Climate Change Adaptation – From Projections to Practice

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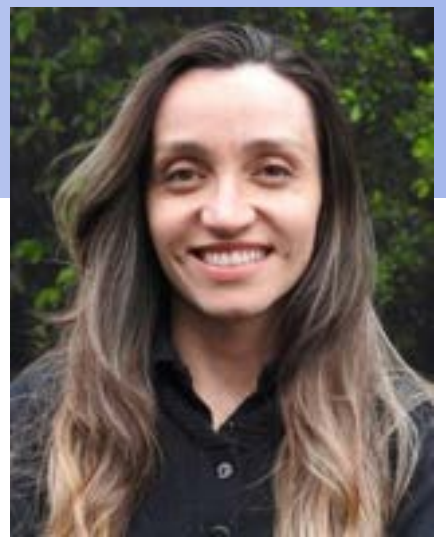
Research Ecologist



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Co-op student

Vanessa Comeau
Research Ecologist

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Data Scientist

Destany Crane
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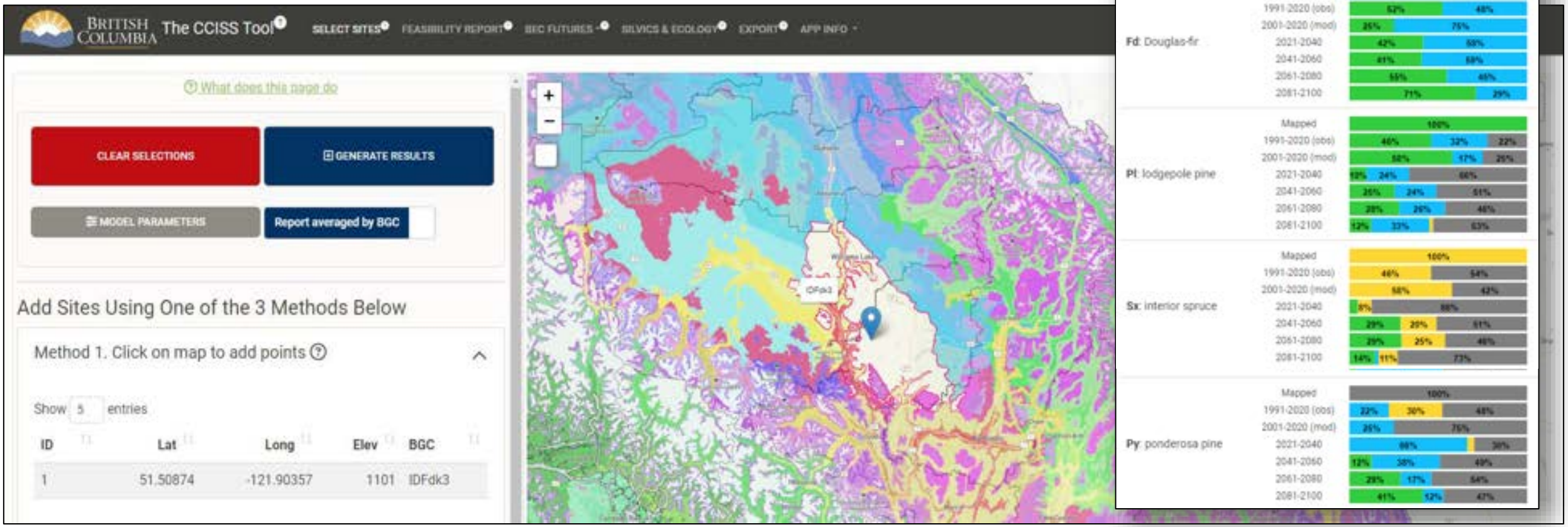
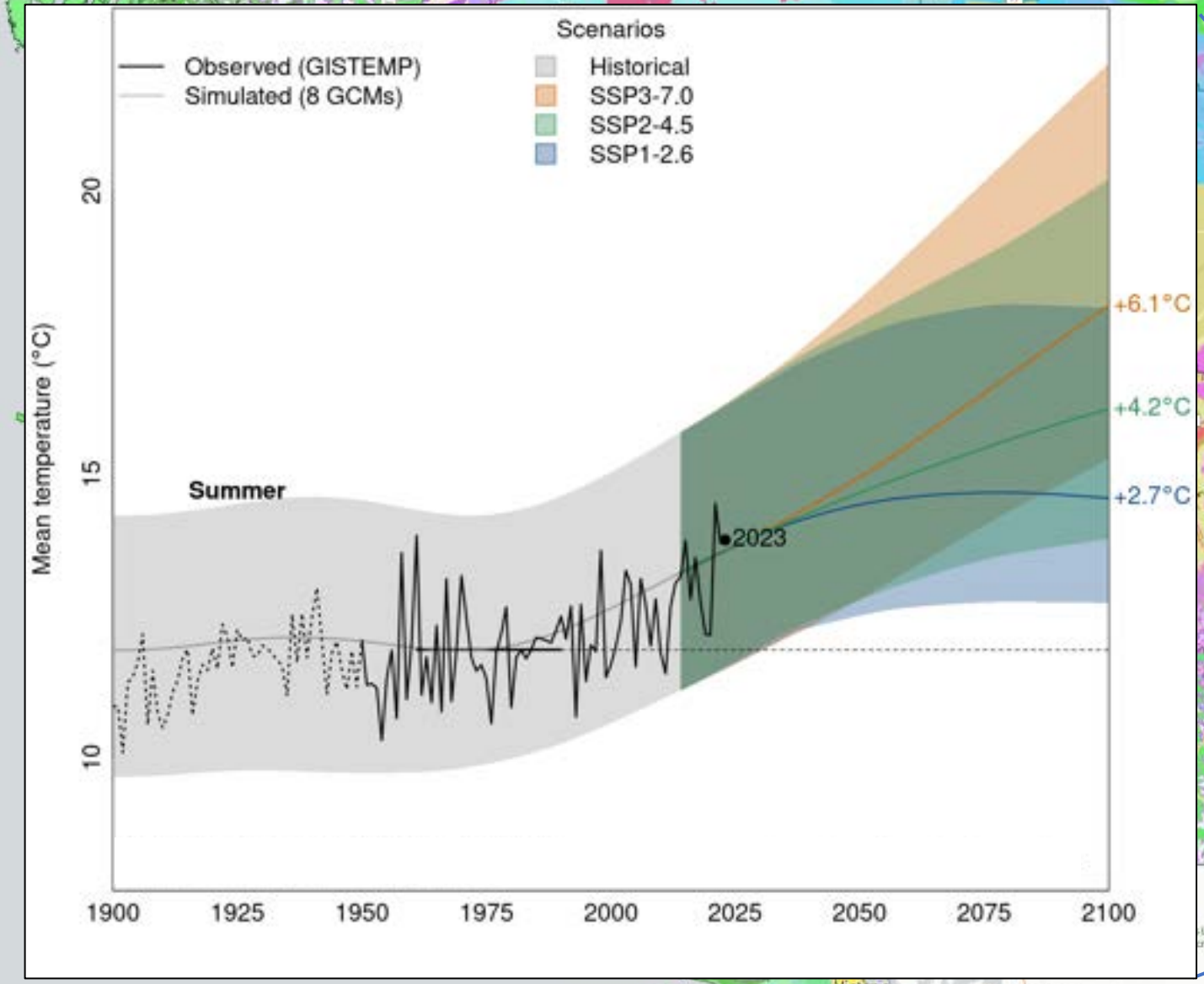
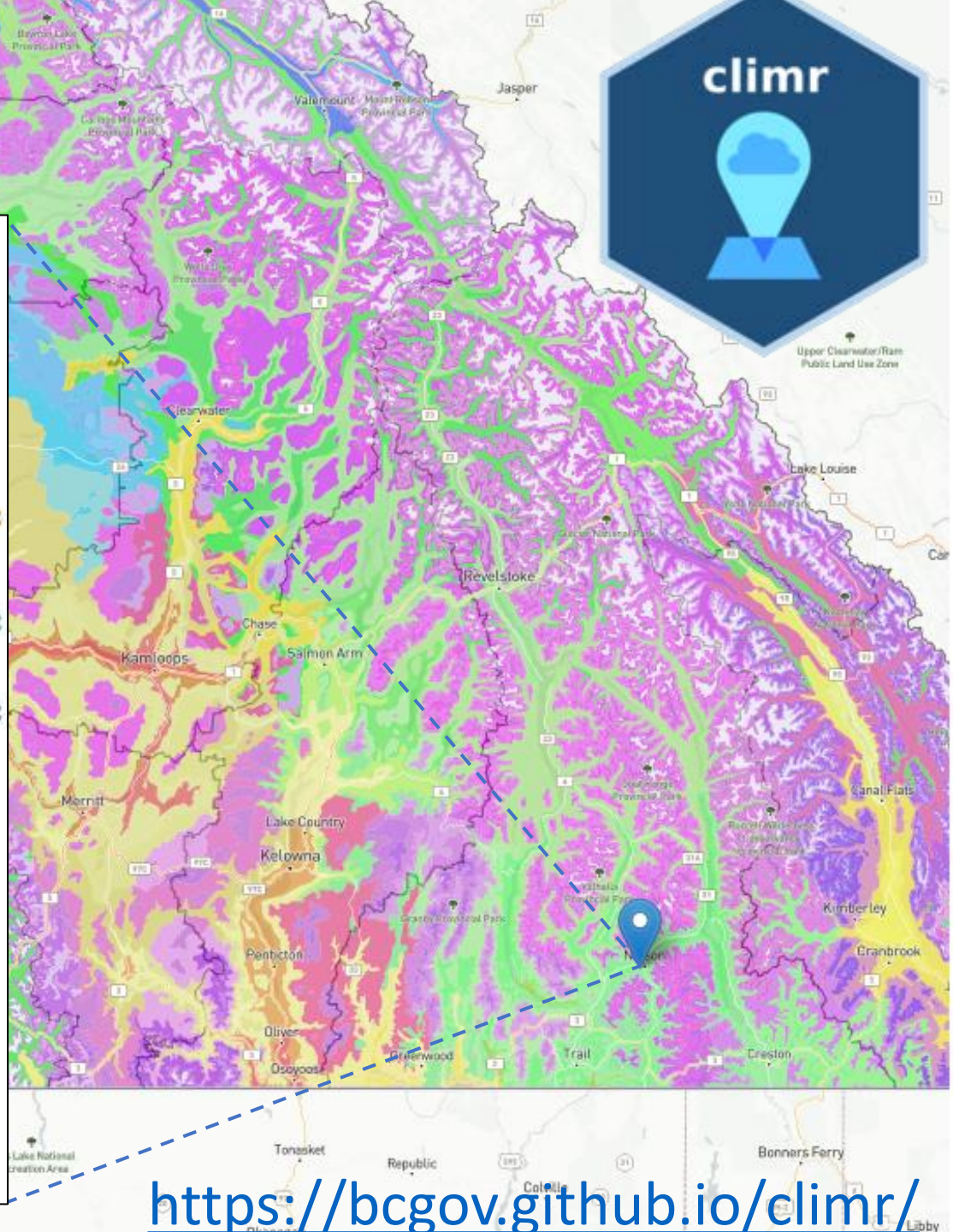
The CCISS Tool - Climate Change Informed Species Selection

