Kappler, C., Kaiser, K., Küster, M., Nicolay, A., Fülling, A., Bens, O., Raab, T. (2019): Late Pleistocene and Holocene terrestrial geomorphodynamics and soil formation in northeastern Germany: a review of geochronological data. - Physical Geography, 40, 5, 405-432.

https://doi.org/10.1080/02723646.2019.1573621

**Late Pleistocene and Holocene terrestrial geomorphodynamics and soil formation in northeastern Germany: a review of geochronological data**

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## 1. Introduction

A profound understanding of regional land surface dynamics and their implications for the climate and environment of the past requires a robust reliable chronological framework, necessitating the collection, evaluation and statistical processing of preferably all geochronological data available from a given area. Previous studies dealing with the meta-analysis of geochronological data have shown that this approach is potentially a powerful tool to gain clear insights on the timing of geomorphodynamics and soil formation on larger temporal and spatial scales (e.g., Jones, Macklin, & Benito, 2015).

Macklin and Lewin (2003) developed this approach to analyze fluvial dynamics in Great Britain during the Holocene. They applied cumulative probability density functions (CPDFs), which allowed for the identification of flooding episodes at centennial and millennial time scales. Following the recommendations from Johnstone, Macklin, and Lewin (2006) for the establishment of radiocarbon databases, a multitude of studies have since been conducted for various regions and sedimentary environments, such as for rivers in Europe (Hoffmann, Lang, & Dikau, 2008; Macklin, Jones, & Lewin, 2010; Macklin et al., 2006; Starkel, Soja, & Michczyńska, 2006), northern Africa (Zielhofer & Faust, 2008), India (Kale, 2007), Alaska (Michczynska & Hajdas, 2010), southwestern USA (Harden, Macklin, & Baker, 2010), and New Zealand ( Macklin, Fuller, Jones, & Bebbington, 2012).

For northern Central Europe, however, only a few rough chronostratigraphic frameworks on specific aspects of Late Quaternary landscape evolution exist, to date, in a systematic manner (e.g., on the deglaciation of the Scandinavian Ice Sheet, vegetation history and human occupation; e.g., Dotterweich, 2008; Dreibrodt et al., 2010a; Giesecke, Wolters, Jahns, & Brande, 2012, Groß et al., 2018; Lüthgens & Böse, 2011; Terberger, De Klerk, Helbig, Kaiser, & Kühn, 2004). As considerable regional data are available from aeolian and colluvial sequences, both sedimentary environments offer a particularly promising synthesis potential using a geochronological-statistical approach. Among the sedimentary sequences are often palaeosols (syn. fossil or buried soils; Muhs et al., 2013), which structure the deposits and represent phases of landscape stability. Thus, sedimentation (with related erosion and relief formation) and soil formation are two sides of the same coin called landscape dynamics. Based on previous work both with similar regional and methodological focus (Dreibrodt et al., 2010a; Hardt & Böse 2016; Tolksdorf & Kaiser, 2012), our study addresses the following general question: What can be inferred from dated terrestrial sediments and palaeosols in northern Germany about Late Pleistocene and Holocene environmental changes? As the regionally available literature reflects, in particular the Late Pleniglacial (~20–15 ka) and parts of the Holocene (e.g., Late Holocene, ~4.5 ka to recent) are generally not well understood periods in terms of geomorphodynamics and soil formation. Whereas the first period is regionally characterized by naturally driven glacial and periglacial processes, the latter marks the continually increasing presence and impact of people. Therefore, we aim at the analysis of the dataset with respect to the temporal characteristics of specific sedimentary and pedogenic facies, and the identification of possible drivers for changes in sedimentation, relief, and soil formation.

## 2. Study area

The study area has been shaped by several Quaternary glaciations of the Scandinavian Ice Sheet. The geochronological ages collected originate from the Weichselian glacial belt (young morainic area; Weichselian: ~115–12 ka) and from parts of the adjacent Saalian glacial belt (old morainic area; ~ 150–130 ka; Krbetschek, Degering, & Alexowsky, 2008) of northeastern Germany (Figure 1). The Weichselian geological record in northeastern Germany is subdivided into three main ice advances: the Brandenburg ($W_{1B}$) phase (34.1 ± 4.6 ka; Hardt, 2017) with its associated Frankfurt ($W_{1F}$) recession stage (26.3 ± 3.7 ka; Hardt, 2017), followed by the Pomeranian phase ($W_2$), representing the Last Glacial Maximum (LGM) around 20 ka in the area, and the Mecklenburg ($W_3$) phase (15-13 ka; Hardt & Böse 2016; Litt et al., 2007). The earliest ice advance of the Brandenburg phase has a maximum age of ~34 ka and reached the southernmost position of all Weichselian ice advances roughly in the Berlin area (Lüthgens & Böse, 2011). The Weichselian inland ice cover terminated in the study area between 24 to 15 ka (Hardt & Böse, 2016).

The land surface of the study area has an altitudinal range of 0 to ~200 m a.s.l. Sandy and loamy deposits of glacial, glaciofluvial, glaciolacustrine, aeolian, and colluvial facies prevail in the study area, accompanied by telmatic, fluvial, and marine deposits. Following the deglaciation, the river and basin systems in the area developed along ice marginal valleys and glacially induced relief forms (Kaiser et al., 2012). Both glacial and interglacial processes created a variety of landforms and sediments as well as soil types. In general, on (dry) till plains and terminal moraines a mosaic of Cambisols/Arenosols, Luvisols, and Podzols (terminology according to WRB, 2015) has largely developed, whereas in the (wet) valleys and basins the formation of Gleysols, Histosols, and Fluvisols prevailed (Janetzko & Schmidt, 2014).

Hendl (1994) classified the present-day climate of the study area as temperate humid with mean annual air temperatures of around 8–9 °C and a declining precipitation from ~780 mm in the northwest (Kiel at the Baltic Sea coast) to ~450 mm in the east (Oderbruch area east of Berlin).

Human (re-) colonization of that area started in the Final Palaeolithic (Late Glacial) as is indicated by local finds from the Hamburgian (Bølling/Meiendorf), *Federmesser* (Allerød) and Ahrensburgian cultures (Younger Dryas; Terberger et al., 2004). From the Early Mesolithic (Early Holocene) onward, widespread settlement in rather patchy structures took place in this area (Gramsch 1973; Groß et al., 2018). Already these hunter-gatherer societies were considered to induce local soil erosion by woodcutting, trampling and other small-scale effects, leading to the burial of former surfaces (Tolksdorf & Kaiser, 2012). First Neolithic agriculture (Linear Pottery culture) appeared in the lower Oder River valley area at around 7000 a cal BP and with the funnel-beaker culture at 6000 a cal BP in Brandenburg on a larger scale, thus potentially causing first local forest clearing, erosion, and colluviation (Cziesla, 2008; Kulczycka-Leciejewiczowa &Wetzel, 200). More information on the human impact of younger settlement periods will be given in the discussion chapter.

## 3. Data and methods

### *3.1 Dataset properties and conventions*

A database was established comprising a total of 616 published and unpublished numerical age data (334 luminescence ages, 282 radiocarbon ages) from a total of 99 study sites (Figures

1, 2, 3; Table 1). Each date is characterized by specific dating attributes (luminescence age with 1-sigma standard error, radiocarbon age with 2-sigma standard error, reliability, lab number, dated material) and further information (e.g., coordinates, stratigraphy, soil type, horizon, sample depth, and reference; Electronic Supplement 1). Due to specific study purposes and sampling strategies, the collected ages are irregularly distributed over the study area. Most of the 248 luminescence dates of the aeolian dataset were derived from aeolian sands (n = 238, 96 %; Figure3 D-J). A few dates (n = 10, 4%) originate mainly from periglacial cover sands (*Geschiebedecksand* in German; Helbig, 1999).

The luminescence dates of colluvial origin (n = 86) comprise OSL datings on the quartz fraction (n = 61; 71%), datings of ceramics using TL (n = 14; 16%) and datings on feldspar using IRSL (n = 14; 16%).

The principles of radiocarbon and luminescence dating are not outlined in this paper; however, the fundamental differences of both dating techniques are explained in brief. The luminescence technique dates the amount of time since the sample got buried in a sediment body, whereas radiocarbon dating determines only the time of death of organic matter that, afterwards, became incorporated in the sediment. For a full overview on these dating methods the reader is referred to specific literature (e.g., Hajdas, 2008; Preusser et al., 2008; Rhodes, 2011).

Since the term *colluvial/colluvium* bears a potential for misunderstanding with regard to its classification and process considerations, the term is used for sediments of Pleistocene and Holocene age, comprising all slope deposits and mineral infills of kettle-holes – a characteristic geoarchive in the study area and beyond (Hirsch et al., 2015; Kaiser et al., 2012) – be they driven by gravitation or unconcentrated runoff (Kappler et al., 2018).

