Scientists have known about these quirks for some time, but this is the first study to calculate their impact. "They're quite small on their own, but they add up in the same direction, We were surprised that they added up to such a big effect."

These quirks hide around 19 percent of global air-temperature warming since the 1860s. That's enough that calculations generated from historical records alone were cooler than about 90 percent of the results from the climate models that the Intergovernmental Panel on Climate Change (IPCC) uses for its authoritative assessment reports. In the apples-to-apples comparison, the historical temperature calculation was close to the middle of the range of calculations from the IPCC's suite of models.

Solutions of Global Warming

Many awareness programmes and programmes to reduce global warming have been run and implemented by the government agencies, business leaders, private sectors, NGOs, etc. Some of the damages through global warming cannot be returned by the solution (like melting of ice caps). However, we should not get back and try everyone's best to reduce the effects of global warming by reducing the human causes of global warming. We should try to reduce the emissions of greenhouse gases to the atmosphere and adopt some climate changes which are already happening for years. Instead of using electrical energy we should try using clean energy or energy produced by solar system, wind and geothermal. Reducing the level of coal and oil burning, use of transportation means, use of electrical devices, etc may reduce the global warming to a great level.

Case Studies

A. Individual Case Studies

Midwestern heatwaves. In coming decades heatwaves in the Midwest are likely to become more frequent, longer, and hotter than cities in the region have experienced in the past. This trend will result from a combination of general warming, which will raise temperatures more frequently above thresholds to which people have adapted, and more frequent and intense weather patterns that produce heatwaves. Studies projecting future mortality from heat foresee a substantial increase in health risks from heatwaves. Several factors contribute to increasing risk in Midwestern cities, including demographic shifts to more vulnerable populations and an infrastructure originally designed to withstand the less severe heat extremes of the past. The elderly living in inner cities are particularly vulnerable to stronger heatwaves; other groups, including children and the infirmed, are vulnerable as well. Adaptations of