

Tasmanian High Soil Carbon Landscapes:

Improving soil, climate, ecosystem and traditional knowledge

What is the Tasmanian High Soil Carbon Landscapes Project?

The \$2.9 million project is a joint initiative of the **Department of Natural Resources and Environment Tasmania** and the **Australian Government Department of Agriculture, Fisheries and Forestry**, under the **Partnering to Implement the National Soil Action Plan Program**. Its main goal is to improve understanding and promotion of Tasmania's carbon-rich soils across both production and conservation landscapes by mapping their extent, quantifying their carbon content, and identifying threats to these valuable natural assets.

What are high soil carbon landscapes?

These areas contain soils with high levels of organic carbon, usually greater than 12 per cent. They can be highly diverse and occur as peatlands on coastal plains, wetlands, and alpine/sub-alpine highlands, within all land tenures, on both production and conservation land.

Why do these landscapes matter?

They represent only 3 per cent of our global area yet store up to one third of the world's soil carbon. Tasmania is recognised as having the largest proportion of organic soils of any Australian state or territory. They are critical to carbon sequestration, soil health, fertility, and ecosystem services. Despite being currently ineligible for carbon-credit schemes, these landscapes are particularly vulnerable to climatic change, drainage and increased frequency and intensity of fire; these events have the potential to release vast quantities of greenhouse gases (including carbon dioxide) into the atmosphere. Properly managing Tasmania's high soil carbon landscapes is critical for climate change adaptation, sustainable agriculture, healthy ecosystems, and cultural heritage, now, and into the future.

What will the project do?

- **Map high soil carbon landscapes** across Tasmania using spatial modelling informed by soil site characterisation, sampling and analyses.
- **Develop land management guidelines** and tools to support sustainable agriculture and conservation, and identify potential [National Soil Monitoring Program](#) sites.
- **Integrate Tasmanian Aboriginal knowledge** into soil management practices and identify culturally significant high soil carbon landscapes.
- **Support climate change mitigation** by providing better data for emissions and carbon sequestration calculations.
- **Build capacity** through training, mentoring, and skills development for early career soil scientists.
- **Collaboration, education, training and extension** with our project partners – NRM, Tasmania Parks and Wildlife Service, the Tasmanian Land Conservancy, Landcare and farmer groups, UTAS, the TAS Farm Innovation Hub, and others.



What does a field site involve?

Project staff will access appropriate public and privately managed land, through pre-arranged and approved access. A site will involve several low-impact soil cores, which will be described, classified, sampled and analysed to Australian standards. A site access and data-use agreement form will be provided to the landholder/ manager to protect privacy information and outline data usage. Landholders will be provided a copy of their soil analyses data.

Where can I access the data?

All site data will be stored on the [Tasmanian Natural Values Atlas](#) and the [Australian National Soil Information System](#). Mapping will be publicly available via [LISTmap](#) – our online web mapping portal.

What are the main project outcomes?

The project aims to guide land use decisions, inform climate change strategies, and help farmers, land managers and communities plan for drought by identifying, protecting and rehabilitating their high soil carbon areas on the land they manage.

How did the project come about?

The **High Soil Carbon Landscapes Project** was designed to support all four priorities of the **National Soil Action Plan (2023–2028)** and was announced in January 2025. The announcement highlighted the project's key objectives: addressing gaps in soil data and knowledge, supporting emissions and carbon sequestration calculations, and providing guidance for sustainable land management. The project was launched as part of the **Partnering to Implement the National Soil Action Plan Program**, which is backed by \$20 million in Australian Government funding to deliver state and territory on-ground activities aimed at protecting and improving Australia's soil health. Of this, \$2.3 million was allocated specifically to the Tasmanian High Soil Carbon Landscapes Project, with an additional \$0.6 million contributed in-kind by the Tasmanian Government.

Where can I get more information?

[The Department of Natural Resources and Environment Tasmania](#) is leading the delivery of the project over four years, through to 2028.

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The National Soil Action Plan (2023 – 2028)

<https://www.agriculture.gov.au/agriculture-land/farm-food-drought/natural-resources/soils/national-soil-action-plan>

Partnering to Implement the National Soil Action Plan

<https://www.agriculture.gov.au/agriculture-land/farm-food-drought/natural-resources/soils/national-soil-action-plan/partnering-implement-nsap>



Australian Government
Department of Agriculture,
Fisheries and Forestry