The CCISS tool shows site-specific changes in tree species feasibility at user-selected locations (Fig. 4). It is designed to support operational reforestation decisions and the development of climate-informed reforestation policy.

CCISS tool output indicating the proportion of the climate model ensemble projecting high (green), medium (blue), low (yellow), and nil (grey) reforestation feasiblity of tree species for a selected location.

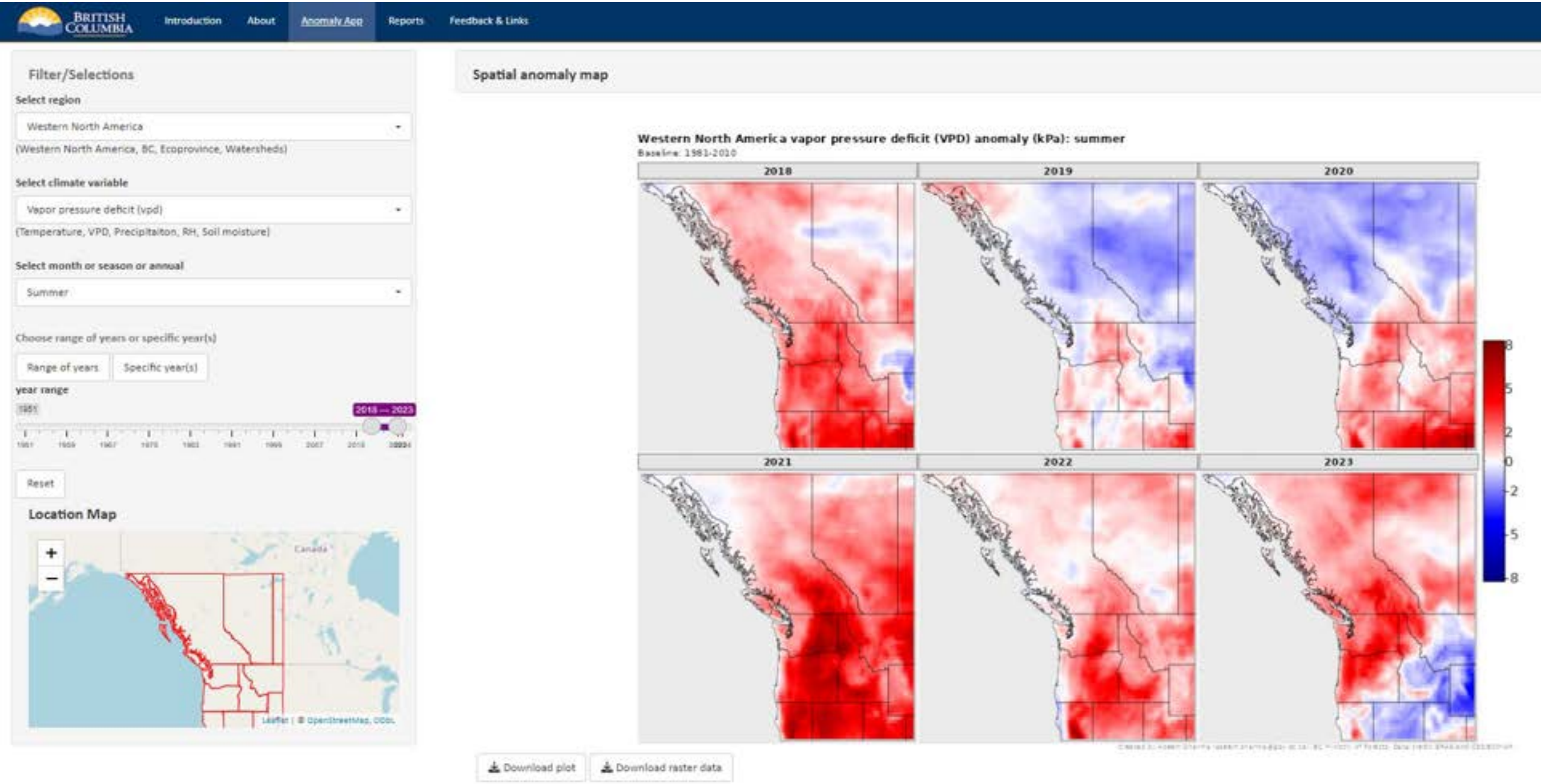






https://bcgov.github.io/climr/

BC Climate Anomaly App - https://bcgov-env.shinyapps.io/bc_climate_anomaly/



Looking forward 10 years…

what climate risks are you concerned about?

Looking forward 10 years…

How could we be more resilient than today?

