SUPPLEMENTARY INFORMATION

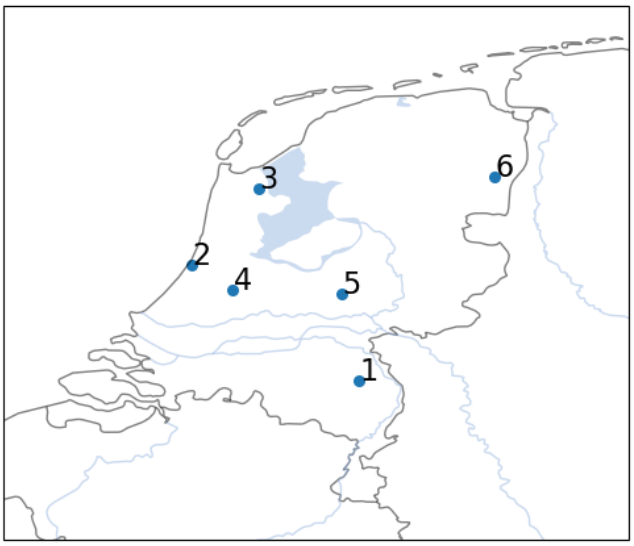

Figure S1. NH_3 measurement locations of the LML network. 1. Vredepeel-Vredeweg. 2. De Zilk-Vogelaarsdreef. 3. Wieringerwerf-Medemblikkerweg. 4. Zegveld-Oude Meije. 5. Wekerom-Riemterdijk. 6. Valthermond-Noorderdiep

