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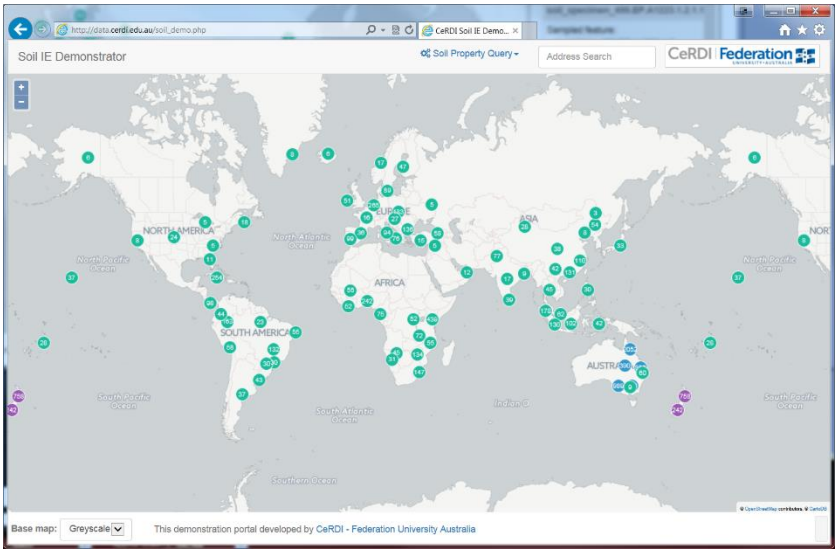
To: Michele Barson, Department of Agriculture and Water Resources

Final Report on Department of Agriculture and Water Resources funding to support legacy soil data capture through the Australian Collaborative Land Evaluation Program (ACLEP)

Background

ACLEP (www.clw.csiro.au/aclep) has been working with state/territory agencies for many years to digitally capture, collate and disseminate soil data in a nationally consistent form. This data underpins delivery of the Australian Soil Resource Information System (ASRIS) and is made readily available to users through online web map viewers (www.asris.csiro.au), innovative mobile device applications such as CSIRO's SoilMapp for Ipad (www.csiro.au/soilmapp) and more recently as interoperable web data services that can be utilised directly in client applications (e.g. The Federation University OGC Soil Interoperability Experiment demonstration portal at: http://data.cerdi.edu.au/soil_demo.php).



Federation University soil interoperability demonstrator – showing standardised Australian soil site data services along with those published by Landcare Research New Zealand and ISRIC The World Soil Data Centre in the Netherlands.

This Project

The Department of Agriculture and Water Resources provided $55,000 of funding through ACLEP to support the digitisation of priority legacy data sets by states and for provision of that data to ASRIS. States and Territories were asked to identify candidate data sets and the likely resources required. A process was then facilitated through the National Committee on Soil and Terrain (NCST) (www.soilscienceaustralia.org/ncst) to prioritise the identified data based on relevance to gaps within the national coverage, local and regional priorities, requirements for TERN Soil and Landscape Grid of Australia modelling, available funding and capacity of agencies to capture data within project timeframes.

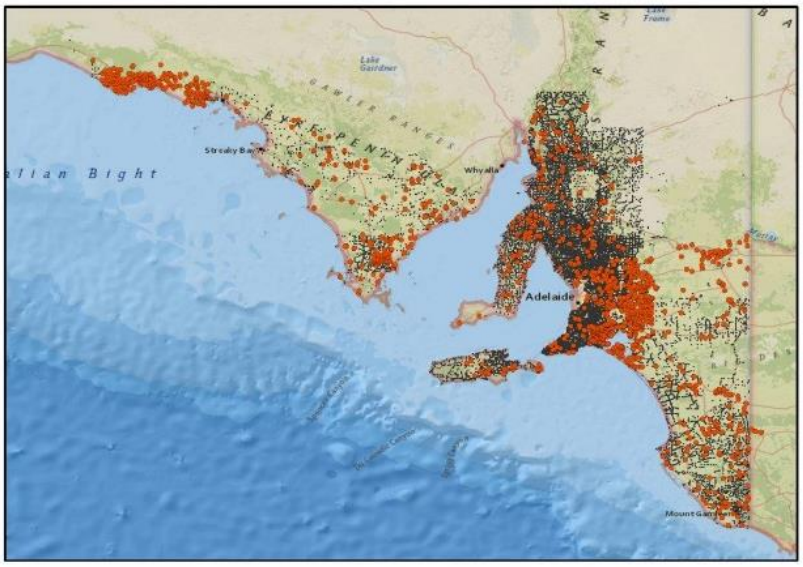
Two projects were subcontracted with state agencies –

1. South Australia – digital capture of approximately 650 soil site data particularly from non-farmed rangelands, Eyre and Yorke Peninsulas, Murraylands and the viticultural regions.
2. Queensland – capture of soil mapping and associated data in the Desert Uplands, Haughton, Collinsville, Emerald and Burnett areas.

Data capture and provision to ASRIS

Data capture was undertaken by the relevant state agencies utilising local expertise and data management systems. Quality assured data was then provided to CSIRO for inclusion within the ASRIS data bases.

SA soil site data (Table 1 below) represents some good quality data from rangelands where such data is currently very limited, as well as other good quality soil morphology descriptions for other areas with limited data availability. The data has been included within the ASRIS NatSoil database and made accessible through the ASRIS map portal http://www.asris.csiro.au/mapping/viewer.htm. The data will also be included in the national soil site data collation which was compiled to support the TERN Soil and Landscape Grid of Australia modelling (see http://www.clw.csiro.au/aclep/soilandlandscapegrid). This data is also provided as standardised web data services and can be seen in the ASRIS Soil Site Data Portal (http://www.asris.csiro.au/soilsiteportal).

