

gaseous emissions, will however, according to the IPCC, destabilize this delicate infrastructure and the natural ranges of surface temperature. Eighty per-cent of anthropogenic CO₂ emissions are concentrated in combustion usage in industry and cars and 20 % from deforestation.⁶⁶³ About 55 % of all released CO₂ is absorbed by natural vegetation and the rest is added to the atmosphere. This 45 % increase over the natural rate of CO₂ absorption has increased the concentration of CO₂ by 31 % from pre-industrial times until today.⁶⁶⁴ The fear is that such a concentration will lead to an increase in temperature. Rising temperatures will destabilize the earth's ecosystem leading to a dramatic reordering of surface temperature zones, rising ocean levels, increased desertification and nefarious impacts on flora and fauna.

The crux of Kyoto is thus the increase in temperature from CO₂ and methane emissions. In calculating and forecasting temperature increases the IPCC has relied on the Mann et al. record of the past millennium's historical climate record.⁶⁶⁵ The Mann temperature model shows a declining temperature trend from 1000-1900 A.D. followed by rapid increases in the 20th century. The conclusion is that the 20th century was the warmest in the past millennium and this was entirely due to anthropogenic emissions.⁶⁶⁶ The IPCC through its data analysis and modeling using the Mann temperature model suggests some important and alarming observations:⁶⁶⁷

- Atmospheric concentration of CO₂ has increased about 31 % since 1000.
- Global Mean surface temperature has increased by 0.6 C in the past 100 years.
- The 1990s were the warmest decade of the millennium.
- The number of hot days per annum has increased.
- Cold and Frost days have decreased.
- Continental precipitation in general is up over 5-10%.
- The frequency and severity of drought has increased.
- Global mean sea level increased at an average annual rate of 1-2 mm in the 20th century.
- Artic ice cover has thinned by 40 % in recent decades.

- Snow cover has decreased by 10 % since 1960.
- El Nino is more frequent and persistent.
- Co₂ concentration will treble from 2000 to 2100.
- Between 2000-2100 the climate will experience an increase in temperature in the range of between 1.4 to 5.8 degrees Celsius.

The IPCC has broken its investigation into two volumes—one volume outlines the scientific rigor and methodological detail of the findings and a second volume summarizes the results for policy makers. The IPCC has accumulated an impressive amount of data to defend its arguments. There are apparently 2000 working scientists and environmentalists, as well as academics and biologists who helped build the reports and monitor climate conditions. With a vast array of information the IPCC has modeled in great detail 40 different scenarios of increasing GHG emissions and attendant temperature increases. It rejects a definitive prediction of future climate change but relies more on computer aided projections of what might occur and on normative scenarios.

The IPCC is clear however that something nefarious is occurring and it does offer up a rather apocalyptic summary of what 'might' happen. Working from worst-case estimates, the IPCC's Volume 1 Summary suggests a higher range of potential warming and sea-level rise by 2100. The average global temperature in the 2001 report is modeled to increase from 1.5 to 5.8 degrees Centigrade (2.7 to 10.4 degrees Fahrenheit) by 2100. Predicted sea-level increases under various scenarios range from 14 to 80 cm. (5.5 to 31.2 inches) by 2100. Given the increase in sea level and warming of temperature the IPCC and by extension Kyoto supporters believe that without a massive decrease in CO₂ emissions and a severe limitation of agricultural and industrial combustion technology, the world will enter into a series of man-inspired environmental and societal disasters.⁶⁶⁸

Most scientists and observers agree that human activity has undoubtedly caused an increase in sulphate aerosol particles, ozone and a number of gases (CO₂ and methane which are dubbed the main greenhouse gases). Emissions from industry, vehicle emissions, warming or cooling our homes and workplaces are the main emitters