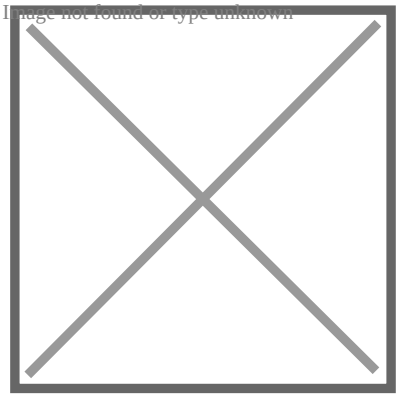

Anthropocene epoch

Description

QR code linking this URL

[su_qrcode data="Cognitive-Liberty.Online – Anthropocene Epoch" title="Anthropocene" link="http://cognitive-liberty.online/2018/12/01/anthropocene-epoch/"]
The **Anthropocene** is a proposed epoch dating from the commencement of significant human impact on the Earth's geology and ecosystems, including, but not limited to, anthropogenic climate change.[1] [2][3][4][5]

As of August 2016, neither the International Commission on Stratigraphy nor the International Union of Geological Sciences has yet officially approved the term as a recognized subdivision of geological time, [3][6][7] although the Anthropocene Working Group (AWG) of the Subcommission on Quaternary Stratigraphy (SQS) of the International Commission on Stratigraphy (ICS), voted to proceed towards a formal golden spike (GSSP) proposal to define the Anthropocene epoch in the Geologic Time Scale and presented the recommendation to the International Geological Congress on 29 August 2016.[8]

Various different start dates for the Anthropocene have been proposed, ranging from the beginning of the Agricultural Revolution 12,000–15,000 years ago, to as recent as the Trinity test in 1945. As of February 2018, the ratification process continues and thus a date remains to be decided definitively, but the latter date has been more favored than others.

The most recent period of the Anthropocene has been referred to by several authors as the Great Acceleration during which the socioeconomic and earth system trends are increasing dramatically, especially after the Second World War. For instance, the Geological Society termed the year 1945 as *The Great Acceleration*.[9]

www.youtube.com/watch?v=PJlEK6HJBk8

Image not found or type unknown

Further References

Dirzo, R., Young, H. S., Galetti, M., Ceballos, G., Isaac, N. J. B., & Collen, B.. (2014). Defaunation in the Anthropocene. Science

Plain numerical DOI: 10.1126/science.1251817
DOI URL
directSciHub download

Show/hide publication abstract

“We live amid a global wave of anthropogenically driven biodiversity loss: species and population extirpations and, critically, declines in local species abundance. particularly, human impacts on animal biodiversity are an under-recognized form of global environmental change. among terrestrial vertebrates, 322 species have become extinct since 1500, and populations of the remaining species show 25% average decline in abundance. invertebrate patterns are equally dire: 67% of monitored populations show 45% mean abundance decline. such animal declines will cascade onto ecosystem functioning and human well-being. much remains unknown about this ‘anthropocene defaunation’; these knowledge gaps hinder our capacity to predict and limit defaunation impacts. clearly, however, defaunation is both a pervasive component of the planet’s sixth mass extinction and also a major driver of global ecological change.”
Steffen, W., Crutzen, P. J., & McNeill, J. R.. (2007). The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature. AMBIO: A Journal of the Human Environment

Plain numerical DOI: 10.1579/0044-7447(2007)36[614:TAAHNO]2.0.CO;2
DOI URL
directSciHub download

Show/hide publication abstract

“We explore the development of the anthropocene, the current epoch in which humans and our societies have become a global geophysical force. the anthropocene began around 1800 with the onset of industrialization, the central feature of which was the enormous expansion in the use of fossil fuels. we use atmospheric carbon dioxide concentration as a single, simple indicator to track the progression of the anthropocene. from a preindustrial value of 270-275 ppm, atmospheric carbon dioxide had risen to about 310 ppm by 1950. since then the human enterprise has experienced a remarkable explosion, the great acceleration, with significant consequences for earth system functioning. atmospheric co2 concentration has risen from 310 to 380 ppm since 1950, with about half of the total rise since the preindustrial era occurring in just the last 30 years. the great acceleration is reaching criticality. whatever unfolds, the next few decades will surely be a tipping point in the evolution

of the anthropocene."
Lewis, S. L., & Maslin, M. A.. (2015). Defining the Anthropocene. Nature

