Anthropocène : quelle interdisciplinarité ?

Depuis les années 2000, le concept d'Anthropocène suscite de nombreux débats entre les sciences naturelles et sociales pour définir cette nouvelle époque géologique qui serait dominée par les activités humaines. Très rapidement, il est ainsi devenu un concept central et transversal pour penser l'entrée dans un nouveau régime planétaire, tant sur le plan académique et médiatique, notamment en ligne.

Pourtant, en mars 2024, les institutions géologiques ont refusé de reconnaître la validité de ce concept sur le plan des sciences géologiques. Comment expliquer ce refus ? Que faire du concept d'Anthropocène ? Et comment continuer le dialogue interdisciplinaire entre les sciences de la « nature » et de la « société » à l'heure de la crise écologique et du Web ? Telles sont les grandes questions abordées à travers cette journée, et qui s'adresse à tous les champs de savoirs concernés par le changement global d'origine humaine, par-delà le grand partage entre « sciences » et « humanités ».

The "Anthropocene"

by Paul J. Crutzen and Eugene F. Stoermer

The name Holocene ("Recent Whole") for the post-glacial geological epoch of the past ten to twelve thousand years seems to have been proposed for the first time by Sir Charles Lyell in 1833, and adopted by the International Geological Congress in Bologna in 1885 (1). During the Holocene mankind's activities gradually grew into a significant geological, morphological force, as recognised early on by a number of scientists. Thus, G.P. Marsh already in 1864 published a book with the title "Man and Nature", more recently reprinted as "The Earth as Modified by Human Action" (2). Stoppani in 1873 rated mankind's activities as a "new telluric force which in power and universality may be compared to the greater forces of earth" [quoted from Clark (3)]. Stoppani already spoke of the anthropozoic era. Mankind has now inhabited or visited almost all places on Earth; he has even set foot on the moon.

The great Russian geologist V.I.Vernadsky (4) in 1926 recognized the increasing power of mankind as part of the biosphere with the following excerpt "... the direction in which the processes of evolution must proceed, namely towards increasing consciousness and thought, and forms having greater and greater influence on their surroundings". He, the French Jesuit P. Teilhard de Chardin and E. Le Roy in 1927 coined the term "noosphere", the world of thought, to mark the growing role played by mankind's brainpower and technological talents in shaping its own future and environment.

The explosive increase in numbers and activities of humans on Earth's surface has continued during the past 3 centuries (5). To give a few examples: During the past 3 centuries the human population increased tenfold to 6000 million, accompanied e.g. by a growth in cattle population to 1400 million (6) (about one cow per average size family). Urbanisation has even increased tenfold in the past century. In a few generations mankind is exhausting the fossil fuels that were generated over several hundred million years. The release of SO_2 globally about 160 Tg_S/year to the atmosphere by coal and oil burning, is at least two times larger than the sum of all natural emissions, occurring mainly as marine dimethyl-sulfide from the oceans (7); from Vitousek et al. (8) we learn that 30-50% of the land surface has been transformed by human action; more nitrogen is now fixed synthetically and applied as fertilizers in agriculture than fixed naturally in all terrestrial ecosystems; the escape into the atmosphere of NO from fossil fuel and biomass combustion likewise is larger than the natural inputs, giving rise to photochemical ozone ("smog") formation in extensive regions of the world; more than half of all accessible fresh water is used by mankind; human activity has increased the species extinction rate by thousand to ten thousand fold in the tropical rain forests (9) and several climatically important "greenhouse" gases have substantially increased in the atmosphere: CO_2 by more than 30% and CH_4 by even more than 100%. Furthermore, mankind releases many toxic substances in the environment and even some, the chlorofluorocarbon gases, which are not toxic at all, [illegible] nevertheless has [illegible] the ozone hole" [illegible] had been taken. Coastal wetlands are [illegible] resulted [illegible] the loss of 50% of the world's mangroves. Finally, mechanized human predation ("fisheries") removes more than 25% of the primary production of the oceans in the upwelling regions and 35% in the temperate continental shelf regions (10). Anthropogenic effects are also well illustrated by the history of biotic communities that leave remains in lake sediments. The effects documented include modification of the geochemical cycle in large freshwater systems and occur in systems remote from primary sources (11-13).

Considering these and many other major and still growing impacts of human activities on earth and atmosphere, and at all, including global, scales, 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. The impacts of current human activities will continue over long periods. According to a study by Berger and Loutre (14), because of the anthropogenic emissions of CO_2, climate may depart significantly from natural behaviour over the next 50,000 years.

