

# **Data Exchange for NASA SOLVE II Field Campaigns and EC VINTERSOL**

## **I. BACKGROUND**

NASA is sponsoring a major experimental field campaign in winter of 2001-2002, called the Second SAGE III Ozone Loss and Validation Experiment (SOLVE II). The SOLVE II campaign will use the NASA DC-8 aircraft and balloons deployed in Kiruna, Sweden to validate measurements from the SAGE III satellite instrument and to investigate the processes which control ozone levels in the polar regions.

VINTERSOL (Validation of International Satellites and study of Ozone Loss) is a pan-European activity consisting of projects funded in the Environment and Sustainable Development programme of EC DG Research 5<sup>th</sup> Framework programme and a number of projects funded through the national programmes in Europe. It encompasses measurements from aircraft, balloons, ozonesondes, ground-based station and satellites, with many activities being located in Kiruna, Sweden.

Collaboration between scientists in these campaigns and sharing of data from them will greatly enhance the productivity of all.

## **II. DATA EXCHANGE OBJECTIVES**

The partners seek to establish a comprehensive data set of upper tropospheric and lower stratospheric trace gases and meteorological data. The purpose of this data protocol is to:

- (1) encourage an orderly and timely analysis and publication of data;
- (2) produce a central repository of data to be released to the public domain; and
- (3) foster future collaboration in this area.

## **III. DATA EXCHANGE PROTOCOL**

The Science Team (ST) is composed of principal investigators (PIs) and co-investigators, project scientists, and project meteorologists from the campaigns. Program and Project managers are ex-officio members of the ST. Science Team members are listed on the campaign websites. The main ST responsibilities are: (1) experimental investigation, (2) modeling and analysis of data, and (3) publication and presentation of results.

(a) All measurements and/or data products acquired or developed as part of the four field campaigns will be submitted to central archives in accordance with the format specified in "FORMAT SPECIFICATION FOR DATA EXCHANGE", by Steven E. Gaines and R. Stephen Hipskind, Version 1.3, 18 June 1998 (Available at <http://espoarchive.nasa.gov/archive/forspec.html>). All members of the ST will have free access to and use of all final data products at all times.

SOLVE II scientists will submit data to the NASA data archive located at this same SOLVE II web site. VINTERSOL scientists will submit their data to the VINTERSOL data archive at NILU. The responsible personnel at the databases will make sure that a mirror routine is established so that the archives contain an up-to-date collection of data.

(b) The rapid exchange of data assists in-field collaborations, identifies instrument problems via intercomparisons, and helps flight planning by identifying new and interesting geophysical problems. Data acquired during the field deployments will be electronically exchanged after each flight and will constitute a preliminary archive. All measurement latitudes, longitudes, and

pressures or altitudes will be submitted to the archive within 24 hours. Ozonesonde data will be submitted to the archive within 24 hours of launch. Aircraft data will be submitted within 48 hours of landing. Ground measurements will be submitted within 7 days, while balloon data will be submitted within 7 days of payload recovery. Some exceptions for unique operation will be granted on a case-by-case basis by the project management groups. Non-electronic exchange will also be dealt with on a case-by-case basis subject to the approval of the project management groups.

(c) All data sets will be freely available to all VINTERSOL / SOLVE II science team members from the archive. Data cannot be provided to persons outside of the VINTERSOL / SOLVE II science teams without the expressed approval of that data set's PI. Data will be considered to be freely to the public from January 2004.

(d) A joint VINTERSOL / SOLVE II data workshop will be scheduled for some period in 2003. The aims of this workshop are to generate a collegial usage of the data, exchange ideas, and to define the nature of publications to follow from this joint campaign.

(e) Manuscripts submitted for publication in peer-reviewed journals should involve all the scientists involved in the preparation of the measurements and interpretation of the manuscript. In particular, PIs/Co-Is responsible for generating a measurement or a data product must be offered the right of co-authorship. This right should be used only if the contribution is essential.

(f) Presentations in public meetings may be made subject to approval by the co-authors. In general descriptions of the whole project, the SOLVE II and VINTERSOL teams will note that this programme is a coordinated action of NASA and European research agency projects. Major press releases on findings from the joint measurements will be agreed upon between the EC and NASA coordinators.

(g) Any disputes about the use of other groups' data, particularly with respect to publications, will be resolved by a committee of scientists from the VINTERSOL and SOLVE II Science teams. This committee will be comprised of 9 members: Dr. Georgios Amanatidis, Dr Michael Kurylo, 3 appointments by Dr. Michael Kurylo, 3 appointments by Dr. Georgios Amanatidis, and a ninth, jointly agreed upon person.