

Satellite Images Help Dutch Farmers to Combat Mouse Plague



A pilot project based on satellite images is due to start this month to help farmers in the Dutch province of Friesland prevent damage caused by field mice. The project gives farmers access to an app showing processed satellite imagery of their fields from above, revealing the damage to their land and

also enabling them to take targeted action more precisely.

Field mice, also known as voles, cause such extensive damage in the southwestern part of Friesland that the resulting barren pasture is visible from space. The satellite images are updated every two weeks and can be accessed via a special website or via the app, which has been developed by Dutch ecological consultancy organization [Altenburg & Wymenga](http://www.altwym.nl). The sections with the greatest damage are visible as light areas on the imagery.

□ Analysis of Sentinel images (top: 21 April, bottom: 17 July 2019) captured of an area in the southwest of the Dutch province of Friesland.

On the left is a true-colour image and in the centre is the normalized difference vegetation index (NDVI). Dark green represents a high NDVI value, i.e. rich vegetation. Water and buildings are shown in yellow. Recently mown fields have a low NDVI value. Areas that have been damaged by mice or drought are patchy. On the right is an infrared image showing bare and dry ground marked pink. There is clearly a big difference between April and July. (Source: Altenburg & Wymenga / www.altwym.nl)

Flooding the land to flush out mice

Plagues of mice have long been a problem in the province of Friesland, especially in open clay and clay-on-peat areas. To combat a plague, farmers flood their fields by pumping water out of the ditches to drown the young mice while still in the nest. This method – which is called inundation – is only partially effective, because adult mice often manage to escape to higher ground, returning as soon as the inundated field has dried out. Therefore, it is important for inundation to occur at the right time and in the right place in order to minimize the costs for farmers – and for the action to be coordinated with neighbouring farms if possible. The new app helps farmers to share their experiences and observations. Pooling their knowledge will enable them to identify the potential spread of a mouse plague and to take more effective action in response.

□ Drone image of a field with and without damage caused by mice. The upper section was flooded to eradicate the mice, whereas the lower section was not.