Space4Climate Market Breakthrough Funding

Uniting to lower the barriers to adoption of Satellite based climate services

Net-Zero 1: Agriculture

The UK's agriculture industry accounted for 10% of the country's greenhouse gas emissions in 2018, making it essential for the sector to reduce emission to enable the UK to meet its targets for the Paris agreement to limit global temperature rise to 1.5 degrees. The National Farmers Union has taken that one step further, challenging the sector to be net zero by 2040.

Earth Observation technology already has many applications in agriculture, from crop mapping and yield estimation, to weather forecasting and irrigation management. A 2018 UK Space Agency report found that Earth Observation can increase production and yield of crops, improve the efficiency of the supply chain and increases resilience to climate change, improving the accuracy of early warning systems.

The following key areas identified by researchers as key recommendations for the sectors Net-Zero transition can be vastly supported by satellite based climate tools – Improving farm productivity and efficiency and Improving soil health.

However, much of the agricultural sector continues to use more traditional methods, physically inspecting crop samples to assess health and productivity. Possible reasons for this include cost, data quality and availability or simply a lack of awareness. Processing and interpreting satellite data can also require a high level of technical expertise. Unclear regulatory policies and legal requirements also does not help both he supply and demand side.

To overcome these barriers, it will be important to increase technical capacity and expertise, improve access to data and computational resources, and raise awareness and understanding of the benefits and applications of earth observation data in agriculture. Additionally, partnerships between governments, research institutions, private sector organizations, and farmers' organizations will be critical in promoting the use of earth observation data for sustainable agriculture and food security.