

# Monitoring of carbon, nutrients and pollutants in soil for the National Soil Monitoring (NABO)




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## Advancement of the soil monitoring network

The *National Soil Monitoring (NABO)* currently uses 114 reference sites across arable land, grassland, and forests, but extreme soils and intensively managed land use types are underrepresented, and data collection is not fully synchronized. A modular Soil Monitoring Network with up to 150 sites, including up to 100 intensive sites, is being developed to better represent Switzerland's pedoclimatic and management diversity. Supplementary monitoring networks will enhance the database for detailed data analysis. The project aims to improve representativity, increase farmer participation, strengthen federal-cantonal collaboration, and support long-term soil monitoring in Switzerland.

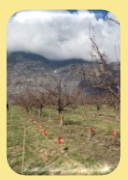
**Basic Network**

- ca. 150 sites
- Basic parameters
- Every 10 years



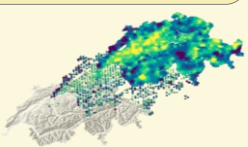
**Intensive Network**

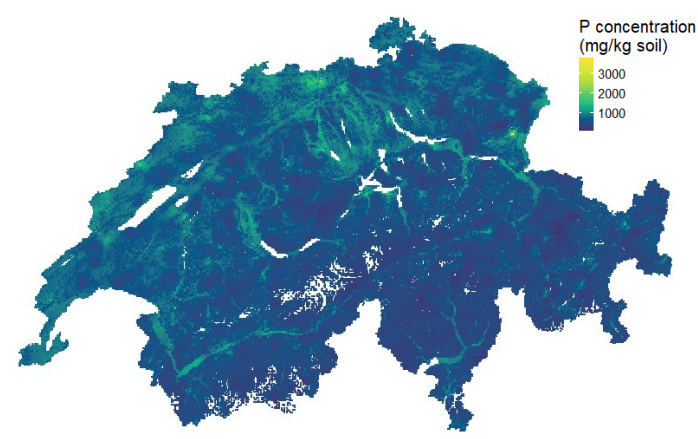
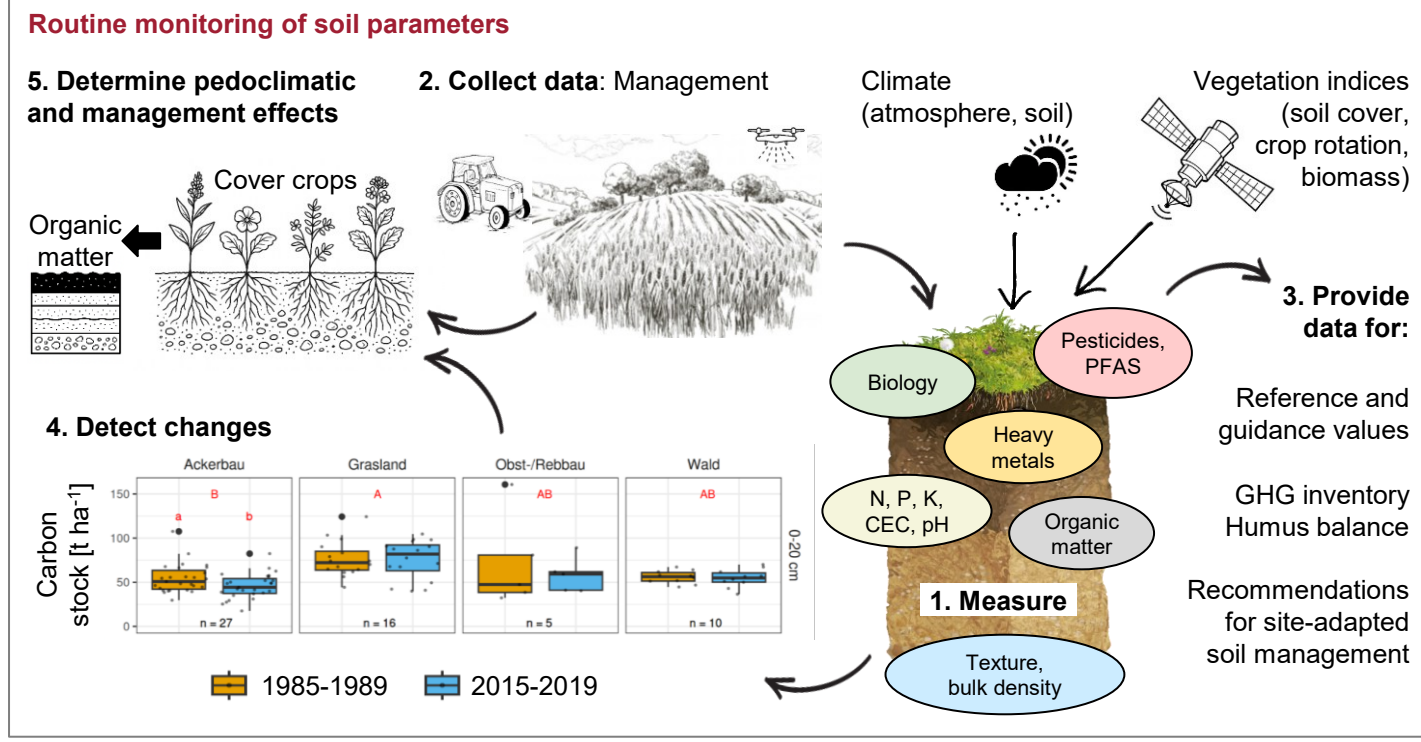
- ca. 100 sites
- Module specific parameters
- Management data
- every 3-4 years



**Supplementary Networks**

- High spatial density of sites
- Focus on specific parameters
- BDM, PEP, cantonal networks





### Integrated analysis of monitoring networks

Long-term data on plant-available phosphorus in soils from the *Proof of Ecological Performance (PEP)* subsidy program, together with element concentration data from the *Geochemical Soil Atlas*, will be combined with management and biodiversity data from the *Monitoring of the Swiss Agri-Environmental System (MAUS)* and the *Agricultural Species and Habitats Biodiversity Monitoring Program (ALL-EMA)* to assess element dynamics and their effects on biodiversity. This project aims to enhance the quality and usability of soil monitoring data, identify key drivers of soil phosphorus variability and agricultural biodiversity, and link indicators for environmental monitoring.

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