Michael.Buchwitz@iup.physik.uni-bremen.de

GHG-CCI Quarterly Status Report (QSR) #29

Reporting period: October-December 2017; Version: 18-December-2017

GHG-CCI QSR October-December 2017

1. Overall progress

During the reporting period the project proceeded as planned. No major issues have been identified. The main part of the project ended successfully and as planned in March 2017 with the delivery of the last data sets ("CRDP4") and its documentation (see previous reports and below). During the reporting period focus was on generation and delivery of the final versions of several documents. All has been successfully completed as planned in December 2017. In summary, all deliverables have been delivered and have been approved by ESA. No additional deliverables are required contractually but in order ensure a smooth transition to a possible CCI+ continuation the project has been cost-neutrally extended until mid 2018.

The most relevant final documents are:

- Product Validation and Intercomparison Report (PVIR) for CRDP4 (PVIR5, 9-Feb-2017, 253 pages, http://www.esa-ghg-cci.org/?q=webfm_send/352)
- Climate Assessment Report (CAR) for CRDP4 (CARv4, 28-Mar-2017, 96 pages, http://www.esa-ghg-cci.org/?q=webfm_send/385)

Peer-reviewed publications: The entire publication list is given on the GHG-CCI website: http://www.esa-ghg-cci.org/ -> Publications (all publications using GHG-CCI data sets are marked with (*)). The "Special issue on earth observation of essential climate variables" of Remote Sensing of Environment (edited by CCI scientists) appeared in December 2017 (http://www.sciencedirect.com/science/journal/00344257/203), which is a collection of 19 perr-reviewed papers using CCI data sets.

Future: As already explained in previous reports, some GHG-CCI team members are since 1st of November 2016 part of C3S (https://climate.copernicus.eu/) via project "Production of Essential Climate Variable Datasets based on Earth Observations: Greenhouse Gases (carbon dioxide and methane) (C3S_312a_Lot6)" led by Univ. of Bremen. This C3S project is essentially the operational continuation of GHG-CCI and the GHG-CCI data set will be extended in time via this C3S project. Not covered are R&D aspects, which will hopefully be covered in the future via CCI+.

2. Technical information

2.1 Publications since last QSR:

Buchwitz, M., et al.: Global satellite observations of column-averaged carbon dioxide and methane: The GHG-CCI XCO_2 and XCH_4 CRDP3 data set, Remote Sensing of Environment 203, 276-295, http://dx.doi.org/10.1016/j.rse.2016.12.027, 2017.

Kaminski, T., et al.: Constraining a terrestrial biosphere model with remotely sensed atmospheric carbon dioxide, Remote Sensing of Environment 203, 109-124, http://dx.doi.org/10.1016/j.rse.2017.08.017, 2017.

Lauer, A., et al.: Benchmarking CMIP5modelswith a subset of ESA CCI Phase 2 data using the ESMValTool, Remote Sensing of Environment 203, 9-39, http://dx.doi.org/10.1016/j.rse.2017.01.007, 2017.

Reuter, M., et al.: A Fast Atmospheric Trace Gas Retrieval for Hyperspectral Instruments Approximating Multiple Scattering - Part 1: Radiative Transfer and a Potential OCO-2 XCO_2 Retrieval Setup, Remote Sens., 9, 1159, doi:10.3390/rs9111159, 2017.

Reuter, M., et al.: A Fast Atmospheric Trace Gas Retrieval for Hyperspectral Instruments Approximating Multiple Scattering - Part 2: Application to XCO_2 Retrievals from OCO-2, Remote Sens., 9, 1102, doi:10.3390/rs9111102, 2017.

2.2 Number of users

Number of users (mid 2011 to 17-December-2017): 667 (20 during reporting period).

*** End of Report ***