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GIS - PEATLAND MAPPING BASED ON DISCONTINUOUS DATA - THE EXAMPLE OF NORTHERN JUTLAND (DENMARK)

Cosima Tegetmeyer¹, Alexandra Barthelmes^{1*}, Mette Risager² and Hans Joosten¹

¹ *Greifswald University, Department for Botany and Landscape Ecology, Soldmannstraße 23, 17487 Greifswald, Germany*

² *Risager Consult, Gl. Viborgvej 418, Ålum 8920 Randers NV, Denmark*

**Corresponding author: abarthelmes@gmx.de*

The Greenhouse gas (GHG) emissions from drained peatland, especially in peatland-rich countries (e.g. Iceland, Finland, the Baltics, Indonesia and Mongolia) can amount to a substantial proportion of the total annual emissions reported to the UNFCCC. Thus, the elaboration of area data that is in line with IPCC requirements is key. For this, it is necessary to include all peatlands and organic soils that have been drained (for any reason), regardless of whether the active land use has already ceased. The following need to be known: 1) the total peatland or organic soil area, 2) the extent of drainage (any ditches), 3) the extent of land use categories Forest Land, Cropland, Grassland and Peat Extraction. We use the example of Northern Jutland (Denmark) to illustrate redundant shortcomings that hamper the assessment of appropriate area data according to IPCC: a lack of comprehensive peatland or organic soil data on national scale, the use of inappropriate datasets instead (e.g. EU subsidy schemes) or the exclusion of still drained (and emitting) peatlands and organic soils that have been turned, for example, into nature protection sites. This sometimes fragmentary and land use biased national data need to be evaluated based on ancillary data bases (e.g. from geology), expert knowledge and remote sensing data (digital elevation model and satellite images). Through implementation of this mapping approach we developed a new organic soil map for Northern Jutland that is stratified according to the necessary land use categories for emission reporting under UNFCCC. This assessment was complicated due to the fact that Danish peatlands and organic soils are highly affected by drainage, degradation and subsidence resulting from centuries of intensive drainage and use.

Keywords: *Denmark, GIS-peatland mapping, ancillary data, data synthesis, UNFCCC*