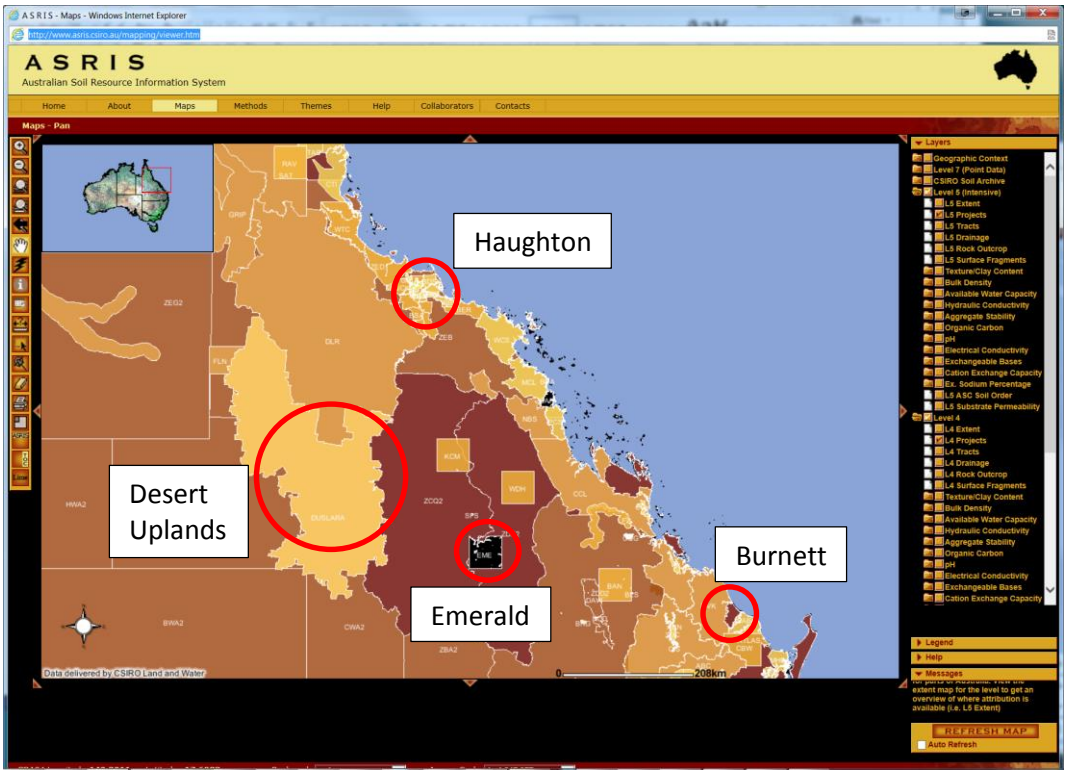


SA soil site data made visible through the ASRIS Map Portal – red dots show sites captured through this project (base map source National Geographic)

South Australian soil projects – site data source	Lab data	No. new records
Cooperative Research Centre Future Farm Industries (CRC FFI) - Fodder shrub evaluation project	Y	110
APSIM (Agricultural Production Systems Simulator) field evaluation project, Eyre & Yorke Peninsulas, Northern Ag. Districts, Murraylands	N	52
Viticultural rootstock evaluation trials, viticultural regions (Riverland, Barossa, Southern Vales, Clare Valley, Langhorne Creek, South East)	N	91
Selected sites from original Monarto map sheet survey – SW quadrant complete	N	96
Selected sites from original Milang map sheet survey – scattering of sites from across map sheet	N	300
Total		649

Queensland soil map data (as per the table below) has been incorporated within the ASRIS level 4 and 5 data sets and made available through the ASRIS map viewer (http://www.asris.csiro.au/mapping/viewer.htm). This data is now also available through the CSIRO SoilMapp for Ipad, which greatly increases the availability and usability of locally significant data in those areas.

Report	**Approx area**	**Scale**
Desert Uplands Strategic Land Resource Assessment DUSLARA (Lorimer 2005)	85,000 sq kms	1:100,000
Soils and land suitability of the Haughton Relift area BRIA (Christianos 1995)	6,000 ha	1:25,000
Collinsville Irrigation soil survey CIA (Shield and Macnish 1998)	150,000 ha	1:100,000
Emerald Irrigation area – right bank EIR (Tucker et al. 2003)	15,000 ha	1:25,000
Soils and Agricultural Suitability, south Burnett area SBT (Sorby et al. 2001)	126,000 ha	1:100,000



Queensland regions where legacy data has been captured and made available through ASRIS and SoilMapp for Ipad.

Benefits of legacy data capture

This project has supported the capture of a number of locally and regionally significant soil data sets which can be used to underpin land development and management decisions related to agriculture, rangelands and mining interests amongst other purposes. The data are now available in a consistent format and have been incorporated within the national ASRIS collation which means they are also more readily and efficiently used within cross-state and national projects, such as State of Environment reporting and northern Australia development assessments. On-going capture of legacy and newly collected soil data within the national soil information infrastructure (either through addition to ASRIS, or increasingly via publication of standardised web services direct from the managing agency) is essential to support regional and national development, management and monitoring of our valuable soil resources. This data will allow us to effectively assess trends in the condition of Australia's soils and implement policies and programs to ensure their ongoing productivity and sustainability.

Acknowledgement
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