**

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Arctic ecologist focusing on permafrost thaw and northern latitude fire and the resulting effect on local landscapes and the global climate



Woodwell Climate Research Center is a leading source of climate science that drives the urgent action needed to solve climate change.

Originally founded as the Woods Hole Research Center in 1985, the organization was established to put the insights of climate science into the hands of decision makers.

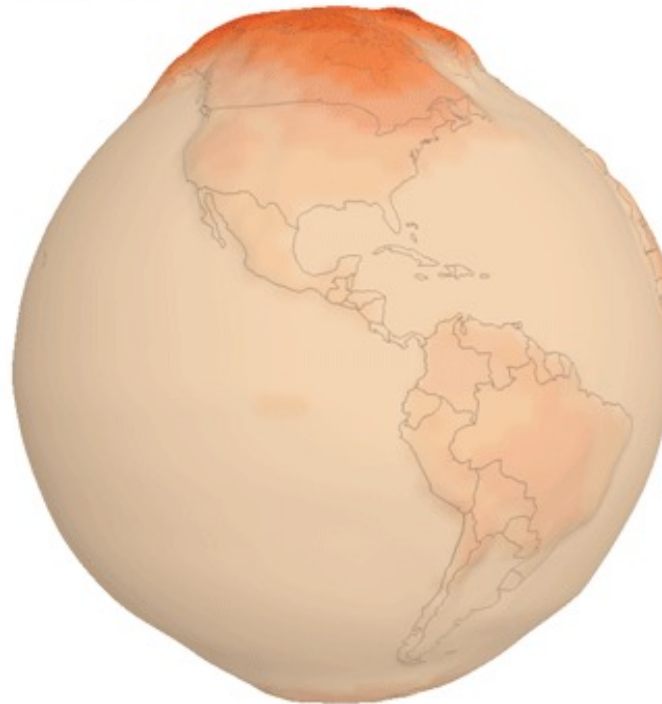


In the coming years, Arctic temperatures will continue to rise and will exacerbate climate hazards.

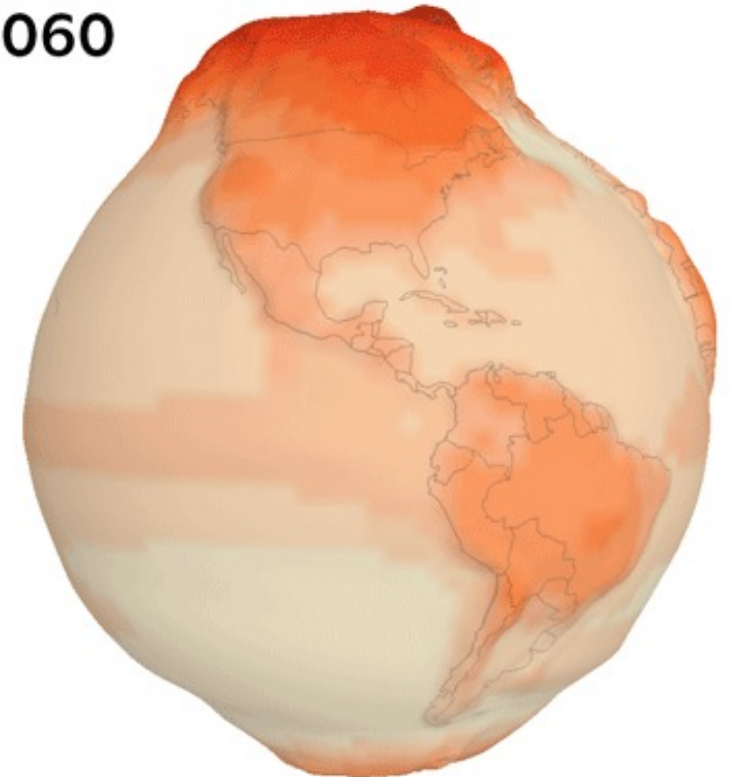
2020



2040



2060



1.5

3

5

7.5° C

@g_fiske

Temperature Anomaly (RCP 8.5), 1880-1920

Permafrost



Permafrost

- Ground that remains frozen for at least two consecutive years
- About 15% of Northern Hemisphere land and 85% of Alaska's land area is underlain by permafrost
- Contains large pool of frozen carbon