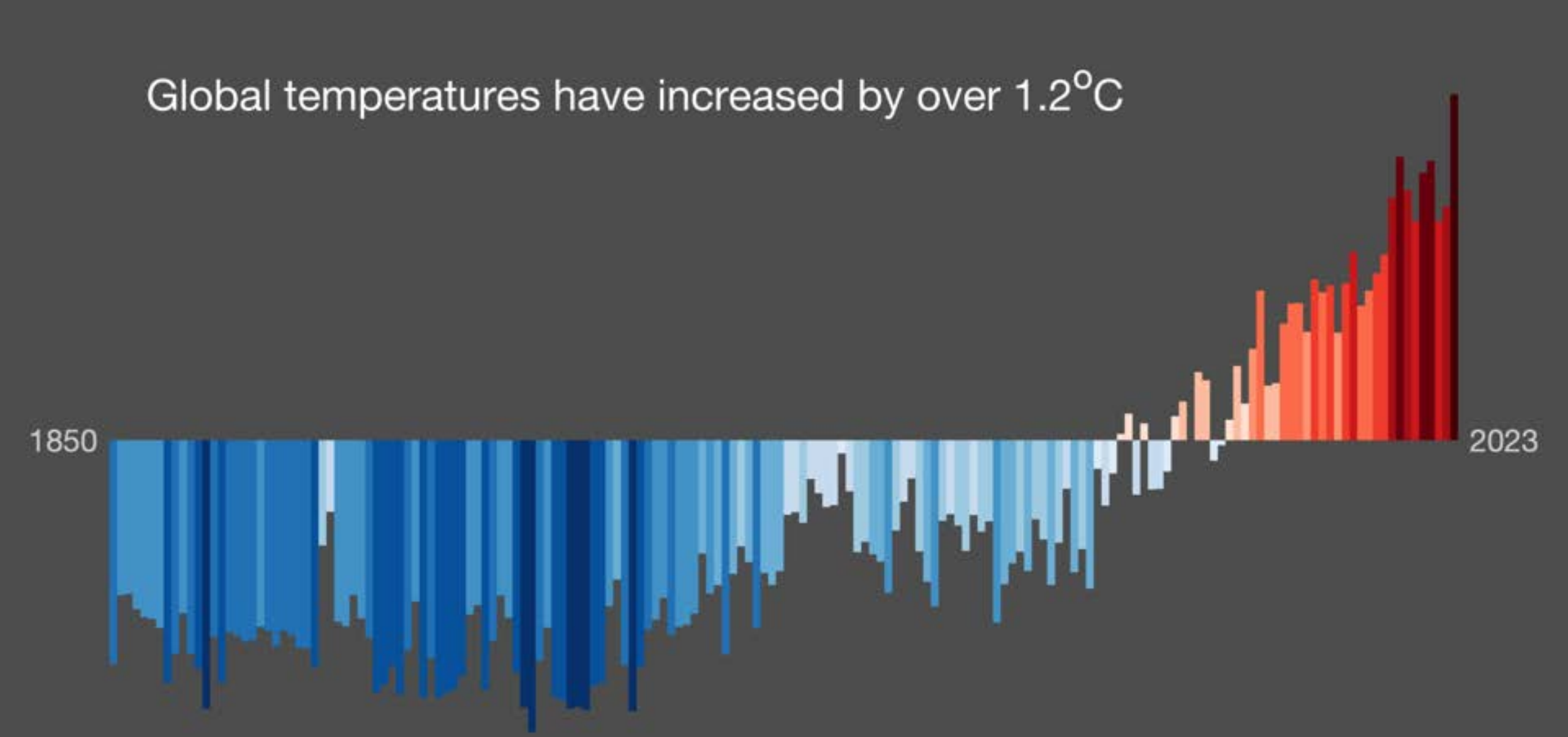
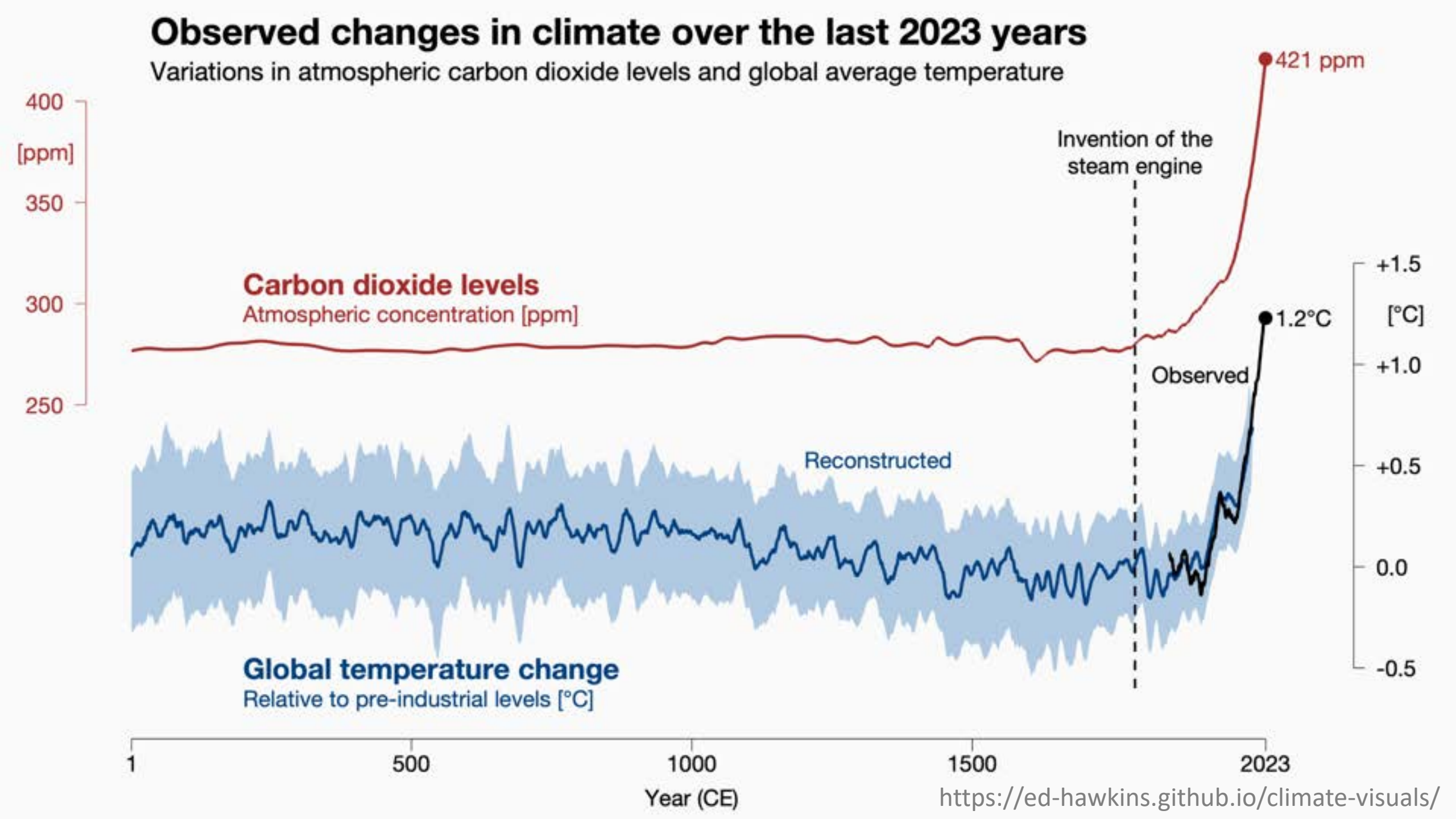
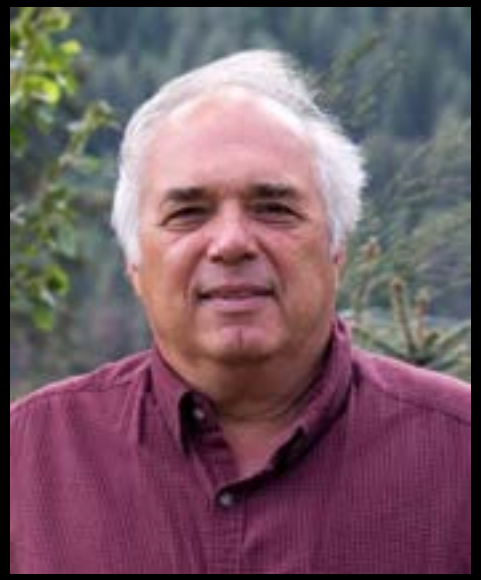


Image: Professor Ed Hawkins (University of Reading) - https://showyourstripes.info/

