

The BRACE study: update and next steps

Brian O'Neill, NCAR
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#BRACEclimate

The BRACE study: Essentials

Difference in impacts between RCP8.5 and RCP4.5

Physical and societal impacts

Initial condition ensembles of CESM (also CMIP5 models)

Two alternative societal development pathways

Low vulnerability (SSP5) and high vulnerability (SSP3)

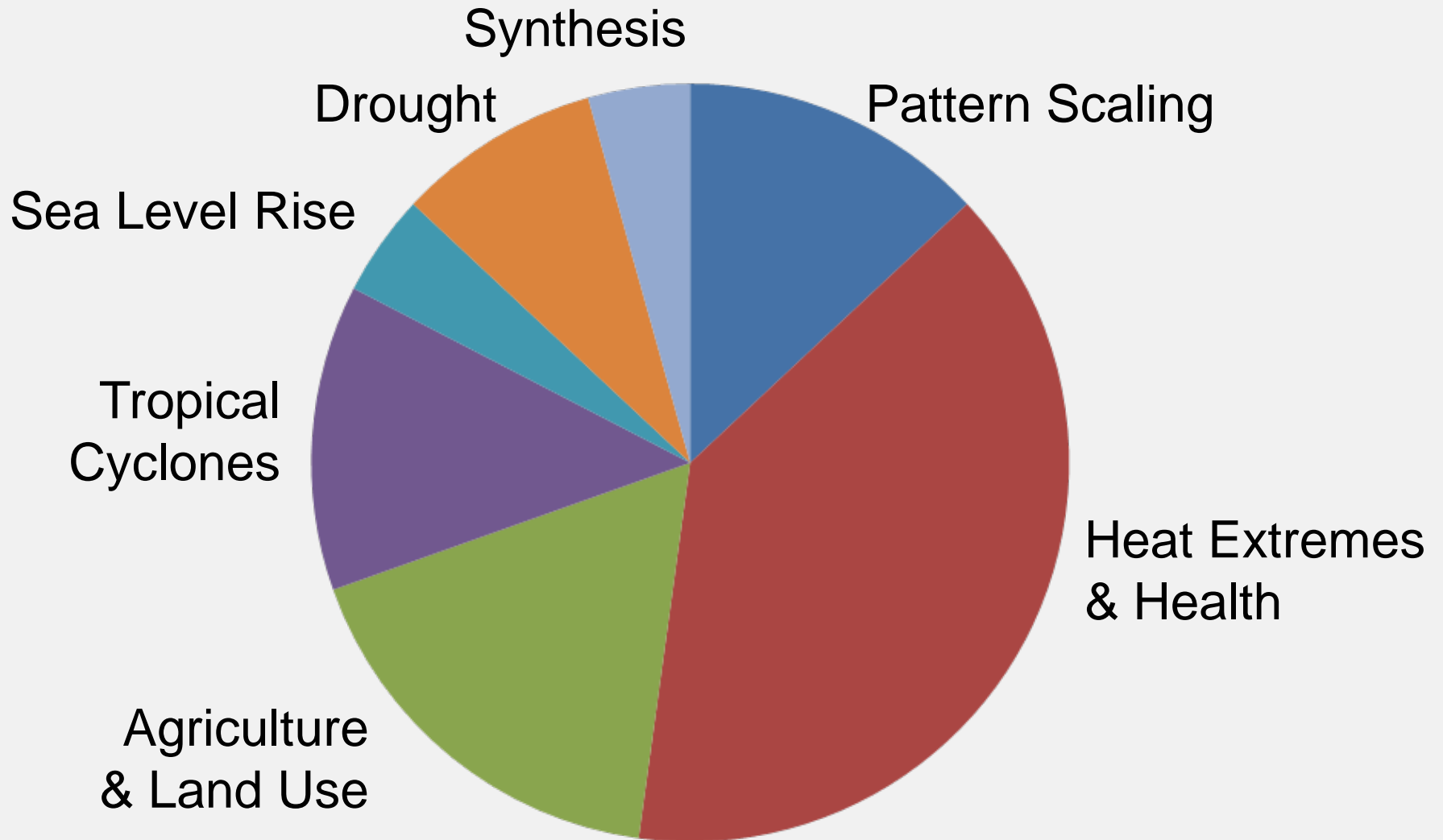
21 papers, special issue of *Climatic Change*

O'Neill & Gettelman, eds.

Status: 8 Accepted, 9 In Review, 4 In Preparation

50+ participants from NCAR and 18 other institutions

BRACE Papers (23 total)



Selected Conclusions

Substantial benefits to mitigation, 2060-2080:

Heat wave days, and population exposure to heat waves (-50%)

Maize/wheat exposure to extreme heat (-30%)

Drying (increased aridity) (-50%)

Small/insignificant benefits, or costs, to mitigation, 2060-2080:

Crop yields (-5% to +10%), crop prices ($\pm 10\%$)

Houston heat-related mortality (reduced 2%)

Tropical cyclone trends comparable to internal variability

Today's talks

Flavio Lehner

Increasing risk of record-breaking summer temperatures under global warming and the potential for mitigation

Andy Monaghan

The potential impacts of 21st century climatic and population changes on human exposure to the virus vector mosquito *Aedes aegypti*

Next Steps

BRACE 1.5?

Possible short follow up (add comparison to RCP2.6, or focus on agricultural impact uncertainty)

Participation welcome

New NCAR/community project integrating climate and human systems

Will use CESM2.0, following release (end 2016)

Open workshop Fall 2016 to identify, scope project

Email list: <https://chsp.ucar.edu/>

