



Soil Matters!

Finding NZ soil information on the web

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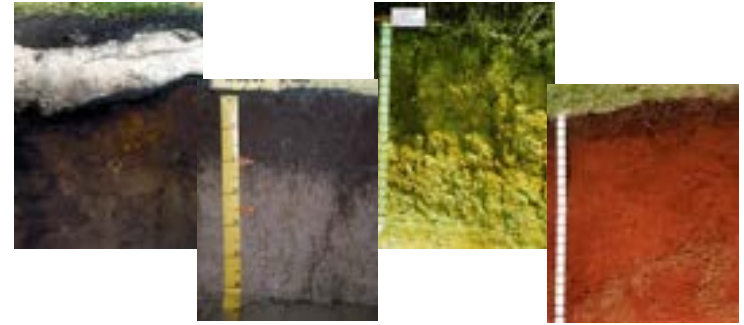
World
Soil Day

Runsheet



1. Why do we need soil information services ?
2. How does MWLR publish soil information online ?
3. What is the Soils Portal ?
4. What are our future plans ?

Why do we need soil information services ?



Soils are complex ecosystems



Soil knowledge accumulates over generations – enduring value

Soils are at the heart of many ecosystem services our society relies on

S-map Online – 10th birthday



- S-map is New Zealand’s soil survey information system
 - Spatial area of soil types (polygons) plus the properties of each soil type (attributes)
- Paper based information out of print - but the range of users, their location, and issues needing soil information was substantially increasing
- High level requirements (2011)
 - a simple to use interactive, map based point and click web application
 - give users the ability to find out what soil is at a certain location and the properties that the soil has, based on S-Map data
 - view factsheets showing soil information
- S-map Online launched 30th August 2011
 - successive enhancements including new tools plus additional S-map data

Sibling - *S-map soil type*

A sibling is a member of a soil family. The sibling partitions soil families on the basis of unique combinations of drainage class, topsoil stoniness, soil depth, texture contrasts, and a sequence of up to six functional horizons.



S-MAPONLINE [Maps & Tools](#) [Data Provenance](#) [Terms of Use](#) [Support](#) [Log in](#)  Manaaki Whenua
Landscape Research

The digital soil map for New Zealand

FIRST TIME HERE

EXPLORE MAPS

BROWSE FACTSHEETS

SIBLING FINDER

What is S-map?

