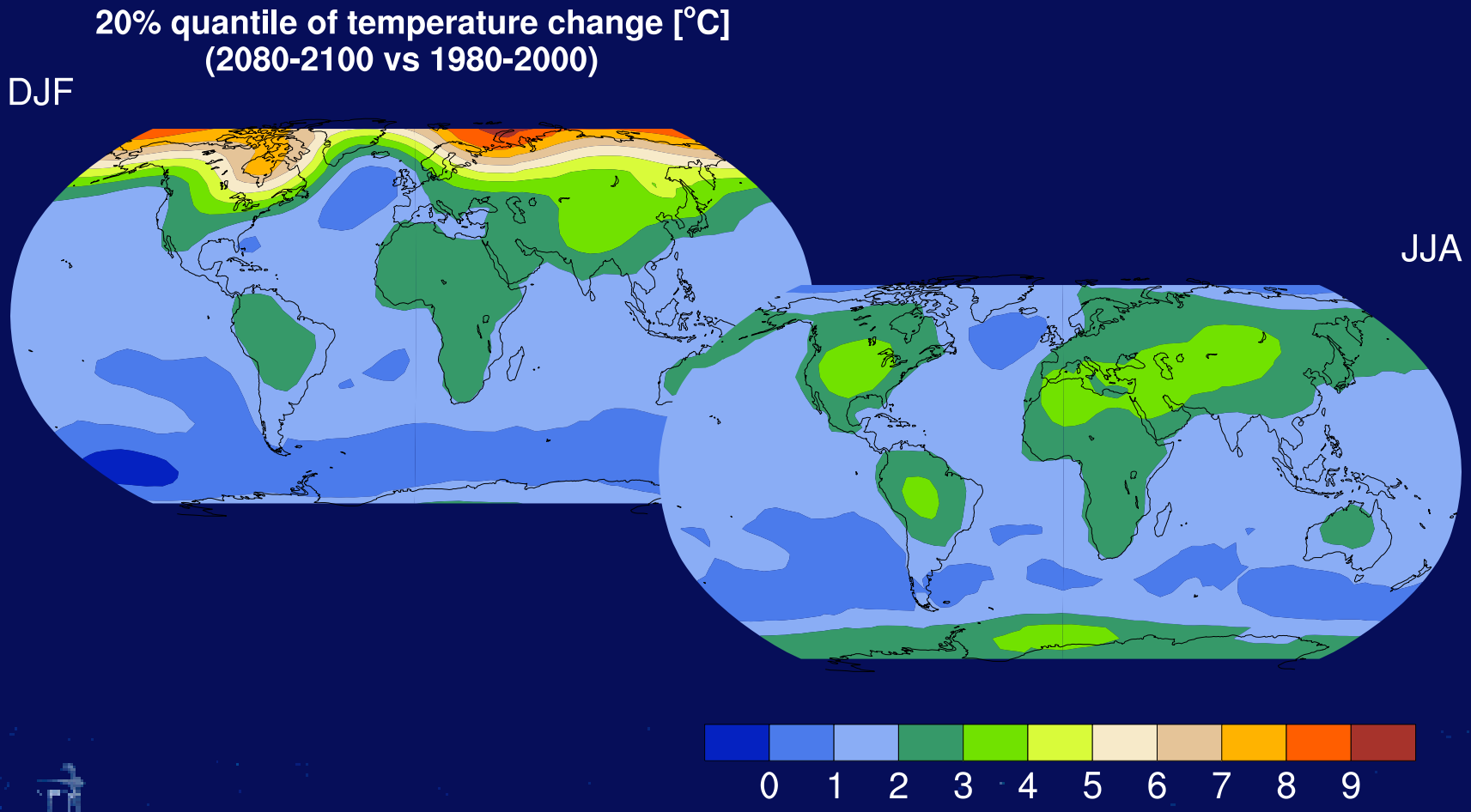
Temperature Change Quantiles

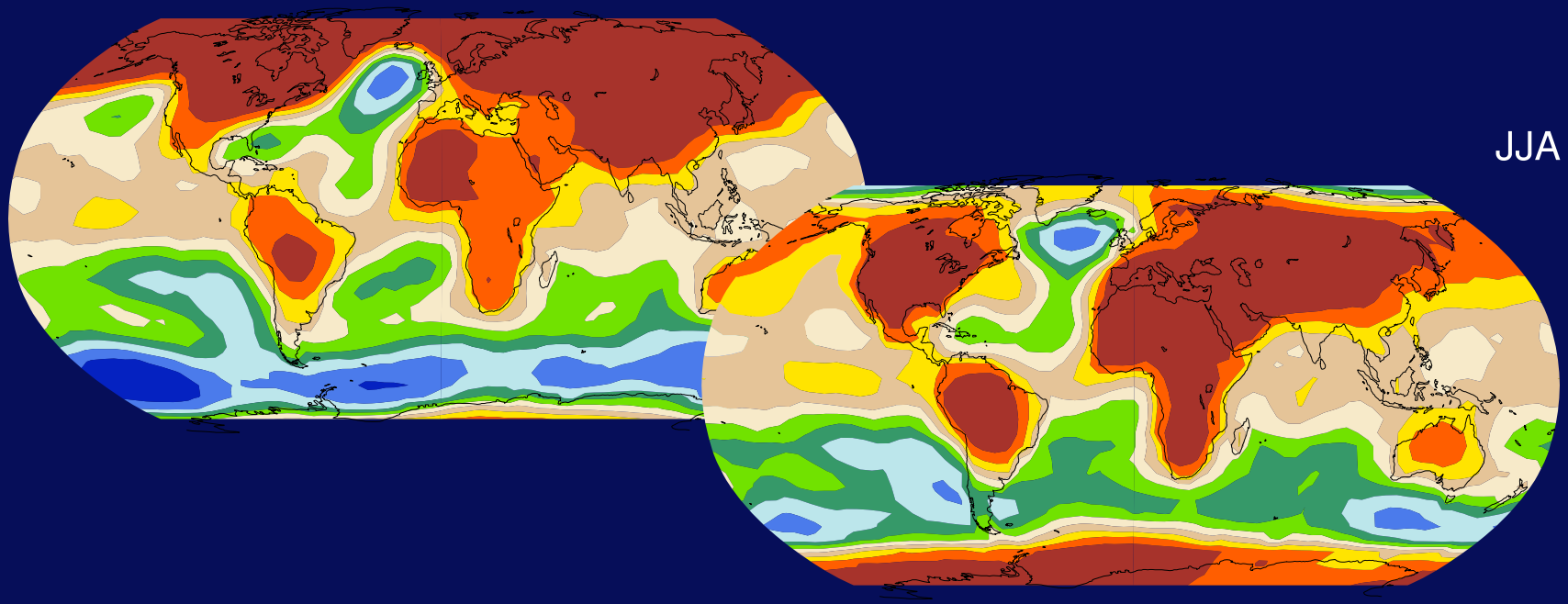


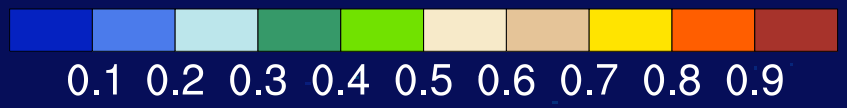
Exceedance Probabilities

Probability of exceeding 2°C temperature change
(2080-2100 vs 1980-2000)

