

A Hydric Soil Tool for Wetland Delineation



Hydric soil - definition

Soils that have formed under conditions of saturation, flooding or ponding that has caused anaerobic (low oxygen) conditions in at least the upper 30 cm of the soil (based on Federal Register, 1994)

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Overview

- Most NZ soils are easy – 80:20 rule
- Look at existing soil information
- Understand soil-landscape relationships and processes
- Colour is fundamental
- Some soils may require a pedologist



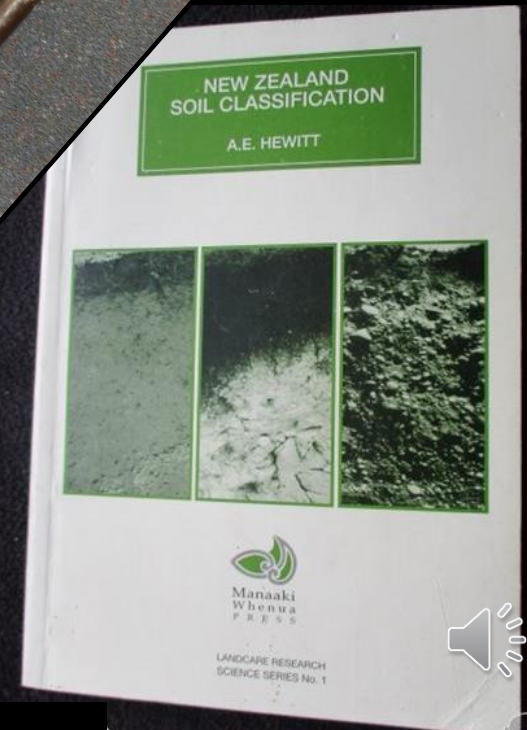
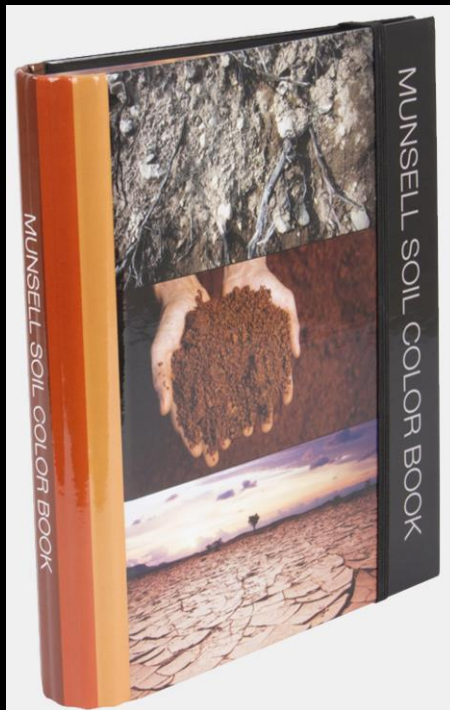
Soil Information/tools



<https://iris.scinfo.org.nz/>

<https://smap.landcareresearch.co.nz/>

Existing soil databases are patchy in scale, age and quality. Many maps do not adequately describe the underlying properties of the soil types they represent. S-map integrates existing reports and digital information and updates soil maps where existing data are of low quality. Our goal is to provide comprehensive quantitative soil information to support sustainable development and scientific modelling.

