

Sustainability Under Predictive Uncertainty

Presented by

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Presented

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What is a sustainable future?

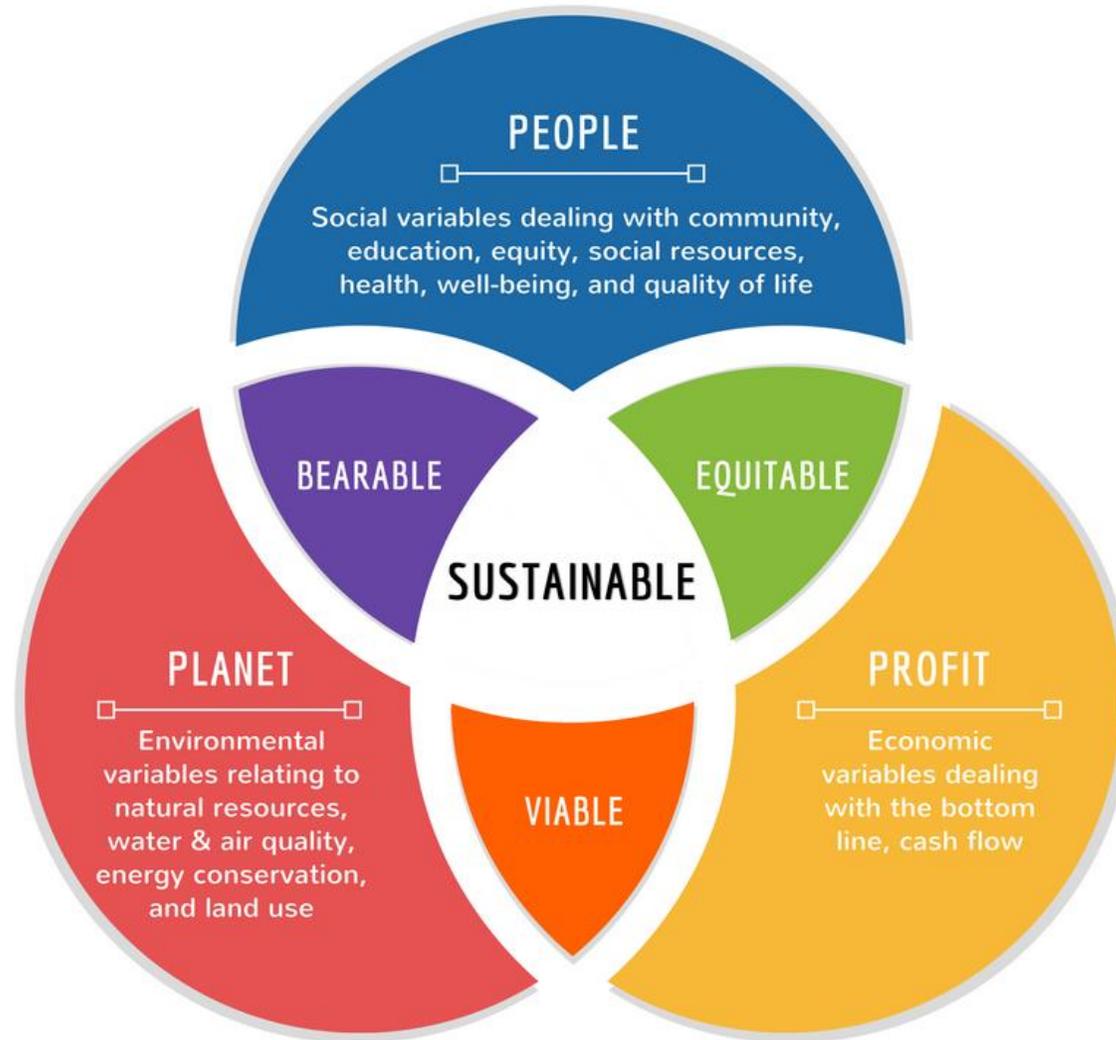
“... This approach drives sustainability by reducing waste, lowering carbon emissions, and optimizing resource management across infrastructure, energy, and production, aiming to meet present needs without compromising future generations”

Why do we care?