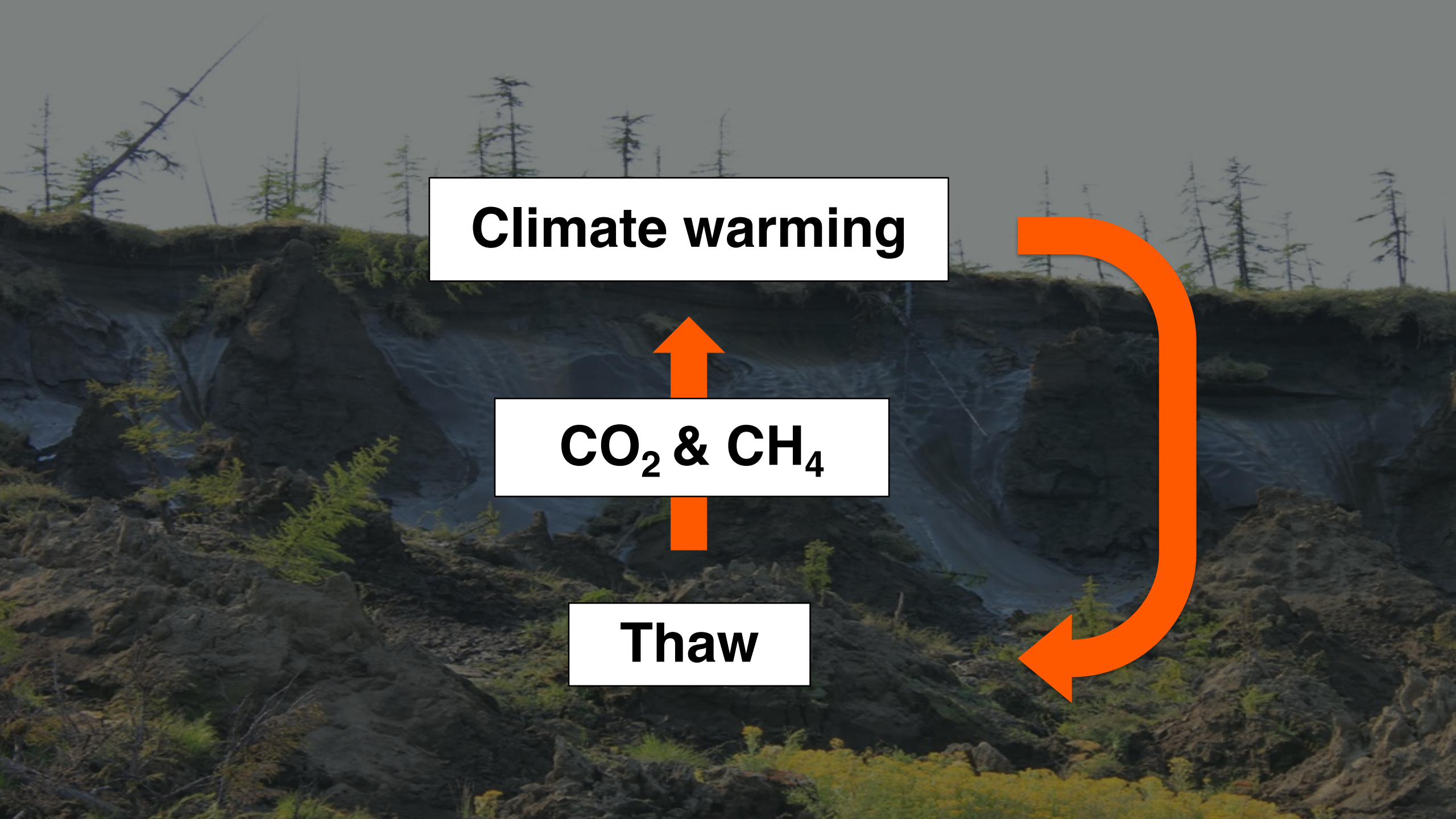
A photograph of a permafrost outcrop. The top edge of the cliff is lined with a row of tall, thin evergreen trees. The face of the cliff is dark and layered, with patches of white permafrost. The foreground is a rocky slope with sparse green vegetation and yellow wildflowers.

**Permafrost contains twice as much carbon as is
in the atmosphere.**

Climate warming

CO₂ & CH₄

Thaw





Permafrost carbon emissions are not fully accounted for in global carbon budgets.

Permafrost carbon emissions may 'use up' 25-40% of the allowable emissions to stay below 2° C.



Some Alaskan communities are having to make difficult climate adaptation decisions, including relocation, as a result of eroding, thawing and flooding lands.

The U.S. Government Accountability Office considered 31 Alaska Native villages under “imminent threat” due to erosion, flooding, and permafrost thaw (GAO 2009).

‘There is no coming back from disappearing coastlines’

Published on 23/07/2019, 4:31pm

Sponsored content: Alaska Native communities working on the frontline of ‘usteq’ or land collapse are striving for recognition and emergency relief



Kotlik Natives in Alaska survey usteq damage on the riverfront (Photo: ANTHC)

By **Climate Justice Resilience Fund**

The landscape is changing drastically in Alaska, where the climate is warming at twice the rate of the rest of the planet.



Thank you.

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