Most of the radiocarbon ages from aeolian sequences originate from aeolian sand (Figure 2), taking into account that no differentiation between dune sands and drift sands could be made because loess sediments are widely lacking in the northern part of the study area (Lehmkuhl, Zens, Krauß, Schulte, & Kels, 2016). In general, radiocarbon ages in aeolian sediments can comprise, for instance, charcoal amidst aeolian sand layers, indicating a period of aeolian activity, since the sediment body was still aggrading when the organic sample got embedded in it (e.g., due to a wildfire induced removal of vegetation and the following reactivation of a dune). However, organic material from buried stable surfaces (e.g., palaeosols / fossil soils) reflects geomorphic stability (Rohdenburg, 1989).

### *3.2 Data collection and evaluation*

The collected ages were evaluated according to location, reliability of the age, and stratigraphy. Ages that do not fit into the sediment sequence from which they originate were rejected before analysis, e.g., when an age inversion could be detected or was considered as too young or too old. Generally, this is based on information given by authors of the respective study. Ages with exceptionally high errors (> 25%) were also excluded from the analysis. The remaining ages were classified according to their sedimentary facies and pedostratigraphical relevance. For instance, luminescence ages of the same facies (i.e., colluvial or aeolian) were sorted and classified according to their stratigraphic origin within the sediment sequence, e.g., ages from the basal part of a sediment layer over a buried surface, yielding a minimum age for that former (palaeo-) surface. Luminescence ages from C-horizons below (buried) topsoil A or B horizons were considered as maximum ages for these soil formations. Dates originating directly from (buried) topsoil horizons reflect mean age estimates of these (palaeo-) surfaces. We are aware that there is generally a multitude of constraints regarding the compilation, statistical analysis, and use of collected age data. A systematic bias can be inherent in such age collections originating from the subjective research agenda of the individual studies contributing the ages. This means, for instance, that obvious changes in sedimentary sequences are more likely to be sampled than homogenous parts of the profile. This, in turn, can lead to an overrepresentation of so-called change dates (cf. Macklin & Lewin, 2003). To date, only a few geochronological studies in the wider study area have been conducted using an equidistant sampling approach (e.g., Hilgers, 2007; Kaiser et al., 2006). A major pitfall in the analysis of radiocarbon datasets is the general risk of (undetected) sample contaminations with modern or old carbon (e.g., Wohlfarth, Skog, Possnert, & Holmquist, 1998), leading to an age bias or the possible reworking and redeposition of the dated organic matter, as well as old-wood effect for inner tree rings from burnt tree material (e.g., Hajdas, 2008). Considering the luminescence data (OSL and IRSL), it is crucial for correct age estimates that the luminescence signal has been properly reset during transport and deposition of the mineral grain. That is why the method fits best for aeolian sediments, since a proper reset of the luminescence signal is guaranteed in most cases. By contrast, in colluvial, (glacio-) fluvial, and alluvial sediments, quartz and feldspar grains are often not properly reset, leading to some inherited residual signal from previous periods of burial prior to the last transport and deposition (Lomax, Hilgers, Twidale, Bourne, & Radtke, 2007; Wagner, 1998). Hence, in these depositional environments a potential overestimation of the true burial age has to be considered due to incomplete bleaching of the sediment (Fuchs & Lang, 2009).

As a final note, it should be mentioned here that, from further sedimentary (inland) environments of the region, a potentially large set of geochronological data exists. This includes, for instance, peat, lacustrine, and fluvial sequences (e.g., Couwenberg, de Klerk, Endtmann, Joosten, & Michaelis, 2001; Hiller, Litt & Eißmann, 1991; Kaiser et al., 2014) with approximately 300 radiocarbon and luminescence ages. However, systematic collection, evaluation, and analysis of these data are in the early stages and constitute a future research task.

### *3.3 Data calibration and statistical processing*

The radiocarbon ages were calibrated with software OxCal version 4.2 (Ramsey, 2009) using the calibration curve IntCal 13 (Reimer et al., 2013). CPDFs were calculated applying the "sum" command of OxCal. As the shape of the calibration curve influences the resulting CPDF (Macklin, Johnstone, & Lewin, 2005; Ramsey, 2017), a specific correction method must be applied. Bayesian age-depth modelling (Ramsey, 2009) has been proven to overcome these effects in the recent past; however, it requires *a priori* information on the stratigraphic relationships between the individual ages. This works best for chronologies from a single site but has been considered problematic when used to cross-compare several sites (Kerr & McCormick, 2014). Since our data originate from a wide variety of sites and stratigraphic contexts, we use the approach developed by Hoffmann et al. (2008). The probability distribution for the particular subset is divided by the probability distribution for the entire database to produce a relative probability curve (RPC).

Within the radiocarbon subsets, geomorphic activity is inferred only in areas where the RPC exceeds the mean relative probability of the particular subset. This procedure was successfully introduced by Harden et al. (2010) for the identification of periods of fluvial activity. As a convention, each OSL age is treated as a single accumulation event (activity date)(cf. Stauch, 2015). Radiocarbon ages from aggraded sediment sections were also treated as activity dates, except those from buried or recent surfaces (stability date).

In the following, all radiocarbon ages are stated as calibrated years/kiloyears before present (a/ka cal BP), with the year 1950 AD as reference. Luminescence ages in this study are reported as years (a) or kiloyears (ka) with the year of measurement as the individual reference year, as the term BP is reserved to radiocarbon ages (Brauer et al., 2014). There is a systematic offset of up to 66 years in the comparison between luminescence and radiocarbon age data. Regarding the timescales of interest, this offset is considered negligible. Due to the fact that the true luminescence age has not a Gaussian distribution within the standard deviation, plotting of luminescence data in the form of a Gaussian PDF is considered problematical (Galbraith, 2010; Vermeesch, 2012). Instead, an algorithm in the statistical programming environment R was developed. From the luminescence age and its error range, a so-called age range was calculated ((mean age + SD)-(mean age – SD)), which was then filled with $10^6$ uniformly distributed simulated ages. Subsequently, the kernel density estimate (KDE) of each simulated age within this age range was computed using the command "density()" in order to obtain a uniform probability distribution of the "true" luminescence age within its corresponding age range. Generally, the choice of bandwidth is subject to the user's intention and, thus, highly variable (cf. Galbraith, 1998). Following Galbraith (2010), a relatively small bandwidth (b = 50) for all density estimates was chosen, allowing for a satisfying compromise between resolution and smoothing of the curve (cf. Galbraith & Roberts, 2012; Vermeesch, 2012).

# 4. Results

## *4.1 Overall data distribution*

Among all ages (616 ages, 100%) Holocene ages (< 11.7 ka) prevail (508 ages, 82%), with a majority within the last 5000 years (372 ages, 60%; Figure 4). Most of the radiocarbon subset clusters in the last 12 ka cal BP with two pronounced peaks between 11 to 12 ka cal BP and 11 to 9.5 ka cal BP. From 9 ka cal BP towards present, the calculated PDF increases constantly with several distinct narrow and high peaks and troughs until 0.3 ka cal BP, from which point it decreases again. The first cluster in the luminescence KDE curve lies in the Late Glacial, with a pronounced peak at 11.5 ka showing a broad bell-shaped KDE-curve. Two further smaller peaks can be differentiated between 1.5 and 2.5 ka and for the last 1000 a. Dates from before the Late Glacial play only a minor role in the entire distribution of ages

(Figure 4). Since most ages of the database belong to the last 15 ka, synoptic figures for the subsets comprising different sedimentary and pedogenic facies have been limited to this time domain (Figure 5). Furthermore, errors of ages older than 15 ka in the radiocarbon and luminescence data implicate a minor usability and significance of these ages for considerations on geomorphodynamics and soil formation.

### ***4.2 Data on geomorphodynamics***

#### *4.2.1 Aeolian dynamics*

Among the 128 radiocarbon dates from aeolian sequences, three distinct assemblages of ages can be distinguished (Figure 5 A1). The first cluster ranges from 13.8 to 11.2 ka cal BP, the second from 9.5 to 7.8 ka cal BP, and the third within the last 5000 years.

The overall distribution of luminescence ages is, in comparison to the radiocarbon data, more broadly spread, showing a strong cluster over the whole Late Glacial to the onset of the Holocene (Figure 5 A2). A total of ~200 dates falls into this time period. From that, about 40 ages show a relatively conformal distribution within the Early Holocene. The remaining dates fall into the Late Holocene, showing two distinct peaks between 2.2 and 1.6 ka (n = 13) and in the last 1000 years (n = 65).

#### *4.2.2 Colluvial dynamics*

Radiocarbon ages from colluvial sequences (n = 152; Figure 3 K-N), consisting of loamy and silty sands, originate mainly from charcoal (n = 116; 76 %), soil organic matter (n = 25; 16 %) and from plant remains and bones (n = 5; 7%). The majority of dates (n = 135; 89 %) fall within the last 6000 years, preceded by four narrow peaks exceeding the mean PD (7.7, 8.2, 9.5, 10.7 ka cal BP; Figure 5 B1).

