FORAGE REPORT: ERODIBLE SOILS - BURDEKIN CATCHMENT

http://www.longpaddock.qld.gov.au/forage *March 1, 2017* *Lot on Plan: 1OC57* *Label: Sample*

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Introduction

This report contains three maps of overall soil erodibility (map 1), surface soil stability (map 2) and subsoil erodibility (map 3). This information was produced specifically for the Burdekin catchment. The red cross on the map shows your location within the catchment.

Soil erodibility on these maps is the likelihood that a particular soil is susceptible to erosion and is going to slake and / or disperse.

The maps were produced for regional or sub-catchment investigations, for example comparing soils in major tributaries of rivers and not at a property scale. The maps were produced at a scale of 1:250,000 at this scale 1cm represents 2.5km.

Location map

About the maps

These maps were developed to characterise soils into increasing degrees of erosion vulnerability using a limited set of locally relevant soil properties. The actual extent to which a soil erodes is also influenced by non-soil factors such as land cover, landscape position, climate and land management practices. These factors are not included in these maps.

When considering the soils vulnerability to erosion, both surface soil stability and subsoil erodibility need to be considered. For example, some soils have protective stable surface soils overlying erodible subsoils while other soils have erodible surface soils over erodible subsoils. The table below describes the overall soil erodibility as shown in map 1, in terms of locations of surface soil stability (map 2) and subsoil erodibility (map 3). As you move to the right of the table the potential erodibility of the surface soil increases, correspondingly as you move down the table the potential erodibility of the subsoil increases. As such soils in the bottom right of the table have the potential to be more erodible than those soils in the top left. The colour in each cell corresponds with the legend colours of each particular soil characteristic within each map.

Information on soil erosion is available from www.qld.gov.au/environment/land/soil.

A userguide is available from the Department of Environment and Heritage Protection Library service at https://publications.qld.gov.au/dataset/burdekin-digital-soils-mapping-bdsm. GIS data in the form of 100m raster surfaces of Overall, surface and subsoil erodibility is available for free download from Queensland Government Data portal at www.data.qld.gov.au.

Surface soil stability (Map 2)

Increasing surface soil erodibility

Subsoil dispersibility (Map 3)

Increasing subsoil erodibility

	Moderately stable surface soils	Non-cohesive surface soils	Dispersive surface soils	Highly erodible surface soils
Rock	Loamy to clayey soils over rock	Sandy massive surface soils over rock	Weakly dispersive clay soils	Clayey soils that erode and/or slake readily
Non-dispersive subsoils	Loamy to clayey soils over non-dispersive subsoils	Sandy massive surface soils over non-dispersive subsoils		Clayey surface soils that erode and/or slake over weakly dispersive subsoils
Weakly dispersive subsoils	Loamy to clayey soils over weakly dispersive clay subsoils	Sandy massive surface soils over weakly dispersive subsoils		
Moderately dispersive subsoils	Loamy to clayey soils over moderately dispersive clay subsoils	Sandy massive surface soils over moderately dispersive subsoils	Moderately dispersive clay soils	Clayey surface soils that erode and/or slake over moderately dispersive subsoils
Highly dispersive subsoils	Loamy to clayey soils over highly dispersive clay subsoils	Sandy massive surface soils over highly dispersive subsoils	Dispersive loamy or clayey surface soils over highly dispersive clay subsoils	Clayey surface soils that erode and/or slake over highly dispersive subsoils

