Introducing the Anthropocene
From Andrew Alden,Your Guide to Geology.
A brand-new name for the geologic present
Big-name scientists often add to the language. Usually they do this by becoming an eponym—having something named after them. In Earth science it's most often a fossil species, a mineral, or a geologic concept. But Paul Crutzen, a Nobel Prize winner for his work on the ozone layer, has set out to give the future a new name.

The Anthropocene Epoch: In Favor
In a stirring 2000 paper, Crutzen pointed to the many ways that today's Earth is no longer "natural" thanks to the effects of human civilization. Global warming is only the latest and best-known example. Truly, he says, humans have become a geologic agent comparable to erosion and eruptions, and accordingly "it seems to us more than appropriate to emphasize the central role of mankind in geology and ecology by proposing to use the term 'anthropocene' for the current geological epoch." He repeated his proposal to a much larger audience in a January 2002 *Nature* article.
This is a well-worded and precise proposal. The geologic time scale extends from the Earth's formation, in the Hadean Eon, to the current Holocene Epoch, which began about 12,000 years ago. So Crutzen wants the Holocene to end and the Anthropocene to begin, a new time period of the same rank as the Holocene. We would still be in the Quaternary Period of the Cenozoic Era in the Phanerozoic Eon.
You notice that I capitalize all those names whereas Crutzen did not. That's because his name is only a proposal, which would have to be ratified by the world's major scientific organizations first.

The Anthropocene Epoch: Opposed
If I were them, I would reject his proposal because it doesn't follow the rules. But something very close to it might be a good thing.
The smallest, most basic unit of geologic time is the *age*, and an *epoch* is a series of ages. The familiar time units Holocene, Pleistocene, Pliocene, Miocene and so on going back in time are epochs that consist of ages. The Miocene Epoch, for instance, consists of the Aquitanian, Burdigalian, Langhian, Serravalian, Tortonian and Messinian ages. (The Pleistocene is so short that it consists only of the Calabrian Age, and nobody has bothered to name an age for the Holocene.)
Here's my point: These basic time units are precisely defined by fossil evidence—the appearance or extinction of particular species in particular rocks. The Holocene, for instance, is defined by the abundant appearance of the coccolithophore *Emiliania huxleyi* in marine sediments.

Crutzen's would-be Anthropocene Epoch isn't based on fossils. He would start it in the late 1700s, at the start of the Industrial Revolution. That's a good choice for the beginning of the carbon-dioxide pulse that underlies the current global warming. But you could only determine that point with geochemical evidence, or exact dating methods like tree rings or historical records.

An Anthropocene Proposal

Crutzen mentions that others have proposed starting the Anthropocene much earlier. That's what I would do too, because the widespread human influence on the Earth began long before the 1700s. The ancient Mediterranean and Near Eastern civilizations, for instance, deforested their region and turned it dry thousands of years ago. The inhabitants of Australia and the Americas, even earlier, used (or misused) fire to manage their local ecosystems, and they slaughtered many of the larger animal species as well.

To me, the best way to respond to Crutzen's proposal is to add the Anthropocene Age under the Holocene Epoch. That is already established by traditional geologic methods, so nothing would change in the field or in the lab.

And this action would acknowledge the real point Crutzen is making: "An exciting, but also difficult and daunting task lies ahead of the global research and engineering community: to guide mankind towards global, sustainable, environmental management." I would use the punchier formulation of Stewart Brand, the American visionary: "We are as gods and might as well get good at it."

PS: *Emiliania huxleyi* is a good example of famous names being honored by the scientific community. The most abundant organism in the sea, this exquisite plankton species is named for the oceanographic pioneer Cesare Emiliani and the champion of evolution Thomas Henry Huxley. Learn more about "Ehux" at its home page, and more about its eponyms in the Biographies list.

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