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Hotter-burning sun warming the planet

By

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The sun is burning hotter than usual, offering a possible explanation for global warming that needs to be weighed when proceeding with expensive efforts to cut emissions of greenhouse gases, Swiss and German scientists say.

"The sun has been at its strongest over the past 60 years and may now be affecting global temperatures," said Sami Solanki, the director of the renowned Max Planck Institute for Solar System Research in Gottingen, Germany, who led the research.

"The sun is in a changed state. It is brighter than it was a few hundred years ago and this brightening started relatively recently -- in the last 100 to 150 years," Mr. Solanki said.

Average global temperatures have increased by about 0.2 degrees Celsius (0.36 degrees Fahrenheit) over the past 20 years and are widely believed to be responsible for new extremes in weather patterns.

Globally, 1997, 1998 and 2002 were the hottest years since worldwide weather records were first collated in 1860.

Bill Burrows, a climatologist and a member of the Royal Meteorological Society, welcomed Mr. Solanki's research.

"It shows that there is enough happening on the solar front to merit further research. Perhaps we are devoting too many resources to correcting human effects on the climate without being sure that we are the major contributor," he said.

Mr. Solanki said that the brighter sun and higher levels of so-called "greenhouse gases" both contributed to the change in the Earth's temperature, but it was impossible to say which had the greater impact.

Most scientists agree that greenhouse gases such as carbon dioxide from fossil fuels have contributed to the warming of the planet in the past few decades, but have questioned whether other factors beyond man's control are also to blame.

To determine the sun's role in global warming, Mr. Solanki's research team measured magnetic zones on the sun's surface known as sunspots, which are believed to intensify the sun's energy output.

The team studied sunspot data going back several hundred years. They found that a dearth of sunspots signaled a cold period -- which could last up to 50 years -- but that over the past century their numbers had increased as the Earth's climate grew steadily warmer.

Mr. Solanki does not know what is causing the sun to burn brighter now or how long this cycle would last.

He says that the increased solar brightness over the past 20 years has not been enough to cause the observed climate changes, but believes that the impact of intense sunshine on the ozone layer and cloud cover could be affecting the climate more than the sunlight itself.

David Viner, the senior research scientist at the University of East Anglia's climatic research unit, said the research showed that the sun did have an effect on global warming.

He added, however, that the study also showed that over the past 20 years, the number of sunspots had remained roughly constant, while the Earth's temperature had continued to increase.

This suggested that over the past 20 years, human activities such as the burning of fossil fuels and deforestation had begun to dominate "the natural factors involved in climate change," he said.

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