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Recent progress in the GAINS impact assessment

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Health impact assessment

- Close cooperation with TFH to include recent HRAPIE findings into GAINS:
 - Mortality from chronic exposure to PM2.5:
 - RR: 1.062/10µg (instead of 1.06)
 - only from anthropogenic sources, no threshold (as before)
 - Ozone:
 - Acute mortality: RR: 1.0029/10µg (instead of 1.003) -SOM035
 - Chronic exposure as sensitivity case for benefits assessment
 - Results from earlier analyses are robust
- Initial assessment of NO₂ impacts, based on downscaled 7*7km exposure estimates. Clarification on exposure metrics used in epidemiological studies is required.

Natura2000 areas included: Conclusions for TSAP revision



- 2005: 1.1 mio km² of ecosystems (66%) and 77% of Natura2000 areas were unprotected against excess N deposition
- NO_x measures will save 200,000 km², but little change from NH_3
- In 2025, still 62% (420,000 km²) of Natura2000 areas under threat
- Additional measures could protect 95.000 km² of Natura2000 areas
- More precision from a finer scale deposition estimate?



Ozone fluxes: Scenarios for 2025



- Is the current parameterization validated and robust?
- Would vegetation damage be an issues for HTAP?

Conclusions



- GAINS health impact assessment calculations conform with recent HRAPIE recommendations.
 Questions about the appropriate NO₂ population exposure metric.
- A closer focus on excess nitrogen deposition in nature protection areas could increase policy relevance.
 Which methodological improvements would deliver largest improvements?
- Should vegetation damage from ozone be addressed within the hemispheric context?
 What role can further European measures play?
 Should the HTAP model intercomparison include ozone fluxes?