Plain numerical DOI: 10.1038/nature14258
DOI URL
directSciHub download

Show/hide publication abstract

"Nature 519, 171 (2015). doi:10.1038/nature14258"
Zalasiewicz, J., Waters, C., Summerhayes, C., & Williams, M.. (2018). The Anthropocene. Geology Today

Plain numerical DOI: 10.1111/gto.12244
DOI URL
directSciHub download

Show/hide publication abstract

"The start of the period of large-scale human effects on this planet (the anthropocene) is debated. the industrial view holds that most significant impacts have occurred since the early industrial era (?1850), whereas the early-anthropogenic view recognizes large impacts thousands of years earlier. this review focuses on three indices of global-scale human influence: forest clearance (and related land use), emissions of greenhouse gases (co2 and ch4), and effects on global temperature. because reliable, systematic land-use surveys are rare prior to 1950, most reconstructions for early-industrial centuries and prior millennia are hind casts that assume humans have used roughly the same amount of land per person for 7,000 years. but this assumption is incorrect. historical data and new archeological databases reveal much greater per-capita land use in preindustrial than in recent centuries. this early forest clearance caused much greater preindustrial greenhouse-gas emissions and global temperature changes t…"
Crutzen, P. J.. (2006). The anthropocene. In Earth System Science in the Anthropocene

Plain numerical DOI: 10.1007/3-540-26590-2_3
DOI URL
directSciHub download

Show/hide publication abstract

"Human activities are exerting increasing impacts on the environment on all scales, in many ways outcompeting natural processes. this includes the manufacturing of hazardous chemical compounds which are not produced by nature, such as for instance the chlorofluorocarbon gases which are responsible for the 'ozone hole'. because human activities have also grown to become significant geological forces, for instance through land use changes, deforestation and fossil fuel burning, it is justified to assign the term 'anthropocene' to the current geological epoch. this epoch may be defined to have started about two centuries ago, coinciding with james watt's design of the steam engine in

1784."
Douglas, I.. (2018). Ecosystems and Human Well-Being. In Encyclopedia of the Anthropocene

Plain numerical DOI: 10.1016/B978-0-12-809665-9.09206-5
DOI URL
directSciHub download

Show/hide publication abstract

"OBJECTIVE: contraction of cardiac myocytes is initiated by ca(2+) entry through the voltage-dependent l-type ca(2+) channel (ltcc). previous studies have shown that phosphatidylinositol (pi) 3-kinase signaling modulates ltcc function. because pi 3-kinases are key mediators of insulin action, we investigated whether ltcc function is affected in diabetic animals due to reduced pi 3-kinase signaling. research design and methods: we used whole-cell patch clamping and biochemical assays to compare cardiac ltcc function and pi 3-kinase signaling in insulin-deficient diabetic mice heterozygous for the ins2(akita) mutation versus nondiabetic littermates. results: diabetic mice had a cardiac contractility defect, reduced pi 3-kinase signaling in the heart, and decreased l-type ca(2+) current (i(ca,l)) density in myocytes compared with control nondiabetic littermates. the lower i(ca,l) density in myocytes from diabetic mice is due at least in part to reduced cell surface expression of the ltcc. i(ca,l) density in myocytes from diabetic mice was increased to control levels by insulin treatment or intracellular infusion of pi 3,4,5-trisphosphate pi(3,4,5)p(3). this stimulatory effect was blocked by taxol, suggesting that pi(3,4,5)p(3) stimulates microtubule-dependent trafficking of the ltcc to the cell surface. the voltage dependence of steady-state activation and inactivation of i(ca,l) was also shifted to more positive potentials in myocytes from diabetic versus nondiabetic animals. pi(3,4,5)p(3) infusion eliminated only the difference in voltage dependence of steady-state inactivation of i(ca,l). conclusions: decreased pi 3-kinase signaling in myocytes from type 1 diabetic mice leads to reduced ca(2+) entry through the ltcc, which might contribute to the negative effect of diabetes on cardiac contractility."
Hughes, T. P., Barnes, M. L., Bellwood, D. R., Cinner, J. E., Cumming, G. S., Jackson, J. B. C., … Scheffer, M.. (2017). Coral reefs in the Anthropocene. Nature

