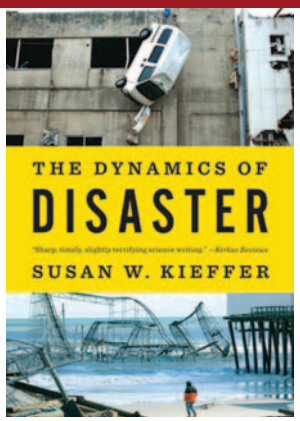
THE DYNAMICS OF DISASTER[1]



Historian Will Durant stated that "civilization exists by geologic consent, subject to change without notice." In *The Dynamics of Disaster*, Susan W. Kieffer provides an overview of most types of natural disasters. She explains disasters through the unifying concept of "changes of state." The term *disaster* is defined in as "a sudden calamitous event bringing great damage, loss, or destruction." This book focuses on disasters caused by geological processes on our planet. As the world population grows, our brushes with natural disasters will intensify because we will increasingly build on volcano slopes, flood plains, and other high-risk locations.

After setting the stage in the first two chapters, Kieffer devotes each of the next seven chapters to one type of natural disaster: earthquakes, landslides, volcanoes, tsunamis, rogue waves, hurricanes, and droughts and floods. Each chapter starts with a "field trip" to witness examples and ends with reflections on various topics. A good example of this is the chapter on earthquakes. Here, Kieffer describes several historical earthquakes and compares the magnitude 7 earthquake in Haiti in January 2010 with the magnitude 7.1 event in New Zealand eight months later. In Haiti, more than 50,000 people died, mostly victims of poor infrastructure, and a million became homeless. In New Zealand, thanks to strict building codes, no one died. The chapter ends with a discussion on how information about risk related to these rare events can be communicated to the public.

In the final chapter, "Earth and Us," Kieffer discusses the 2009 L'Aquila earthquake in Italy. In 2012, Italian scientists were accused, in a court of law, of negligence for "failing to adequately evaluate and communicate the potential risk to the public" concerning this earthquake. This has had a chilling effect on the willingness of scientists worldwide to communicate risks to the public. She ends the chapter with a plea for the creation of a "CDC for Planet Earth," a hypothetical (for the time being) world body that would be loosely based on the US Centers for Disease Control and Prevention (CDC) and whose mandate would be to protect the long-term health and safety of the planet.

The Dynamics of Disaster is written for the general public, and, with her fun-to-read conversational style, Susan Kieffer does a great job of introducing the various concepts needed to understand the issue at hand. To explain abstract geological concepts, Kieffer nicely uses examples that everyone can relate to. I highly recommend this book as a textbook for an introductory course on natural disasters. My only quibble is that the small, black-and-white photos do not do justice to the rest of this beautiful, carefully laid-out book. But, at $25.95 for a hardcover volume, it is excellent value.

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1 Kieffer SW (2013) The Dynamics of Disaster. W. W. Norton & Company, New York, 315 pp, ISBN 978-0-393-08095-7, US$25.95