

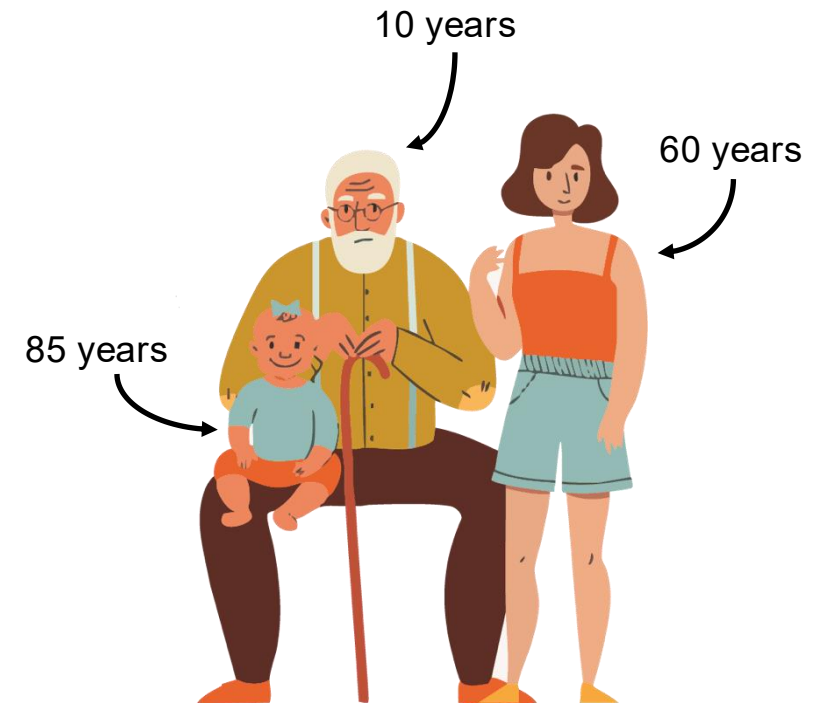
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The temperature-related lifetime loss attributable to climate change

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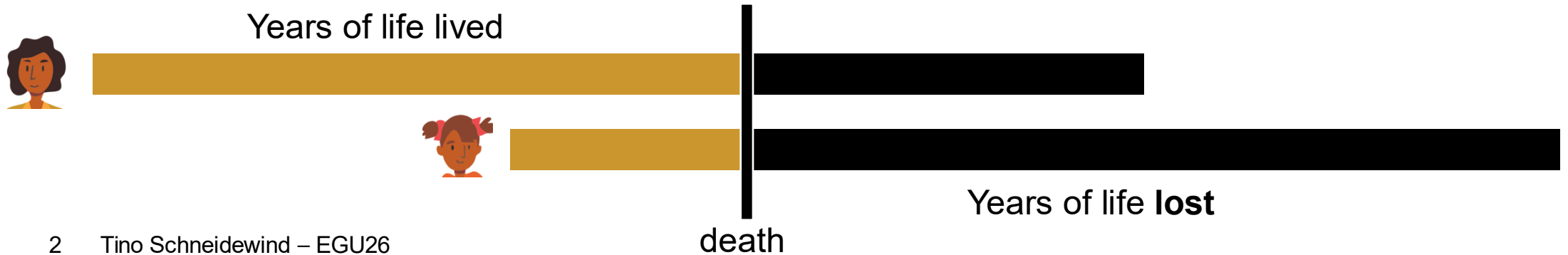
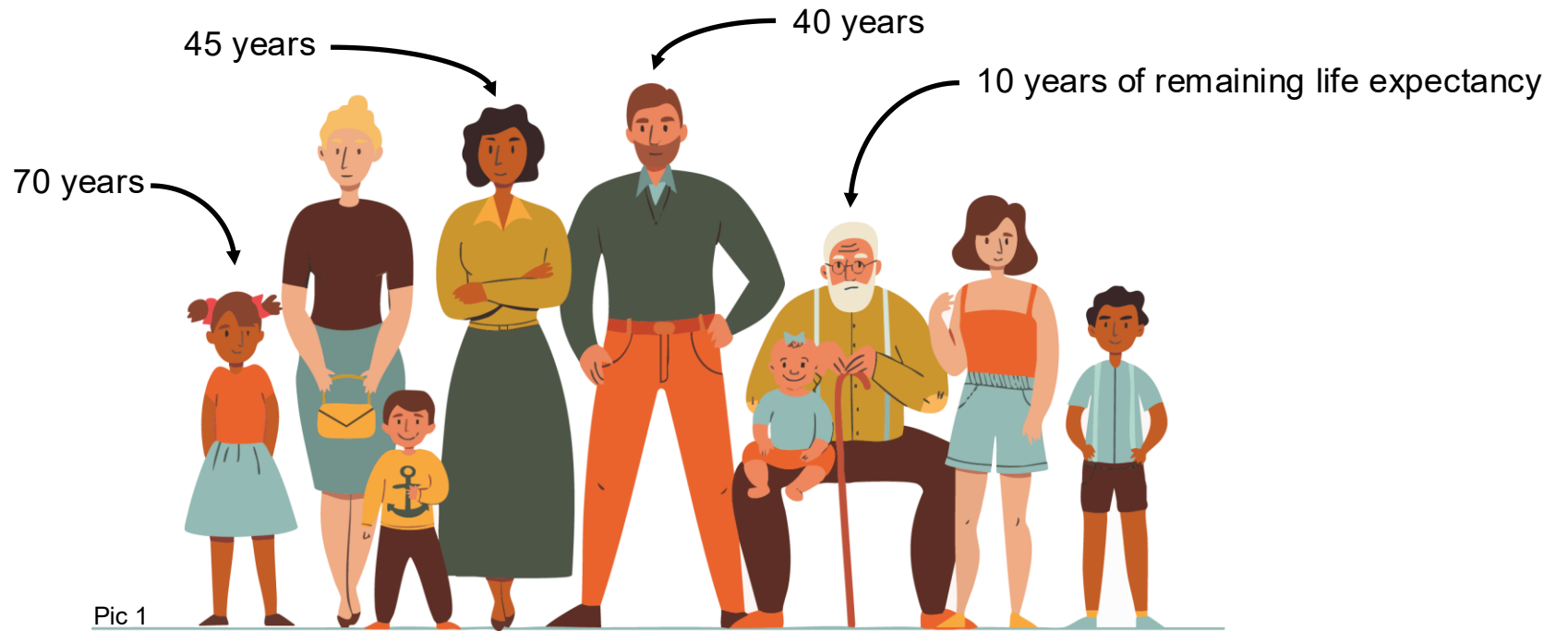
EGU 2026, 06/07.05.2026



