PREFACE

In August 2001, Gary Comer, the transoceanic sailor who founded the Lands' End direct mail clothing empire and who had been fascinated with the Arctic since childhood, successfully completed a voyage from Greenland through the Northwest Passage. For centuries mariners had tried to navigate through ice-choked channels of the Northwest Passage that connect the Atlantic and Pacific oceans at the top of the world. Even the names of these channels conjure up the images of the men and their sponsors who tried and mostly failed to find a route through this treacherous Northwest Passage—Franklin Bay, Peel Sound, Prince Regent Inlet, Coronation Gulf, Amundsen Gulf, and the Beaufort Sea.

Comer's was the first private voyage through this legendary passage completed in a single season without the services of a government icebreaker—and the fastest in history, completing the crossing in sixteen days and eight hours. That accomplishment changed his life and set the stage for his decision to fund important scientific research that has altered our understanding of the global extent of abrupt climate change.

Although Comer was thrilled by the unexpected success of the expedition, he recognized that the rapid melting of the sea ice that enabled him to complete his voyage presaged massive environmental changes to the Arctic. Shortly after completing his historic journey, Comer sold Lands' End and was free from a lifetime of business responsibilities. A modest, self-effacing man who had gone to work to support himself after high school, Comer began visiting scientists around the United States and asking them to instruct him on how the changes he had witnessed in the Arctic would affect the rest of the world, since he sensed that the region might be a distant early-warning area for the effects of global warming.

I had been aboard various expeditions with Gary Comer to remote parts of the northern oceans, informally assigned the role of expedition naturalist aboard his 152-foot vessel, *Turmoil*. After Comer's successful crossing of the Northwest Passage in 2001, I suggested he contact Wallace "Wally" Broecker, an oceanographer at Columbia University's Lamont-Doherty Earth Observatory. From background

reading, I knew that Broecker had spent a half-century studying how oceans and thus climates have swung back and forth between warm and cold phases in the earth's geologic past and that he was the recipient of numerous awards, including the Crafoord Prize, the "Nobel Prize" for scientific fields lacking a Nobel. When they met at Broecker's lab, he told Comer of the recent scientific discoveries that showed how abruptly climate had changed in the past and described his concern for the unpredictable effects that future climate change represents to life on the planet as we know it.

In the absence of any significant leadership in Washington at the time to fund a coordinated abrupt climate change program, Comer decided to fund a major effort himself and asked Broecker to help organize an interdisciplinary program to recruit talented young scientists to improve the understanding of this field of research.

Both iconoclasts in their own areas of endeavor, Comer and Broecker hit it off immediately. In Broecker, Comer found a world-class intellect, a scientist with blunt opinions and a respected antibureaucratic nature that reflected Comer's own deepest inclinations. Under Broecker's guidance, Comer began investing tens of millions of dollars to work with a network of the most distinguished scientific mentors in the world to identify promising young PhD candidates and newly minted post-doctoral students to track changes in the earth's ocean and atmospheric systems across the globe. Broecker quickly recruited George Denton, a geologist from the University of Maine, and Richard Alley, a glaciologist from Penn State, to help coordinate the Comer Fellows Program in Abrupt Climate Change Research.

During the Arctic summers of 2002, 2003, 2005, and 2006 Comer, Broecker, Denton, Alley, and their students organized a series of research expeditions to the Arctic, and in particular to Greenland, while Comer also battled cancer, which ultimately claimed him in 2006. Comer invited scientists to travel aboard the *Turmoil*, to identify sites for further field research. We traveled widely throughout vast areas of the Arctic, including several voyages to western, southern, and eastern Greenland. With *Turmoil's* cruising range of 10,000 miles, accompanied by either an amphibious float plane or a helicopter that could land on *Turmoil's* afterdeck, the scientists had undreamed-of access to nearly any site they wanted to visit from the western Canadian Arctic to eastern Greenland. Comer, a highly talented photographer in his own right, documented these expeditions.