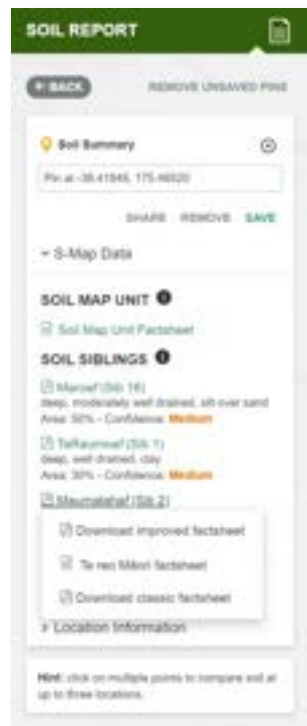
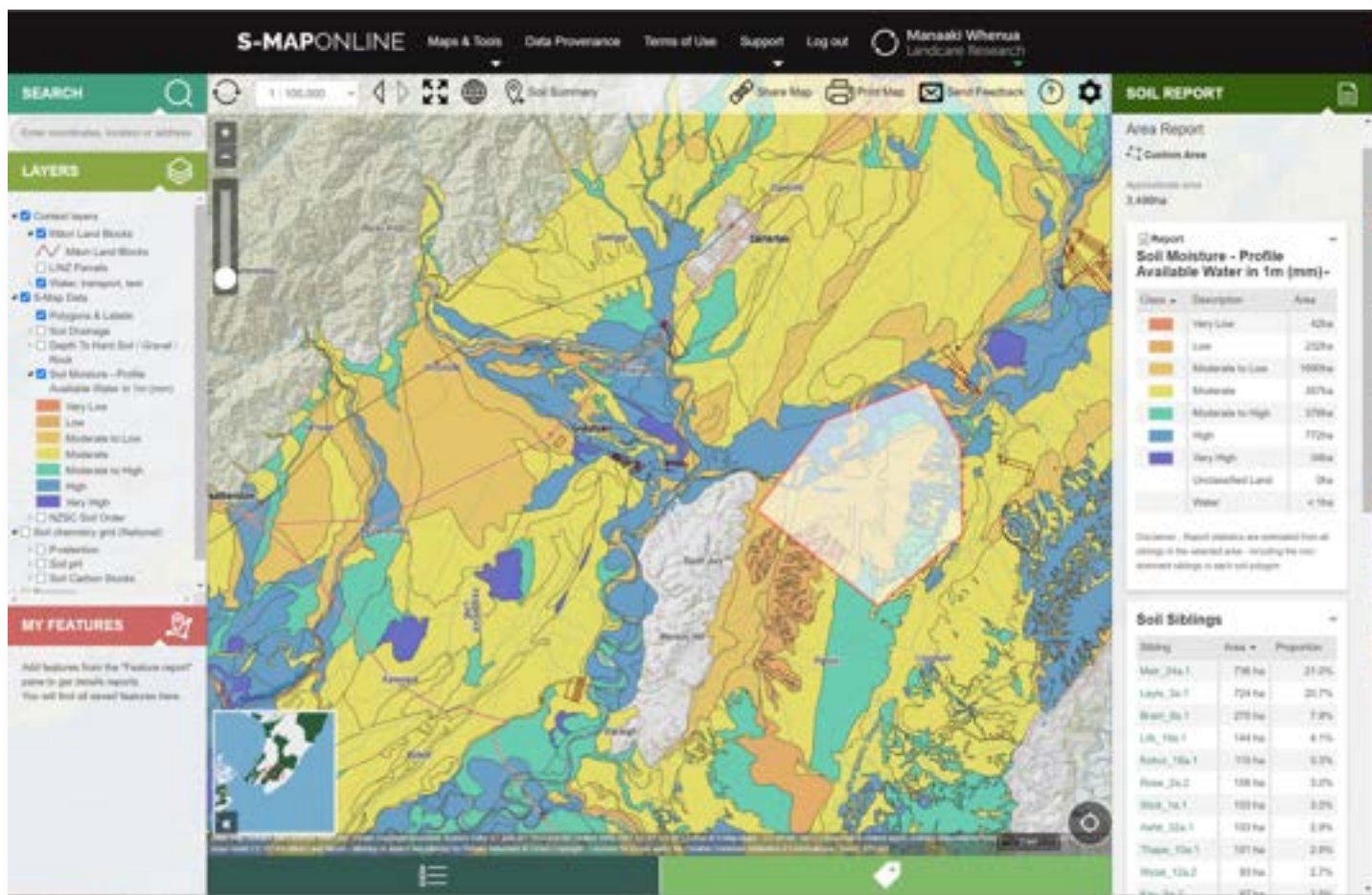
S-map is a digital soil map for Aotearoa New Zealand. S-map's goal is to provide precise and accurate soil information to support sustainable management of our soil systems. S-map displays basic soil property data like depth, stoniness, and clay content, as well as more complex data like water holding capacity and nitrogen leaching risk. S-map is generated by expert soil scientists, assisted by historical soil mapping and innovative new data sources.