Luminescence ages span a broad range, having two significant clusters: around 4–3.2 ka and within the last 2800 years. A further cluster can be identified between 9 and 7.8 ka. The same applies for the five ages with very high uncertainties beyond 10 ka (Figure 5 B2). Worthy of mention is the wide absence of luminescence dates between 7.5 and 5 ka, i.e., in large parts of the Mid-Holocene.

### *4.3 Data on soil formation (palaeosurfaces)*

#### *4.3.1 General aspects*

Ages for palaeosurfaces (Figure 6) were classified according to their stratigraphic position within the sediment sequence from which they originate. The term palaeosurface comprises all kinds of (quasi-) stable surfaces of the past (e.g., buried palaeosols, charcoal layers in dunes, archaeological pits and graves, some periglacial features). Dates with an implication for pedostratigraphic questions, such as minimum age estimates (dates from above a palaeosurface) and mean age estimates (dates directly from the palaeosurface), were used for this dataset. Maximum age estimates (dates from below palaeosurfaces), however, were excluded. This is reasoned by the fact that, between the depositional age of the parent material (C horizon) and a considerable soil development (depth), a certain period of time normally passed by. Thus, the whole dataset of palaeosurfaces would experience considerable bias in the shape of the RPC and KDE. Ages from recent surfaces were also excluded.

Radiocarbon dates (n = 151) mainly originate from aeolian sequences (n = 90; 60%), followed by ages from colluvial (n = 38; 25%) and periglacial (n=1) sediments. Among the dated materials, charcoal prevails with 111 dates (74%), followed by dates from bulk soil organic matter (n = 24; 16%), plant remains (n = 2; 1%), peat (n = 2; 1%), and bone (n=1). The resulting RPC shows two distinct time intervals that exceed the mean PD of the dataset. The first cluster, from 14 to 11.5 ka cal BP, comprises ~40 dates. The remaining ~110 dates form several small peaks during the last 6700 years with an increasing number of dates toward the present (Figure 6). Remarkable is the lack of ages between 7 and 7.8 ka cal BP.

Luminescence data connected to palaeosurfaces (n = 104) come primarily from aeolian sequences (n = 80; 77 %), followed by colluvial (n = 13; 13 %) and periglacial sediments (n = 5; 5 %). The KDE shows two distinct clusters, with a broad peak covering nearly the whole Late Glacial and beginning Early Holocene (n = 36). A second cluster formed during the last 2500 years (n = 50). Between 9.5 and 3 ka, only 17 dates occur (Figure 6).

*4.3.2 Specific types of palaeosols*

For insights into the pedostratigraphy and development of certain Holocene climax soils (Chernozems, Luvisols, Cambisols/Arenosols, Podzols; WRB, 2015) occurring in this nowadays temperate and humid region, all dates from the database were selected for which a proper assignment to these soils is feasible (i.e., luminescence ages/ minimum age estimates from above the palaeosol, radiocarbon ages from the A or B horizon of the palaeosol/ mean age estimates). Considering the small number of dates, this analysis represents merely a first step toward a palaeopedological application using the numerical age data meta-analysis approach.

The 14 radiocarbon ages related to Cambisols/Arenosols show six clusters from the Late Glacial-Holocene transition to the Late Holocene. Luminescence ages (n = 24) form two major clusters: between 11.7 and 9.5 ka and in the last 2500 years (Figure 7 A1-A2).

Far fewer dates are available for Luvisols, with one radiocarbon age from soil organic matter ranging around 2 ka cal BP and six luminescence dates, comprising two minimum ages obtained above buried Luvisols, ranging between 4.2 and 0.7 ka, and four dates direct from the buried soils, yielding ages between 15 and 2 ka.

A total of 18 radiocarbon dates and 5 luminescence dates are related to buried Chernozems. The radiocarbon dates fall into the last 7000 years, clustering between 6.7 and 4 ka cal BP, whereas the luminescence dates spread between ~8 and 2 ka cal BP (Figure 7 B1-B2).

A total of 19 radiocarbon dates from Podzols form six clusters, distributed throughout the whole Late Glacial and Holocene period. Luminescence data (n = 50), consisting of minimum and mean age estimates, show two assemblages of ages, ranging from the whole Late Glacial to the beginning of the Early Holocene period (n=13), whereas the majority of dates comprises the last 7500 years (n = 37; Figure 7 C1-C2).

## 5. Discussion

### *5.1 Methodical implications for the meta-analysis of numerical age data*

In all plots, a common pattern can be identified comprising the increasing number of dates toward the present and the change from broader and lower peaks in the radiocarbon data to smaller and narrow ones for the last ~1000 years (Figures 5–8). An explanation for this phenomenon is apparent: Younger sediments are more likely to be preserved until the moment of sampling, compared to older sediments, which were more often prone to erosion. Furthermore, younger sediments are closer to the surface, implying a higher probability of actually being sampled (Hoffmann et al., 2008). Another issue is the comparison of radiocarbon and luminescence data, which necessitates some considerations on these dating techniques in advance. Radiocarbon ages always provides a *terminus post quem* or maximum age for a buried surface/palaeosol or colluvial layer, since the pathway of the dated sample until burial and the associated time lag remains unknown. Therefore, the dated section can be younger or was formed exactly at the same time the organism died from which the dated sample originates (Wagner, 1998). This can lead to an overestimation of the age of deposits. In Southern Germany for instance, this can be up to 3000 years, as Henkner et al. (2018)

showed, dating colluvial layers by both radiocarbon and luminescence methods. Generally, luminescence ages are more reliable for reconstruction of the time of colluvium or dune formation since they date the burial process itself. Thus, they can only provide minimum age estimates of buried surfaces and associated pedogenic processes since they reflect the end of a phase of soil formation or geomorphic stability of the environment.

Thus, a careful use of ages in relation to their stratigraphic position or pedologic context is crucial to obtain meaningful chronostratigraphic results.

### *5.2 Potential geomorphic drivers: climate and human impact*

In the widespread tectonically stable region south of the Baltic Sea, climate and human impact play the most prominent role for Late Glacial and Holocene geomorphodynamics (e.g., Kaiser et al., 2012; Price, 2000; Tolksdorf & Kaiser, 2012). Therefore, some major developments related to both are outlined in the following.

Based on ~ 880 pollen profiles, Mauri, Davis, Collins, and Kaplan (2015) reconstructed the climate of Central Europe for the last 12 ka using vegetation as a climatic proxy. They determined ,for the Early Holocene, summer temperatures 2°C lower than the preindustrial level (i.e., prior to 1850 AD). From 7 ka onward, summer temperatures increased again. Winter temperatures rose 2°C from 10-9 ka onward, while warming intensified around 8 ka and peaked at 7 ka, with the highest winter temperatures of the whole Holocene. As compared to late preindustrial conditions, the summers of northern Central Europe were drier throughout the entire Holocene, while, during the winters, extensive dry conditions predominated in the Early Holocene (12–9 ka), contrasted by wetter conditions around 7 ka (Mauri et al., 2015).

To outline the potential human impact, an overview from the onset of human occupation to sub-recent land-use dynamics for northern Central Europe is given here. During the Late Pleistocene (Final Palaeolithic), groups of hunters and gatherers, ascribed to the Magdalenian and subsequent Hamburgian culture, followed the retreating Scandinavian Ice Sheet and arrived in southern Poland at Greenland Stadial 2 (15.8–15.2 ka cal BP; Połtowicz-Bobak, 2012), while most of Central Europe was occupied by Magdalenian people around the onset of Greenland Interstadial 1e (~14.7 ka cal BP; Straus, Leesch, & Terberger, 2012; Svensson et al., 2008). The preferred habitats of these Final Palaeolithic people were close to marine, riverine, or lacustrine environments across Europe. Several radiocarbon and luminescence dated Early Mesolithic sites (~10–8 ka cal BP) from dunes and wetlands prove the human occupation of the study area (Benecke, 2004; Groß et al., 2018; Hilgers, 2007; Tolksdorf, Kaiser, Veil, Klasen, & Brückner, 2009; Tolksdorf et al., 2013). Later, human subsistence changed substantially with the introduction of (livestock) farming in Central Germany by the Linear Pottery culture (*Linienbandkeramik*, LBK), starting ~7.5 ka cal BP, which represents the transition from the Mesolithic to the Neolithic (cf. Price, 2000, Shennan et al., 2013). The first substantial modification of landscapes took place during the Middle Neolithic at 5.4 to 4.7 ka cal BP by the economic activities of the funnel-beaker culture such as deforestation, application of slash-and-burn practices, and arable farming (Bork, 2006). Kaplan, Krumhardt, and Zimmermann (2009) modelled the prehistorical deforestation of Europe for about the last 3000 years in six time slices. They assumed for 3 ka cal BP a mainly undisturbed, i.e., dense forest cover for wide areas of Central Europe. Around 2.3 ka cal BP, 10 to 60% of northern Central Europe was deforested. Around 1850 AD, 90% of the utilizable area was cleared of the forest cover. This development was interrupted by two distinct recoveries of the forest cover: at around 1.4 ka cal BP, representing the transition from the Roman period to the Migration period, and around 600 a cal BP by the impact of the Black Death (plague; Kaplan et al., 2009). Using pollen data from study sites all over Europe, this study represents a rather generalized model and can therefore only yield a framework for the land-cover dynamics. The impact of small-scale human activities, such as woodcutting and trampling, in triggering soil erosion is often underestimated and could be proven already for the Mesolithic period, for instance, in adjacent drift sand areas (Sevink, Koster, van Geel, & Wallinga, 2013; Sevink, van Geel, Jansen, & Wallinga, 2018; Tolksdorf & Kaiser, 2012).

