

PREDICTIVE MODELLING FOR ARCHAEOLOGICAL HERITAGE MANAGEMENT

July 29, 2011 Vestigia BV (The Netherlands) Archaeological Prospection, Commercial Archaeology, Day of Archaeology 2011, Science, Survey Academia, agriculture, Archaeological sub-disciplines, Archaeology, Brabant, consultant, farmer, geological and archaeological equipment, Humic acid, Land management, Marlies Janssens, Pedology, Podsol, project developers, Soil, The Netherlands, Vestigia BV

Vestigia BV, a Dutch company, operates in the field of commercial archaeology primarily as a consultant to policy makers, project developers, spatial planners on the role of cultural heritage, archaeology and history, in corporate, social and sustainable development. Colleague Marlies Janssens is conducting fieldwork today, with the aim to test the predictive model that was constructed based on desktop survey.



Marlies Janssens (Vestigia BV, The Netherlands) is analysing Dutch soils today.

“Six in the morning: no office outfit for today. I’d better wear an old pair of jeans and firmly tied shoes. Because in my job at an archaeological consultancy company I’m not only working at the office. Several days a month I’m out in the field all through The Netherlands. Today is one of those days. Together with one of my colleagues, in a car filled with geological and archaeological equipment like hand corers, sieves and sample bags, we’re heading for the cover sand region in the province of Brabant, The Netherlands. The local authorities here have asked us to develop an indicative map of archaeological values that can serve as a starting point for their local policy on archaeological heritage management. To develop this map we’ve already been analyzing existing maps (like soil maps, historical maps, geological maps), known archaeological sites and archaeological databases. However, analyzing a landscape from maps and databases will always leave us with questions which cannot be answered by desktop survey only. “What do the soil layers look like?”, “Can we see former landscape surfaces which might have been inhabited during the past? And if so, are these surfaces and soils still intact? Or have they been disturbed by recent human activities?” To answer these questions we’ll have to conduct fieldwork.

And that’s what is scheduled for today. We’ll visit several sites as part of a larger project where several colleagues, each with his or her own expertise, will aim to answer these questions. Today we will mainly focus on the landscape and soil characteristics, since me and my colleague are both physical geographers and approach archaeology from the landscape point of view.

The first stop is at a site which is indicated on the soil map as an ‘enkeerd’ or plaggen soil. This man-made type of soil is often associated with late-medieval farming, when people added a mixture of heath sods and cattle manure to fertilize their arable land. By doing this year after year, they created a thick

humic agricultural topsoil. These soils have a high archaeological potential; archaeological remains can be found within this plaggen cover (for the late medieval period), or underneath the cover (for older the period prior to that). After we've asked the owner for permission to enter his field, we start coring and find a thick humic sand layer. First, we think that this might indeed be the enkeerd soil as described on the soil-map, but while getting deeper, we start doubting whether this is really the medieval soil we were expecting to find. The humic layer looks very homogeneous, and the transition from the black topsoil to the yellowish cover sand underneath it looks very sharp. Imagine this farmer ploughing his land, blending the black topsoils with the yellowish cover sand year after year. That probably won't result in a sharp boundary between the two layers. Furthermore, an older soil, which is often found underneath these man-made soils, is completely missing. Looking at the landscape and noticing that this field is extremely flat and somewhat lower than the surrounding areas, we have to conclude that this soil has probably been disturbed recently and is leveled with black sand. Former surfaces or soils are missing, so the archaeological potential might be lower than we would have thought before.

The next coring, we had better luck. About a few hundred meters away from the previous site, we've found a podzol soil, which is still intact. These soils have been formed in cover sands since the start of the Holocene, about 10.000 years ago. This means that the surface we are standing on now, is the same surface as the one people could have lived on since the Stone Age. Later in the afternoon we were also lucky enough to find a nice undisturbed enkeerdsoil, with remains of an older podzol soils underneath, meaning high archaeological potential for the complete range of historical and even prehistorical periods.

At the end of the day, after visiting some more sites in this cover sand region and several brook valleys, we're heading back home again, feeling a bit tired from working in this very sunny afternoon, but also satisfied. Actually seeing the landscape and the (sub)soils in the field definitely gave us a better idea of the this area, which will help drawing up the archaeological document. Moreover, this was again one of those days that make me realize how lucky I am to have a job in archaeology that offers the opportunity to go outside and work in these lovely Dutch landscapes."