SEEDS

Sentinel EO-based Emission and Deposition Service

Funded by the European Union

NOx soil products and NH_3 emissions

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KNMI

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Koninklijk Nederlands Meteorologisch Instituut
Ministerie van Infrastructuur en Waters

CERFACS

CENTRE EUROPÉEN DE RECHERCHE ET DE FORMATION AVANCÉE EN CALCUL SCIENTIFIQUE

Emission estimation method:

Inversion technique using satellite observations and a chemical transport model:

DECSO (see presentation from Ronald van der A)

Products:

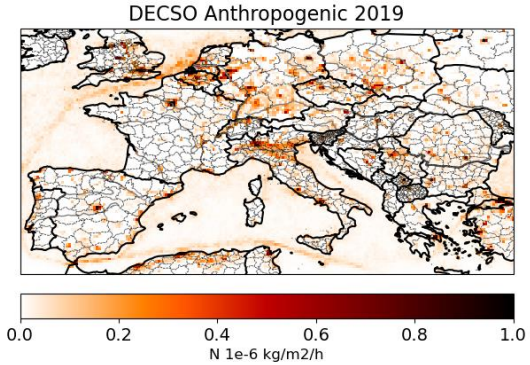
NO_x emissions per category

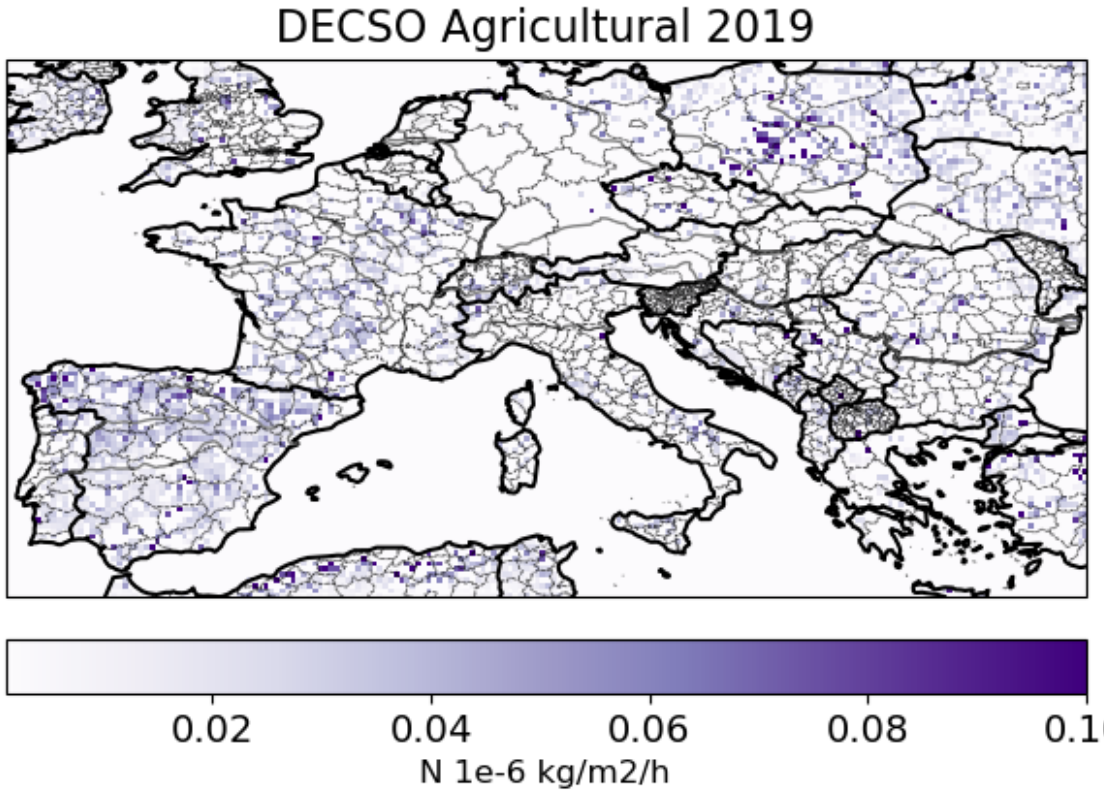
- Anthropogenic emissions: land and ocean
- Soil emissions from agriculture and forest