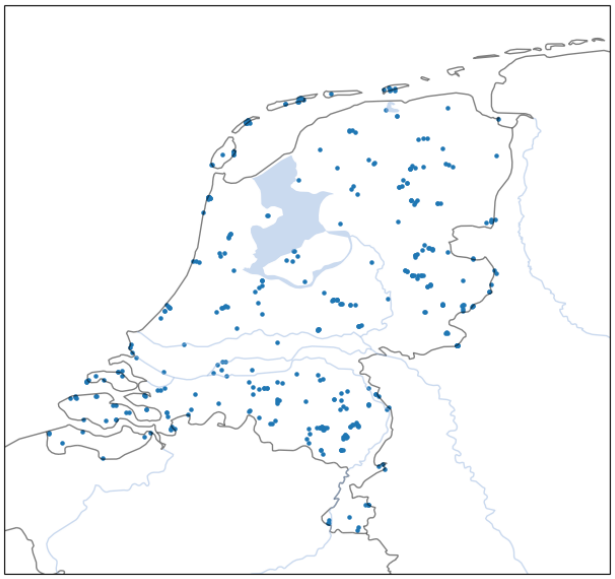

Figure S2. NH_3 measurement locations of the MAN network

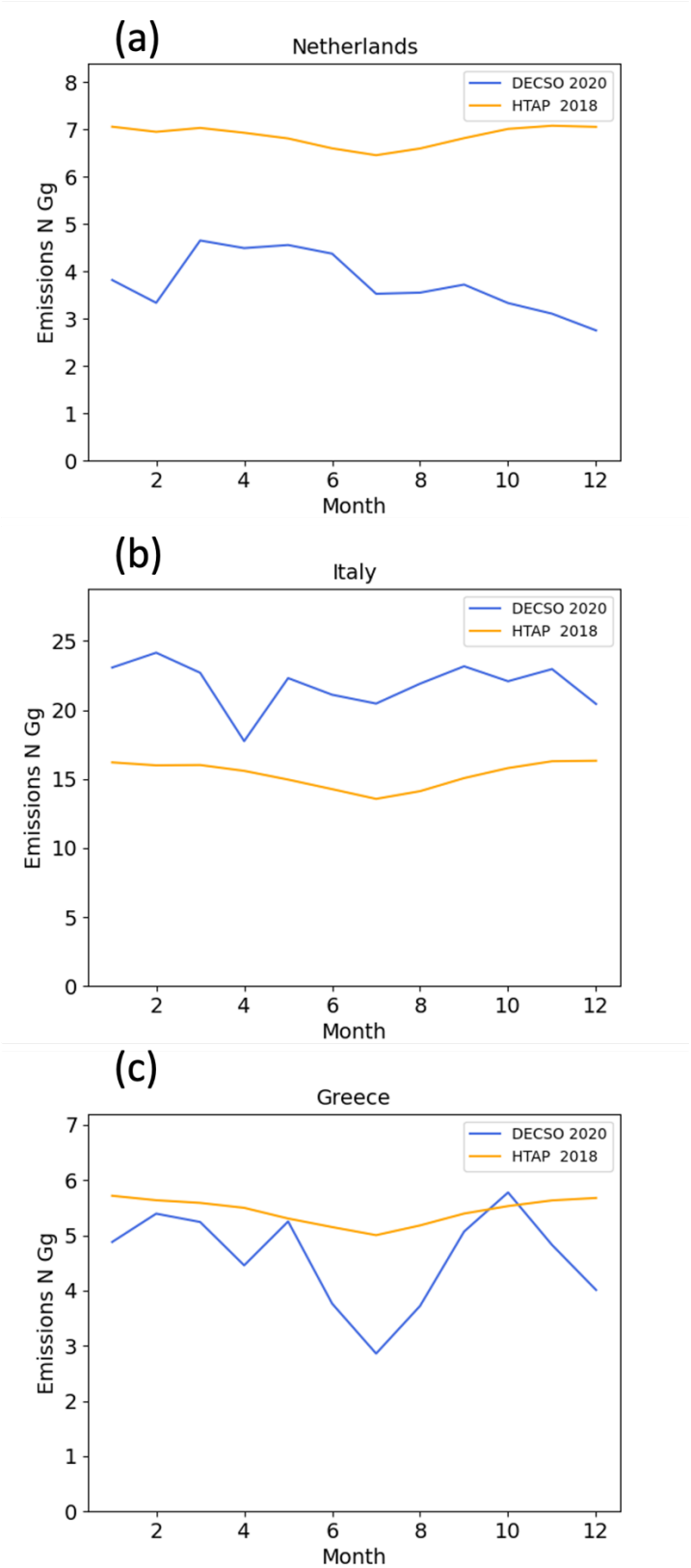

Figure S3 Monthly NOx emissions of HTAP and DECSO in Netherlands (a), Italy (b) and Greece (c).

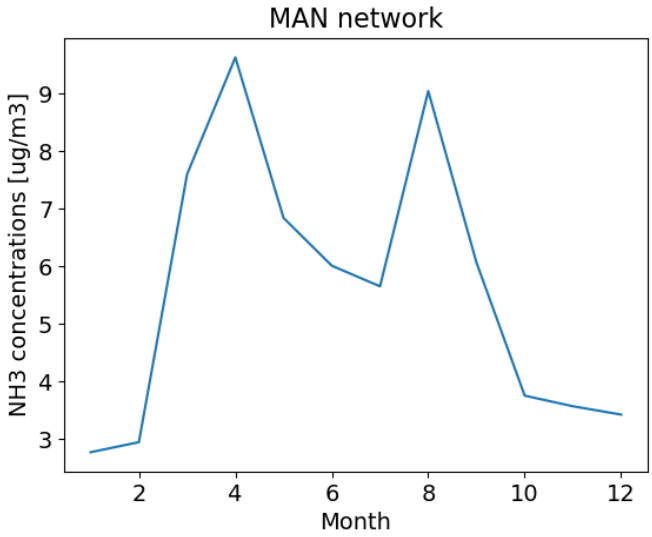

Figure S4. Averaged monthly NH_3 surface concentration measured by the MAN network in 2020.

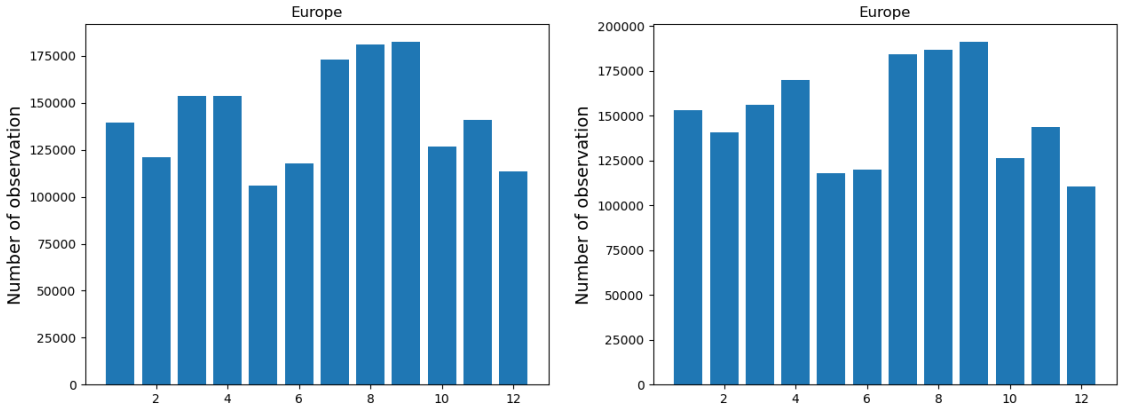

Figure S5. The amount of observations from CrIS on SNPP (left) and NOAA20 (right) used for deriving emissions per month in 2020.