### ***5.3 Late Quaternary geomorphodynamics***

#### *5.3.1 Aeolian dynamics*

Aeolian sedimentation occurred in the study area from the Late Glacial to the beginning Early Holocene (15–11.5 ka) in several prominent phases, interrupted by phases of surface stabilization and soil formation as reported by various studies (Alisch, 1995; Hirsch et al., 2017; Kaiser et al., 2009; Schirmer, 1999; Tolksdorf & Kaiser, 2012; Figure 3 C-D, 9 C3-C4). In the aeolian dataset (Figure 5 A1-A2), both radiocarbon and luminescence ages indicate strong aeolian activity during this period, whereas radiocarbon ages from palaeosurfaces (Figures 6, 9) show two peaks: around 13.2 ka cal BP and 11.9 to 12.5 ka cal BP. This points to a pattern of stability phases as indicated by the occurrence of palaeosols of Usselo and Finow type throughout the study area and their burial in the Younger Dryas, thereby suggesting a climatic driving factor (e.g., Hilgers, 2007; Kaiser et al., 2009; Singhvi, Bluszcz, Bateman, & Rao, 2001).

Hilgers (2007), however, observed by analyzing a smaller set of data, a three-phased dune development within the period 16.7–12 ka for northeastern Central Europe, which cannot be confirmed with the statistical approach used in this study to analyze a larger quantity of data.

Between 9.5 and 7.9 ka cal BP, the aeolian radiocarbon RPC shows a distinct peak, reflecting a period characterized by the reactivation of already existing older dunes, drift sand dynamics, and increased occurrence of wildfires (Figure 5 A1). The majority of dates originate from charcoal layers in these aeolian sequences (cf. Schlaak, 1997). In general, charcoal forms a ubiquitous component of nearly all Late Glacial and Holocene sediments in the region (Tolksdorf et al., 2014). That human-induced ignition caused aeolian dynamics during that time seems possible and is being discussed, but has, so far, not been unquestionably proven (Tolksdorf & Kaiser, 2012). Further support for the human influence on aeolian sediment relocation since the Mid-Holocene at the regional scale can be concluded from the occurrence of radiocarbon dates from aeolian sequences since ~7.5 ka cal BP and in the luminescence data by the growing number of dates from ~5 ka onward (Figure 9 B2 & B4), if the population proxies from Shennan et al. (2013), with rising population levels since ~ 8 ka cal BP to the peak of the curve at 5.5 ka cal BP (Figure 9 D3-D5), are taken into account. The record of palaeosurfaces (Figure 9 C1) also shows a plateau between 6.5 and 5.7 ka cal BP, thereby indicating the burial of these surfaces. Contrary to these cross correlations however, the lack of aeolian radiocarbon ages between 5.8 and 5.3 ka cal BP has to be mentioned, in opposition to the peak of the LBK culture in the German population proxy around 5.5 ka cal BP (Shennan & Edinborough, 2007; Figure 9 D2).

However, both aeolian datasets support the assumption of a landscape opened due to human activities by the significant increase of ages since the last 2000 years, coinciding with the beginning Roman Age (Figure 5 A1-A2, 9 B1-B2, D4). The synchronously occurring peaks in the curves of luminescence-dated aoelian sequences (Figure 9 B1, B4) and luminescence dated palaeosurfaces around 1000 a (Figure 9 C4) also point to a region-wide burial of surfaces, thus indicating an increase in geomorphic activity during the Medieval.

*5.3.2 Colluvial dynamics*

Due to a lack of data, the database allows no conclusions about potential (natural) colluvial dynamics during the Late Glacial. But as alluvial overbank fines from the Elbe River valley, dating into the Younger Dryas period, show (Tolksdorf et al., 2013; Turner et al., 2013), as well similar as records obtained from adjacent central Poland (Petera-Zganiacz et al., 2015), naturally induced erosion at terrestrial (off-) sites including colluviation can already be expected for the Late Glacial.

During the Early Holocene, the first significant occurrence of radiocarbon-dated colluvial sediments can be detected (Figure 5B1, 9A2; 11-9.4 ka cal BP). The data reflect water-induced soil erosion in eastern Brandenburg. This erosional pulse is ascribed to relatively cold and dry climatic conditions at that time, promoting wildfires in pine-dominated forests and, therefore, triggering slope instability (Dreibrodt et al., 2010a). The first occurrence of radiocarbon dates from colluvial sequences related to human activities between 7.8 and 6 ka cal BP (Figure 5 B1; 9 A2) documents the Early Neolithic with the construction of earthworks and major colluviation in the northern Harz foreland (Dreibrodt et al., 2013; Lubos et al., 2011). Interesting in this context is the observed trend of a north-migrating onset of human-induced colluvial deposition in the luminescence datasets compiled by Kappler et al. (2018). The oldest colluvial deposits linked to the onset of agriculture have been found in the Southern part of Germany (Henkner et al., 2018; Lang, 2003; Figure 9 A3, A8), whereas ages become younger to the northeast of Germany, with first substantial colluvial formation during the early Bronze Age (Figure 9, A3-8). This may be explained by the arrival of agriculture at a later stage in Northern Germany, around 6 ka cal BP, compared to 7.4 ka cal BP in Southern Germany (Shennan et al., 2013). Alternatively, this may simply reflect a lack of ages for this period, if one considers the different numbers of ages in the respective datasets. Nevertheless, the onset of agriculture in Northern and Central Germany coincides with distinct peaks in the colluvial radiocarbon record of NE-Germany at 7.3 and 6 ka cal BP, thereby suggesting a causal relationship (Figure 9 A2, D4, D5). During the Neolithic population boom, around 5.5 ka cal BP (Shennan et al., 2013), in nearly all compiled regions an increased occurrence of luminescence ages since 5 ka can also be observed, thus supporting the fact of intensified land use since the middle Neolithic. This was also observed in the Uckermark, located in the eastern part of the study area, where Jahns (2000) reported from pollen data a significant increase in agriculture since the middle Neolithic, around 5 ka cal BP, followed by a second period of increased settlement activities during the Bronze Age (~ 3.8–2.7 ka cal BP). For this time, a strong human impact on the environment can unequivocally be assumed, as supported by distinct increase in nearly all colluvial records discussed in this study.

Probably the strongest pre-modern human impact on Central European landscapes, that of deforestation and subsequent soil erosion, dates to the High to Late Medieval (late 12th to 14th century AD). This is clearly visible in nearly all records of colluvial sedimentation in Figure 9 A1, A3, A5-A10 between 1000 a and 800 a.  During that time, with a share of ~ 8%, the largest amount of arable land and grassland of the entire Holocene was developed in northeastern Germany, accompanying the German colonization of that area (Bork et al., 1998).

Remarkable in this context is the lack of dates in the colluvial luminescence record from NE-Germany between 5 and 7.5 ka (Figure 9 A1), while the radiocarbon record from the same region (Figure 9 A2) indicates colluvium formation during this period and, to a minor extent, also in SW Germany (Henkner et al., 2018; Figure 9 A8). Similarly, a distinct increase in the number of dated colluvial layers between 6.7 to 5.4 ka in the record from Northern Germany is observable (Dreibrodt et al., 2010b; Figure 9 A10). Colluvial signals from luminescence data between 7.5 and 5.5 ka are observable in the records from Southern Germany, showing flat peaks in the density plots (Henkner et al., 2018; Kappler et al., 2018; Figure 9 A3, A8).

The question arises in this context why radiocarbon records show higher values back in the past, in contrast to luminescence chronologies. On the one hand, this is probably due to the smaller number of available luminescence ages to create such chronologies, or, on the other hand, to the fact that radiocarbon ages from colluvial layers often suggest a greater age than the layer actually has.