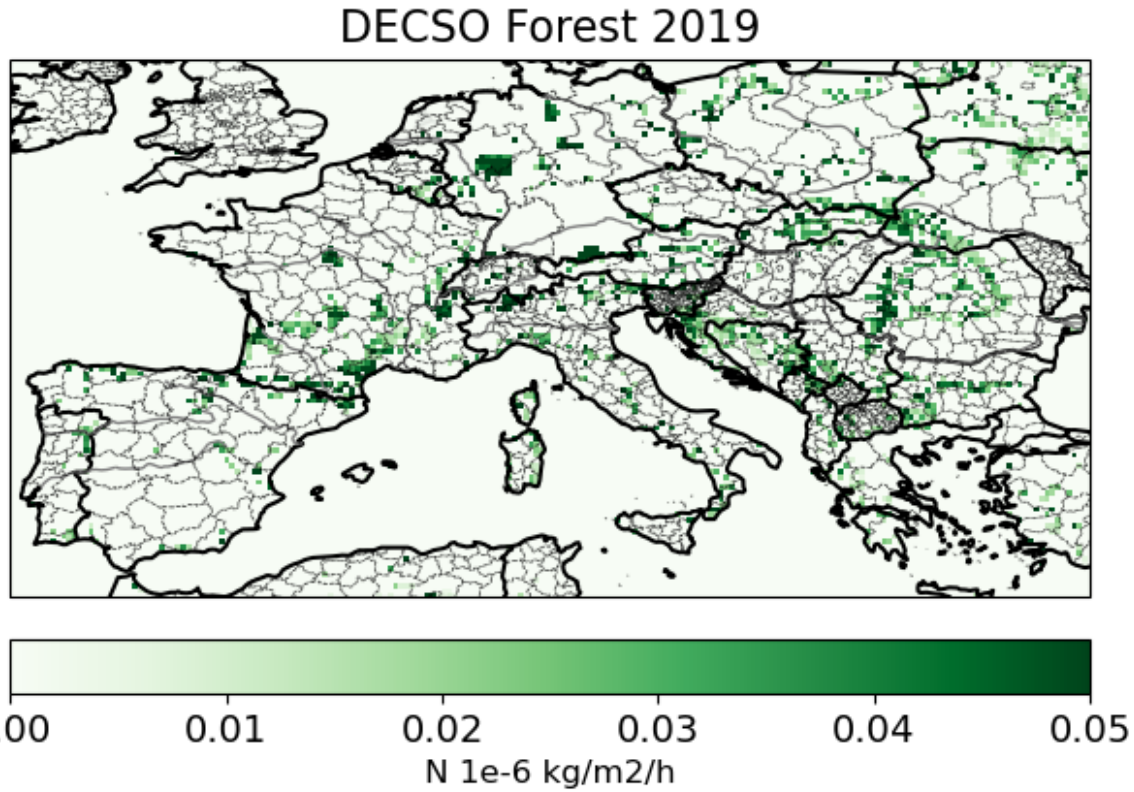
NH_3 emissions from CRIS

European NOx emissions per sector

