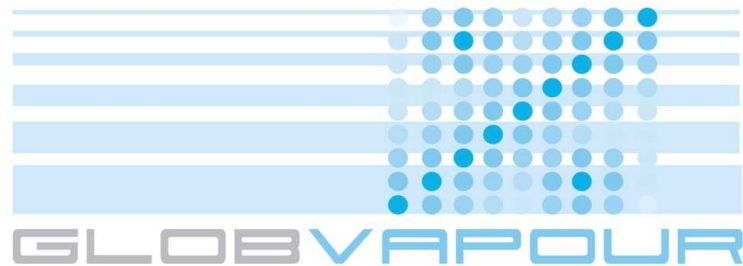




DUE GLOBVAPOUR

Monthly Progress Report

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ESRIN/Contract No.: 22696/09/I-OL

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Monthly Progress Summary - ESA DUE GlobVapour

ESRIN/Contract No.: 22696/09/I-OL

Reporting Period: 01.04.2011 - 30.04.2011

Main Actions:

- Update of SSMI TCWV L2 retrieval (1DVAR)
- Provision and implementation of MERIS L2 processing system and subsequent testing within the processing environment
- Continuation of production and validation of the test products for SSM/I and MERIS L3 products

Activities, Achievements and Status - Phase I**Management and Coordination****WP 002 - Management and Coordination (M. Schröder)**

- Changing the venue of the next GV progress meeting (PM-4) to Berlin (FUB).
- The organization of the PM-4 has started

WP 020 - Promotion (M. Schröder)

- Preparations for the GlobVapour Newsletter Vol. 1/2011 are ongoing.
- Reprint 10 pieces of NL Vol. 2/2010 for EGU
- Poster presentation at EGU 2011 entitled 'ESA DUE GlobVapour water vapour products: retrieval methods and validation by Nadine Schneider et al.' / Session HS1.4 (EO for Water Cycle Science)
- Minor webpage updates of e.g. internal section

Creation of Diagnostic Data Set and validation tools**WP 210: Collection and procurement of validation data (M. Schröder)**

- Processing AIRS, MODIS and ATOVS L3 data for test months (2006-2008) has been completed.

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

- Nothing to report.

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

- IDL tools for validation of L3 products have been upgraded with processing of validation results for multiple months and implementation of significance level computation.
- Tool to validate diurnal cycles of SEVIRI only, IASI only and IASI+SEVIRI against ground-based MWR observations is being extended. Currently: execution of statistical analysis

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

- The Level 1b-2 ATBD has been written

- Investigation on differences between DLR implementation and MPI-Mainz implementation of the H2O product for GOME/ERS-2

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

- Nothing to report.

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

- A new global, latitude-longitude-dependent background climatology information has been made and interfaces implemented for a better provision of a suitable background and first guess of the water vapour. Tests have been performed to ensure correct usage of the new background dataset.

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

- Nothing to report.

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

- Nothing to report.

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

- DLR processed the IASI data from July and August 2007, as well as from June and December 2008.
- Extension of the evaluation software of the IASI assessment for including all available collocations of all considered retrieval schemes, in contrast to the approach followed before, which considered only those MetOp overpasses for which all retrieval systems had valid retrievals at the same time in the vicinity of the ground-based reference site. The extended evaluation tools also enable the evaluation of the retrieval quality for multiple sites and months at the same time.

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

- Continuation of the evaluation of the diurnal dependence of the quality of the combined IASI/SEVIRI product in comparison to the single-sensor-only products has been extended. The software tools collocating the Lindenberg station with the satellite products have been improved to provide a better representative of satellite products in space and time.

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

- Nothing to report.

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

- Development of concurrent processing for stand-alone processing system continued

Processor Development and Test Product**WP 410: Development of GOME/SCIAMACHY/GOME-2 processing system (D. Loyola)**

- The development of the processing system is ongoing.

WP 420: Development of MERIS-SSM/I processing system (M. Schröder, R. Preusker)

- The development of the MERIS-SSM/I processing system is ongoing. The validation of MERIS L2 TCWV was extended by comparisons to GPS-derived water vapour amounts, showing good results.

- L2 to L3 processor improved, now dealing with multiple sensors (F13, F14) and configuration files.
- The SSM/I processors is planned to be delivered to BC by mid May.
- SSMI 1D-Var retrieval environment modified: Final adoptions made to the 1D-Var code to enable the utilization of a global, latitude-longitude-dependent water vapour climatology to be used in the background information. The controlling scripts have been modified in preparation of the delivery of the SSM/I 1D-Var within the SSM/I processing systems.

WP 430: Development of AATSR processing system (R. Preusker)

- Nothing to report.

WP 440: Development of IASI processing system (M. Schröder, R. Saunders)

- Note the proposal on IASI-SEVIRI.

WP 450: Development of IASI-SEVIRI processing system (M. Schröder)

- Not yet started. Note the proposal on IASI-SEVIRI.

WP 460: Production and validation of test data set (M. Schröder)

- The production of the MERIS-SSM/I test data set (2006-2008) has been continued at DWD (SSM/I) and at FUB (MERIS) and will be completed until mid May (the prototype months for SSM/I + MERIS will be reprocessed as part of the test data processing).
- Tools and diagnostic data for the test years (2006-2008) are ready to be used for the validation activities.
- SSM/I test months (2006-2008) have been processed using new global hybrid mode.

WP 470: Development of stand alone processing system (U. Krämer)

- Corresponding work is ongoing.
- Reception and installation of first version of MERIS processors from FUB for:
 - L2
 - daily aggregation
 - monthly aggregation
 - MERIS-SSM/I blending
- BEAM pconvert has been installed as a pre-processing step. The L2 and daily aggregation processors have been successfully run on two days of example products. Monthly aggregation did fail but the reason (too few memory of the virtual machine used for testing) is known.
- Detailed feedback on processor delivery structure, error handling and versioning has been provided to FUB that may be considered for the next version.

Development of Final Product**WP 510: Production and validation of final data set (M. Schröder)**

- Not yet started.

WP 520: Update of PS and System Delivery and Test Application at ESRIN (U. Krämer)

- Not yet started.

Scientific Exploitation**WP 610: Comparison of GlobVapour Products to Climate Model Output (M. Ringer)**

- Comparisons are ongoing.

WP 620: Alternative Ways of Climate Model Evaluation (M. Ringer, R. Saunders)

- The WP has been started, and the evaluation is ongoing.

WP 630: Establishment of the Scientific Exploitation Plan (R. Saunders)

- Structure and content of the SEP are under discussion and will be topic during PM-4.

Next Steps and Schedule

- Completion of the production of the test products for SSM/I and MERIS
- Validation of the test products.
- Finalizing and concluding on added value of merged IASI+SEVIRI product compared with single-sensor products at Lindenberg MOL
- Continuous developing and updates on the processing systems after feedback loop with BC
- Continuous development on all running WPs.

Achievements

- Start of the production of the test products for SSM/I+MERIS covering 2006-2008.
- Delivery of the MERIS processing system (version 1) to BC.

Problems encountered and solutions proposed

- No further problems encountered.