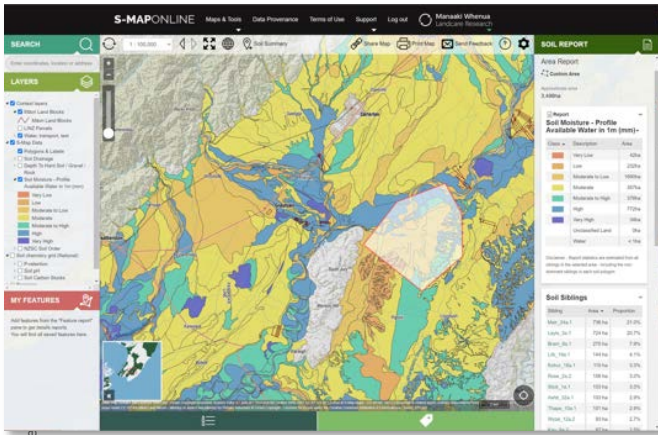
What is S-map online?

Using S-map online you can:

- Explore interactive soil maps of Aotearoa New Zealand
- Learn about the soil in your area.
- Browse, view and download a variety of soil fact sheets including one for SIBLING.
- Identify and compare soil siblings - the most detailed level of soil classification.
- Create custom soil maps for printing.

S-Map Online provided by the Manaaki Whenua
Landscape Research






Use of S-map Online...

2020-21 FY

- 22,500 registered users
- 30,000 visitors
- 50,000 soil reports created

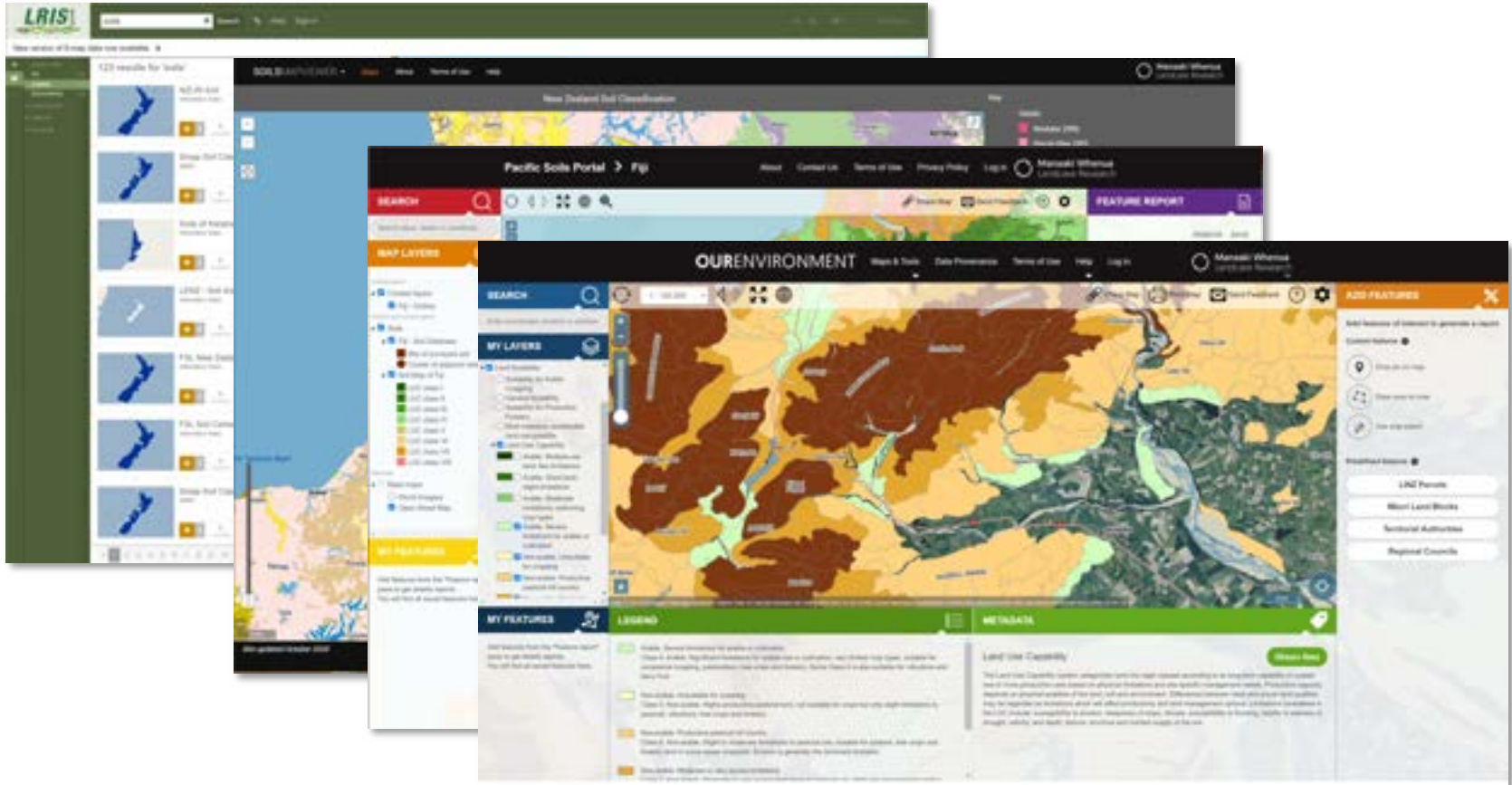
Over the last 10 years...

