

ATS 580A4: GEOENGINEERING THE CLIMATE

Can Science Fix Climate Change? Is It Ethical?



Spring 2019, Monday and Wednesday 2:00-2:50 p.m., Natural Resources Building, Room 112

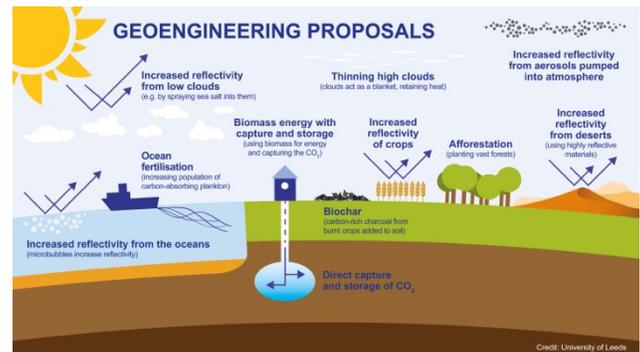
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What is Climate Geoengineering?

Climate change is occurring and its impacts on ecosystems, humans, and the economy will continue to grow. Moreover, the international community is not presently addressing climate change through policy and mitigation in a way that will avert profound consequences. This reality is leading to the consideration of geoengineering the climate system. Climate geoengineering – deliberate, large-scale intervention in the climate system designed to counter global warming or offset some of its effects – could well be in our collective future, especially as the impacts of climate change become more severe and geoengineering technologies are within reach.

Why Should This Course Be of Interest?

Geoengineering is increasingly becoming part of the societal discourse around climate change. The recent Fourth National Climate Assessment has reemphasized that climate change is upon us and the natural, built and social systems we rely on are increasingly vulnerable to its cascading impacts. Yet, global efforts to reduce carbon dioxide emissions into the atmosphere are falling far short of what is necessary to avoid the worse impacts of climate change. It is within this backdrop that the concept of geoengineering the climate is being considered. Given this topic is at the interface of science, ethics and policy, **this course is designed to benefit upper-level undergraduate and graduate students from disciplines across campus.**



What You Will Learn

No prerequisites or textbooks required: this course will be taught from first principles and will be useful to students from many different disciplines.

This course will cover:

- The major findings of recent national and international assessments of climate change and climate change impacts
- The major characteristics of proposed geoengineering techniques
- Ethical and governance considerations of any future geoengineering efforts

The course will facilitate broad discussion of the many facets of climate geoengineering, informed and enriched by the diverse backgrounds and perspectives of the students. Students will emerge at the end of the semester with their own views on whether it makes sense to move forward with the deployment of geoengineering techniques.

Course Structure: Homework will mostly involve assigned readings, which will form the basis for in-class discussion, as well as individual and group projects. Grades will be based on the projects and a final exam.