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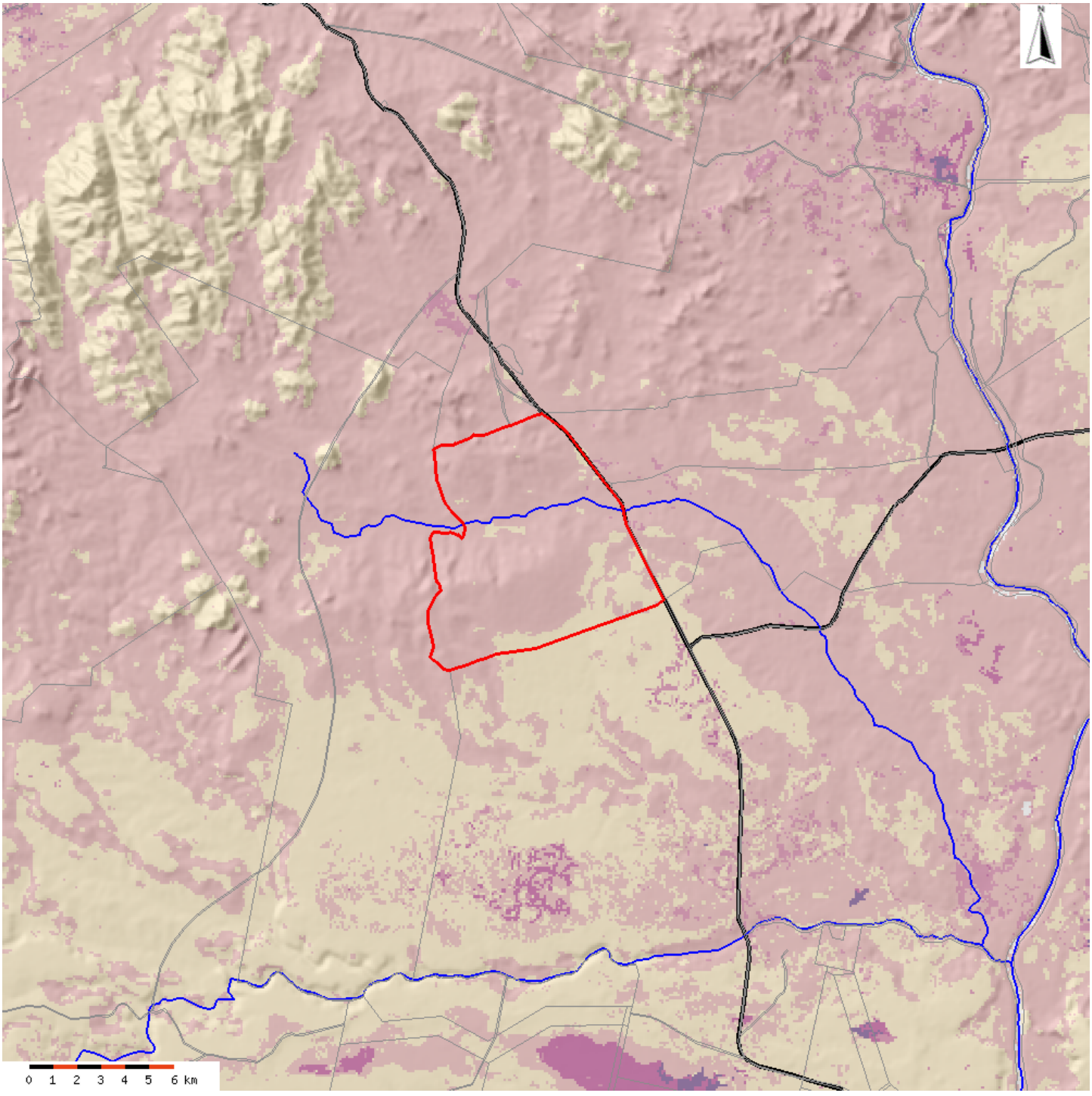
Overall soil erodibility

Soils have been ranked into five broad categories of erodibility (very low to very high). They have been derived from a combination of surface soil stability and subsoil erodibility. The table on the first page shows the possible combinations. Using the Table in the About the Maps section and Maps 2 and 3, you can determine the soils likely to occur.