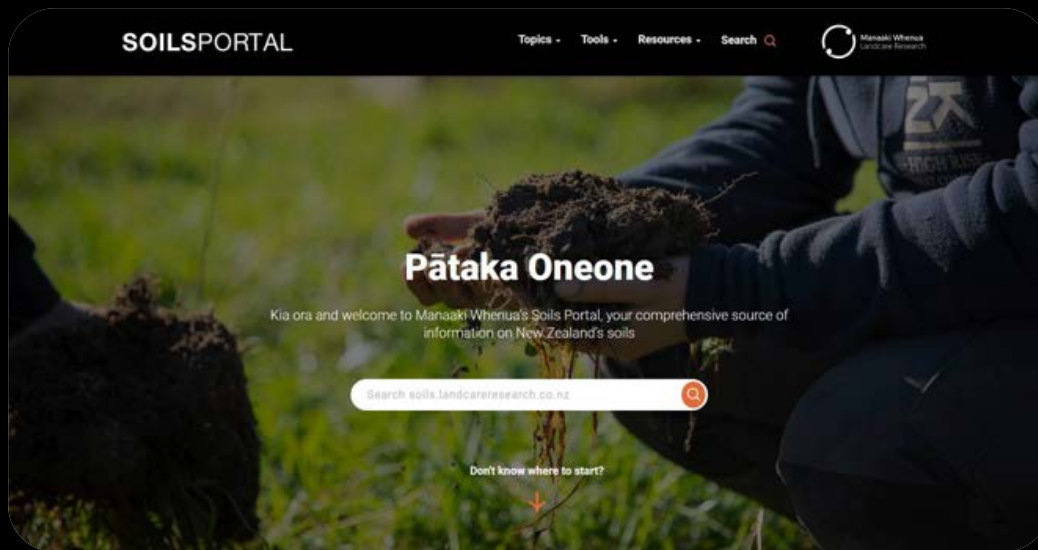
- 419,000 sessions
- 8m maps viewed
- 313,000 factsheets created
- 25,000 printable maps downloaded

- 
- 88% of surveyed S-map users get their soils information from S-map Online
 - Information is predominantly used by users for crop/pasture production management decisions or planning (including modelling)
 - Private businesses are the most frequent users
 - Soil information is most frequently used in farm nutrient budget or management models, effluent or wastewater management
 - Benefits: saves organisations time, enables a more complete analysis, and makes project work easier

"It's an amazing website that I love to use. It's such a luxury to be able to access this information so easily"

Some of our different online resources...





Introducing MWLR's refreshed Soils Portal





What is the 'Soils Portal'?