### *5.4 Late Quaternary soil formation*

#### *5.4.1 General considerations*

Whereas different sedimentary facies normally reflect *activity* of geomorphodynamic processes, the record of soils, specifically of buried palaeosols reflects *stability* of the relief (Rohdenburg, 1989).

In general, geologic, geomorphic, climatic, hydrologic, and anthropogenic factors control the occurrence of the soils in a region. In the glacial landscapes of northeastern Central Europe widespread parent materials are calcareous tills, (glacio-) fluvial and aeolian sands, periglacial coversands (*Geschiebedecksand* in German), and (glacio-) lacustrine silts and sands. Since the Allerød period of the Late Glacial (since ~13 ka cal BP), this area was predominantly forested, except during periods in which the vegetation cover was being structured by people. At present, a distinct thermoclimatic gradient exists from northwest to southeast, dividing the region into maritime, sub-maritime, and sub-continental parts with decreasing precipitation from ~780 to 450 mm/a (Hendl, 1994). Whether there already had been a climatic differentiation in the past is probable, but this has not yet been proven by palaeoclimatic or palaeoecologic evidence, except for the Younger Dryas period (12.7–11.7 ka cal BP), when the tundra biome was established in the north (Rügen Island) and the boreal forest biome in the south (Berlin area; Kaiser, 2004; de Klerk, 2008). Crucial for soil substrate formation (e.g., periglacial reworking of the substrate, input of aeolian matter) and pedogenesis is the timing of the deglaciation generally enabling the onset and duration of soil formation (Felix-Henningsen, 2017).

*5.4.2 Initial Late Pleistocene soil formation*

Regional soil formation started with pronounced periglacial influence on the surface sediments, comprising, for instance, allochthonous matter input, cryoclastics and vertical mixing of the substrate. Furthermore, immediately after the deglaciation, at least mosses, grasses, and dwarf shrubs were widespread covers of the land surfaces, as some early vegetation and faunal records (~ 15 ka cal BP onward) from the region suggest (e.g., de Klerk, 2008; de Klerk et al., 2001; Sommer, Kalbe, Ekström, Benecke, & Liljegren, 2014; Strahl, 2005). Thus, the potential provision of organic substances as an important prerequisite for soil formation and chemical weathering was feasible already in the Late Pleniglacial.

From a glacial sedimentary sequence at Zechow, in northern Brandenburg adjacent to the $W_{1F}$ terminal moraine, a buried Cryosol was reported, providing a radiocarbon date on charcoal (without plant species determination) of 17.8 to 15.9 ka cal BP (Gärtner, 1998, Figure 3 B). If this single age dates the record correctly, it represents the oldest Late Pleistocene palaeosol known in the young morainic (Weichselian) part of the study area after deglaciation so far. Beyond the time limit set for analysis (15 ka cal BP; Figures 5–7), further records of buried Cryosols are available from several sites of the old morainic (Saalian) area in the Niederlausitz region dating from 46 to 28 ka cal BP (Mol, 1997, cf. Figure 3 A; Mol, Vandenberghe, & Kasse, 2000). Another potential palaeosol in the young morainic area of Vorpommern, described as "Reinberg horizon," was recorded by coring (de Klerk et al., 2001). It is thought to represent an initial *in-situ* soil formation of the Pleniglacial-Late Glacial transition, and it consists of humic sand bands in a kettle-hole sequence (Figure 3 C). The horizon was palynostratigraphically dated as minimum age estimate to ~14.7 ka cal BP.

The most prominent buried initial soil formations of the Late Glacial are Brunic Arenosols and Albic Arenosols of Finow (Bwb and BwAhb horizons, Figure 3 E) and Usselo type (Ahb and Eb horizons, Figure 3 D), respectively, frequently occurring both in the old and young morainic area of the region and beyond (Hirsch et al., 2017; Jankowski, 2012; Kaiser et al., 2009). Site location and soil properties confirm the dry terrestrial character of both Usselo and Finow soils. Mapping of nearly all Usselo and Finow soil occurrences known so far in northern Central Europe (n = 96) reveals disparate geographical patterns. There is a nearly continuous Finow soil province in between Usselo soil areas in NW Germany and central Poland located mainly in NE Germany. The reason for this areal disparity is not yet known (Kaiser et al., 2009). A total of 13 radiocarbon and 29 luminescence dates available from Finow soils confirm their formation in the whole Late Glacial until the very beginning of the Early Holocene (Figure 8).

*5.4.3 Formation of Holocene zonal/climax soils*

Two general temporal models exist for the formation of Holocene zonal/climax soils (for terminology see Muhs et al., 2013), comprising Cambisols/Arenosols, Chernozems, Luvisols and Podzols in the region. From a Central European point of view, the first model favors Holocene, in particular Mid-Holocene (Atlantic) soil formation (e.g., Blume et al., 2010; Rohdenburg, 1978), whereas the second model primarily emphasises Late Pleistocene soil formation (e.g., Altermann, Mautschke, Erbe, & Pretzschel, 1977; Altermann et al., 2008; Brunnacker, 1959; Bussemer, 1994). However, until the 2000s, the dispute suffered from a lack of unequivocally dated field evidence.

Kühn (2003a) found evidence for Late Glacial clay illuviation of Luvisols at till plains in the northern part of the study area (Mecklenburg-Vorpommern). Evidence for Holocene/modern illuviation was also reported (Kühn, 2003b; Kühn & Bauriegel, 2003), showing that the formation of Luvisols had already started in the Late Glacial and was completed in the Holocene (Figure 3 G; buried Late Glacial Luvisol).

Eighteen radiocarbon dates of the database are related to Chernozems and Chernozem-Luvisols, pointing at first glance to a Mid-Holocene formation of these soils (Figure 7 B1-B2). However, radiocarbon dates from buried palaeosols generally represent average age estimates. Furthermore, if the soil organic matter (bulk) was dated, the age represents, to some extent, a mixture of modern and old carbon (Lorz & Saile, 2011). Thus, a somewhat older age of Chernozem formation, probably dating into the Early Holocene, is still feasible. Evidence for the already Late Glacial pedogenesis of Chernozems south of the study area is given by Altermann and Mania (1968), who reported an initial Chernozem covered by the well-known Late Glacial Lacher See tephra. It dates this local Chernozem formation to a minimum age of at least 12.9 ka cal BP (Litt, Schmincke, & Kromer, 2003).

As is obvious from the frequent occurrence of Finow soils, brunification (silicate weathering) of sands started in the region already in the Late Glacial and left behind 10 to 20 cm thick Bw(b) horizons. But even unequivocally dated Holocene Bw(b) horizons were recently reported both for the old and young morainic part of the region. Estimations for the time, which is needed in the Holocene to form Bw horizons of a few decimeters thickness, vary from 2400 to 5500 years (Dreibrodt et al., 2013; Küster, Fülling, & Ulrich, 2015; Figure 7 A1-A2).

A total of 50 luminescence dates and 19 radiocarbon dates could be ascribed to buried Podzols, ranging from the beginning of the Late Glacial to the very recent past (Figure 7 C1-C2). The overall distribution of ages points to no significant temporal gap in the formation of Podzols, beside the absence of luminescence ages between 3–2 ka and 9–8 ka. Since the luminescence ages of Podzols represent minimum ages sampled from above the buried soil, this gap can tentatively be explained with low geomorphic activity in the same time intervals in the aeolian luminescence dataset (Figure 5 A2). After all, it can be stated that Podzols were formed in the study area throughout the whole Late Glacial and Holocene.

As a fundamental model, a starting pedogenesis during the Late Glacial and completion during the Holocene seems generally to be applicable to soil formation in the formerly glaciated areas of northern Central Europe (Felix-Henningsen, 2017; Kaiser et al., 2009; Kühn, Billwitz, Bauriegel, Kühn, & Eckelmann, 2006).

## 6. Conclusions

Understanding past landscape dynamics is an indispensable prerequisite for scaling current environmental processes, such as soil erosion and susceptibility to geomorphic change. Particularly, the systematic analysis of numerical ages from a multitude of geoarchives helps provide insights into the Late Pleistocene and Holocene geomorphodynamics and soil formation of a specific region.

For the first time, geochronological data from a broad range of sedimentary environments were systematically collected and analyzed for northeastern Central Europe, forming, with 616 ages, the largest database available for this region to date. Luminescence ages, mainly derived from aeolian sequences, cluster in the Late Glacial to Early Holocene period (15.4–8.2 ka) and in the Late Holocene (4.2 ka – present). The radiocarbon dataset mostly comprises ages from colluvial and aeolian sequences, showing a regular age distribution over the last 15 ka. After a first prominent phase during the Late Glacial and Early Holocene, distinct aeolian activity occurred again in the Late Holocene. The colluvial dataset indicates first mass wasting upon hillslopes at 11 to 9 ka, probably caused by local fluvial incision after wildfires. From 7.4 ka onward, colluvial sedimentation increased, accompanying anthropogenic land use. In comparison to several other records from Germany, the onset of colluvial sedimentation started in northeastern Germany substantially later, coinciding with the occurrence of agriculture at a later stage in this region.

