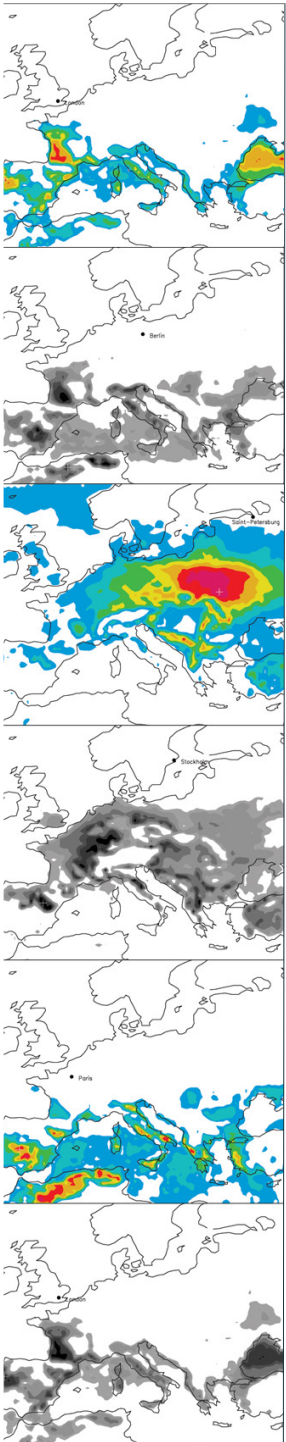


# Using maps of city analogues to display climate change scenarios and their uncertainty

Sebastian Kopf\*, Minh Ha Duong+, Stéphane Hallegatte‡  
\* *Jacobs University*, + *CIREN*, ‡ *CIREN/Météo-France*

Berlin Conference on the Human Dimensions  
of Global Environmental Change

Feb. 22nd 2008



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# Using Analogues

- a “city analogue” is...

*“A City B whose present climate corresponds to the simulated future climate of an evaluated City A.”*

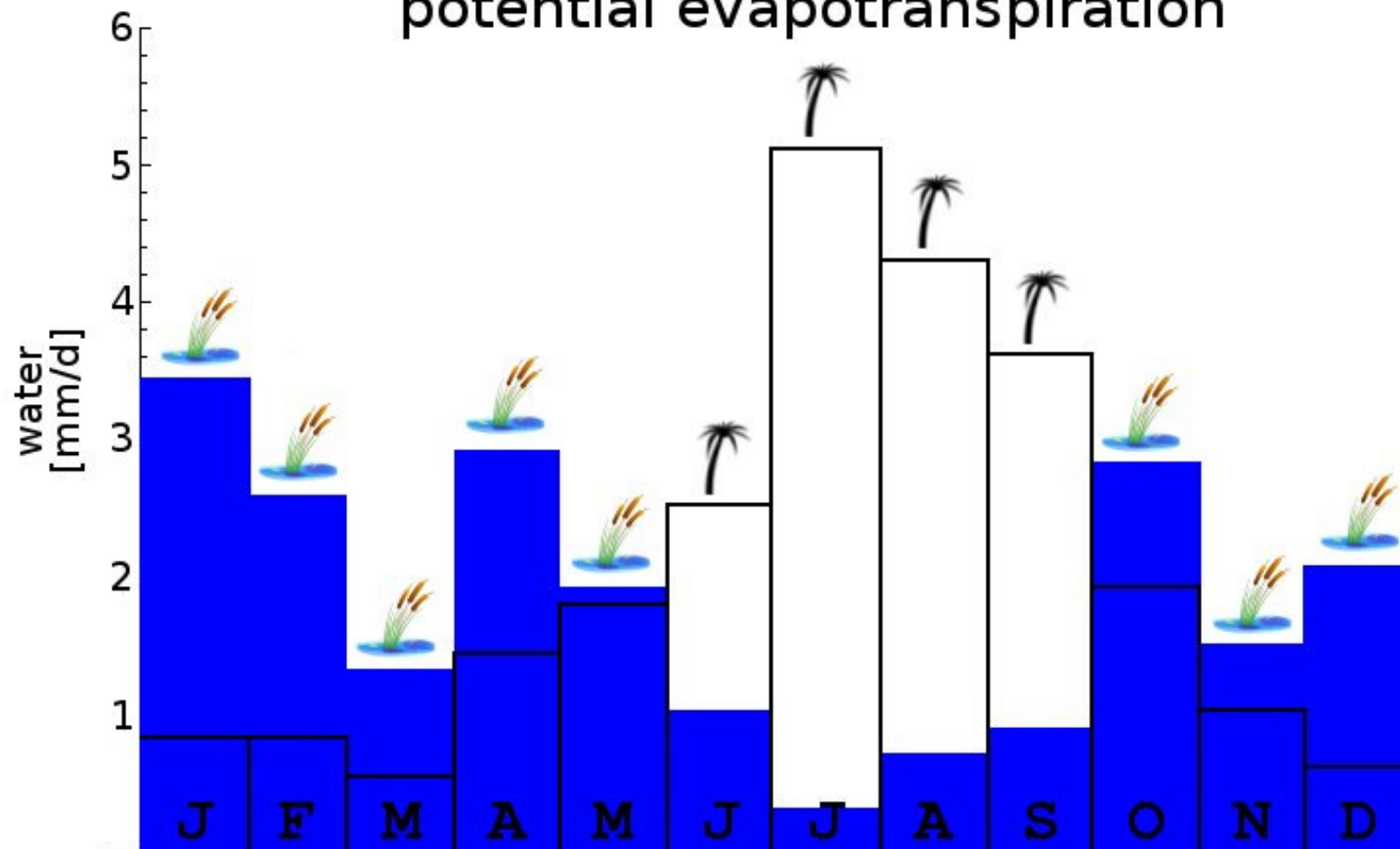
**Berlin’s climate in 2100 is like Rome’s today!**