Plain numerical DOI: 10.1038/nature22901
DOI URL
directSciHub download

Show/hide publication abstract

"The question at once arises, how is it that even the stoutest corals, resting with broad base upon the ground, and doubly secure from their spreading proportions, become so easily a prey to the action of the same sea which they met shortly before with such effectual resistance? the solution of this enigma is to be found in the mode of growth of the corals themselves. living in communities, death begins first at the base or centre of the group, while the surface or tips still continue to grow, so that it resembles a dying centennial tree, rotten at the heart, but still apparently green and flourishing without, till the first heavy gale of wind snaps the hollow trunk, and betrays its decay. again, innumerable boring animals establish themselves in the lifeless stem, piercing holes in all directions into its interior, like so many augurs, dissolving its solid connexion with the ground, and even penetrating far into the living portion of these compact communities. l. agassiz (1852) abstract bioerosion, involving the weakening and breakdown of calcareous coral reef structures, is due to the chemical and mechanical activities of

numerous and diverse biotic agents. these range in size from minute, primarily intra-skeletal organisms, the microborers (e.g., algae, fungi, bacteria) to larger and often externally-visible macroboring invertebrate (e.g., sponges, polychaete worms, sipunculans, molluscs, crustaceans, echinoids) and fish (e.g., parrotfishes, acanthurids, pufferfishes) species. constructive coral reef growth and destruc-tive bioerosive processes are often in close balance. dead corals are generally subject to higher rates of bioerosion than living corals, therefore, bioerosion and reef degradation can result from disturbances that cause coral mortality, such as sedimentation, eutrophication, pollution, temperature extremes, predation, and coral diseases. the effects of intensive coral reef bioerosion, involving el niño-southern oscillation, acanthaster predation, watershed alterations, and over-fishing, are re-examined after ~20 years (early 1990s–2010). we review the evidence showing that the biologically-mediated dissolution of calcium carbonate structures by endolithic algae and clionaid sponges will be accelerated with ocean acidification. the caco 3 budget dynamics of caribbean and eastern tropical pacific reefs is reviewed and provides sobering case studies on the current state of coral reefs and their future in a high-co 2 world."
Steffen, W., Grinevald, J., Crutzen, P., & Mcneill, J.. (2011). The anthropocene: Conceptual and historical perspectives. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences

Plain numerical DOI: 10.1098/rsta.2010.0327
DOI URL
directSciHub download

Show/hide publication abstract

"The human imprint on the global environment has now become so large and active that it rivals some of the great forces of nature in its impact on the functioning of the earth system. although global-scale human influence on the environment has been recognized since the 1800s, the term anthropocene, introduced about a decade ago, has only recently become widely, but informally, used in the global change research community. however, the term has yet to be accepted formally as a new geological epoch or era in earth history. in this paper, we put forward the case for formally recognizing the anthropocene as a new epoch in earth history, arguing that the advent of the industrial revolution around 1800 provides a logical start date for the new epoch. we then explore recent trends in the evolution of the anthropocene as humanity proceeds into the twenty-first century, focusing on the profound changes to our relationship with the rest of the living world and on early attempts and proposals for managing our relationship with the large geophysical cycles that drive the earthâ€TMs climate system."
Smith, B. D., & Zeder, M. A.. (2013). The onset of the Anthropocene. Anthropocene

