

CLOVER

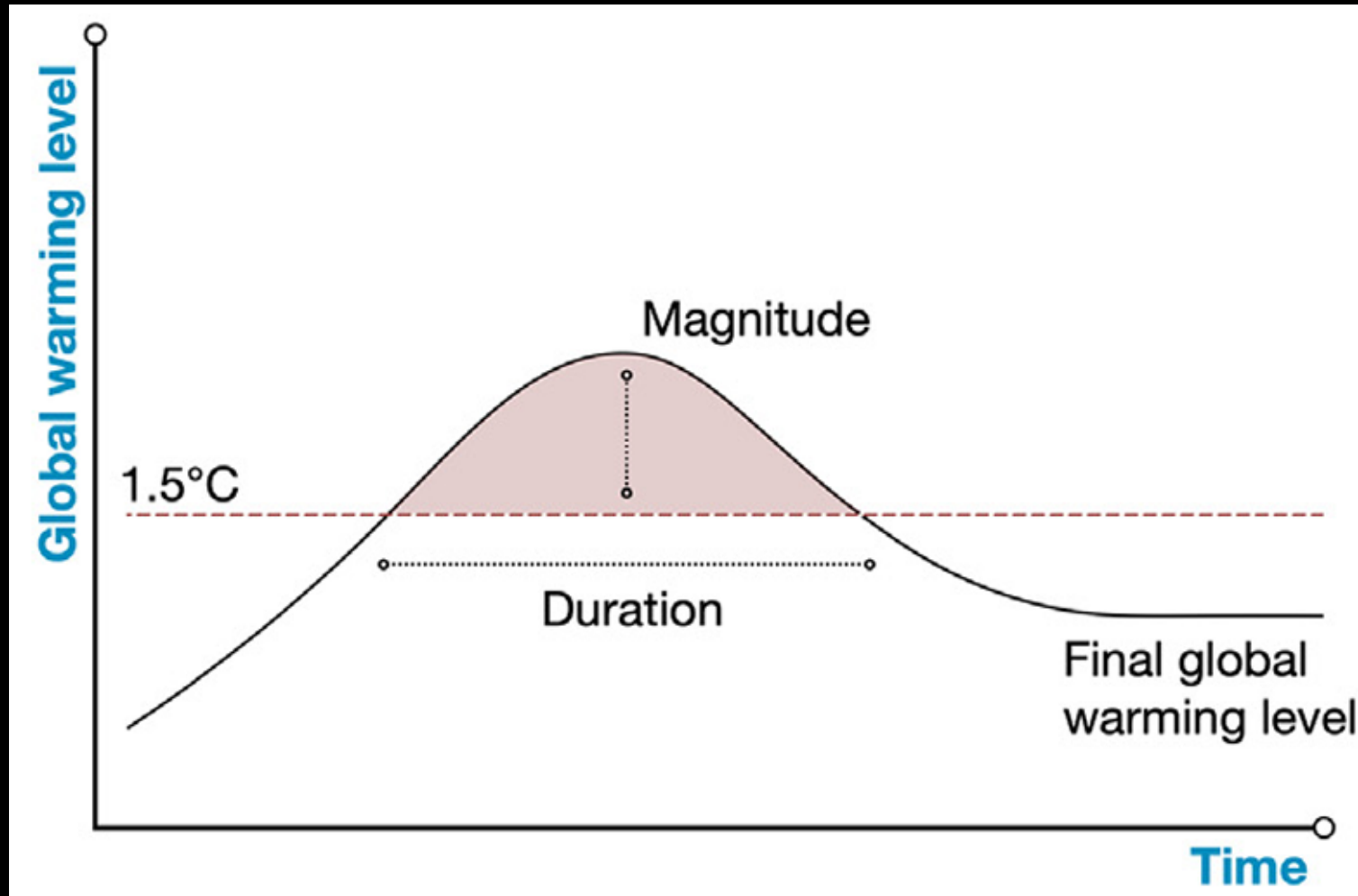
Climate overshoot effects on land ecosystem functioning

Dr Laura Boeschoten

Hugues Goosse (UCL), Wannes Hubau (Africa Museum),
Céline De Caluwé (WWF), Steven De Hertog (UGent), Hans Verbeeck (UGent)