- “climate” is...

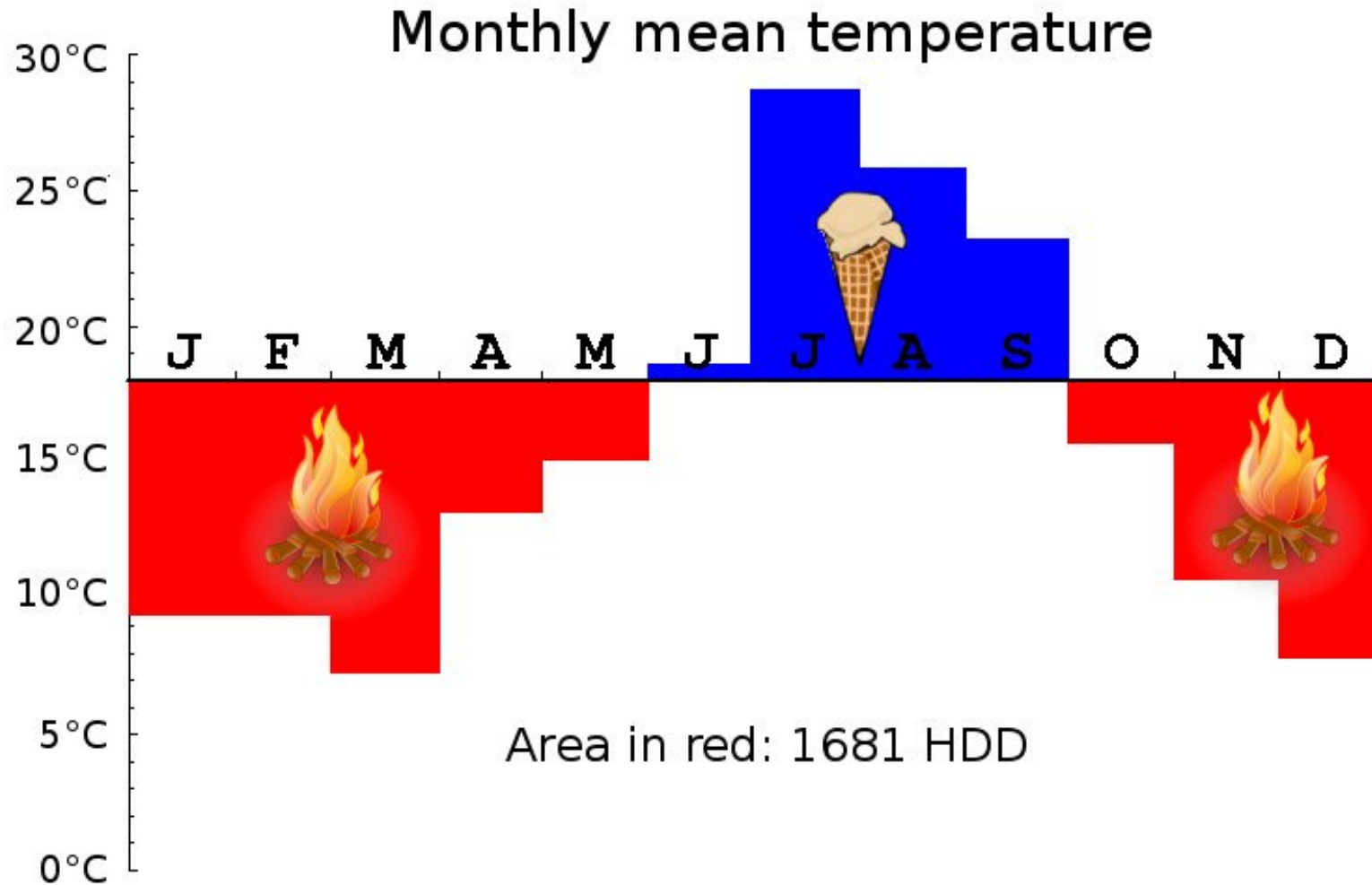
the 30 year distribution of relevant indicators

