Prediction of wetlands before humans arrived

Title

Prediction of wetlands before humans arrived

Creator

Environmental Reporting, Ministry for the Environment and Statistics New Zealand

Date

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Description

"Wetlands support unique biodiversity and provide important services. They clean water of nutrients and sediment, help dampen floods, provide habitat, and act as carbon sinks. They are also valued for their spiritual and cultural significance and as important sources of food and materials, such as flax. Draining them for agricultural and urban development has reduced their extent. Understanding this reduction provides insight into the loss of biodiversity and natural function. This dataset relates to the ""Wetland extent"" measure on the Environmental Indicators, Te taiao Aotearoa website. "

Source

Source: Landcare Research Method: "Freshwater wetlands in New Zealand include permanently or intermittently wet areas, shallow water or land/water margins that support a natural community of plants and animals adapted to living in wet conditions (Resource Management Act 1991). They occur in a wide variety of locations ranging from estuaries to mountain tops. The current (2008) and predicted pre–human extent of wetlands were mapped at 1:50,000 to a minimum size of 0.5ha. Seven classes of wetlands were mapped according to their function. Fuzzy expert rules were used to identify: bog, fen, inland saline, marsh, pakihi/gumland, seepage, and swamp based on Johnson and Gerbeaux (2004). Ephemeral wetlands, saltmarsh, and shallow water wetlands were not mapped. The historic extent was predicted from the national Fundamental Soil Layers (FSL) database, and refined using a 15m digital elevation model derived from digital 20m contours. Geographical Information System (GIS) rules were used to identify wetland soils based on the soil survey descriptions that included drainage properties, presence of peat, and the presence of wetland vegetation. Soil drainage is divided into five classes in the FSL, from poorly drained (class 1) to well–drained soils (class 5). Soils in classes three to one were considered to have a high probability of having been wetland. The current extent was mapped using 26 Landsat Enhanced Thematic Mapper (ETM+) satellite imagery and wetland point and polygon data collated from recent surveys, field work or photo–interpretation held by local and central government. Point and polygon data were checked against the satellite imagery and the wetland boundaries corrected or delineated using the imagery (Ausseil et al 2008). The accuracy of the data source is of medium quality. References: Ausseil, A–GE, Gerbeaux, P, Chadderton, WL, Stephens, T, Brown, DJ, & Leathwick, J (2008). Wetland ecosystems of national importance for biodiversity: Criteria, methods and candidate list of nationally important inland wetlands. Landcare Research Contract Report LC0708/158 for the Department of Conservation. Johnson, P & Gerbeaux, P (2004). Wetland types in New Zealand. Available from www.doc.govt.nz. Resource Management Act (1991). Available from www.legislation.govt.nz. "

Coverage

-47.2550214171 166.429149911 -34.4167566854 178.542648017

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