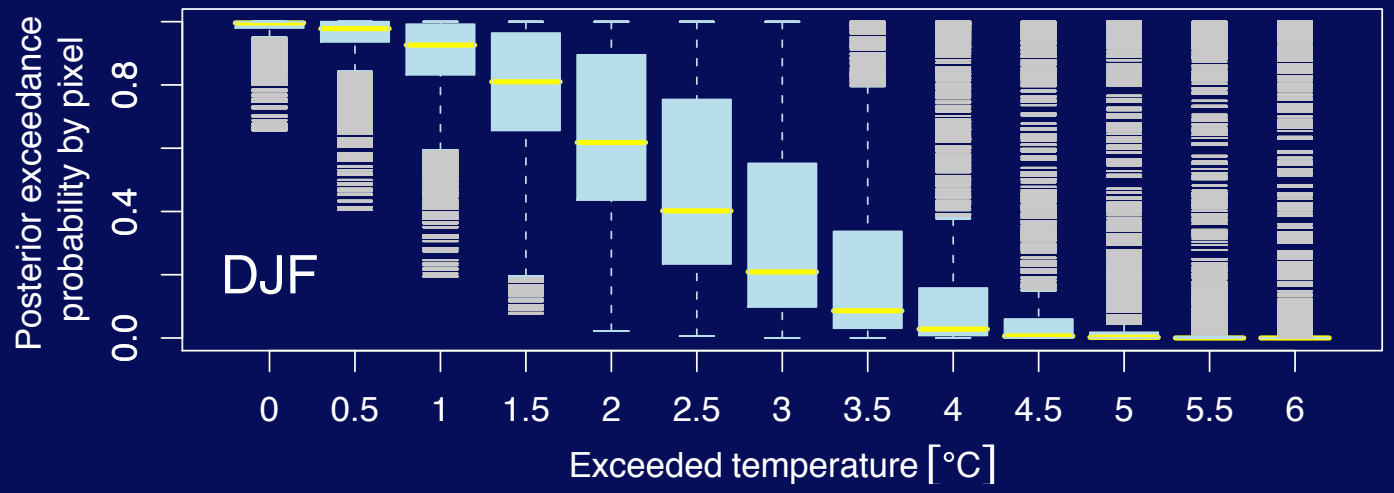
DJF

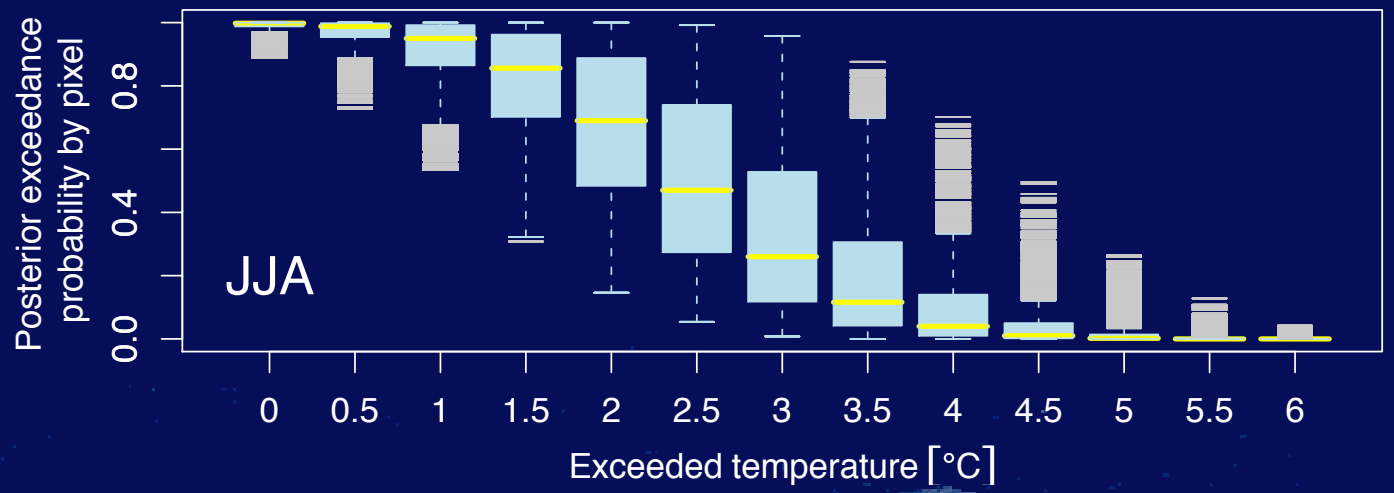
JJA



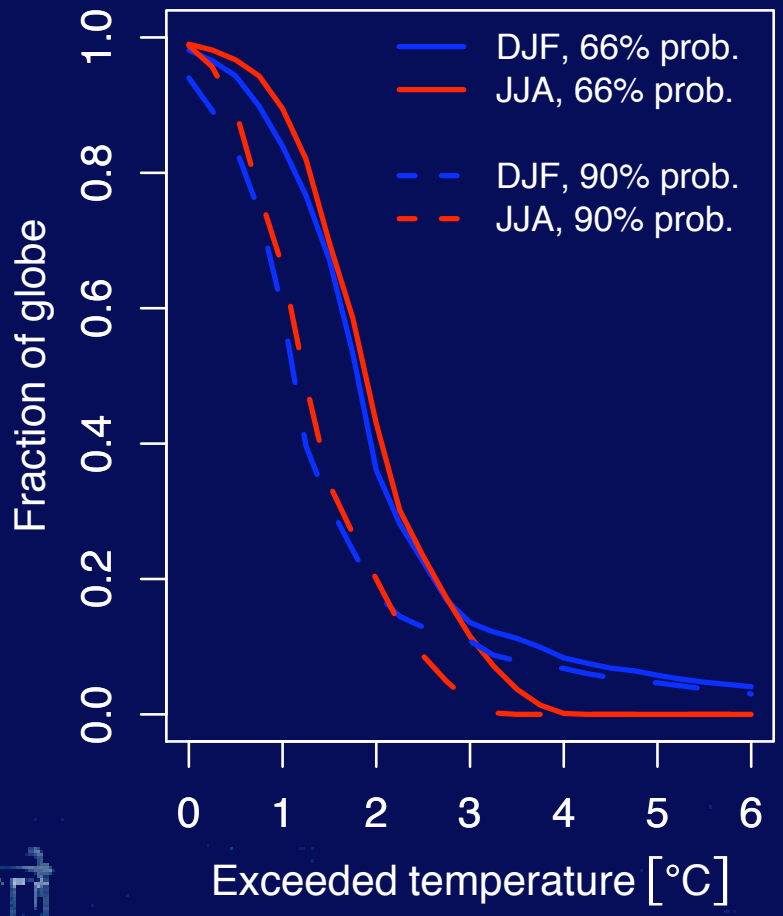


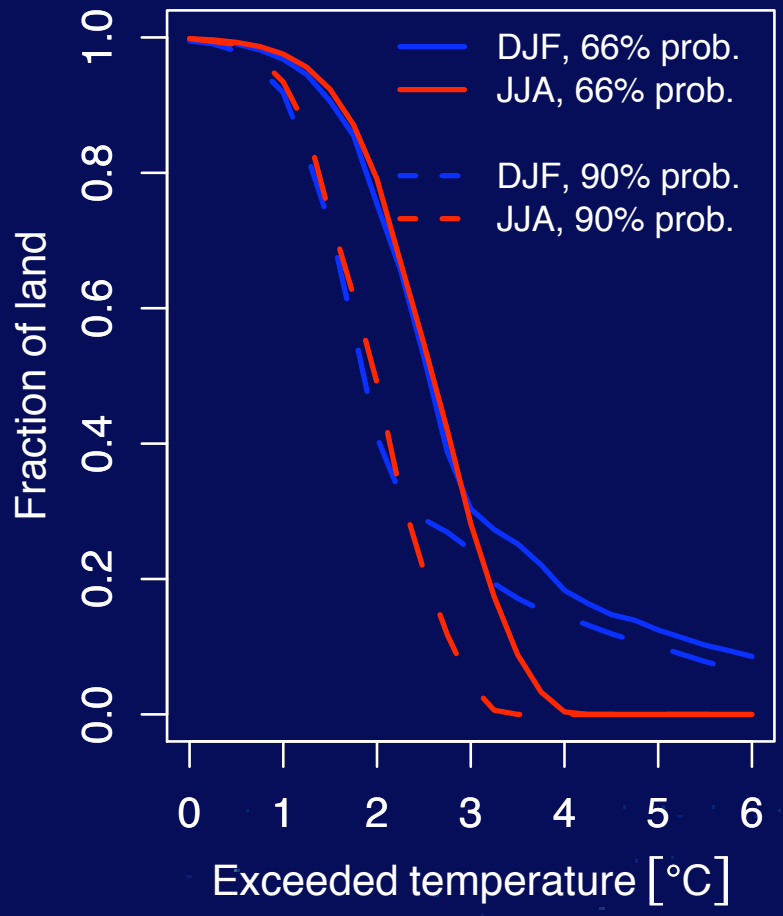
Exceedance Probabilities



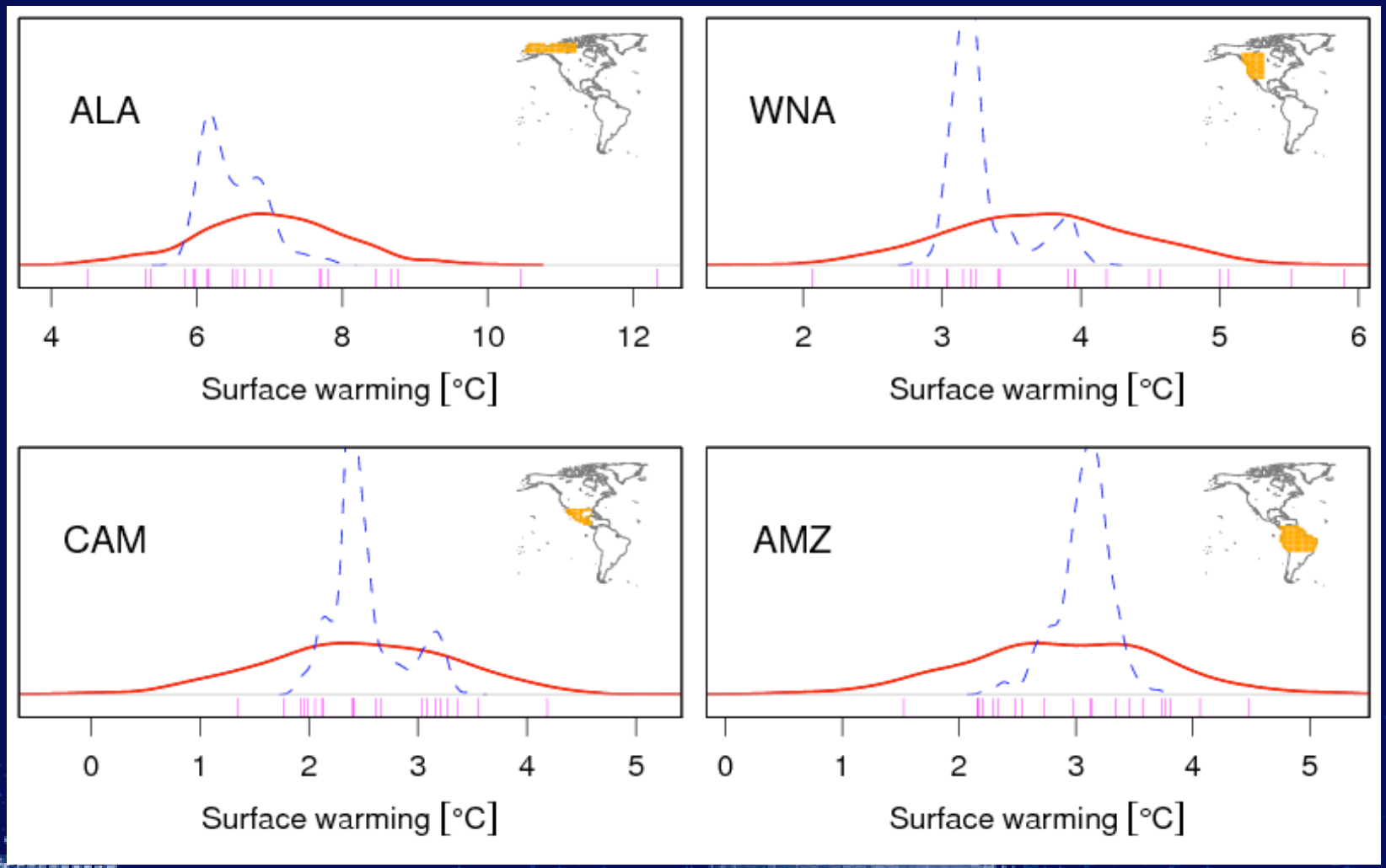


Exceedance Fractions

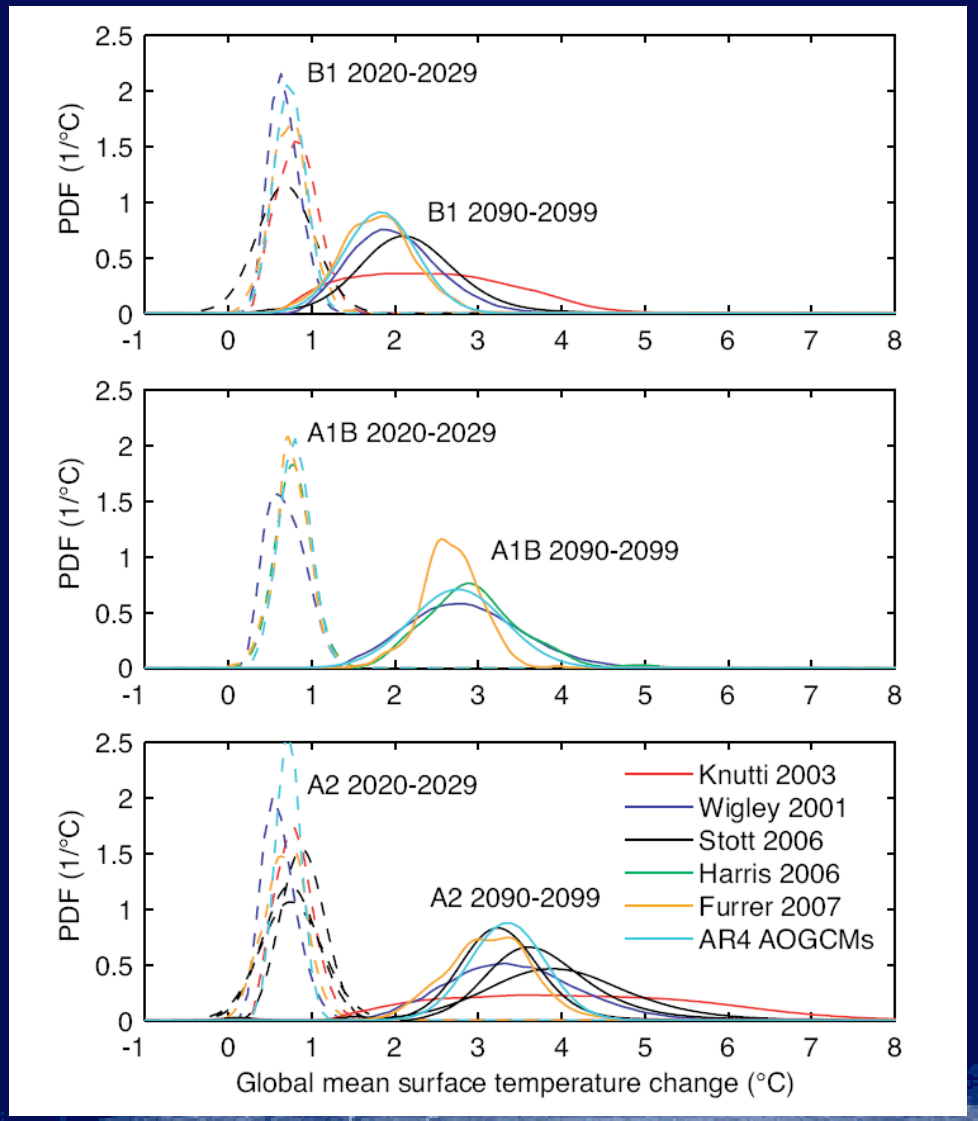




Regional Assessment



Global Assessment



Source: AR4, IPCC

Model Extensions

- Use "more" data
  - $\rightsquigarrow$ ensemble runs, model bias and internal variability, model present and future individually, . . .
- Use AOGCM specific weighting
  - $\rightsquigarrow$ performance, "core" simililarities, . . .
- Parameterize covariance matrices
  - $\rightsquigarrow$ built in range, nonstationarity, . . .
- Building bi-/multivariate models
  - $\rightsquigarrow$ use temperature for precipitation prediction, . . .
- Address computational complexity
  - $\rightsquigarrow$ sparsity, GMRF, Metropolis-Hastings steps, . . .

References

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