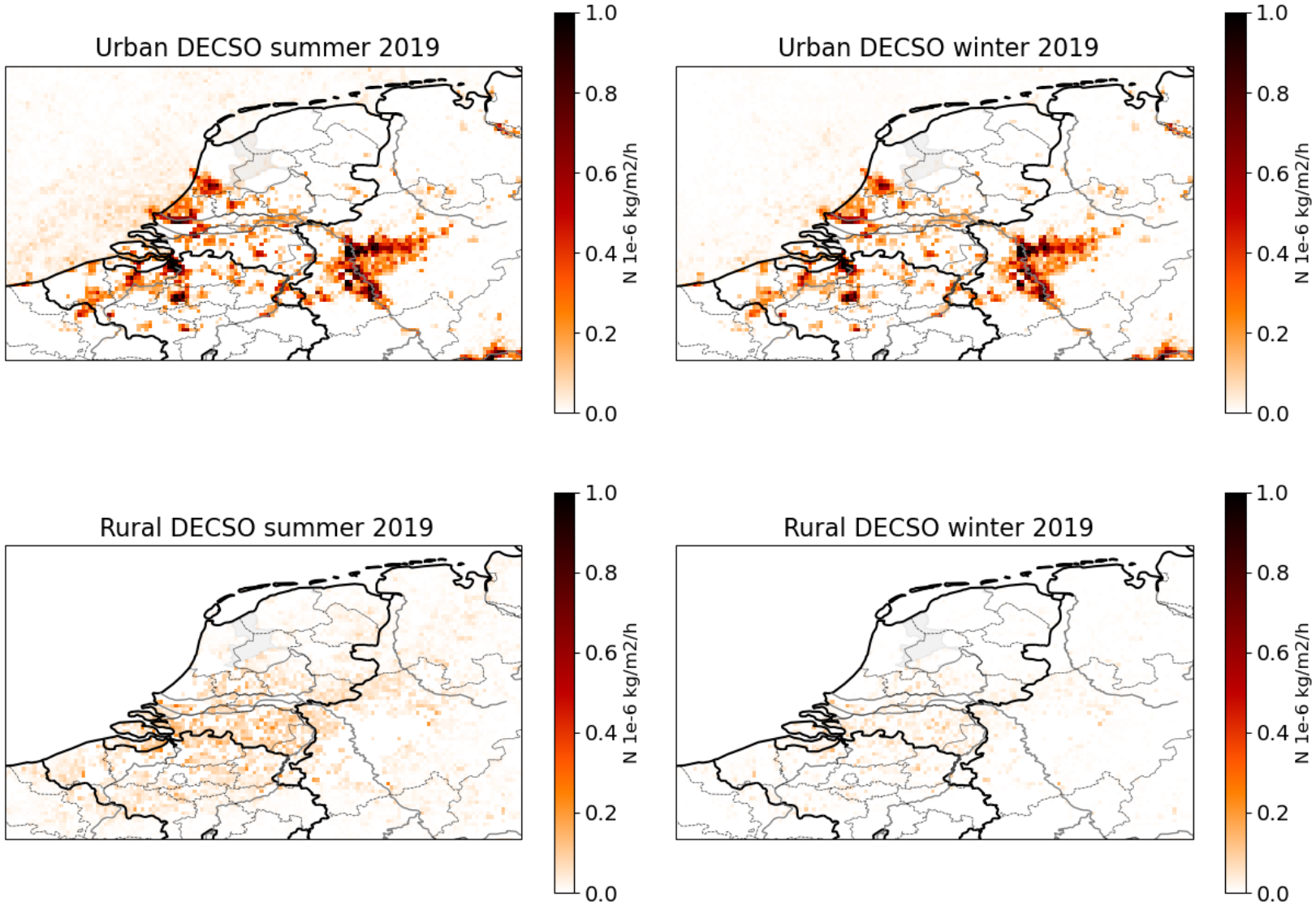
- Split-up in sectors based on land-use data-base and seasonal cycle.



