

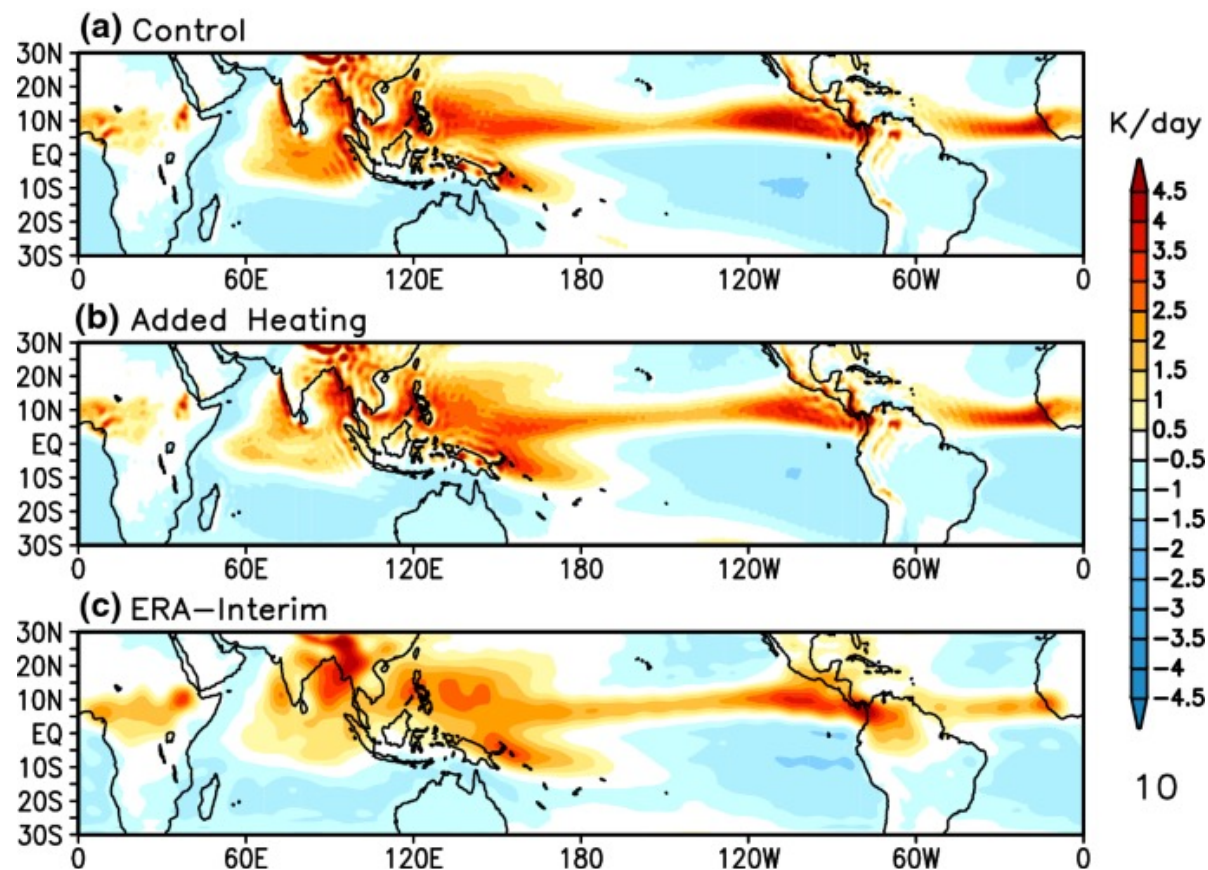
PREDICTABILITY AND PREDICTION OF CLIMATE FROM DAYS TO DECADES

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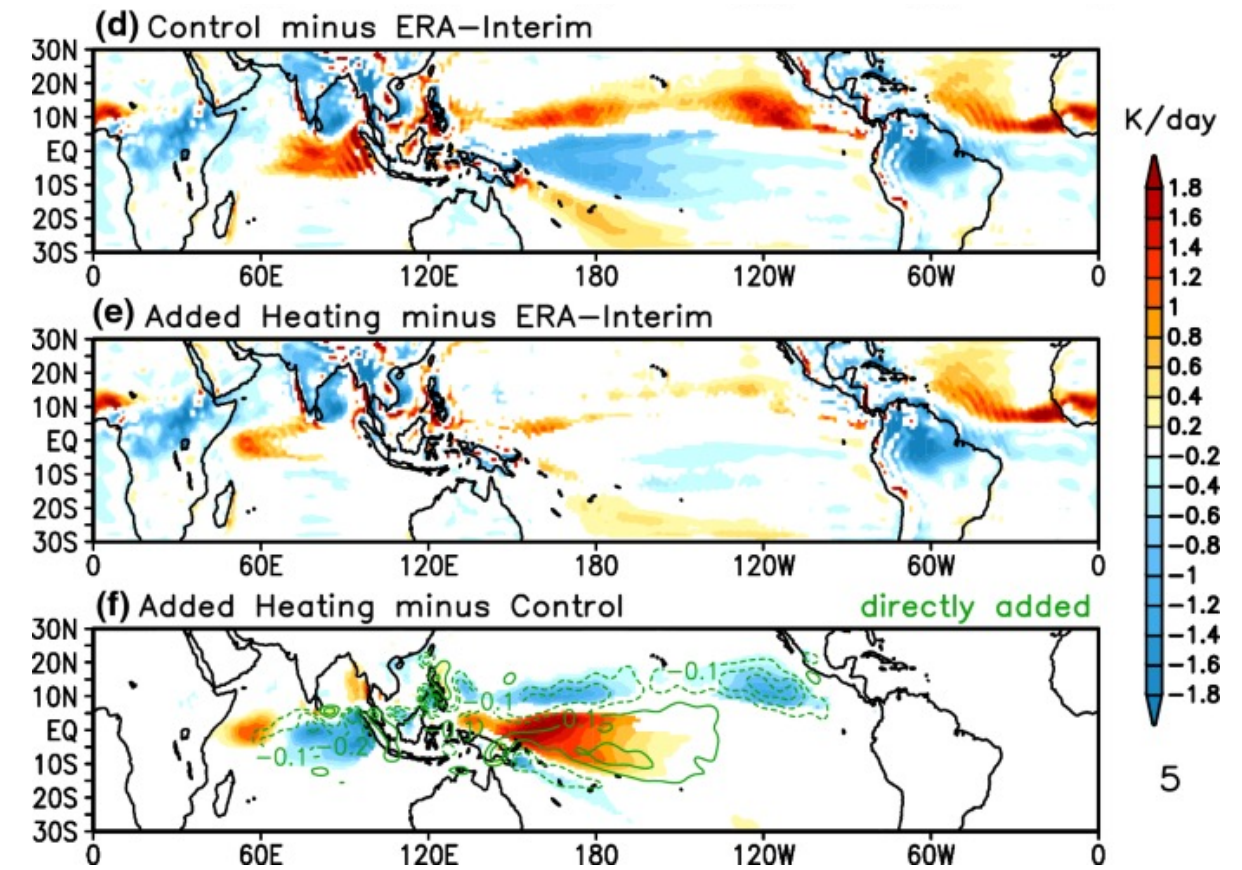
James Kinter, Erik Swenson and David Straus

- A technique that employs added atmospheric heating is used to correct the ensemble mean atmospheric heating over the tropical Indo-Pacific in a set of climate re-forecasts.
- This approach reduces the mean squared error in the heating by 60–90% without interfering with any internal model feedbacks.

- There is significant bias correction in local low-level winds and sea surface temperature, particularly over the Indian Ocean.
- Teleconnections produce some improvement in the monsoon circulation.



Vertical average (850–50 hPa) heating in the ensemble mean of the (a) control and (b) added heating re-forecasts, and for (c) ERA-Interim.



Ensemble mean differences in vertical average (850–50 hPa) heating for (d) panels (a) minus (c), (e) panels (b) minus (c), and (f) panels (b) minus (c), with only significant differences shaded (using a 95% confidence interval). In (f) the heating that is directly added to the model is plotted in green contours (contour interval 0.1 K/day).