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Researching and Shaping Climate Futures

**J. Baehr, J. Behrens, L. Borchert, M. Brüggemann,
L. Kutzbach, K. Linscott, A. Oberg**

8th course day – June 4th, 2026

Moderator: Michael Brüggemann

Course coordination: Michael Brüggemann, Lars Kutzbach, Kat Linscott

Contact: Kat Linscott (katherine.linscott@studium.uni-hamburg.de)



Today's Schedule

- **Narrative-based near-term prediction of climate futures** *45 min*
- **Discussion on desired futures & ideas for 2nd role play** *30 min*
- **Homework # 8** *15 min*

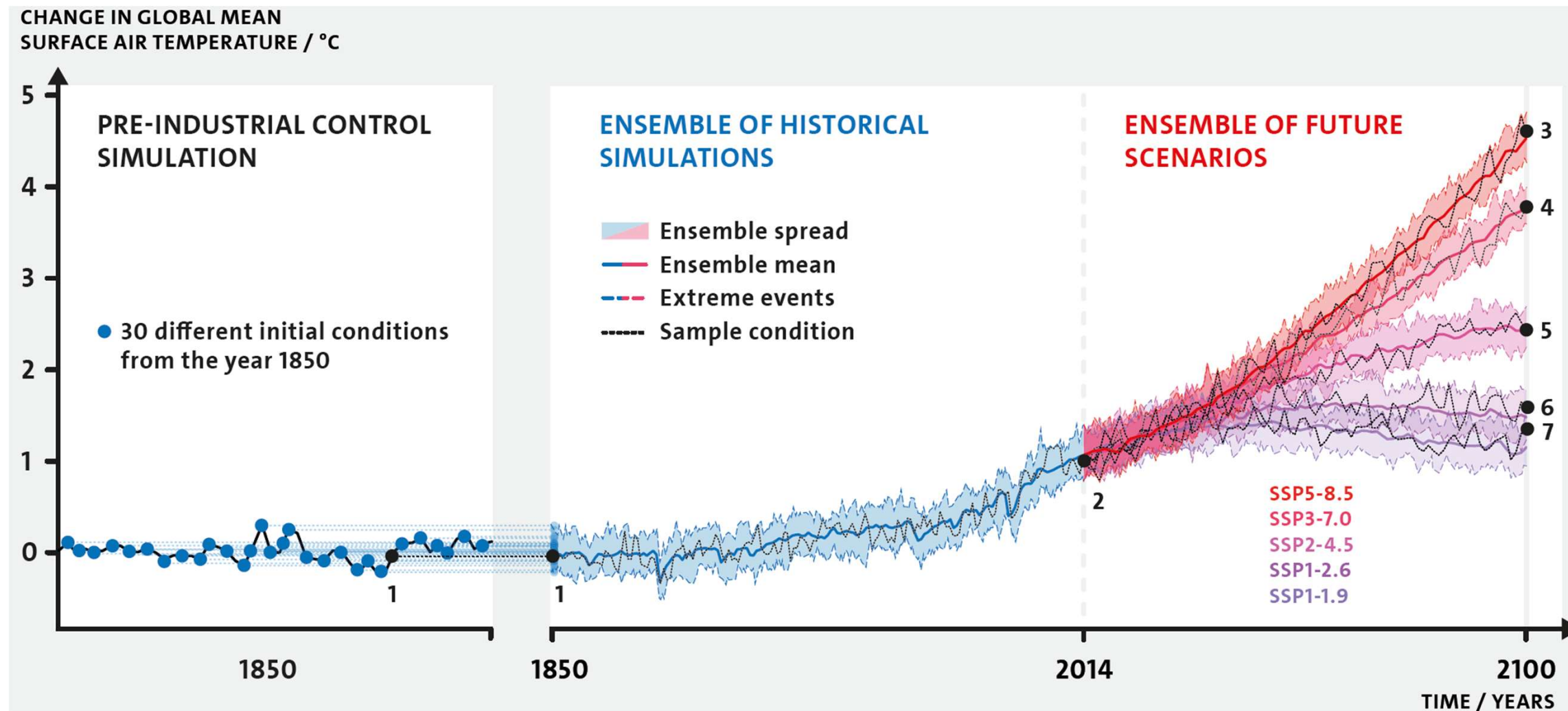


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Narrative-based near-term prediction of climate futures

Leo Borchert



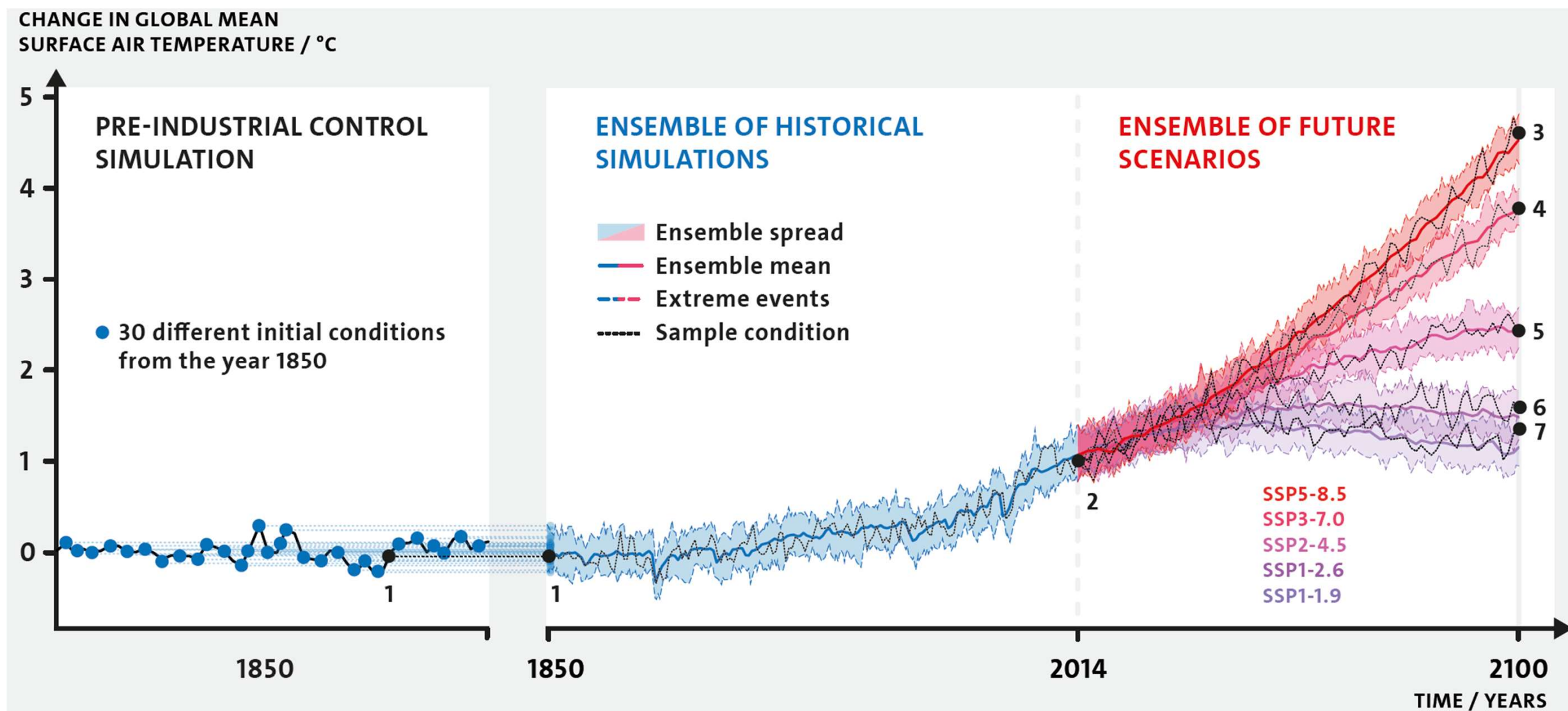
**Narrative-based near-term
prediction of future climate**

Leonard Borchert

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„Shaping“ „plausible futures“ needs time

- Scenarios do not differ significantly before mid-century → mitigation potential?

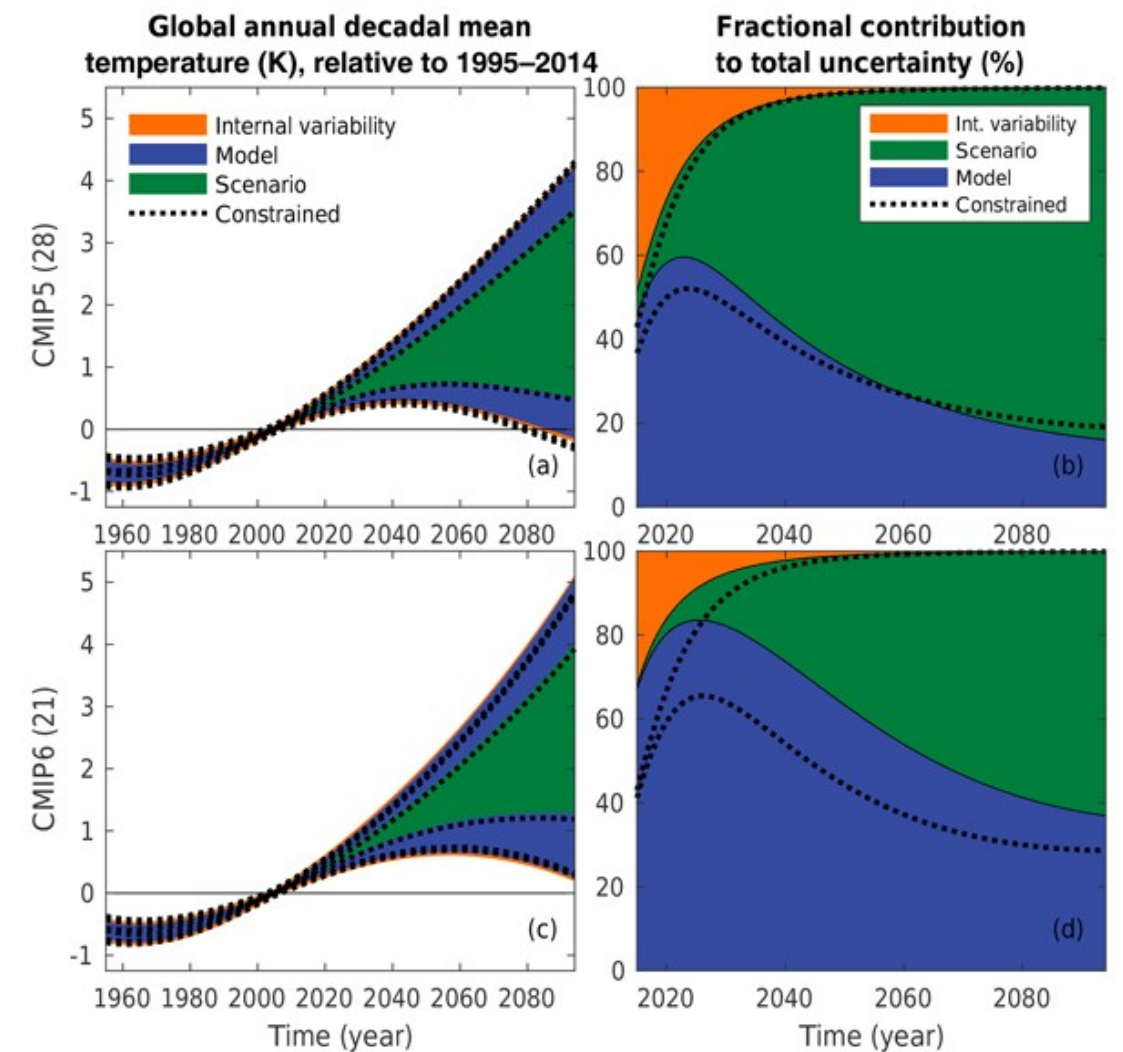
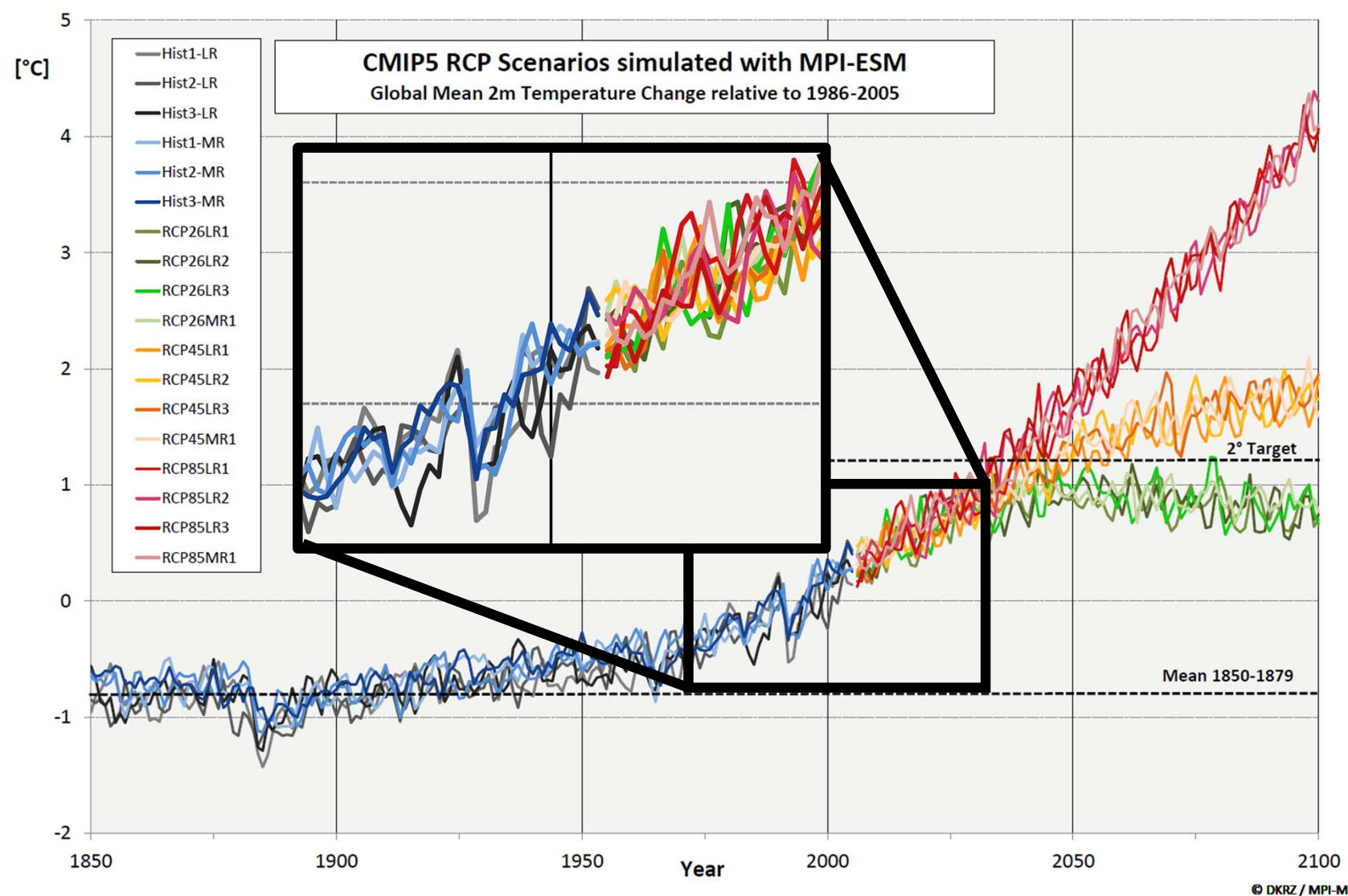


What are problems with the climate time scale?

- Mitigation vs. Adaptation!
- Political decisions are usually based on quicker „capitalization“
 - Voters need to see (positive) changes
- Economic decisions are usually based on quicker capitalization
 - Companies need to make profit now
- Individual decisions are usually based on quicker capitalization
 - Individual budgets are based on monthly/yearly constraints

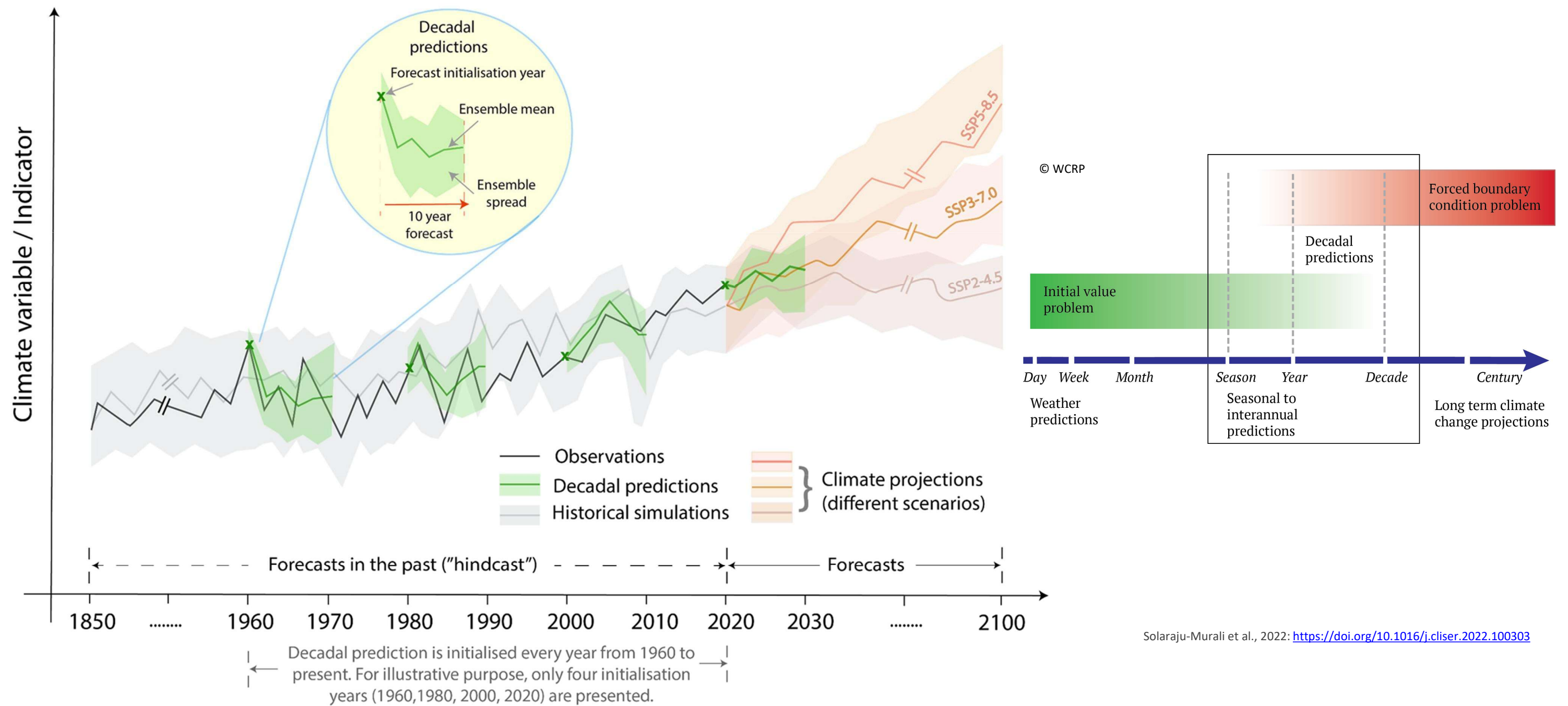
What about the near term climate?

- Can we change the near-term climate (next few years)?

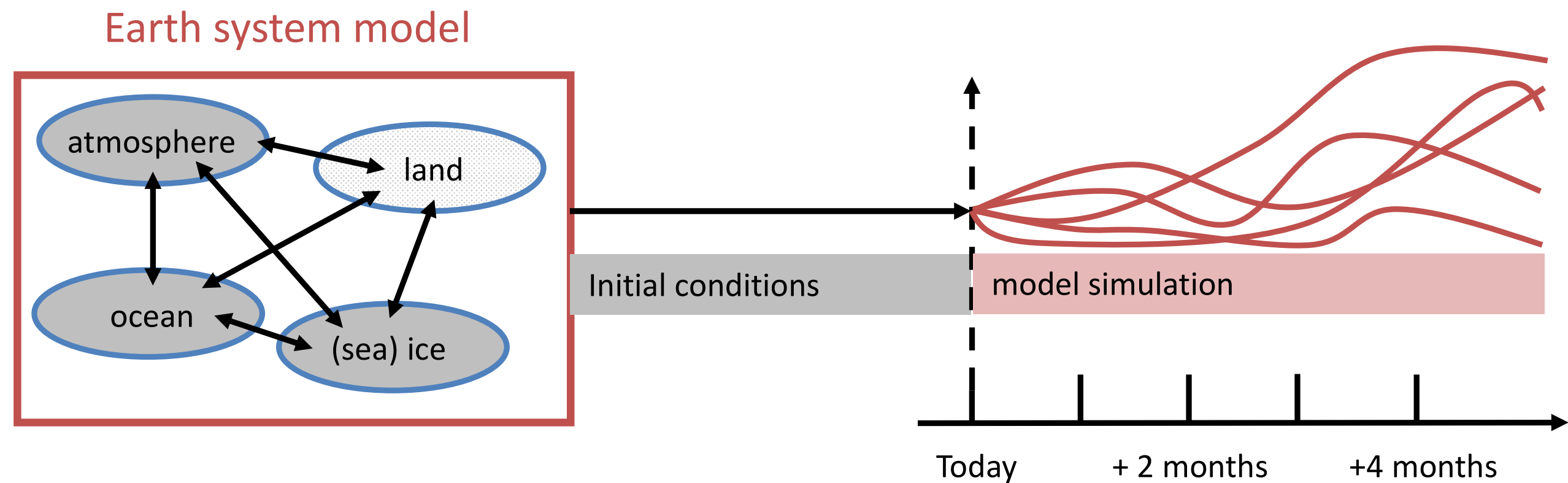


Lehner et al. (2020)

Intro to climate prediction

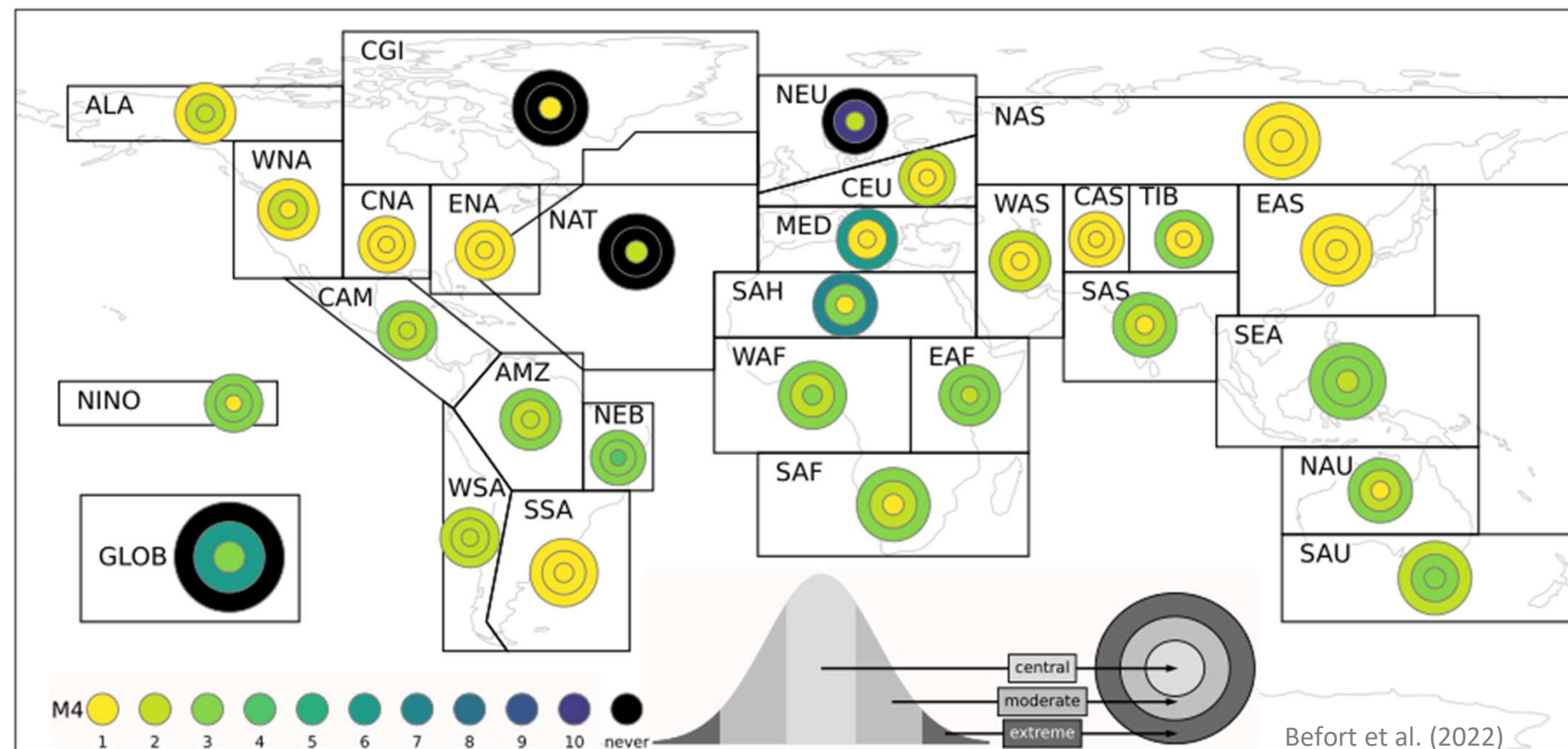


Intro to climate prediction



- Does this work?
- Simulate predictions of the past and compare to observations

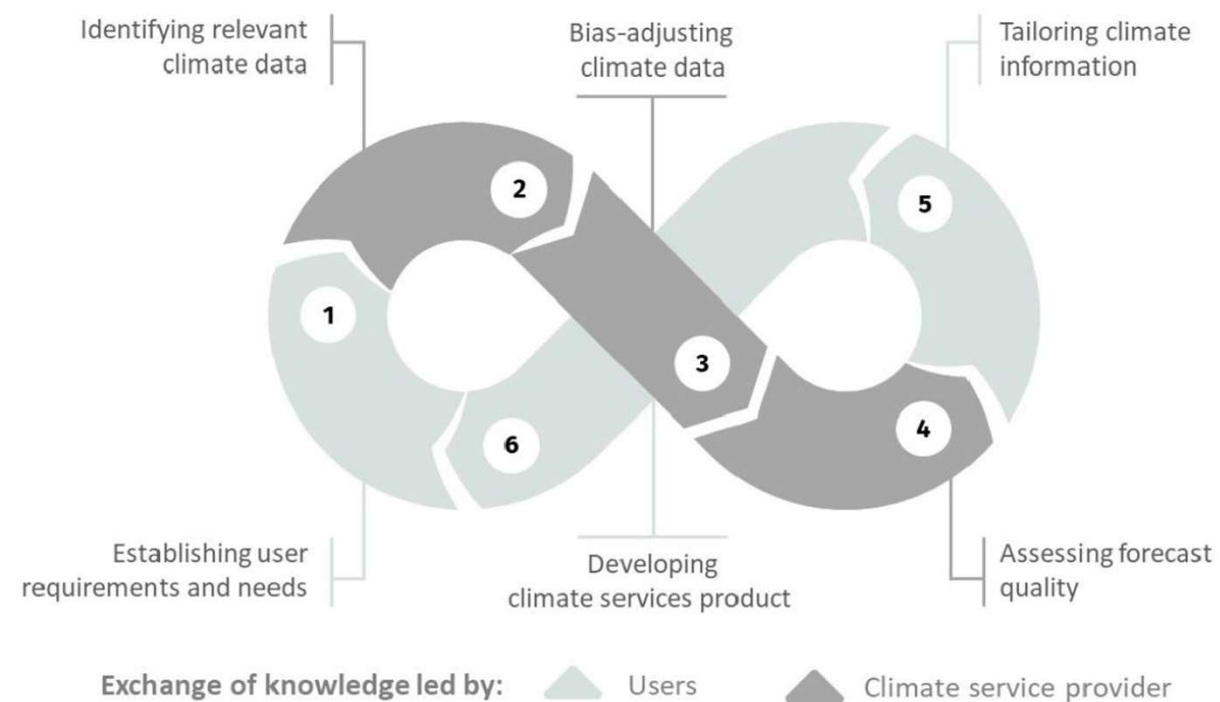
Added value of climate prediction



- For the majority of the world, temperature predictions change the information in temperature projections for the next 3-4 years; longer-lasting effect for extremes

Where is the involvement of society?

- How useful do you think these predictions are?
 - Mitigation or adaptation?
- Climate services?

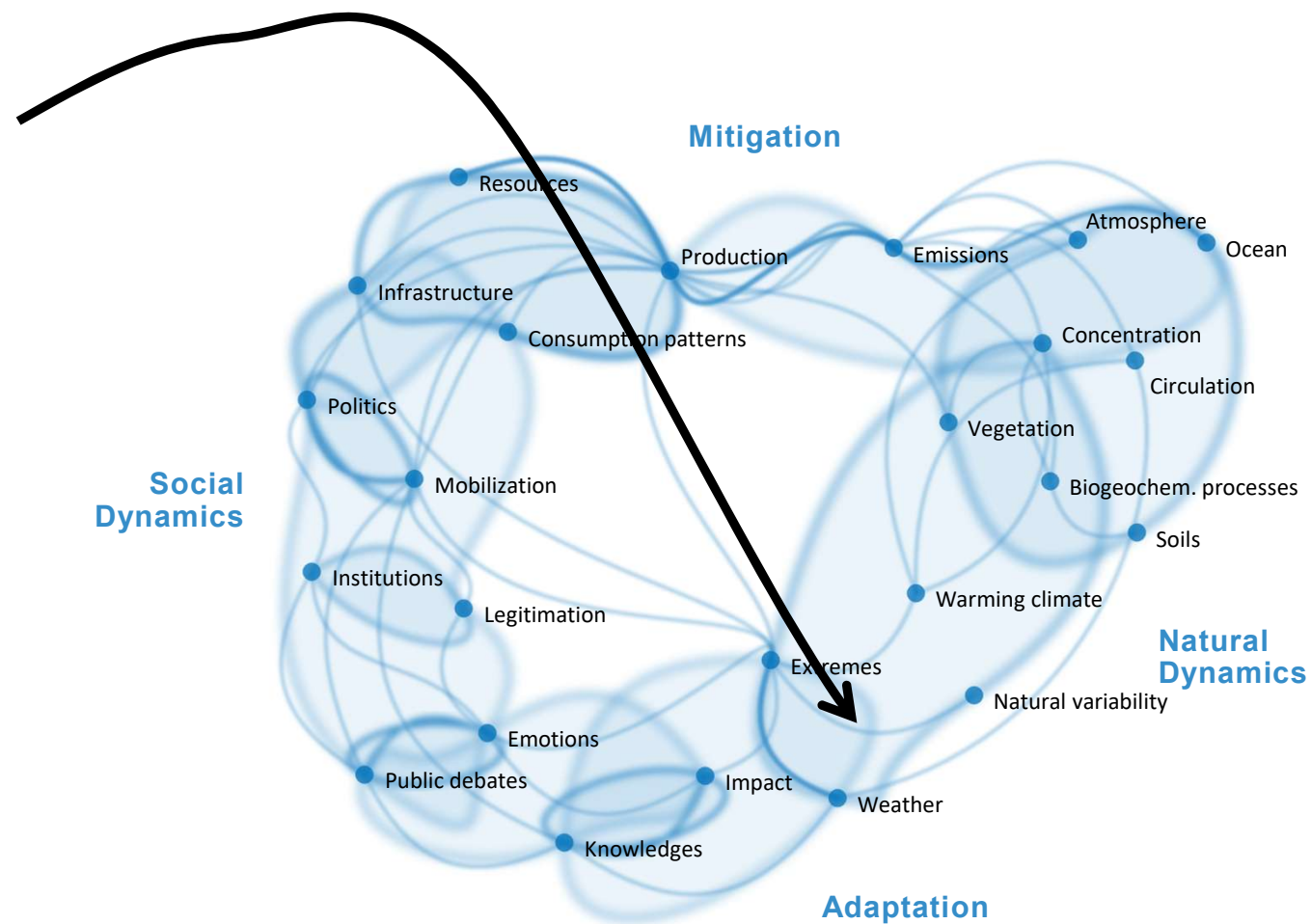


Solaraju-Murali (2024)

- What could make climate predictions more useful?
 - Narratives in climate
 - Narratives in society

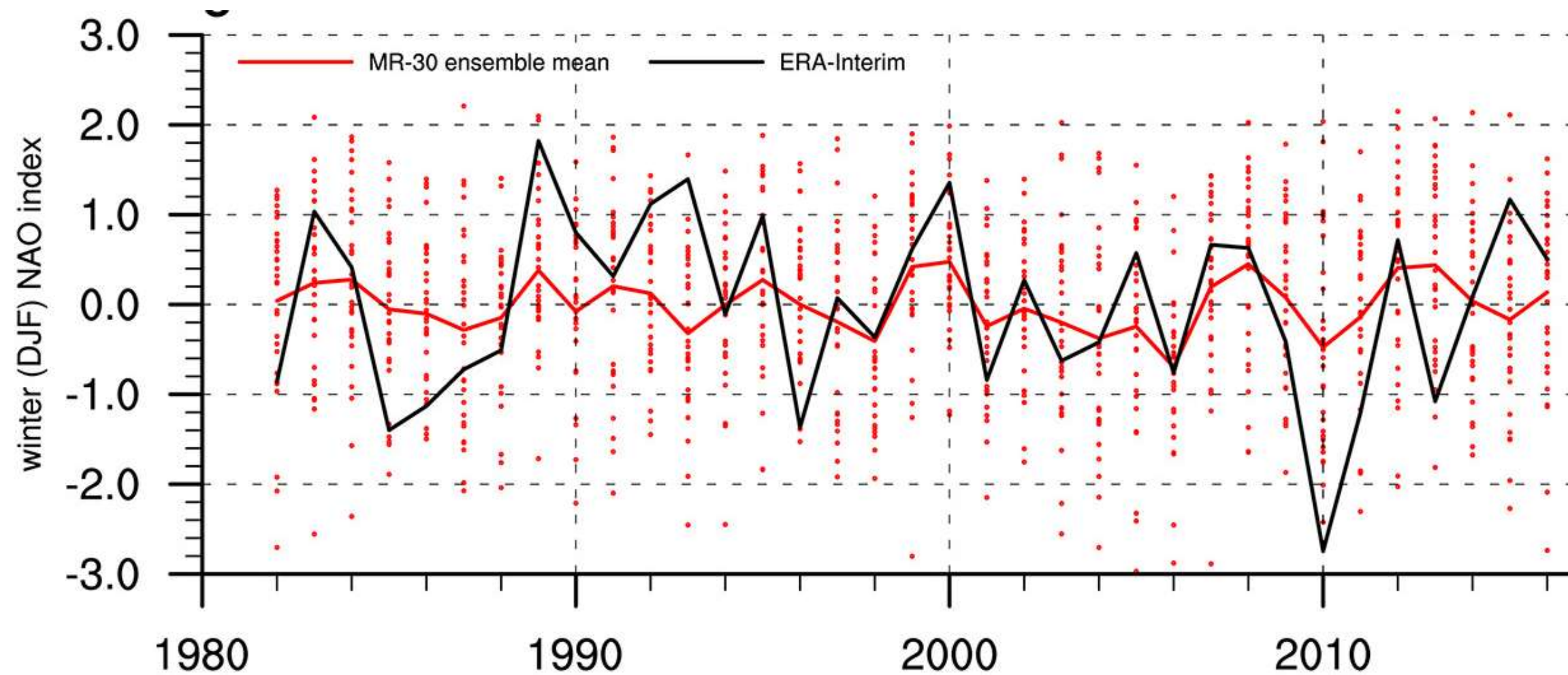
CLICCS II

A2 Narrative-based
near-term
predictions



Narratives in climate

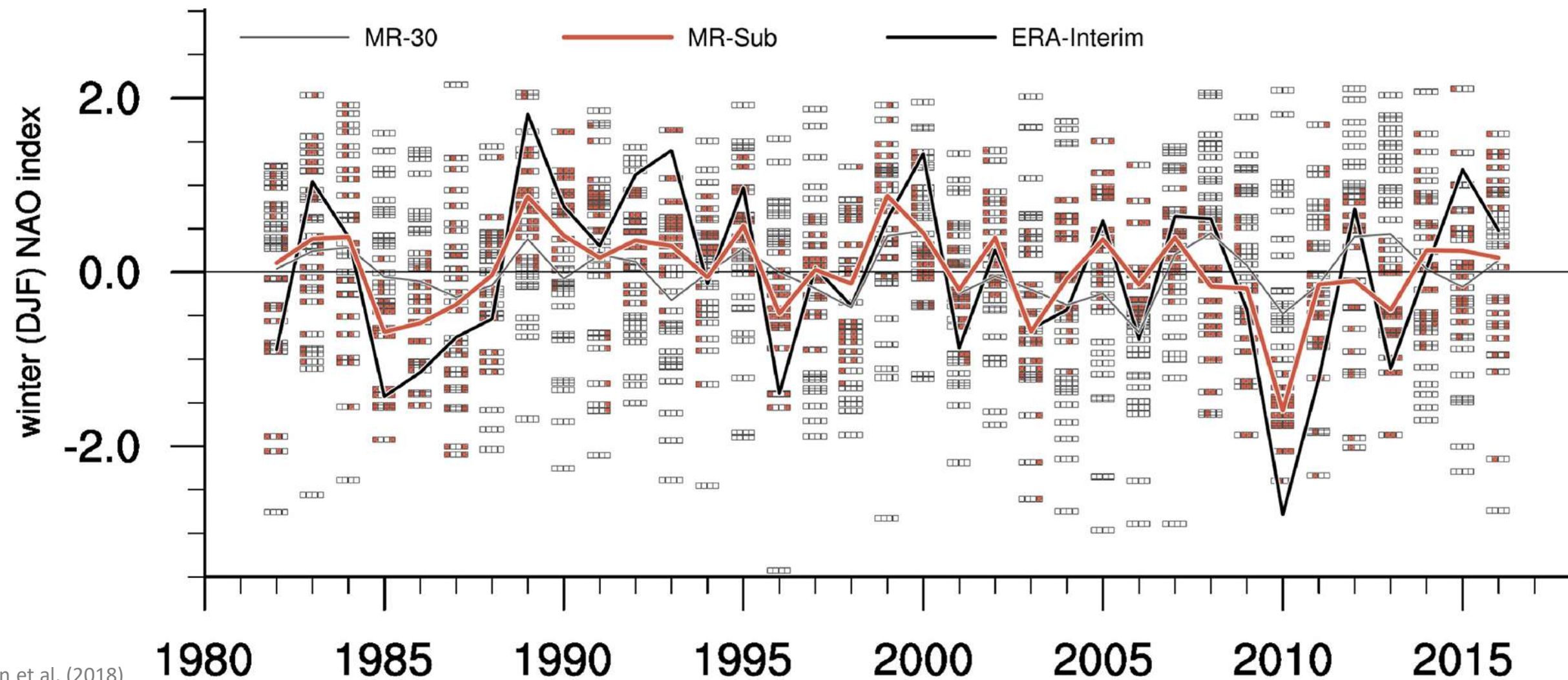
- Example: North Atlantic Oscillation



Dobrynin et al. (2018)

Narratives in climate

- Example: North Atlantic Oscillation → select ensemble members that are physically more likely than others



Dobrynin et al. (2018)

Narratives in society

People don't engage with climate through scientific evidence alone, but through stories

In that context, researchers analyze

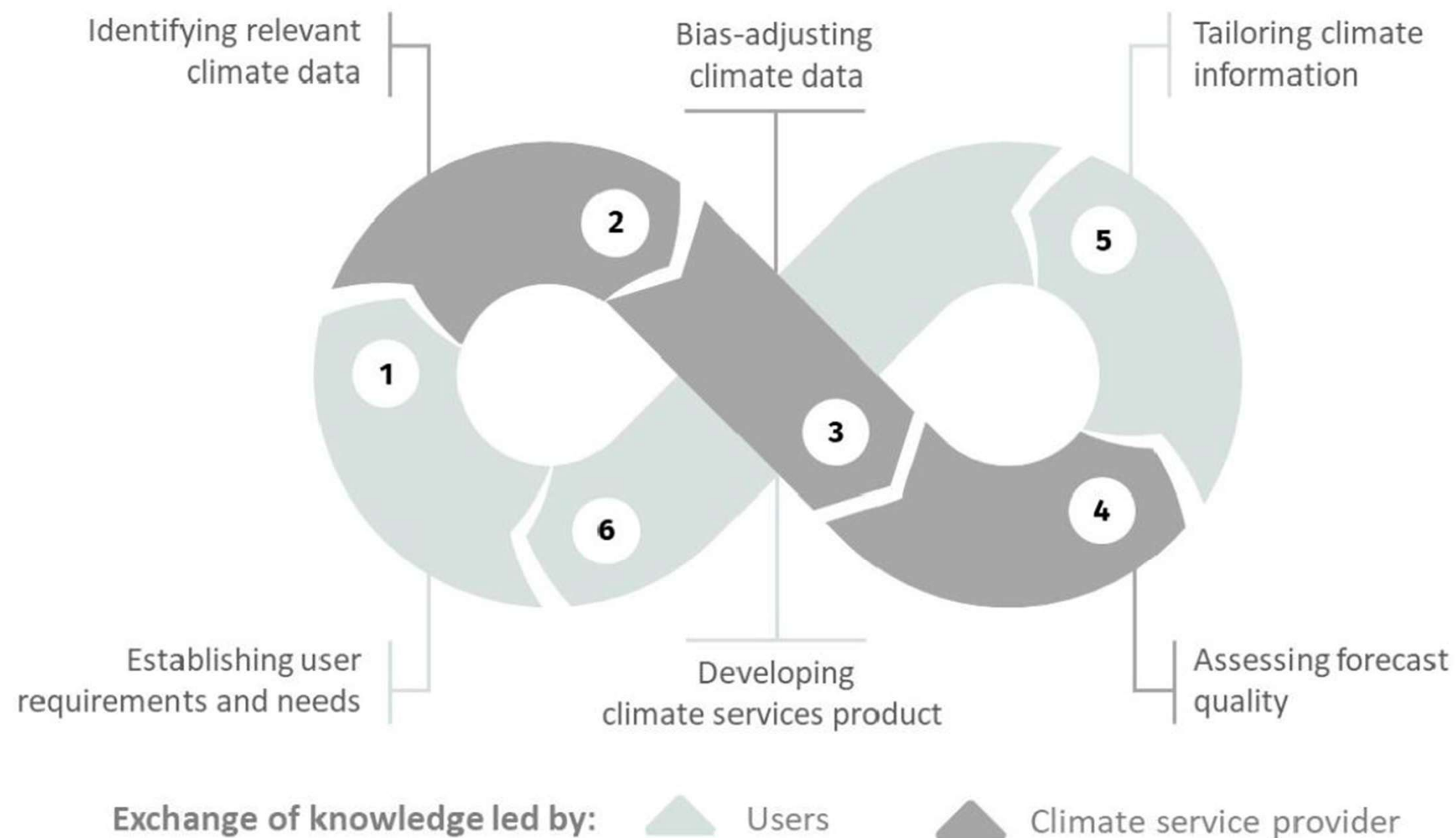
- ...characters (e.g. victims, heroes, villains)
- ...plots (e.g. disaster, technological solution, climate justice)
- ...responsibility and ethics (who caused the problem & who should act)

Narrative theory helps explain how stories shape perceptions, decisions, and collective action

- Which climate information is relevant/of interest to users?
- Which info can be taken up quickly and efficiently?
- How do we need to display information for users to understand?

Morris et al. (2019)
Jones & MaxBeth (2010)
McBeth et al. (2022)

How do we know which information society needs?



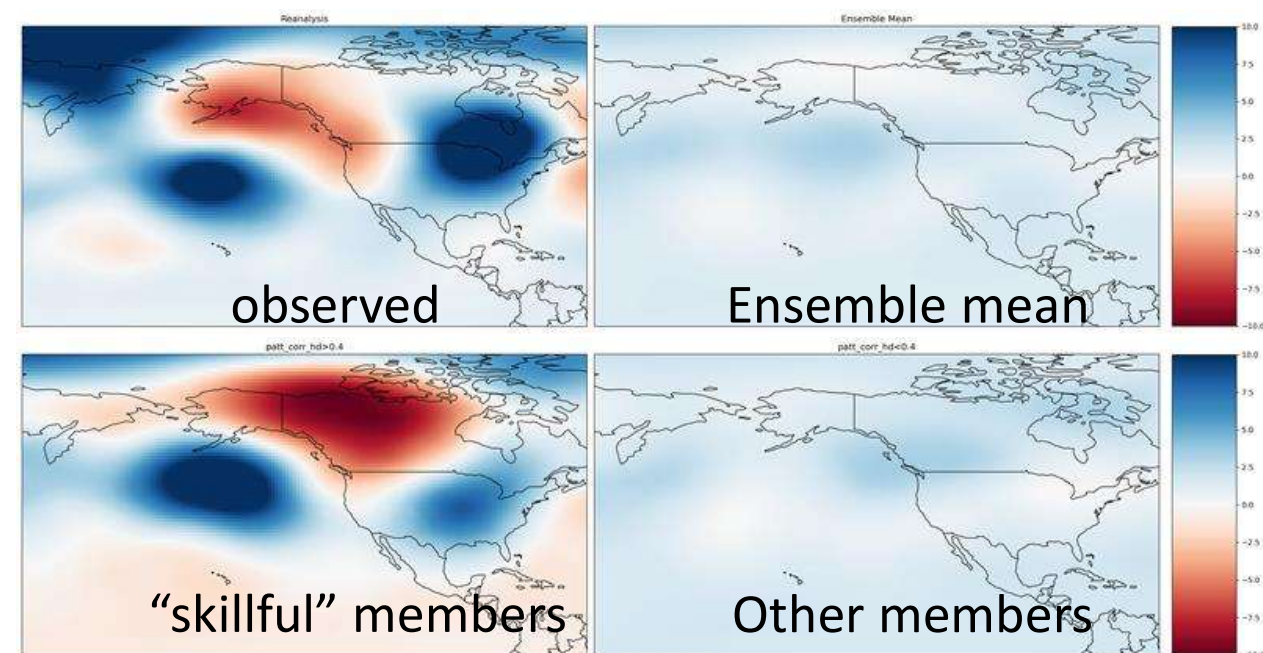
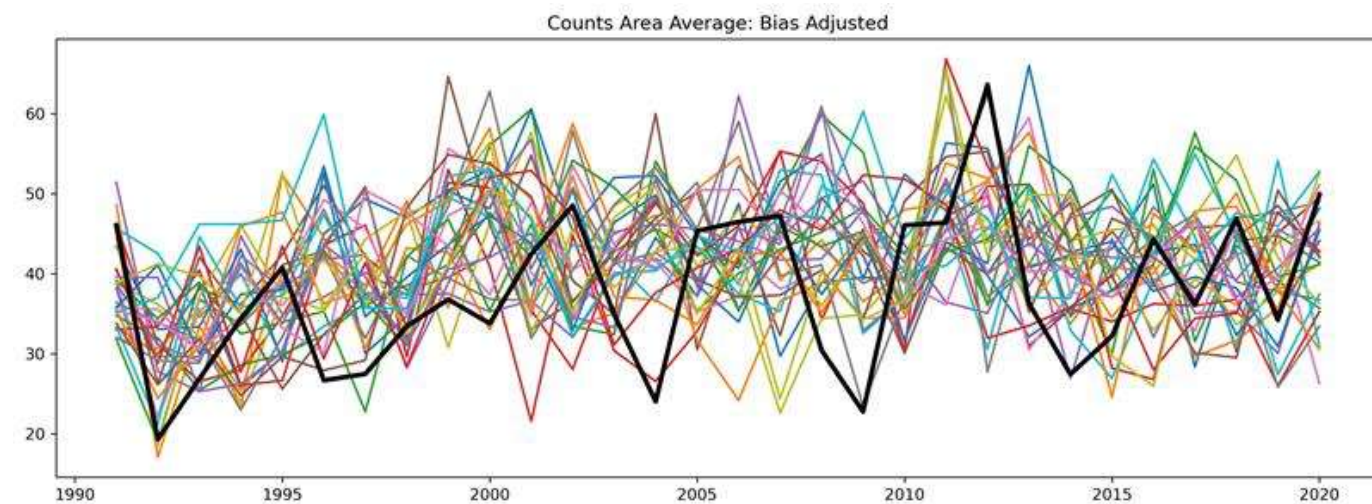
Solaraju-Murali (2024)

Seasonal predictions for US agriculture

Seasonal prediction of mid-US heat wave days during crop growing season: all over the place

Observed pattern of driver is not captured in ensemble mean

...but individual ensemble members do the right thing!
How do we know before? -> PDO!



Avison et al. (under review)

Improved seasonal predictions for US agriculture

Prediction needs of farmers



Climate skill analysis

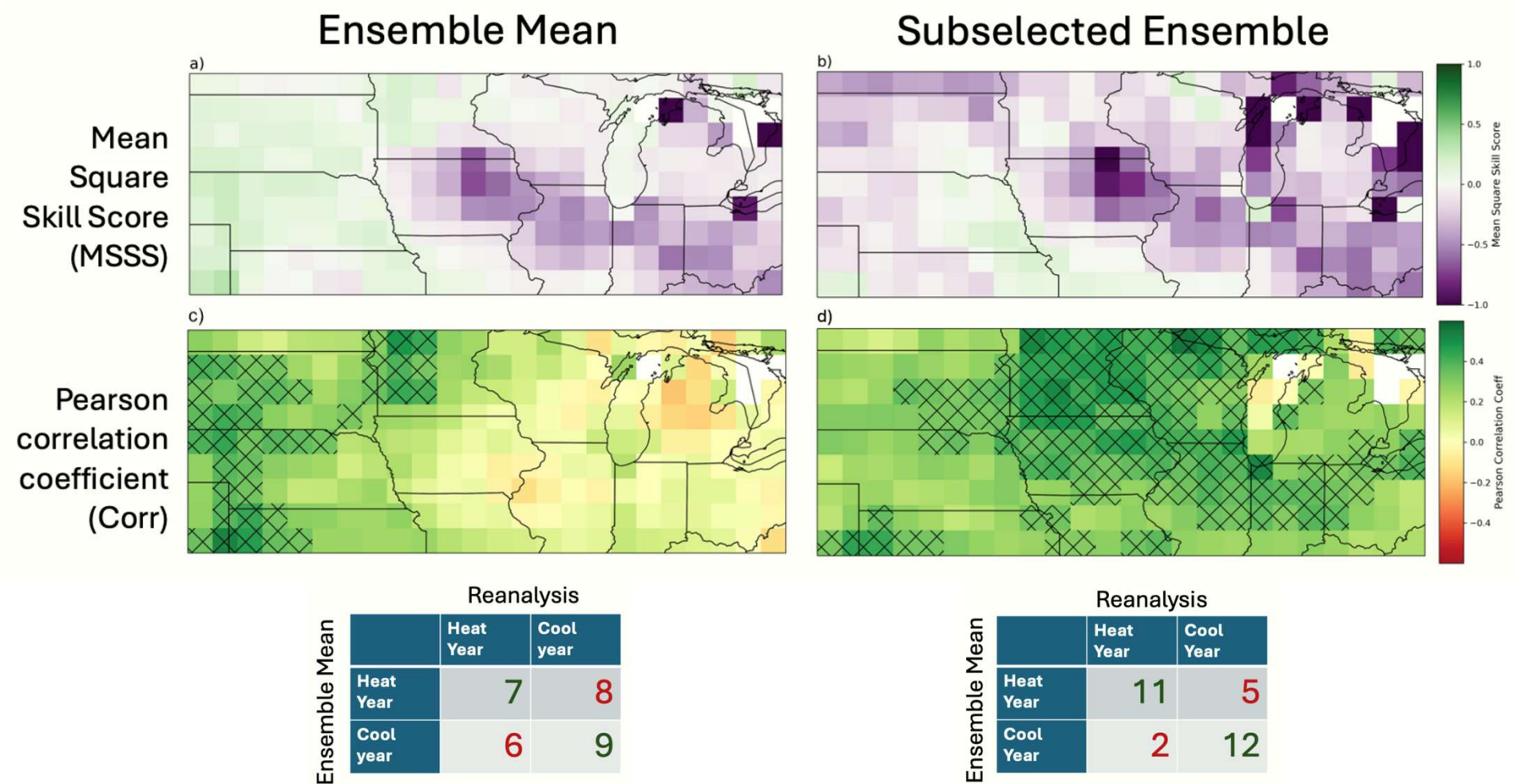


Climate process analysis



Prediction optimization

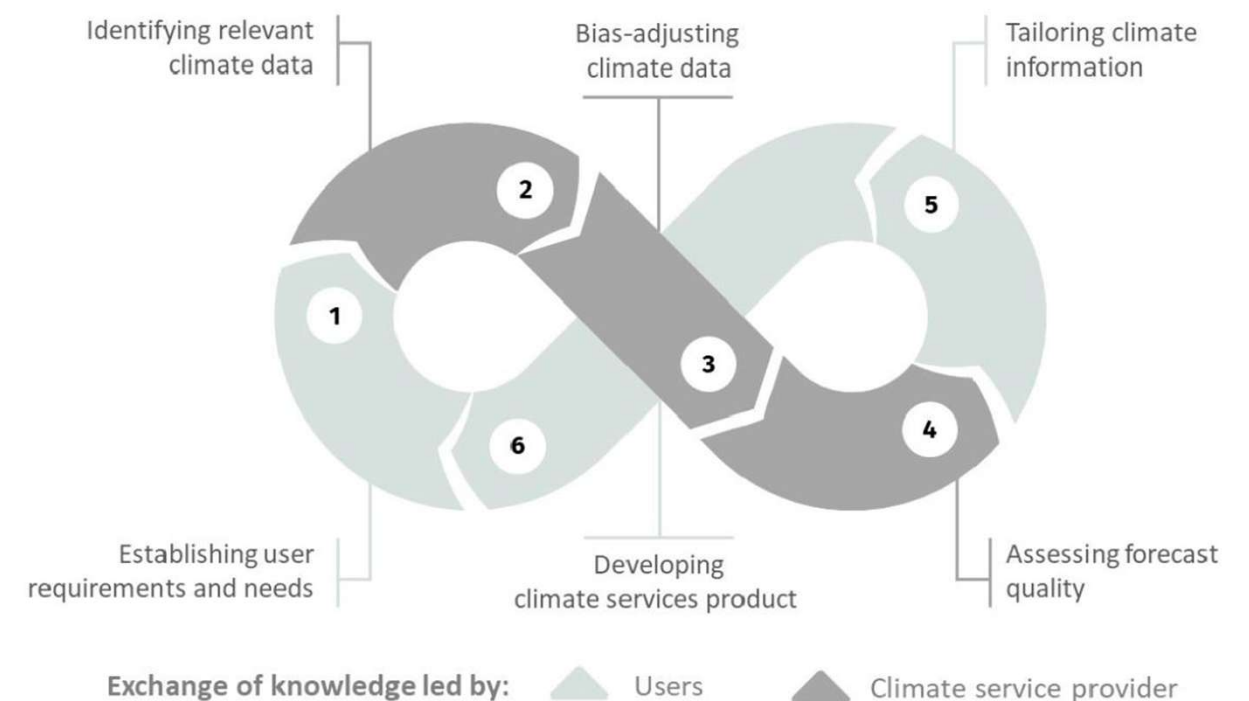
→ ...?



Avison et al. (under review)

Everything is based in interdisciplinarity

- The plausibility framework does not work well for the near term because of climate variability and the commitment period; it applies to climate **mitigation and adaptation**
- Still, society is important to find **adaptation** options for the near-term to
 - tailor climate information to user needs
 - harvest the full potential of climate predictions
 - inform (future) modeling strategies



Solaraju-Murali (2024)

THANK YOU!

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Discussion on Desired Futures

Michael Brüggemann

Desired Futures Discussion

Topics	Authors
Fewer Cruises, Cleaner Oceans: Our Vision for Travel in 2041.	Ibolya & Eva
New transcontinental high-speed and interstate/city passenger railroad systems in the United States of America	Alyx
2041	Lucy
Voluntary work in sports in future climate societies	Toni
Green travel in Europe	Marlene
Desired future of community-based cities	Alicja & Mareike
Still Worth Listening the News	Asli
Billionaires in the Orbit	Carmen and Sarah
Attending 2041 Climate Conference	Divanshu
The Train I Can Take, and the Flight I Cannot Avoid	Prashamsa
Desired Climate Futures: Removing the Political Binary	Tara
Beyond cruelty and destruction: a vision of a vegan future	Alina



Homework # 8

Michael Brüggemann

Homework # 8

Homework #8a: Prepare for the speed dating next week (June 11th). Please bring in a first draft of your posters, including all content, basic figures and texts. Be prepared to briefly summarize your topic/poster (1-2 min).

Homework #8b: prepare for role-play (June 18th).

Homework #8c: Continue with poster session organization. Reminder of schedule -->

Poster session organization schedule

JUNE						
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1 Book Event Venue(s) <i>Technical</i>	2 Ads Finalized <i>Ad Team</i>	3	4 TODAY	5	6	7
8 Ads Shared <i>Ad Team</i>	9 Submit Final Poster Abstracts EOD	10 Submit Poster Session Conflicts to <i>Scientific</i> EOD	11 Draft Feedbacks ----- Protest	12 Start Prof. Time Slot Determination <i>Scientific</i>	13	14
15	16 Share Time Slots with Class <i>Scientific</i>	17	18 Organization for Poster Session (Add layout workshop?)	19	20	21
22	23	24	25 Poster Clinic	26 Confirms Food/Drinks <i>On-Site</i>	27 Finalize "Day of Tasks" <i>On-Site & Scientific</i>	28 Submit Final Posters EOD
29 Print Posters <i>Scientific & Technical</i>	30					

Poster: Updated Timeline

Task	until
Class: Introduction to poster tasks and grading (Lars)	23.04.26
Homework: Post first ideas for a poster on the blog (100-200 words)	30.04.26
Class: Input on poster design (Kat); Starting organisation of self-organized poster session (Kat)	30.04.26
Homework: Comment on the blog on one poster idea (50-100 words)	14.05.26
Homework: Post proposal for your poster topic including references (300-400 words)	21.05.26
Class: Peer-peer feedback session; Poster session organization (Lars and Kat)	21.05.26
Q&A poster task	28.05.26
Homework: prepare first version of poster (digital and A4 printout)	11.06.26
Class: Poster drafts feedback - speed dating	11.06.26
Time for students to prepare poster session	18.06.26
Poster clinic; Time for students to prepare poster session	25.06.26
Poster Session practice session and event	02.07.26, 09.07.26
CLICCS Retreat: Presentation of awarded posters	30.09.-02.10.26

Updated preliminary session plan

09.04.	Introduction to the course (L. Kutzbach); Introduction to the course blog (J. Behrens); Introduction to <i>Climate Futures</i> (L. Kutzbach)
16.04.	Mapping natural and societal dynamics constituting climate futures (A. Oberg);
23.04.	Introduction to poster task and grading criteria; poster session task (L. Kutzbach); Input on <i>Epistemic Pluralism in Climate Science</i> (K. Linscott et al.); Input on <i>Transformative Science</i> (M. Brüggemann)
30.04.	<i>Mathematical perspectives on climate futures</i> (J. Behrens); Introduction to poster design and starting organisation of poster session task (K. Linscott)
07.05.	<i>Can we predict climate?</i> (Johanna Baehr); 1 st role-play on <i>epistemic plurality and transformative science in CLICSS</i> (students)
21.05.	Peer-peer feedback session; Poster session organization (K. Linscott and L. Kutzbach)
28.05.	<i>Communicating climate futures</i> (Michael Brüggemann); Q&A poster task
04.06.	<i>Narrative-based near-term prediction of climate futures</i> (Leo Borchert); discussion on desired futures
11.06.	Poster drafts feedback - speed dating
18.06.	Organisation of poster session; 2nd role-play (students)
25.06.	Poster clinic; preparation of poster session
02.07.	Poster presentation practice session
09.07.	Poster Session event (10:00-15:00)
16.07.	Feedback and Conclusions (students and lecturers)