# Climate Indicators – Aridity Index

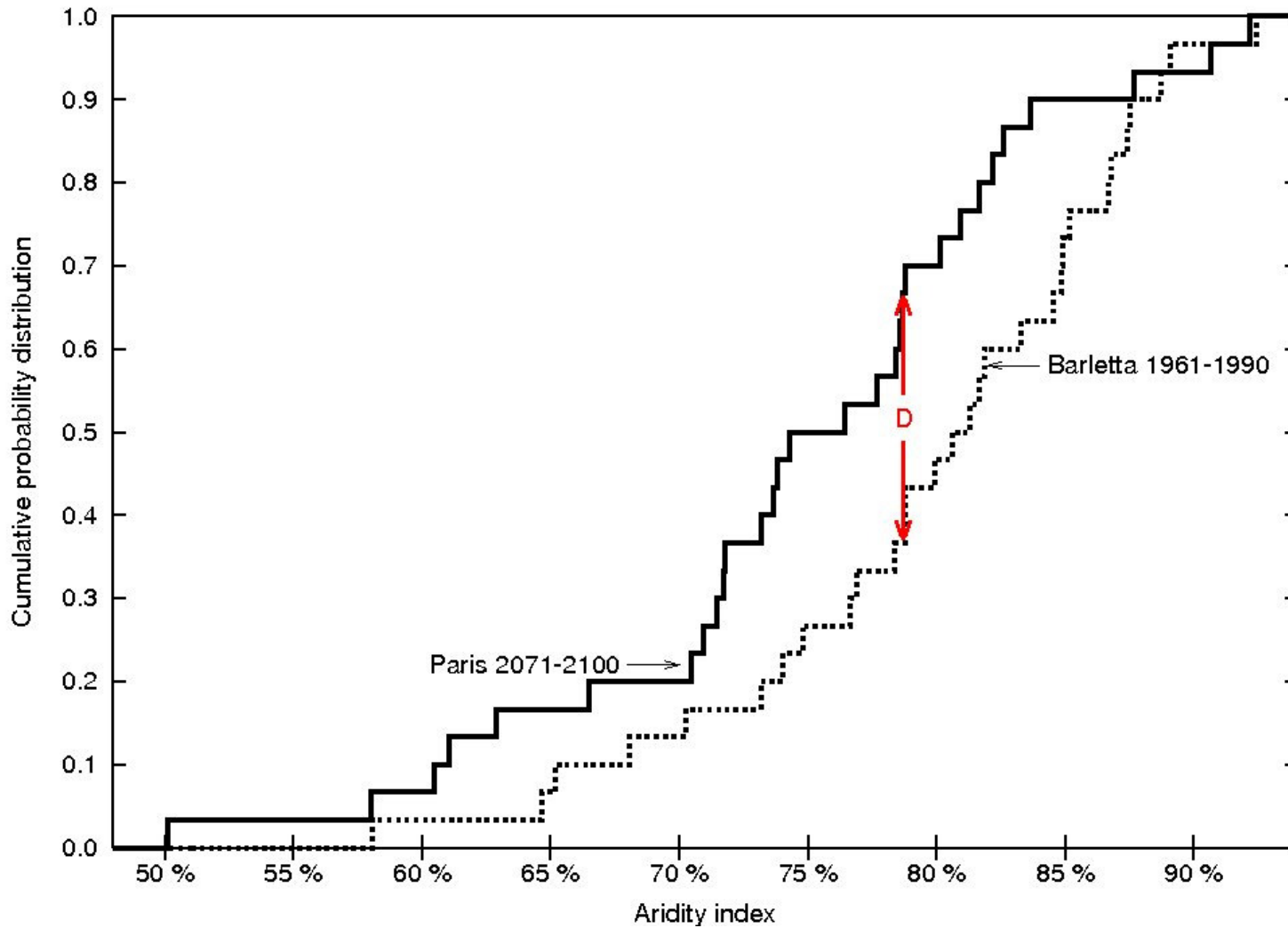
Monthly precipitation and potential evapotranspiration



