

# PREFACE



Three decades ago, the first edition of *Physical Geology* by Plummer and McGary was published. Twenty years later, Diane Carlson became a coauthor as David McGary phased into retirement. Now, after ten more years, Lisa Hammersley joins the team for this, the 13th edition. As you may see from the brief biography at the end of this preface, Dr. Hammersley expands the diversity and expertise of the team of authors. The three authors were born and raised in Mexico (Plummer), northern Wisconsin (Carlson) and England (Hammersley). They have worked in geology in Alaska, Antarctica, Washington Cascades mountains, northeastern Washington, Idaho, Utah, Montana, on Ice Island T-3 in the Arctic Ocean, Mexico, the Andes (Peru and Ecuador), and California's Sierra Nevada.

## Why Use This Book?

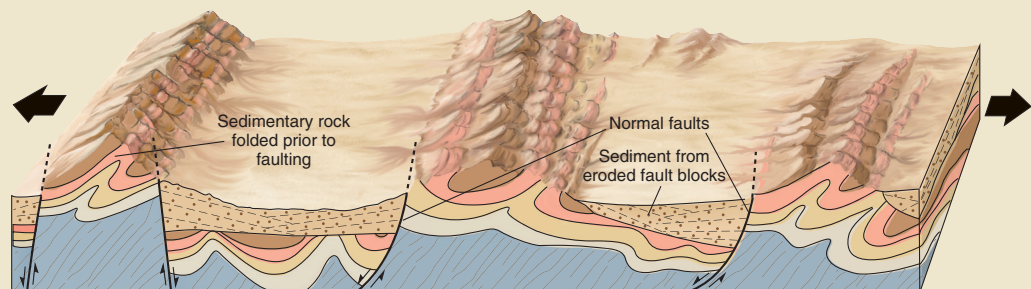
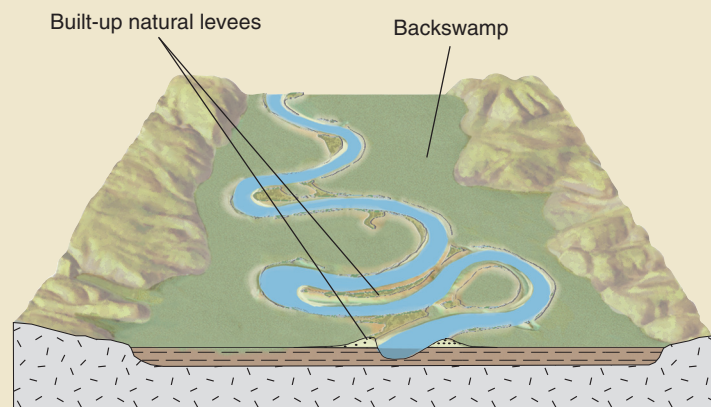
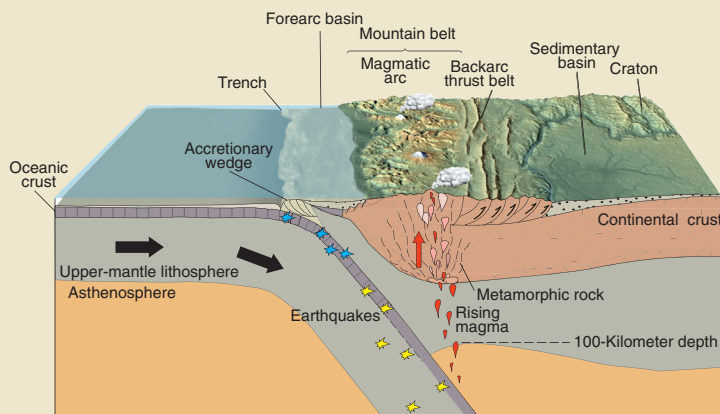
One excellent reason is that it's tried and true. Since the book was published in 1979, over 1,000,000 students have read this text as an introduction to physical geology. Proportionately, geology instructors have relied on this text for over 5,000 courses to explain, illustrate, and exemplify basic geologic concepts to both majors and non-majors. Today, the 13th edition continues to provide contemporary perspectives that reflect current research, recent natural disasters, unmatched illustrations, and unpar-

alleled learning aids. We have worked closely with contributors, reviewers, and our editors to publish the most accurate and current text possible.

## Approach

Our purpose is to clearly present the various aspects of physical geology so that students can understand the logic of what scientists have discovered as well as the elegant way the parts are interrelated to explain how Earth, as a whole, works.

This approach is epitomized by our treatment of plate tectonics. Plate tectonics is central to understanding how the Earth works. Rather than providing a full-fledged presentation of plate tectonics at the beginning of the textbook and overwhelming students, *Physical Geology* presents the essentials of plate tectonics in the first chapter. Subsequent chapters then detail interrelationships between plate tectonics and major geologic topics. For example, chapter 3, on igneous activity, includes a thorough explanation of how plate tectonics accounts for the generation of magma and resulting igneous rocks. Chapter 19, typically covered late in the course, presents a full synthesis of plate tectonics. By this time, students have learned the many aspects of physical geology and can appreciate the elegance of plate tectonics as a unifying paradigm.