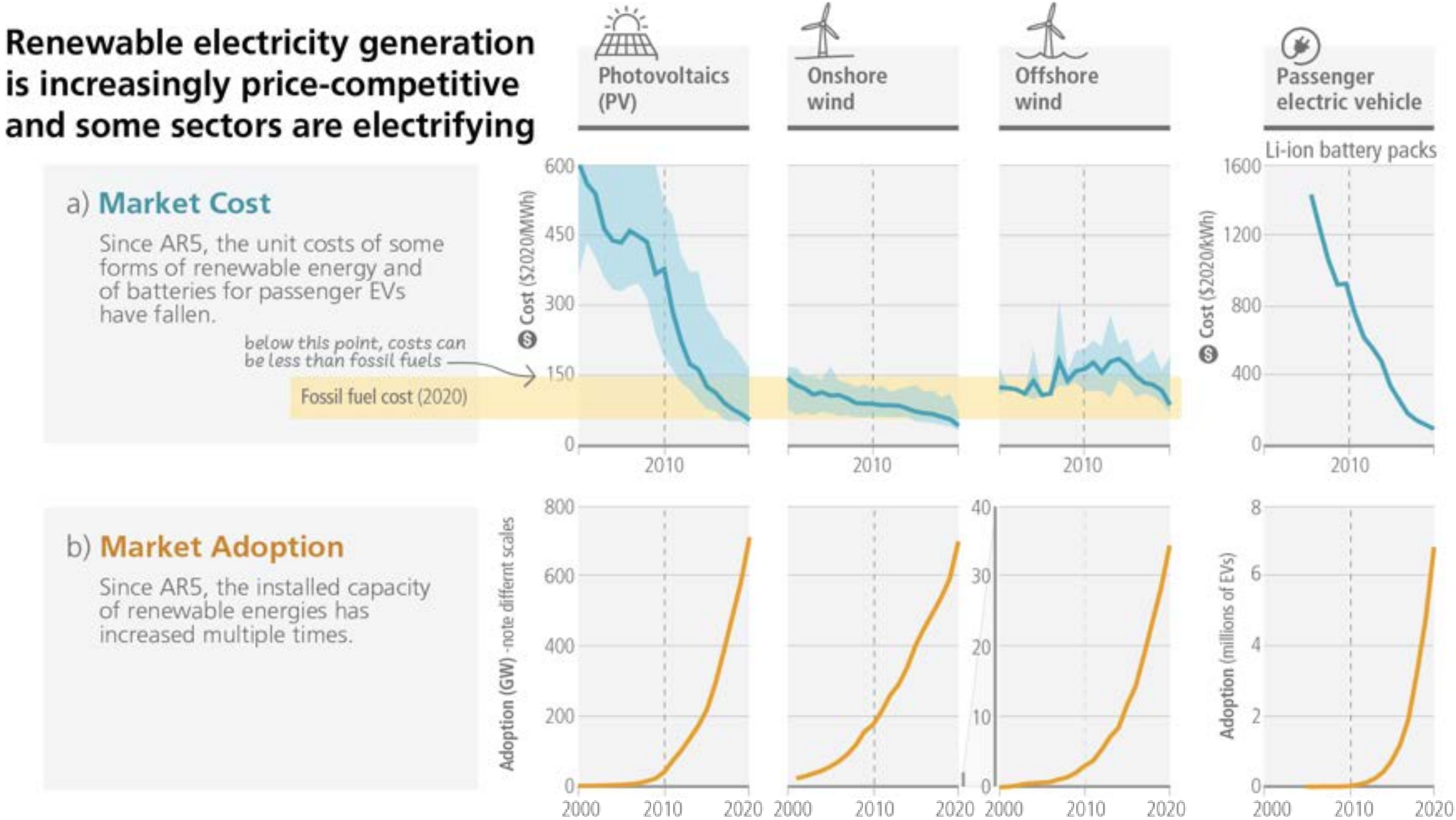


https://ed-hawkins.github.io/climate-visuals/

“I’m 60, and I thought climate change was a problem for the next generation. Now, I’m mayor of a town that no longer exists.”

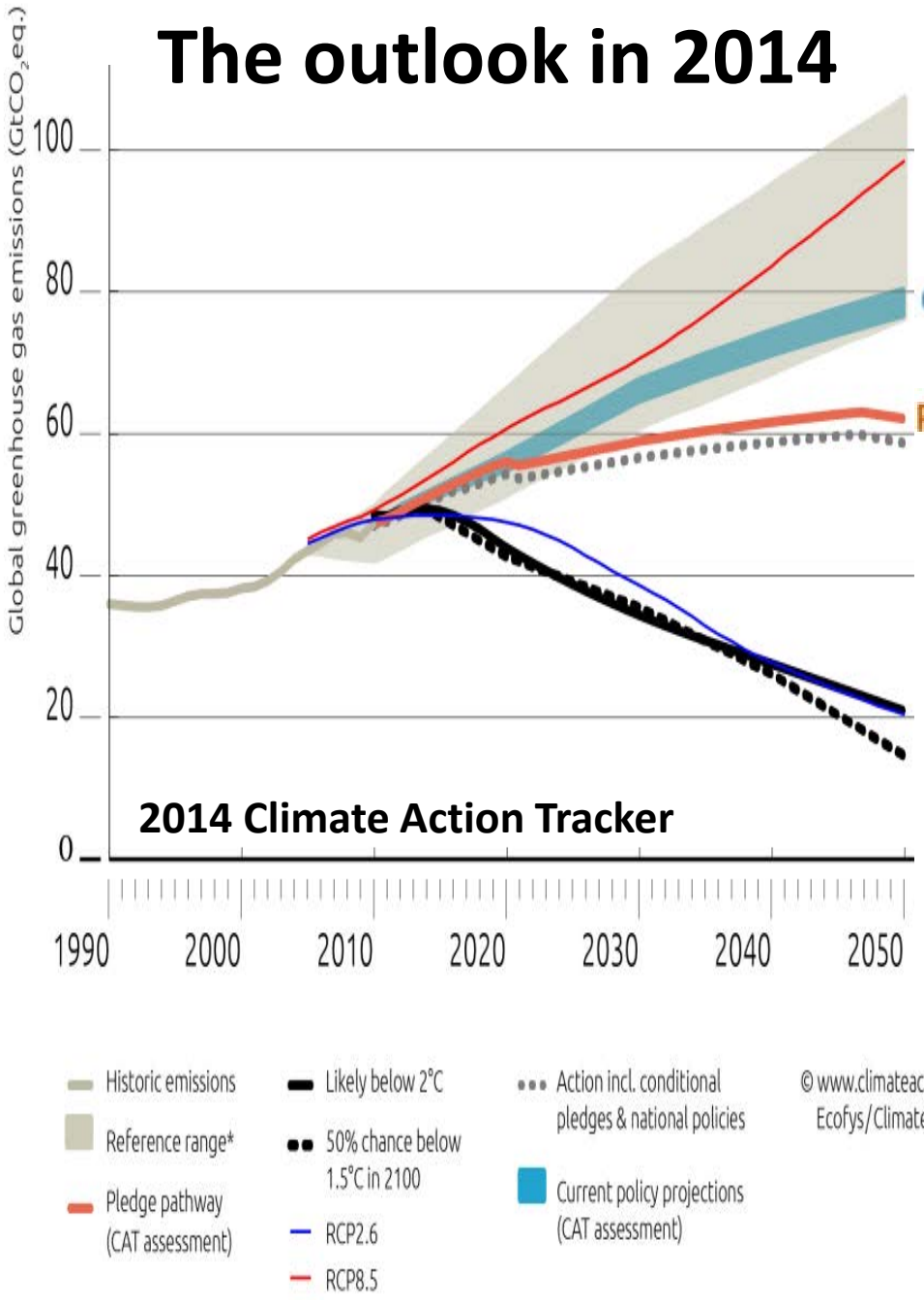


Jan Polderman, Former Mayor of Lytton, BC

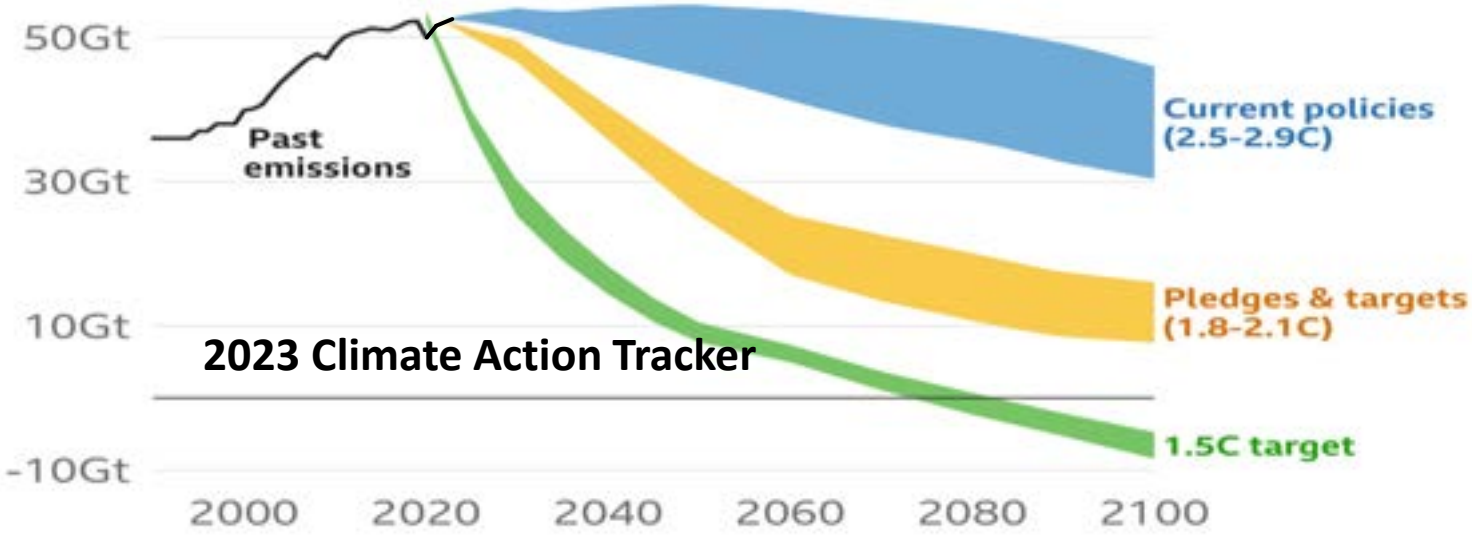


IPCC AR6 https://www.ipcc.ch/report/ar6/syr/downloads/figures/IPCC_AR6_SYR_Figure_2_4.png