Plain numerical DOI: 10.1016/j.ancene.2013.05.001
DOI URL
directSciHub download

Show/hide publication abstract

"A number of different starting dates for the anthropocene epoch have been proposed, reflecting different disciplinary perspectives and criteria regarding when human societies first began to play a significant role in shaping the earth's ecosystems. in this article these various proposed dates for the

onset of the anthropocene are briefly discussed, along with the data sets and standards on which they are based. an alternative approach to identifying the onset of the anthropocene is then outlined. rather than focusing on different markers of human environmental impact in identifying when the anthropocene begins, this alternative approach employs niche construction theory (nct) to consider the temporal, environmental and cultural contexts for the initial development of the human behavior sets that enabled human societies to modify species and ecosystems more to their liking. the initial domestication of plants and animals, and the development of agricultural economies and landscapes are identified as marking the beginning of the anthropocene epoch. since this transition to food production occurred immediately following the pleistocene-holocene boundary, the anthropocene can be considered as being coeval with the holocene, resolving the contentious ‘golden spike’ debate over whether existing standards can be satisfied for recognition of a new geological epoch. copyright © 2014 elsevier ltd.”
Helmus, M. R., Mahler, D. L., & Losos, J. B.. (2014). Island biogeography of the Anthropocene. Nature

Plain numerical DOI: 10.1038/nature13739
DOI URL
directSciHub download

Show/hide publication abstract

“For centuries, biogeographers have examined the factors that produce patterns of biodiversity across regions. the study of islands has proved particularly fruitful and has led to the theory that geographic area and isolation influence species colonization, extinction and speciation such that larger islands have more species and isolated islands have fewer species (that is, positive species–area and negative species–isolation relationships). however, experimental tests of this theory have been limited, owing to the difficulty in experimental manipulation of islands at the scales at which speciation and long-distance colonization are relevant. here we have used the human-aided transport of exotic anole lizards among caribbean islands as such a test at an appropriate scale. in accord with theory, as anole colonizations have increased, islands impoverished in native species have gained the most exotic species, the past influence of speciation on island biogeography has been obscured, and the species–area relationship has strengthened while the species–isolation relationship has weakened. moreover, anole biogeography increasingly reflects anthropogenic rather than geographic processes. unlike the island biogeography of the past that was determined by geographic area and isolation, in the anthropocene—an epoch proposed for the present time interval—island biogeography is dominated by the economic isolation of human populations.”
Malhi, Y., Gardner, T. A., Goldsmith, G. R., Silman, M. R., & Zelazowski, P.. (2014). Tropical Forests in the Anthropocene. SSRN

doi.org/10.1146/annurev-environ-030713-155141

Show/hide publication abstract

“The anthropocene is characterized as an epoch when human influence has begun to fundamentally alter many aspects of the earth system and many of the planet’s biomes. here, we review and synthesize our understanding of anthropocene changes in tropical forests. key facets include deforestation driven by agricultural expansion, timber and wood extraction, the loss of fauna that maintain critical ecological connections, the spread of fire, landscape fragmentation, the spread of

second-growth forests, new species invasion and pathogen spread, increasing co, and climate change. the patterns of change are spatially heterogeneous, are often characterized by strong interactions among different drivers, can have both large-scale and remote effects, and can play out through ecological cascades over long timescales. as a consequence, most tropical forests are on a trajectory to becoming altered ecosystems, with the degree of alteration dependent on the intensity and duration of the current bottleneck of human-induced pressures. we highlight the importance of this understanding to develop the strategies necessary for shaping the transition of tropical forests through the early anthropocene, as well as highlight the opportunities and challenges for the tropical forest science community in the coming decades."
Corlett, R. T.. (2015). The Anthropocene concept in ecology and conservation. Trends in Ecology and Evolution