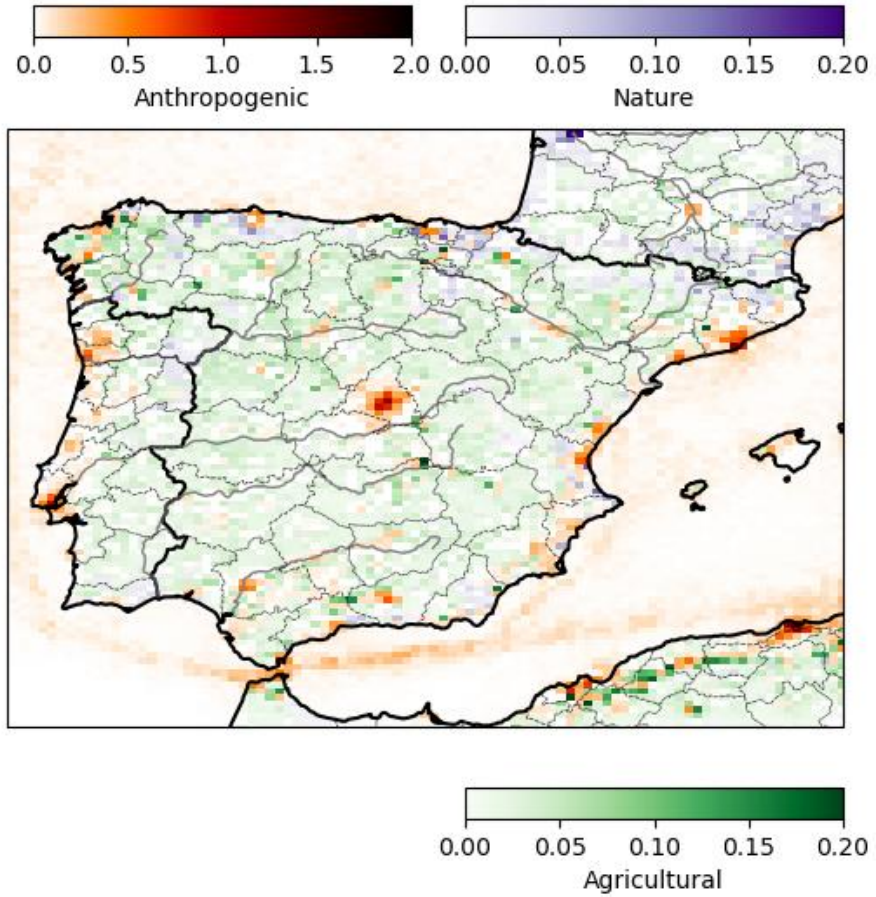


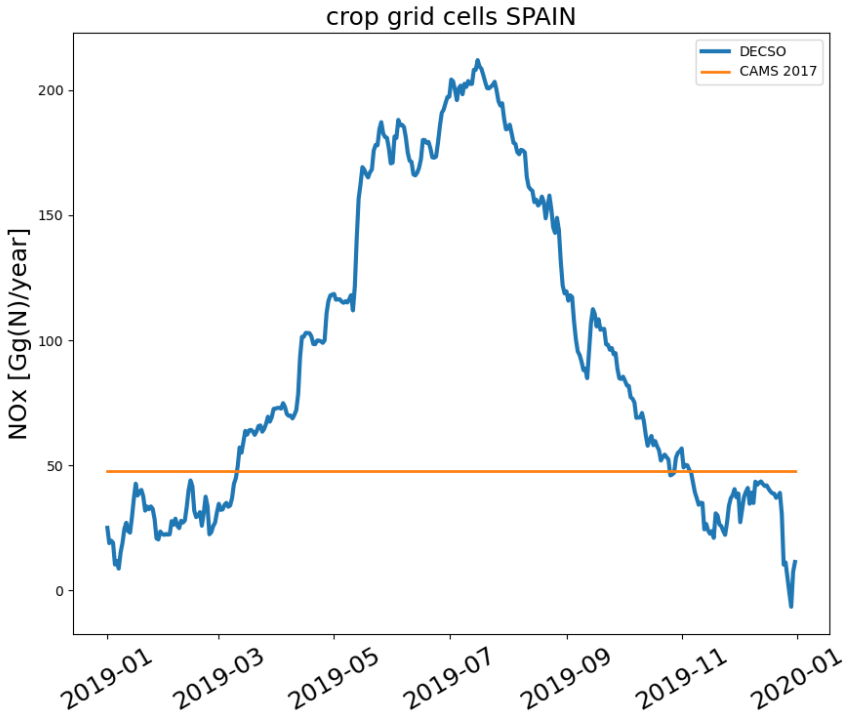


Seasonal cycle



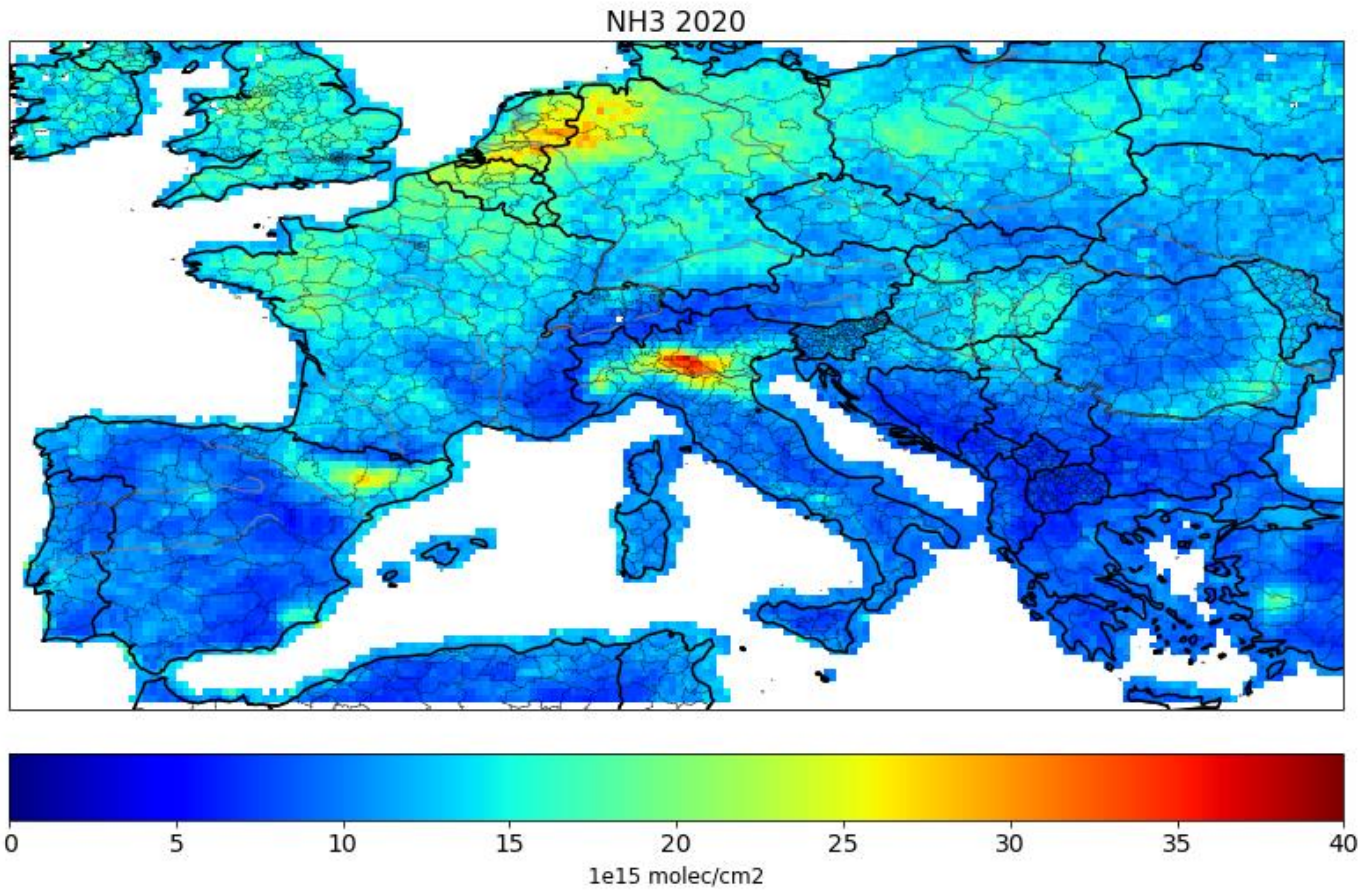
Spatial resolution: 0.05 degree


0.0 0.5 1.0 1.5 2.0
Anthropogenic
0.00 0.05 0.10 0.15 0.20