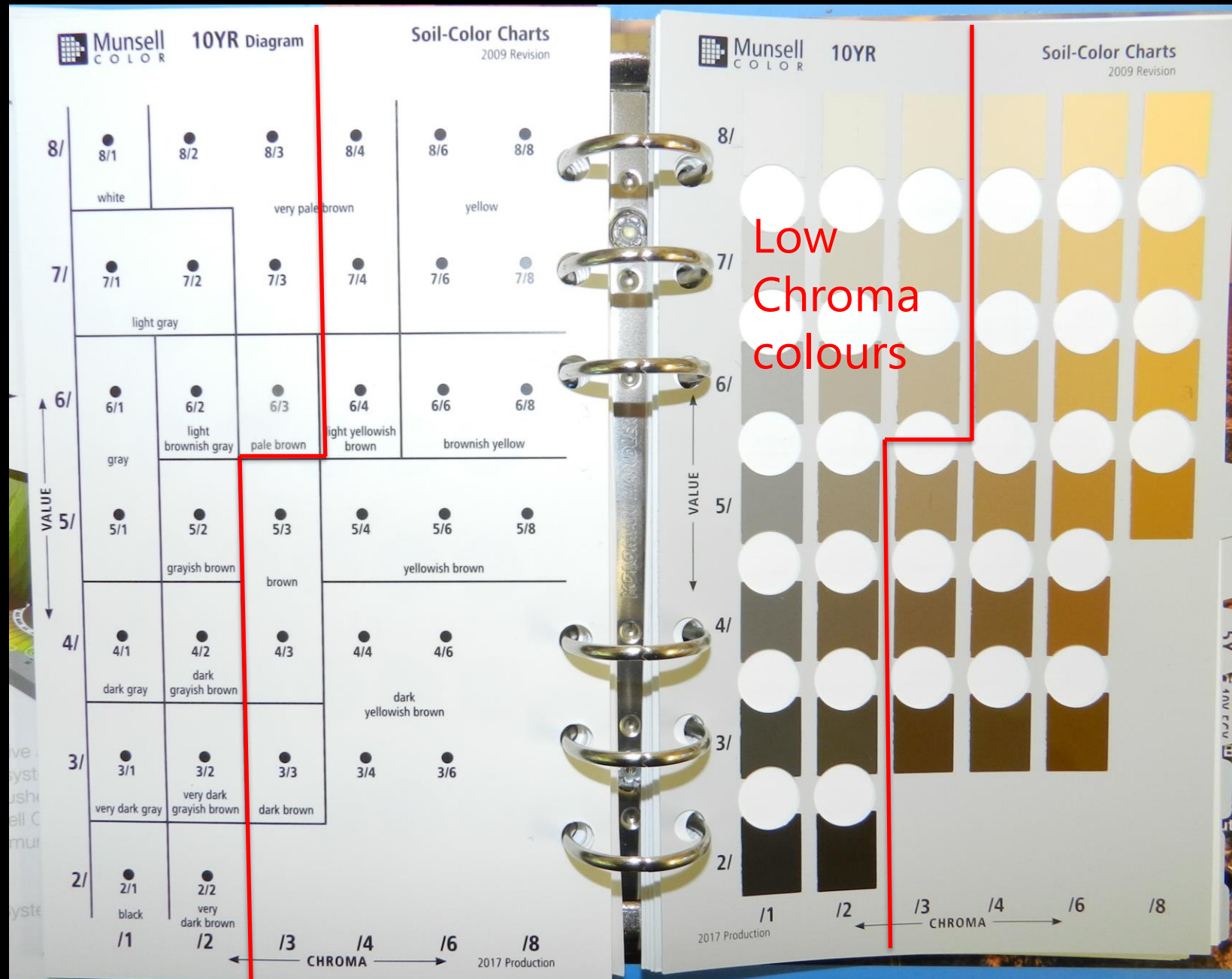


Understanding soil-landscape relationships



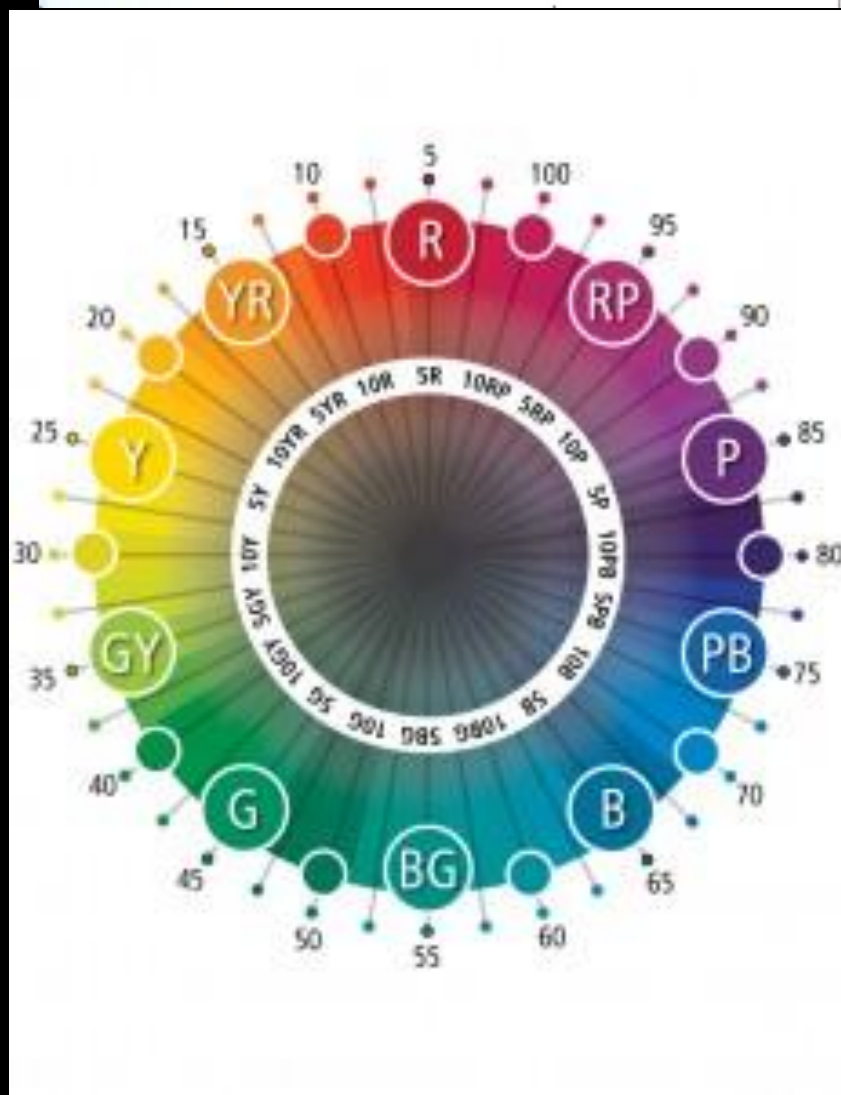
Understanding soil-landscape relationships