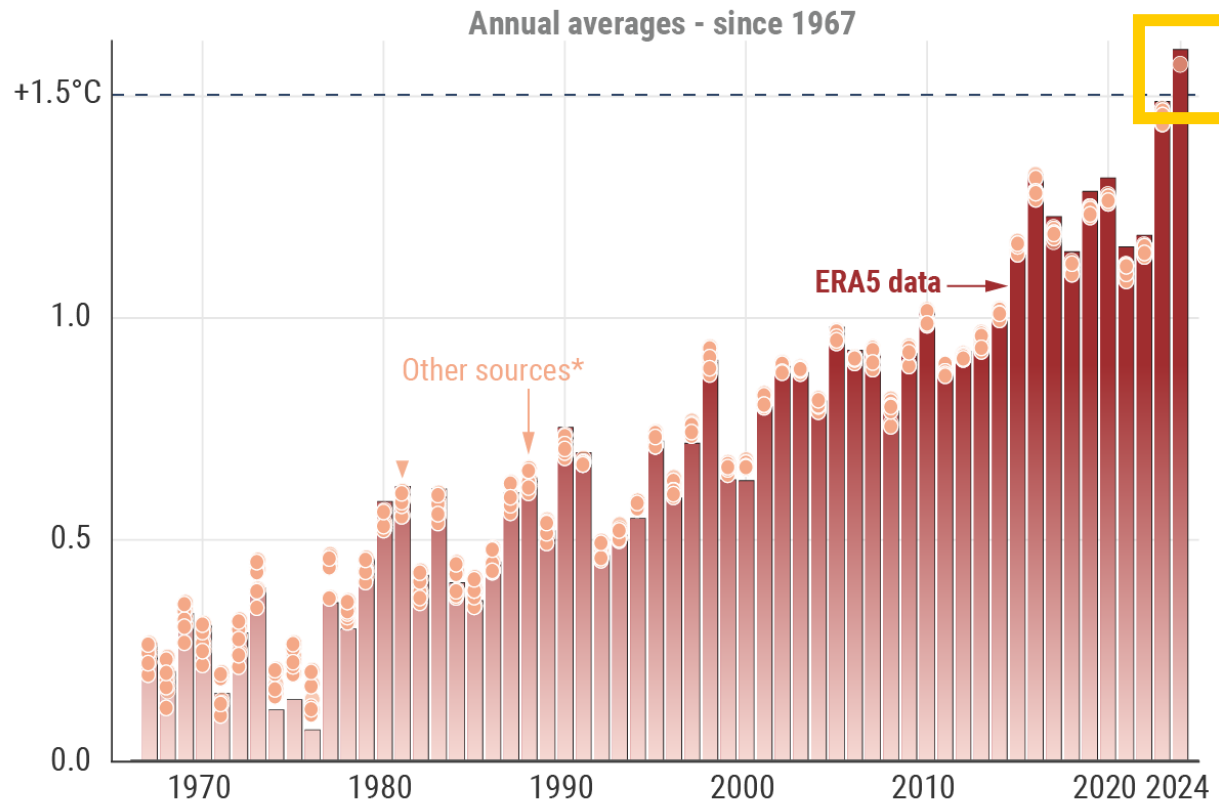
What happens to ecosystems if we **overshoot** the Paris Agreement?





