



CLIMATE PROGRAM OFFICE

Atmospheric Composition and Climate Program

How are human-produced aerosols affecting climate?

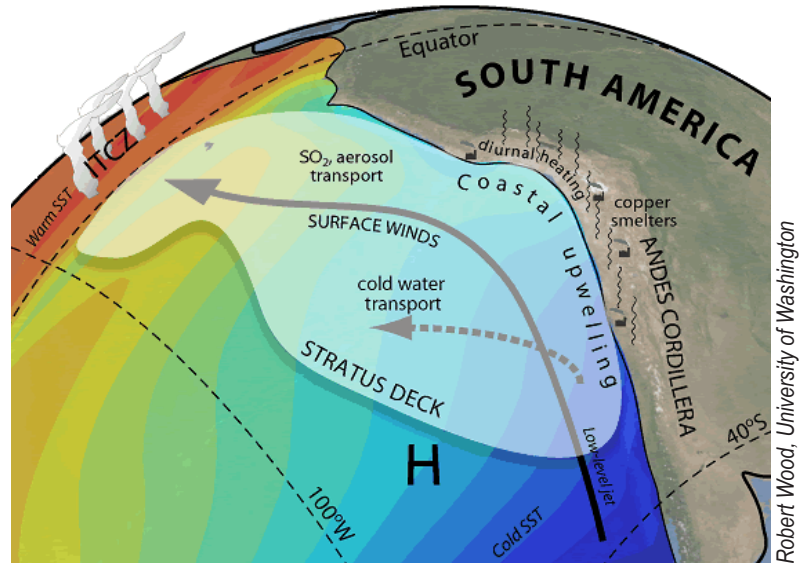
What is the condition of the ozone layer now that humans have stopped releasing gases that were harmful to it?

The Atmospheric Composition and Climate Program (ACCP) supports research on aerosols—small solid and liquid particles suspended in the atmosphere—focusing on their interactions with radiation and clouds. These climate components currently have the lowest level of scientific understanding among all the major factors known to influence climate. This research has significant potential to advance climate science, ultimately improving climate models and informing policy.

The ACCP also supports research to improve understanding of the effect of chemically active greenhouse gases on climate. The program works with other federal agencies and international partners to monitor and model the recovery of the ozone layer in the upper atmosphere and to clarify its role in climate change.

ACCP Objectives

- Improve understanding of how aerosols influence clouds.
- Improve understanding of how chemically active greenhouse gases such as surface-level ozone influence the climate system.
- Monitor and understand the recovery of the stratospheric ozone layer.
- Clarify the role of stratospheric ozone in climate change.



Robert Wood, University of Washington

A field campaign in the southeastern Pacific Ocean focused on collecting detailed measurements about clouds, aerosols, and atmospheric circulation.

Approaches

Through a range of interdisciplinary collaborations and research activities, the ACCP develops instruments, collects regional- to global-scale observations, conducts laboratory studies, and performs experiments using theoretical modeling. ACCP provides support to groups that:

- Perform data analysis or modeling projects to improve scientific understanding of the interdependent land-ocean-atmosphere system of the Southeast Pacific. These projects aim to improve the modeled representation of tropical rainfall, sea surface temperature, and winds on seasonal and longer time scales.
- Analyze field data and engage in modeling to shed light on the role of aerosols in the Arctic climate system, specifically focusing on springtime sources and transport mechanisms, evolution of aerosols and gases into and within the Arctic, and the climate impacts of haze and ozone in the Arctic.

Atmospheric Composition and Climate Program http://climate.noaa.gov/cpo_pa/acc

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