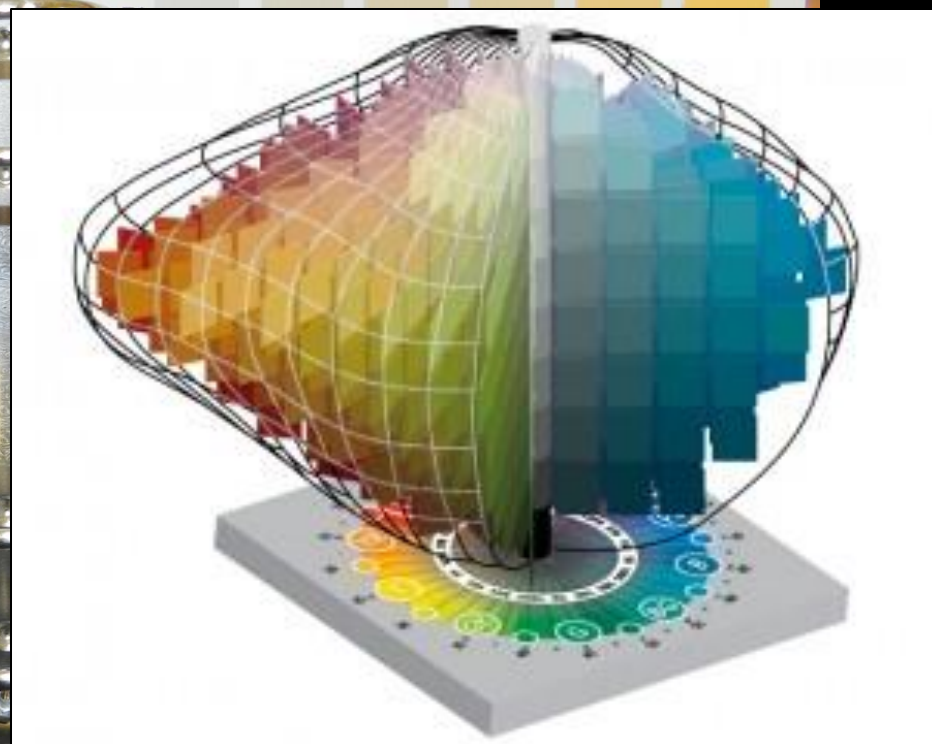
10YR Diagram

Soil-Color Charts
2009 Revision

10YR

Soil-Color Charts
2009 Revision

8/



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/1

