Data from: Using legacy data to reconstruct the past? Rescue, rigor and reuse in peatland geochronology

Authors:

Cindy Quik[1], Ype van der Velde[2], Tom Harkema[1], Hans van der Plicht[3], Jim Quik[4], Roy van Beek[1,5], Jakob Wallinga[1]

[1] Soil Geography and Landscape Group, Wageningen University, Wageningen, the Netherlands
[2] Faculty of Science, Earth and Climate, Vrije Universiteit Amsterdam, Amsterdam, the Netherlands
[3] Centre for Isotope Research, University of Groningen, Groningen, the Netherlands
[4] Freelance programmer, Wageningen, the Netherlands
[5] Cultural Geography Group, Wageningen University, Wageningen, the Netherlands

ORCIDs
Cindy Quik	0000-0002-7112-0195
Ype van der Velde	0000-0002-2183-2573
Tom Harkema	0000-0003-4922-5078
Hans van der Plicht	0000-0003-4298-7037
Jim Quik	-
Roy van Beek	0000-0002-0726-6974
Jakob Wallinga	0000-0003-4061-3066

Corresponding author:
Cindy Quik

Contact information:
cindy.quik@wur.nl

Wageningen University - Soil Geography and Landscape Group
PO Box 47
6700 AA Wageningen
The Netherlands

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⇒ Quik C, Van der Velde Y, Harkema T, Van der Plicht J, Quik J, Van Beek R, Wallinga J. 2021. Using legacy data to reconstruct the past? Rescue, rigor and reuse in peatland geochronology. Earth Surface Processes and Landforms 1–25, DOI: https://doi.org/10.1002/esp.5196.

⇒ Quik C, Van der Velde Y, Harkema T, Van der Plicht J, Quik J, Van Beek R, Wallinga J. 2021. Data from: Using legacy data to reconstruct the past? Rescue, rigor and reuse in peatland geochronology. 4TU.Centre for Research Data. DOI: https://doi.org/10.4121/14406347.

Approach to property rights of the used legacy data:

We have taken utmost care in our reuse of existing data. Our approach to property rights of the used legacy data is explained below.

The legacy dataset contains **313** radiocarbon dates, of which:
1. **269** dates were performed by the Centre for Isotope Research (CIO) at the University of Groningen (The Netherlands) longer than 10 years ago (anno 2021), or less than 10 years ago but published under a CC-BY license.
2. **5** dates were performed by the CIO less than 10 years ago and <u>not</u> published under a CC-BY license.
3. **15** dates were performed by other labs and published under a CC-BY license.
4. **24** dates were performed by other labs and <u>not</u> published under a CC-BY license.

Dates in group 1 or 3 that were published under a CC-BY license may freely be shared and/or adapted.
Source: https://creativecommons.org/licenses/by/4.0/, accessed April 2021.

For dates in group 1 that were performed longer than 10 years ago (anno 2021), the Terms and Conditions of the CIO state that:
"Sample(s) submitted to the CIO for analysis by the Submitter in relation to the analytical services will be archived for at least 10 years, unless marked for return upon submission. Once this 10-year period has lapsed, the CIO, potentially in collaboration with third parties, will be at liberty to utilise the samples for further academic study and to publish any data arising from such research without seeking the permission of the original submitters."
Source: https://www.rug.nl/research/centre-for-isotope-research/customers/general-conditions, accessed April 2021.

For dates from group 2 and 4, we contacted the authors of the publications in which these dates were found. We thank for their kind permission to reuse the dates, and to publish the legacy dataset under a CC-BY license.

Description of the data in this dataset:

The data are grouped in the folders *AutomatedQualityAssessment*, *LegacyData*, *OxCalScripts*, and *StudyArea*. An overview of the files is listed below. For methodological details please refer to the manuscript (see reference above).

AutomatedQualityAssessment

This folder contains the Python script that can be used to run the quality assessment for our legacy dataset or for other datasets, provided that the database structure is used that is proposed in the manuscript (table 1, also available in the folder *LegacyData* with filename 'DatabaseStructureStart'). The files contained in this folder are listed below (TABLE 1).

TABLE 1: File overview for folder 'AutomatedQualityAssessment'.

