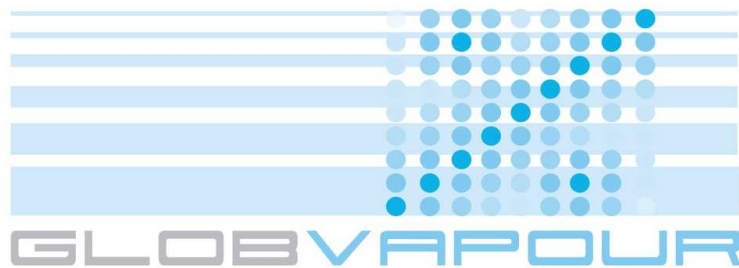




## DUE GLOBVAPOUR

### Monthly Progress Report

March 2010



Issue 1, Revision 0

12 April 2010

ESRIN/Contract No.:

22696/09/I-OL

Project Coordinator:

Marc Schröder  
Deutscher Wetterdienst  
marc.schroeder@dwd.de

Monthly Progress Summary - ESA DUE GlobVapour	
ESRIN/Contract No.:	22696/09/I-OL
Reporting Period:	01.03.2010 - 31.03.2010
Main Actions:	Finalisation of revised versions of relevant documents, Post-processing of Kick-Off and RER meeting and corresponding decisions and actions, Further development of SSM/I 1D-Var, IASI assessment

## Activities, Achievements and Status - Phase I

### Management and Coordination

#### WP 001 - Management and Coordination (M. Schröder)

- The Kick-Off and Requirement Engineering Review (RER) meeting has been organised and held at DWD, Offenbach, Germany, on 15/16 March 2010.
- The Data Acquisition Plan (DAP), Software Development Plan (SDP), and Technical Specifications Document (TSD) have been submitted to ESA for review.
- The DAP, SDP, and TSD have been finalised with respect to all ESA review comments.

#### WP 010 - Promotion (M. Schröder)

- A preliminary version of the GlobVapour website has been installed and launched.
- Ralf Bennartz (University of Wisconsin-Madison, Madison, USA) und Johannes Quaas (Max-Planck-Institut für Meteorologie, Hamburg, Germany) have been added as User Group members.

### Consolidation of Requirements and Specifications

#### WP 110: Requirements Baseline (R. Saunders)

- The GlobVapour Requirements Baseline Document (RBD) has been refined after the Kick-Off and RER meeting at DWD.
- WP completed.

#### WP 120: Technical Specifications (M. Schröder)

- WP completed.

#### WP 130: Summary of existing algorithm comparisons (M. Schröder)

- Information about different existing algorithms has been collected and is being studied.

### Creation of Diagnostic Data Set and validation tools

#### WP 210: Collection and procurement of validation data (M. Schröder)

- Acquisition of AIRS data has been started.

#### WP 220: Collection and procurement of satellite data (M. Schröder)

- Selected AATSR orbits have been procured for case studies.

- Acquisition of ERA-Interim data for IASI Assessment and (later) for MERIS-SSM/I and (A)ATSR production has been started.

**WP 230: Development of validation tools (M. Schröder)**

- Starts April 2010.

**Development of Prototype Product****WP 310: Development of GOME/SCIAMACHY/GOME-2 retrieval scheme (D. Loyola)**

- The SCIAMACHY retrievals have been compared to the scientific prototype from Mainz. The fine-tuning of the parameter settings for SCIAMACHY/UPAS is still ongoing. At the moment a bias on the H<sub>2</sub>O slant columns w.r.t. the Mainz data is still present.

**WP 320: Development of MERIS retrieval scheme (R. Preusker)**

- The MERIS OE retrieval algorithm is under preparation. The ANN-based forward model has been developed based on MOMO simulations and is currently tested.

**WP 330: Development of SSM/I - MWR retrieval scheme (M. Schröder)**

- The NWP-SAF 1D-Var scheme for SSM/I, SSMIS and AMSU-A has further been tested. First comparisons against a HOAPS water vapour product were performed revealing a good performance of the scheme.

**WP 340: Establishment of consistency of MERIS and SSMI (M. Schröder)**

- Starts June 2010

**WP 350: Development of ATSR/AATSR retrieval scheme (R. Preusker)**

- Starts June 2010

**WP 360: Assessment of existing IASI retrieval schemes (M. Schröder)**

- The implementation of DWD's IASI retrieval on a regular Linux computer is under development. Currently, the retrieval scheme undergoes various adaptations, as for example: enabling the usage of ERA-Interim as background with corresponding errors, modifying the output module to provide measures of retrieval uncertainties.
- EUMETSAT's IASI L2 data has been investigated in a first quality assessment with respect to ARM site water vapour measurements.
- First accuracy assessments for both retrieval products are planned to be presented at the ITSC in April.
- Discussion of the IASI round-robin comparison and preparations started to provide Met Office water vapour retrievals for the sites required.

**WP 370: Development of merged IASI/SEVIRI profile product (M. Schröder)**

- Starts June 2010

**WP 380: Production and validation of prototype data sets (M. Schröder)**

- Starts September 2010

**WP 390: Development of processing environment (U. Krämer)**

- Starts May 2010

## Next Steps and Schedule

- Adding more content to the GlobVapour website.
- Completion and submission of revised TSD, DAP, and SDP relevant documents before 16 April 2010.
- Continuing Summary of existing algorithm comparison and validation reports, Product Validation Plan, Ground Data Document and Diagnostic Data Set.
- Continuing acquisition of data for production and validation.
- Development of tools for data reading and reformatting of validation data.
- Continuing IASI assessment by including more algorithms and extend to more reference sites and measurements.

## Achievements

- Further refinement of the implemented 1D-Var scheme for microwave instruments and initial processing of preliminary data sets for validation.
- Completion of WP110
- Completion of WP120

## Problems encountered and solutions proposed

- Lack of stored IASI retrieval data for chosen validation periods yields to reprocessing at some institutions participating in the IASI assessment