



**ClieNFarms**  
Climate Neutral Farms

## ClieNFarms Scaling Toolbox

# Copernicus Land Cover and Land Use Mapping

Monitoring Impact

Land cover and land use mapping is part of Land Monitoring Service, provided by the European Union's Earth observation programme Copernicus, focussing at local scale on different hotspots.

### **Purpose:**

Land Cover and Land Cover change information is used by resource managers, policy makers and scientists studying the global carbon cycle, biodiversity loss and land degradation. Changes in land availability for agriculture and forestry are a key factor in sustainable development of many regions and can be a major driver of societal conflicts. Reliable land cover change information is crucial to monitor and understand a number of processes at global level. Changes in land cover force climate by modifying water and energy exchanges with the atmosphere, and by changing greenhouse gas and aerosol sources and sinks. Policymakers and regulators can use Copernicus maps to develop evidence-based policies and regulations that support carbon-neutral farming practices and optimize the efficiency of subsidies.

Financial institutions and farming advisors and can use the maps to understand the distribution of different land uses and land covers can help stakeholders allocate resources effectively. This includes optimizing the allocation of incentives, and technical assistance to farmers and regions that need support to transition to carbon-neutral practices.

## Expected outcomes of applying the tool

The tool can be used as an information source for

**Baseline Assessment:** These maps provide a baseline assessment of current land cover and land use patterns. Stakeholders can use this information to understand the existing state of agricultural practices in a specific region.

**Land Use Change Detection:** These maps are updated regularly, allowing stakeholders to monitor changes in land use and land cover over time. This information can help identify trends, such as the expansion of agricultural land or the conversion of natural landscapes into farmland. Detecting land use changes is essential for assessing the effectiveness of carbon-neutral farming initiatives and understanding the evolving landscape.

**Identifying Sustainable Practices:** The maps can help stakeholders identify areas where sustainable farming practices are already in use and areas where there is potential for their implementation.

**Targeting High-Impact Zones:** By overlaying these maps with other environmental data, stakeholders can identify zones with high carbon emissions, soil degradation, or other ecological challenges. This information can be used to prioritize areas for carbon-neutral farming interventions, ensuring that efforts are directed to the regions that will have the most significant environmental impact.

**Monitoring Progress:** Stakeholders can use these maps to monitor the progress and effectiveness of carbon-neutral farming initiatives. By comparing current land use with historical data, they can assess the impact of their efforts in reducing carbon emissions, improving soil health, and enhancing biodiversity.

**Education and Outreach:** These maps can also be used for educational and outreach purposes. They can help communicate the importance of sustainable farming practices to farmers, landowners, and the general public by visually illustrating the state of land use and the potential benefits of carbon-neutral farming.

## Links and references

[Land Cover | Copernicus Global Land Service](#)