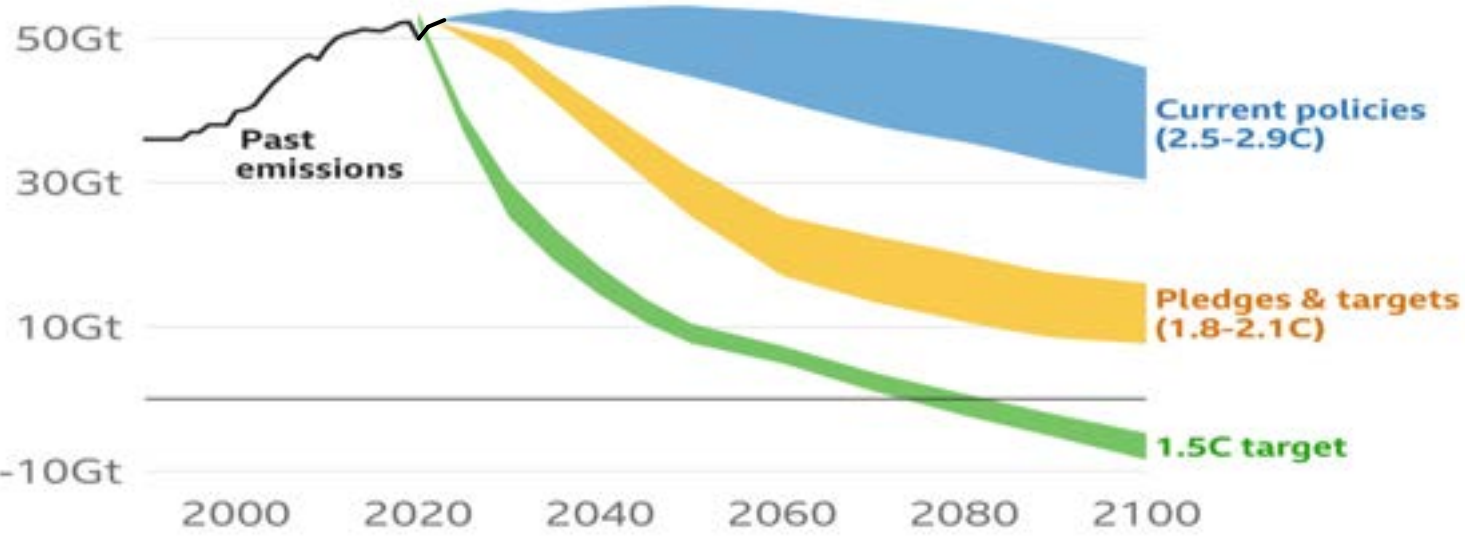
The outlook in 2014



The outlook in 2023



Boehm et al. 2023. State of Climate Action 2023. https://doi.org/10.46830/wrirpt.23.00010.



