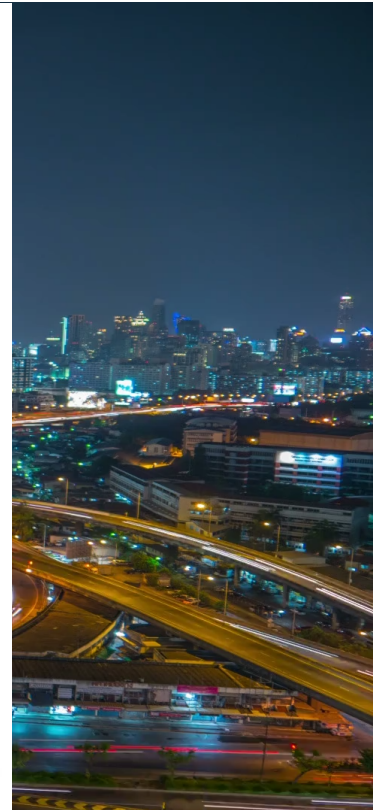




New study suggests global warming could be mostly an urban problem

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A new study published in the scientific peer-reviewed journal, *Climate*, by 37 researchers from 18 countries suggests that current estimates of global warming are contaminated by urban warming biases.

The study also suggests that the solar activity estimates considered in the most recent reports by the UN's Intergovernmental Panel on Climate Change (IPCC) likely underestimated the role of the Sun in global warming since the 19th century.

It is well-known that cities are warmer than the surrounding countryside. While urban areas only account for less than 4% of the global land surface, many of the weather stations used for calculating global temperatures are located in urban areas. For this reason, some scientists have been concerned that the current global warming estimates may have been contaminated by urban heat island effects. In their latest report, the IPCC estimated that urban warming accounted for less than 10% of global warming. However, this new study suggests that urban warming might account for up to 40% of the warming since 1850.



Source: Maps taken from NOAA Climate.gov.

The study also found that the IPCC's chosen estimate of solar activity appeared to have prematurely ruled out a substantial role for the Sun in the observed warming.

When the authors analysed the temperature data only using the IPCC's solar dataset, they could not explain any of the warming since the mid-20th century. That is, they replicated the IPCC's iconic finding that global warming is mostly human-caused. However, when the authors repeated the analysis using a different estimate of solar activity – one that is often used by the scientific community – they found that most of the warming and cooling trends of the rural data could actually be explained in terms of changing solar activity.

The lead author of the study, Dr. Willie Soon, of the Center for Environmental Research and Earth Sciences (CERES-Science.com) described the implications of their findings,

“For many years, the general public has been assuming that the science on climate change is settled. This new study shows that this is not the case.”

Another author of the study, Prof. Ana Elias, the Director of the Laboratorio de Ionosfera, Atmósfera Neutra y Magnetosfera (LIANM) at the Universidad Nacional de Tucumán, Argentina, explained:

“This analysis opens the door to a proper scientific investigation into the causes of climate change.”



This study finds similar conclusions to another study that was recently published in a separate scientific peer-reviewed journal, *Research in Astronomy and Astrophysics*. This other study involved many of the same co-authors (led by Dr. Ronan Connolly, also at the Center for Environmental Research and Earth Sciences). It took a different approach to analysing the causes of climate change – using an additional 25 estimates of solar activity and three extra temperature estimates.

For media inquiries, please contact Dr. Ronan Connolly (Center for Environmental Research and Earth Sciences) at ronan@ceres-science.com.

Links to both studies mentioned:

- W. Soon, R. Connolly, M. Connolly, S.-I. Akasofu, S. Baliunas, J. Berglund, A. Bianchini, W.M. Briggs, C.J. Butler, R.G. Cionco, M. Crok, A.G. Elias, V.M. Fedorov, F. Gervais, H. Harde, G.W. Henry, D.V. Hoyt, O. Humlum, D.R. Legates, A.R. Lupo, S. Maruyama, P. Moore, M. Ogurtsov, C. ÓhAiseadha, M.J. Oliveira, S.-S. Park, S. Qiu, G. Quinn, N. Scafetta, J.-E. Solheim, J. Steele, L. Szarka, H.L. Tanaka, M.K. Taylor, F. Vahrenholt, V.M. Velasco Herrera and W. Zhang (2023). "The Detection and Attribution of Northern Hemisphere Land Surface Warming (1850–2018) in Terms of Human and Natural Factors: Challenges of Inadequate Data", *Climate*, 11(9), 179; <https://doi.org/10.3390/cli11090179>. ([Open access](#)).