As particularly reflected by the colluvial and aeolian records, the dataset and further arguments indicate pronounced human influence since ~5 ka due to agricultural activities. Furthermore, the aeolian data shows two distinctive peaks during the last 2 ka, thereby indicating an increasing opening of the landscape.

The radiocarbon chronologies of colluvial sequences seem to reach farther back into the past than luminescence records of the same region suggest. If this, however, represents a bias in the database, due to different amounts of ages available or if it points to a regular reworking and re-embedding of organic samples within colluvial sequences could not be determined unequivocally.

The classification of the data into minimum and maximum age estimates limits possible time frames for the formation of certain soil types. This is exemplarily demonstrated for the palaeosols of Finow type (Brunic Arenosols), dating into the Late Glacial. Typical mid-latitude soil forming processes, such as brunification, clay illuviation and podzolization, started in the Late Glacial and were completed in the Holocene.

**Acknowledgements**

This study was performed within the TERENO and ICLEA projects of the Helmholtz Association. The authors would like to thank M. Dietze (Potsdam) for his support in developing the R-script for data analysis. Furthermore, we thank H. Helbig (Halle/Saale), P. Kühn (Tübingen), J. Mol (Leiden), F. Ruchhöft (Greifswald) and J. F. Tolksdorf (Dresden) for contributing photographs of some sedimentary sequences and M. T. Lavin-Zimmer (Potsdam) for improving the English. Finally, we thank two anonymous reviewers for their helpful comments.

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## References


Alisch, M. (1995). *Das äolische Relief der mittleren Oberen Allerniederung (Ostniedersachsen): spät-und postglaziale Morphogenese, Ausdehnung und Festlegung historischer Wehsande, Sandabgrabungen und Schutzaspekte* (Doctoral dissertation). Universität Köln, Köln.

Altermann, M., Jäger, K.-D., Kopp, D., Kowalkowski, A., Kühn, D., & Schwanecke, W. (2008). Zur Kennzeichnung und Gliederung von periglaziär bedingten Differenzierungen in der Pedosphäre. *Waldökologie, Landschaftsforschung und Naturschutz, 6,* 5-42.

Altermann, M., & Mania, D. (1968). Zur Datierung von Böden im mitteldeutschen Trockengebiet mit Hilfe quartärgeologischer und urgeschichtlicher Befunde. *Archives of Agronomy and Soil Science, 12*(7), 539-557.

Altermann, M., Mautschke, J., Erbe, C., & Pretzschel, M. (1977). Zur Kennzeichnung der quartären Deckschichten im Unterharz. *Petermanns Geographische Mitteilungen, 121,* 95-110.

Benecke, N. (2004). Faunal succession in the lowlands of northern Central Europe at the Pleistocene-Holocene transition. In Terberger, T., Eriksen, B.V. (Eds.), *Hunters in a changing world. Environment and archaeology of the Pleistocene-Holocene transition (ca. 11000-9000 B.C.) in Northern Central Europe* ( 43-51). Rahden/Westfalen: Marie Leidorf.

Blume, H. P., Brümmer, G. W., Horn, R., Kandeler, E., Kögel-Knabner, I., Kretzschmar, R., . . . Wilke, B.-M. (2010). *Scheffer/Schachtschabel: Lehrbuch der Bodenkunde.* Heidelberg: Spektrum Akademischer Verlag.

Bork, H.-R. (2006). *Landschaften der Erde unter dem Einfluss des Menschen.* Darmstadt: Primus Verlag.

Bork, H.-R., Bork, H., Dalchow, C., Faust, B., Piorr, H.-P., & Schatz, T. (1998). *Landschaftsentwicklung in Mitteleuropa : Wirkungen des Menschen auf Landschaften.* Gotha: Klett-Perthes.

Brauer, A., Hajdas, I., Blockley, S. P. E., Bronk Ramsey, C., Christl, M., Ivy-Ochs, S., . . . Svensson, A. (2014). The importance of independent chronology in integrating records of past climate change for the 60–8 ka INTIMATE time interval. *Quaternary Science Reviews, 106*(0), 47-66.

Brunnacker, K. (1959). Bemerkungen zur Parabraunerde (Ergebnisse der Bodenkartierung in Bayern). *Geologisches Jahrbuch*, 76, 561-576.

Bussemer, S. (1994). *Geomorphologische und bodenkundliche Untersuchungen an periglaziären Deckserien des mittleren und östlichen Barnim.* Berlin: Fachbereich Geographie der Humboldt-Universität.

Couwenberg, J., de Klerk, P., Endtmann, E., Joosten, H., & Michaelis, D. (2001). Hydrogenetische Moortypen in der Zeit – eine Zusammenschau. In M. Succow & H. Joosten (Eds.), *Landschaftsökologische Moorkunde* (399-403). Stuttgart: Schweizerbart.

Cziesla, E. (2008). Zur bandkeramischen Kultur zwischen Elbe und Oder. *Germania, 86*, 405–464.

de Klerk, P. (2008). Patterns in vegetation and sedimentation during the Weichselian Late-glacial in north-eastern Germany. *Journal of Biogeography, 35*(7), 1308-1322.

de Klerk, P., Helbig, H., Helms, S., Janke, W., Krügel, K., Kühn, P., . . . Stolze, S. (2001). The Reinberg researches: palaeoecological and geomorphological studies of a kettle hole in Vorpommern (NE Germany), with special emphasis on a local vegetation during the Weichselian Pleniglacial/Lateglacial transition. *Greifswalder Geographische Arbeiten, 23*(1), 43-131.

Dotterweich, M. (2008). The history of soil erosion and fluvial deposits in small catchments of central Europe: Deciphering the long-term interaction between humans and the environment - a review. *Geomorphology, 101*, 192–208.

Dreibrodt, S., Lomax, J., Nelle, O., Lubos, C., Fischer, P., Mitusov, A., . . . Bork, H.-R. (2010a). Are mid-latitude slopes sensitive to climatic oscillations? Implications from an Early Holocene sequence of slope deposits and buried soils from eastern Germany. *Geomorphology, 122*(3-4), 351-369.

Dreibrodt, S., Lubos, C., Terhorst, B., Damm, B., Bork, H.-R. (2010b). Historical Soil Erosion by Water in Germany: Scales and Archives, Chronology, Research Perspectives. *Quaternary International*, *222*, 80–95.

Dreibrodt, S., Jarecki, H., Lubos, C., Khamnueva, S. V., Klamm, M., & Bork, H.-R. (2013). Holocene soil formation and soil erosion at a slope beneath the Neolithic earthwork Salzmünde (Saxony-Anhalt, Germany). *Catena, 107*(0), 1-14.

Ehlers, J., Eissmann, L., Lippstreu, L., Stephan, H.-J., & Wansa, S. (2004). Pleistocene glaciations of North Germany. In J. Ehlers & P. L. Gibbard (Eds.), *Developments in Quaternary Sciences* (Vol. 2, 135-146). Heidelberg: Elsevier.

Fuchs, M., & Lang, A. (2009). Luminescence dating of hillslope deposits—A review. *Geomorphology, 109*(1–2), 17-26.

Felix-Henningsen, P. (2017). Norddeutsches Vereisungsgebiet. *Handbuch der Bodenkunde, 42*, 1-28.

Galbraith, R. F. (1998). The trouble with “probability density” plots of fission track ages. *Radiation Measurements, 29*(2), 125-131.

Galbraith, R. F. (2010). On plotting OSL equivalent doses. *Ancient TL, 28*(1), 1-10.

Galbraith, R. F., & Roberts, R. G. (2012). Statistical aspects of equivalent dose and error calculation and display in OSL dating: An overview and some recommendations. *Quaternary Geochronology, 11*, 1-27.

Gärtner, P. (1998). Neue Erkenntnise zur jungquartären Landschaftsentwicklung in Nordwestbrandenburg. Eine landschaftsgenetische Studie am Ausgang des Rheinsberger Beckens. *Münchener Geographische Abhandlungen, 49*, 95-116.

Giesecke, T., Wolters, S., Jahns, S., & Brande, A. (2012). Exploring Holocene changes in palynological richness in northern Europe – Did Postglacial immigration matter? *PLoS ONE, 7*, e51624.

Gramsch, B. (1973). Das Mesolithikum im Flachland zwischen Elbe und Oder. *Veröffentlichungen des Museums für Ur- und Frühgeschichte Potsdam, 7*.

Groß, D., Zander, A., Boethius, A., Dreibrodt, S., Grøn, O., Hansson, A., ... & Nilsson, B. (2018). People, lakes and seashores: Studies from the Baltic Sea basin and adjacent areas in the early and Mid-Holocene. *Quaternary Science Reviews, 185*, 27-40.