Map 1 - Overall soil erodibility ranking



Not assessed

Very low erosion vulnerability

Low erosion vulnerability

Moderate erosion vulnerability

High erosion vulnerability

Very high erosion vulnerability

DCDB Rivers Roads Selected property/Lot on Plan

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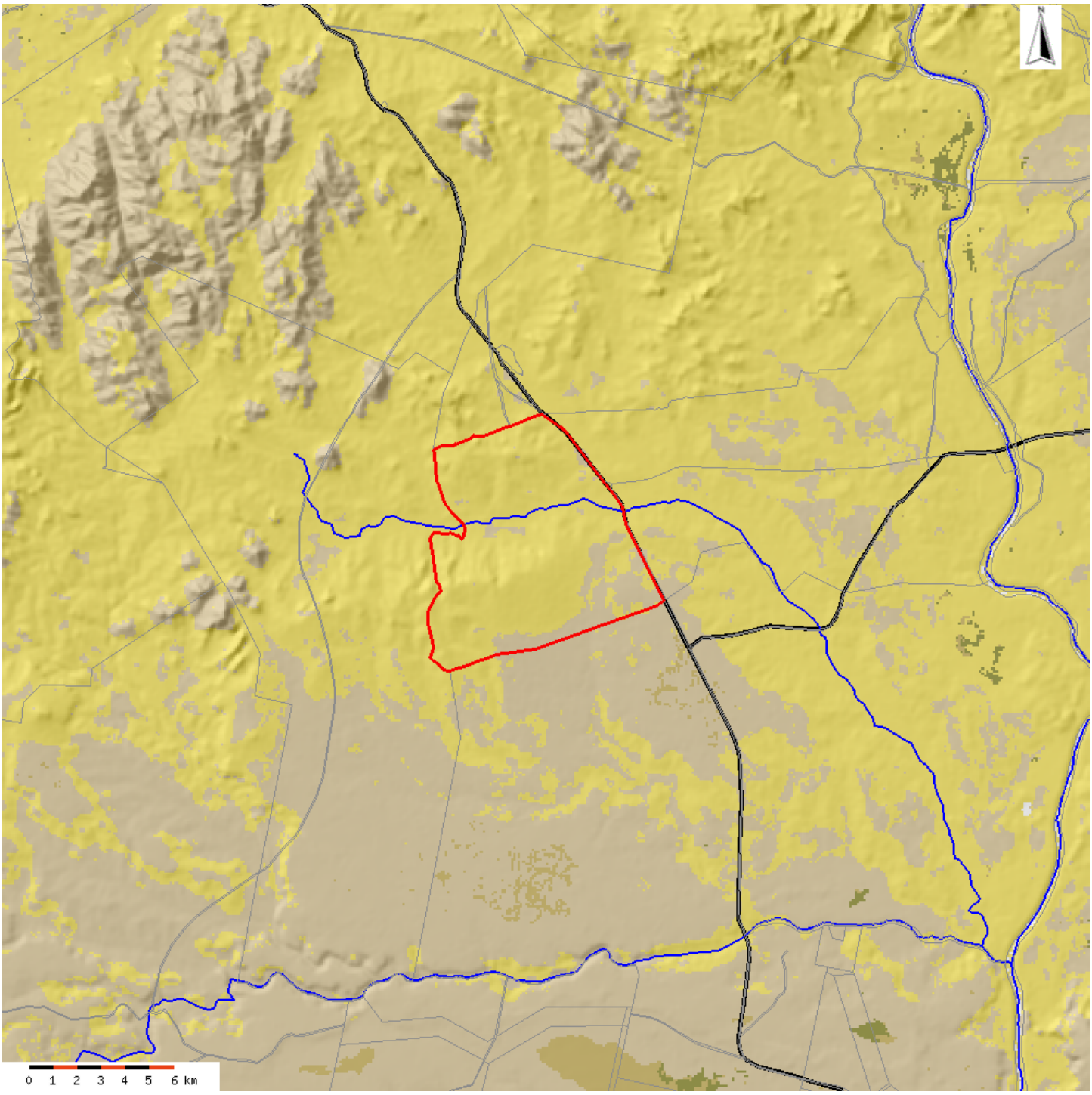
Surface soil

The surface soils have been classified into the following four categories. These categories generally relate to increasing surface soil erodibility:

1. Moderately stable surface soils are usually structured and resilient to degradation .
2. Non-cohesive surface soils are sandy soils that are not structured or only weakly so and non-cohesive. These soils are easily eroded.
3. Dispersive surface soils are loamy or clayey soils that are sodic, hardsetting and are likely to disperse in water.
4. Highly erodible surface soils are clayey soils that are sodic and dominated by shrink/swell clays that readily disperse.