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/6

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2017 Production

CHROMA

2017 Production



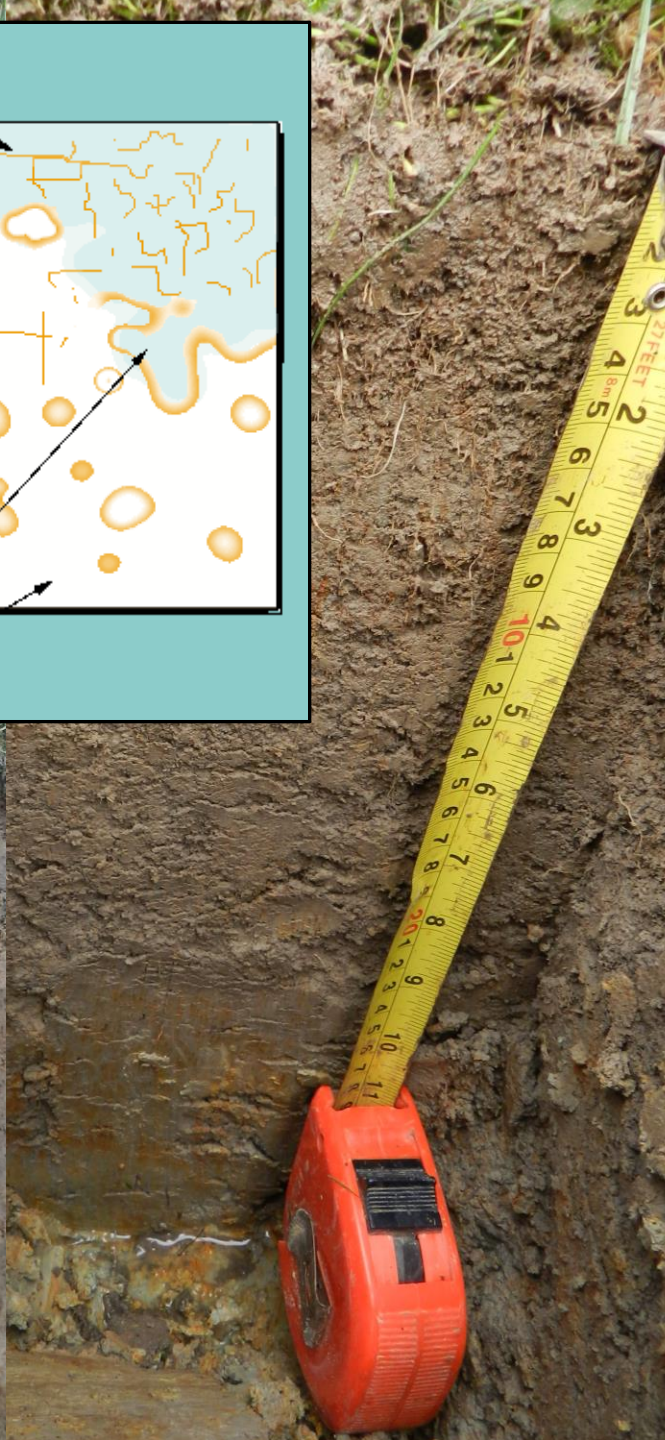
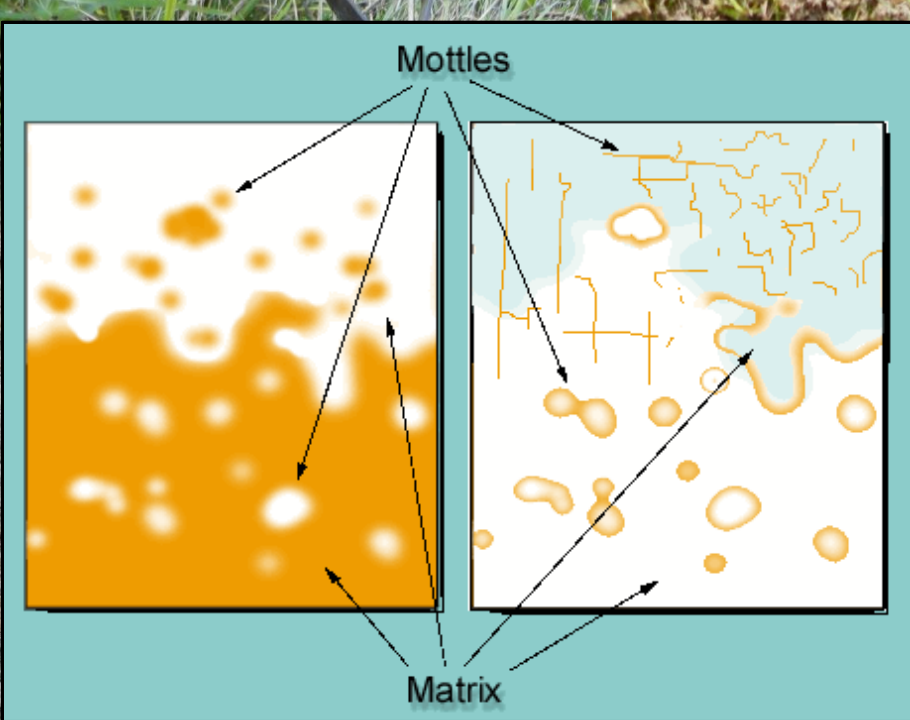