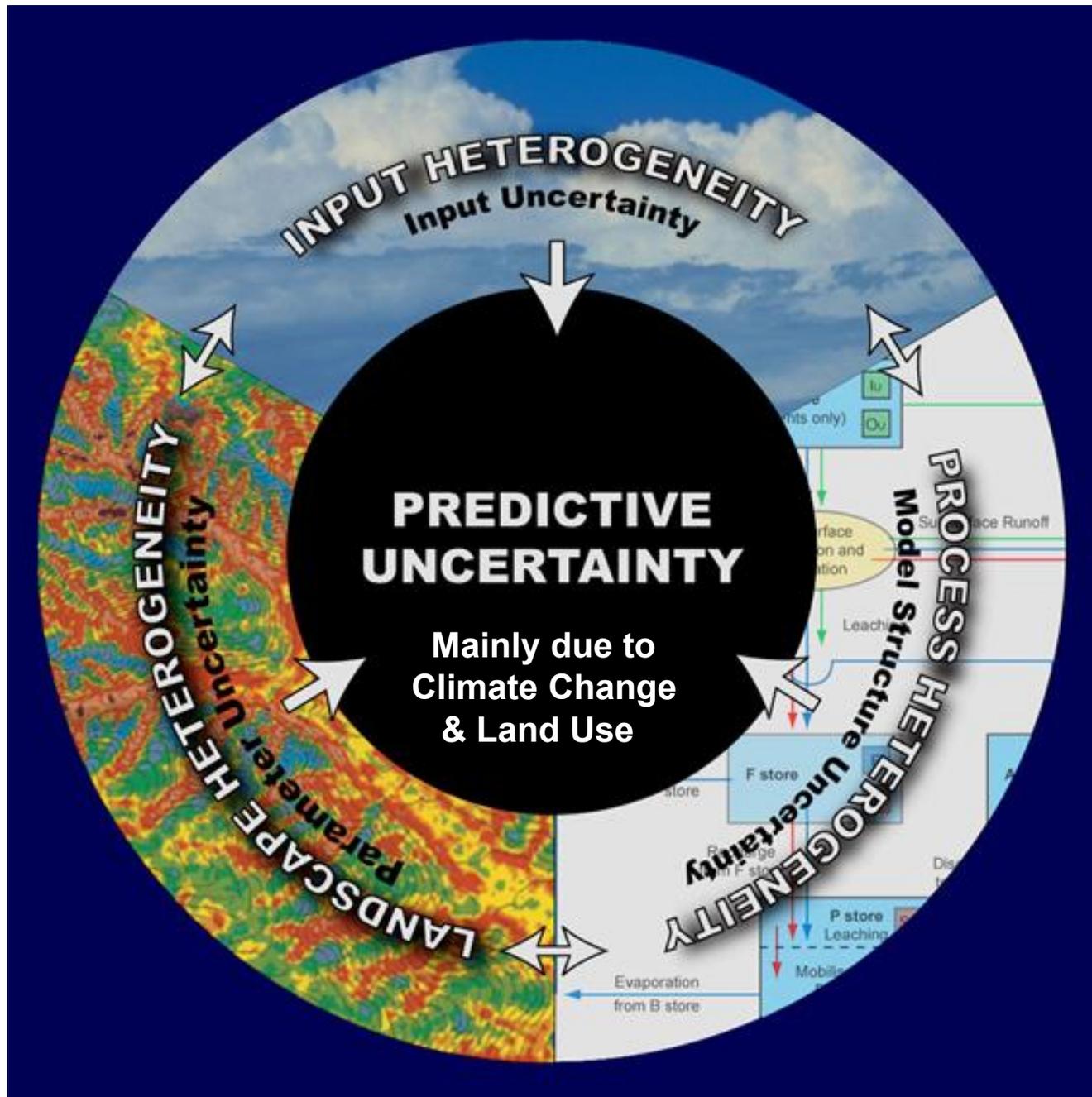
In a nutshell:

- It's about safety and security
- It's about *creating wealth* and wellbeing
- It's about the *future we want*
- ...