Hajdas, I. (2008). Radiocarbon dating and its applications in Quaternary studies. *E & G - Quaternary Science Journal, 57*(2), 2-24.

Harden, T., Macklin, M. G., & Baker, V. R. (2010). Holocene flood histories in south-western USA. *Earth Surface Processes and Landforms, 35*(6), 707-716.

Hardt, J. (2017). Weichselian phases and ice dynamics of the Scandinavian Ice Sheet in northeast Germany: a reassessment based on geochronological and geomorphological investigations in Brandenburg, *E&G Quaternary Science Journal, 66*, 101–102.

Hardt, J., & Böse, M. (2016). The timing of the Weichselian Pomeranian ice marginal position south of the Baltic Sea: A critical review of morphological and geochronological results. *Quaternary International*, http://dx.doi.org/10.1016/j.quaint.2016.07.044.

Helbig, H. (1999). *Die spätglaziale und holozäne Überprägung der Grundmoränenplatten in Vorpommern.* Greifswald: Selbstverlag der Universität Greifswald.

Hendl, M., (1994). Klima. In Liedtke, H., Marcinek, J. (Eds.), *Physische Geographie Deutschlands* ( 23-119). Gotha: Perthes.

Henkner, J., Ahlrichs, J., Downey, S., Fuchs, M., James, B., Junge, A., . . . Kühn, P. (2018). Archaeopedological analysis of colluvial deposits in favourable and unfavourable areas: reconstruction of land use dynamics in SW Germany. *Royal Society Open Science, 5: 171624*

Hilgers, A. (2007). *The chronology of Late Glacial and Holocene dune development in the northern Central European lowland reconstructed by optically stimulated luminescence (OSL) dating* (Doctoral dissertation). Universität Köln, Köln.

Hiller, A., Litt, T. & Eißmann, L. (1991). Zur Entwicklung der jungquartären Tieflandstäler im Saale-Elbe-Raum unter besonderer Berücksichtigung von l4C-Daten. *Eiszeitalter und Gegenwart*, *41*, 26-46.

Hirsch, F., Schneider, A., Nicolay, A., Błaszkiewicz, M., Kordowski, J., Noryskiewicz, A. M., ... Raab, T. (2015). Late Quaternary landscape development at the margin of the Pomeranian phase (MIS 2) near Lake Wygonin (Northern Poland). *Catena*, *124*, 28-44.

Hirsch, F., Spröte, R., Fischer, T., Forman, S. L., Raab, T., Bens, O., ... Hüttl, R. F. (2017). Late Quaternary aeolian dynamics, pedostratigraphy and soil formation in the North European Lowlands – new findings from the Baruther ice-marginal valley. *Die Erde, 148*, 58-73.

Hoffmann, T., Lang, A., & Dikau, R. (2008). Holocene river activity: analysing 14C-dated fluvial and colluvial sediments from Germany. *Quaternary Science Reviews, 27*(21-22), 2031-2040.

Jahns, S. (2000). On the Late Pleistocene and Holocene history of vegetation and human impact in the Ücker valley, north-eastern Germany. *Vegetation History and Archaeobotany, 10*(2), 97-104.

Janetzko, P., & Schmidt, R. (2014). Norddeutsche Jungmoränenlandschaften. *Handbuch der Bodenkunde, 23*, 1-38, Wiley.

Jankowski, M. (2012). Lateglacial soil paleocatena in inland-dune area of the Toruń Basin, Northern Poland. *Quaternary International, 265*, 116-125.

Jarvis, A., Reuter, H.I., Nelson, A., Guevara, E. (2008). Hole-filled Seamless SRTM Data V4. International Centre for Tropical Agriculture (CIAT) (available from http:// srtm.csi.cgiar.org).

Johnstone, E., Macklin, M. G., & Lewin, J. (2006). The development and application of a database of radiocarbon-dated Holocene fluvial deposits in Great Britain. *Catena, 66*(1–2), 14-23.

Jones, A. F., Macklin, M. G., & Benito, G. (2015). Meta-analysis of Holocene fluvial sedimentary archives: A methodological primer. *Catena, 130*, 3-12.

Kaiser, K. (2004). Geomorphic characterization of the Pleistocene - Holocene transition in Northeast Germany. In T. Terberger & B. V. Eriksen (Eds.), *Hunters in a changing world* ( 53-74). Rahden/Westfalen: Marie Leidorf Verlag.

Kaiser, K., Barthelmes, A., Czako-Pap, S., Hilgers, A., Janke, W., Kühn, P., & Theuerkauf, M. (2006). A Lateglacial palaeosol cover in the Altdarss area, southern Baltic Sea coast (northeast Germany): investigations on pedology, geochronology and botany. *Netherlands Journal of Geosciences, 85*(3), 197-220.

Kaiser, K., Hilgers, A., Schlaak, N., Jankowski, M., Kuhn, P., Bussemer, S., & Przegietka, K. (2009). Palaeopedological marker horizons in northern central Europe: characteristics of Lateglacial Usselo and Finow soils. *Boreas, 38*(3), 591-609.

Kaiser, K., Lorenz, S., Germer, S., Juschus, O., Küster, M., Libra, J., . . . Hüttl, R. F. (2012). Late Quaternary evolution of rivers, lakes and peatlands in northeast Germany reflecting past climatic and human impact–an overview. *E & G - Quaternary Science Journal, 61*(2), 103-132.

Kaiser, K., Küster, M., Fülling, A., Theuerkauf, M., Dietze, E., Graventein, H., Koch, P. J., Bens, O., & Brauer, A. (2014). Littoral landforms and pedosedimentary sequences indicating late Holocene lake-level changes in northern central Europe – A case study from northeastern Germany. *Geomorphology, 216*, 58-78.

Kale, V. S. (2007). Fluvio–sedimentary response of the monsoon-fed Indian rivers to Late Pleistocene–Holocene changes in monsoon strength: reconstruction based on existing 14C dates. *Quaternary Science Reviews, 26*(11–12), 1610-1620.

Kaplan, J. O., Krumhardt, K. M., & Zimmermann, N. (2009). The prehistoric and preindustrial deforestation of Europe. *Quaternary Science Reviews*, *28*(27–28), 3016-3034.

Kappler, C., Kaiser, K., Tanski, P., Klos, F., Fülling, A., Mrotzek, A., Sommer, M., & Bens, O. (2018): Stratigraphy and age of colluvial deposits indicating Late Holocene soil erosion in northeastern Germany. *Catena, 170*, 224-245.

Kerr, T.R. & McCormick, F. (2014). Statistics, Sunspots and Settlement: Influences on Sum of Probability Curves. *Journal of Archaeological Science, 41*, 493-501.

Krbetschek, M., Degering, D., & Alexowsky, W. (2008). Infrarot-Radiofluoreszenz-Alter (IR-RF) unter-saalezeitlicher Sedimente Mittel- und Ostdeutschlands. *Zeitschrift der Deutschen Gesellschaft für Geowissenschaften, 159*(1), 133-140.

Kühn, P. (2003a). Micromorphology and Late Glacial/Holocene genesis of Luvisols in Mecklenburg–Vorpommern (NE-Germany). *Catena, 54*(3), 537-555.

Kühn, P. (2003b). Spätglaziale und holozäne Lessivégenese auf jungweichselzeitlichen Sedimenten Deutschlands. *Greifswalder Geographische Arbeiten*, *28*.

Kühn, P., & Bauriegel, A. (2003). Mikromorphologische Befunde zur Lessivégenese im mittleren Jungmoränengebiet in Brandenburg südlich von Berlin. *Brandenburger geowissenschaftliche Beiträge, 10*(1/2), 91-100.

Kühn, P., Billwitz, K., Bauriegel, A., Kühn, D., & Eckelmann, W. (2006). Distribution and genesis of Fahlerden (Albeluvisols) in Germany. *Journal of Plant Nutrition and Soil Science, 169*(3), 420-433.

Küster, M., Fülling, A., & Ulrich, J. (2015). Bw horizon in Holocene slope deposits (Kratzeburg, NE Germany) – dating and pedological characteristics. [Research]. *E & G - Quaternary Science Journal*, *64*(2), 111-117.

Kulczycka-Leciejewiczowa, A., & Wetzel, G. (2002). Neolithikum im Odergebiet,[w:] E. Gringmuth--Dallmer, L. Leciejewicz (red.) *Forschungen zu Mensch und Umwelt im Odergebiet in urund frühgeschichtlicher Zeit*, 257-270. Mainz: Verlag Philipp von Zabern.

Lang, A. (2003). Phases of soil erosion-derived colluviation in the loess hills of South Germany. *Catena, 51*(3–4), 209-221.