Global surface temperature increase above pre-industrial

Reference period: pre-industrial (1850–1900) • Credit: C3S/ECMWF



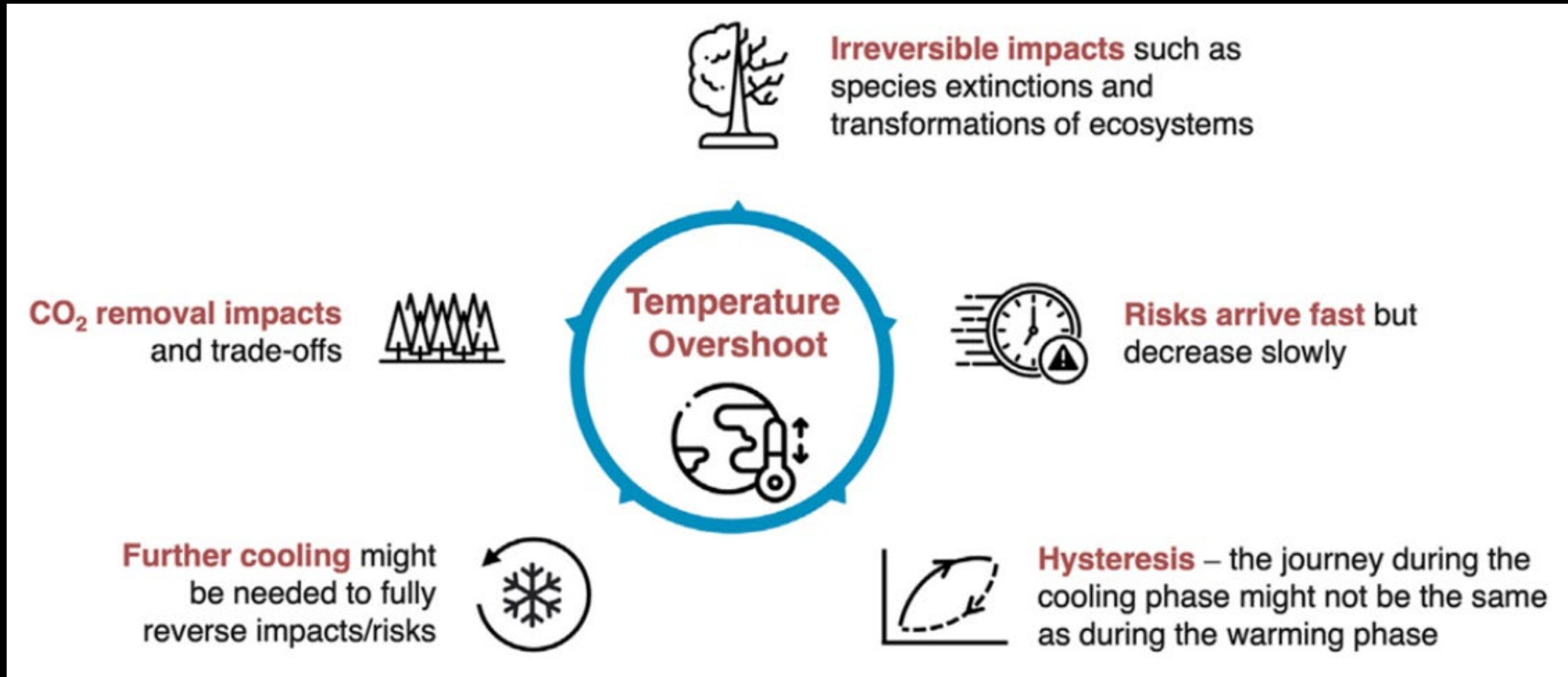
*Other sources include JRA-3Q, GISTEMPv4, NOAA GlobalTempv6, Berkeley Earth and the HadCRUT5 ensemble mean. Shading shows the range of the HadCRUT5 ensemble.



