## It is time for us to "let science be science!"

Unfortunately, today one often sees some political and scientific leaders making climatic decisions based upon political conformity, the desire for personal profit, and/or emotions expressing what they want it to be and not what it is. These decisions often misstate scientific facts and label their opinions as scientific fact. This is particularly true in climatology, in discussions of global warming resulting from man's activities. Over the past few years, one has seen ill-informed individuals making catastrophic statements about how global climate change will damage the Earth. These are often individuals who: (1) have a partial understanding of only a limited aspect of the natural sciences, (2) ignore long-term historical scientific data, tending to only look at the very limited current data of the past few years, (3) support their decisions because they can make money selling snake-oil to others, and/or (4) often appear to be more interested in making it a political issue and refusing to seriously discuss it. For all the above reasons, and possibly a few others, one can see politicians and a few scientists making foolish predictions about how climate will drastically change in the near future—predictions which do not prove to be true—and then calling their proclamations science. The authors refer to this as pseudoscience, in which people who predict catastrophe refuse open discussion of their ideas, unless we are willing to accept their ideas. This same group of individuals encourages politicization of science while discouraging any discussion that might not be acceptable to their perceptions.

A geologist Robert S. Young (2017) wrote in the *New York Times* about science marches supporting *anthropogenic* global warming, which was later echoed by many on social media, "a march reinforces the narrative that scientists are a special interest group, and further alienates scientists and scientific findings from a significant portion of the population who are already skeptical. Will a march for science help science?" It seems unlikely.

The fact that over the past 50 years many projections and predictions have proven to be false, has never changed their unsupportable forecasts.

Early scientific leaders, Galileo, Newton, etc., developed what is today called the *scientific method* in that one: (1) first gathers the data, (2) then develops a hypothesis to explain the gathered data, (3) tests that hypotheses with data and then (4) if the hypothesis doesn't totally answer the question, *adjusts the hypothesis* and continues testing until all aspects of the hypothesis are covered. There is open discussion during all aspects of this method. Unfortunately, the pseudoscientists develop their hypothesis and then refuse to discuss their concepts, politicizing and demonizing anyone with a question that challenges their hypothesis, even though there is data that conflicts with their hypothesis.

This book is dedicated to use of the scientific method in explaining the development of the Earth's climate and addressing the questions, "(1) *Is there global warming? and (2) is it generated by human beings?*" To do this requires an understanding of data from the fields of geology, thermodynamics, physics, cosmology, biology and other areas of natural science. As additional scientific data is revealed, the hypotheses presented in this book will change accordingly.

The followers of pseudoscience have proposed many catastrophic changes in the Earth's climate over the past few years, which have been proven to be false. Friends of Science (2017) have succinctly grouped many of these *misconceptions* into the following myths:

- 1. Global temperatures are rising at a rapid, unprecedented rate.
- 2. The *hockey stick* graph shows that the Earth has experienced a steady, very gradual temperature decrease for 1,000 years, then recently began a sudden increase in temperature due to increased *anthropogenic* carbon dioxide in the atmosphere.
- 3. Human-produced carbon dioxide has increased over the last 100 years, adding to the *greenhouse effect*, thus causing most of the Earth's warming of the last 100 years.
- 4. Carbon dioxide is a pollutant and a dangerous poisonous gas in the Earth's atmosphere.
- 5. Computer models verify that increases in carbon dioxide in the atmosphere cause significant global warming.
- The United Nations Intergovernmental Panel on Climate Change (IPCC) has demonstrated that man-made carbon dioxide causes global warming.

- 7. Global warming will cause more storms, fires, rising sea levels and other catastrophic climatic extremes.
- 8. Receding glaciers and the calving of ice shelves are proof of anthropogenic global warming.
- 9. The Earth's poles are warming, polar ice caps are breaking up and melting, and polar bears are dying out due to global warming.

Every one of the above statements is false, proven by scientific facts. Yet the proponents of this pseudoscience continue to make additional outrageous climate forecasts, supported not by science, but rather their feelings.

The authors have gathered the following scientific data to present a factual understanding of the *Evolution of the Earth's Climate*. The authors for this book present the collective wisdom of many authors with experience and expertise in the fields of geology, engineering, mathematics, cosmology, biology, thermodynamics. As more scientific data is gathered, the hypothesis within this book will change; that is science!

## Acknowledgments

This book is the result of the work of many contributors whose research has enabled the writers to build upon their work. The late O. G. Sorokhtin's notes were made available by his son, N. O. Sorokhtin, enriching the concepts presented in this book. The authors have attempted to give credit for the many ideas and research of many previous investigators. Without their ideas, this book would have been impossible. Science is an accumulation of ideas that slowly grows over time. Our understanding of the present is only accomplished by understanding the past. Hopefully, as our base of knowledge continues to grow, the ideas expressed in this book will be again modified to match the scientific data of tomorrow.

The writers owe thanks to the editor, Dr. Phil Carmical, and his staff who made everything presented a little – and sometimes at lot – better. Special thanks go to Dr. Misa Gorfunkel for his help

Academician John O. Robertson owes a special acknowledgment to his wife, Karen Marie Robertson, for her support over the past 50 years and to his son, Jerry J. Robertson, for his important contributions. Thanks, is also extended to Joel Hinrichs and Doug Praska for their thoughtful comments in reviewing portions of the book.

Professor, Academician George V. Chilingar wishes to acknowledge the moral support and encouragement given by his wife Yelba Maria Chilingar and his children Eleanor Elizabeth, Modesto George and Mark Steven.

Mr. Wennan Long is very thankful for the support of his parents, Mr. Guowen and Mrs. Chen Long; and his wife, Mrs. Lewei Long.