To assign a more specific date to the onset of the "anthropocene" seems somewhat arbitrary, but we propose the latter part of the 18th century, although we are aware that alternative proposals can be made (some may even want to include the entire Holocene). However, we choose this date because, during the past two centuries, the global effects of human activities have become clearly noticeable. This is the period when data derived from glacial ice cores show the beginning of a growth in the atmospheric concentrations of several "greenhouse gases", in particular CO_2 and CH_4 (7). Such a starting date also coincides with James Watt's invention of the steam

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Credits: Crutzen, Paul J., et Eugene F. Stoermer. « The "Anthropocene" ». Global Change Newsletter (IGBP), no 41 (mai 2000): 17‑18. http://www.igbp.net/download/18.316f832123234701775800014011/1376383088452/NL41.pdf

Credits: McCarthy, Francine MG, R. Timothy Patterson, Martin J. Head, et al. « The Varved Succession of Crawford Lake, Milton, Ontario, Canada as a Candidate Global Boundary Stratotype Section and Point for the Anthropocene Series ». The Anthropocene Review 10, no 1 (2023): 146‑76. https://doi.org/10.1177/20530196221149281 https://brocku.ca/brock-news/2023/07/international-experts-choose-brock-led-proposal-for-crawford-lake-as-site-for-proposed-anthropocene/

Journée d'étude

Organisée dans le cadre du projet Anthropocenoscope – Cartographier l'interdisciplinarité en Anthropocène : panorama des controverses et initiatives (AAP MSHBx 2026)

Mercredi 24 juin 2026

MSH-Bordeaux (salle Jean Borde)

9h-18h

Organisation : **Fabien Colombo**, chercheur associé à l'Université Bordeaux Montaigne, MICA (UR 4426)

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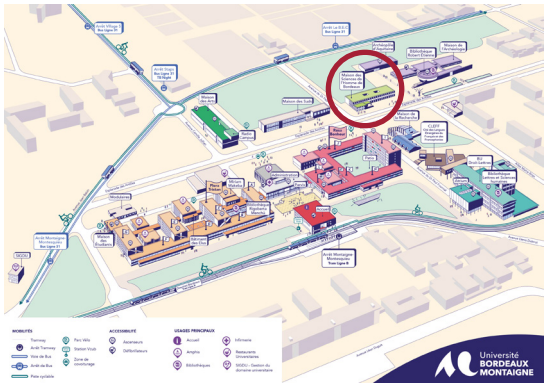

Mercredi 24 Juin 2026
Matinée

8h30 Accueil

9h "Que faire de l'Anthropocène ?"
Fabien Colombo (Sciences sociales, Lauréat MSHBx)

Session 1 – Les signaux géologiques de l'Anthropocène
Thèmes : Géologie, formalisation, clou d'or

9h15 *Anthropocene Working Group, Jan Zalasiewicz, Mark Williams, Simon Turner* (Sciences géologiques, University of Leicester & University College London)

10h15 Discussion

10h30 Pause

Session 2 – Les trajectoires planétaires de l'Anthropocène
Thèmes : Système Terre, Grande Accélération, complexité

10h45 *José Halloy* (Sciences de la durabilité, Université Paris Cité)

11h15 *Martin Bohle* (Géoéthique, Universität Erfurt)

11h45 Discussion

Dialogue interdisciplinaire n°1
Des signaux géologiques aux dynamiques planétaires

12h Question directrice : **Parle-t-on du même Anthropocène entre les sciences géologiques et les sciences du système Terre ?**

12h30 Déjeuner (traiteur)

Mercredi 24 Juin 2026
Après-midi

Session 3 – Les philosophies de l'environnement en Anthropocène
Thèmes : Philosophie, modernité, ontologie

13h30 *Catherine Larrère* (Philosophie, Université Paris Panthéon-Sorbonne)

14h30 Discussion

Session 4 – Les trajectoires planétaires de l'Anthropocène
Thèmes : Système Terre, Grande Accélération, complexité

14h45 *Éric Macé* (Sociologie, Université de Bordeaux)

15h15 *François Prouteau* (Sciences de l'éducation, Université Catholique de l'Ouest)

15h45 Discussion

16h Pause

Dialogue interdisciplinaire n°2
Des cadres conceptuels aux pratiques interdisciplinaires

16h15 Question directrice : **À quelles conditions les recherches interdisciplinaires sur l'Anthropocène sont-elles possibles ?**

17h Perspectives interdisciplinaires
"Construire l'interdisciplinarité en Anthropocène"
Discussion

17h45 Conclusion

Temps convivial

20h00 Dîner dans Bordeaux