# Climate Indicators – Degree Days



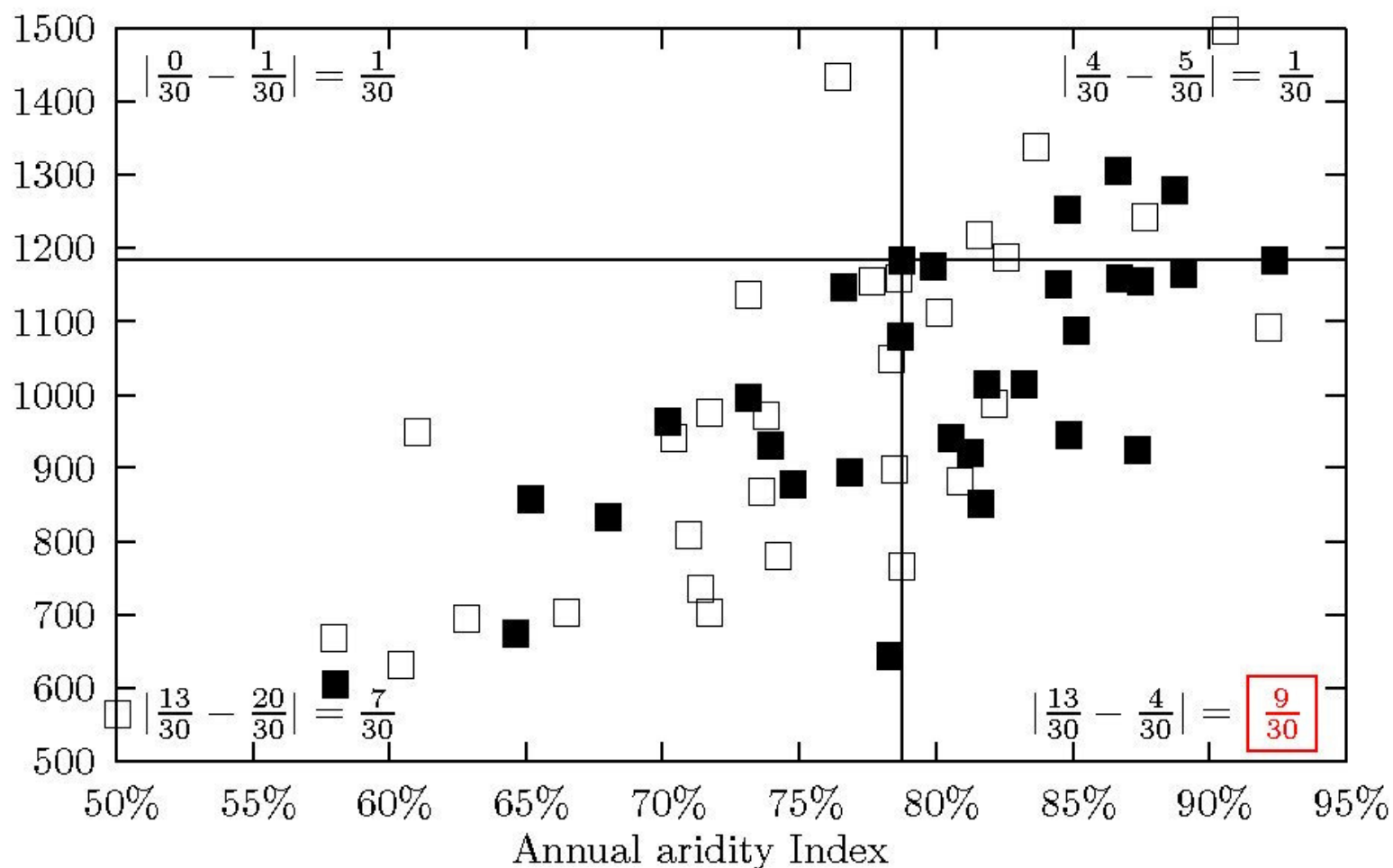
# Climate Similarity – Kolmogorov-Smirnov



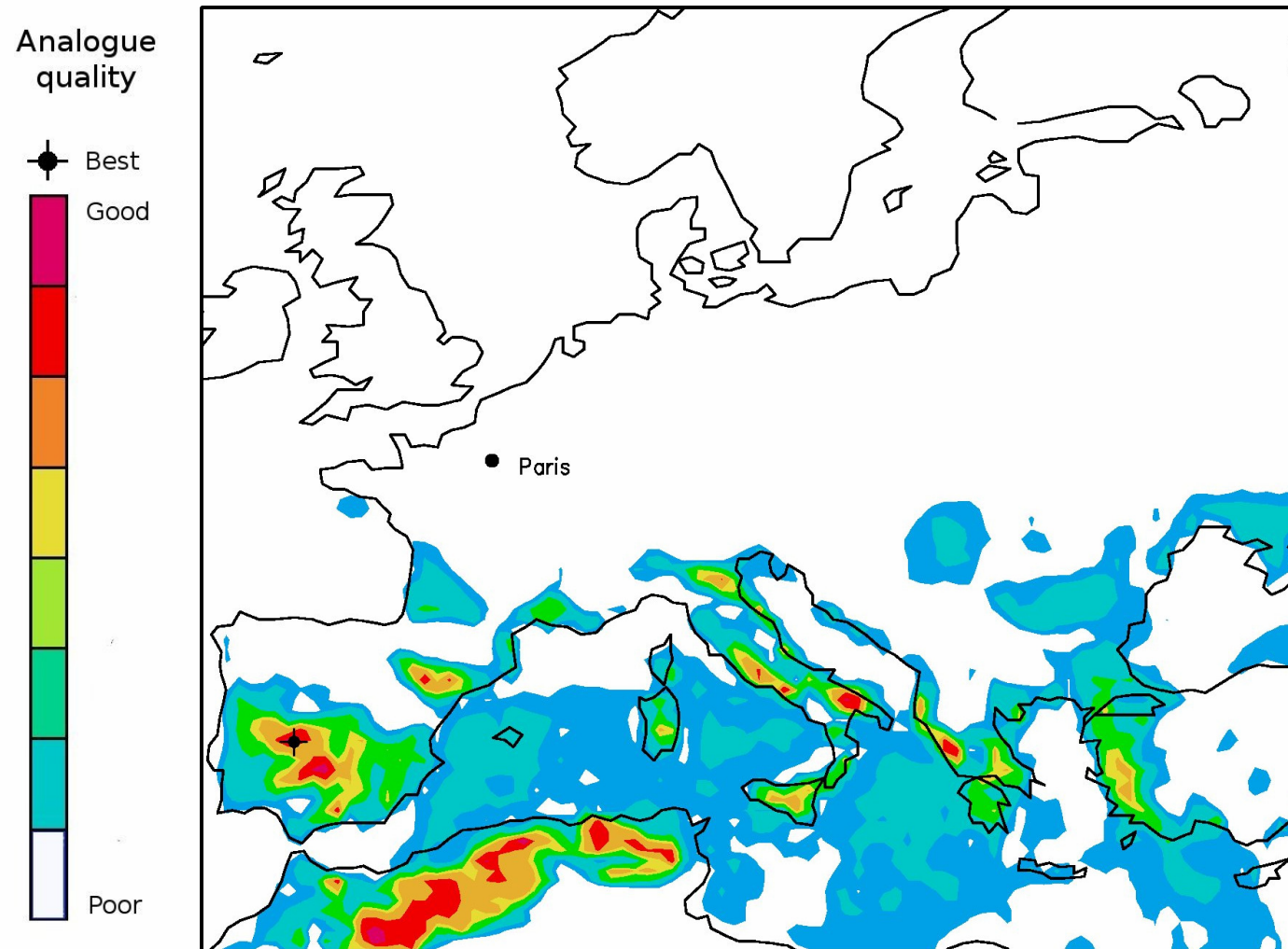
# Climate Similarity – Kolmogorov-Smirnov

