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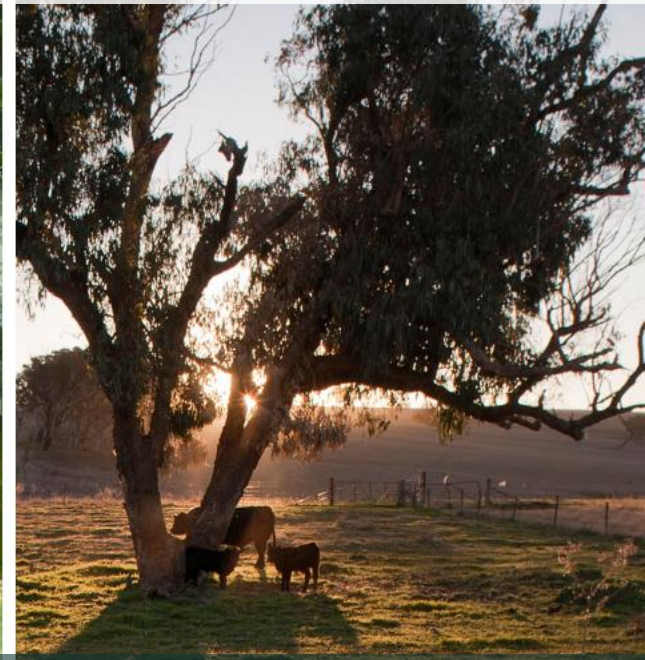

Australian Government

Future Drought Fund

UNIVERSITY OF SOUTHERN QUEENSLAND

National Soil Strategy

- Cameron Leckie
- Regional Soil Coordinator
  - Northern NSW and Southern Queensland

The SQNNSW Innovation Hub Regional Soil Coordinator is funded by the Building Landcare Community Capacity: Soil Extension, an element of the National Landcare Program Smart Farms – an Australian Government initiative.

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Australian Government | National Landcare Program

A quick quiz

- Have you heard of the National Soil Strategy?
- Do you currently collect soil data?
- Are you interested in soil carbon projects?
- Soil testing. Is it a cost or an investment?

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National Landcare Program

Scope

- NSS Overview
- Pilot Soil Monitoring & Incentives Program
- ERF Soil Carbon Project Overview
- Historical Soil Data & Capture Payments Program
- Questions

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National Soil Strategy (NSS)

- 20 year strategy (released 2021)
- Endorsed by Commonwealth & State Govt
- Action Plan
  - Interim released 2021
  - National Action Plan
  - 5 year review
- $214M funding – 4 years

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National Landcare Program

Vision

Australia's soil is recognised and valued as a key national asset by all stakeholders. It is better understood and sustainably managed, to benefit and secure our environment, economy, food, infrastructure, health, biodiversity, and communities – now and in the future

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National Landcare Program

Goals

- Goal 1: Prioritise soil health
- Goal 2: Empower soil innovation and stewards
- Goal 3: Strengthen soil knowledge and capability