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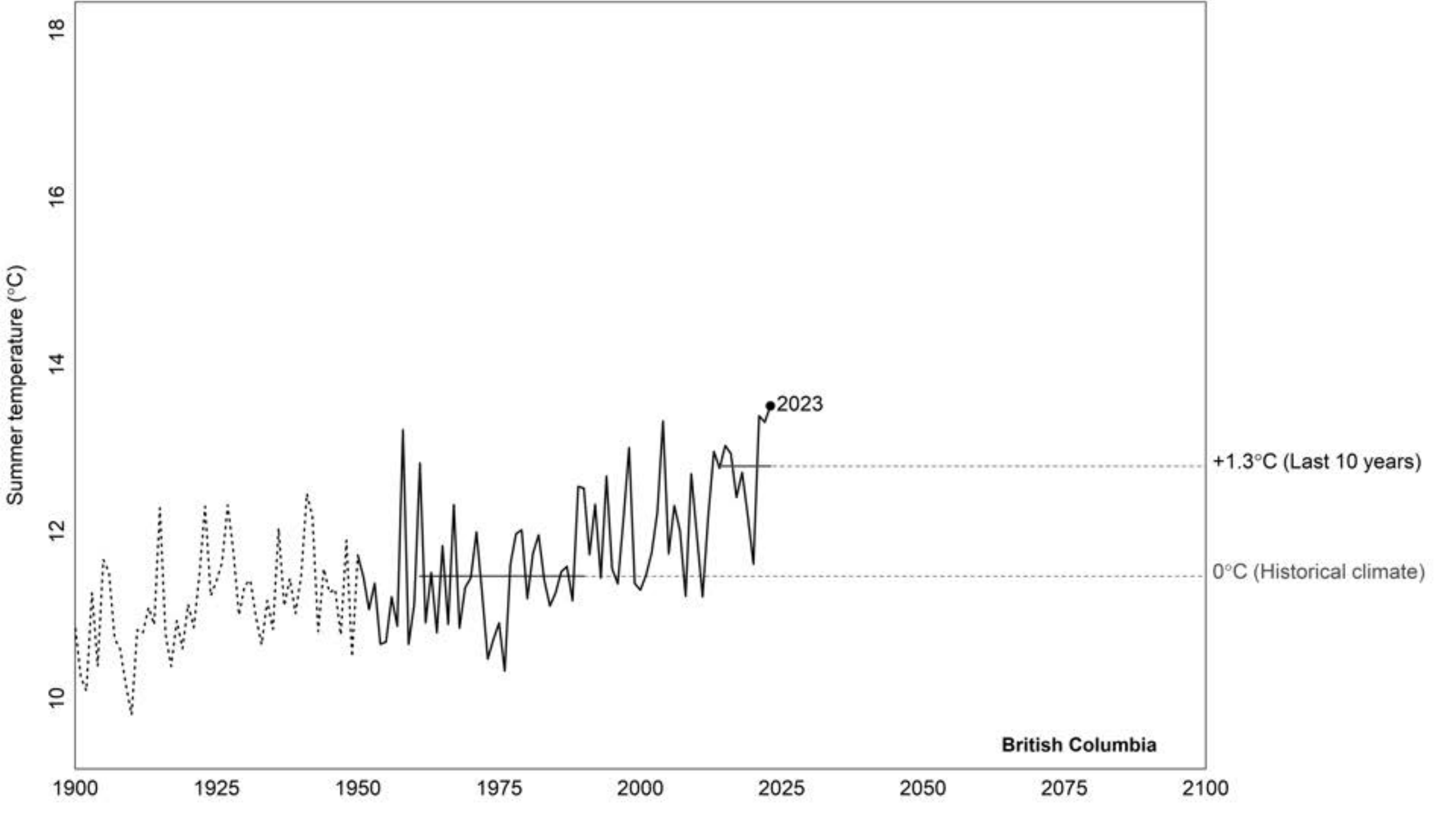
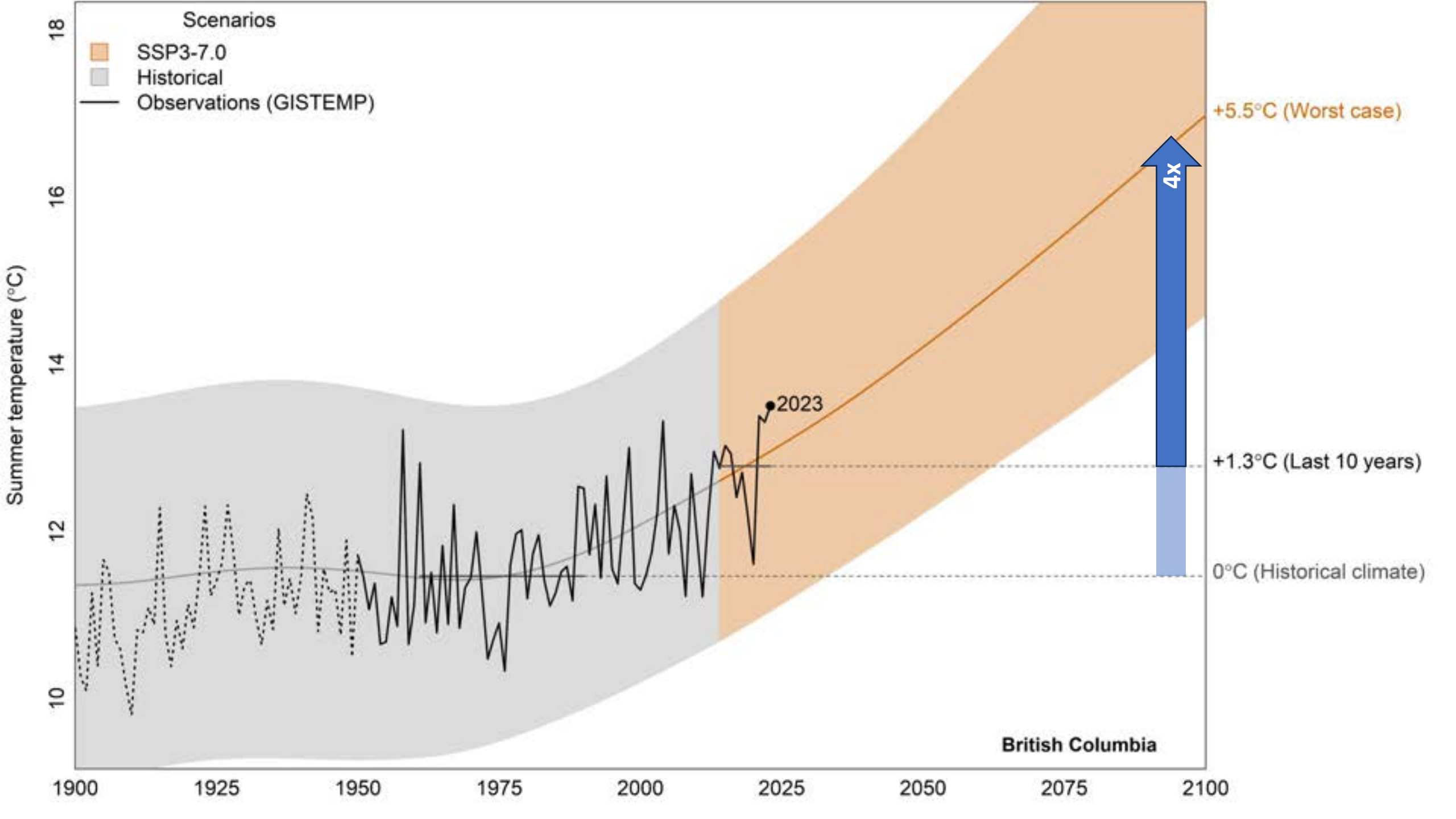
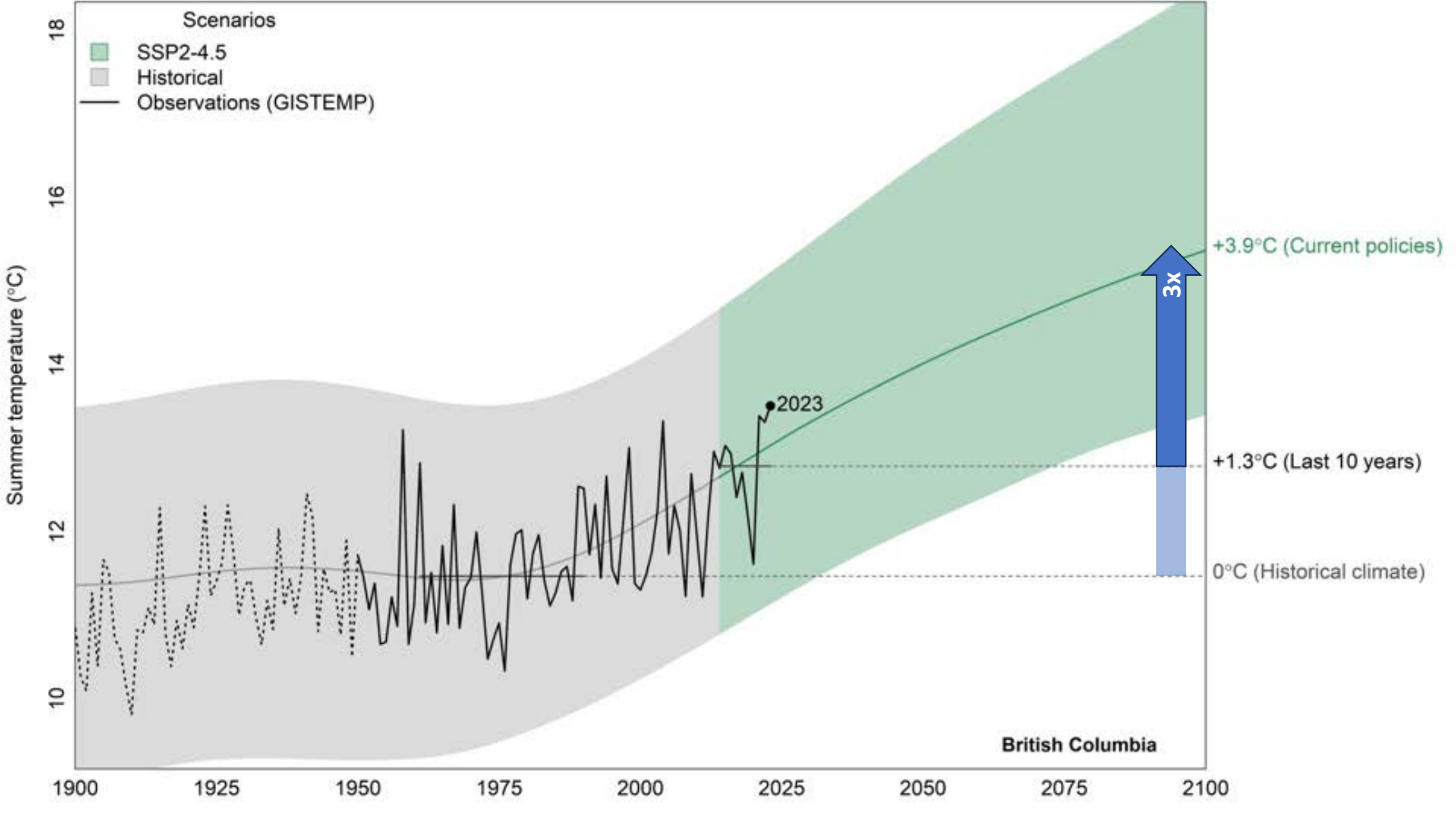
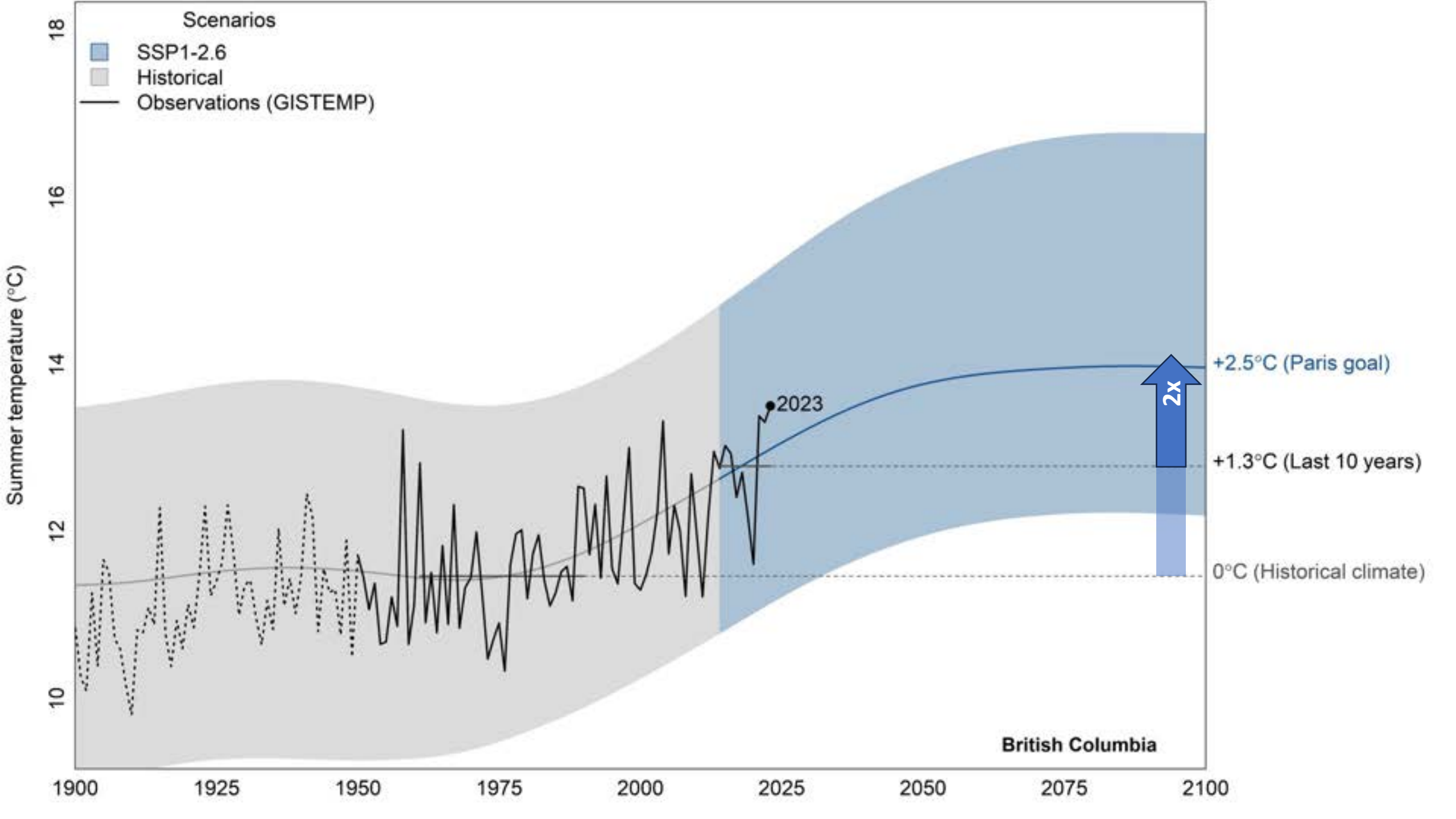