Annual Cooling Degree Days

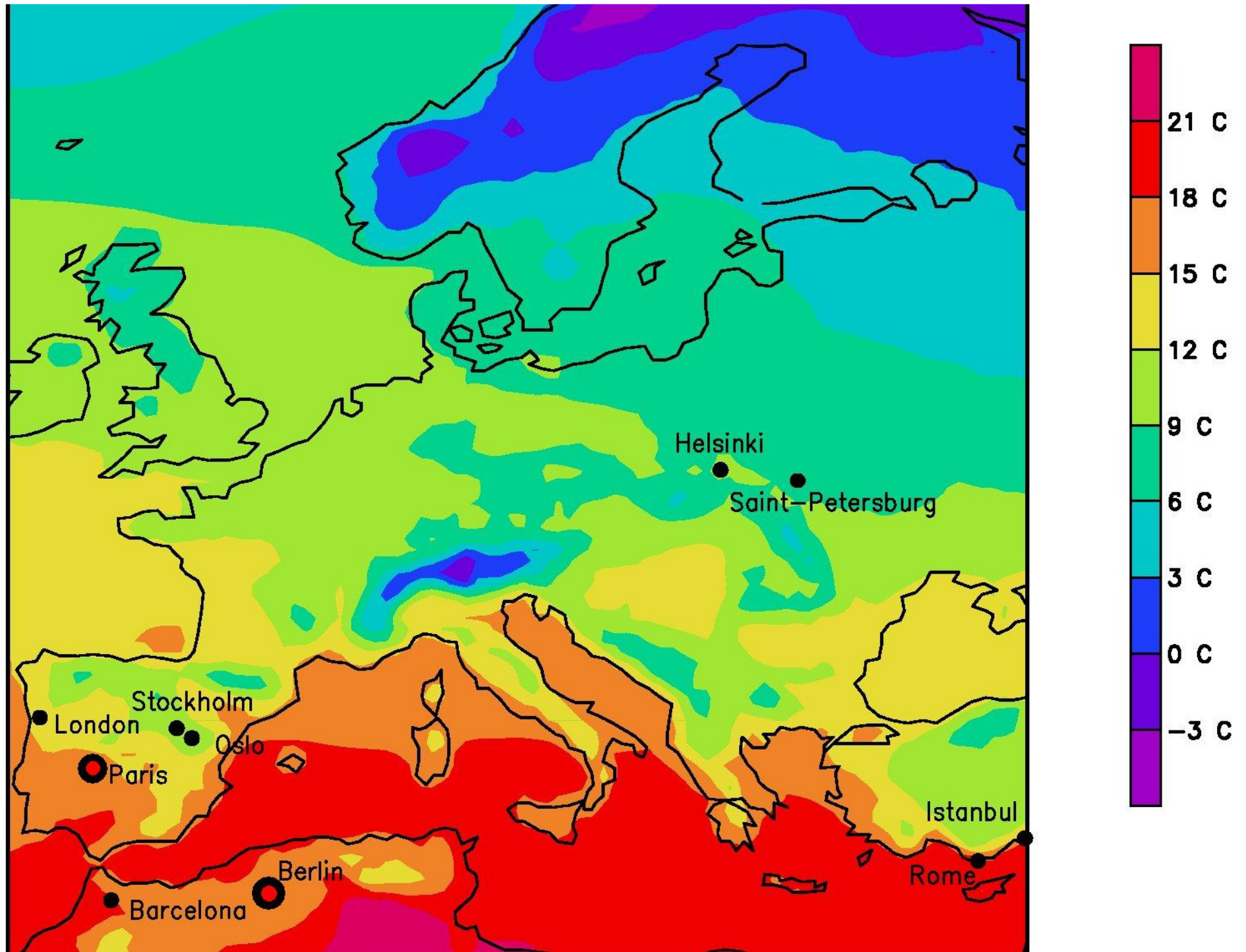
■ Barletta 1961-1990, □ Paris 2071-2100



# Analogue quality map for Paris







# Using Analogues

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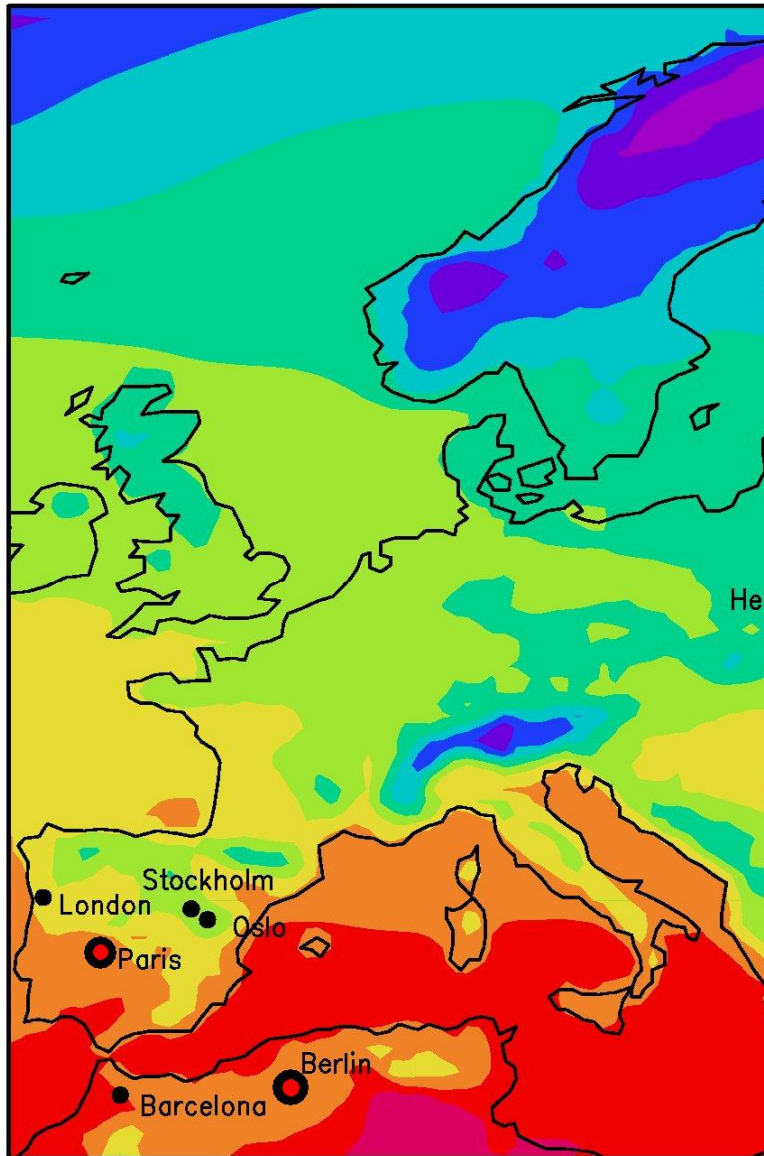
- “climate” is...