- Web-based platform that provides MWLR staff and external users with a **single access point** to New Zealand soils information
- Caters for a wide range of user groups, including soil 'newbies'
- Mix of explanatory information, digital resources, and pathways to relevant soil 'tools'
- FY2020/21: Visited by some 40k people (> 130k page views)
- Operates since 2006 (v1) → Major reworking in 2016 (v2) → 2021 (v3)
- Recently upgraded by MWLR Soils & Landscapes and Informatics teams, in collaboration with Mint Design, Christchurch



New features of the upgraded soils portal

- Cleaner content structure

The screenshot displays the SOILSPORTAL website interface. At the top, a black navigation bar contains the site title 'SOILSPORTAL' on the left, a menu with 'Topics - Tools - Resources -' in the center (highlighted with a red box), a search icon on the right, and the Manaaki Whenua Landcare Research logo on the far right. Below the navigation bar, the main content area is organized into a grid of eight topic cards, each featuring an icon, a title, and a list of sub-topics.

Topic	Sub-topics
Understanding soils	<ul style="list-style-type: none"> What exactly is 'soil'? Why bother about soils? Get dirty How do soils form? NZ soils in a nutshell Soil characteristics explained
Soils in te Ao Māori	<ul style="list-style-type: none"> Te Ao Māori: History Māori names Māori agriculture Te Ao Māori: References Te Ao Māori: Resources
Soil classification	<ul style="list-style-type: none"> NZSC NZ legacy systems US Soil Taxonomy World Reference Base for Soil Resources
Soil survey	<ul style="list-style-type: none"> Soil survey - the basics Current and upcoming soil surveys Scale matters: one size does not fit all Towards a New Zealand soil mapping standard
Soil data	<ul style="list-style-type: none"> Making sense of soil data How are soils data generated? New Zealand soil data Pacific soil data Antarctic soil data
Soil health and soil quality	<ul style="list-style-type: none"> Soil and ecosystem health Soil quality monitoring State of NZ soils
Soil functions	<ul style="list-style-type: none"> Soils and land use Soils and water Soils and biodiversity Soils and climate Towards sustainable soil management
Soils at Manaaki Whenua	<ul style="list-style-type: none"> Our facilities Our people Our publications Our projects Our research capabilities



New features of the upgraded soils portal

- Better user guidance: Tailoring information to different users

Our Resources

Soil maps Soil data Soil publications

For land managers For students

For teachers For resource managers

For soil 'beginners' Mā Ngā Mātanga Māori

For scientists

The screenshot shows a user interface for 'Our Resources'. It features three main resource categories: 'Soil maps' (represented by a map), 'Soil data' (represented by soil samples), and 'Soil publications' (represented by books). Below these categories is a red-bordered box containing a list of user-specific filters, each with a plus icon to its right. The filters are: 'For land managers', 'For students', 'For teachers', 'For resource managers', 'For soil 'beginners'', 'Mā Ngā Mātanga Māori', and 'For scientists'.



New features of the upgraded soils portal

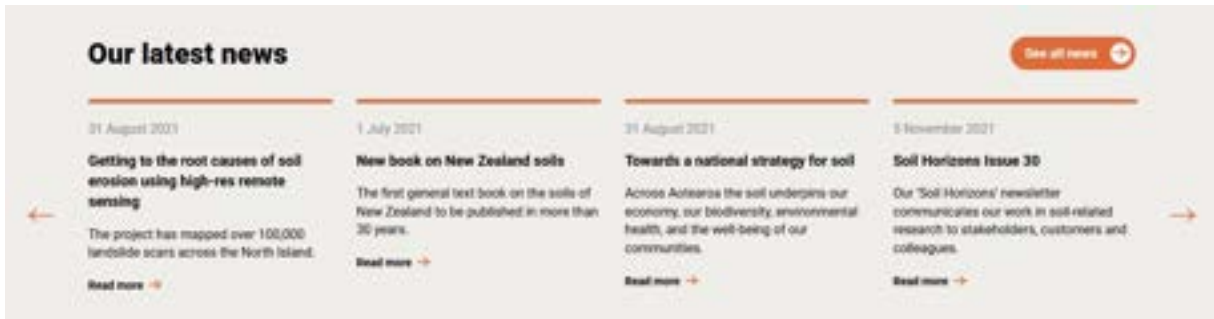
- Better user guidance: Content 'quiz'