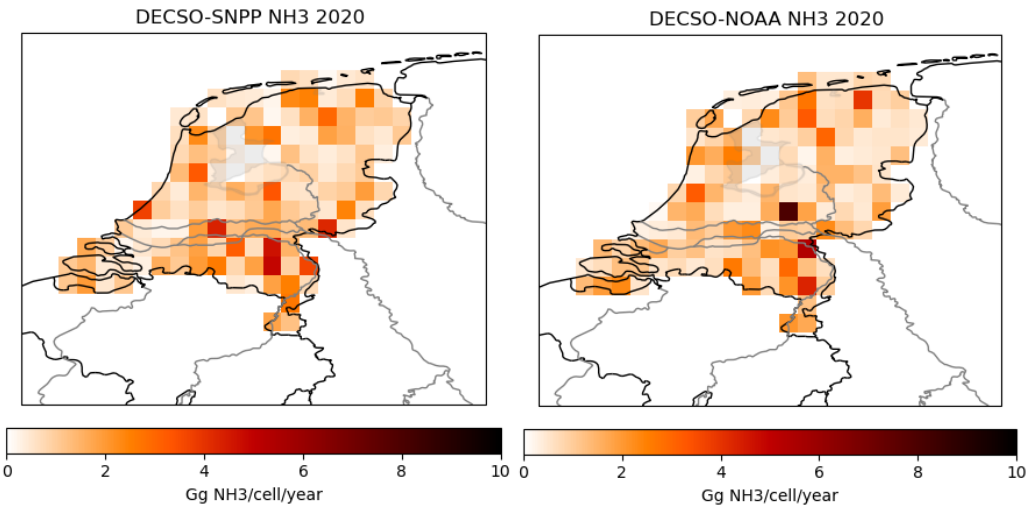

Figure S6. The NH_3 emissions derived from CrIS on SNPP (left) and NOAA20 (right) over The Netherlands.

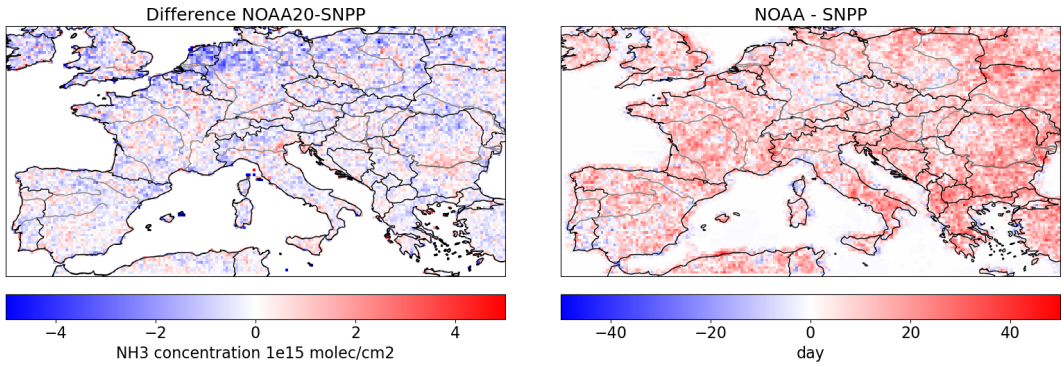

Figure S7. The difference of yearly aveaged NH_3 column concentrations (left) measured by CrIS on NOAA20 and SNPP. The difference of days having observations per grid cell in 2020 (Right).

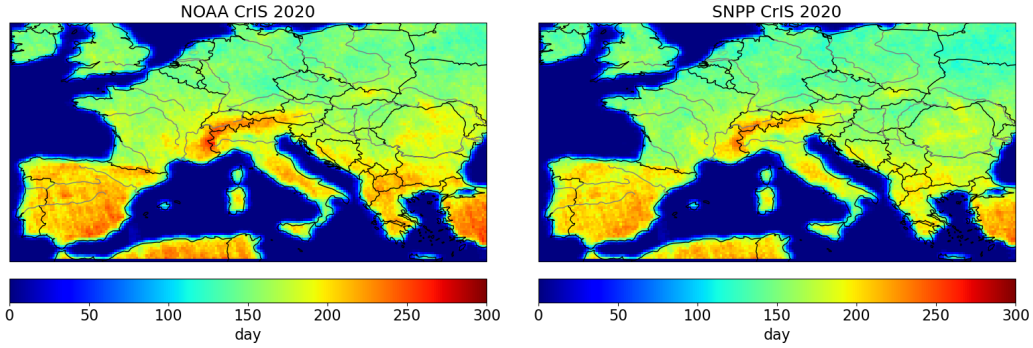

Figure S8. Number of days having observations from CrIS on NOAA20 (left) and SNPP (right) per grid cell in 2020.