the 30 year distribution of suitable parameters

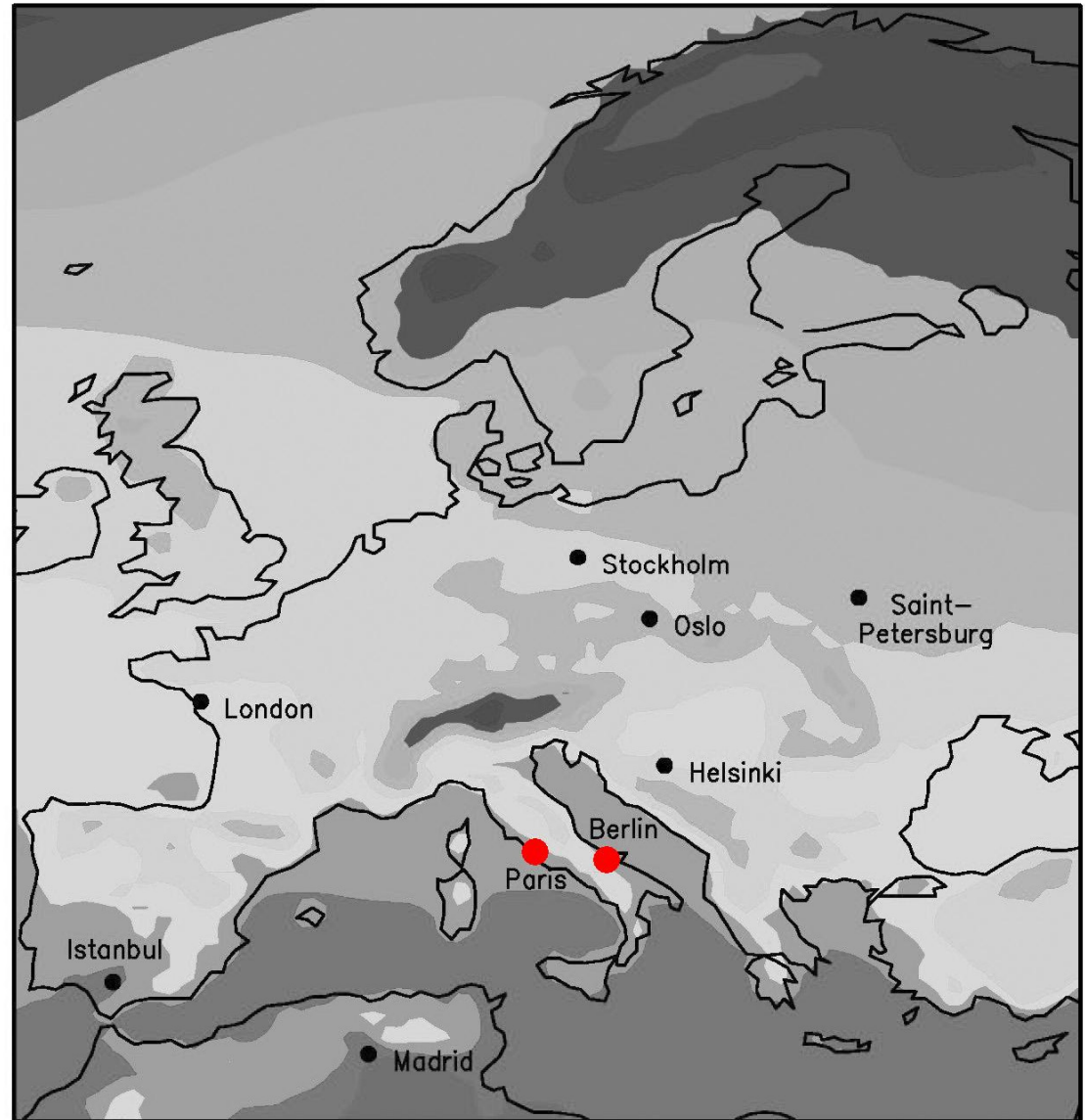
**→ visualization of “good” analogues using analogue quality maps**