Nature
0.00 0.05 0.10 0.15 0.20
Agricultural

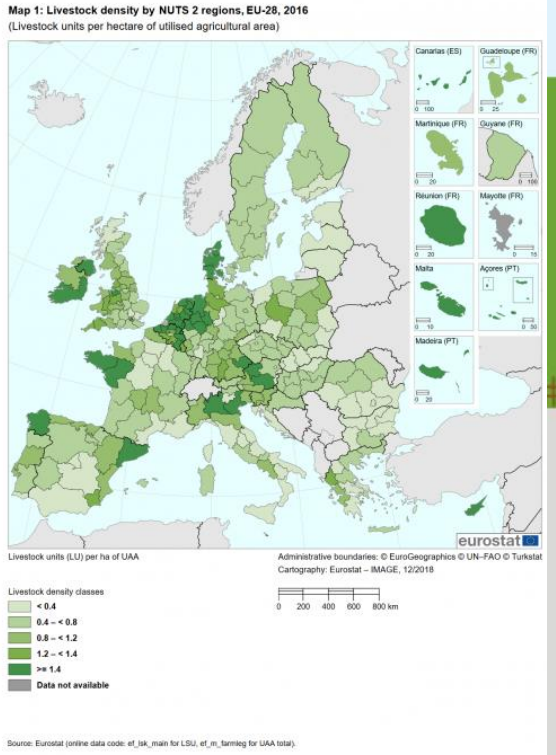

crop grid cells SPAIN
DECSO
CAMS 2017
NOx [Gg(N)/year]
200
150
100
50
0
2019-01
2019-03
2019-05
2019-07
2019-09
2019-11
2020-01