Filename	Filetype	Description
QualityAssessment_for_publishing	.py	Python script for automated quality assessment.
QualityAssessment_for_publishing	.txt	Same as above.

LegacyData

This folder contains the legacy dataset that was used in the case study presented in the manuscript. A reference list for all reused data is provided, as well as details on the database structure. All files are listed below (TABLE 2).

TABLE 2: File overview for folder 'LegacyData'.

Filename	Filetype	Description
LegacyDataset	.csv	Full legacy dataset as was used in the manuscript (short references are listed, for full references see file 'LegacyDatasetReferenceList').
LegacyDatasetReferenceList	.xlsx	Reference list indicating short references (that were used in the file 'LegacyDataset') and corresponding full references for all used radiocarbon dates.

LegacyDatasetReferenceList	.txt	Same as above.
DatabaseStructureStart	.xlsx	Proposed database structure, listing all headers and their explanation. This template was used in our data collection. In the 'LegacyDataset', additional columns/headers were added later during data analyses (for details see file 'DatabaseStructureEnd').
DatabaseStructureStart	.txt	Same as above.
DatabaseStructureEnd	.xlsx	Explanation of all columns/headers in the file 'LegacyDataset', partly overlapping with 'DatabaseStructureStart' (the additional columns/headers were added during data analyses).
DatabaseStructureEnd	.txt	Same as above.

OxCalScripts

In this folder all the OxCal scripts that were used to generate figures 8 and 9 of the manuscript are available, the files are listed below (TABLE 3).

TABLE 3: File overview for folder 'OxCalScripts'.

Filename	Filetype	Description
KDE_PILT_GreenATM_20201103	.txt	OxCal script on which figure 8a is based. KDE = kernel density estimate, PILT = Peat Initiation Large Trends, Green = data from green confidence level, ATM = Aboveground Terrestrial Macrofossils, 20201103 = year, month, day of scripting.
KDE_PILT_Green_20201103	.txt	OxCal script on which figure 8b is based. KDE = kernel density estimate, PILT = Peat Initiation Large Trends, Green = data from green confidence level, 20201103 = year, month, day of scripting.
KDE_PILT_ALL_20201103	.txt	OxCal script on which figure 8c is based. KDE = kernel density estimate, PILT = Peat Initiation Large Trends, ALL = data from all four confidence levels, 20201103 = year, month, day of scripting.
PILandFPeatlands_unspecified_ALL 20201104	.txt	OxCal script on which figure9c is based. PILandf = Peat Initiation Landforms, Peatlands_unspecified = used landform class, ALL = data from all four confidence levels, 20201104 = year, month, day of scripting.
PILandFPlainsandridgesALL202011 04	.txt	OxCal script on which figure9d is based. PILandf = Peat Initiation Landforms, Plainsandridges = used landform class, ALL = data from all four confidence levels, 20201104 = year, month, day of scripting.
PILandFTopographicdepressionsAL L20201104	.txt	OxCal script on which figure9e is based. PILandf = Peat Initiation Landforms, Topographicdepressions = used landform class, ALL = data from all four confidence levels, 20201104 = year, month, day of scripting.

Filename	Filetype	Description
PILandFValleysALL20201104	.txt	OxCal script on which figure9f is based. PILandf = Peat Initiation Landforms, Valleys = used landform class, ALL = data from all four confidence levels, 20201104 = year, month, day of scripting.
KDEPILandFPlainsandridgesCombo 20201125	.txt	OxCal script on which figure9g is based. KDE = kernel density estimate, PILandf = Peat Initiation Landforms, Plainsandridges = used landform class, Combo = two models; the first model contains the data filtered for Stratigraphy on 'Lowerlimit' (i.e. basal peat, model identical to the one of figure 9d) whereas the second model includes all stratigraphical positions, 20201125 = year, month, day of scripting.

StudyArea

This folder contains a shapefile of the study area (TABLE 4) and accompanying metadata files.

TABLE 4: File overview for folder 'StudyArea'.

Filename	Filetype	Description
StudyArea	.shp [1]	Line feature delineating the study area (in Dutch RD_new projection).

[1]   Note that this file should be opened with GIS software (e.g. ArcGIS).

Acknowledgement: