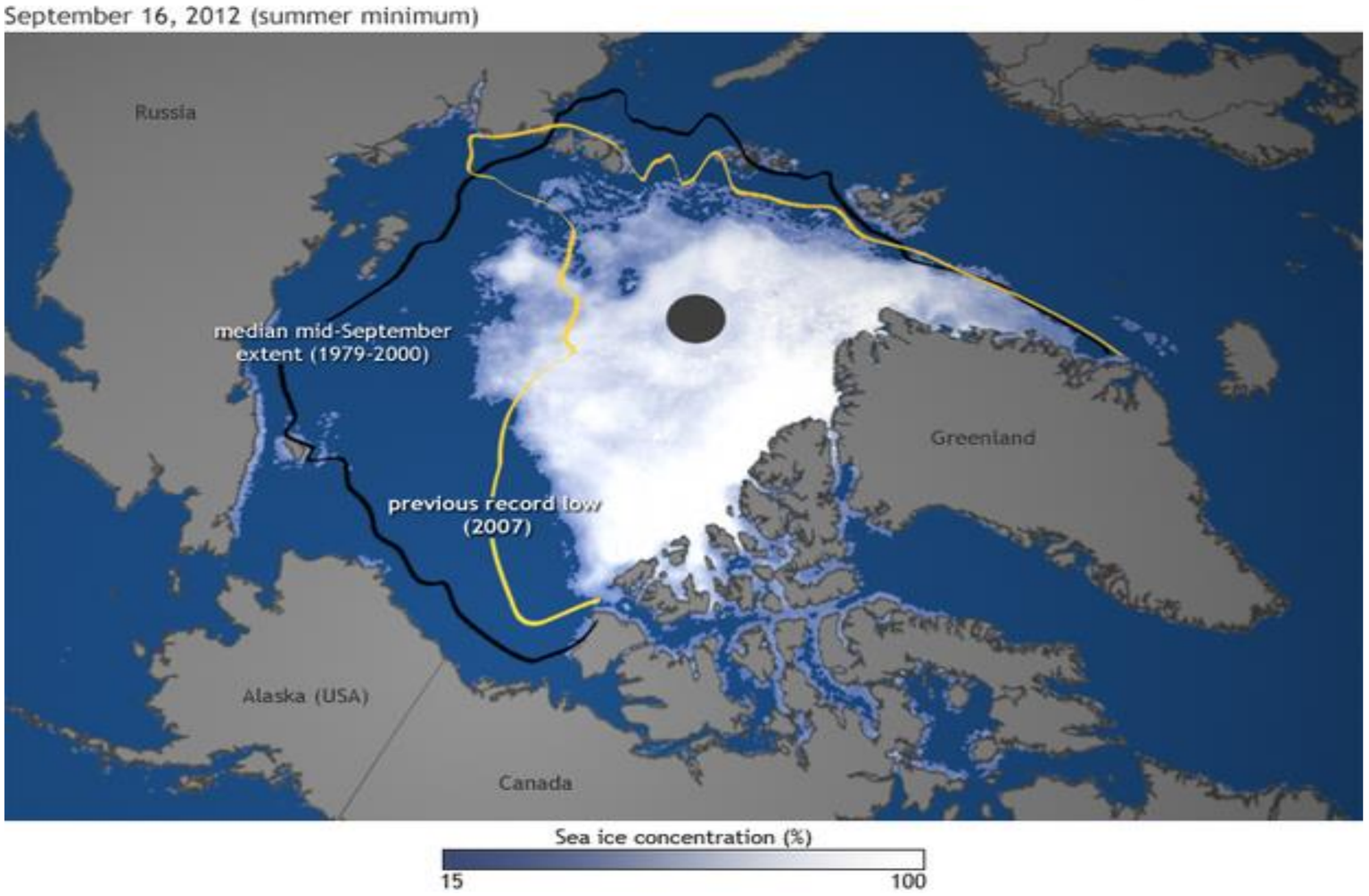
Arctic Amplification



September 16, 2012 sea ice extent, satellite observations. Source: climate.gov

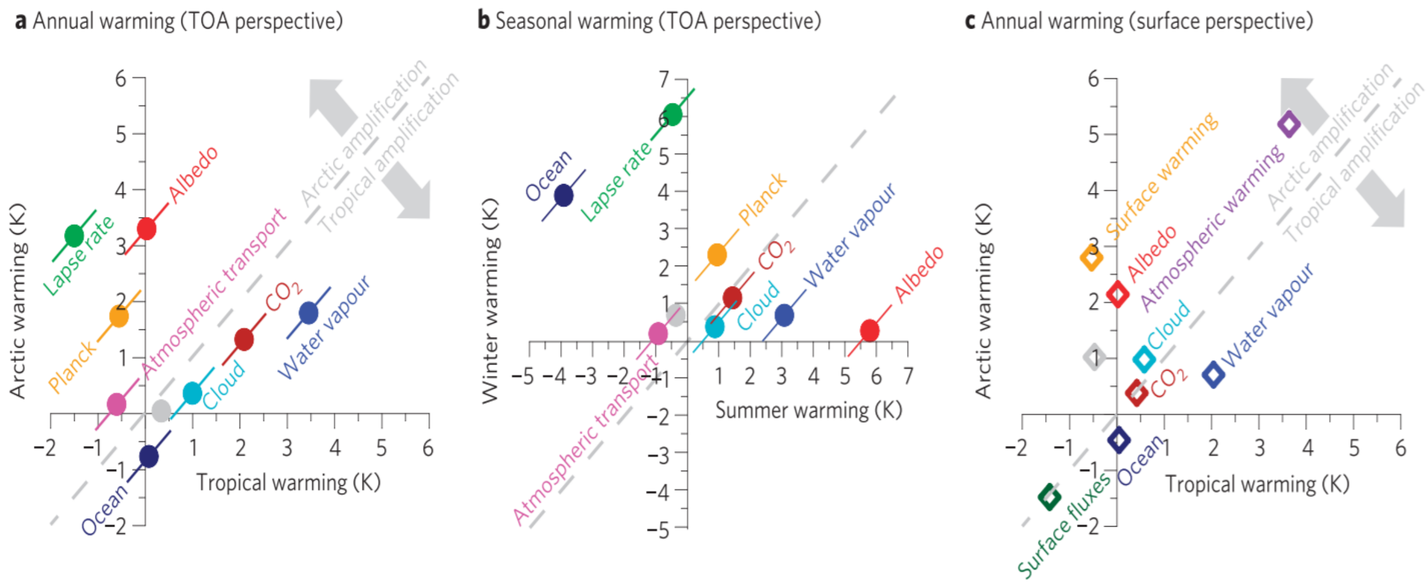


Figure 2 | Warming contributions of individual feedback mechanisms. a, Arctic versus tropical warming from a TOA perspective. **b**, Arctic winter versus summer warming. **c**, Arctic versus tropical warming from a surface perspective. For **a**,**c**, feedbacks above the 1:1 line contribute to Arctic amplification, whereas feedbacks below the line oppose Arctic amplification. Grey is the residual error of the decomposition. 'Ocean' includes the effect of ocean transport changes and ocean heat uptake.

Figure 2 from Pithan & Mauritsen, 2014. doi: 10.1038/NGEO2071

There is a lot of debate surrounding Arctic amplification, mainly over its causes. There have been numerous studies attempting to rank the relative importance of certain feedbacks and transports in contributing to Arctic amplification.

Projections of future Arctic climate depend on models adequately capturing and simulating these feedbacks and transports.

Tyler Janoski

Columbia University

COLUMBIA UNIVERSITY
IN LVMINE TVO VIDEBIMVS LVMEN