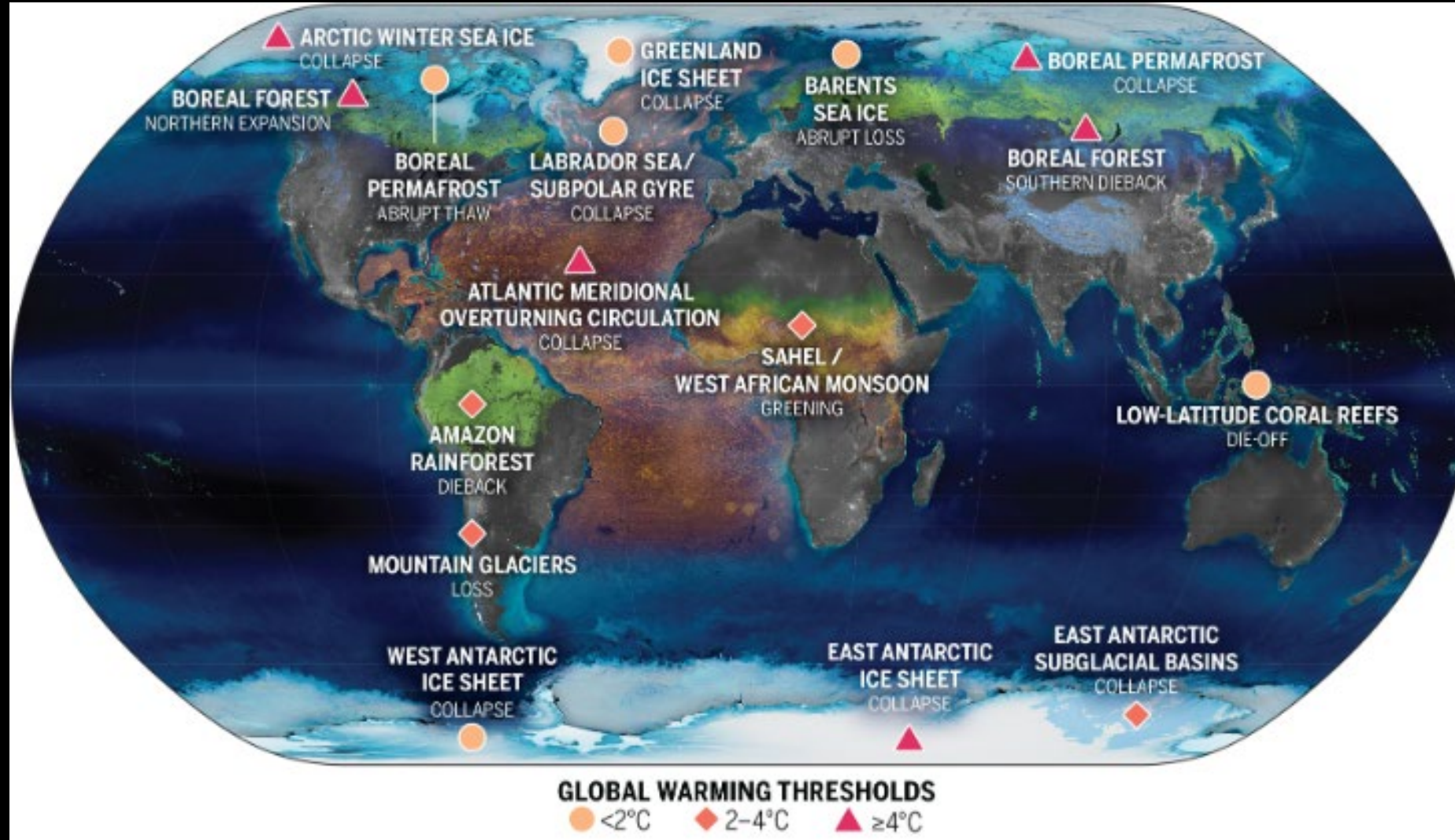
PROGRAMME OF
THE EUROPEAN UNION



Problems associated with overshoot



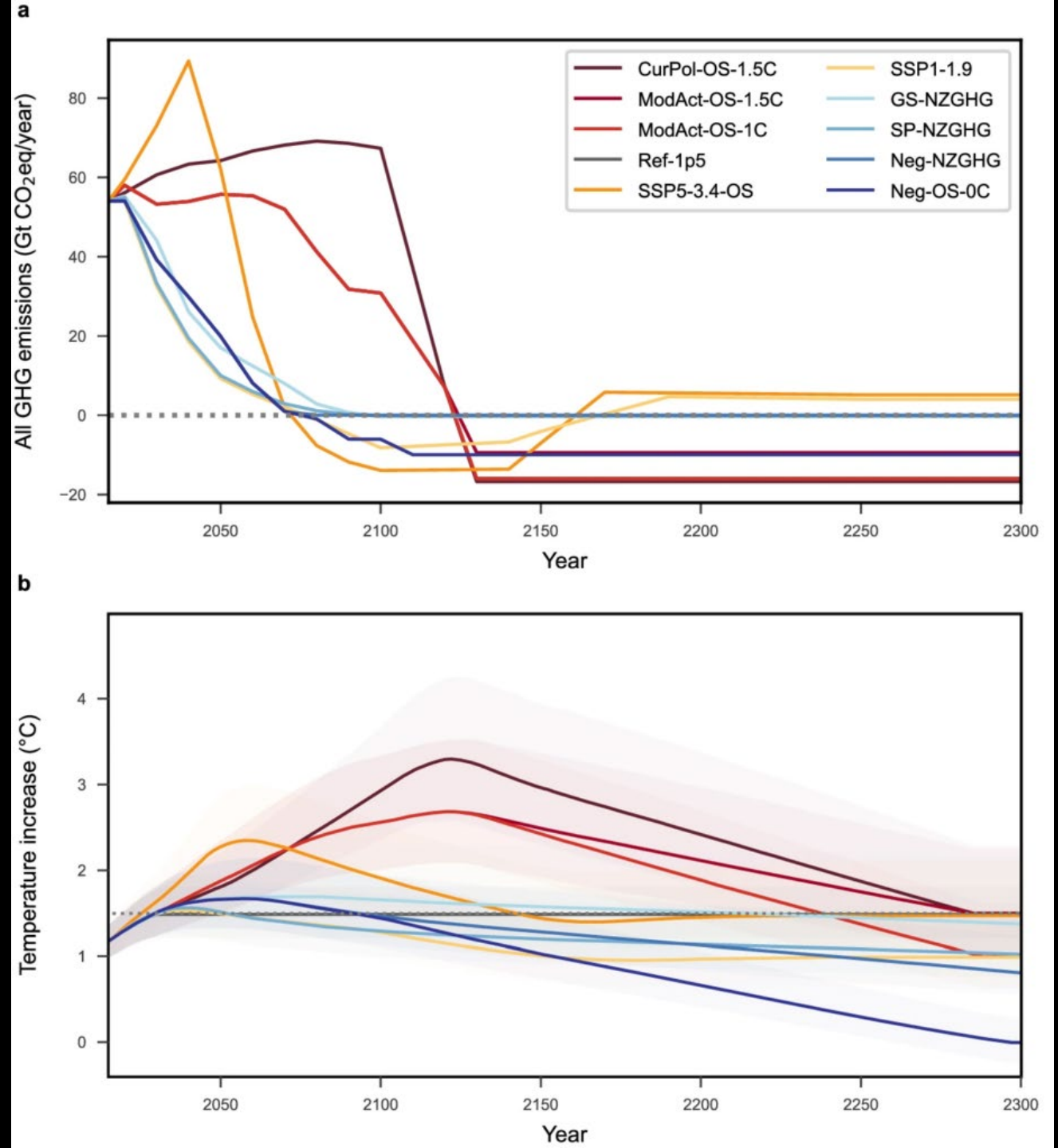
At a global scale ...



