

Out with it!

The need to talk plain text to non-climate experts

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ReKliEs-De



- High-resolution (12,5 km) climate projections

GCM and RCP	RCM / ESD				
	CCLM	REMO	WRF	WETTREG	STARS
MPI-ESM-LR, RCP2.6	BTU		UHOH	PIK	PIK
MPI-ESM-LR, RCP8.5				PIK	PIK
CNRM-CM5, RCP8.5		GERICS		PIK	PIK
HadGEM2-ES, RCP8.5		GERICS	UHOH	PIK	PIK
EC-EARTH, RCP8.5		GERICS	UHOH	PIK	PIK
CanESM2, RCP8.5	DWD	GERICS		PIK	PIK
MIROC5, RCP8.5	DWD	GERICS	UHOH	PIK	PIK

- Contribute to and analyze EURO-CORDEX simulations
- Aim: user-tailored information on climate change in Germany
- 09/206 – 12/2017
- Funded by BMBF (German Ministry for Education & Research)

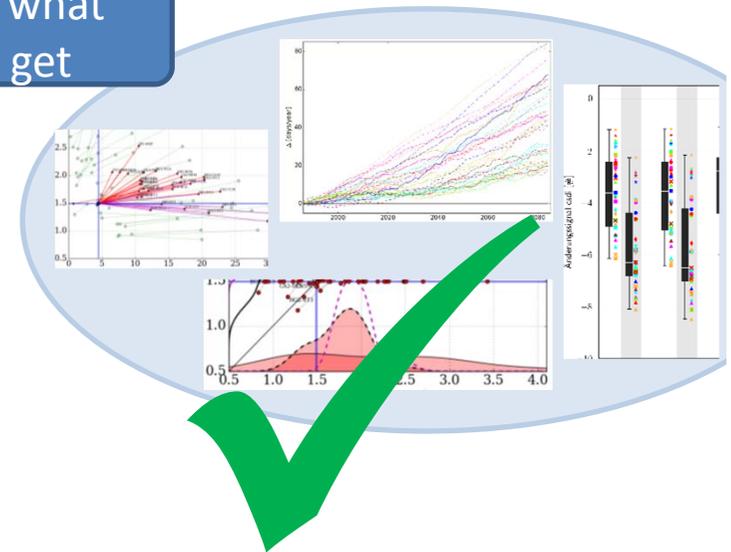
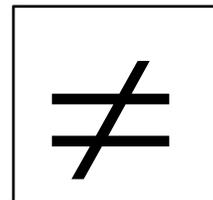
How to tell them ...

- Challenge: Presenting complex physical information to people with little time and little physical background

What they want ...

Exactly
3.1 °C

... and what they get



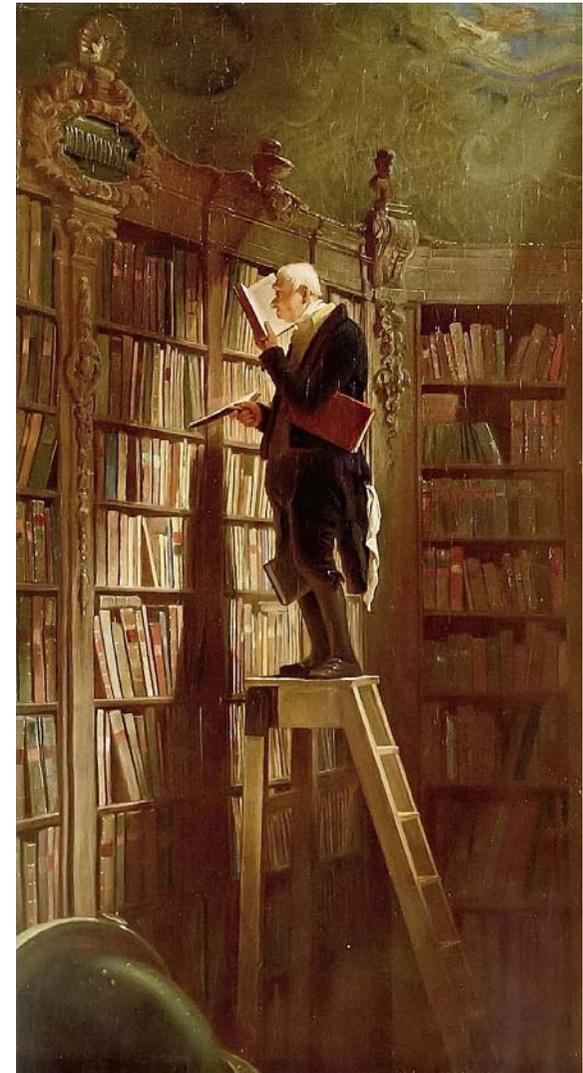
From data to information

- What is necessary for the user to know?
- What is necessary for the user to understand (in which detail)?
- What is the planned application of the data?
- What should the user consider / keep in mind when using the data?
- What would we (climate modelers) use if we had to do the analysis?

- 5 Statements I'd rather not hear anymore
(because they ignore the user's situation):

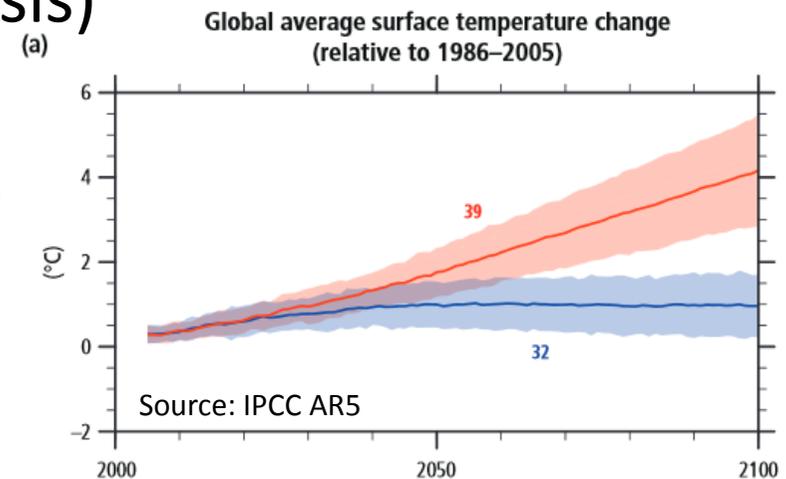
#1: “This can be found elsewhere in the literature.”

- Scientific literature is in English
- Discipline-specific language (“lingo”)
- Publication not “open access”
- Information is too detailed for users with little time and little physical background.
- ✓ Positive: New Journal “Climate Services”
- Dialogue between expert and user is needed to identify needed information.



#2: “Evaluation is outside the scope of this project.”

- Evaluation is either found “elsewhere in the literature”, or not published at all, or only published in grey literature (e.g. PhD-thesis)
 - Evaluation papers often use different metrics, time frames, thresholds, etc. and are not easily comparable
 - Information is too detailed
 - Negative aspects are formulated “somewhat cryptic” or “between the lines”
- BUT: Evaluation is top priority for most users!



#3: “All models / scenarios are equally possible.”

- All scenarios are possible, but looking at current political factors, some are more probable than others.
- Models have different strengths and weaknesses (resolution, representation of important processes / interactions / features).
- By analyzing only percentiles (e.g. 15 – 85) of an ensemble, all outlying (potentially strange) simulations are excluded without physical reasoning.
- All other models are included without questioning their physical validity.

#4: “We need to formulate balanced / neutral.”



- The users need the best information we have.
- We need to exclude some models or runs or to tell users to prefer some models or runs over others.
- We are the experts on climate modelling, we need to make our expert knowledge accessible.
- Even if the experts are divided, we should take on the responsibility for decisions and support the users defending their results.

#5: “It could also be completely different.”

- If it could also be completely different, then why bother with climate modeling studies?
- This could stall assessing climate change, leading to a standstill that might prevent necessary action.
- More emphasis must be put to the degree of trust we have in our results, not only to the trust in the scientific proof.
- I do not want to be responsible for unsustainable developments – against my better judgement

Conclusions

- We have a joint responsibility for action on climate change mitigation and adaptation
- If we wait for all scientific discourse to be solved it will be too late for advice
- Based on sound science, we also need to communicate our “best estimates”!
- **WARNING: Bumpy road ahead!**



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