



The Earth's atmosphere is composed of gases and particles that vary with spatial scale and with time, influencing climate, air quality, the stratospheric ozone layer, and weather. Interactions between these components have impacts on human health and the vitality of ecosystems and hence have high relevance to society. Federal research coordinated by the Atmospheric Composition Interagency Working Group focuses primarily on how human activities and natural processes affect atmospheric composition, and how these changes in turn relate to societal issues. The issues embrace multiple disciplines, cross many spatial scales, and are highly interrelated. The research is a highly coordinated endeavor that involves observational studies, laboratory investigations, and modeling analyses to provide the timely, accurate, and useful scientific information needed by decisionmakers nationally and internationally.

Progress has been made to date in understanding the role of atmospheric composition in Earth's climate. Efforts have been dedicated to the areas of largest uncertainty in understanding how atmospheric constituents other than carbon dioxide (CO₂) affect the forcing of climate. USGCRP-coordinated research has made progress in defining those factors, and has recently taken steps to address the next levels of complexity in the issue by looking at the interactions between aerosols and non-CO₂ gases, atmospheric water vapor, and interactions of pollutants with climate change.

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