Data available for overshoot...

- Requires Earth System Models
- Different scenarios
- Different emissions
- Different overshoot

Möller et al (2024)



Project goals

Context

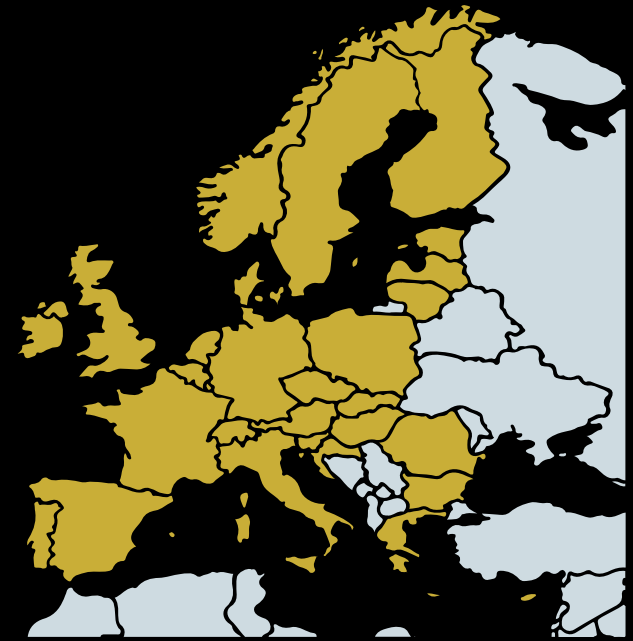
- Temperature overshoot (and potential tipping points)
- Models are not good in representing extremes and tipping points

Goal

- Synthesize current observational/experimental data on overshoot responses
- AI-based emulators to model overshoot scenarios

Work package 1 - Europe

- Long term data to test modern day analogues
- The EU hot and dry summers of 2018-2020
- How do ecosystems recover after extreme events?



Work package 2 - Congo

- What does a temperature overshoot mean for a forest that's always $\sim 25^{\circ}\text{C}$?
- Assess whether ESMs indicate a potential tipping point in the Congo Basin under climate overshoot



Strong outreach component

- 4 workshops for stakeholders (scientific & non-scientific)
- Tentative timeframe 1 & 2: Feb and June 2026



Interested in participating?



laura.boeschoten@ugent.be



www.researchgate.net/profile/Laura-Boeschoten-3



[@lauraboeschoten.bsky.social](https://lauraboeschoten.bsky.social)



www.linkedin.com/in/lauraboeschoten/