NH_3 Satellite observation

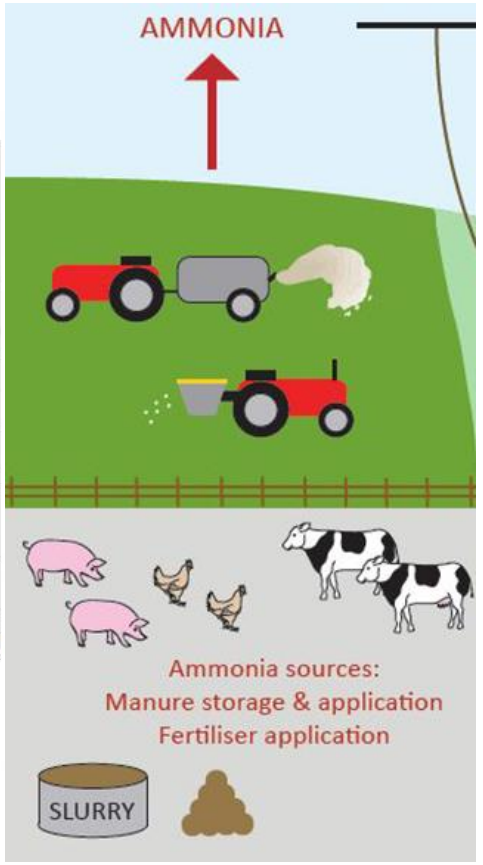
NH3 observed from CrIS in 2020



Livestock density

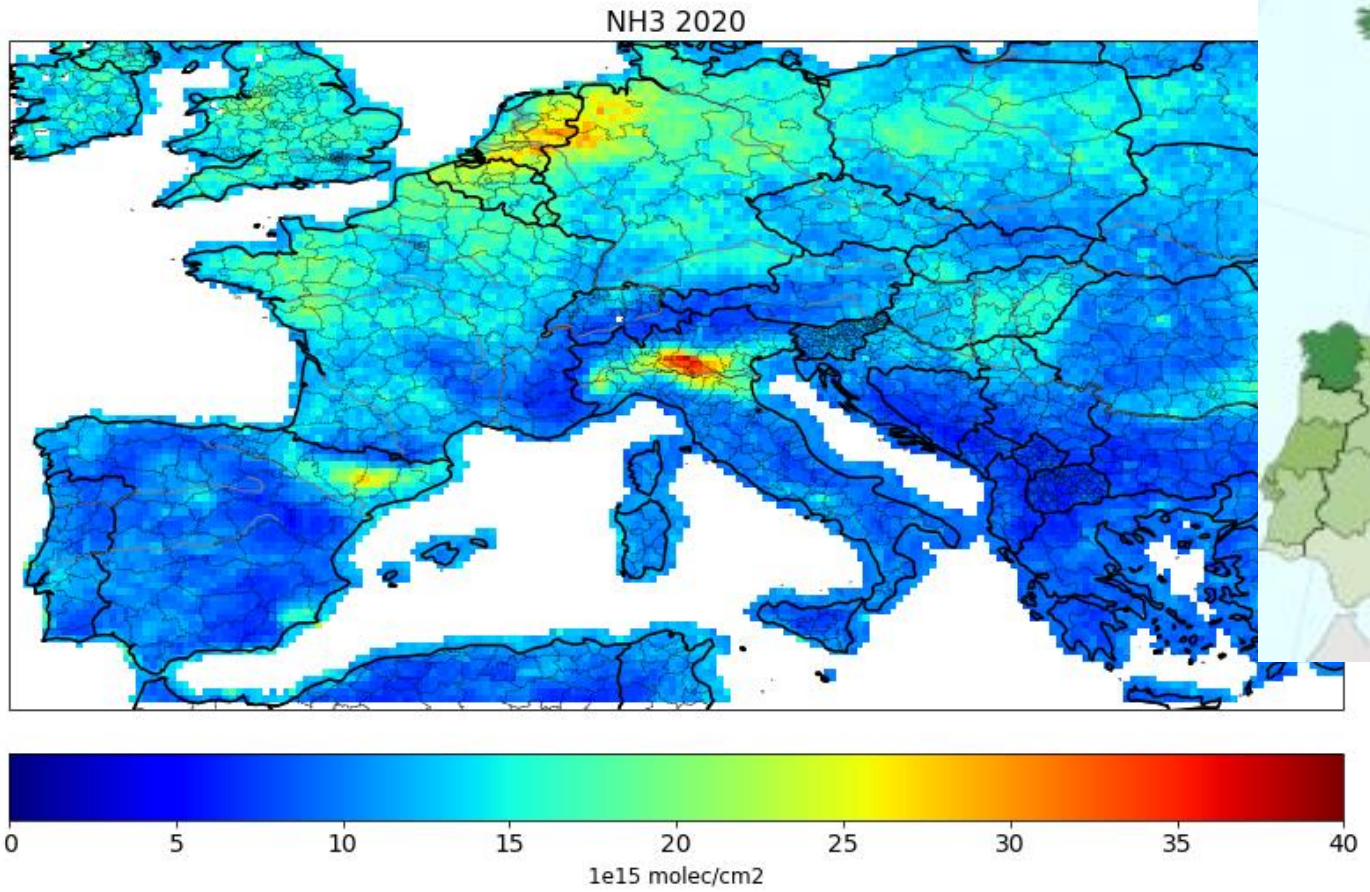


Sources of NH3

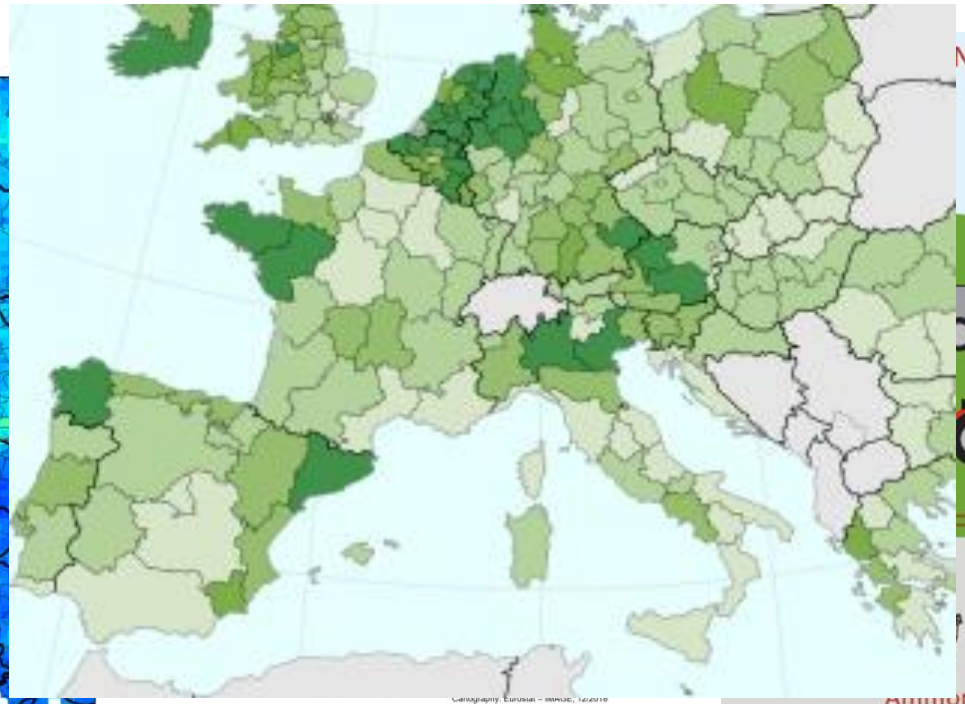


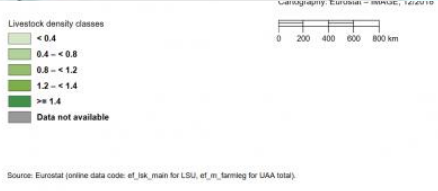
NH_3 Satellite observation

NH3 observed from CrIS in 2020

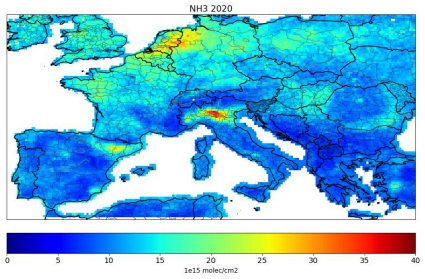


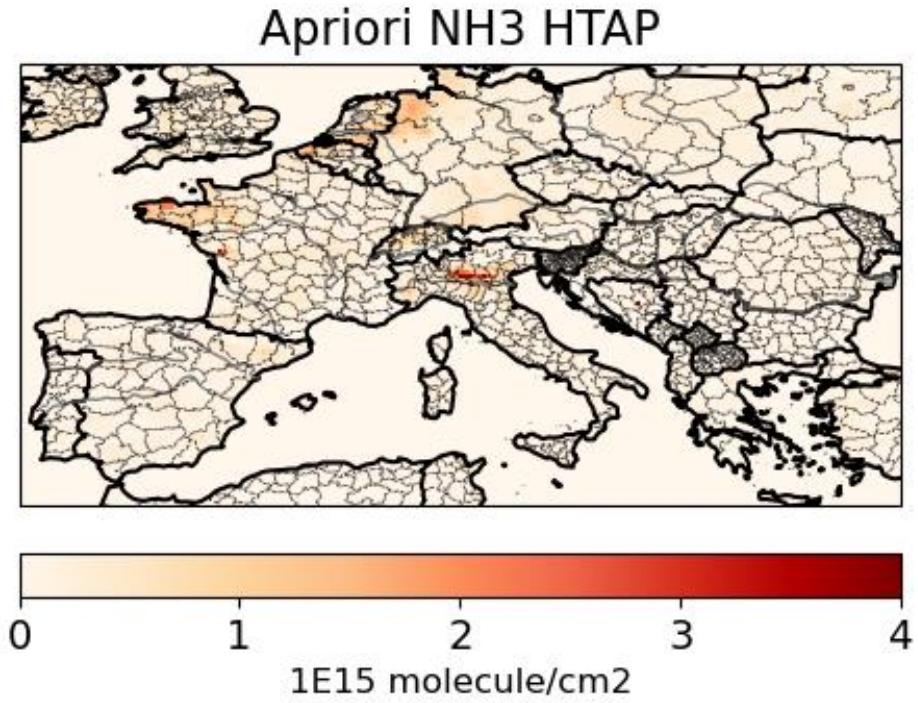
Sources of NH3

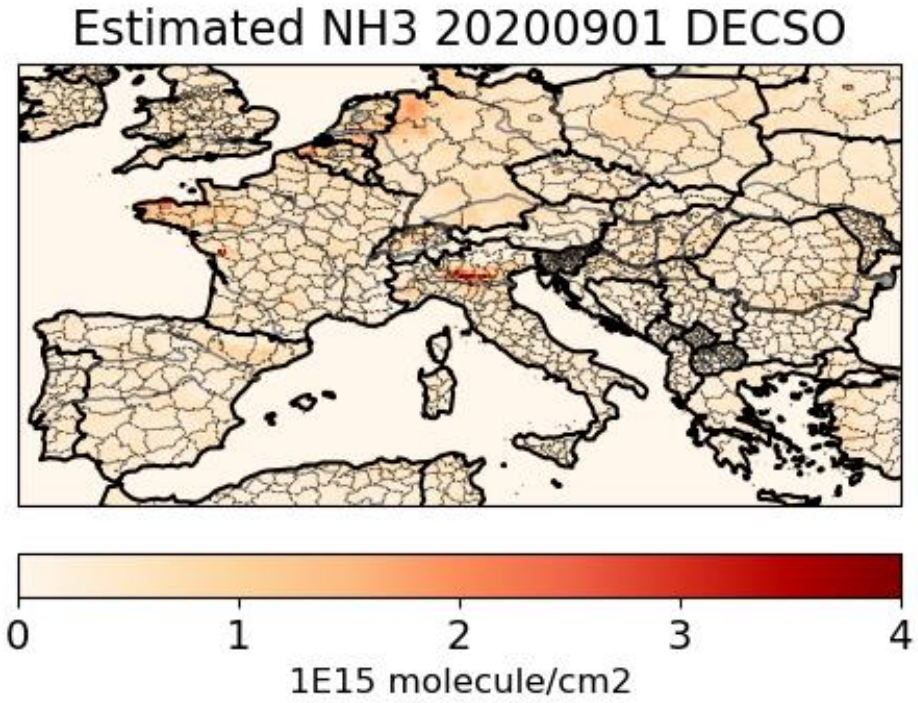




Preliminary results: NH_3 emissions







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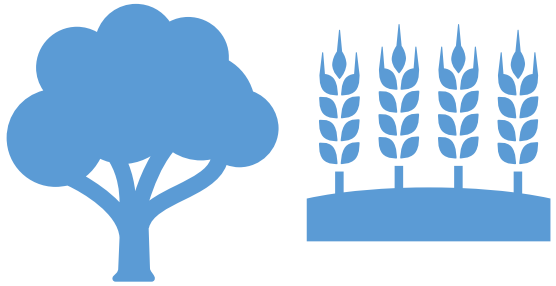
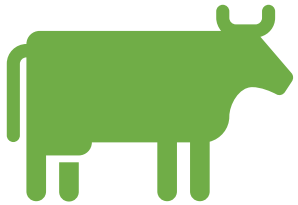


NOx emissions per category

Anthropogenic emissions: land and ocean

Soil emissions from agriculture and forest



NH3 emissions from CRIS

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