

## ANTARCTICA: A CALL TO ACTION

### Excerpt from the Introduction

Antarctica lives in my memory as a sanctum of pristine natural beauty. A world tucked away, happily frozen in time, the Antarctic continent has thrived in its natural state for millions of years, conveniently out of reach of human interaction. It wasn't until 1821 that men set foot on this virgin land. Given its extreme climate, it has remained largely untouched even to this day--on the surface at least--by the human footprint.

At one and a half times the size of Australia, Antarctica doubles in size in the winter. Like the great lungs of the Earth, the sea ice at the poles expands and shrinks with each seasonal cycle, taking in enough ice to carry the planet over through the next season, and cooling it in the process. They are the air conditioners of the globe, and help regulate our ecosystems--from temperatures and seasons, to the relationship the Earth has to water. In this way, the poles have played a key role in sustaining our global average temperature of 59F degrees, which has defined human development and agricultural prosperity for the last 15,000 years.

The poles are barometers to the world: they are the fragile icons of the relationship of cause and effect. Today, the Earth is 1.4F degrees warmer than it was 100 years ago, and computer models point to an increase of 4F degrees by 2100. These changes may seem minute, but in environmental terms, they have profound consequences and have the power to destabilize entire ecosystems. By the end of the summer in 2007, scientists were confounded as they witnessed the largest depletion of Arctic summer ice ever recorded—over a half a million square miles, the size of Texas and California combined. Some now predict that the ice could be all but gone in the summer by as early as 2013. Meanwhile, the Antarctic Peninsula has been warming at five times the global average, or 1F degree every decade for the past fifty years. Sea ice over the western Antarctic Peninsula has receded by 40% in the last 26 years.

To complicate matters, Antarctica's complex climatic environment can provide distracting fodder for the environmental skeptics. It is true that some areas are seeing colder temperatures in the central plains and higher elevations; and more precipitation in coastal areas. But those precipitations are due to an increased melt season. Regardless, unprecedented warming trends in the Peninsula are destabilizing glaciers, which are now pouring into the ocean at a faster rate than ever before.

There are good reasons to believe that these changes are tied to human activities. Indeed, the concentration of CO<sub>2</sub> into the atmosphere—which had never reached beyond 300 parts per

million (PPM) in the last million years—has increased by almost 100PPM in the last century and a half alone. Today, humans pour seventy million tons of green house gases into the air every twenty-four hours. 2007 saw a new record jump in CO<sub>2</sub> levels, increasing by 2.4 PPM. At the present rate, carbon dioxide output will grow 75% by the year 2030. If this were not enough, the methane once trapped in the great North's permafrost has seen a sudden jump as it is being released from these thawing temperatures, further increasing the levels of green house gases into the atmosphere; that thin layer which has uniquely enabled our planet to create and support life.

In seeking progress, humanity is choking the natural world out of its ability to provide for us. The World Wildlife Fund now predicts that by 2050, resources will be consumed at twice the rate that the Earth can renew. Our reliance on old technology to produce power and our attitude towards waste must be re-thought. These changes do not merely beg a re-examination of population growth and consumption; they demand an urgent and global commitment to the principles of sustainable development.

From an environmental standpoint, we are out of the “tree-hugging” business. The last few years, replete with natural disasters and economic challenges, have forever changed the landscape of our collective consciousness; and forced us into the beginning stages of a global environmental awareness. It has also stimulated our intellectual resourcefulness by presenting solutions to reverse this problem. But we have a long way to go. And the issue is time. We can no longer solely rely on our business and political leaders; it is time we take stock of the individual accountability we all share to cherish the condition of our existence, and protect the source of our survival. This is an “all hands on deck” moment in our history. Because our goal, ambitious though it is, must be to return to a more sustainable existence, inspired by the species depicted in this book. That is what I hope to address with this Call to Action.

That time is upon us. Welcome to the “Age of the Environment.”

— Sebastian Copeland, Los Angeles May 28, 2008