



Teaching Climate Change

Position Statement:

The National Association of Geoscience Teachers (NAGT) recognizes: (1) that Earth's climate is changing at a rate unprecedented in human history, (2) that present warming trends are both dangerous and primarily the result of human activities, (3) that the greatest drivers of modern climate change are related to our use of energy and land, (4) that teaching climate change, energy use, and land use is a fundamental and integral part of Earth science education, and, (5) the urgency of these issues requires providing learners with skills, knowledge and vision to act immediately and effectively.

Issues related to climate change are among the most serious problems that society is currently facing and will continue to face in the coming decades. As climate change is primarily driven by human extraction and use of energy resources and land use, climate change education requires effective attention to these issues. Climate change education must be grounded in science, should reach across disciplines and all ages of learners, and should help these learners understand, devise, and/or implement effective solutions to climate issues.

Rationale:

Human activities, including the use of fossil fuels and the alteration of landscapes that have sequestered carbon, have changed the composition of the atmosphere in ways that alter the climate system and these changes are endangering human society. Geoscience education is fundamental to understanding the causes of and societal responses to climate change.

The Next Generation Science Standards (NGSS), The Framework for K-12 Science Education, The Climate Literacy Framework, and the Action for Climate Empowerment Framework (ACE) all call for a populace that understands how scientific knowledge is both generated and verified, and how complex interactions between human activities and the environment impact the Earth system. Building media literacy is a crucial component of developing these understandings. Climate is clearly an integral part of the Earth system connecting the physical, chemical and biological components and playing an essential role in how the Earth's environment interacts with human culture and societal development. Thus, climate change, energy, and land use are essential and interconnected parts of Earth science education and are fundamental to NAGT's mission. In recognition of these imperatives, NAGT strongly supports and will work to promote education in the science of climate change, the causes and effects of current global warming (including the impacts of different types of energy resource extraction and use, the impacts of human land use), how climate has changed throughout Earth history, and the immediate need for policies and actions that reduce the emission of greenhouse gases.



Recommendations:

NAGT supports climate change education that recognizes...

- Problems associated with our changing climate are here now, and worsening. This creates an imperative for geoscience educators to develop in their students the skills and knowledge to act on climate now, not to merely prepare young learners to meet future challenges.
- Evidence from research shows that climate, climate systems, climate change, and energy / land use are most effectively taught in an interdisciplinary manner, integrating into a holistic curriculum approach.
- Teaching and learning about climate change, energy use, and land use is enriched by connecting understandings to work across communities, including work with municipalities, community organizations, and informal education institutions.
- Media literacy, including the ability to evaluate the credibility of information and soundness of arguments, is essential to climate literacy and geoscience literacy more broadly.
- Historically marginalized and underserved communities are generally both most at risk for negative climate change impacts and, on a per capita basis, least responsible for emissions. Climate and environmental justice are integral components of effective climate education.
- Climate topics provide exceptional opportunities for students to learn how geoscientists study past, present, and future climate, energy system and land use practices.
- Young people are often effective communicators to the broader society about climate and energy issues.
- It is critical that geoscience educators help students find and/or develop avenues to act on what they learn about climate, energy and land use issues.
- Learners of all ages benefit from support for engaging in local, regional, and international climate efforts and treaty obligations.

NAGT's Commitment:

In support of high quality climate change education, NAGT has and will continue to sponsor professional development programs for geoscience educators, including workshops, seminars, and teacher-scientist collaborations. NAGT also disseminates evidence-based practices for climate change in the *Journal of Geoscience Education*, in *In the Trenches*, and on the Teach the Earth website. In doing so, the organization supports a diverse, inclusive, and thriving community of educators and education researchers to improve teaching and learning about the Earth.

Once adopted, NAGT position statements remain in effect for five years, as per the [Procedure for Approval of NAGT Position Statements](#).