Sustainability: the *all encompassing cure*

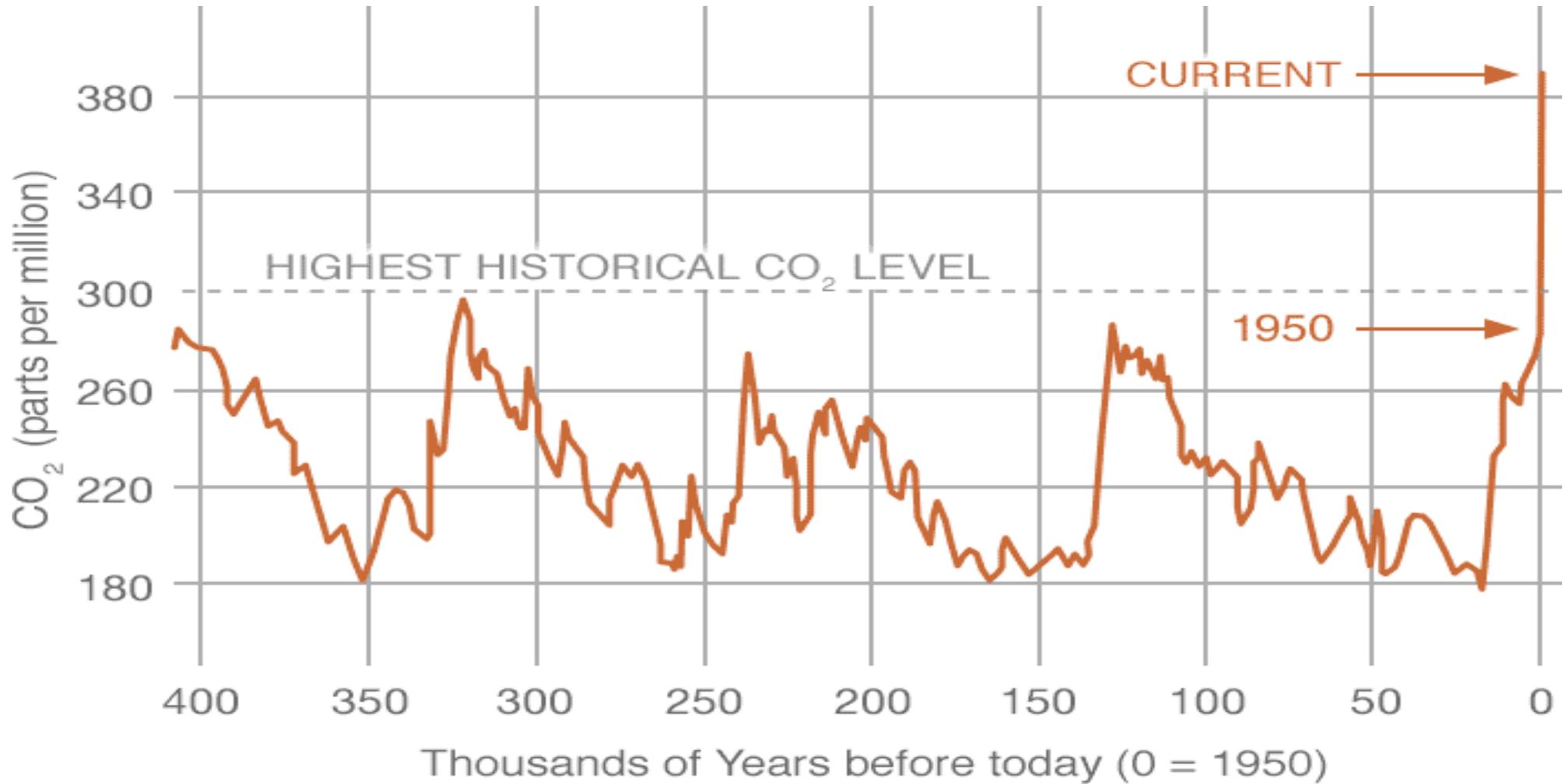


Predictive uncertainty



Predictive uncertainty

current CO₂ emission levels



Source: <http://www.nature.com>

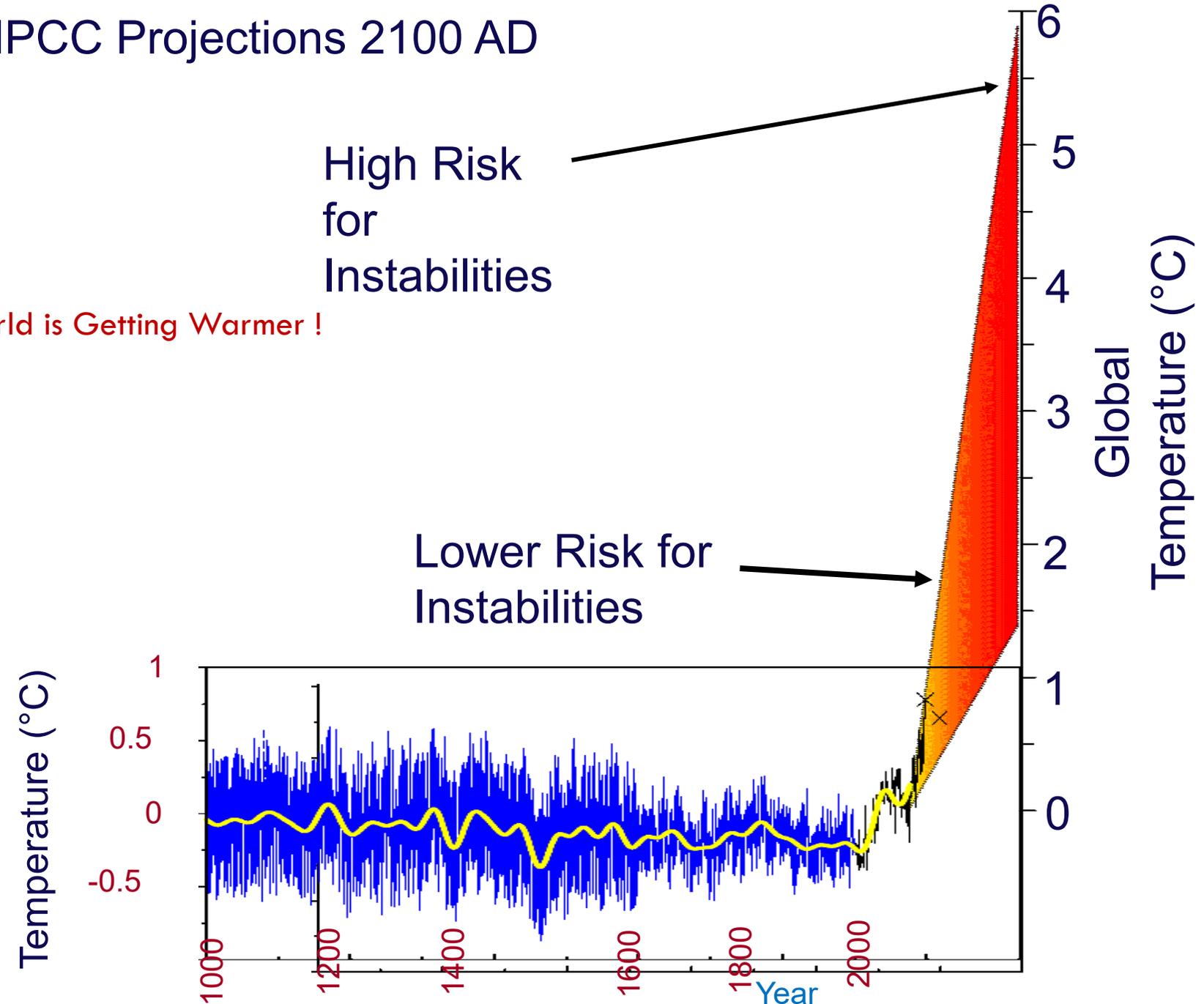
IPCC Projections 2100 AD