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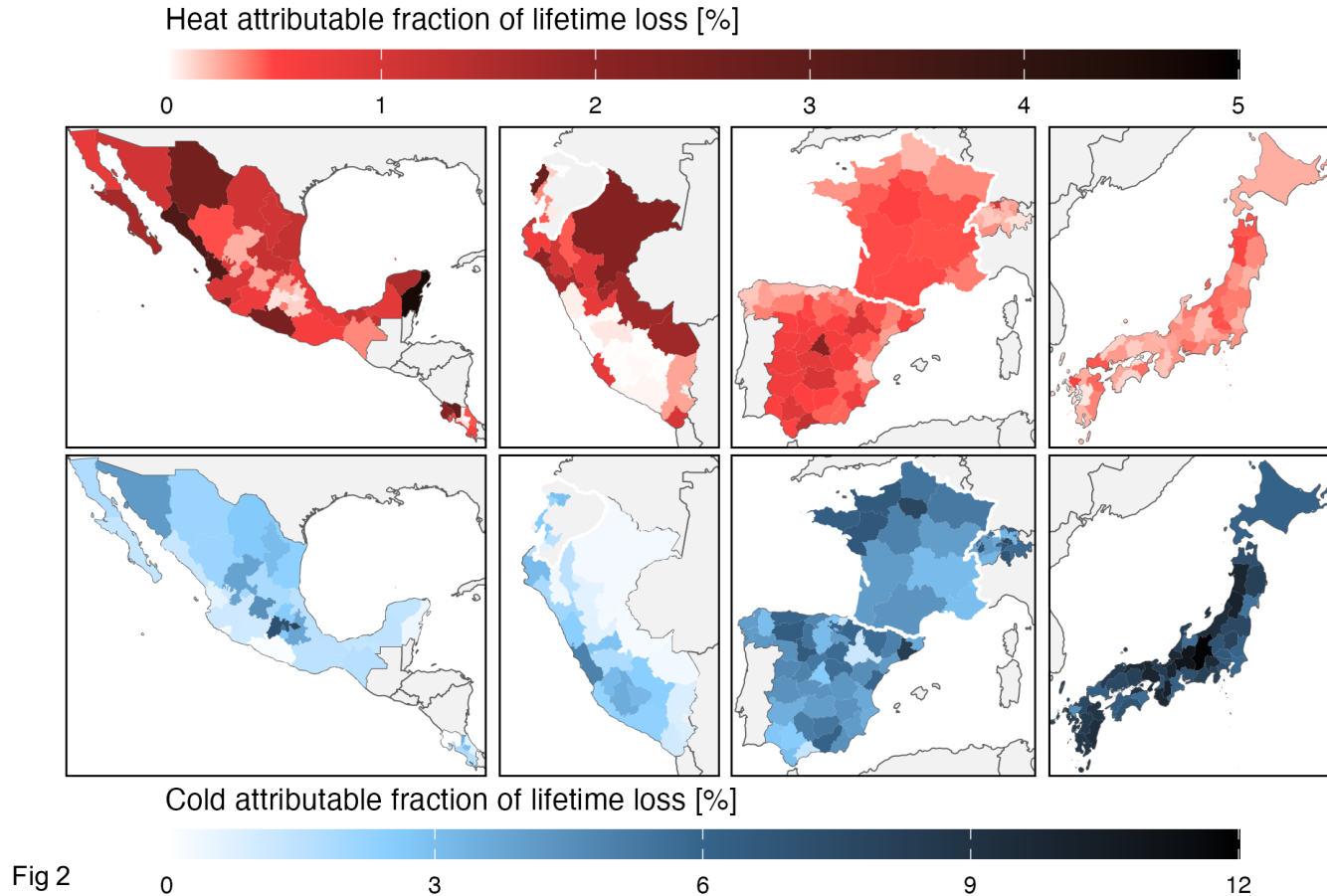
Lifetime loss instead of mortality for societal impact

Heat and climate change are increasing mortality globally.

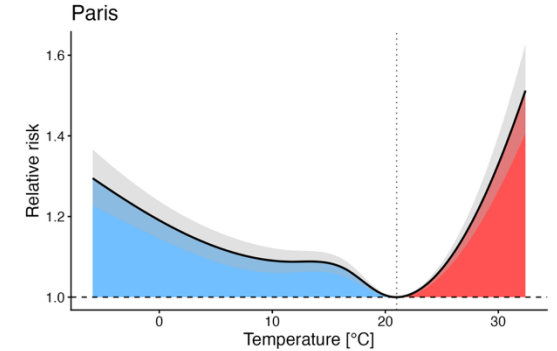


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Lifetime loss attributable to temperature



- Epidemiological Methods
- Two-stage time series design, distributed lagged non-linear models



Cold represents a larger risk for lifetime loss than heat.

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Climate change contribution to temperature risks

