

Gridded glyoxal vertical columns from SCIAMACHY/OMI/GOME-2A&B

Institute of Environmental Physics, University of Bremen

22 September 2015

This document describes the global gridded monthly CHOCHO vertical columns retrieved from the SCIAMACHY, OMI, and GOME-2 (A&B) instruments.

1. Version history

<i>Version</i>	<i>Date</i>	<i>User</i>	<i>Summary</i>
1.5	22-09-2015	Alvarado	Initial public release (homogenize retrieval from different platforms)
1.0	22-09-2015	Alvarado	Initial public release

2. Dataset description

This dataset of CHOCHO vertical columns is based on the retrieval described in Alvarado et al. (2014) for OMI measurement. However, the fitting window has been extended to 433-460 nm and the liquid water correction was applied over land and ocean. For more details see Alvarado et al. (2014).

For this version of the CHOCHO vertical columns dataset, the normalization over the Pacific has been applied as is described in Alvarado et al. (2014). Measurements with a FRESCO cloud coverage exceeding 30% have been filtered out for each instrument. Additionally, an intensity filter to discard scenes with very large surface reflectivity was applied. A daily earthshine spectrum averaged over the remote Pacific region (lat. 50° N-50° S; long. 160°-235°) has been used as reference spectrum in the glyoxal retrieval. The conversion to vertical columns has been carried out as is described in Alvarado et al. (2014). All measurements are aggregated to monthly average 0.25° grids.

3. Data availability and format

This dataset can be downloaded as monthly aggregated HDF4 files from the <http://www.iup.uni-bremen.de/doas/index.html> website, as annually aggregated *.zip files. The HDF4 files can be read, e.g., using the GDAL library.

4. Terms of use

These data are produced at the University of Bremen and are not official NASA data products. We ask people who wish to use our data

- to keep us involved in the project and to discuss relevant findings with us

- not to pass on the data without our approval
- to clearly identify the data source in any presentation using the data by giving reference to Alvarado et al. (2014), and to clearly state the data version v1.0.
- should the OMI data be a substantial part of a publication, we would like to be asked to be co-authors. This is of course a matter that needs to be discussed for each individual case.

5. References

- Alvarado, L. M. A., Richter, A., Vrekoussis, M., Wittrock, F., Hilboll, A., Schreier, S. F., and Burrows, J. P.: An improved glyoxal retrieval from OMI measurements, *Atmos. Meas. Tech.*, **7**, 4133-4150, doi:10.5194/amt-7-4133-2014, 2014