

IMPROVING REACTIVE NITROGEN DISTRIBUTIONS AND DEPOSITION MAPS

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LOOKING FURTHER

ABOUT MYSELF

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Main research interests

- Improving N concentration and deposition fields
- Combination of satellite data and models
- Link between N deposition and C-exchange

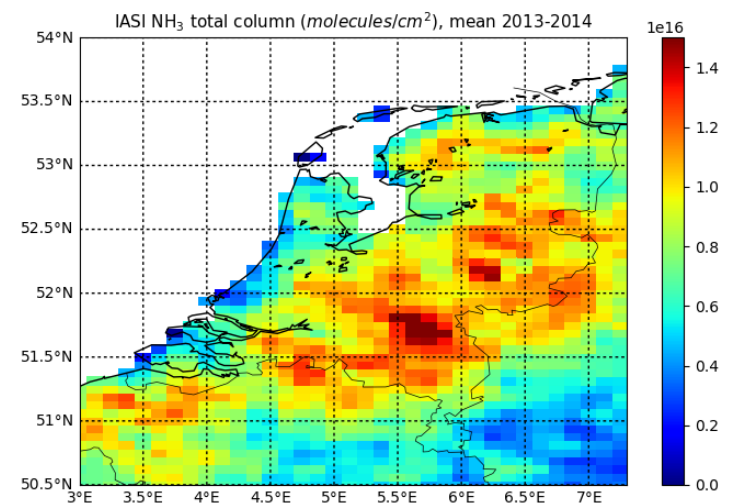
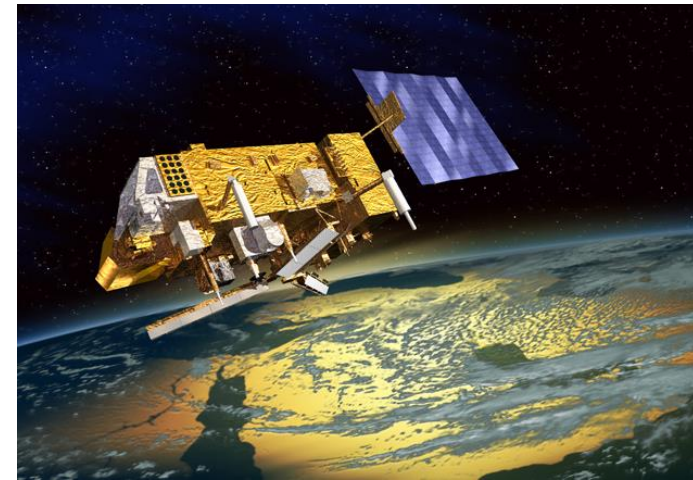


Figure 1: Mean satellite-observed NH_3 total column concentration in 2013-2014

ABOUT MYSELF

Combining model and satellite

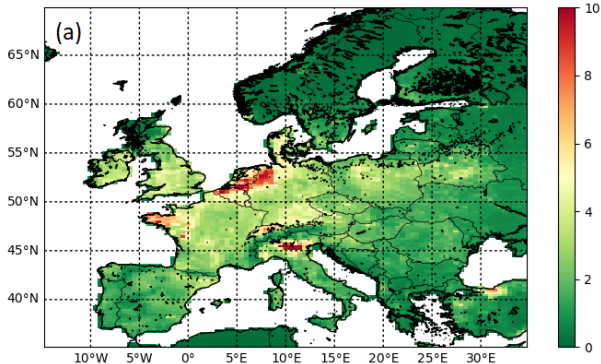
- NH_3 dry deposition flux
- The LOTOS-EUROS model
- IASI- NH_3 total column satellite observations



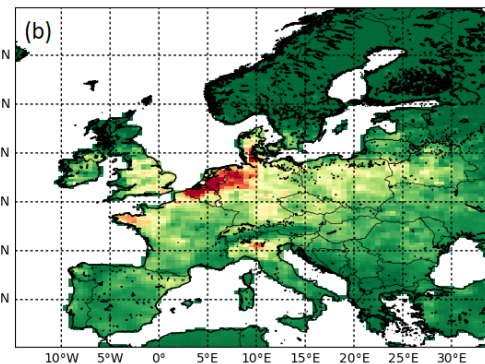
Credit: EUMETSAT

Mean NH_3 dry deposition flux ($\text{kg N ha}^{-1}\text{yr}^{-1}$) in 2013

LOTOS-EUROS



IASI-derived



Relative difference (%)

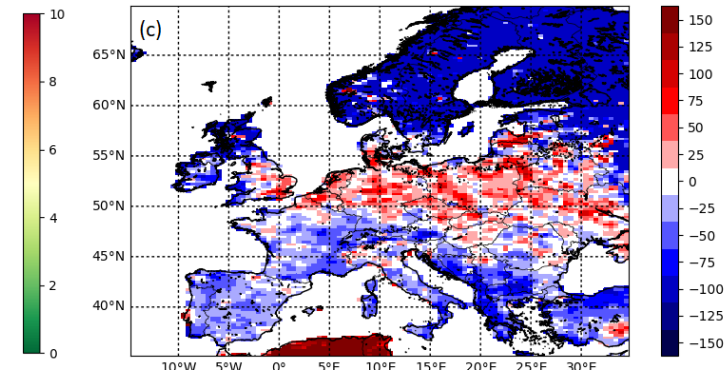


Figure 1: Modelled (a) and IASI-derived (b) mean dry NH_3 deposition flux in 2013 and their relative difference (c).

LINK TO CAMS

Products from CAMS services used in LOTOS-EUROS

- Boundary conditions reactive gasses and aerosols
- MACC-III anthropogenic emissions
- GFAS fire emissions

Potential products for future use (wish list)

- Re-analyses of NH_3 , HNO_3 , NO_3a , NH_4a
- Deposition maps
- High resolution analysis for N components
- Ground observation time-series NO_2 and NH_3 (EEA)
- GHG flux inversions of CO_2 (ECMWF)
- ...

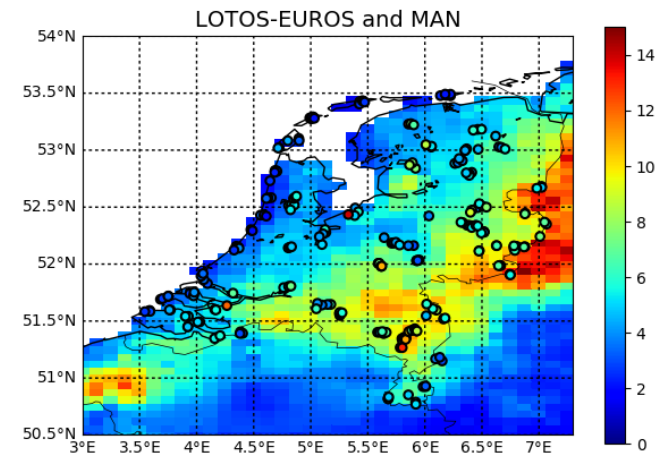


Figure 1: Mean NH_3 surface concentration in 2014 from LOTOS-EUROS compared to ground observations of the MAN network.