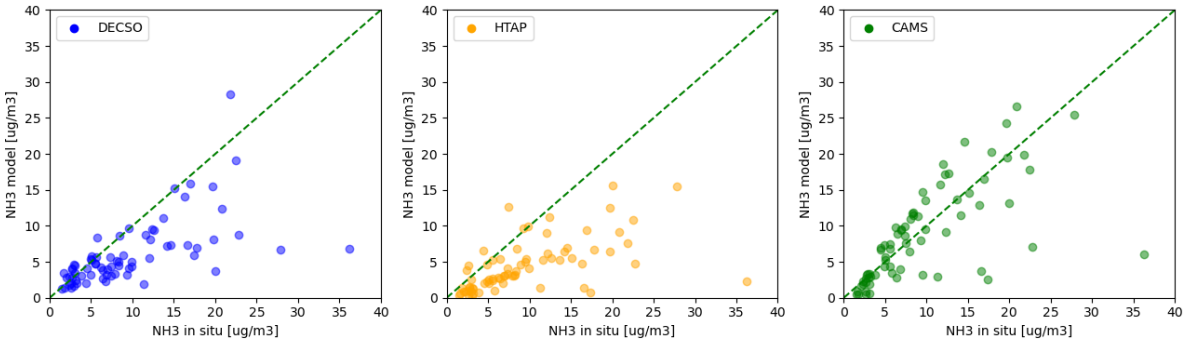

Figure S9 Scatter plots of observations from the LML network with NH_3 surface concentrations from model simulations with NH_3 emissions from DECSO (left column), HTAP (middle column) and CAMS-GLOB-ANT (right column).

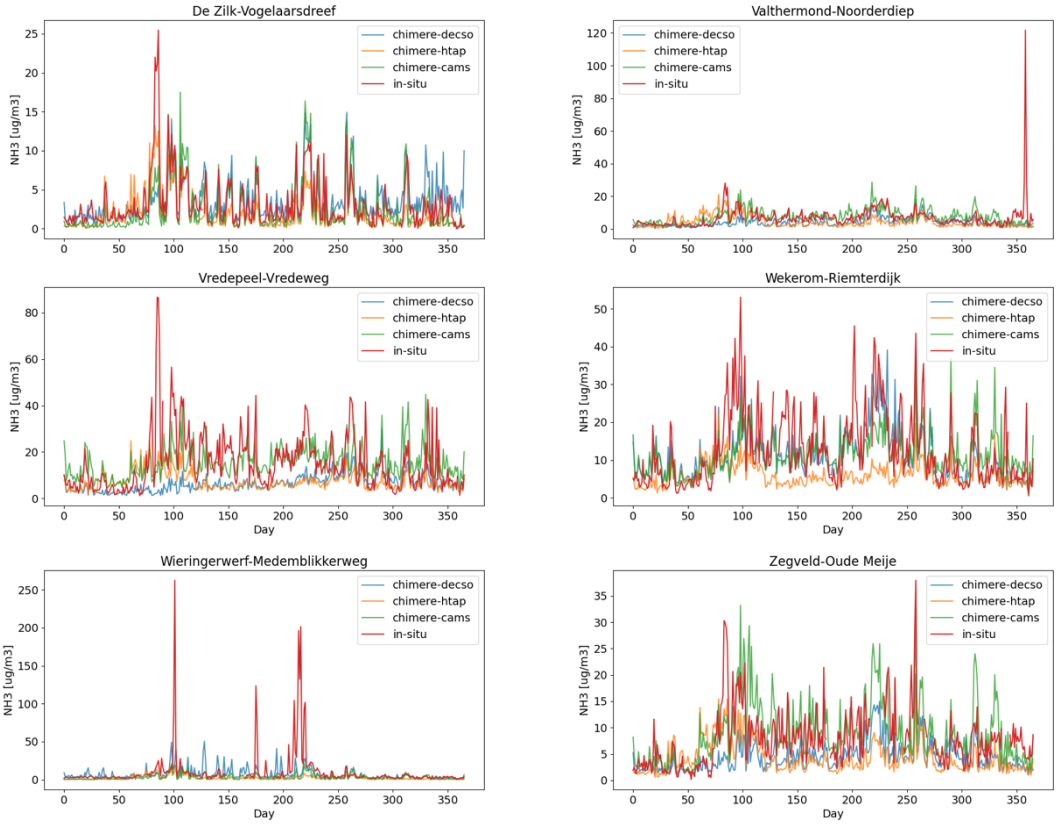

Figure S10. Time series of NH_3 surface concentrations of in-situ measurment and model simulations with DECSO, HTAP, CAMS-GLOB-ANT emissions at the 6 measurement locations of the LML network. The locations with their names are referred to Figure S1.