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GHG-CCI Quarterly Report #4

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GHG-CCI QSR Jul-Sep 2011

1. Overall Project Status

The GHG-CCI project has made significant progress during the first year of the CCI programme especially in terms of scientific publications (e.g., Schneising et al., ACP, 2011; Frankenberg et al., JGR, 2011, Butz et al., GRL, 2011, Parker et al., GRL, 2011, Noel et al., AMTD, 2011), other documentation (URD, PSD, DARD, ATBD, etc., see GHG-CCI website www.esa-ghg-cci.org), and amount and quality of the generated satellite data products (depending on algorithm, now more than 7 years of SCIAMACHY data have been processed and analyzed and nearly two years of GOSAT data for both CO_2 and CH_4; for data quality please see peer-reviewed publications listed above and additional information given on the GHG-CCI website, esp. the AIECARv0 error characterization document).

2. Main progress during reporting period

Focus of the reporting period was the generation of major documents, e.g., ATBDv0 with a description of all algorithms (approx. 500 pages) and AIECARv0 with detailed error characterization of all data products (approx. 200 pages), which were due at the end of the first year of GHG-CCI, i.e., end of August 2011. All required documents which were due in year 1 have been generated and delivered as originally planned without any delay.

Another focus was the preparation of Progress Meeting 3 (PM3), which has been held at LSCE in Paris on 6 Oct 2011. PM3 was the final meeting of Contractual Phase 1 (1st year of this project). PM3 was very successful with many useful discussions w.r.t. the existing data products and their quality assessments incl. initial validation and w.r.t. future planning including an initial discussion on the GHG-CCI recommendations on how to optimally achieve the CCI goals for CCI Phase 2. ESA concluded that GHG-CCI has successfully completed Contractual Phase 1 and approve to go ahead with Contractual Phase 2 (2nd year).

A number of other activities have also been carried out such as the submission of abstracts for various conferences (e.g., AGU 2011, WCRP conference Denver 2012, Planet under Pressure conference London 2012). Also major updates of the GHG-CCI website have been implemented. For example, the Round Robin Data Base (RRDP) with the current GHG-CCI satellite-derived CO_2 and CH_4 data products is now on-line and the data products are publicly available (password protected but everyone who expresses interest in the data will be granted access without any restrictions).

3. Future activities

The main goal of the 2nd year is to complete the Round Robin exercise. This means that end of August 2012 a decision will have been made which algorithms will be used to generate the Climate Research Data Package (CRDP) in year 3. To optimally achieve this, an optimized schedule has been presented and discussed at PM3. Year 2 will consist of three major phases: (i) The ongoing phase of algorithm improvements, data processing and data analysis, incl. updates of major documents and extension of the validation data base. This phase will be finished around end of February 2012. (ii) From March-July 2012 the existing data products will be carefully evaluated by the validation team and the retrieval experts. Meetings will be held well before the final decision deadline to find out if both independent groups have reached similar conclusions concerning the quality of the different products or if there are any inconsistencies which need to be resolved. The two independent assessments will be documents in two documents (PVASR to be written by the validation team and AIECARv1 to be written by the retrieval experts). (iii) In the final phase (Aug 2012) a short document will be written (ASR, Algorithm Selection Report) where the final section decision will be given including short justification referring to PVASR, AIECARv1 and other information for details. A number of other activities will also be carried out during the coming months, e.g., with respect to recommendations and System Requirements for Phase 2, preparation for conference participation, interaction with users and other projects such as MACC-II, which starts in Nov. 2011.

*** End of Report ***