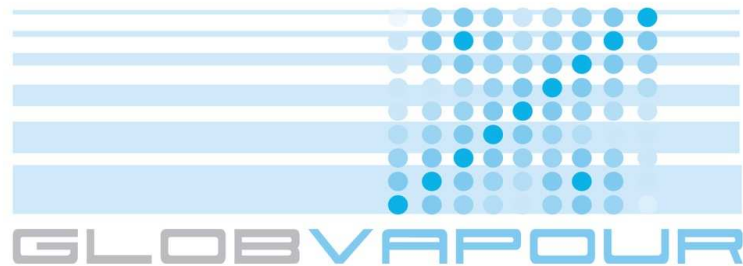




DUE GLOBVAPOUR

Monthly Progress Report

December 2010



Issue 1, Revision 0

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Monthly Progress Summary - ESA DUE GlobVapour

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

Reporting Period: 01.12.2010 - 31.12.2010

Main Actions: Newsletter Version 2, Issue 1 released; successful representation of the project at AGU; update of documentation; mutual agreement on AATSR plans; draft proposal for future activities related to IASI+SEVIRI; updated IASI assessment plan; progress in all development WP

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

- Following recommendations from PM2 the PVRs and ATBDs were updated. Version 1.0 updates are almost completed.
- The draft proposal for future activities related to AATSR has been finalised in mutual agreement between ESA and project.
- Following discussions from PM2 a draft proposal for future activities related to IASI+SEVIRI has been drafted. The content is currently under review at ESA.
- The IASI assessment plan has been extended with a comparison protocol section, as requested by ESA on PM2.

WP 020 - Promotion (M. Schröder)

- The GlobVapour Newsletter Vol. 2/2010 was layouted, with input from partners and comments from ESA being implemented. The Newsletter also contains first applications, that is, a comparison of prototype products to climate model and reanalyses output, provided by UKMO. It is now available through the projects web page.
- The GlobVapour webpage was updated and revised, with a User Help Desk initialised and with data Access via ftp prepared.
- At the AGU Fall Meeting an oral presentation was given in order to introduce the project's objectives, products and validation results. The presentation was well received and triggered discussions.

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

- Processing AIRS and MODIS L3 data for test months (2006-2008) ongoing.
- Preparation for Level 2 validation ongoing.

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

- Procurement of satellite data for test products nearly completed - the decision on how to proceed with AATSR processing has just recently been made.

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

- At last PM it was decided to intensify activities related to validation which might also require new validation tool development. E.g., the proposal related to IASI+SEVIRI

contains validation of diurnal cycles against ground-based MWR observations which would require development.

- Preparation for Level 2 validation ongoing.

Development of Prototype Product

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

- At last PM a few adaptations to the current version were discussed which are currently under development.

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

- Also at last PM it was decided to analyse the adjacency effect. Depending on results it might be necessary to update the retrieval scheme.
- Uncertainty estimation is work in progress.

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

- The Level2 to Level3 processor has been updated. The metadata contains a flag for land, ocean, clouds, scattering (SSM/I), sea ice, coast, and sun glint.
- The background information input to SSM/I has been varied among ERA Interim, climatology and a mixture of both. Reduced quality when using climatology has unclear reasons.

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

- Implementation of input from WP 320 and WP 330 ongoing.

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

- A new plan for AATSR has been formulated. The plan is in final version since 10 January 2011.

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

- The IASI assessment plan has been extended with a section on comparison protocols.

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

- A draft proposal on future activities has been formulated and submitted to ESA on 10 January 2011.

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

- All combined SSM/I+MERIS and GOME-2 prototype months have been processed and validated on the final spatial resolution, including differentiation to surface type and latitude correction.
- The Filename Convention document has been updated (now version 1.1) with minor corrections.
- Generation of improved SSM/I+MERIS products based on first version of updated HOAPS L1 products, including error field based on standard deviations, is in progress.
- GOME-2 daily composites for the prototype months have been generated (DLR) and made available to the end users via the DWD ftp server.
- The PVR version 1.0 for SSM/I+MERIS and GOME-2 prototype months, updated in agreement with review comments of PM2, have been submitted.

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

- The development of the processing environment is ongoing.

Processor Development and Test Product

WP 410: Development of GOME/SCIAMACHY/GOME-2 processing system (D. Loyola)

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

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

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

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

- The WP has been started, and the evaluation is ongoing. Note the updated plan for AATSR.

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

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

- Not yet started.

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

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

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)

- First comparisons have been carried out and were implemented into the User Feedback report and the Newsletter Volume 2, Issue 1.
- 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)

- Not yet started.

Next Steps and Schedule

- Minor adaptations to documents.
- Finalise retrieval algorithm improvements and continue processing of test products.
- Plan next meeting and User Workshop.
- Intensify validation efforts, in particular consider Level 2 validation and inter-comparisons.
- Decide on proposal on IASI+SEVIRI and assess added value of merged IASI+SEVIRI product.
- Develop processing systems.
- Continuous development on all running WP.

Achievements

- Newsletter Version 2, Issue 1 released.
- ATBDs and validation reports in near-final version.
- Oral presentation at AGU.
- Mutual agreements on AATSR plans. IASI assessment plan updated. Proposal on future activities for IASI+SEVIRI prepared.

Problems encountered and solutions proposed

- The IASI assessment is on-going as mutually agreed between the project and ESA.
- Following decisions at PM2 a proposal on how to proceed with the IASI+SEVIRI product was drafted. It is proposed to carry out highh-temporal resolution comparisons against ground-based microwave observations from Lindenberg. It is likely that the added value on monthly scales is not significant which will also be assessed. At PM3 it will likely be decided on how to proceed with this product.
- First validation of a two channel retrieval scheme for AATSR exhibited low quality of the water vapour product. It is foreseen to provide ocean and sun-glint free products using the 3.7, 10 and 11 micron channels only. In addition, the full capability of the instrument to retrieve TCWV will be analysed.
- On PM2 a few adaptations to the retrieval schemes were proposed. As the implementation requires some efforts uncritical delays in processing development are expected at this stage. However, further updates would be critical.
- The quality of MERIS TCWV over coastal areas is relatively low. It was proposed to analyse the adjacency effect in more detail. It might be that this issue can not be solved with reasonable efforts. At PM3 it needs to be discussed on how to proceed with SSM/I+MERIS TCWV over coastal areas.
- The project and the GEWEX Radiation Panel jointly carry out a meeting in March 2011. The meeting, its discussions and the assessment plan might strongly affect the project. It might give reason for internal discussions which might affect future activities of the project.