**Low
Chroma
Colours**

**High
Chroma
Colours**

25.11.2013







27.10.2017 14:02



Peat/Organic Soils



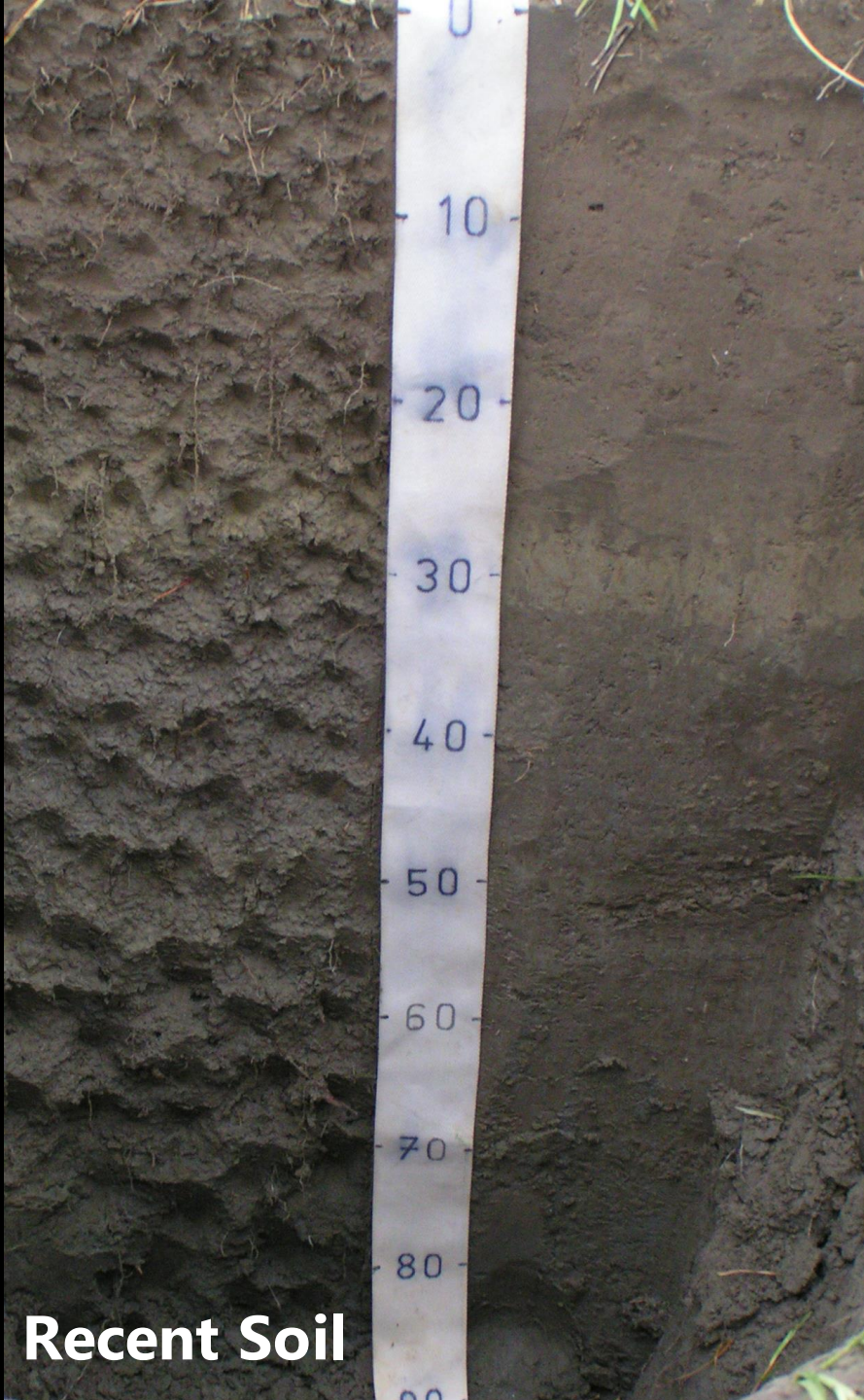
Landscape transect showing soil colour transition



