

NewsRelease



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NASA to launch largest study ever of Arctic ozone loss

Six teams of NASA Langley scientists are joining researchers in Sweden this month for the largest field campaign ever to study ozone loss over the North Pole.

The second stage of the international SAGE III Ozone Loss and Validation Experiment (SOLVE) involves more than 350 researchers, technicians and support personnel from the U.S., Canada, Europe, Russia and Japan. It will be conducted jointly with the European Commission-sponsored Third European Stratospheric Experiment on Ozone (THESEO) 2000.

Mission results will expand the present understanding of polar ozone dynamics and improve ozone loss prediction forecasts. In addition, data will be used in combination with results from Langley's future stratospheric aerosol and gas experiment (SAGE) III satellite instrument. SAGE III is scheduled for launch next summer aboard the Russian Meteor-3M satellite.

The four-month experiment, begun in November 1999, focuses on the puzzling balance of ozone production, loss, and its movement in the lower Arctic stratosphere from early winter to spring. Analysis of ozone and other atmospheric gases will show how the stratosphere's chemical composition changes through the Arctic winter.

The SOLVE campaign hopes to identify the processes that control ozone concentrations over winter. In turn, Scientists hope to better understand the composition of polar stratospheric clouds and the chemical reactions involved in ozone loss on the surfaces of these cloud particles.

SOLVE will deploy a large number of instruments aboard specialized aircraft and long-duration balloons. There will be ground-based instruments from over 30 European stations and the earth observing satellite instruments Halogen Occultation Experiment (HALOE), Stratospheric Aerosol and Gas Experiment (SAGE) III, and the Polar Ozone and Aerosol Measurement (POAM) III.

Recent data and modeling efforts suggest that global warming might lead to larger than expected Arctic ozone losses in the future and may also delay the anticipated recovery of the global ozone layer. At present, models cannot account for the amount of Arctic ozone loss during the winter.

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The Langley SOLVE Program and Project is managed by Dr. Lamont Poole and Dr. Chip Trepte. Thirteen Langley employees will be in Sweden for the January phase of the three-part study.

The "Arena Arctica" research hangar at the Kiruna commercial airport will function as base operations, housing the aircraft and many of the scientific instruments. Balloons, with their payloads from a few pounds to a few thousand pounds, will be launched from Erange, a balloon and rocket launch facility near Kiruna.

Reporters are invited to cover the experiment during a "media week" January 21–28 in Kiruna. Access to a NASA newsroom in the Scandic Hotel Ferrum, located near the airport, will be provided. During escorted tours of the research area, journalists will have the opportunity to meet with scientists.

For more information on atmospheric sciences see: <http://asd-www.larc.nasa.gov/ceres/ASDceres.html> or contact the NASA Langley Research Center, Hampton, Va., at the number listed above.

For more information on SOLVE, see: <http://cloud1.arc.nasa.gov/solve/index.html>

For more information on THESEO 2000, see: <http://www.ozone-sec.ch.cam.ac.uk>.

A media guide for SOLVE can be downloaded from <http://george.arc.nasa.gov/dx/basket/factsheets/FS991103.html>.