IMPALA,

European Space Agency, EO Science for Society

IMPALA TROPOMI-based soil NO emission estimates over Africa

Introduction

The top-down soil NO emission over Africa estimates are derived using the adjoint of the MAGRITTE chemistry-transport model (Müller et al., 2019, Bauwens et al. 2016, Müller and Stavrakou, 2005) run at 0.5°×0.5° horizontal resolution and simultaneously constrained by tropospheric NO_2 and HCHO column densities from the TROPOMI satellite instrument in 2019 through a joint inversion. The NO_2 data are documented in van Geffen et al. (2022), whereas HCHO column data are described in De Smedt et al. (2018). The top-down emissions are available from https://emissions.aeronomie.be.

File format and contents

Monthly TROPOMI-based above-canopy soil NO emissions are provided in NetCDF data format for 2019. They are expressed in $kgN/m^2/s$ in a regular grid at a spatial resolution of 0.5°x0.5°. Longitudes range from 18°W to 56°E and latitudes from 17°N to 30°S.

Addition information

The dataset will be described in greater details in Opacka et al. (in preparation).

References

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Contact

Royal Belgian Institute for Space Aeronomy
Tropospheric Chemistry Modelling Group
Avenue Circulaire 3
B-1180 Brussels, BELGIUM

T. Stavrakou: jenny@aeronomie.be, tel.: +32(0)2.373.67.66
B. Opacka: beatao@aeronomie.be, tel.: +32(0)2.373.04.17