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References:

You also might want to reference this paper which describes the global CO₂ CAMS data in more detail:

- Agustí-Panareda, A., Diamantakis, M., Massart, S., Chevallier, F., Muñoz-Sabater, J., Barré, J., Curcoll, R., Engelen, R., Langerock, B., Law, R. M., Loh, Z., Morguí, J. A., Parrington, M., Peuch, V.-H., Ramonet, M., Roehl, C., Vermeulen, A. T., Warneke, T., and Wunch, D.: Modelling CO₂ weather – why horizontal resolution matters, *Atmos. Chem. Phys.*, **19**, 7347–7376, <https://doi.org/10.5194/acp-19-7347-2019>, 2019
- Agustí-Panareda, A., and Coauthors, 2014: Forecasting global atmospheric CO₂, *Atmos. Chem. Phys.*, **14**, 11959–11983, <https://doi.org/10.5194/acp-14-11959-2014>
- Agustí-Panareda, A., S. Massart, F. Chevallier, G. Balsamo, S. Boussetta, E. Dutra, and A. Beljaars, 2016: A biogenic CO₂ flux adjustment scheme for the mitigation of large-scale biases in global atmospheric CO₂ analyses and forecasts, ECMWF Technical Memorandum 773, 37 pp., <https://doi.org/10.21957/y/fzoi6i1>
- Agustí-Panareda, A., M. Diamantakis, V. Bayona, F. Klappenbach, and A. Butz, 2017: Improving the inter-hemispheric gradient of total column atmospheric CO₂ and CH₄ in simulations with the ECMWF semi-Lagrangian atmospheric global model, *Geosci. Model Dev.*, **10**, 1–18, <https://doi.org/10.5194/gmd-10-1-2017>
- Massart, S., and Coauthors, 2016: Ability of the 4-D-Var analysis of the GOSAT BESD XCO₂ retrievals to characterize atmospheric CO₂ at large and synoptic scales, *Atmos. Chem. Phys.*, **16**, 1653–1671, <https://doi.org/10.5194/acp-16-1653-2016>

For CAMS CH₄ data please refer to:

- Agustí-Panareda, A., M. Diamantakis, V. Bayona, F. Klappenbach, and A. Butz, 2017: Improving the inter-hemispheric gradient of total column atmospheric CO₂ and CH₄ in simulations with the ECMWF semi-Lagrangian atmospheric global model, *Geosci. Model Dev.*, **10**, 1–18, <https://doi.org/10.5194/gmd-10-1-2017>
- S. Massart, A. Agustí-Panareda, I. Aben, A. Butz, F. Chevallier, C. Crevoisier, R. Engelen, C. Frankenberg, and O. Hasekamp, 2014: Assimilation of atmospheric methane products into the MACC-II system: from SCIAMACHY to TANSO and IASI, *Atmos. Chem. Phys.*, **14**, 6139–6158, <https://doi.org/10.5194/acp-14-6139-2014>

On data assimilation for CHEM using the **C-IFS (Composition Integrated Forecasting System)**:

- Inness, A., and Coauthors, 2015: Data assimilation of satellite-retrieved ozone, carbon monoxide and nitrogen dioxide with ECMWF's Composition-IFS, *Atmos. Chem. Phys.*, **15**, 5275–5303, <https://doi.org/10.5194/acp-15-5275-2015>.

For CO₂ and CH₄ concentrations from the MACC flux inversion systems, please acknowledge Bergamaschi et al. (2007, 2009) and Chevallier et al. (2010). See the list of the publications documenting the two products below.

- Bergamaschi, P., and Coauthors, 2007: Satellite cartography of atmospheric methane from SCIAMACHY on board ENVISAT: 2. Evaluation based on inverse model simulations, *J. Geophys. Res.*, **112**, D02304, <https://doi.org/10.1029/2006JD007268>.

- Bergamaschi, P., and Coauthors, 2009: Inverse modeling of global and regional CH₄ emissions using SCIAMACHY satellite retrievals, *J. Geophys. Res.*, **114**, D22301, <https://doi.org/10.1029/2009JD012287>.
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- Bergamaschi, P., and Coauthors, 2013a: Atmospheric CH₄ in the first decade of the 21st century: Inverse modeling analysis using SCIAMACHY satellite retrievals and NOAA surface measurements, *J. Geophys. Res.*, **118**, 7350-7369, <https://doi.org/10.1002/jgrd.50480>.
- Chevallier, F., and Coauthors, 2010: CO₂ surface fluxes at grid point scale estimated from a global 21-year reanalysis of atmospheric measurements. *J. Geophys. Res.*, **115**, D21307, <https://doi.org/10.1029/2010JD013887>

For AOD, please refer to:

- Benedetti, A., and Coauthors, 2009: Aerosol analysis and forecast in the ECMWF Integrated Forecast System. Part II : Data assimilation, *J. Geophys. Res.*, **114**, D13205, <https://doi.org/10.1029/2008JD011115>.
- Morcrette, and Coauthors, 2009: Aerosol analysis and forecast in the ECMWF Integrated Forecast System. Part I: Forward modelling, *J. Geophys. Res.*, **114**, D06206, <https://doi.org/10.1029/2008JD011235>.

For GFAS, please refer to:

- Kaiser, J. W., and Coauthors, 2012: Biomass burning emissions estimated with a global fire assimilation system based on observed fire radiative power, *Biogeosciences*, **9**, 527-554, <https://doi.org/10.5194/bg-9-527-2012>.

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