New features of the upgraded soils portal

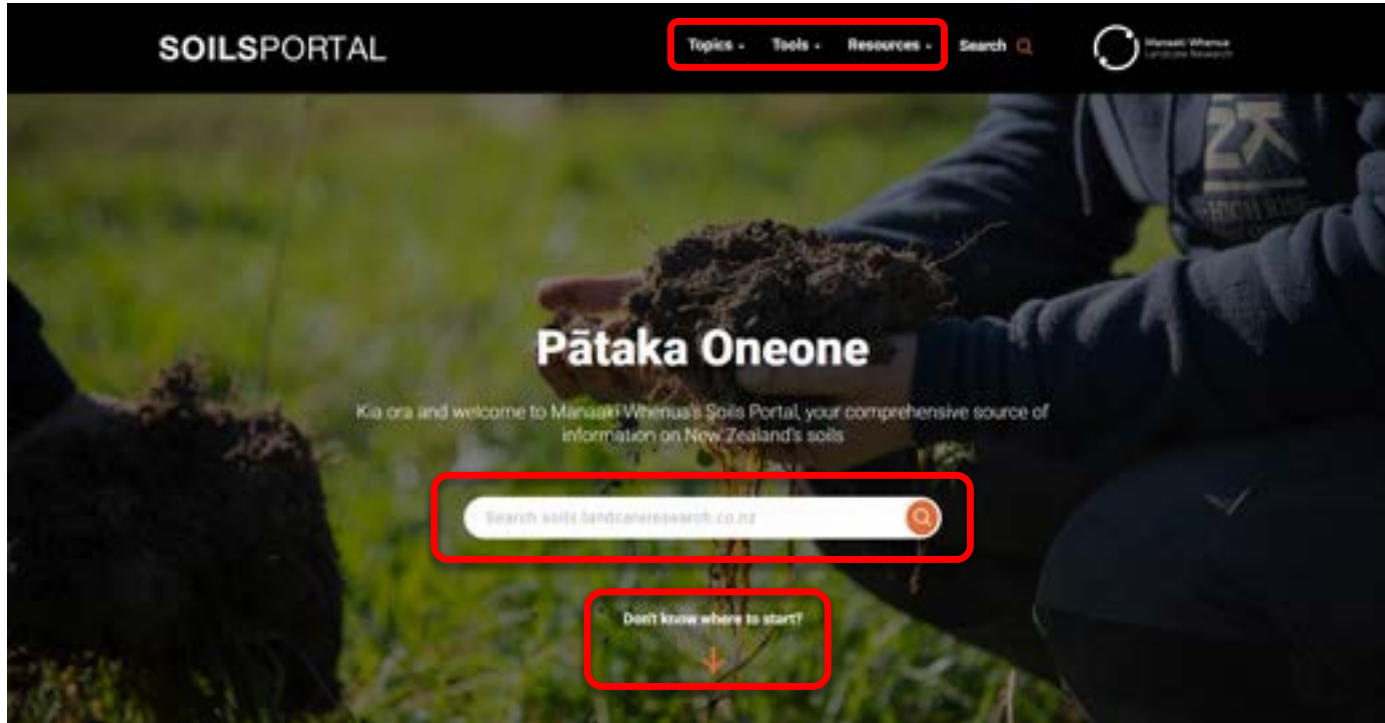
- New content





Navigating the Soils Portal

- Use the top navigation, try the search bar, or simply scroll the homepage

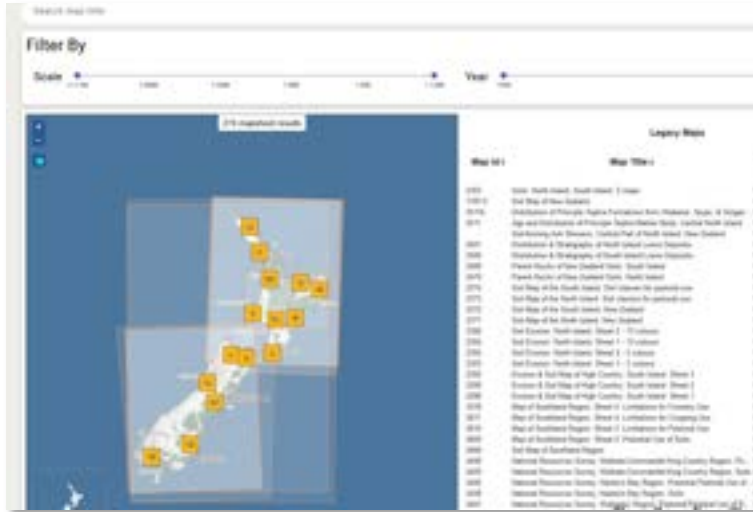




Custodianship for our intergenerational soils knowledge

Legacy Map Viewer

NZSSS 'Soil News' archive just uploaded to MWLR Digital Library





Get involved!

 **New Zealand Soils**
Manaaki Whenua - Landcare Research **DATABASES**

[ALL DATABASES](#) [SOILS PORTAL](#) [SOIL NAMES](#) [SOIL DATA](#) [PUBLICATIONS](#) [ABOUT](#) [FEEDBACK](#) [HELP](#)

New Zealand Soils Portal

Welcome to the **New Zealand Soils Portal** - your window to all things about New Zealand's soils.

The Soils Portal is one of a growing number of specialist subject portals being released by Landcare Research. These portals are tightly integrated with an [on-line mapping portal](#) so that you can easily switch between descriptive information about soils to maps of their distribution and back to explanations of what is on the maps. Each portal augments and compliments the others and collectively they provide a un rich and authoritative resource about New Zealand's natural heritage.

The Soils Portal not only provides access to Nationally Significant Soils Databases, held by Landcare Research such as **National Soils Database**, **Fundamental Soils Layers**, the **New Zealand Land Resource Inventory** and **Digital Soil Surveys** but also a wealth of explanatory information about current and historical soil naming schemes used in New Zealand.

