

Meeting the 'Relics': a day at WOSSAC, 7th December 2011

The National Soil Resources Institute (NSRI), based at Cranfield University, hosted a day's visit to introduce the work and activities of WOSSAC – the World Soil Survey Archive & Catalogue. A comprehensive and varied menu of talks and walks had been arranged by Ian Baillie, assisted by Brian Kerr and other colleagues.

Discussions commenced with a talk by Thomas Mayr on the NSRI's work on digital soil mapping. This is not to be confused with 'digitizing maps'. Instead, the NSRI is using all available data for an area to create 'surfaces', which can then be converted to 'transitions', using mathematical models, rather than creating the specific boundary lines that are used on conventional soil maps. An advantage is that new data can be added easily to revise the digital maps. NSRI draws on legacy data as held in WOSSAC as in using digital methods to predict soil properties in non-mapped areas from information in adjacent mapped areas. All the former Soil Survey of England & Wales data are now held in WOSSAC.



Ian Baillie then described the pre-WOSSAC world of soils as seen by the traditional soil surveyors. It was at this point that there was shift in terminology from "legacy" data to "relic" data, which embraced soil surveyors! Much data was produced. The data were often not fully used but they comprise a legacy for the future. Much documentation had been lost overseas, other data was disappearing due to closure of libraries in the UK. Much, however,

survived in personal libraries: he recalled that Soil Surveyors do not like throwing things away! The purpose of WOSSAC was to acquire and conserve this relic or legacy data, including satellite imagery, maps and reports. It now comprises 22,350 items from 276 territories going back to 1914. 1975 was the peak publication year for soils material. The stages included collating, cataloguing, digital capture, extracting information, transformation and making data available for research. Documents are stored in plastic bags (moral: never store in cardboard boxes because they contain acids that damage the paper). WOSSAC is fortunate in that Cranfield University is providing suitable storage facilities for the archive.

Steve Hallett explained the nature of the WOSSAC database. To date, all archived material for Jordan, Sudan and Tanzania is now available interactively on the WOSSAC website, including Google Earth maps to show the geographical coverage of the archived material (<http://www.wossac.com/mapping/index.cfm>). Reports and maps can be searched and downloaded in pdf format. Intellectual Property Rights have been a big problem: due to unclear ownership of the data (the surveyor, the company, the overseas government, the donor agency?). Thus it has been difficult to charge for copies of legacy material. Funding is urgently required for additional scanning and cataloguing. It is perhaps surprising that DFID has not contributed, when much of the material was prepared under UK taxpayer funding, either as ODA projects or by UK government agencies. Brian Kerr wound up with an account of the valuable role that HTSPE played in providing legacy material, just before the huge oil tank explosion destroyed much of their offices in Hemel Hempstead.

David Dent gave described other archives in USA, France and Netherlands, in comparison with which WOSSAC scored well. Not being state-funded, WOSSAC is hungry and therefore innovative. He noted the need to produce a revised world soil map using legacy data, perhaps on a 5.0 km grid to replace the FAO-UNESCO Soil Map of the World (1965). However, David was concerned that WOSSAC is largely supply-driven and needs to give attention to marketing its services.

The visit ended with a lively discussion on how TAA might help WOSSAC further. Several actions were agreed:

- Steve Hallett will prepare an article for Ag4Dev, updating progress at WOSSAC.
- The TAA will write formally to the Vice-Chancellor of Cranfield expressing appreciation of the university's commitment to housing the archive and emphasizing its global importance. This will also offer the support of TAA in getting the APPG on Agriculture and Food for Development to take an interest in WOSSAC.
- TAA East Anglia will seek to set up a joint seminar with the UNEP-World Conservation Monitoring Centre in Cambridge to promote the activities of WOSSAC and promote the use of its services.

During the 'lunch break', we were introduced by Jane Rickson to the hydrological and soil erosion studies being undertaken by Cranfield. We inspected the Norman Hudson Soil & Water Engineering Lab, which continues the seminal work by Norman at



Silsoe. Here we saw life-sized soil bins used for testing soil compaction by tractors and more esoteric topics, like the effects of rolling on the bowling of the English cricket team!

We also stood in the cold wind to admire sophisticated Lysimeters in the Woolfson Lab, complete with automated covers that enable analyses of the gases given off by crops growing in undisturbed cores, in addition to the conventional recording of movements of water and soil nutrients.

Keith Virgo. 16.12.11