

# DATA MANAGEMENT AND MONITORING SYSTEMS FOR LAND AND SOILS

**Sustainable land management needs information about soil condition and trends in changes of land use and soil functions.**

## Why we need to act?

To estimate the impacts of human influence on land and soil a lot of data and information are collected by researchers and other stakeholders. This information is very heterogeneous and sometimes not available for consolidation. But for decision making, as well as for describing the effects of policy measures, we need reliable information. Therefore soil monitoring and survey systems are needed alongside methods of integrated data exchange, evaluation, and reporting..

## What we will gain?

Long term field trials, permanent soil monitoring and surveys are important tools to observe changes in soil conditions and soil functions. This can be a warning systems to prevent hazards and risks to soils. By using data and information we could operate scenarios for land and soil management methods, land use changes, and their impacts to the environment.

## Key research areas

INSPIRATION's bottom up approach revealed the most pressing research needs for understanding the net impact of our land management:

- developing indicators to monitor complex ecological systems
- exploiting big data,
- understanding the impact of integrated valuations of land use management and change (recognizing ecological, economic and social impacts);
- improving understanding of how climate change impacts land use, the risks posed by new and/or mixed contaminants to human health and ecosystem functions and the effectiveness of policies, planning and regulation on reducing (over-)exploitation of our natural capital;
- developing tools for trade-off analysis and decision support to resolve conflicting land management goals
- developing tools for spatially optimized land use strategies;
- enhancing knowledge transfer from research into practice.

## How to become active?

Contact your INSPIRATION national contact at [www.inspiration-agenda.eu](http://www.inspiration-agenda.eu) for further information on this topic and for networking in the field of monitoring.

