



Manaaki Whenua
Landcare Research

PBC - Predicted Background Soil Concentrations, New Zealand

Title

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Date

2016-06-01

Description

The Predicted Background Concentration (PBC) shapefile contains spatial information on the effective median, and 95th quantile estimates of the background concentration (mg/kg) of arsenic, cadmium, chromium, copper, lead, nickel and zinc across New Zealand. These background concentrations were developed for a geological unit classification, Chemical4, originating from GNS Science's QMAP 1:250 000 Geological Map of New Zealand GIS dataset (Heron 2014). Chemical4 is based on the QMAP ROCK_GROUP classification but further subdivides some on an age basis ie older sedimentary rocks from their Miocene and younger rock and sediment equivalents (Maui and Pakihi supergroups, Mortimer et al. 2014). The number of samples in each Chemical4 subgroup for which predictions are made is also provided. Predictions for Chemical4 subgroups with few underlying samples (nThese data are intended to provide an initial assessment of background soil concentrations at locations that are being assessed for use as clean-fills or managed fill or for the assessment of contaminated land. Source: These background soil concentration predictions were developed from geostatistical analysis of trace element data from regional councils, national soils database and GNS Science identifying associations with geological parameters adapted from the GNS Science QMAP geological map dataset. The premise being that underlying geology is generally regarded as a major contributor to the geochemical signals in soils and surficial material. Full details of the development of these data is provided in 'Cavanagh et al 2016.pdf'. See 'PBC_FieldsDescription.xlsx' for a description of the fields in the attribute table. ReferencesHeron DW (custodian) 2014. Geological map of New Zealand 1:250,000. GNS Science geological map 1. Lower Hutt, New Zealand, GNS Science. Mortimer N, Rattenbury MS, King PR, Bland KJ, Barrell DJA, Bache F, Begg JG, Campbell HJ, Cox SC, Crampton JS, Edbrooke SW, Forsyth PJ, Johnston MR, Jongens R, Lee J, Leonard GS, Raine JI, Skinner DNB, Timm C, Townsend DB, Tulloch AJ, Turnbull IM, Turnbull RE 2014. High-level stratigraphic scheme for New Zealand rocks. New Zealand Journal of Geology and Geophysics 57: 402–419.

Coverage

-47.422676 166.261699 -34.008452 179.501318

Identifier

<https://iris.scinfo.org.nz/layer/48470-pbc-predicted-background-soil-concentrations-new-zealand/>

Type

vector

Subject

New Zealand

Subject

2016

Subject

Soil, Trace Elements, Contaminants, Arsenic, Chromium, Cadmium, Zinc, Lead, Copper,
Nickel, Geology, Q-map

Subject

Downloadable Data

Subject

farming

Subject

environment

Subject

geoscientificInformation