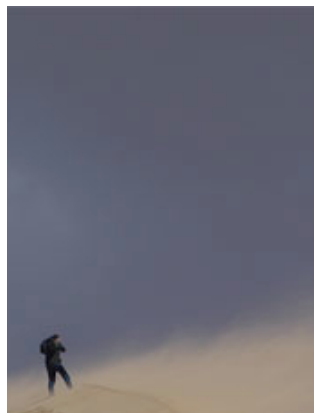


## Eleven

A Weekly Bulletin from  
the Center for Academic Advising

### 5 Things Worth Knowing about Geology

by Mark Wilson



Mark Wilson, Professor of Geology, studies the evolutionary ecology of marine invertebrates over the past 500 million years. He and his I.S. students travel widely searching for rocks and fossils to fill in the gaps of this narrative. When not in the classroom, lab or field ... well, we have no idea what he does.

Geology is the science of the Earth and one of the most diverse scientific disciplines, a synthesis of chemistry, physics and biology applied to questions about our planet. Geologists work in computer labs to predict earthquakes, dive on coral reefs to sort out physical factors causing ecological changes, and study, on mountain peaks, how continents grow. Here are five things I'd like you to know about geology:

- 1) **The Earth is dynamic.** For all our comforts, we live precariously on an active planet with earthquakes, volcanic eruptions, hurricanes, tsunamis, climate changes, and a host of other life-threatening insults to our civilizations. This dynamism is, ironically, what ensures the survival of life by continually renewing our continents, oceans and atmosphere.
- 2) **The Earth has a long, long history.** Our beautiful planet is just over 4.5 billion years old – so old that unimaginable “geologic time” has become a metaphor. We are blessed with a record of rocks and fossils that we use to plot the complex story of how the Earth developed from a cold ball of rock, metals and ice into the warm, multi-layered and sometimes dangerous home we enjoy today.
- 3) **Life has a long, long history.** There have been living organisms on Earth for at least the last 3.8 billion years. Fossils are the physical record of how life has changed over time, from bacteria to our modern biota. We can follow this dramatic evolution through great adaptations and diversifications to cosmic disasters resulting in mass extinctions. As always, the past contains clues to the future.
- 4) **Life is a geological process.** Organisms are not just a pretty splash of green to decorate our otherwise blue and brown planet. Life has interacted with the physical Earth since it appeared billions of years ago. It has changed the composition of the atmosphere and oceans over time, sculpted land surfaces, and turned solid rock into powder.
- 5) **Human activity affects the Earth.** We release gases into the atmosphere, pump water and oil from the ground, and let our wastes flow into the sea. These actions change the Earth and the life around us. Often the effects are at any one time very small on a planetary scale, but they add up through time. Many geologists work at the interface between the Earth and society assessing the results of our heavy hand on the planet and working to find ways to protect the environment for the health and prosperity of future generations.