

Wind Erosion Risk of the Agricultural Area of Alberta

Description

This map displays the risk of soil degradation by wind in the agricultural region of Alberta. Wind erosion is a concern because it reduces soil quality by removing soil nutrients, smaller soil particles and organic matter. Wind erosion can reduce air quality during extreme erosion events and also reduce water quality if eroded particles drift into streams and lakes.

The map uses five classes to describe the wind erosion risk on bare, unprotected mineral soil: negligible, low, moderate, high and severe.

Data sources

This is a 1:3 000 000 scale representation of a map titled *Wind Erosion Risk, Alberta* by Coote and Pettapiece (1989). The original 1:1 000 000 scale map used the Soil Landscapes of Canada (SLC) polygons to display the soils information.

SLC polygons were created using existing soil survey information. Each polygon is described by a standard set of soil and land attributes that characterizes the soil landscapes found in each SLC polygon. Soils, landscapes and climate are the key natural resource factors that determine agricultural productivity, and the farms within a soil landscape unit usually have similar production characteristics.

Wind Erosion Risk, Alberta used SLC information as well as information on wind speed, soil resistance to movement and available moisture. These factors were used to estimate the long-term risk of wind erosion on bare, unprotected soils.

Potential uses

This map illustrates that some areas of the province have a greater potential for wind erosion based on soil and land characteristics of the SLC and climatic conditions. By understanding that some areas of the province have a greater risk of wind erosion than others, beneficial management practices that reduce the effects can be directed to these areas. For example, practices that maintain a vegetative cover (e.g. perennial forages or crop residues), reduce cultivated fallow, reduce or eliminate tillage, use field shelterbelts and avoid overgrazing, could be promoted in high-risk areas.

Limitations

The map is intended for interpreting wind erosion risk in general classes useful at the regional level only.

Further information

Alberta Agriculture, Food and Rural Development (AAFRD) provides information about wind erosion control, management practices and losses from wind erosion. From the AAFRD website, under Quick Links on the right side, follow: *Publications & More*, then *Soils and Water Publications*. www.agric.gov.ab.ca

Coote, D.R. and Pettapiece, W.W. 1989. *Wind Erosion Risk, Alberta*. Land Resource Research Centre, Research Branch, Agriculture Canada. Publication 5255/B. Contribution Number 87-08.

Scroll down to view map

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Risk of Wind Erosion on Bare, Unprotected Mineral Soil