**→ visualization of aggregate displacement using multiple analogue maps**

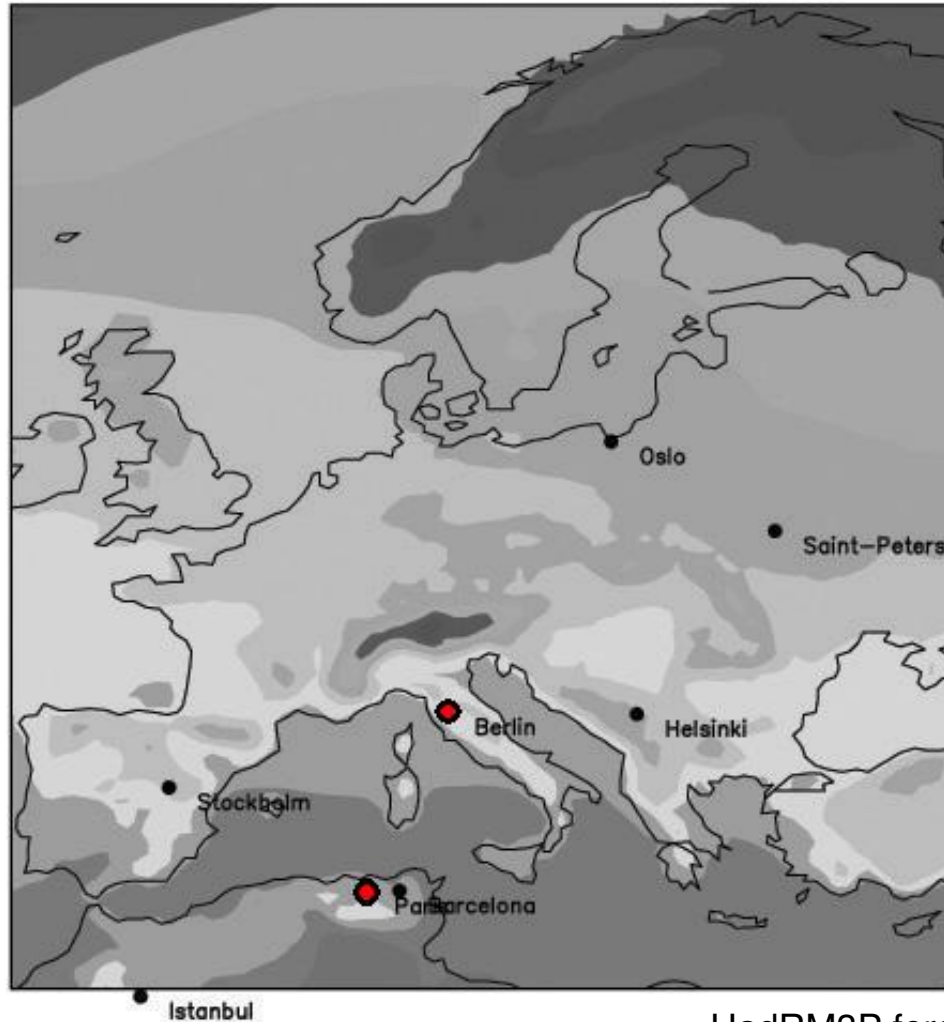
# Model run sensitivity: HadRM3H ackda



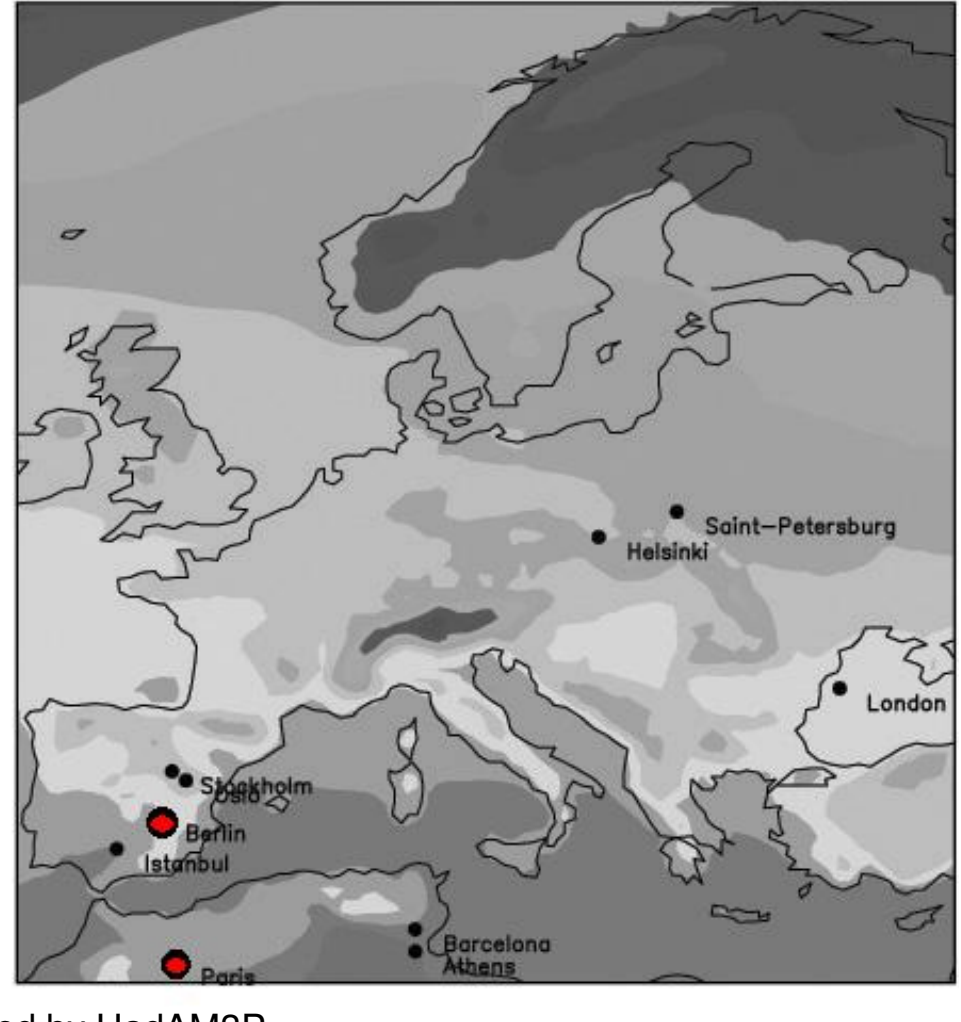
# Arpège DE6



# Scenario sensitivity: B2



# A2



HadRM3P forced by HadAM3P

# Using Analogues

- a “city analogue” is...

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→ visualization of “good” analogues using analogue quality maps

→ visualization of aggregate displacement using multiple analogue maps

→ **assessment of uncertainty by comparing multiple model and scenario analogue maps**

# Conclusion

analogues provide a method to talk about climate change to the lay-person

adaptation cannot rely on climate change predictions (yet?)

Thank you for your attention!