Map 2 - Surface soil stability



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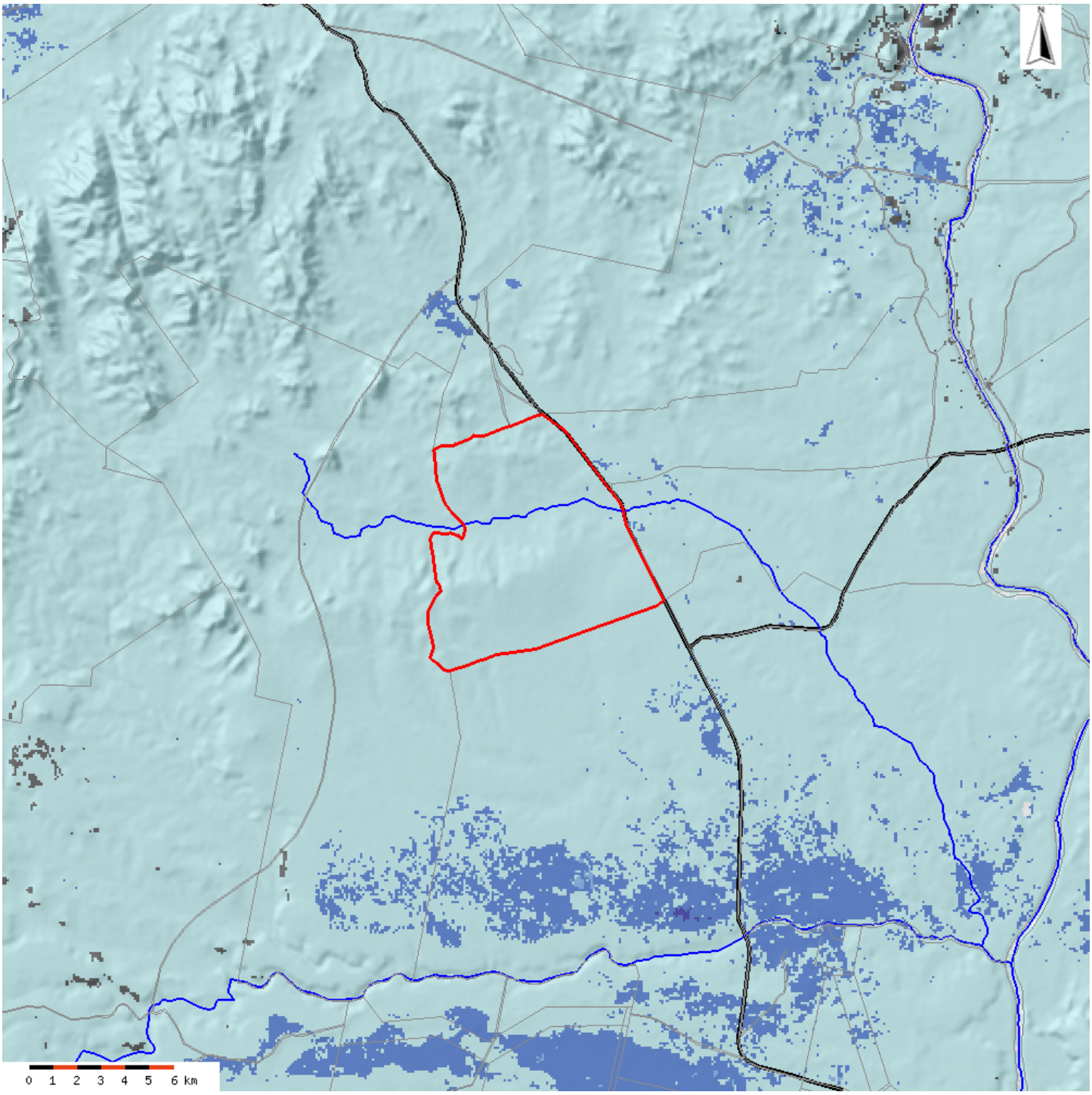
Subsoil

The subsoils have been classified into the following four categories:

1. Non-dispersive subsoils that are non-sodic or only weakly sodic and are unlikely to disperse.
2. Weakly dispersive subsoils are sodic subsoils that are saline or dominated by carbonate nodules that prevent these subsoils from dispersing readily.
3. Dispersive subsoils are sodic subsoils that disperse readily.
4. Highly dispersive subsoils are sodic subsoils that are also dominated by magnesium ions that enhance the dispersive affect.

Map 3 - Subsoil dispersibility