

From soils to apex species: chemical pathways, effects and impacts on terrestrial biodiversity and ecosystem services and applications for better chemicals management
Project number: 101135483

The overall aim of TerraChem is to develop, demonstrate and apply a novel systems approach integrating monitoring, environmental modelling, data management, analytical tools and user guidance to better understand exposure of terrestrial biota across trophic levels (from soil and soil water to plants to primary and secondary consumers to apex species) in Europe to the universe of environmentally – relevant anthropogenic chemicals and their damage on terrestrial biodiversity and ecosystem services, with a view to enabling more efficient environmental risk assessment of chemicals in the terrestrial compartment and more effective prevention and mitigation, accelerating achievement of the EU's zero pollution ambition.

TerraChem's objectives are:

- (1) **To understand** routes of exposure to chemicals in wildlife, including routes and extent of trophic transfer, for selected food chains (from soil and soil water to plants, primary and secondary consumers and apex species) in representative terrestrial ecosystems.
- (2) **To model** source-to-receptor pathways of selected chemical contaminants for terrestrial ecosystems, and link organism and species effects to damage on genetic and functional diversity and on relevant ecosystem services.
- (3) **To develop** tools and guidance for regulatory and practice uptake of TerraChem research and innovation output to optimise current environmental risk assessment of chemicals and improve risk management measures, and thereby reduce chemical damage to terrestrial biodiversity.
- (4) **To refine** the TerraChem conceptual framework, ensure integration of monitoring, modelling and prevention and mitigation, ensure coherence with related project, platform, partnership and policy/regulatory initiatives and pertinence for key end-users, and develop a TerraChem Data Management System and TerraChem Dashboard as a One-Stop Shop for data on contaminants in terrestrial biodiversity in Europe.

Project duration: 36 months (November 2023 to October 2026)

Project budget: 5.504.122,50€

Consortium partners: **Coordinator:** Environmental Institute (Slovakia); **Beneficiaries:** Naturalis Biodiversity Center (Netherlands); German Environment Agency (Germany); National and Kapodistrian University of Athens (Greece); Technical University of Denmark (Denmark); Leiden University (Netherlands); **Associated partners:** Swiss Federal Institute of Aquatic Science and Technology (Switzerland)

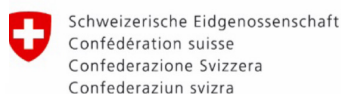
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