



An Emergency National Security Mission

A precise understanding of aerosols will take many more years of scientific work, but the good news is that aerosols are very short-lived compared with greenhouse gases. If we stopped pumping CO₂ into the atmosphere right now, most of what's already there would linger for another 50 to 200 years and some for thousands. But aerosols stay aloft from a few minutes to 10 days. Once we better understand their climatic effects and decide on controls, we can deal with aerosols quickly— if everyone cooperates.

Earth's climate is an international problem, and international solutions require treaties. Treaties work only if we can verify compliance. Detecting and tracking man-made aerosols and greenhouse gases against the background noise of natural emissions is no easy task, but it's the same kind of task that Dubey, Chylek, Reisner, and others are undertaking to measure and model aerosols. The knowledge honed through their research will produce the expertise and tools needed to verify compliance with environmental treaties. Such treaties, like the Nuclear Test Ban Treaty of the past, may be integral parts of the future national security landscape.