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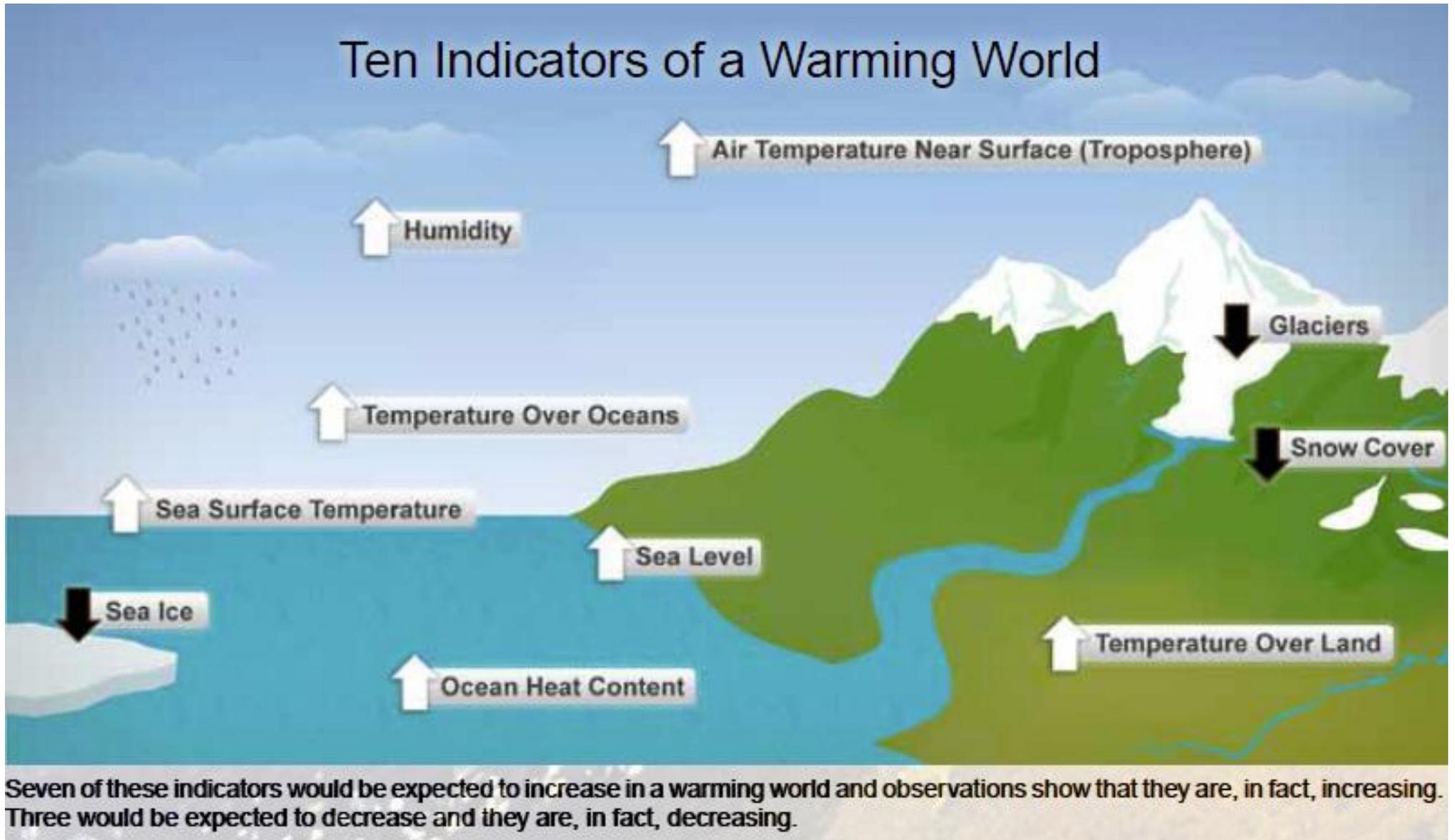
The world is Getting Warmer !

High Risk
for
Instabilities

Lower Risk for
Instabilities



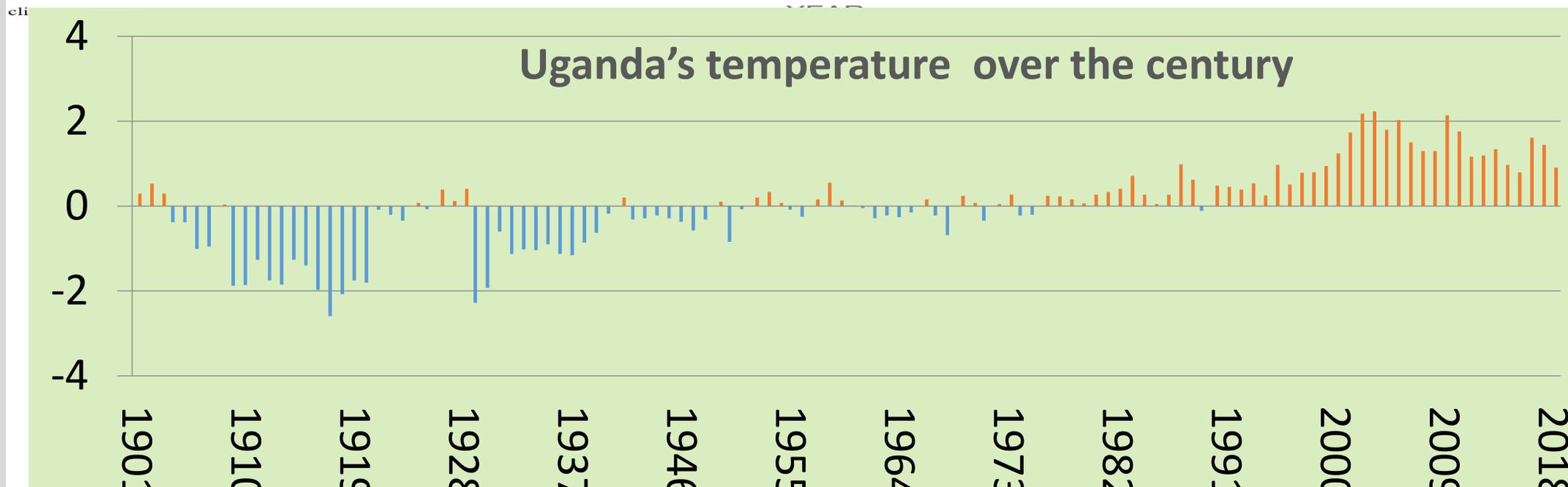
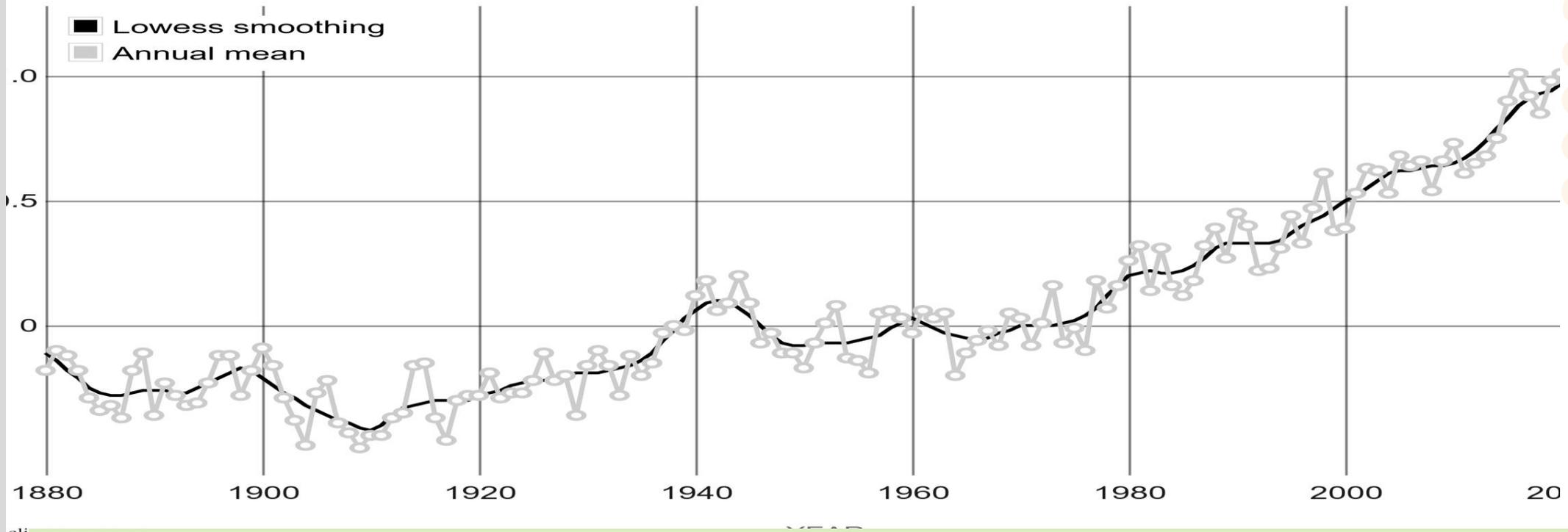
Evidence of global warming