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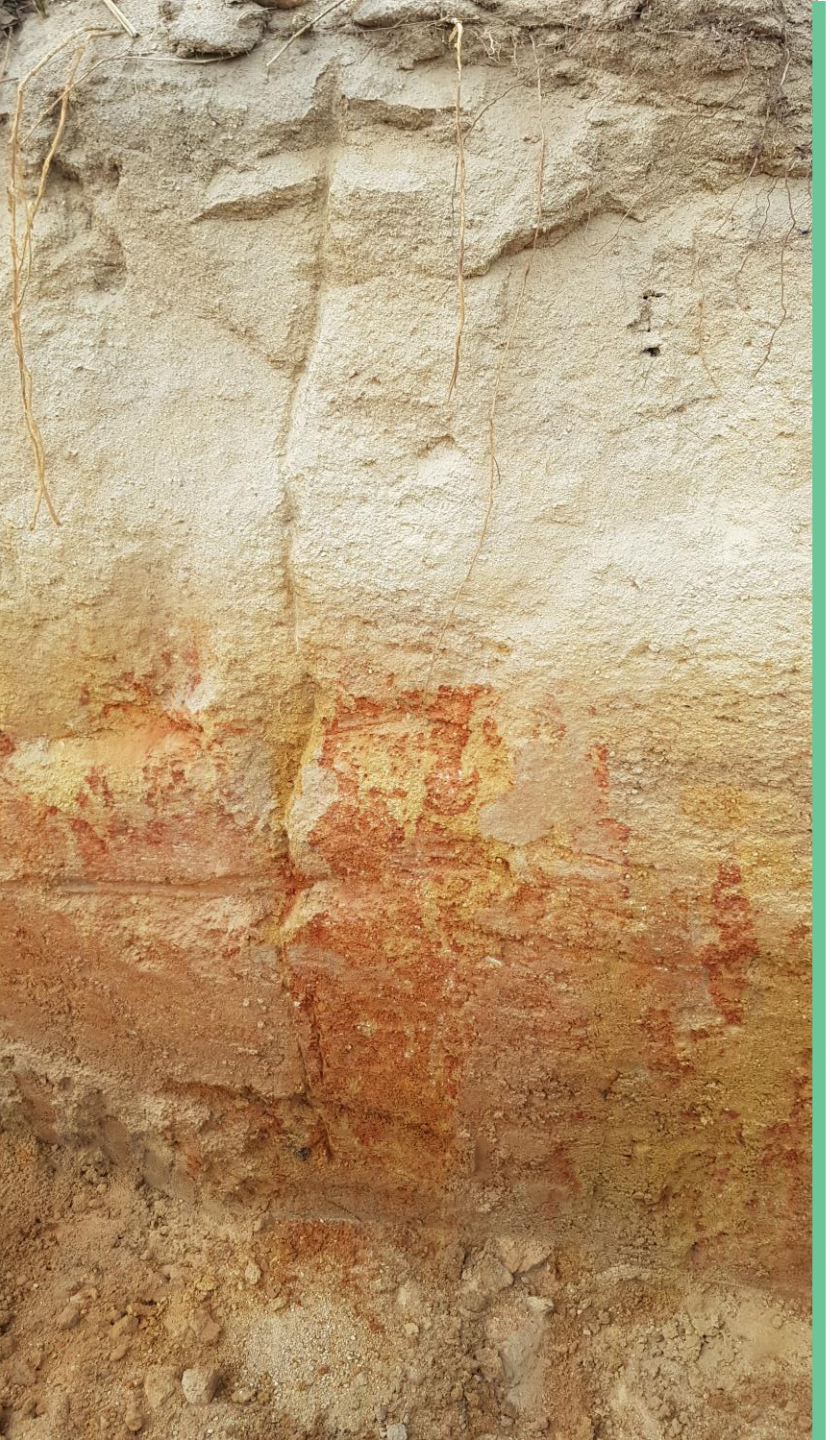

Pilot Soil Monitoring & Incentives Program

- Low-cost soil sampling/analysis/interpretation
- Maximum $10K benefit
- Cost model:
  - Covers ~95% of lab analysis cost
  - Primarily paying for service provider
  - ~50-80% of total cost covered

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Pilot Soil Monitoring & Incentives Program (cont)

- Minimum 4 sites per business
- 7 cores per site
  - 6 cores – composite sample
  - 1 core –bulk density
- Three depths (0-10, 10-20 & 20-30cm)
- Texture, BD, OC, EC, pH, N, P & microbial biomass (optional)
- Soil advice/interpretation

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Pilot Soil Monitoring & Incentives Program (cont)

- Can include additional soil properties at own cost:
  - exchangeable cations (calcium, magnesium, potassium & sodium; ECEC, %ESP), add $20 + GST per sample
  - micronutrients (available iron, manganese, copper & zinc), add $15 + GST per sample

Pilot Soil Monitoring & Incentives Program (cont)

- Data uploaded into the Australian National Soil Information System (ANSIS).
- Personal information will be de-identified to maintain confidentiality, IP for the data remains with the land manager
- Participant signs a data sharing agreement
- Aggregated data used to create soil data products

