A Position Statement of the

Michigan Science Teachers Association
On
Global Climate Change

The mission of the Michigan Science Teachers Association (MSTA) is to stimulate, support and to provide leadership for the improvement of science education throughout Michigan. In the execution of this role, the MSTA acknowledges that it is essential that students be introduced to research-based contemporary scientific scholarship. The MSTA views the study of global climate change as an opportunity to promote scientific literacy and help our students understand the nature of science. Because of its immediacy and relevancy to the sustainability of our planet, global climate change demands the full attention of the educational community in an effort to build students' understanding, curiosity and appreciation of human impact upon climate and climate's impact upon humanity.

The study of global climate change, like all scientific research, is based upon tested hypotheses, established scientific fact and scientific theory. Although additional research is required to establish all of the causative influences upon global warming, the Intergovernmental Panel on Climate Change has clearly established that there is an "unequivocal" warming of the climate system and that climate change is partially anthropogenic (human-induced) (www.ipcc.ch, 2014). Research results from the international scientific community have established that there is a substantial body of empirical evidence to validate the conclusions:

1. there is a documented warming trend,
2. increasing concentrations of greenhouse gases warm the planet,
3. the atmospheric build up of CO_2 and other greenhouse gases is significantly impacted by human activities, and
4. greenhouse gases emitted by human activities remain in the atmosphere for decades to centuries (Environmental Protection Agency www.epa.gov/climatechange).

The breadth and scope of global climate change will have significant environmental, political, social and economic consequences.

Although there is a preponderance of international scientific evidence to substantiate the occurrence of global warming and other climatic changes, the need for additional research still remains to answer the questions of how much warming will occur, how fast it will occur, and how the warming will affect other climate systems and

patterns. Answering these questions will require a better understanding of the causes, dynamics and patterns of natural climatic variation, which with enhanced insight of the impact of human activities, will improve our understanding of the consequences associated with rapid climate change.

Investigating these questions will provide powerful opportunities for scientific study in the classroom. Our responsibility as science educators begins with educating ourselves about the physical basis for global climate change and the impacts of those changes on physical and biological systems. Furthermore, our responsibility and obligation extend to teaching the science of global climate change at all levels and providing opportunities to discuss the consequences of global climate change in this context.

Technical Summary of IPCC (http://ipcc-wg1.ucar.edu/wg1/wg1-report.html)

Approved: Michigan Science Teacher Association Board of Directors
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