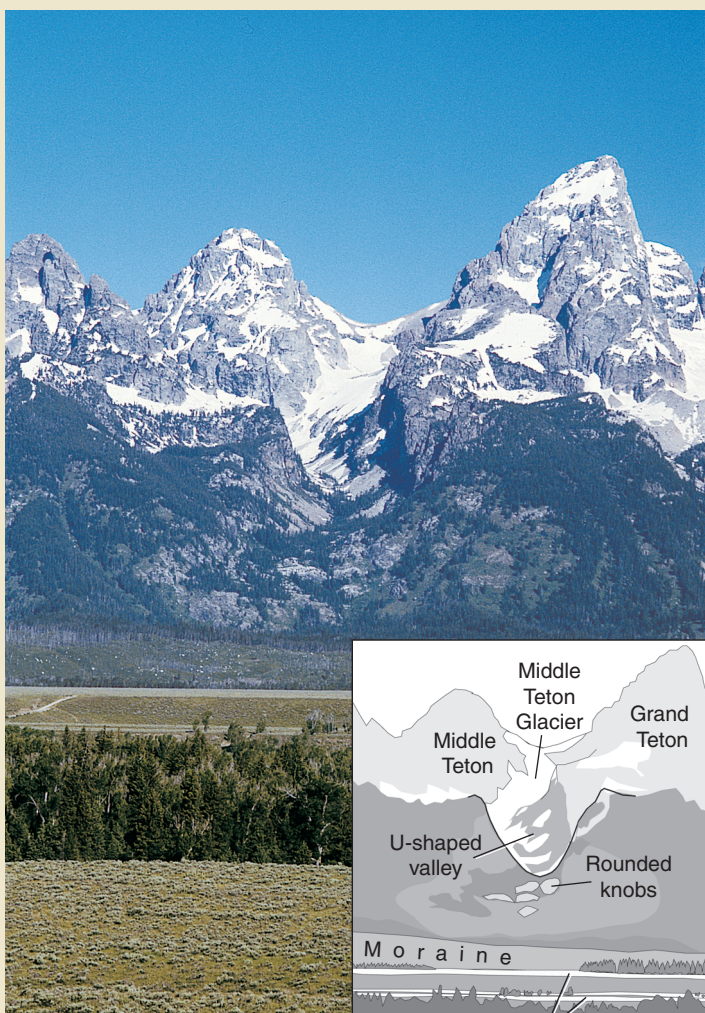
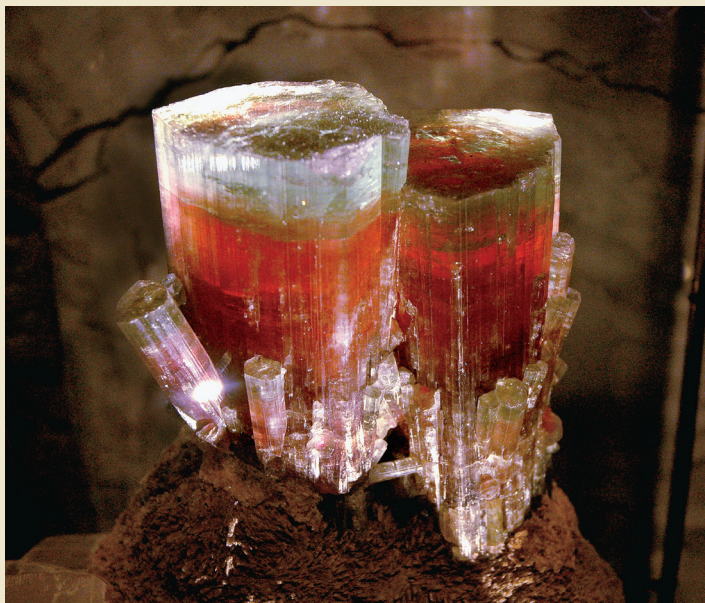
## THE THIRTEENTH EDITION

### Superior Photo and Art Programs

Geology is a visually oriented science, and one of the best ways a student can learn it is by studying illustrations and photographs. The outstanding photo and art programs in this text feature accuracy in scale, realism, and aesthetic appeal that provides students with the best visual learning tools available in the market.

### A Geologist's View

Photos accompanied by an illustration depicting how a geologist would view the scene are featured in the text. Students gain experience understanding how the trained eye of a geologist views a landscape in order to comprehend the geologic events that have occurred.



*Geologist's View*



### Animations

McGraw-Hill is proud to bring you outstanding animations, located on the website, that offer students an exciting method of learning about such geology concepts as dynamics of groundwater movement, isostasy, plate tectonics, and much more. A special animation icon has been placed beside each figure in the text that has a corresponding animation.

### Three Page Foldout

This foldout, located in the back of the text, is constructed so students can easily leave it folded out and refer to it while reading the text. The front side contains a geographic map of the world so that students can gain a better sense of the location of the places that are mentioned within the text. The North America Tapestry of Time and Terrain map is located on the back of the foldout.