

## Why care about the Quaternary?

The study of Quaternary history is mostly a study of past climate, and understanding the past is one of the keys to predicting the future. The scientific consensus of the early twenty-first century is that humans are causing considerable change to Earth's climate, and predicting that change is greatly enhanced by an understanding of how climate has functioned in the past. Someone abruptly given control of a complex system commonly wishes that they had been watching the system more closely before assuming responsibility for the system's function. We humans now realize that we affect Earth's climate, but we weren't watching closely over the past millennia, and so now we must look back in time to learn how the system has worked in the past.

The Quaternary is the time in which our species evolved to its present form. The same is true for all species, but we are most interested in ourselves and can justifiably argue that our evolution over the last few million years has been spectacular. An understanding of how we have come to be as we are – bipedal intelligent beings, incredibly creative and destructive – is enhanced by understanding the changing conditions in which we evolved.

An understanding of the Quaternary's peculiarities helps us think about earlier geologic history by revealing what parts of the present may not be keys to much of the past. For example, geologists thinking about the non-Quaternary (and non-Pennsylvanian) past need to envision a world of higher and less variable sea level on which glacial till and loess were not regularly deposited. The present is the key to the Pleistocene, and perhaps the Pennsylvanian – but one needs to understand Quaternary history to see the limitations of the present as a key to the rest of the past.

Quaternary Science is of interest to many academic fields of study, and thus it has an interdisciplinary dynamic rare in the sciences. Quaternary Science receives contributions from geologists, geographers, oceanographers, climatologists, and glaciologists. Archeologists and astronomers make occasional appearances too. Even historians contribute once in a while. This provides two answers to "Why care about the Quaternary?": (1) well, lots of different people do, and (2) this area of study offers a lot of fun interaction across several fields of study.