

The Impact of Prehistoric and Historic Mining Activities on the Vegetation of the Kitzbühel Region

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Ancient digging and processing of mineral resources had a long-lasting impact on the environment in the Eastern Alps which archaeological evidence is still visible today. In particular during the Bronze Age and the Early Modern Times this region developed to a prominent mining landscape meeting the copper and silver demand of a large part of Europe. The adequate supply with commodities of the Alpine mining districts and consequently the environmental impact of the exploitation of ore deposits is poorly understood up to now. The high demand of wood for construction and energy purposes as well as agricultural commodities let expect extent forest clearings in the vicinities of mining districts. Here we present an interdisciplinary study on the effects of Bronze Age mining on the vegetation by combining archaeological, palynological and geochemical data. The area under investigation is the region of Kitzbühel – a prominent copper and silver ore deposit in the Tyrolean Greywacke zone – which was exploited during the Bronze Age, Mediaeval and Early Modern Times. We analyzed three peat deposits to evaluate the expected clearings by mining activities: one is located in the immediate vicinity of a mine, whereas two peat deposits are situated in its wider vicinity. The pollen analyses corroborate the expected clearings, whereas archaeological findings and geochemical data substantiate that mining activities are responsible for these vegetation changes.