

Welcome to the "Anthropocene"

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Earth has entered the "Anthropocene", a new geological era in which humans rival nature in their impact on the global environment, say scientists speaking at the EuroScience Forum in Stockholm today.

"Mankind's use of Earth's resources has grown so much that it seems justified to denominate the past two centuries and into the future as a new geological era," says Professor Paul Crutzen, the Nobel prize-winning atmospheric chemist who first coined the term.

Speaking at a EuroScience symposium* on the future of the Earth organized by the International Geosphere-Biosphere Programme (www.igbp.kva.se), Professor Crutzen and others point to the dramatic change in human activities, especially since the 1950s. "The increase in human activity since the Second World War - world economy, resource use, telecommunications, transport and global connectivity - has been astounding," notes Dr Will Steffen, IGBP Chief Scientist, "The consequent human imprint on Earth's environment is now unmistakable."

"Such a rapid, global-scale increase in pressure on the planet is likely to lead to increasing instability in our environment, and indeed we may already be seeing evidence of this," adds Steffen. "The Antarctic ozone hole is a classic case of a chemical instability, an unforeseen consequence of the use of hydrofluorocarbons (CFCs)," says Professor Crutzen. "The chemicals that caused this instability were thought to be harmless and their ultimate impact occurred in a place far from their release into the atmosphere".

A second well-known example is the North Atlantic Current. The collapse of this current could lead to a massive regional shift in climate. "Data from Greenland ice cores and deep sea sediments reveal that large and abrupt changes (within ~10 years) have occurred frequently in the past," says Professor Stefan Rahmstorf from the Potsdam Institute for Climate Impact Research in Germany. "There may well be other instabilities in the global environment that cannot be foreseen given our current understanding. However, we do know that the harder we push the planet the more likely we are trigger surprises," says Dr Steffen. "The "Anthropocene" is a very different era from the relatively stable and nurturing environment in which humans and our societies have evolved. We should expect more instability in the future," says Dr Steffen.

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