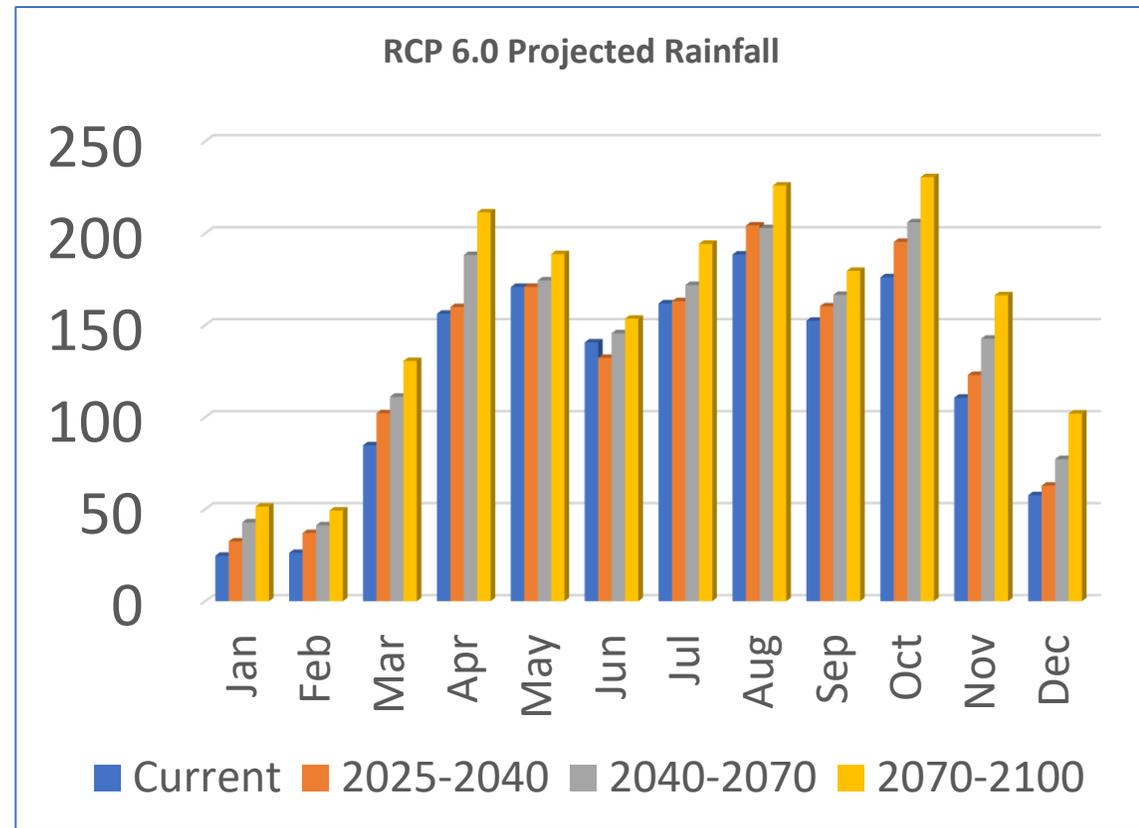
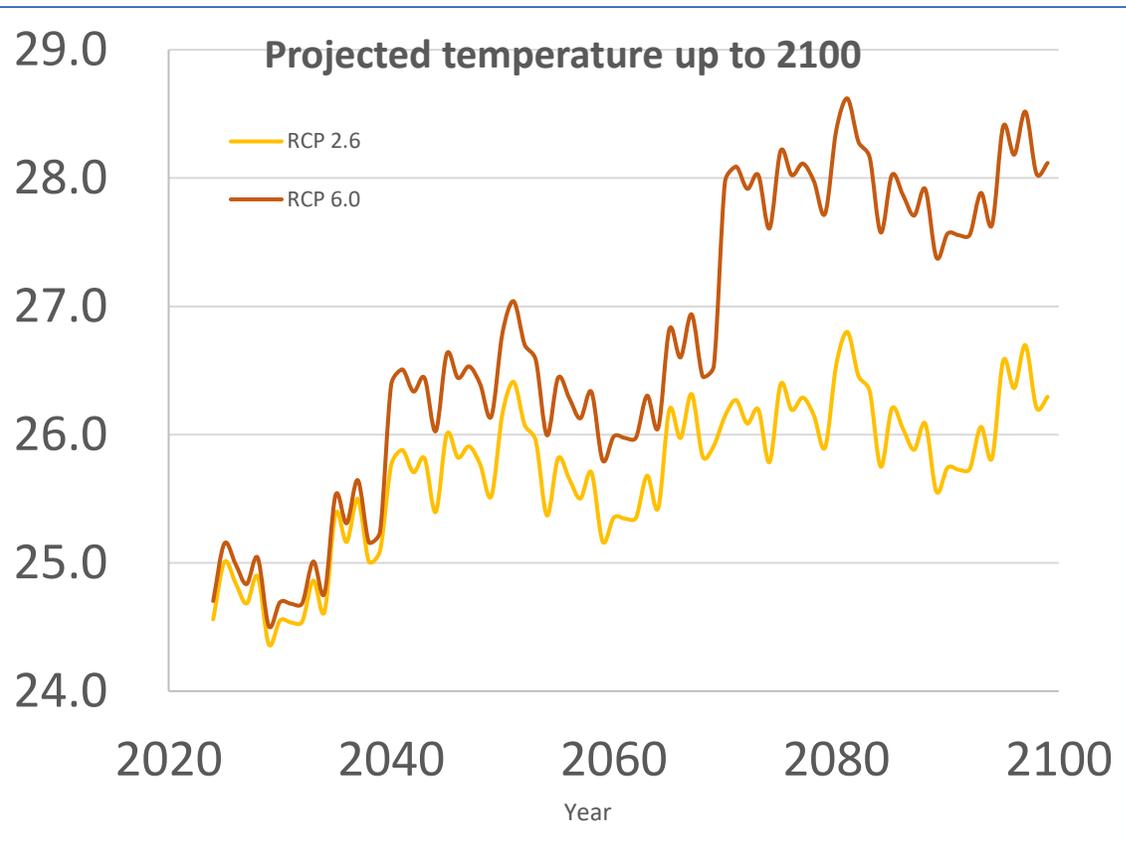
Global warming

trends

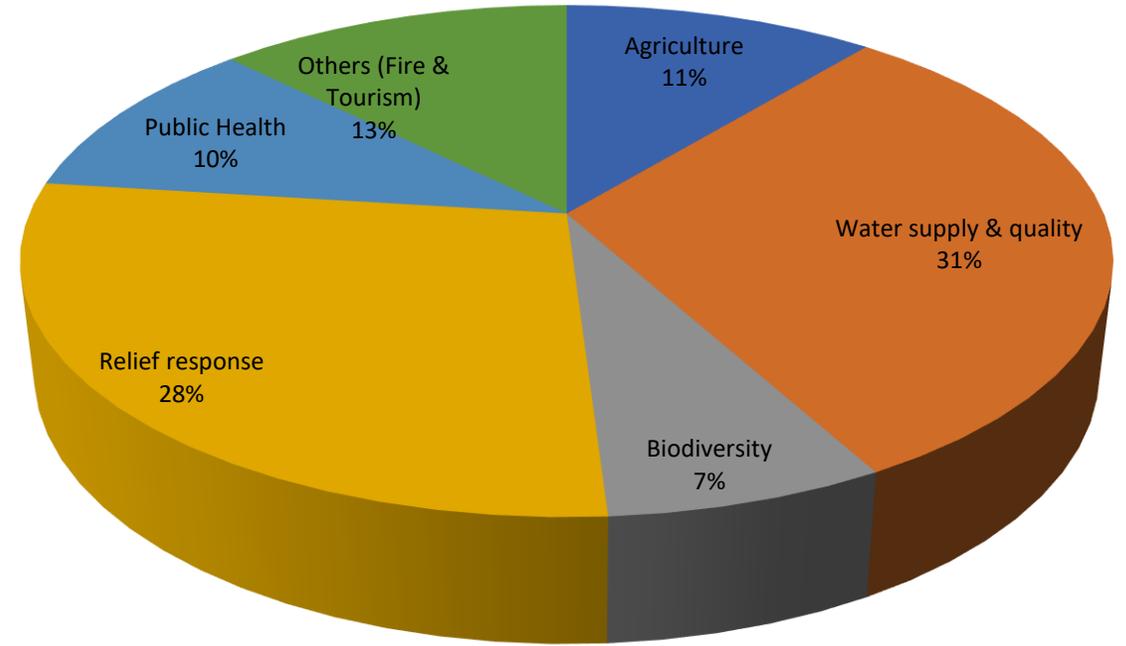
(Byakatonda J et al (2021))



