

File S3

Predictors used in the Random Forest (RF) analysis.

Dependent variable: nitrogen retention = $N_{\text{output}} - N_{\text{input}}$

Nitrogen Loads

- N load by atmospheric deposition (t N/yr)
- N load by residents (t N/yr)
- Total N load by biological fixation (t N/yr)
- Total N load due to livestock industry (t N/yr)
- Animal husbandry load density (kg N/ (ha SAU yr))

Nitrogen Losses

- N loss by biological fixation (t N/yr)
- N loss by non-biological fixation (t N/yr)
- Total N removal by denitrification density (kg N/ (ha SAU yr))
- Total N removal density (biological + non-biological fixation) (kg N/ (ha SAU yr))
- Total N removal by volatilisation density (kg N/ (ha SAU yr))
- Total N loss (sum of fractions effectively lost) (t N/yr)
- Total N loss by denitrification (Livestock + Agriculture) (t N/yr)

Auxiliary predictors

- Residents (nr. $\times 10^6$)
- Utilised Agricultural Area (ha)

Distribution of individual items in sub-items not mentioned in the text.

Total N load by biological fixation

- total nitrogen load from alfalfa
- total nitrogen load from soy
- total nitrogen load from the dry bean
- total nitrogen load from the pea
- total nitrogen load from the bean, legumes, and other dried legumes
- total nitrogen load from pastures
- total nitrogen load from permanent lawns
- total nitrogen load from woody crops
- total nitrogen load from non-symbiotic fixation

Nitrogen losses from non-nitrogen fixing plants (N loss by non-biological fixation)

- Total nitrogen losses from cereal crops
- Total nitrogen losses from industrial and textile crops including aromatic plant crops
- Total nitrogen losses from open field horticultural crops (tomatoes)
- Total nitrogen losses from greenhouse horticultural crops
- Total nitrogen losses from floral crops and ornamental plants
- Total nitrogen losses from seedlings

- Total nitrogen losses from alternating forage crops
- Total nitrogen losses from agricultural tree crops (vineyards, olive groves, citrus groves, orchards, nurseries)
- Total nitrogen losses from family gardens

Total N load due to livestock industry

- Bovine
- Buffalo
- Horse
- Goats
- Sheep
- Pigs
- Poultry
- Rabbits