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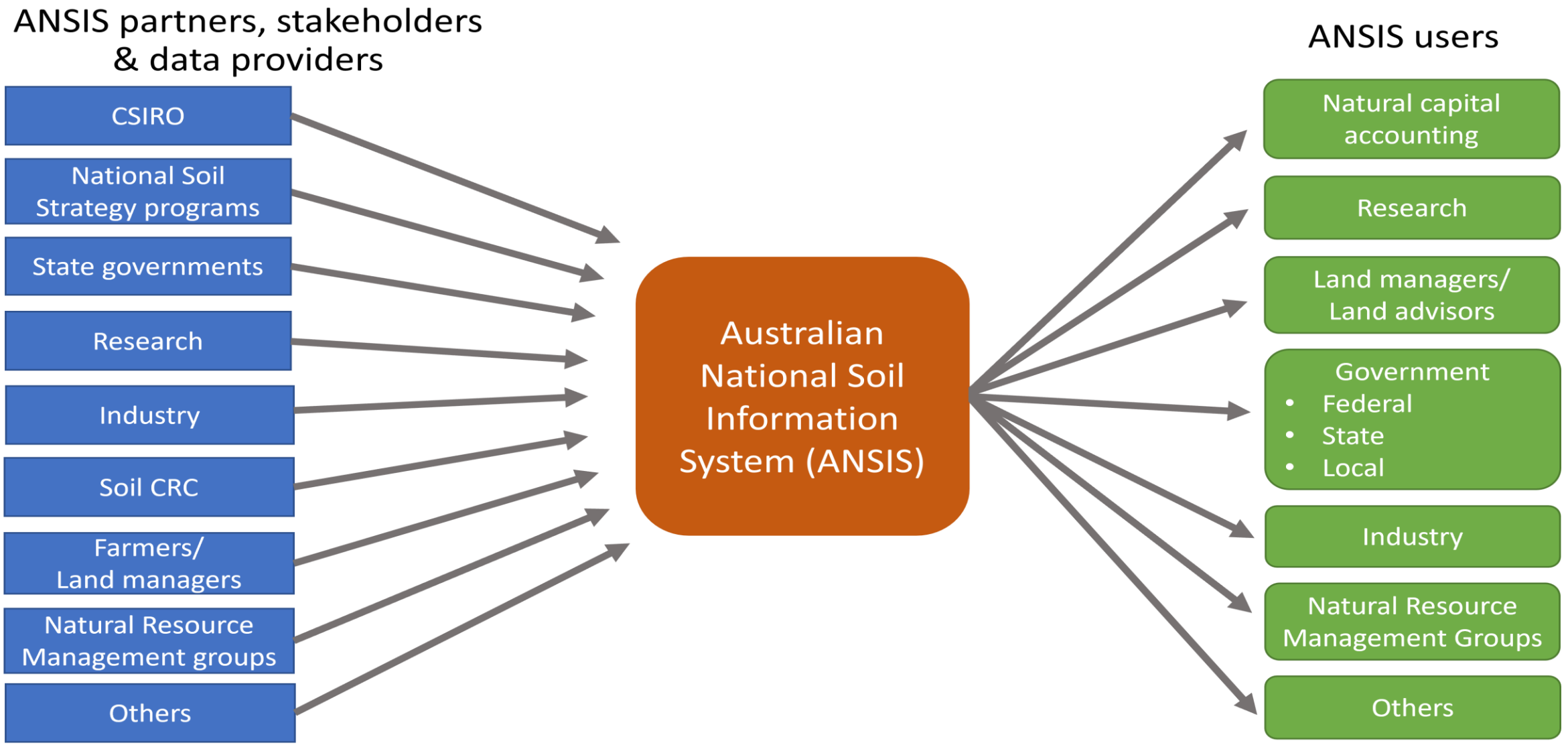
Australian National Soil Information System (ANSIS)



Pilot Soil Monitoring & Incentives Program (cont)

- Emission Reduction Fund (ERF) Soil Carbon Projects
  - Subsidise baseline soil sampling
  - Different cost model
    - $275 benefit per site
  - **REGISTER PROJECT FIRST!**