The Soils Portal will always be a work-in-progress. We are committed to expanding the information that is available and are interested in your suggestions, so please use the feedback tab at the top of each page to tell us your ideas.

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Future plans

- Saving Antarctic soil data legacy
 - 'Frozen assets – Enabling access to Aotearoa's Antarctic soils heritage' - Lottery Funded
- Extending S-map coverage
- LUC improvements
 - New LUC reports in Our Environment - Land Environments Atlas of New Zealand web tool
- Land resources portal
- NSDR – refresh ways to access data

S-map soil survey
planned coverage areas
(as of November 2021)





Acknowledgements

- The Informatics team that built and operate the services
- Our soil scientists – past and present
- Library staff

- ✓ MBIE funding (National Significant Databases), S-map funders (Regional Councils, MPI, business)



Web resources

Resource	URL
Soils Portal	https://soils.landcareresearch.co.nz/
S-map Online	https://smap.landcareresearch.co.nz/
LRIS Portal	https://lris.scinfo.org.nz/
Soil Map Viewer	https://soils-maps.landcareresearch.co.nz/
Pacific Soils Portal	https://psp.landcareresearch.co.nz/
National Soils Data Repository	Contact nsdr@landcareresearch.co.nz
Our Environment	https://ourenvironment.scinfo.org.nz/