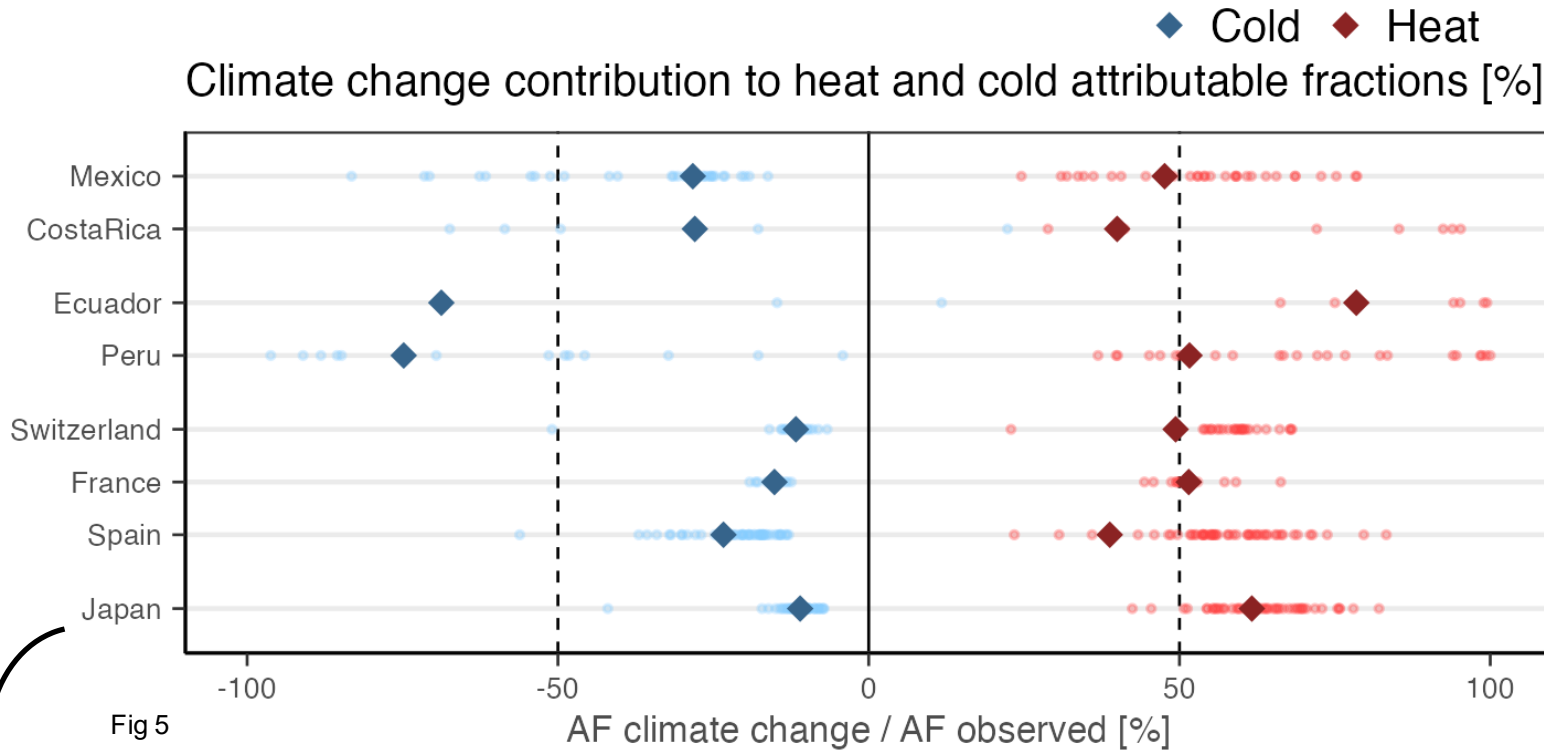


Fig 5

In relative terms, climate change contributes more to heat-related lifetime loss than it reduces cold-related losses.

Climate Science Methods

- Linear regression of global on local warming
- Atmospheric nudging

Local warming level in Spain

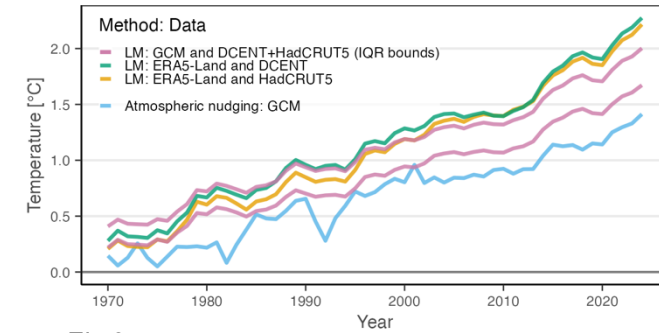


Fig 3

Attributable fraction of lifetime loss in Spain

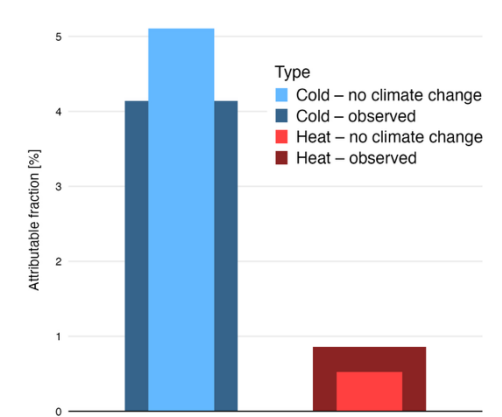


Fig 4

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Mortality displacement due to climate change