Summer temperature (°C)
18
16
14
12
10
2023
+1.3°C (Last 10 years)
0°C (Historical climate)
British Columbia
1900
1925
1950
1975
2000
2025
2050
2075
2100

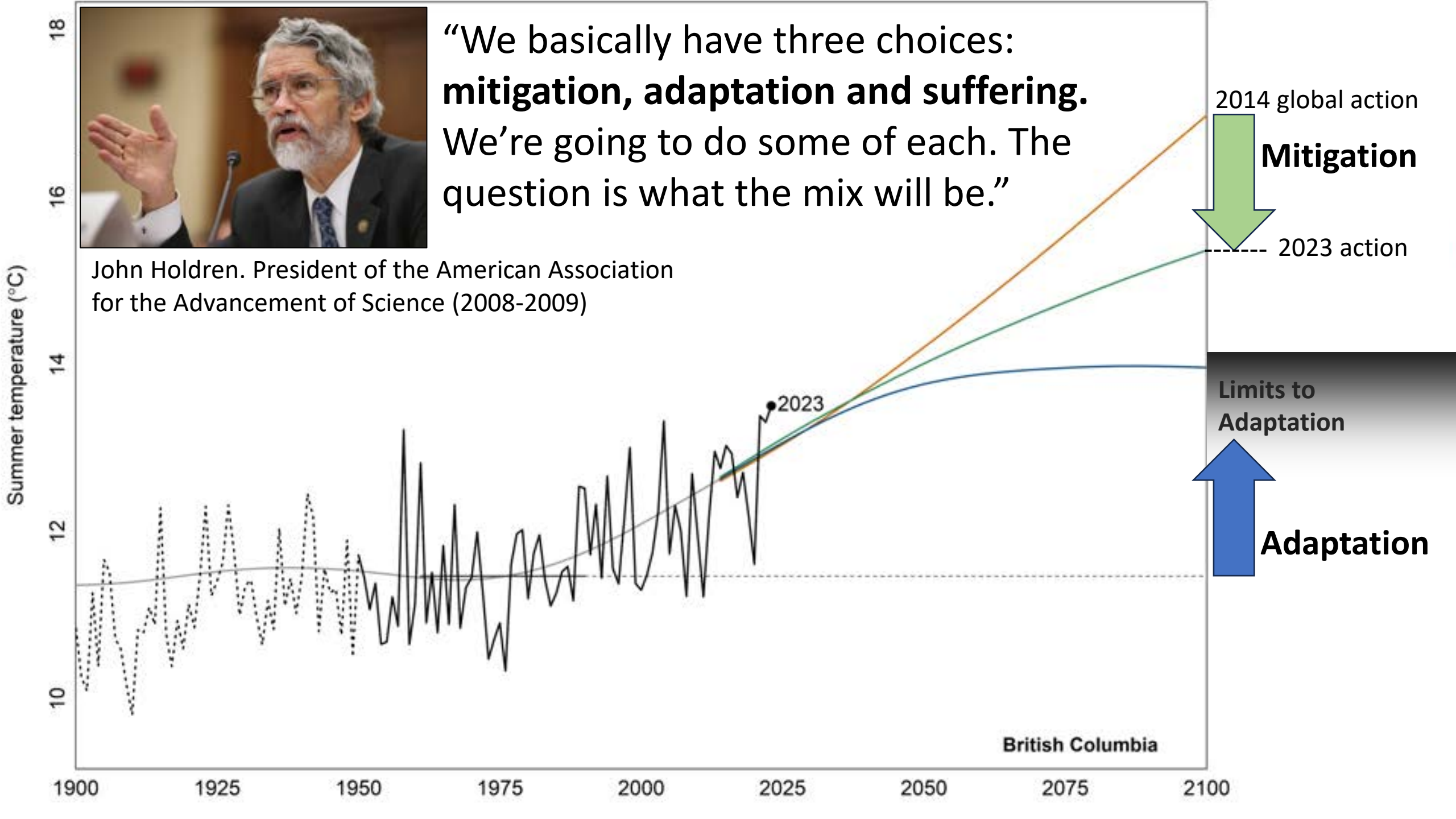

Scenarios
SSP3-7.0
Historical
Observations (GISTEMP)
Summer temperature (°C)
18
16
14
12
10
1900
1925
1950
1975
2000
2025
2050
2075
2100
2023
+5.5°C (Worst case)
4x
+1.3°C (Last 10 years)
0°C (Historical climate)
British Columbia


Scenarios
SSP2-4.5
Historical
Observations (GISTEMP)
Summer temperature (°C)
18
16
14
12
10
1900
1925
1950
1975
2000
2025
2050
2075
2100
2023
+3.9°C (Current policies)
3x
+1.3°C (Last 10 years)
0°C (Historical climate)
British Columbia


Scenarios
SSP1-2.6
Historical
Observations (GISTEMP)
Summer temperature (°C)
18
16
14
12
10
1900
1925
1950
1975
2000
2025
2050
2075
2100
2023
+2.5°C (Paris goal)
+1.3°C (Last 10 years)
0°C (Historical climate)
2x
British Columbia

"We basically have three choices: **mitigation, adaptation and suffering.** We're going to do some of each. The question is what the mix will be."

John Holdren. President of the American Association for the Advancement of Science (2008-2009)



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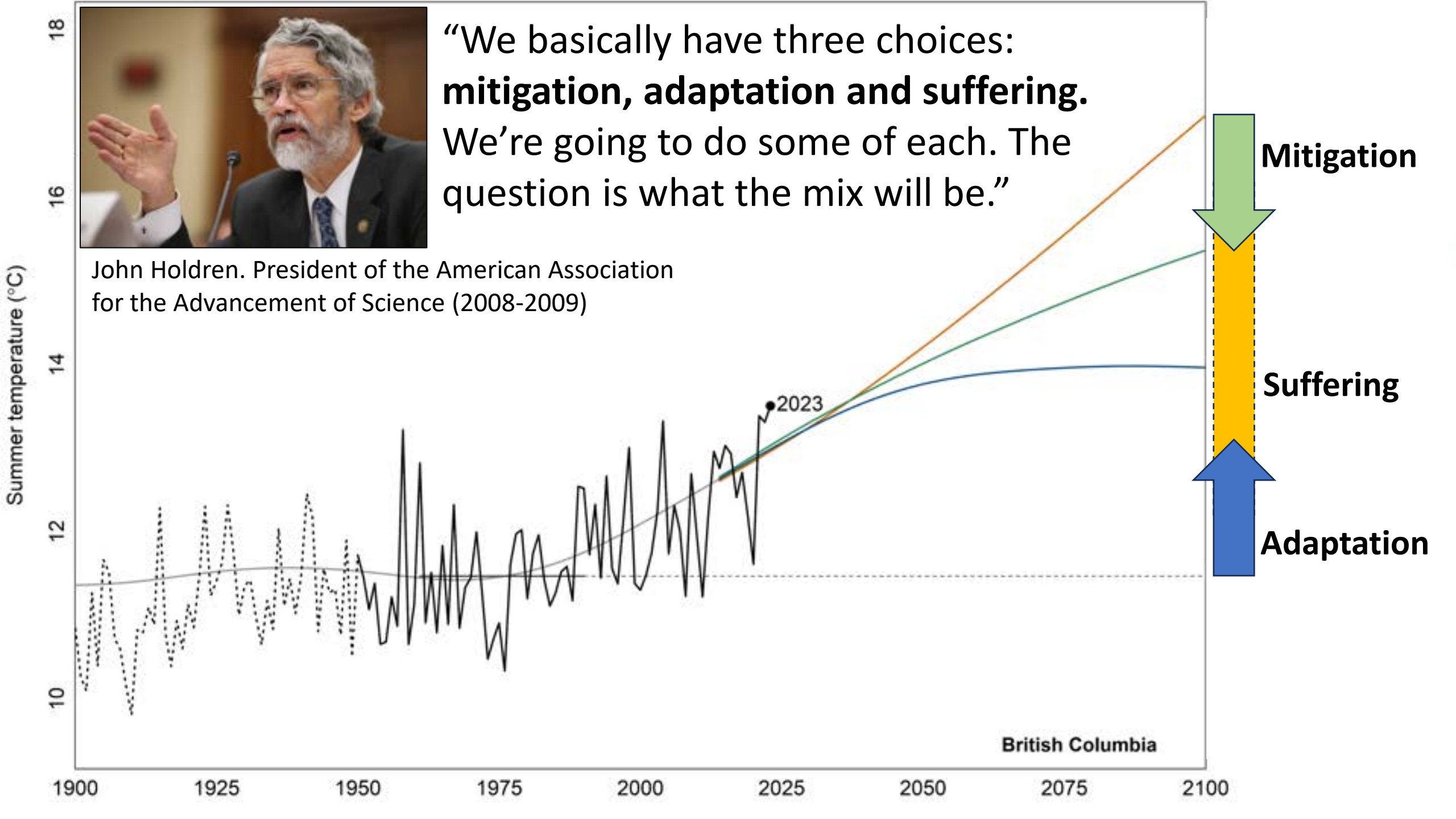