Figure P.1
Gary Comer in his amphibious floatplane over Scoresby Sound, 2003. (Photo by Philip Conkling)

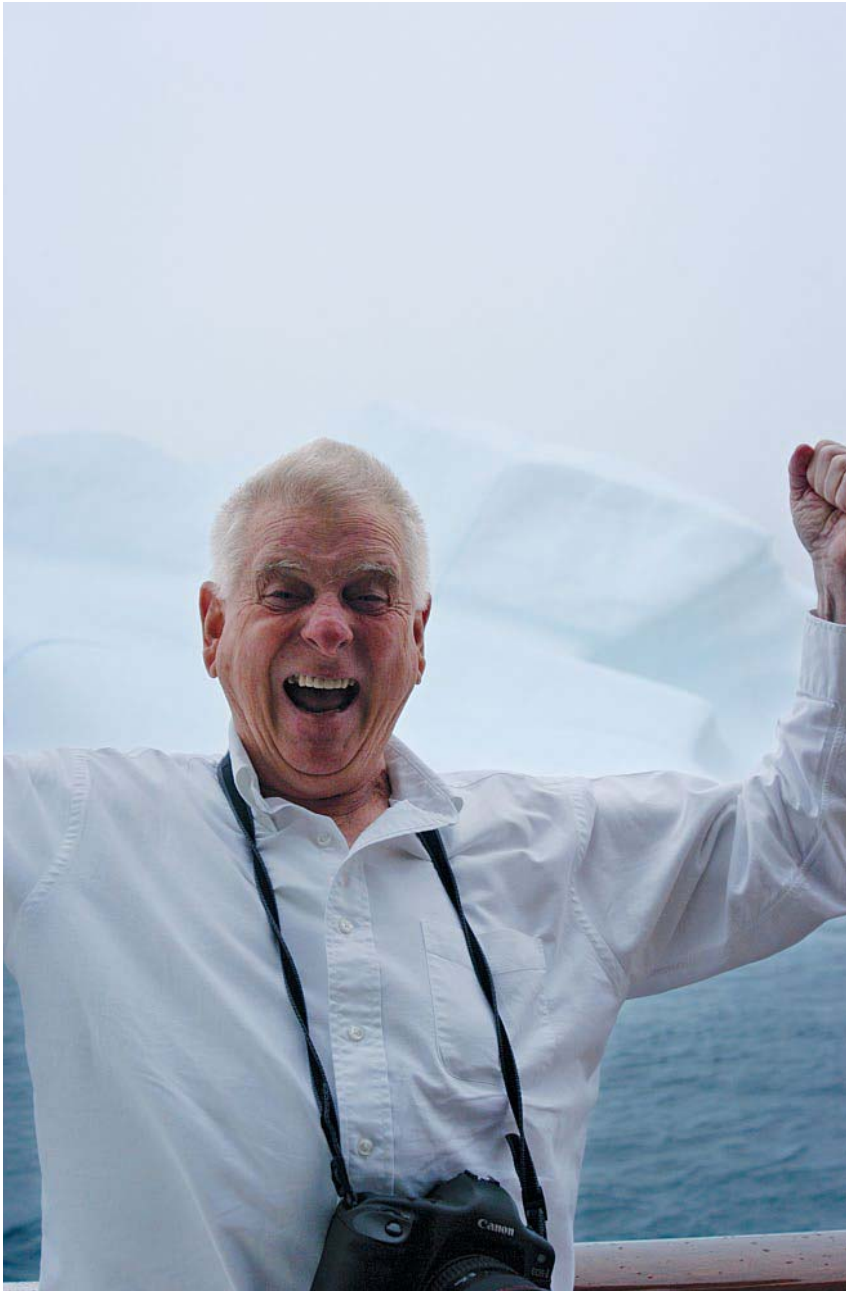

Figure P.2
Gary Comer just prior to his successful crossing of the Northwest Passage. (Photo by Philip Conkling)

Figure P.3
On the stern of *Turmoil*, 2005 (left to right); George Denton, Richard Alley, Philip Conkling, Gary Comer and Wallace Broecker. (Photo by Philip Walsh)

By 2003, under the banner of the Comer Fellowship Program, Broecker, Denton, and Alley had established a network of 25 senior scientists to focus on the global dynamics of abrupt climate change. With the commitment of significant multiyear funding, Broecker, Denton, and Alley fashioned a scientific program to blend both model-based and paleoclimatic approaches to understanding climate change, with one important caveat: they focus on the study of changes in the earth's climate that occur not slowly over tens of thousands of years, but over periods of decades or years.

What Gary Comer's support has accomplished in the most profound sense is to have helped scientists who study abrupt climate change to understand more of the risks we face and encourage a prudent response. Like a venture capitalist, Comer found the people with big ideas and small means, relying on Broecker, Denton, and Alley to find the brightest young scientists at the beginning of their careers to focus on the big questions rather than on fund-raising at a critical point in their careers. Because Comer was the "venture capitalist," these efforts are not isolated from the broader scientific community, but rather are the framework on which the broader scientific community is building. The venture capitalist invests in the hope of greater riches. Comer had already been wildly successful in the business world, and then invested for a much bigger payoff, to change how we understand the world.

Philip Conkling, Editor