Wednesday AM discussion

How to direct CAM development

Development should be focused towards improving CAM's credibility for climate projections & predictions. Questions:

Why is climate sensitivity so high?

Why is aerosol sensitivity so high?

Do we trust this behavior?

CESM: Fundamental, basic science questions, process understanding, model use diversity.

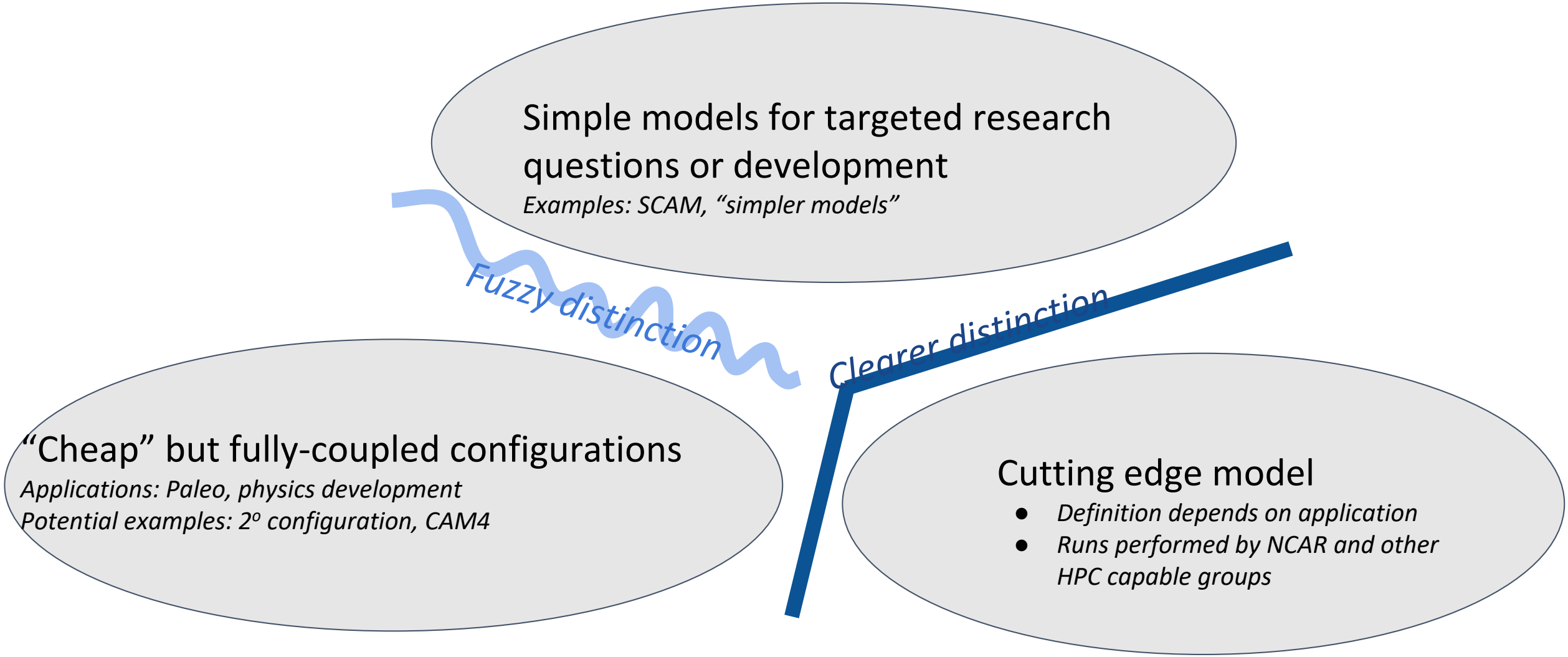
“CAM7” activity *(NSF funding)*

Intensive evaluation of cloud aerosol interaction (CAI), surface exchanges using high-resolution modeling (LES-CRM)