Plain numerical DOI: 10.1016/j.tree.2014.10.007
DOI URL
directSciHub download

Show/hide publication abstract

"The term 'Anthropocene' was first used in the year 2000 to refer to the current time period in which human impacts are at least as important as natural processes. it is currently being considered as a potential geological epoch, following on from the holocene. while most environmental scientists accept that many key environmental parameters are now outside their holocene ranges, there is no agreement on when the anthropocene started, with plausible dates ranging from the late pleistocene megafaunal extinctions to the recent globalization of industrial impacts. in ecology, the anthropocene concept has focused attention on human-dominated habitats and novel ecosystems, while in conservation biology it has sparked a divisive debate on the continued relevance of the traditional biocentric aims."
Paul J. Crutzen, & Eugene F. Stoermer. (2000). The "Anthropocene". Global Change Newsletter

Plain numerical DOI: 10.1111/j.1398-9995.2007.01564.x
DOI URL
directSciHub download

Show/hide publication abstract

"The international geosphere–biosphere programme (igbp): a study of global change of the international council for science (icsu) sustaining earth's life support systems – the challenge for the next decade and beyond"
Van Loon, A. F., Gleeson, T., Clark, J., Van Dijk, A. I. J. M., Stahl, K., Hannaford, J., … Van Lanen, H. A. J.. (2016). Drought in the Anthropocene. Nature Geoscience

Plain numerical DOI: 10.1038/ngeo2646
DOI URL
directSciHub download

Show/hide publication abstract

“Drought management is inefficient because feedbacks between drought and people are not fully understood. in this human-influenced era, we need to rethink the concept of drought to include the human role in mitigating and enhancing drought.”
Lorimer, J.. (2012). Multinatural geographies for the Anthropocene. Progress in Human Geography

Plain numerical DOI: 10.1177/0309132511435352
DOI URL
directSciHub download

Show/hide publication abstract

“The recent diagnosis of the anthropocene represents the public death of the modern understanding of nature removed from society. it also challenges the modern science-politics settlement, where natural sci- ence speaks for a stable, objective nature. this paper reviews recent efforts to develop ‘multinatural’ alter- natives that provide an environmentalism that need not make recourse to nature. focusing on biodiversity conservation, the paper draws together work in the social and natural sciences to present an interdisciplinary biogeography for conservation in the anthropocene. this approach is developed through an engagement with the critiques of neoliberal natures offered by political ecology.”
Biermann, F., Abbott, K., Andresen, S., Bäckstrand, K., Bernstein, S., Betsill, M. M., … Zondervan, R.. (2012). Navigating the anthropocene: Improving earth system governance. Science

Plain numerical DOI: 10.1126/science.1217255
DOI URL
directSciHub download

Show/hide publication abstract

“Science assessments indicate that human activities are moving several of earth’s sub-systems outside the range of natural variability typical for the previous 500,000 years (1, 2). human societies must now change course and steer away from critical tipping points in the earth system that might lead to rapid and irreversible change (3). this requires fundamental reorientation and restructuring of national and international institutions toward more effective earth system governance and planetary stewardship.”
Zalasiewicz, J. A. N., Williams, M., Steffen, W., & Crutzen, P.. (2010). The new world of the anthropocene. Environmental Science and Technology

Plain numerical DOI: 10.1021/es903118j
DOI URL
directSciHub download

Show/hide publication abstract

“The anthropocene, following the lost world of the holocene, holds challenges for both science and

society."
Waters, C. N., Zalasiewicz, J., Summerhayes, C., Barnosky, A. D., Poirier, C., Ga?uszka, A., … Wolfe, A. P.. (2016). The Anthropocene is functionally and stratigraphically distinct from the Holocene. Science

Plain numerical DOI: 10.1126/science.aad2622
DOI URL
directSciHub download

Show/hide publication abstract

"Human activity is leaving a pervasive and persistent signature on earth. vigorous debate continues about whether this warrants recognition as a new geologic time unit known as the anthropocene.we review anthropogenic markers of functional changes in the earth system through the stratigraphic record. the appearance of manufactured materials in sediments, including aluminum, plastics, and concrete, coincides with global spikes in fallout radionuclides and particulates from fossil fuel combustion. carbon, nitrogen, and phosphorus cycles have been substantially modified over the past century. rates of sea-level rise and the extent of human perturbation of the climate system exceed late holocene changes. biotic changes include species invasions worldwide and accelerating rates of extinction. these combined signals render the anthropocene stratigraphically distinct from the holocene and earlier epochs."
Zalasiewicz, J., Williams, M., Haywood, A., & Ellis, M.. (2011). The anthropocene: A new epoch of geological time?. Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences

Plain numerical DOI: 10.1098/rsta.2010.0339
DOI URL
directSciHub download

Show/hide publication abstract

"Anthropogenic changes to the earthâ€TMs climate, land, oceans and biosphere are now so great and so rapid that the concept of a new geological epoch defined by the action of humans, the anthropocene, is widely and seriously debated. questions of the scale, magnitude and significance of this environmental change, particularly in the context of the earthâ€TMs geological history, provide the basis for this theme issue. the anthropocene, on current evidence, seems to show global change consistent with the suggestion that an epoch-scale boundary has been crossed within the last two centuries."
Zalasiewicz, J., Waters, C. N., Ivar do Sul, J. A., Corcoran, P. L., Barnosky, A. D., Cearreta, A., … Yonan, Y.. (2016). The geological cycle of plastics and their use as a stratigraphic indicator of the Anthropocene. Anthropocene

Plain numerical DOI: 10.1016/j.ancene.2016.01.002
DOI URL
directSciHub download

Show/hide publication abstract

“The rise of plastics since the mid-20th century, both as a material element of modern life and as a growing environmental pollutant, has been widely described. their distribution in both the terrestrial and marine realms suggests that they are a key geological indicator of the anthropocene, as a distinctive stratal component. most immediately evident in terrestrial deposits, they are clearly becoming widespread in marine sedimentary deposits in both shallow- and deep-water settings. they are abundant and widespread as macroscopic fragments and virtually ubiquitous as microplastic particles; these are dispersed by both physical and biological processes, not least via the food chain and the ‘faecal express’ route from surface to sea floor. plastics are already widely dispersed in sedimentary deposits, and their amount seems likely to grow several-fold over the next few decades. they will continue to be input into the sedimentary cycle over coming millennia as temporary stores – landfill sites – are eroded. plastics already enable fine time resolution within anthropocene deposits via the development of their different types and via the artefacts (‘technofossils’) they are moulded into, and many of these may have long-term preservation potential when buried in strata.”
Zalasiewicz, J., Waters, C. N., Williams, M., Barnosky, A. D., Cearreta, A., Crutzen, P., … Oreskes, N.. (2015). When did the Anthropocene begin? A mid-twentieth century boundary level is stratigraphically optimal. Quaternary International

Plain numerical DOI: 10.1016/j.quaint.2014.11.045
DOI URL
directSciHub download

Show/hide publication abstract

“We evaluate the boundary of the anthropocene geological time interval as an epoch, since it is useful to have a consistent temporal definition for this increasingly used unit, whether the presently informal term is eventually formalized or not. of the three main levels suggested – an ‘early anthropocene’ level some thousands of years ago; the beginning of the industrial revolution at ~1800 ce (common era); and the ‘great acceleration’ of the mid-twentieth century – current evidence suggests that the last of these has the most pronounced and globally synchronous signal. a boundary at this time need not have a global boundary stratotype section and point (gssp or ’golden spike’) but can be defined by a global standard stratigraphic age (gssa), i.e. a point in time of the human calendar. we propose an appropriate boundary level here to be the time of the world’s first nuclear bomb explosion, on july 16th 1945 at alamogordo, new mexico; additional bombs were detonated at the average rate of one every 9.6 days until 1988 with attendant worldwide fallout easily identifiable in the chemostratigraphic record. hence, anthropocene deposits would be those that may include the globally distributed primary artificial radionuclide signal, while also being recognized using a wide range of other stratigraphic criteria. this suggestion for the holocene-anthropocene boundary may ultimately be superseded, as the anthropocene is only in its early phases, but it should remain practical and effective for use by at least the current generation of scientists.”
Lewis, S. L., & Maslin, M. A.. (2018). Welcome to the anthropocene. IPPR Progressive Review

