

# Decade ending in 2009 was Earth's warmest -- U.N. report

**Gayathri Vaidyanathan, Environment & Energy Publishing, 3-26-10**

The decade ending in 2009 was the warmest on the record since modern measurements began in 1850, according to the World Meteorological Organization of the United Nations.

Like most years this decade, 2009 saw heat waves, storms, droughts and floods in China, India, southern Europe and Australia. The colder winter observed in the Northern Hemisphere was also a part of the global warming trend, according to the report.

Last year also saw a transition from La Niña to El Niño in the Pacific Ocean during June. El Niño is a periodic climate pattern that occurs about every five years. It is a large pool of warmer water in the tropical eastern Pacific Ocean that contributes to the overall surface warming. La Niña is its cooler counterpart.

El Niño, together with a general rise in warming due to climate change, is likely to raise temperatures, according to Derek Arndt, chief of the climate monitoring branch at the National Oceanic and Atmospheric Administration's National Climatic Data Center.

"During an era of rising global temperatures, El Niño-dominated years raise the likelihood of placing 2009 among the warmest years on record," said Arndt.

The past year was the fifth-warmest on record. El Niño has also been associated with weather events such as droughts or floods.

The year saw an average global rise in surface temperature between 0.34 and 0.56 degree Celsius (between 32.6 and 33 degrees Fahrenheit). The Southern Hemisphere was particularly warmer than average, with southern South America, Australia and southern Asia seeing extreme warm episodes.

Parts of the United States, Canada and Siberia saw cooler temperatures than average. And record snowfall on the northeastern coast of North America led some climate change skeptics to suggest that the planet was cooling.

## **2010 could set annual warming record**

But experts say that for most people, the fact that climate change is happening remains intuitive. For example, the effect of climate change could be seen when a tiny island that was contested between India and Bangladesh sank into the ocean this week, said Keya Chatterjee, the acting director of the World Wildlife Fund's climate change program.

"Data from the U.S. government agencies shows that global temperatures are continuing to rise," said Chatterjee. "It is not unexpected when winter comes that around January and February it is cold."

This report agrees with a preliminary report by NASA's Goddard Institute for Space Studies that showed a similar increase in surface temperature over the past decade. That report further predicted that 2010 will set a new temperature maximum for the globe, given that El Niño conditions are still persisting.

"We need to pay attention to trends rather than any one year or decade," said Chatterjee. And those trends have been an overall increase in wildfires, droughts, floods and other such events, she said.

The World Meteorological Organization report shows that although global precipitation in 2009 remained at the average overall, large variations were seen regionally. China experienced severe drought; Spain and France saw Winter Storm Klaus. In Ontario, a record number of tornadoes were seen, according to the report.

Global temperatures were measured using three data sets using sea-surface measurements, and air temperatures measured over land. Temperatures are measured and compared with the average at the particular location to determine an anomaly. The difference from the normal at different locations is used to determine a robust global average temperature.

Three organizations maintain these data sets: NASA's Goddard Institute, NOAA, and the Met Office in the United Kingdom.