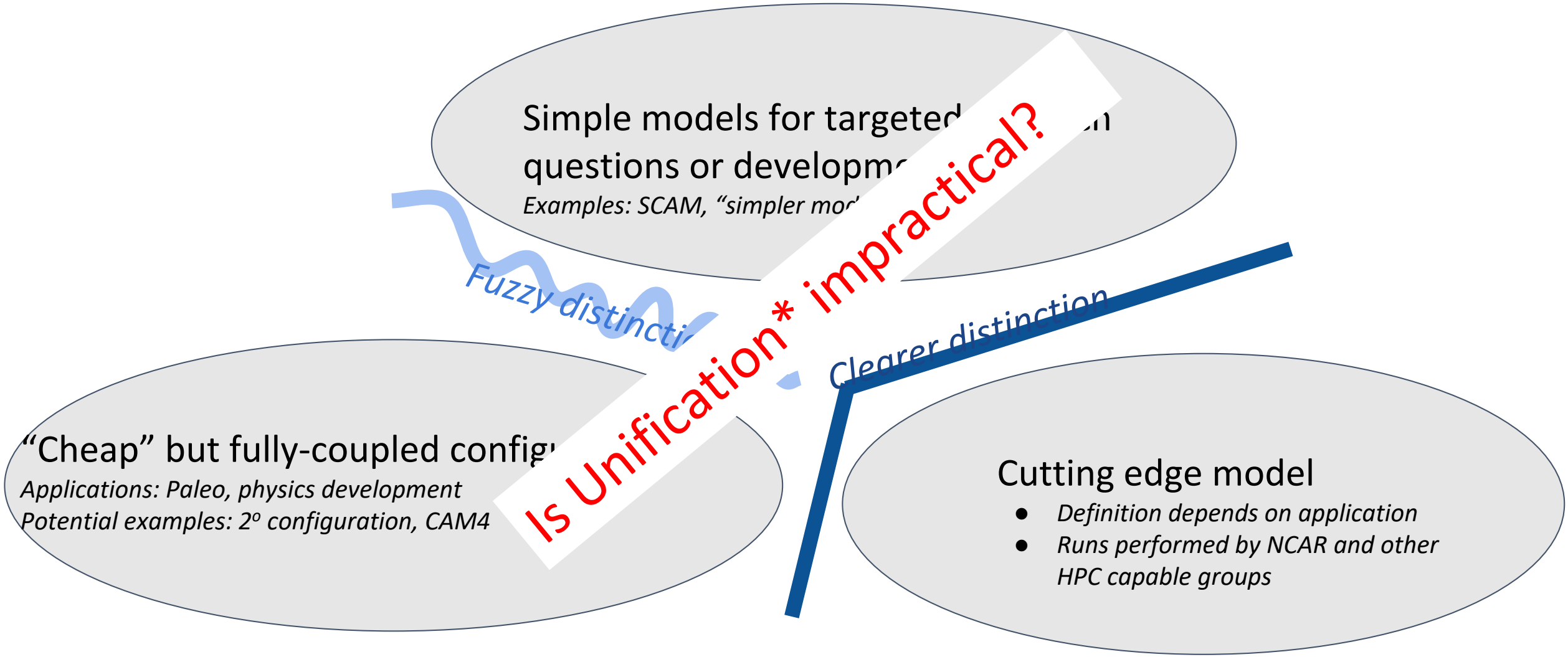
Model accessibility: streamlined build/run of CAM, esp. of simpler configurations, SCAM

New applications: prediction, regional refinement

CAM applications



CAM applications



*Distinguish "scientific" unification from infrastructure unification

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Other issues and opportunities:

- *Tropical precipitation*
- *Mesoscale organization*
- *Southern Ocean processes*
- *Stratosphere/troposphere connections*
- *Sub-seasonal to decadal predictions*
- *Simplified chemistry?*
- *Impact studies*
- *Exploration of processes across scales (down to the kilometer scale) via easy-to-configure regionally-refined grids and a non-hydrostatic dynamical core option*