DART AND THE BRITISH SCIENCE FESTIVAL

My name is Anthony Beck and I'm the Project Champion for the *Detection of Archaeological Residues using remote sensing Techniques* (DART) project.
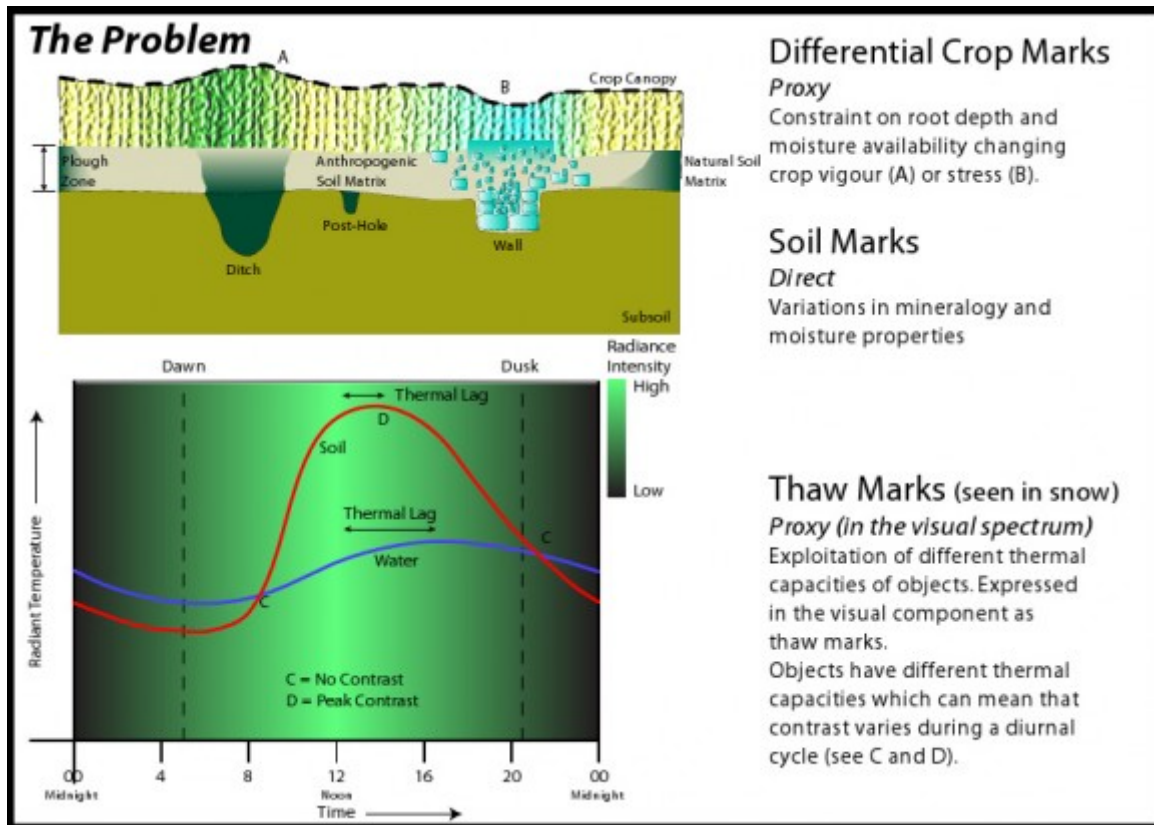
What DART is looking for. Re-used under a creative commons share-a-like licence from DARTProject.

According to the DART website:

Enhanced knowledge of archaeological residues is important for the long-term curation and understanding of a diminishing heritage. There are certain geologies and soils which can complicate the collection and interpretation of heritage remote sensing data. In some of these 'difficult' areas traditional detection techniques have been unresponsive. DART will develop a deeper understanding of the contrast factors and detection dynamics within 'difficult' areas. This will allow the identification of appropriate sensors and conditions for feature detection. The successful detection of features in 'difficult' areas will provide a more complete understanding of the heritage resource which will impact on research, management and development control.

The project wants to find better ways to deploy the range of spaceborne, aerial and ground based remote sensing technologies (magnetometry, hyperspectral, GPR etc) to improve the detection of archaeological

features. In addition we will also be trialing and evaluating some novel detection techniques. We will build a knowledgebase for ccurators, and other members of the community.

The main thrust will be to look at what factors are causing detectable contrast in each sensor (if there is no physical, chemical or biological contrast present or if the sensor is not sensitive enough to detect this contrast then no archaeological feature will be observed). In addition we will be looking at how this contrast changes over time. We will look at diurnal and seasonal events and their relation on contrast signatures. These will obviously be very important for phenomena such as crop growth and soil-water percolation.

The other major difference about DART is that it is an Open Science project. Open science is the idea that scientific knowledge of all kinds should be openly shared as early as is practical in the discovery process. By scientific knowledge "of all kinds" we include journal articles, data, code, online software tools, questions, ideas, and speculations; anything which can be considered knowledge. The "as is practical" clause is included because very often there are other factors (legal, ethical, social, etc) that must be considered prior to opening access (thanks to Michael Nielsen for this definition). We see Open Science bringing a number of benefits to the project, some obvious, some not so obvious. For example, DART is a publically funded project, it is right that the public have access to all research outputs (and not just journal articles). More importantly this is a way in which we can collaborate more effectively as the barriers limiting access to knowledge are effectively removed. DART wishes to collaborate and interact effectively with the whole archaeological community and not just academia.

DART has been invited to present a paper at the "Exploring New Archaeological Worlds" session at the British Science Festival in Bradford on the 12th September. As a festival celebrating British Science there is a huge amount of interest in this event as it is a great opportunity to engage with members of the public, journalists, peers and to see some great science being undertaken in other domains. Because the event is high profile the University of Leeds press office and the British Science Festival organising team want each presenter to produce a press pack. In order to do this I need to write my presentation! I will document this process today.