

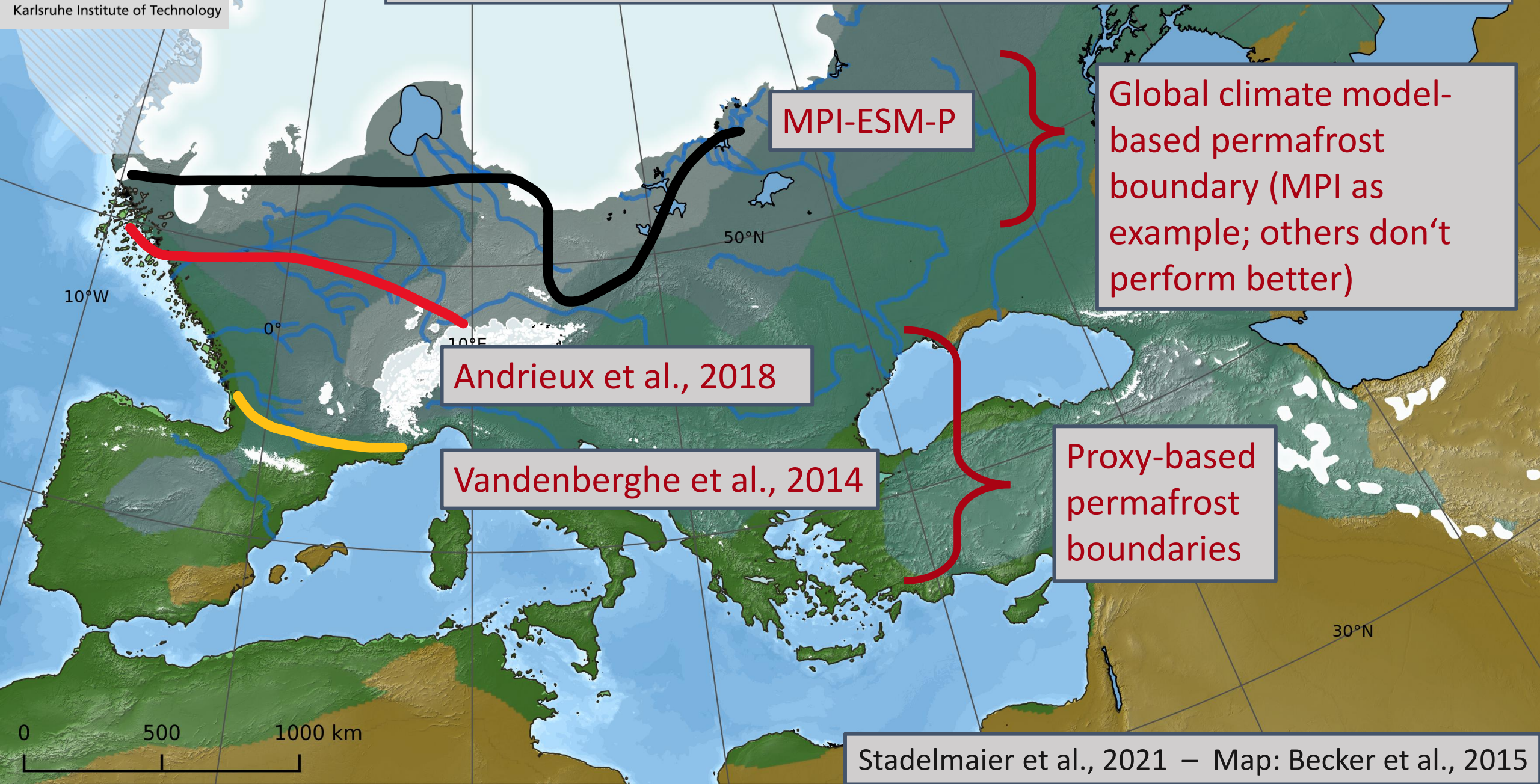
A new perspective on permafrost boundaries in France during the Last Glacial Maximum – with regional climate modelling

Kim H. Stadelmaier, Patrick Ludwig, Pascal Bertran, Pierre Antoine, Xiaoxu Shi, Gerrit Lohmann, and Joaquim G. Pinto

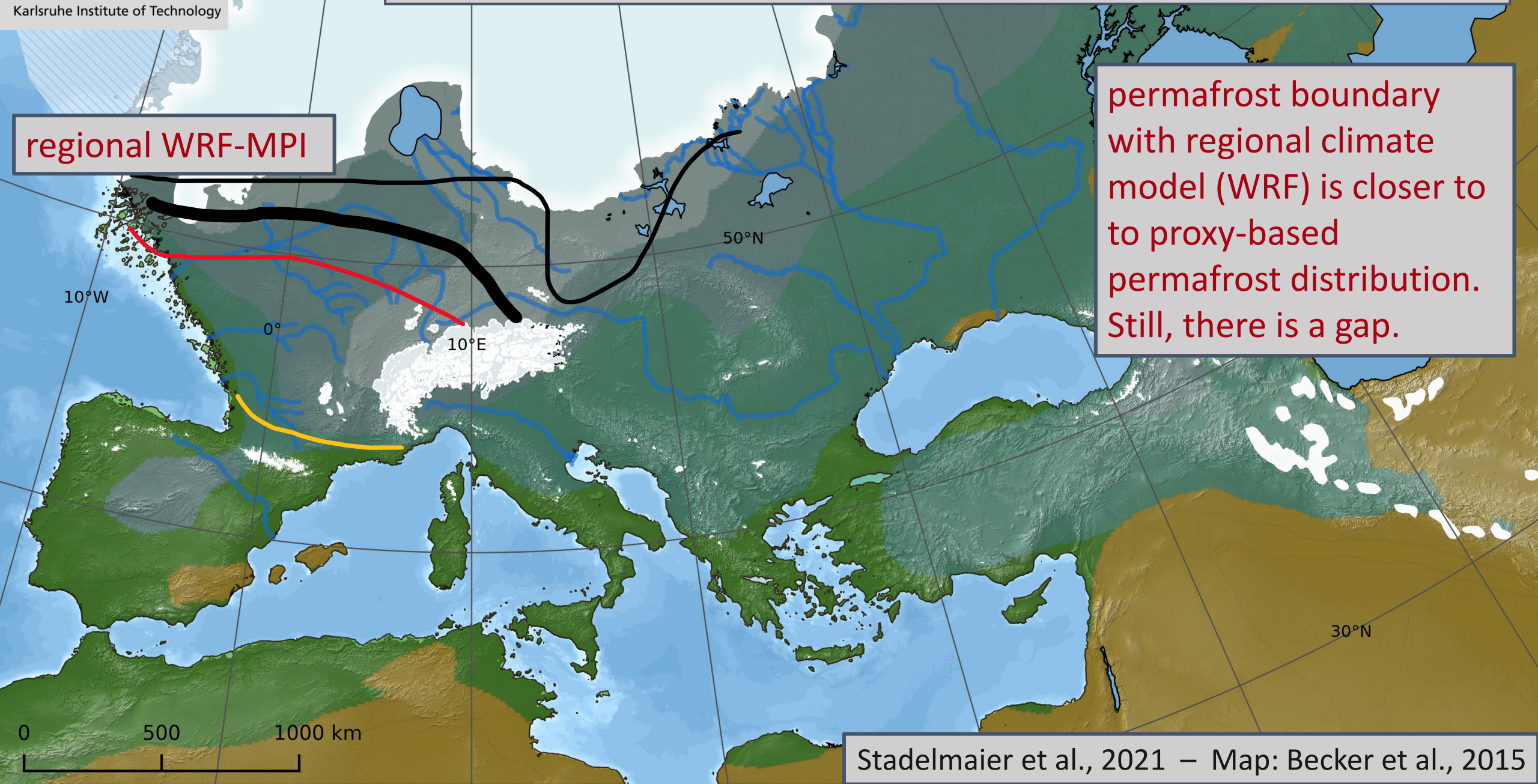
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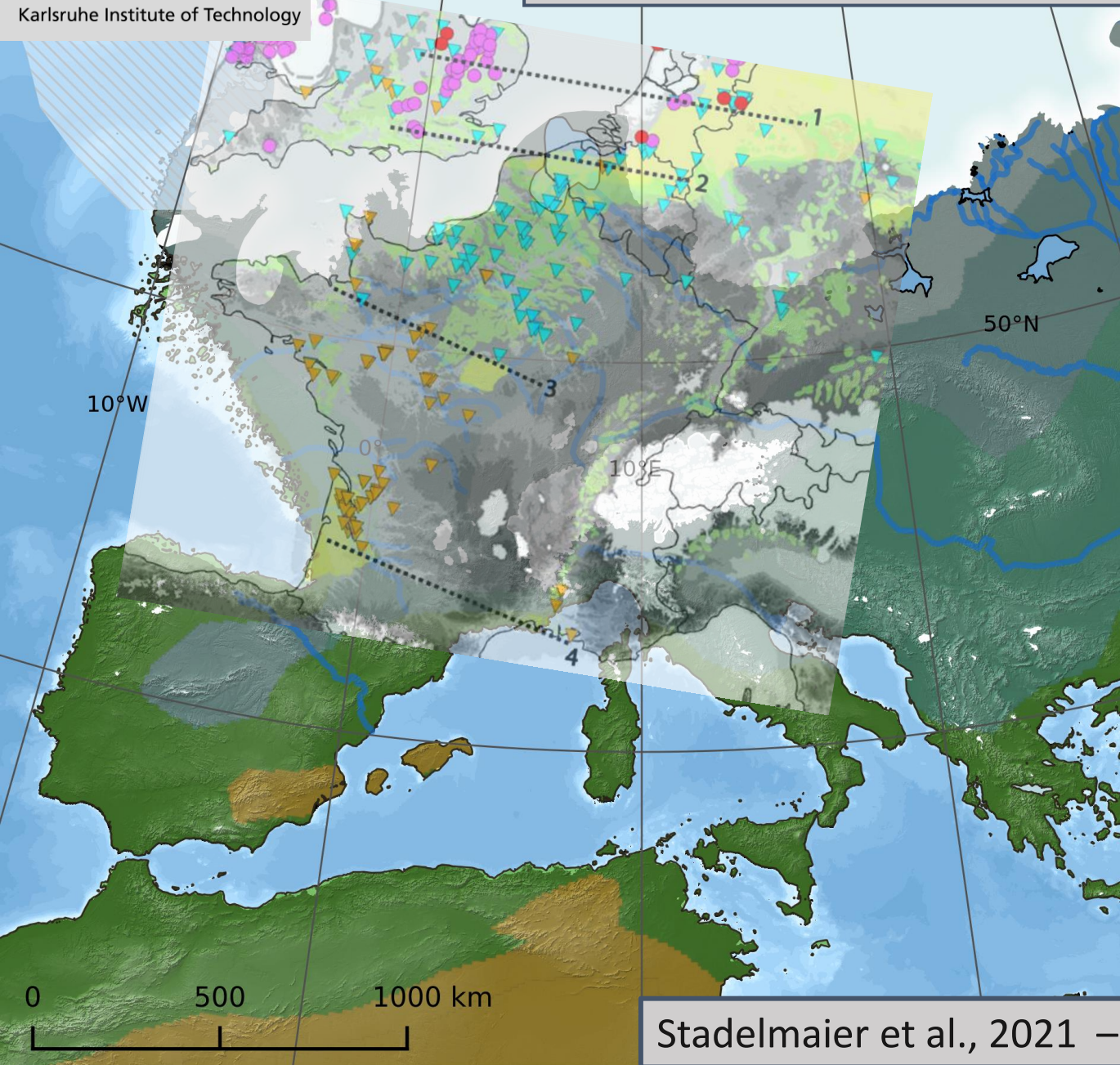
Different permafrost boundaries during the LGM



Different permafrost boundaries during the LGM

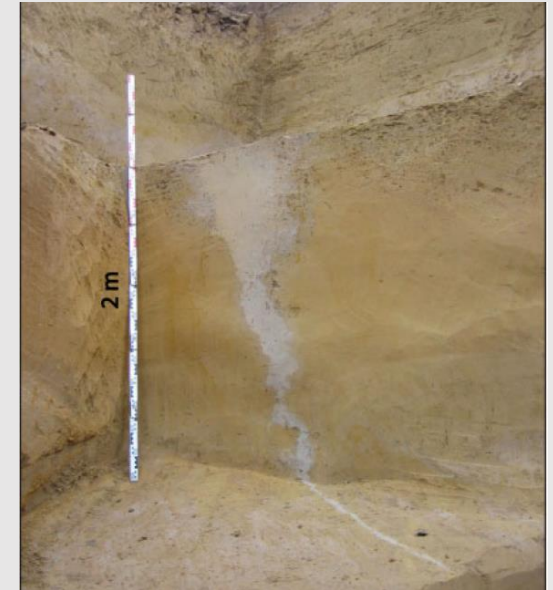


Proxies for permafrost: former sand and ice wedges



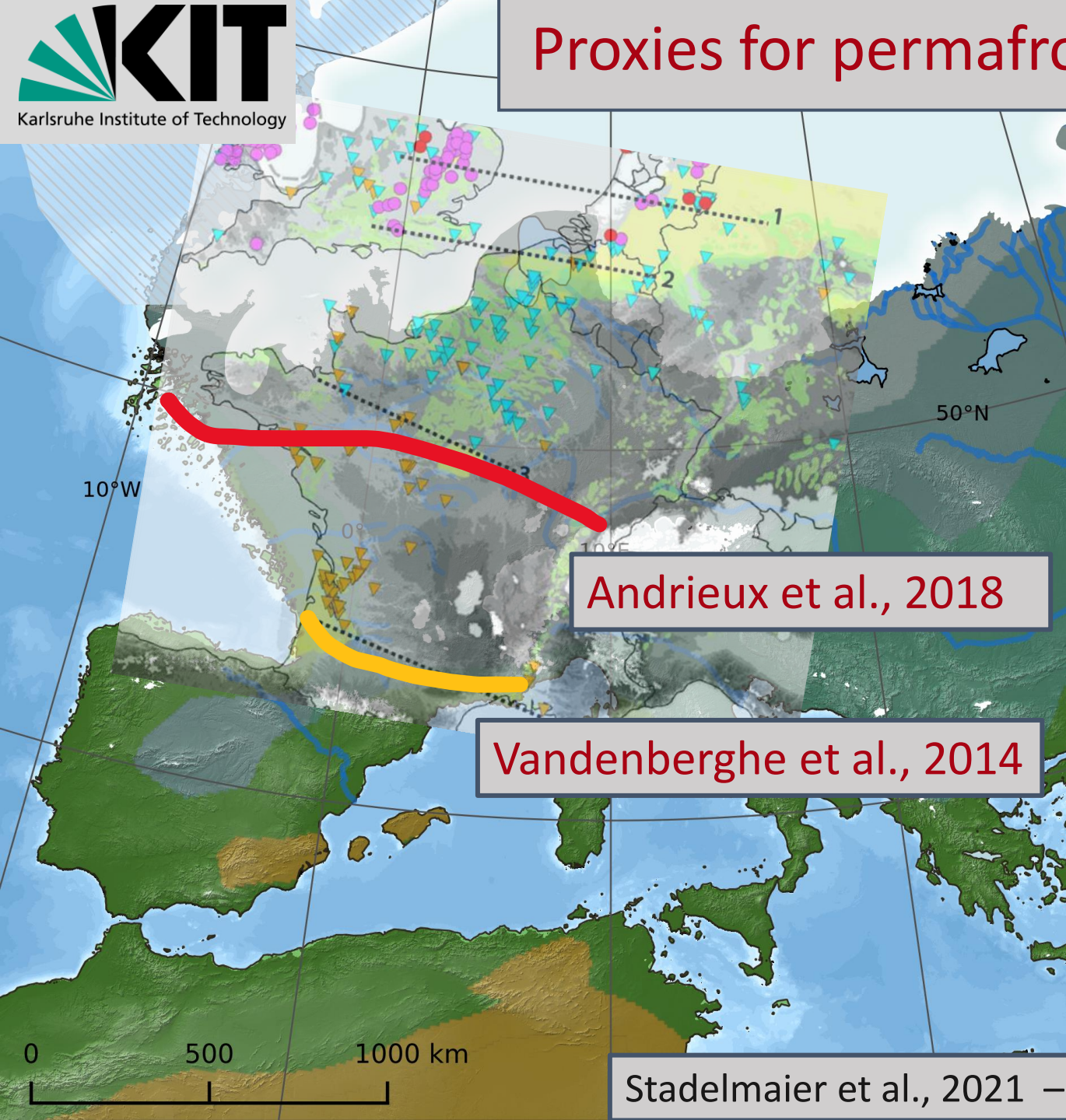
▼ ice wedges

▼ sand wedges



Bertran et al., 2014: Fig 2

Proxies for permafrost: former sand and ice wedges

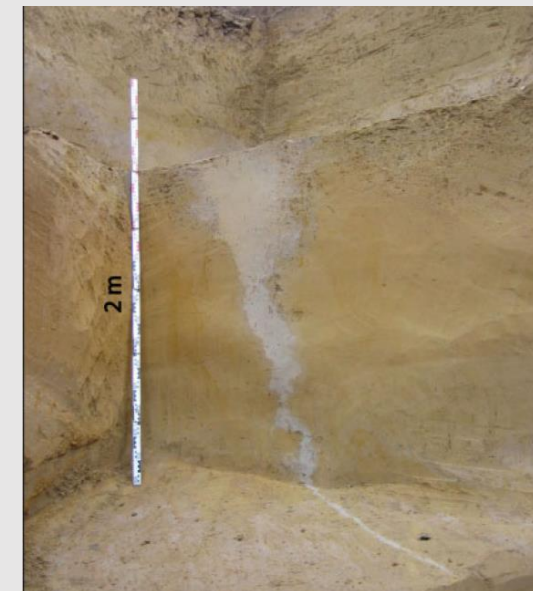


Andrieux et al., 2018

Vandenbergh et al., 2014

▼ ice wedges

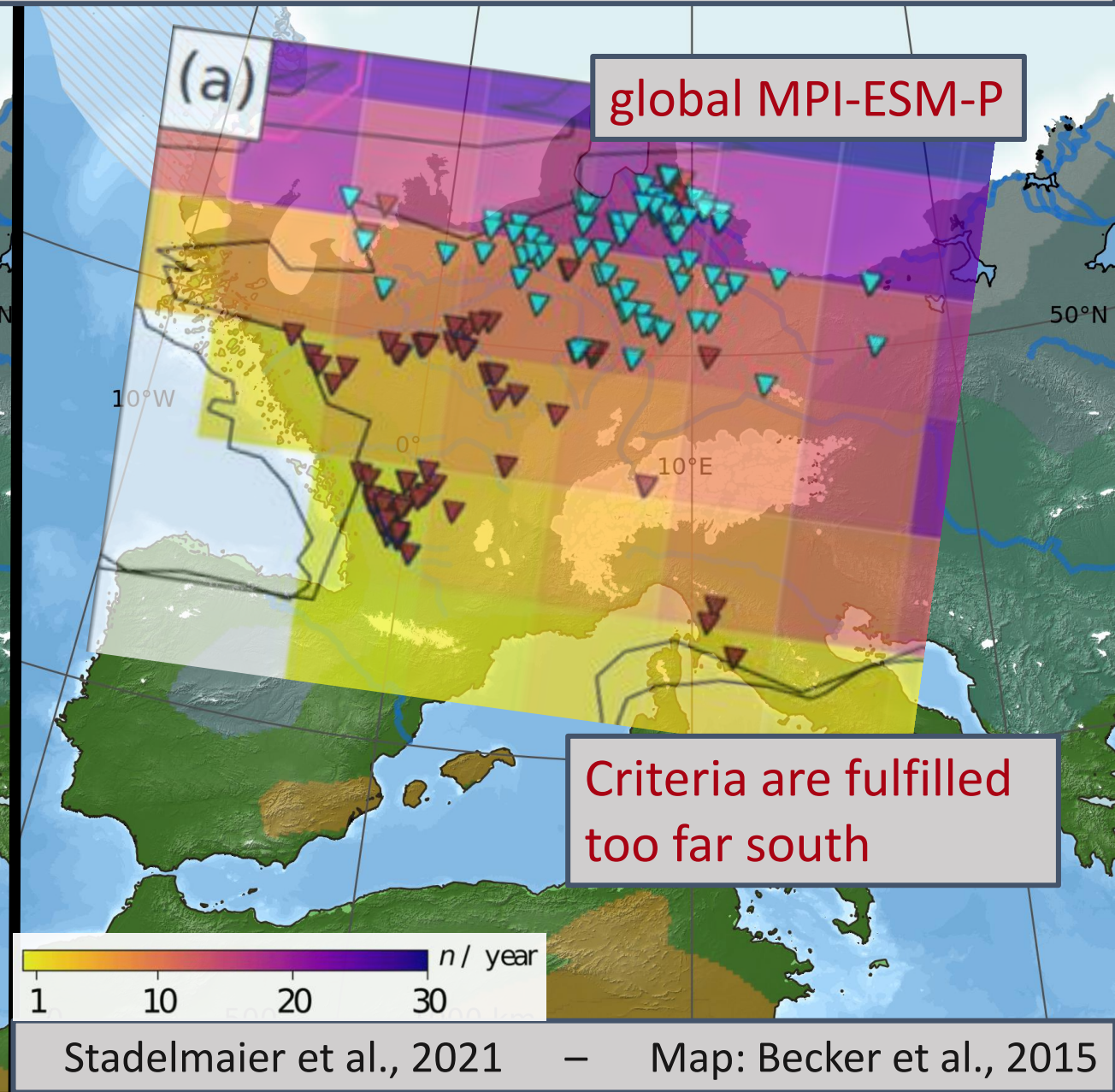
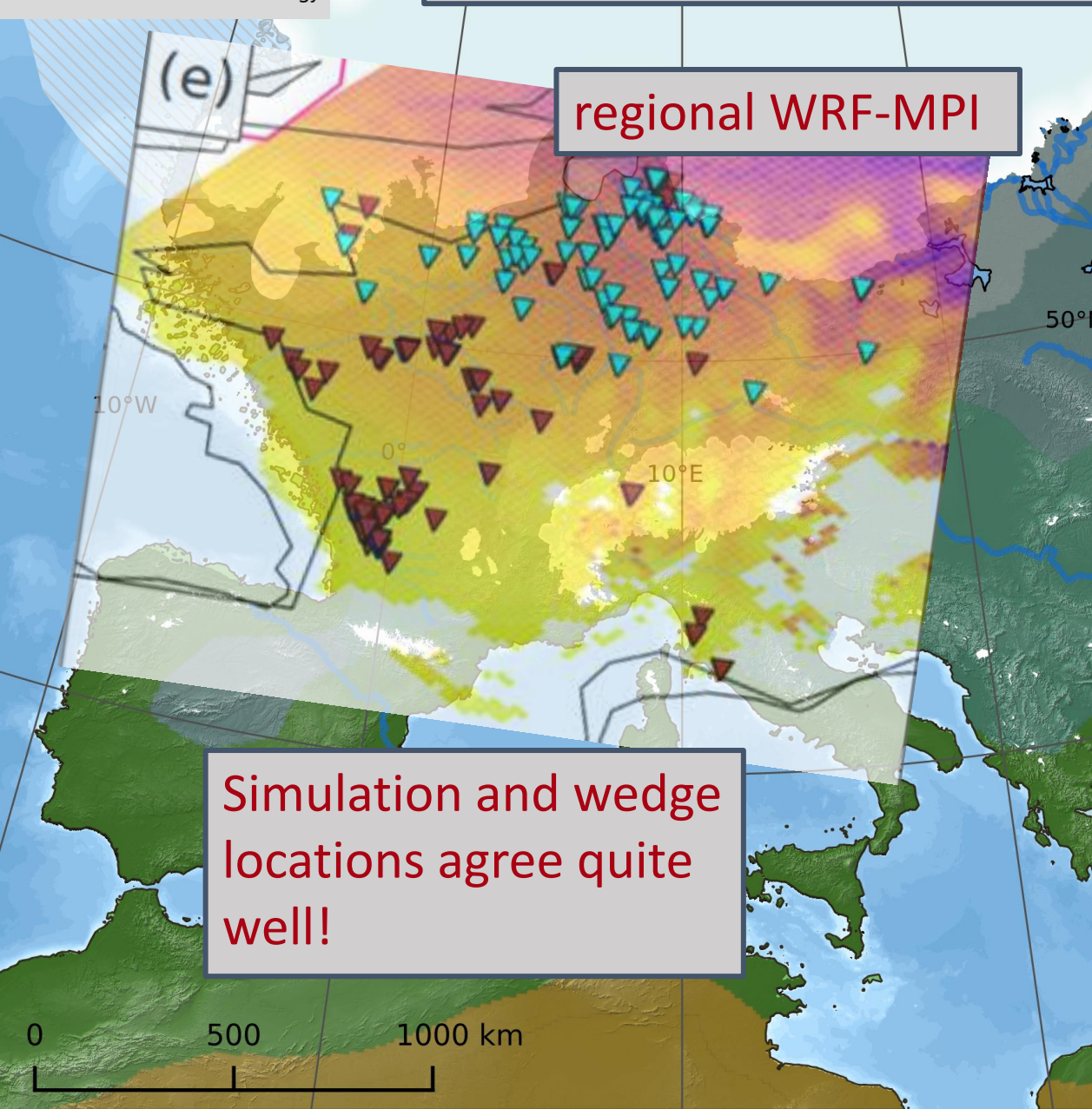
▼ sand wedges



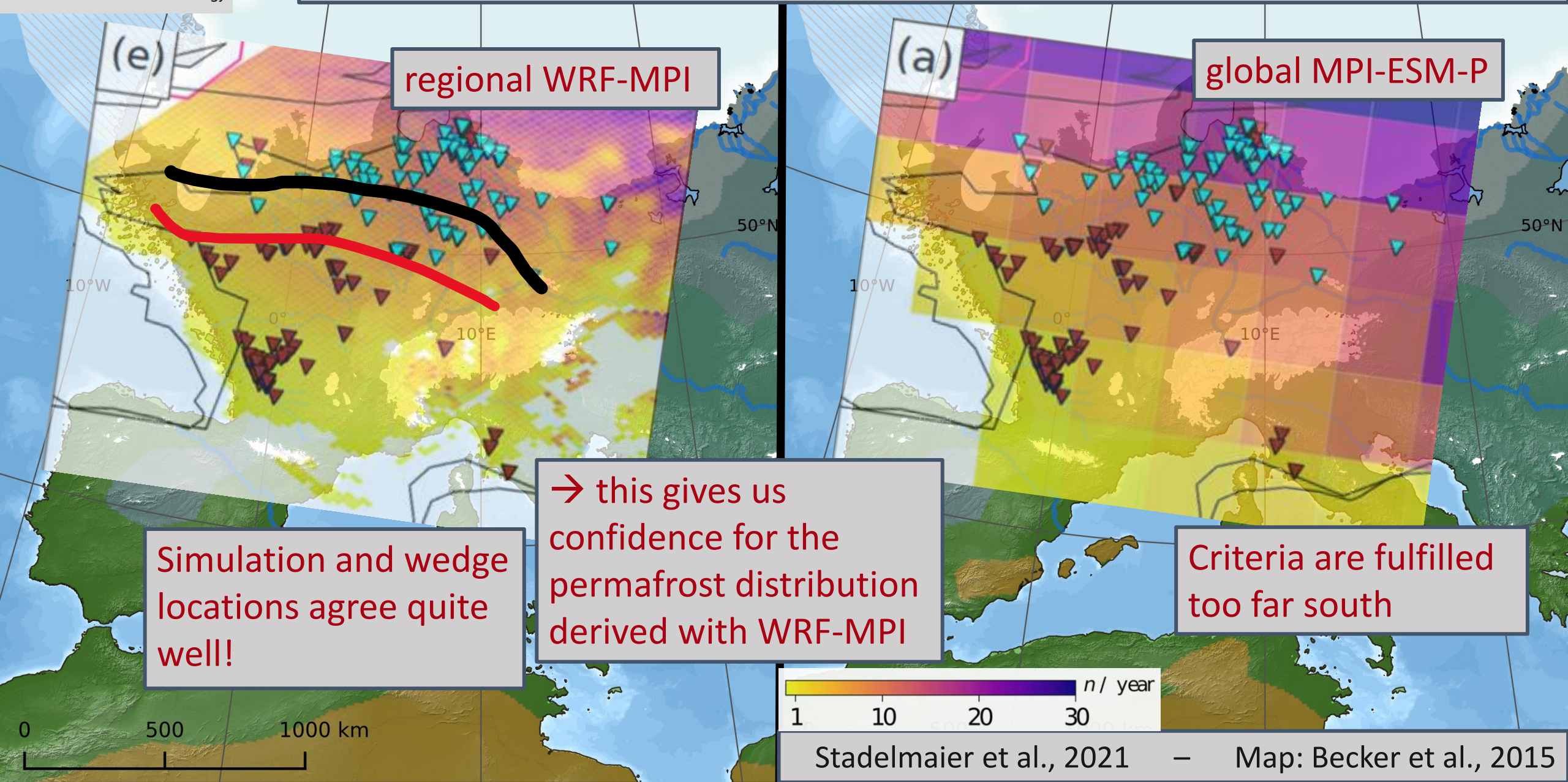
Bertran et al., 2014: Fig 2

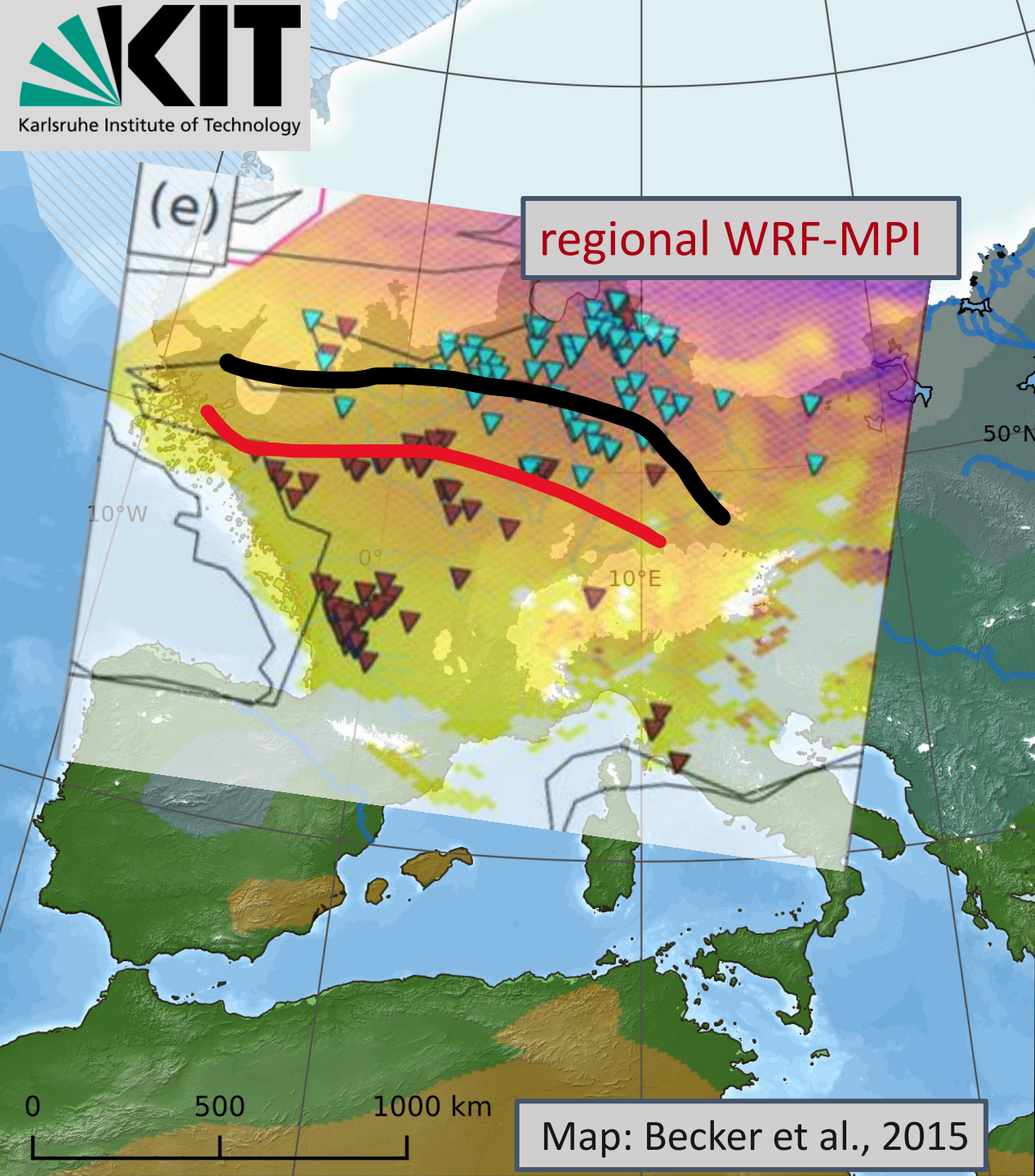
Andrieux et al. (2018) don't take sand wedges into account for permafrost reconstruction

Check simulation data for criteria of wedge development based on Matsuoka et al. (2018): Where could wedges have developed according to simulations?



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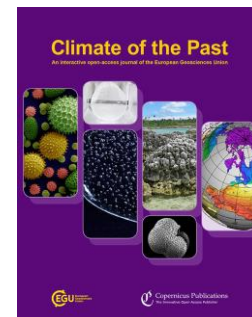




Conclusions

With regional climate modelling, we found:

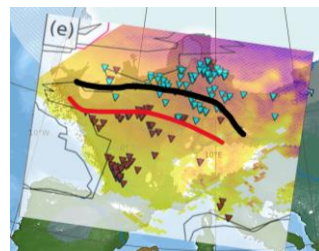
1. Combine permafrost and wedge criteria to get a complete picture
2. Sand wedges do not necessarily indicate permafrost
3. The MPI climate might be more realistic



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With regional climate modelling, we found:

1.
Combine permafrost and wedge criteria to get a complete picture



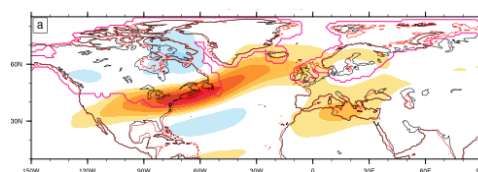
Becker et al., 2015

2.
Sand wedges do not necessarily indicate permafrost – but maybe seasonal frozen ground



Bertran et al. 2014: Fig 2

3.
The MPI climate might be more realistic: more easterly wind conditions and northward deflected jet



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Find more details here

