

Natural Systems



Mapping Soil Carbon Across Saskatchewan Cropland



Understanding how carbon is stored in agricultural soils is essential for long-term land stewardship and informed farm management. A four-year research initiative (2025 to 2029), supported by the provincial and the federal government through the Agriculture Development Fund (ADF), is focused on quantifying and modelling soil organic carbon across Saskatchewan's croplands.

This research measures soil organic carbon and soil texture across Saskatchewan's cropland to generate detailed maps showing how these soil characteristics vary across the province. Effects of land use and climate on soil organic carbon will be modelled and used to develop predictive models to estimate changes in carbon stocks under different future scenarios.

The work is led by the University of Saskatchewan in collaboration with Agriculture and AgriFood Canada and the Global Institute for Food Security, with \$290,400 in ADF funding and additional support from the Saskatchewan Oilseeds Development Commission and the Saskatchewan Wheat Development Commission.

Why It Matters

Healthy soil is essential for productive crops and stable agricultural systems. This research strengthens Saskatchewan's ability to track changes in soil carbon and improve emissions stewardship across the agriculture sector. The findings support informed farm management practices, help maintain soil productivity under variable weather conditions and contribute to the long-term sustainability of Saskatchewan's cropland.

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