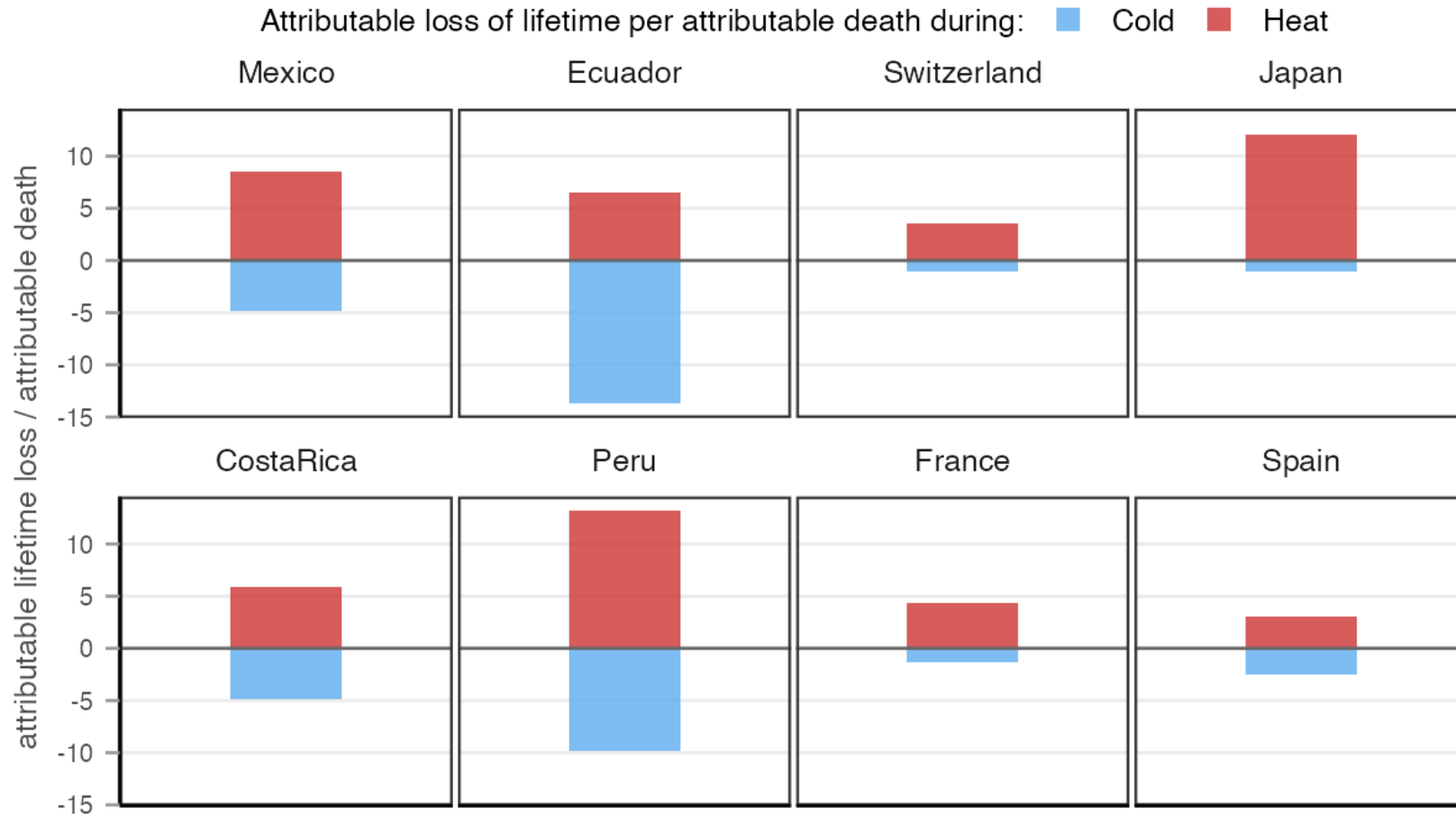


Fig 6

Climate change leads to a stronger mortality displacement of heat-related deaths than it delays cold related-deaths.

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The temperature-related lifetime loss attributable to climate change

1. Cold represents a larger risk for lifetime loss than heat.
2. In relative terms, climate change contributes more to heat-related lifetime loss than it reduces cold-related losses.
3. Climate change leads to a stronger mortality displacement of heat-related deaths than it delays cold related-deaths.

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