Climate change future projections-Uganda

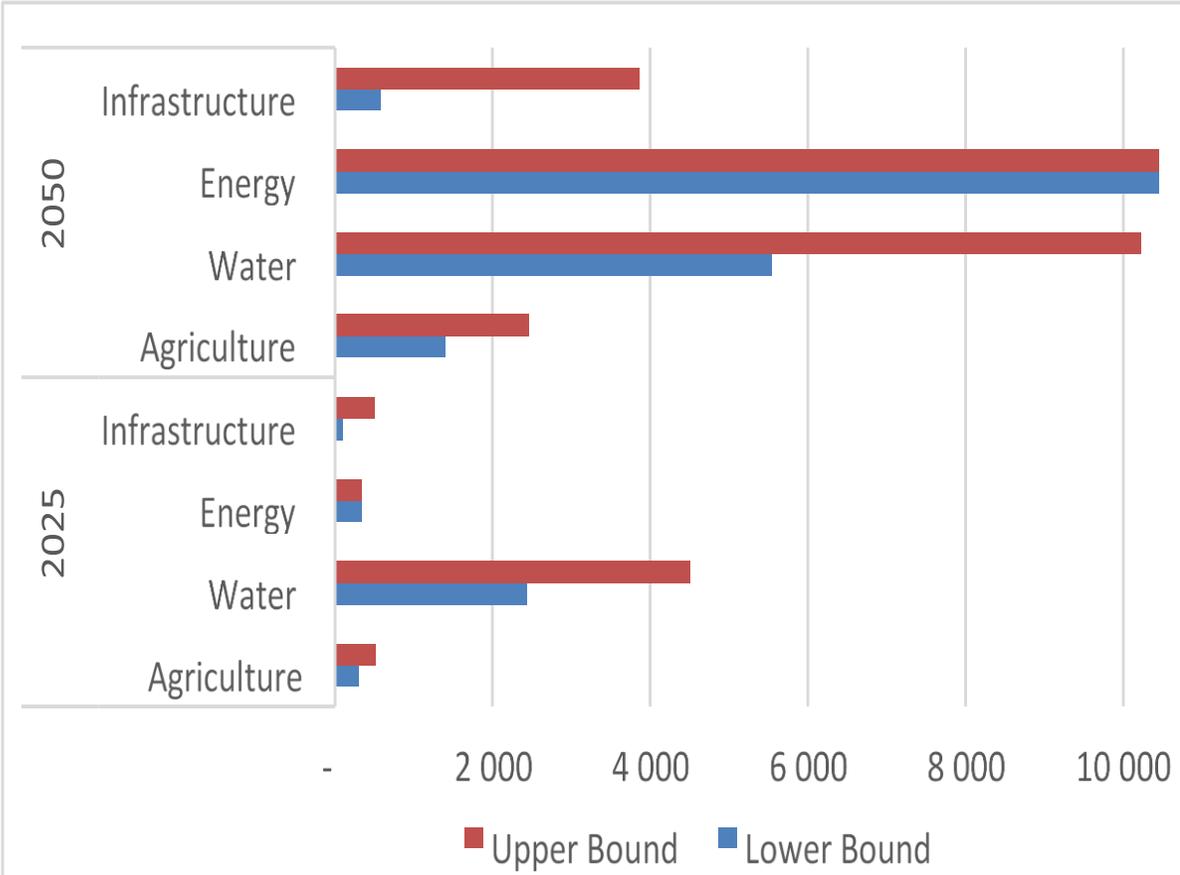
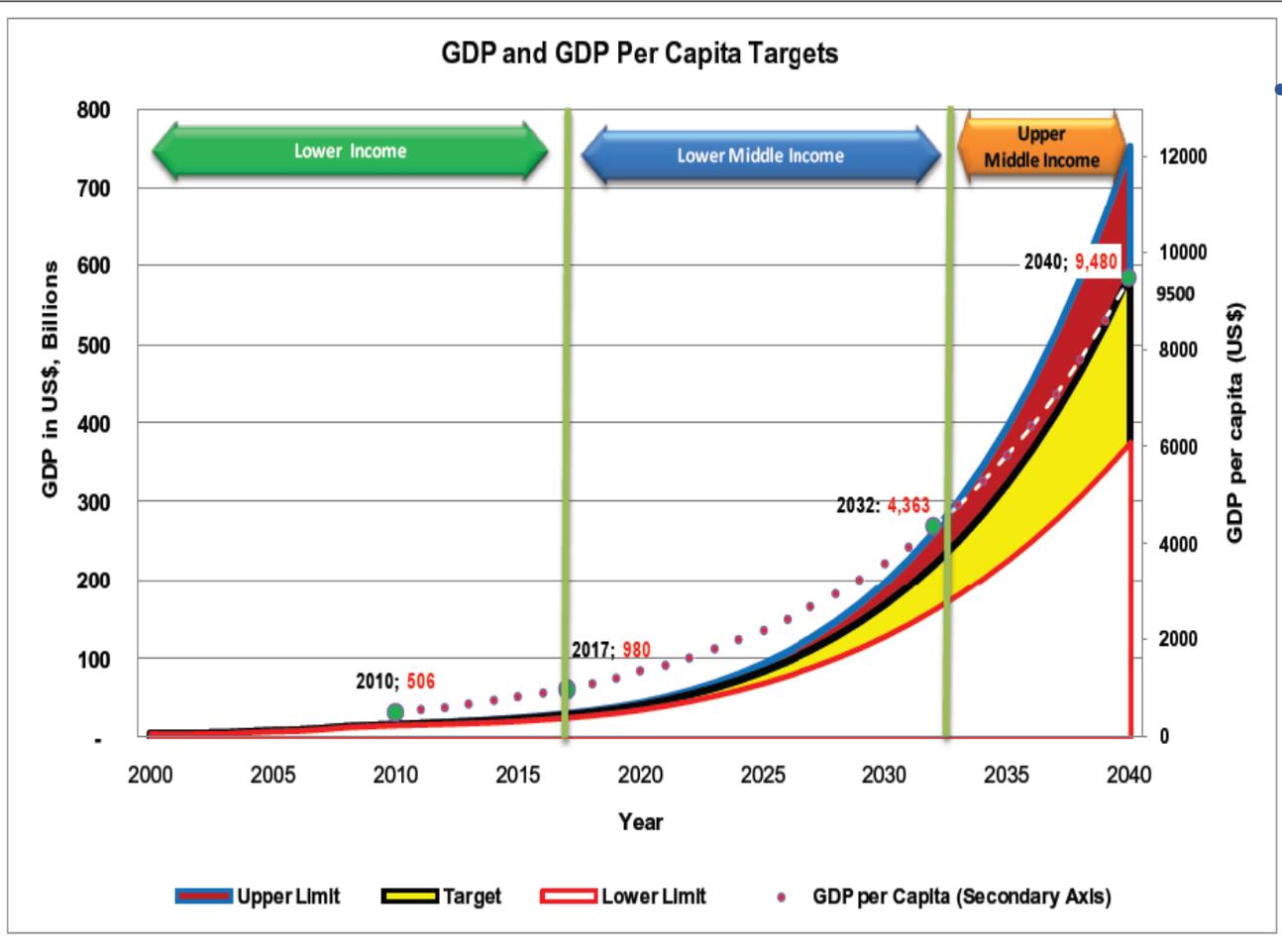


