



A Global Reconstruction of Ocean Heat Storage and Transport with Implications for Thermosteric Sea Level

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The ocean absorbs a significant portion of the anthropogenic heat released in the climate system, leading to an increase in global mean sea level rise. Observed and projected regional patterns of heat uptake in mid- and high-latitudes are controlled in part by changes in ocean circulation. I will introduce a new reconstruction of ocean heat content starting from 1871 using sea surface temperatures and a representation of time-independent ocean processes. Using the reconstruction, together with models and direct measurements, I will present evidence that in the North Atlantic half of the thermosteric sea level trend since 1955 is due to ocean circulation changes.