

# Helicopter to Perform Subsurface Geological Survey of Dutch Stream Valley Landscape



In early February, a helicopter will perform an eight-day aerial subsurface geological survey of the stream valley area called Drentsche Aa in The Netherlands. It is a project for the Dutch province of Drenthe, executed by the Danish firm SkyTEM. SkyTEM uses a unique method and has extensive experience in analysing similar soil structures.

## Electromagnetic waves

The SkyTEM helicopter will spend a number of days flying at an altitude of approximately 70 metres. It will cover the area – which roughly extends from the towns of Zuidlaren to Rolde – in strips. A frame measuring approximately 15 by 30 metres will be suspended beneath the helicopter. The frame emits electromagnetic waves that will enable the

underground layers of clay, sand and peat to be measured. The device can analyse the soil structure to a depth of 100 metres below the surface.

Up until now, the province has had to rely on drilling to create subsurface geological maps. However, drilling does not provide sufficient information about the areas located between the drilling points. The SkyTEM method will enable the province to gain greater insight into the make-up and distribution of various types of soil. This method makes it easier to locate 'pot clay' in particular. The new information will ultimately be used to improve groundwater models and calculations.

The helicopter flights will be performed in early February because the trees will still be bare at that time, meaning that no leaves can interfere with the measurements.

## European project

The project forms part of the European Interreg 'Topsoil' project being conducted by The Netherlands, Belgium, Germany, the UK and Denmark. The primary objective of the Topsoil project is the exchange of knowledge, methods and measures in order to gain insights into and subsequently tackle the effects of climate change on water management.