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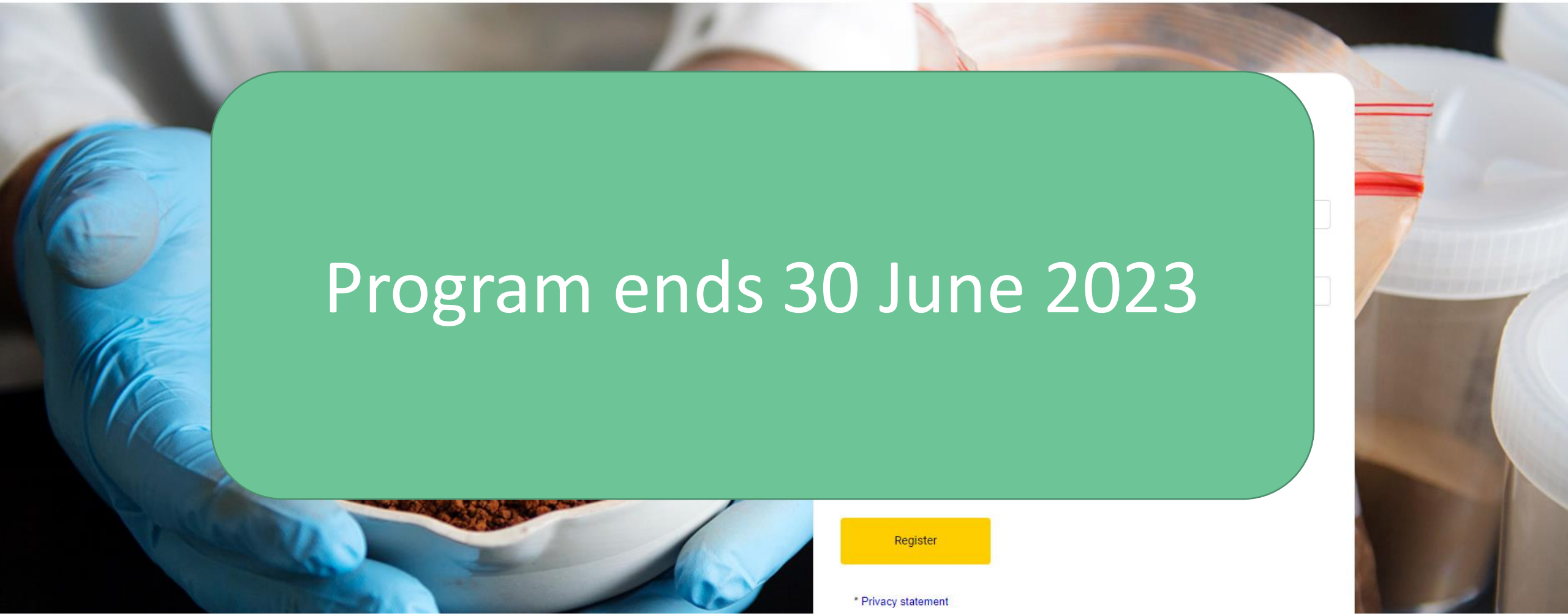

Program ends 30 June 2023

https://www.scu.edu.au/pilot-soils-program/

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Emission Reductions Fund (ERF)

- Projects that reduce/remove GHG emissions to the atmosphere
- Earn Australian Carbon Credit Units (ACCU)
  - 1 ACCU = 1t CO_2 equivalent
  - Sell ACCUs to Govt or the market

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How participating in the Emissions Reduction Fund works