Plain numerical DOI: 10.1111/newe.12101
DOI URL

directSciHub download

Show/hide publication abstract

“The paper argues that humanity’s impacts upon the world have ushered in a new era that has been called ‘the anthropocene.’ the paper argues for a number of shifts in focus in individual and social efforts to understand and deal with change. these include: becoming more aware of current contradictions; embracing insights into the state of the global system; acknowledging, valuing and applying signals of change; cultivating scepticism about the assumed importance of science and technology; exploring the potential of human, cultural and institutional innovation; and designing and implementing a range of high quality responses – especially in education. the critical role of the modern university is stressed as it is considered the one social entity that could make the greatest contribution in the shortest time. © 2012 richard slaughter.”
Zalasiewicz, J., Williams, M., Smith, A., Barry, T. L., Coe, A. L., Bown, P. R., … Stone, P.. (2008). Are we now living in the Anthropocene. GSA Today

Plain numerical DOI: 10.1130/GSAT01802A.1
DOI URL
directSciHub download

Show/hide publication abstract

“The term anthropocene, proposed and increasingly employed to denote the current interval of anthropogenic global environmental change, may be discussed on stratigraphic grounds. a case can be made for its consideration as a formal epoch in that, since the start of the industrial revolution, earth has endured changes sufficient to leave a global stratigraphic signature distinct from that of the holocene or of previous pleistocene interglacial phases, encompassing novel biotic, sedimentary, and geochemical change. these changes, although likely only in their initial phases, are sufficiently distinct and robustly established for suggestions of a holocene–anthropocene boundary in the recent historical past to be geologically reasonable. the boundary may be defined either via global stratigraphic section and point (‘golden spike’) locations or by adopting a numerical date. formal adoption of this term in the near future will largely depend on its utility, particularly to earth scientists working on late holocene successions. this datum, from the perspective of the far future, will most probably approximate a distinctive stratigraphic boundary.”
SANDERSON, E. W., JAITEH, M., LEVY, M. A., REDFORD, K. H., WANNEBO, A. V., & WOOLMER, G.. (2002). The Human Footprint and the Last of the Wild. BioScience

Plain numerical DOI: 10.1641/0006-3568(2002)052[0891:THFATL]2.0.CO;2
DOI URL
directSciHub download

Show/hide publication abstract

“Discusses the impact of human influence on ecosystems. consumption demands of the human population; reference to the cumulative effect of local changes on nature as the ‘anthropocene’ geological epoc; negligence by the human community of its influence on nature; presentation of a

‘human footprint map’ that illustrates the global phenomenom of human influence on nature; data used to develop the map, including human population density, land transformation, human access, and power infrastructure.”
Verburg, P. H., Crossman, N., Ellis, E. C., Heinimann, A., Hostert, P., Mertz, O., … Zhen, L.. (2015). Land system science and sustainable development of the earth system: A global land project perspective. Anthropocene

Plain numerical DOI: 10.1016/j.ancene.2015.09.004
DOI URL
directSciHub download

Show/hide publication abstract

“Land systems are the result of human interactions with the natural environment. understanding the drivers, state, trends and impacts of different land systems on social and natural processes helps to reveal how changes in the land system affect the functioning of the socio-ecological system as a whole and the tradeoff these changes may represent. the global land project has led advances by synthesizing land systems research across different scales and providing concepts to further understand the feedbacks between social-and environmental systems, between urban and rural environments and between distant world regions. land system science has moved from a focus on observation of change and understanding the drivers of these changes to a focus on using this understanding to design sustainable transformations through stakeholder engagement and through the concept of land governance. as land use can be seen as the largest geo-engineering project in which mankind has engaged, land system science can act as a platform for integration of insights from different disciplines and for translation of knowledge into action.”

Category

1. Anthropology
2. Sociology

Tags

1. biodiversity
2. devolution
3. holocene extinction
4. human evolution
5. mass extinction

Date Created
1. December 2018
Author
web45