

Open Educational Resources for Earth Studies and Planetary Sciences

[Physical Geography](#)

A fully comprehensive online textbook that gives an introduction to physical geography and explores topics ranging from the universe, plate tectonics, planet earth, tectonic forces, weathering, erosion and deposition, and more.

[Physical Geology](#)

Physical Geology is a comprehensive introductory text on the physical aspects of geology, including rocks and minerals, plate tectonics, earthquakes, volcanoes, glaciation, groundwater, streams, coasts, mass wasting, climate change, planetary geology and much more. It has a strong emphasis on examples from western Canada, especially British Columbia, and also includes a chapter devoted to the geological history of western Canada.

[Geology](#)

This resource covers the science of geology, why it matters, rock forming materials, the rock cycle, soil, earth's interior, crustal deformation, hydrology, plate tectonics, earthquakes, geological implications, etc.

[Environmental Biology](#)

A full online textbook that covers the most salient environmental issues from a biological perspective.

[Terrestrial Environments](#)

Covers content about environmental science, matter, energy, life, ecosystems, biodiversity, population ecology, water availability and use, climate change, and much more.

[Earth Science](#)

Covers earth's minerals and rocks, surface processes, atmosphere, weather and climate, human populations and human impacts on the earth's environment.

[Earth Science Textbook](#)

A fully comprehensive textbook that covers earth's history, earth's minerals and rocks, earth's oceans, the solar system, stars, galaxies and the universe, volcanoes, humanity's impact on the earth's resources and much more.

[Geoscience Guides](#)

Provides guides on drawing and interpreting graphs in geosciences, guides to scientific investigation in geosciences, as well as guides to descriptive and inferential statistics in geosciences.

[GIS Commons](#)

While this GIS textbook is principally an introduction to GIS, most of the chapter's concepts are applicable to other geo-technologies including remote sensing, global positioning systems (GPS), Internet mapping, and virtual globes.

[An Introduction to Geology](#)

A full online textbook source from Salt Lake Community College. It covers minerals, plate tectonics, geologic time, deserts, coastlines, volcanoes, climate change and more.

[Introduction to Physical Oceanography](#)

This textbook covers physical-oceanographic processes, theories, data, and measurements, targeted at upper-division undergraduates and graduate students in oceanography, meteorology, and ocean engineering. In addition to the classical topics, the author includes discussions of heat fluxes, the role of the ocean in climate, the deep circulation, equatorial processes including El Nino, databases used by oceanographers, the role of satellites and data from space, ship-based measurements, and the importance of vorticity in understanding oceanic flows.

[Introduction to Ocean Science](#)

A textbook available as free downloadable PDF files. Chapters include topics such as ocean-atmosphere interactions, waves, coasts, ocean ecosystems, marine ecology, ocean sediments and circulation, pollution and more.

[The Nature of Geographic Information](#)

The purpose of this text is to promote understanding of the Geographic Information Science and Technology enterprise. It covers thematic maps, scales and transformations, TIGER, topology, geocoding, land surveying and GPS to name a few.

[Sustainability: A Comprehensive Foundation](#)

An OpenStax textbook source. In *Sustainability* the range of ideas and issues reach from the depth of biological sciences to the physical sciences and to the social sciences, including politics. The seriousness of the issue of Sustainability has become increasingly important and obvious over the last fifty years driven by an increasing human population with increasing per capita resource consumption on a planet which is after all finite.

[Astronomy-OpenStax](#)

The book begins with relevant scientific fundamentals and progresses through an exploration of the solar system, stars, galaxies, and cosmology. The Astronomy textbook builds student understanding through the use of relevant analogies, clear and non-technical explanations, and rich illustrations.

[Introduction to Physical Oceanography](#)

This textbook covers physical-oceanographic processes, theories, data, and measurements, targeted at upper-division undergraduates and graduate students in oceanography, meteorology, and ocean engineering. In addition to the classical topics, the author includes discussions of heat fluxes, the role of the ocean in climate, the deep circulation, equatorial processes including El Nino, databases used by oceanographers, the role of satellites and data from space, ship-based measurements, and the importance of vorticity in understanding oceanic flows.

[Smithsonian Ocean Portal Video Archive](#)

A site for students and teachers. Videos, news stories, slideshows on current ocean topics. Listed as an OER resource by Northwestern Michigan College.

Other OER Resources

- *Modifying an Open Textbook: What You Need to Know*,
<https://press.rebus.community/otnmodify>
- InfoKit on Open Educational Resources,
<https://www.jisc.ac.uk/guides/open-educational-resources>

Textbook Affordability Program



Background

In [response to student concerns](#) about the current price of course materials, SBCC has secured a grant to provide professional development opportunities and support for faculty interested in switching from high-cost, traditionally published textbooks to free or low-cost Open Educational Resources.

Please consult the [flow chart and stipend structure](#) for Open Educational Resources adoption guidelines and incentives.

Get Help

- For assistance finding OER, questions about stipends or the SBCC Textbook Affordability Program contact program coordinator [Camerin Poulson](#)
- For assistance finding supplemental library materials to support OER contact Reference Librarian [Michelle Bone](#), Instruction Coordinator Librarian [Ellen Carey](#), or [Camerin Poulson](#).
- For technical and design assistance incorporating OER into your course contact the [Faculty Resource Center](#).
- For questions about how to offer print copies of your OER through the bookstore contact [Shane Bandy](#)
- To get a print copy of your OER placed on the library reserve contact [Camerin Poulson](#).
- For questions about acquiring accessible OER materials to support students with disabilities please contact [Laurie Vasquez](#), Assistive Technologies Specialist. To understand the interaction between accessibility and OER materials please use the [accessibility checklist](#) as a guide.