



Carbon's corner in the global climate challenge

Joseph Liddicoat

State University of New York (SUNY) – FIT, NY, NY 10001 USA (joseph_liddicoat@fitnyc.edu)

Unlike on other planets in the Solar System, most of the carbon in carbon dioxide (CO₂) that degassed from Earth during its formation nearly 4.5 billion years ago is in limestone as the mineral calcite (CaCO₃). Consequently, the small percentage (about 0.04) of CO₂ in Earth's atmosphere can be changed easily by the combustion of fossil fuels. Since the early 1950s when accurate measurements of atmospheric CO₂ began, it has been documented that the amount of CO₂ in Earth's atmosphere is increasing at an exponential rate (Report of U.S. National Academy of Science, 2007). This course is a science elective that embraces the ideals of SENCER (Science Education for New Civic Engagements and Responsibilities) that connects science and civic engagement by teaching through complex, contested, current, and unresolved societal issues to basic science. Specifically, the instruction invites students to put scientific knowledge and the scientific method to practical use on matters of immediate interest not only to the students but also to the general public. This is done through a careful examination of the ecological and environmental issues surrounding the build-up of CO₂ in the atmosphere as presented in *CO₂ Rising – The World's Greatest Environmental Challenge* by Tyler Volk. A reflective reading of Volk's non-technical but engaging book, complemented by weekly 180-minutes of in-class instruction, results in an understanding of topics that are necessary for an informed public that continues the discussion about catastrophic global warming that might result from unchecked burning of fossil fuels by humans.