26.01.2018 15:3



Recent Soil



Recent Landscapes



Recent Landscapes



Podzols

E horizons

Podzolic horizons

Ultic Soils

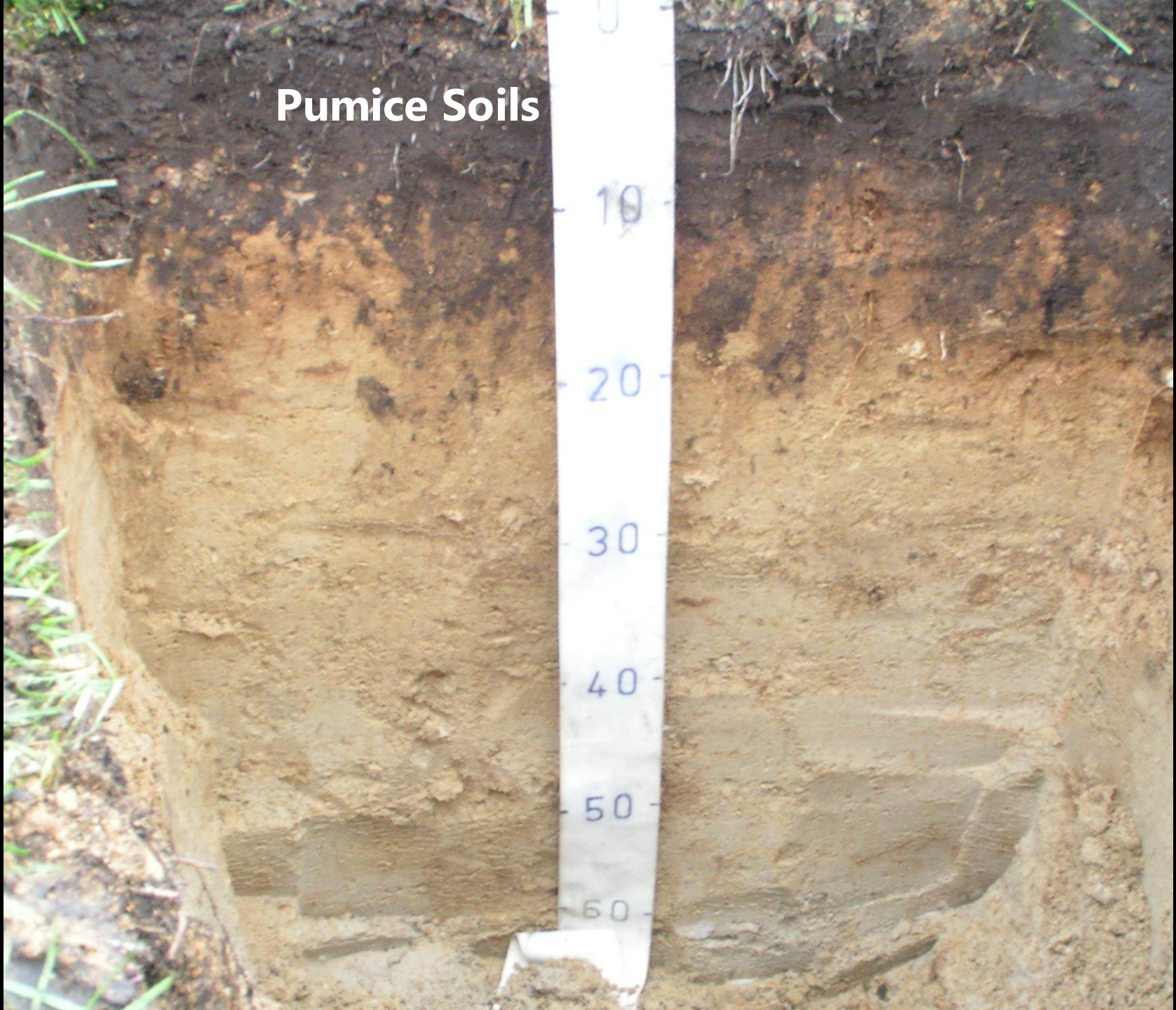
Pan (Ed)



Podzol/Ultic Landscape



Pumice Soils



Pumice Soils



17.07.2017 13:3



Pumice Soils



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Summary

- Look at existing soil information
- Think about soil-landscape relationships and processes
- Colour is the most important soil feature
- Some soils are difficult due to pale parent materials or leaching processes

