

GHG-CCI QSR July-September 2016

1. Overall progress

During the reporting period the project proceeded as planned. No major issues have been identified. Focus during the reporting period was on updating the user requirements document, algorithm improvements and re-processing to generate a new data set covering the time period 2003 - 2015 (Climate Research Data Product No. 4, CRDP4). A progress meeting is planned for mid of October 2016, where the status of the CRDP4 generation will be discussed including the planned quality assessments for the coming months. The new data set including documentation will be made publicly available in February 2017.

2. Outreach and promotion

Arguably, the best promotion are high-quality scientific publications, where it is shown that the GHG-CCI data products can be used to address important scientific issues. Therefore – as for previous periods - a focus was on publications (see 4.1 below). Furthermore, Univ. Bremen GHG-CCI team members have been interviewed by HYPERRAUMTV (<http://hyperraum.tv/>) and videos (in German) are shown on youtube, e.g.: “Grüner Luftreiniger”: <https://www.youtube.com/watch?v=DfYuXxWj73w>; “Neues zu CO₂, Methan und Fracking”: <https://www.youtube.com/watch?v=KIa4OD17zkw>).

3. International activities

GHG-CCI has generated the first XCO₂ and XCH₄ data products in Obs4MIPs format. These data products have been officially approved, are available via the GHG-CCI website and have been transferred to the ESGF by the CCI Open Data Portal Team. Furthermore, GHG-CCI team members have provided detailed information on GHG-CCI data products for the upcoming version of the CEOS-WMO-CGMS ECV Inventory in collaboration with EUMETSAT.

4. Technical information

4.1 Publications since last QSR:

Buchwitz, M., O. Schneising, M. Reuter, J. Heymann, S. Krautwurst, H. Bovensmann, J. P. Burrows, H. Boesch, R. J. Parker, R. G. Detmers, O. P. Hasekamp, I. Aben, A. Butz, C. Frankenberg, Satellite-derived methane hotspot emission estimates using a fast data-driven method, *Atmos. Chem. Phys. Discuss.*, 1-40, doi:10.5194/acp-2016-755, 2016.

Parker, R. J., Boesch, H., Wooster, M. J., Moore, D. P., Webb, A. J., Gaveau, D., and Murdiyarso, D.: Atmospheric CH₄ and CO₂ enhancements and biomass burning emission ratios derived from satellite observations of the 2015 Indonesian fire plumes, *Atmos. Chem. Phys.*, 16, 10111-10131, doi:10.5194/acp-16-10111-2016, 2016.

Reuter, M., M. Buchwitz, M. Hilker, J. Heymann, H. Bovensmann, J. Burrows, S. Houweling, Y. Liu, R. Nassar, F. Chevallier, P. Ciais, J. Marshall, and M. Reichstein, How much CO₂ is taken up by the European terrestrial biosphere?, *Bull. Amer. Meteor. Soc. (BAMS)*, doi:10.1175/BAMS-D-15-00310.1, link to preprint: <http://journals.ametsoc.org/doi/pdf/10.1175/BAMS-D-15-00310.1>, 2016.

Webb, A. J., H. Boesch, R. J. Parker, L. V. Gatti, E. Gloor, P. I. Palmer, L. S. Basso, M. P. Chipperfield, C. S. C. Correia, L. G. Domingues, L. Feng, S. Gonzi, J. B. Miller, T. Warneke, C. Wilson, CH₄ concentrations over the Amazon from GOSAT consistent with in situ vertical profile data, *J. Geophys. Res.*, 121, doi:10.1002/2016JD025263, 2016.

Full publication list please see: <http://www.esa-ghg-cci.org/> -> Publications (note that publications with GHG-CCI funding explicitly acknowledged are marked with (*) on that website).

4.2 Number of users

Number of users (mid 2011 to 30-Sep-2016): 494 (25 during reporting period).

*** End of Report ***