Summer temperature (°C)

18
16
14
12
10

2023

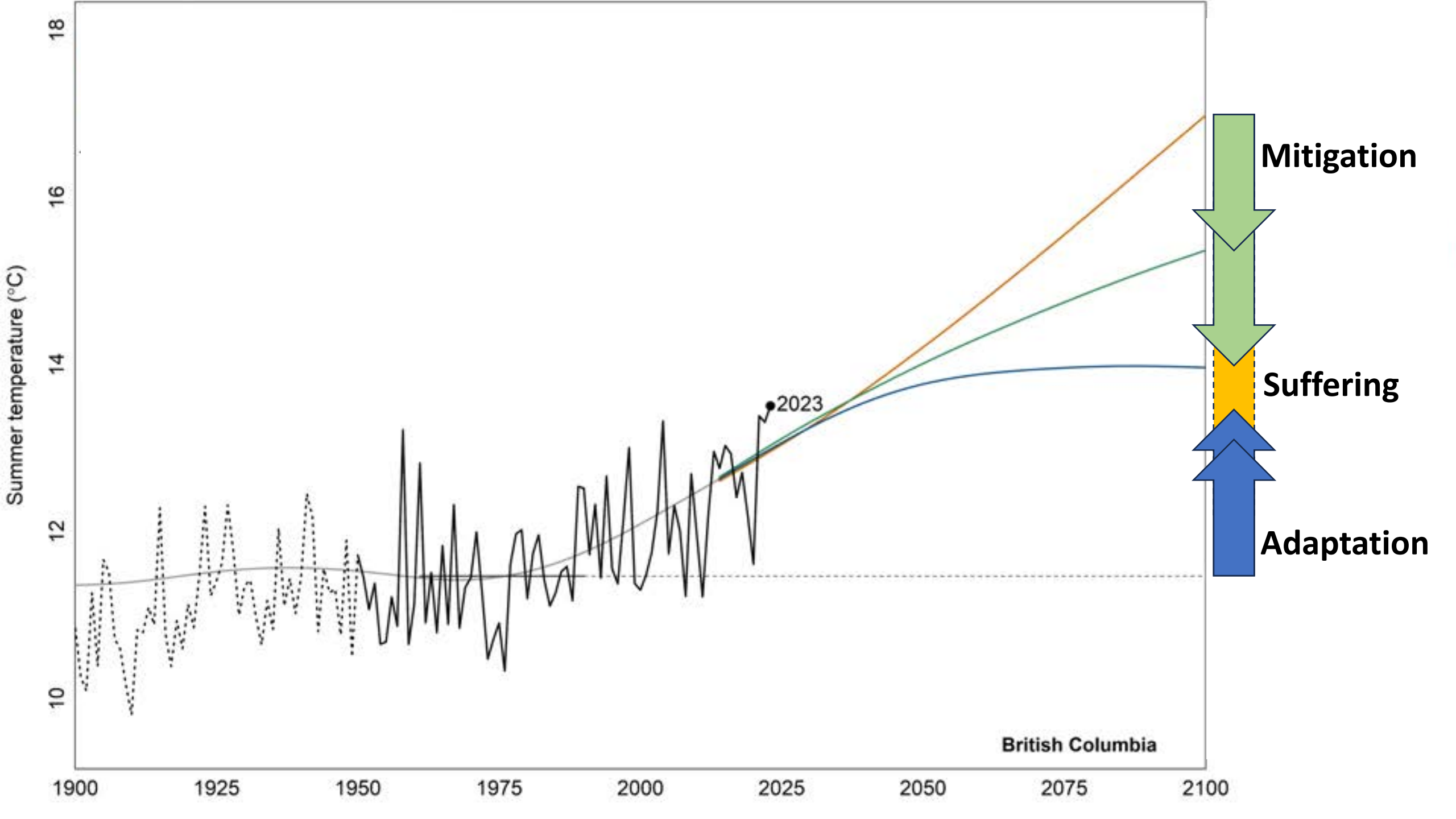
British Columbia

1900
1925
1950
1975
2000
2025
2050
2075
2100

Mitigation

Suffering

Adaptation


Summer temperature (°C)
18
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2000
2025
2050
2075
2100
2023
British Columbia
Mitigation
Suffering
Adaptation

Emily Nilsen

Summer temperature (°C)

18
16
14
12
10

2023

British Columbia

1900 1925 1950 1975 2000 2025 2050 2075 2100

Mitigation

Suffering

Adaptation

Summer temperature (°C)

18
16
14
12
10

2023

British Columbia

1900
1925
1950
1975
2000
2025
2050
2075
2100

Mitigation

Suffering

Adaptation

Summer temperature (°C)

18
16
14
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10

2023

British Columbia

1900
1925
1950
1975
2000
2025
2050
2075
2100

Mitigation

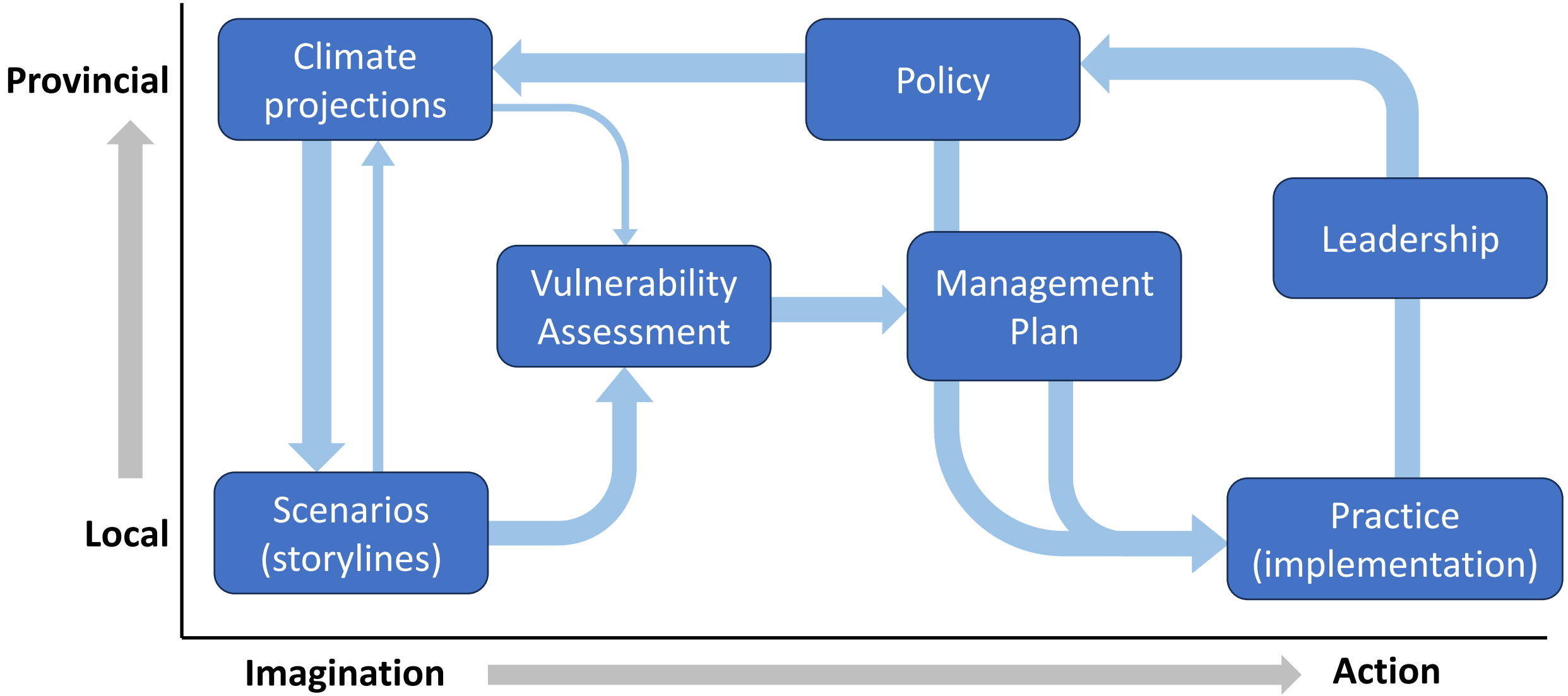
Suffering

Adaptation

Overcoming barriers to adaptation

Barriers	Solutions
Failures of imagination	Build storylines of the future
Tokenism	Respond proportional to the risks
Technocracy	Empower local decisions/knowledge
Treating the symptoms	Leadership on stabilization of the climate

Adaptation – from projections to practice



Key messages

1. **The future is not written.** Adaptation is made possible by the phaseout of fossil fuels.

2. **Local knowledge and imagination is central** in adapting to climate change in forest management

Make your own projections

https://bcgov-env.shinyapps.io/cmip6-BC/