



Wuhan Consensus: An Initiative for a New Geoscience Education

The Earth is the only known habitable planet for various species to live and proliferate in the vast universe. As an intelligent species, human beings inhabit the Earth and abstract energy resources from it for survival and development. A shared future for mankind is determined by the habitability of the Earth. Due to the combined effects of the Earth's own evolution and anthropogenic changes, a global shortage of energy resources, environmental pollution, climate change, frequent disasters and ecological damage become increasingly serious, threatening the livability of the Earth at unprecedented rates.

At this moment, we, scholars from Earth Science and related disciplines, university presidents and school principals from inside and outside China, gathered in Wuhan to engage in discussions on the major scientific challenges for a habitable Earth, and on the mission and commitments of geoscience education. Acknowledging the urgency of the issue, we hereby jointly release the *Wuhan Consensus: An Initiative for a New Geoscience Education*.

Our Mission

Advocating and Implementing a Brand-New Geoscience Education

Modern Earth Science has made various significant progresses and entered into the era of Earth System Science, with a focus on studying the past, present and future of a habitable Earth by looking into the deep Earth, deep sea, deep space and deep time. In response to the advancement of science and the call of the times, we are obliged to advocate and implement a new paradigm of geoscience education that:

(1) champions the multiverse outlook, in which the world is perceived as a conglomeration of multi-universes with different time and space scales, where living and nonliving matters as well as various forces are interdependent and interact.

(2) produces a renewed perception and definition of the role of mankind and its position and living style in the world. The non-human world shall no longer be viewed as a mere object or a research subject; instead, it is advisable for human beings to be educated about milder-mannered interaction and co-existence with the non-human world for an optimal integration.

(3) follows the worldview and methodology of Earth System Science. It adjusts and optimizes the value system, knowledge system and dissemination system of geoscience education, and provides theories, technologies and methods to lead green and low-carbon production and life styles.



Our Task

Adjusting and Optimizing the Framework of Geoscience Education

We shall reshape the value system of geoscience education. The new geoscience education has to transcend anthropocentrism, dismissing the utilitarian idea of acquiring the knowledge of geosciences solely as the means to guarantee human survival and development. It will teach and explore the ways of how human beings could better get along with the Earth. The new geoscience education has to transcend the paradigm of human exceptionalism by rejecting the ideology that human ingenuity and technology alone can protect and even save the planet and promoting teaching and exploring means of better cooperation and mutual restoration with the non-human world.

We shall reconstruct the knowledge system of geoscience education. Human beings have been seeking scientific understanding of the Earth, its components, structure and rules of evolution, establishing specialized disciplines such as Geology, Geophysics, Geography, Atmospheric Science and Marine Science, as well as their knowledge systems and research methodologies with disciplinary distinction. In accordance with the need to understand and study a habitable Earth, the new geoscience education has to conduct systematic reconstruction of the knowledge system of current disciplines and integrate the latest advances in science and technology to continuously develop new curricula and knowledge modules.

We shall innovate the education system of earth sciences. Based on the innate laws of earth system science and the cognitive rules of learners, we shall conduct research on more efficient dissemination of geoscience knowledge and the philosophy of harmonious co-existence between man and nature to a wide range of audiences. We shall make geoscience education a combination of science and art, a prominent feature the Earth System Science has demonstrated.

Our Goal

Developing a New Paradigm of Geoscience Education

More diversified. A pluralistic educational paradigm should be established to precisely fit different audiences. Collaborations among different tiers of geoscience education are marked with a due division of labor and effective interconnectedness through elementary education, secondary vocational education, higher education and public education. Targeting different audiences, the new geoscience education shall provide a whole set of values and ethics, views and ideas, knowledge systems and technical approaches that function in an accommodating and complementary manner.

More comprehensive. Geoscience education will no longer be conducted within the barriers of traditional disciplines. Inter-disciplinary and trans-boundary studies between Earth System Science and the various disciplines such as Mathematics, Physics, Chemistry, Life Science, Information Science, Philosophy and Social Science will become the new normal.

More inclusive. Under the banner of Earth System Science and geoscience education, human beings will abandon prejudice and cooperate closely despite continual upheaval and turbulence in the world. Furthermore, geoscience education will no longer take the non-human world solely as the object of study, but rather as a scenario of experience for co-existence and integration, developing a pedagogical collaboration that transcends human beings.

The habitability of the Earth has long been wrecked in the “Anthropocene”. It is high time to initiate, facilitate and practice a brand-new geoscience education that helps to reposition humanity as one of the multitudinous participants and builders of a habitable Earth. Friends of insight from all over the world, in universities, scientific research institutions, primary and secondary schools and in other walks of life, let’s work together in solidarity before it is too late!

