

CHAPTER OVERVIEW

1: Earth Cycles, Moon Cycles, and Sky Information

If Earth's orbit is nearly a perfect circle, why is it hotter in summer and colder in winter in many places around the globe? And why are the seasons in Australia or Peru the opposite of those in the United States or Europe?

There was a story that Galileo, as he left the Hall of the Inquisition following his retraction of the doctrine that Earth rotates and revolves around the Sun, said under his breath, "But nevertheless it moves." Historians are not sure whether the story is true, but certainly Galileo knew that Earth was in motion, whatever church authorities said.

It is the motions of Earth that produce the seasons and give us our measures of time and date. The Moon's motions around us provide the concept of the month and the cycle of lunar phases. In this chapter we examine some of the basic phenomena of our everyday world in their astronomical context.

1.1: Earth and Sky

1.2: The Seasons

1.3: Keeping Time

1.4: The Calendar

1.5: The Sky Above

1.6: Phases and Motions of the Moon

1.7: Ocean Tides and the Moon

1.8: Eclipses of the Sun and Moon

1.E: Earth, Moon, and Sky (Exercise)

Thumbnails: As captured with a fish-eye lens aboard the Atlantis Space Shuttle on December 9, 1993, Earth hangs above the Hubble Space Telescope as it is repaired. The reddish continent is Australia, its size and shape distorted by the special lens. Because the seasons in the Southern Hemisphere are opposite those in the Northern Hemisphere, it is summer in Australia on this December day. (credit: modification of work by NASA)

Contributors and Attributions

- Andrew Fraknoi (Foothill College), David Morrison (NASA Ames Research Center), Sidney C. Wolff (National Optical Astronomy Observatory) with many contributing authors. Textbook content produced by OpenStax College is licensed under a [Creative Commons Attribution License 4.0](https://creativecommons.org/licenses/by/4.0/) license. Download for free at <https://openstax.org/details/books/astronomy>.

This page titled [1: Earth Cycles, Moon Cycles, and Sky Information](#) is shared under a [CC BY 4.0](#) license and was authored, remixed, and/or curated by [OpenStax](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform.