

CSPG POSITION ON GLOBAL CLIMATE CHANGE SCIENCE

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INTRODUCTION

The CSPG has been asked by many members, and encouraged strongly by its Past Presidents, to state a position on the controversial subject of global climate change. Although the Society has traditionally avoided taking public positions, the Executive has agreed that we must take a clear stand as professionals, and as knowledgeable scientists of the Earth.

Geologists should have an authoritative voice in this messy and politicized public debate, which has been marked by many misrepresentations of science and manipulation of the public media by those on every side. In particular, petroleum and other “soft-rock” geologists, who work daily with the products of earth’s varying climate over geological history, have a vital and essential perspective to contribute. We are also accustomed to synthesizing evidence from many branches of science in our day-to-day work.

Expert opinions expressed by the CSPG focus entirely on the science of global climate change, and do not address the political and economic issues which dominate the media. The CSPG advocates no position on the Kyoto accord, nor on other public actions promoted in response to perceived climate change. We must say very strongly, however, that the science is the basis of the entire climate change debate – arguments built upon a poor understanding of the science are doomed to be wrong.

The CSPG position has been presented to the membership in draft form, and comments have been invited from all members. This final position paper reflects the input received, and has been approved by a strong majority of respondents.

Climate change scientific arguments are many, and are far too involved to be reviewed in this short position paper. However, the reader is referred to the following summaries of current global climate science:

- WMO UNEP Intergovernmental Panel on Climate Change (www.ipcc.ch/) - summaries of the findings of the IPCC, widely quoted in support of arguments linking anthropogenic gas emissions and climate change
- “The CSPG Backgrounder to Global Climate Change”, a brief review of the key scientific issues, by CSPG member D.L. Barss and associates. This paper has been posted on the CSPG website.
- “Are Observed Changes in the Concentration of Carbon Dioxide in the Atmosphere Really Dangerous?”, an exhaustive review of global climate science by Chris de Freitas of the University of Auckland (Bulletin of Canadian Petroleum Geology, June 2002; also posted on the CSPG website).

THE CLIMATE CHANGE DEBATE

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Many people argue that “greenhouse gases” emitted by human activities have upset natural climatic balances, causing anomalous global climate change since the mid-20th century (see, for example, the David Suzuki Foundation website, www.davidsuzuki.org). Claims of “scientific consensus” backing these ideas are not well-founded, however, as summarized in the “CSPG Backgrounder”, which draws the following conclusions:

1. Global climate change has been a constant throughout the history of the Earth, driven by a variety of global and astronomical natural factors. The variability of and interactions among these factors are the subjects of active research, but are still very poorly understood by climate scientists. Observations of past climatic variations show much better correlation with astronomical variables such as solar activity and orbital changes than they do with atmospheric CO₂ levels.
2. Since the beginning of the 20th century, atmospheric CO₂ has risen with accelerated production of CO₂ by human activities. However, using the best attempts to remove biases from temperature data, there is not a good correlation between atmospheric CO₂ and global temperatures.
3. Global circulation models attempt to represent climatic influences with numerical equations, and are used to predict future climate variations. However, they are hampered by our poor understanding of the relationships and feedback loops among many of the key variables. GCM predictions of warming trends through the 21st century have decreased systematically as the models have become more sophisticated.
4. These observations suggest that global climate change is a natural and fundamental part of earth history, and that the effects of human activities on global climate are likely a poorly-understood fourth-order factor.

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Based on these conclusions, the Canadian Society of Petroleum Geologists proposes the following position on global climate change:

Global climate change is a natural and continual process on Earth. Climate changes similar to and much more severe than those happening today have occurred repeatedly throughout historic and geologic time, as the result of many natural factors.

Climate science is only beginning to understand these factors and their interactions. There is no “scientific consensus” that “greenhouse gases” produced by humans are driving any unusual climate changes.

Mankind’s greatest efforts to reduce production of carbon dioxide, a natural component of the atmosphere essential to virtually all life, will not significantly affect climate change. The climate will change naturally, and mankind must adapt, as all life has done throughout the Earth’s history.

Regardless of the outcome of global climate change debates, mankind should not be distracted from the worthwhile goals of using all resources wisely, and of reducing its production of polluting chemicals that are truly harmful to life on Earth. We should further

develop our scientific understanding of the earth, oceans, and atmosphere, to guide us in reducing our negative impacts as effectively as possible.

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