Effects of global warming



Climate change has been attributed to drying up of water courses, complete crop failure and Desertification leading to high vulnerability

Need for climate resilience



Cost of inaction to climate \$MN
(Markandya et al., 2015)

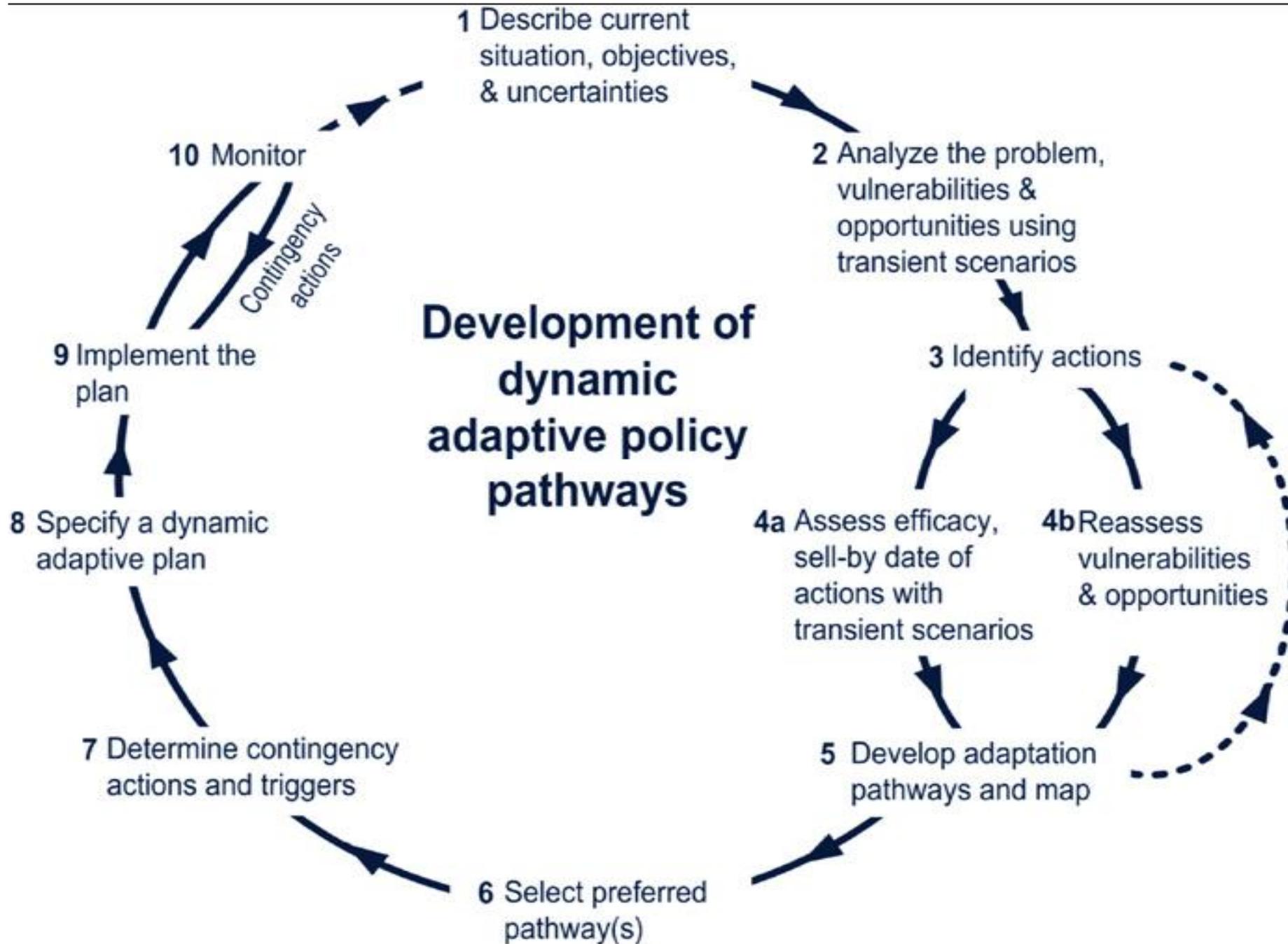
- Improve reliability of service provision
- Increase asset life and returns on investment
- Protection and preservation of life
- Sustainability of national growth targets

Climate adaption options for infrastructure

- Climate-proofing of public buildings
- Developing standards for transport and infrastructure planning
- Integrating climate resilience standards into existing infrastructure
- Integrating climate resilience in public procurement

- Urban drainage
- Water storage
- Flood defense system
- Irrigation/climate smart agriculture
- Circular economy

Adaptive policy to deep
uncertainties



Dynamic Adaptive Policy Pathways
Source: Haasnoot et al. (2013)

- Strengthening policy monitoring
- Linking policy to research
- Continuous professional improvement
- Integrating climate change in planning, budgeting and public procurement across sectors



There is much to be optimistic about...

*Robert Sapolsky
why Zebras don't get ulcers*