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**To Move Heaven and Earth:
Nuclear Explosions, “Inadvertent Weather Modification,”
and Cold War Geoengineering Schemes, 1945-1980**

This paper examines attempts to use nuclear weapons for large-scale climate modification and geoengineering projects in the Cold War era. It argues that debates over their potential to alter the global biosphere, both intentionally and accidentally, catalyzed a new planetary politics of the environment that saw humanity as the dominant geological agent on the earth. From the late forties through early sixties widespread fears across the globe that nuclear weapons testing caused extreme weather and large-scale climatic changes, or “inadvertent weather modification,” helped to collapse the distinction between human caused disaster and natural disaster. Government scientific experts in the U.S. and U.S.S.R. sought to control the narrative of global environmental risk by applying the bomb’s destructive power for constructive purposes. They often contradicted themselves, arguing that nuclear explosions did not have sufficient energy to cause tornados and droughts while simultaneously proposing to use them to melt the polar ice caps and create a temperate arctic. By the early 1960s the American “Project Plowshare” and the Soviet “Nuclear Explosions for the National Economy” had both created grandiose plans for continental wide “geographical engineering” using “peaceful bombs.” Out of these plans an unexpected relationship with fossil fuels developed. Nuclear explosions became increasingly intertwined with the hydrocarbon economy through experiments in shale fracturing and highway construction. Even more importantly, many of the experts who publicly denied the possibility of “inadvertent weather modification” in the 1950s would come to believe in its existence by the 1960s after turning their attention from the circulation of radioactive fallout to that of greenhouse gas emissions and CFCs. These studies finally confirmed that we did possess the power to alter the face of the earth, but it was not from the use of nuclear energy. Rather, it was through the inadvertent byproducts of fossil fuels.

The hubristic attempts to use nuclear explosions for the “benefit of humankind” unintentionally awakened humankind to the reality that it was a planetary actor enmeshed in a fragile global system, one that seemed poised on the brink of catastrophe.