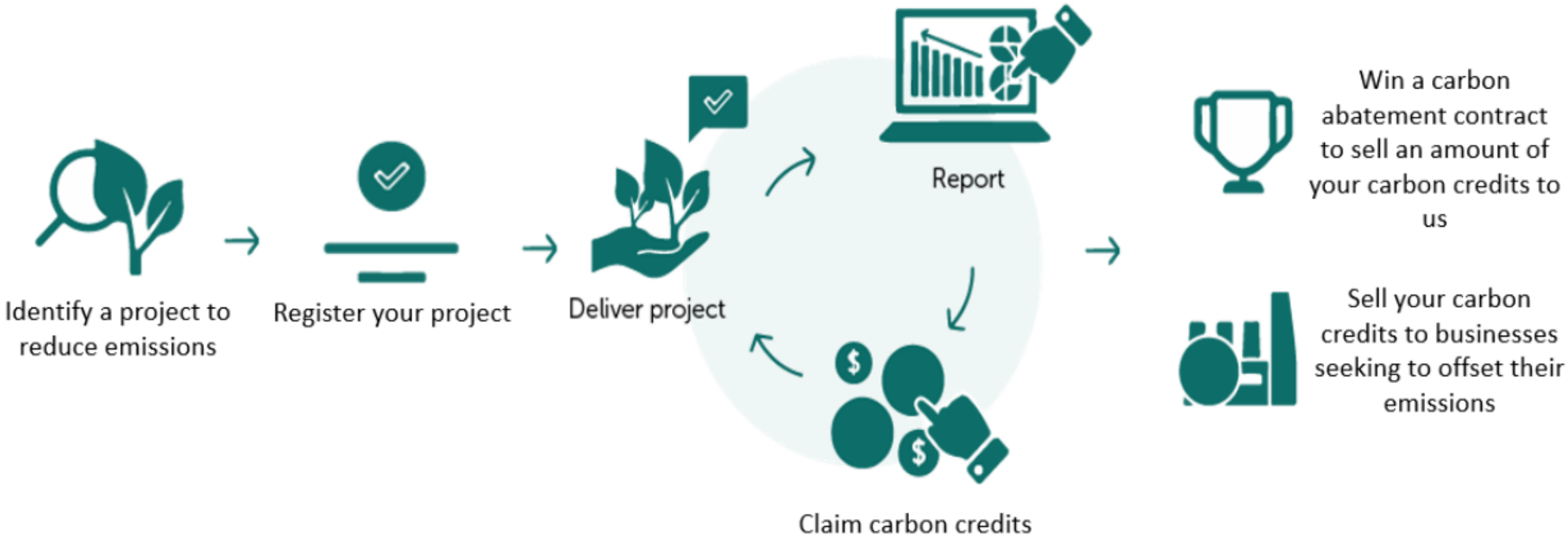

FIGURE 1: PARTICIPATING IN THE EMISSIONS REDUCTION FUND

ERF Soil Carbon Projects

- 1. Estimating sequestration of carbon in soil using default values method (model-based soil carbon)
  - No soil carbon baselining
- 2. **Estimating soil organic carbon sequestration using measurement and models method**
  - Soil carbon baselining & ongoing measurements

Measurement & Models Method

- Implement new ‘activities’

apply nutrients to the land	apply lime to remediate acid soils
apply gypsum to remediate sodic or magnesic soils	undertake new irrigation
re-establish or rejuvenate a pasture	establishing, and permanently maintaining, a pasture
alter the stocking rate, duration or intensity of grazing	retain stubble after a crop is harvested
convert from intensive tillage practices to reduced or no tillage practices	modify landscape or landform features to remediate land
use mechanical methods to add or redistribute soil	use legume species in cropping or pasture system
use a cover crop to promote soil vegetation cover or improve soil health or both	

Measurement & Models Method

- Establish a Carbon Estimation Area (CEA)
- Minimum 3 strata
- Minimum 3 SOC measurements per strata
  - Baseline
  - SOC measurements repeated every 5 years
- Permanence obligation

More strata & measurements
= more certainty
but more cost

LOOC-C Demonstration

CSIRO

LOOC-C

A landscape options and opportunities for carbon abatement calculator

Introduction | Farm details | Method discovery | Next Steps | About

Welcome to LOOC-C

LOOC-C allows you to quickly assess options on the land for certain projects offered under Australia's federal carbon emissions programme, the Emissions Reduction Fund (ERF).

Explore your options >>

Australian Carbon Industry
Code of Conduct

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Historical Soil Data Capture Payments Program

- Up to $10K to share historical soil data
- $50 - $200 per sample
- Soil data pre 1 January 2022
- From accredited lab using standard methods

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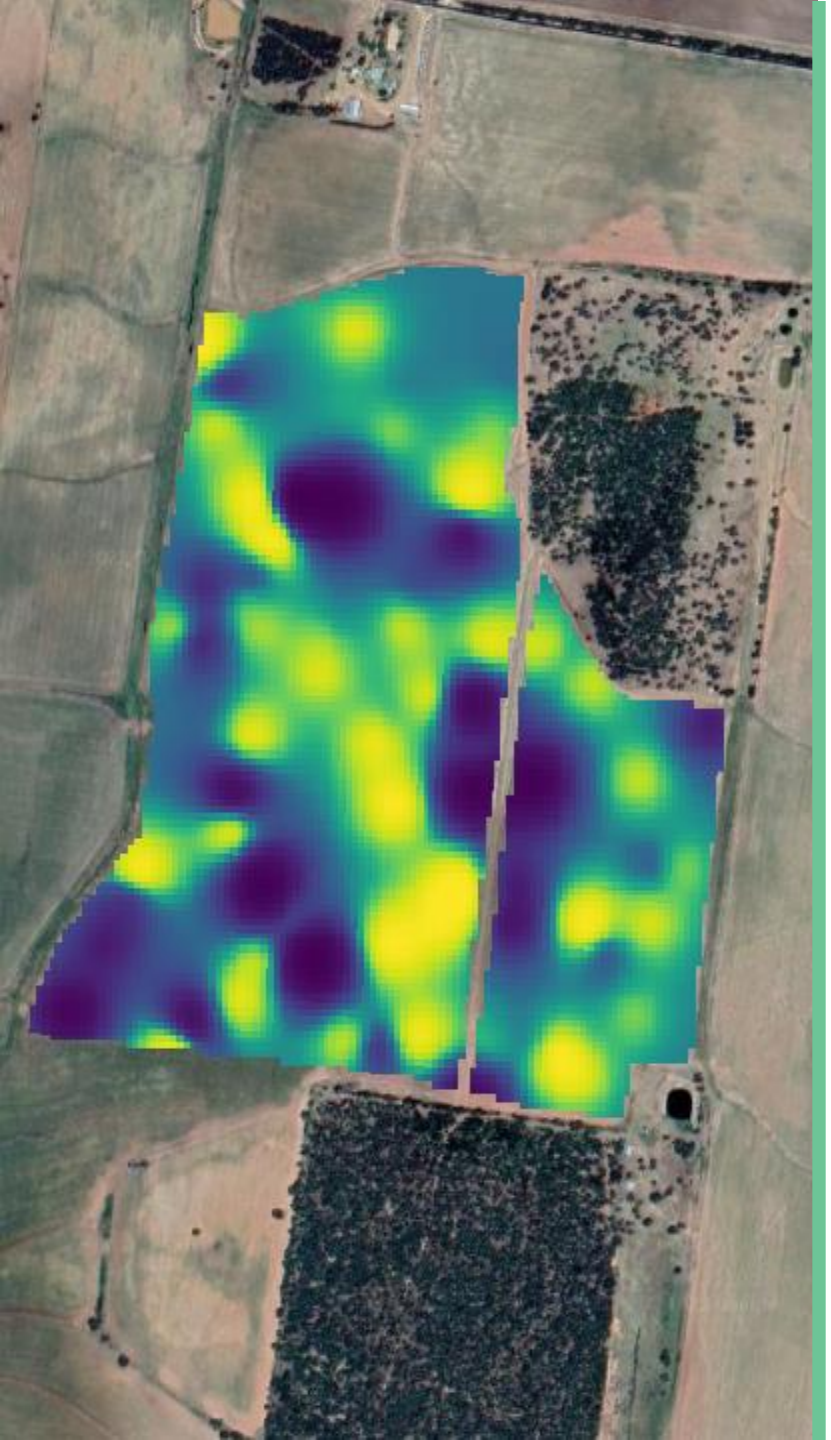
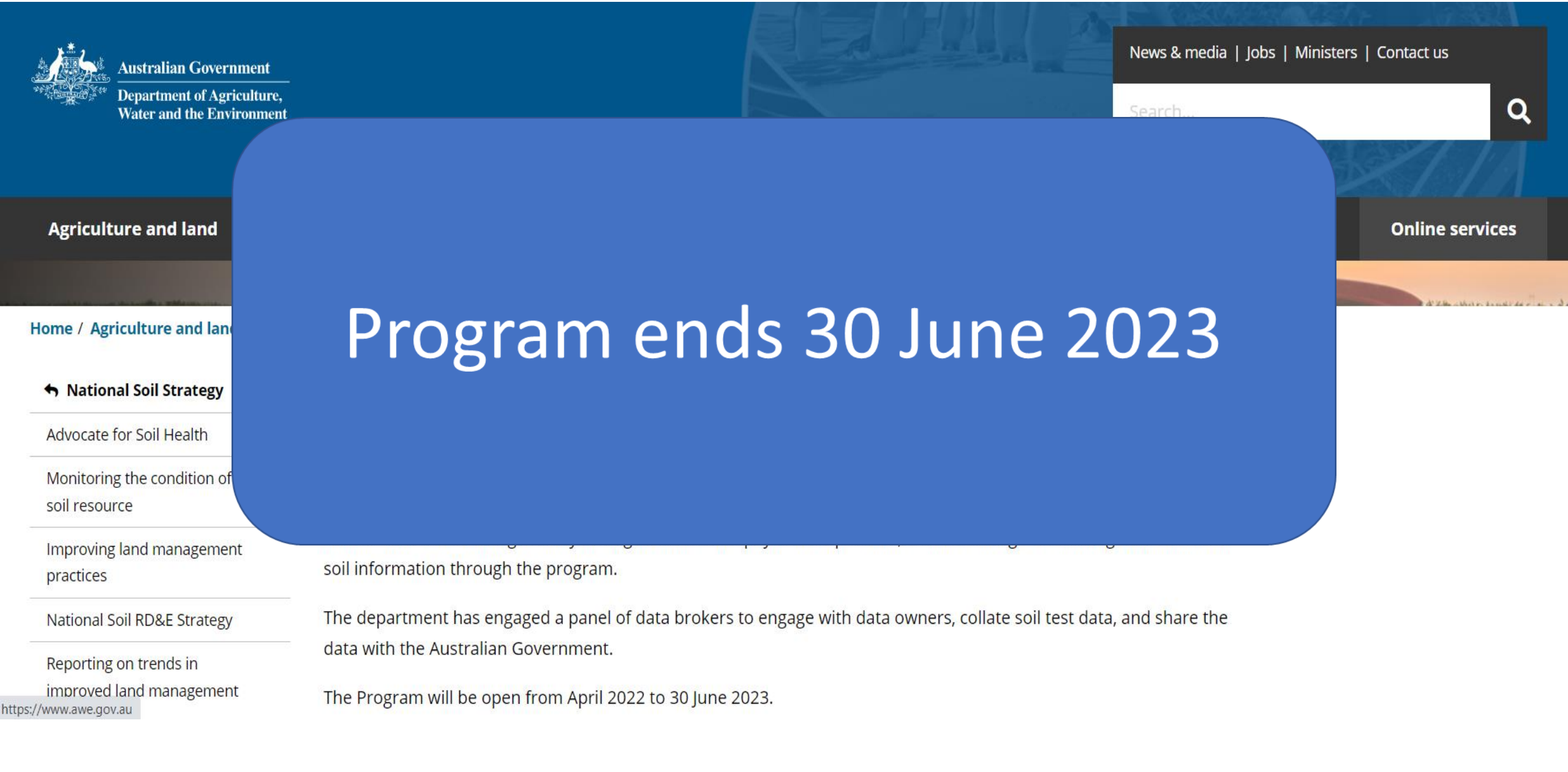


Historical Soil Data Capture Payments Program

- A data owner can be a farmer, land manager or an entity that owns soil data
- Data cannot be used for compliance or regulatory activities
- Data provided to ANSIS
- Program accessed via data brokers

Data Broker	Email	Web address
AxisTech	SoilData@axistech.co	axistech.co
Precision Agriculture	sales@precisionagriculture.com.au	precisionagriculture.com.au
Precision SoilTech	data@precisionsoiltech.com.au	precisionsoiltech.com.au
Southern Cross University	soildata@scu.edu.au	scu.edu.au

https://www.awe.gov.au/agriculture-land/farm-food-drought/natural-resources/soils/historical-soil-data



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This SQNNSW Innovation Hub is led by the University of Southern Queensland and has received funding from the Australian Government's Future Drought Fund

Supporting producers and their communities in growing resilience and capacity in managing climate variability through innovation, collaboration, and building capacity and capability.

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