Lehmkuhl, F., Zens, J., Krauß, L., Schulte, P., & Kels, H. (2016). Loess-paleosol sequences at the northern European loess belt in Germany: distribution, geomorphology and stratigraphy. *Quaternary Science Reviews, 153*, 11-30.

Litt, T., Behre, K.-E., Meyer, K.-D., Stephan, H.-J., & Wansa, S. (2007). Stratigraphische Begriffe für das Quartär des norddeutschen Vereisungsgebietes. *E & G - Quaternary Science Journal*, *56*(1-2), 7-65.

Litt, T., Schmincke, H.-U., & Kromer, B. (2003). Environmental response to climatic and volcanic events in central Europe during the Weichselian Lateglacial. *Quaternary Science Reviews, 22*(1), 7-32.

Lomax, J., Hilgers, A., Twidale, C. R., Bourne, J. A., & Radtke, U. (2007). Treatment of broad palaeodose distributions in OSL dating of dune sands from the western Murray Basin, South Australia. *Quaternary Geochronology, 2*(1–4), 51-56.

Lorz, C., & Saile, T. (2011). Anthropogenic pedogenesis of Chernozems in Germany? – A critical review. *Quaternary International, 243*(2), 273-279.

Lubos, C. C. M., Dreibrodt, S., Nelle, O., Klamm, M., Friederich, S., Meller, H., . . . Bork, H. R. (2011). A multi-layered prehistoric settlement structure (tell?) at Niederröblingen, Germany and its implications. *Journal of Archaeological Science, 38*(5), 1101-1110.

Lüthgens, C., & Böse, M. (2011). Chronology of Weichselian main ice marginal positions in north-eastern Germany. *E & G - Quaternary Science Journal, 60*(2-3), 236-247.

Macklin, M. G., Benito, G., Gregory, K. J., Johnstone, E., Lewin, J., Michczyńska, D. J., . . . Thorndycraft, V. R. (2006). Pat hydrological events reflected in the Holocene fluvial record of Europe. *Catena, 66*(1–2), 145-154.

Macklin, M. G., Fuller, I. C., Jones, A. F., & Bebbington, M. (2012). New Zealand and UK Holocene flooding demonstrates interhemispheric climate asynchrony. *Geology, 40*(9), 775-778.

Macklin, M. G., Johnstone, E., & Lewin, J. (2005). Pervasive and long-term forcing of Holocene river instability and flooding in Great Britain by centennial-scale climate change. *The Holocene, 15*(7), 937-943.

Macklin, M. G., Jones, A. F., & Lewin, J. (2010). River response to rapid Holocene environmental change: evidence and explanation in British catchments. *Quaternary Science Reviews, 29*(13-14), 1555-1576.

Macklin, M. G., & Lewin, J. (2003). River sediments, great floods and centennial-scale Holocene climate change. *Journal of Quaternary Science, 18*(2), 101-105.

Mauri, A., Davis, B. A. S., Collins, P. M., & Kaplan, J. O. (2015). The climate of Europe during the Holocene: a gridded pollen-based reconstruction and its multi-proxy evaluation. *Quaternary Science Reviews, 112*, 109-127.

Michczynska, D. J., & Hajdas, I. (2010). Frequency distribution of 14C ages for chronostratigraphic reconstructions: Alaska region study case. *Radiocarbon, 52*(3), p 1041.

Mol, J. (1997). Fluvial response to Weichselian climate changes in the Niederlausitz (Germany). *Journal of Quaternary Science, 12*(1), 43-60.

Mol, J., Vandenberghe, J., & Kasse, C. (2000). River response to variations of periglacial climate in mid-latitude Europe. *Geomorphology, 33*(3–4), 131-148.

Muhs, D.R., Mason, J.A., Jacobs, P.M., Singer, M.J., Verosub, K.L., Kemp, R.A., Bettis III, E.A., McFadden, L., & Kohfeld, K.E. (2013). Paleosols and wind-blown sediments. In: Elias, S.A. (ed.): *Encyclopedia of Quaternary Science* (2nd edition), 2075-2137. London: Elsevier.

Petera-Zganiacz, J., Dzieduszyńska, D. A., Twardy, J., Pawłowski, D., Płóciennik, M., Lutyńska, M., & Kittel, P. (2015). Younger Dryas flood events: A case study from the middle Warta River valley (Central Poland). *Quaternary International, 386*, 55-69.

Połtowicz-Bobak, M. (2012). Observations on the late Magdalenian in Poland. *Quaternary International, 272-273*, 297-307.

Preusser, F., Degering, D., Fuchs, M., Hilgers, A., Kadereit, A., Klasen, N., . . . Spencer, J. Q. (2008). Luminescence dating: basics, methods and applications. *E & G – Quaternary Science Journal, 57*(1-2), 95-149.

Price, T. D. (2000). *Europe's first farmers.* Cambridge: Cambridge University Press.

Ramsey, C. B. (2009). Bayesian analysis of radiocarbon dates. *Radiocarbon*, 51(1), 337-360.

Ramsey, C. B. (2017). Methods for Summarizing Radiocarbon Datasets. *Radiocarbon,* 59(6), 1-25.

Reimer, P. J., Bard, E., Bayliss, A., Beck, J. W., Blackwell, P. G., Ramsey, C. B., . . . van der Plicht, J. (2013). Intcal13 and Marine13 Radiocarbon Age Calibration Curves 0-50,000 Years Cal Bp. *Radiocarbon, 55*(4), 1869-1887.

Rhodes, E. J. (2011). Optically Stimulated Luminescence Dating of Sediments over the Past 200,000 Years. *Annual Review of Earth and Planetary Sciences, 39*(1), 461-488.

Rohdenburg, H. (1978). Zur Problematik der spätglazialen und holozänen Bodenbildung in Mitteleuropa. *Beiträge zur Quartär-und Landschaftsforschung. Festschrift J. Fink, Hirt, Wien*, 467-471.

Rohdenburg, H., (1989). *Landscape ecology, geomorphology.* Reiskirchen: Catena.

Rother, H., Kindermann, R., & Wittmann, H. (2015) *Die spätpleistozäne Deglaziation NE-Deutschlands: neue Ergebnisse zur Geochronologie und Inlandeisdynamik durch Datierungen mittels kosmogener Radionuklide (10Be)*. Paper presented at the 79. Tagung Norddeutscher Geologen, Teterow.

Schirmer, W. (1999). Dune phases and soils in the European sand belt. *GeoArchaeoRhein, 3,* 11-42.

Schlaak, N. (1997). *Äolische Dynamik im brandenburgischen Tiefland seit dem Weichselspätglazial : Ergebnisse aus den Forschungsprojekten Ma 1425/3-1;3-2*. Berlin: Selbstverlag Geographisches Institut Humboldt-Universität zu Berlin.

Schlaak, N. (1998). Der Finowboden - Zeugnis einer begrabenen weichselspätglazialen Oberfläche in den Dünengebieten Nordostbrandenburgs. *Münchener Geographische Abhandlungen, 49*, 143-148.

Sevink, J., Koster, E. A., van Geel, B. & Wallinga, J. (2013). Drift sands, lakes, and soils: the multiphase Holocene history of the Laarder Wasmeren area near Hilversum, the Netherlands. *Netherlands Journal of Geosciences, 92* (2/3), 243-266.

Sevink, J., van Geel, B., Jansen, B. & Wallinga, J. (2018). Early Holocene forest fires, drift sands, and Usselo-type paleosols in the Laarder Wasmeren area near Hilversum, the Netherlands: Implications for the history of sand landscapes and the potential role of Mesolithic land use. *Catena, 165,* 286-298.

Shennan, S. & Edinborough, K. (2007). Prehistoric population history: from the Late Glacial to the Late Neolithic in Central and Northern Europe. *Journal of Archaeological Science, 34,* 1339-1345.

Shennan, S., Downey,S., Timpson, A., Edinborough, K., Colledge, S., Kerig, T., Manning, K & Thomas, M. (2013). Regional population collapse followed initialagriculture booms in mid-Holocene Europe. *Nature Communications, 4:2486*.

Singhvi, A. K., Bluszcz, A., Bateman, M. D., & Rao, M. S. (2001). Luminescence dating of loess-palaeosol sequences and coversands: methodological aspects and palaeoclimatic implications. *Earth-Science Reviews, 54*(1-3), 193-211.

Sommer, R.S., Kalbe, J., Ekström, J., Benecke, N. & Liljegren, R. (2014). Range dynamics of the reindeer in Europe during the last 25.000 years. *Journal of Biogeography, 41*, 298-306.

Starkel, L., Soja, R., & Michczyńska, D. J. (2006). Past hydrological events reflected in Holocene history of Polish rivers. *Catena, 66*(1–2), 24-33.

Stauch, G. (2015). Geomorphological and palaeoclimate dynamics recorded by the formation of aeolian archives on the Tibetan Plateau. *Earth-Science Reviews, 150*, 393-408.

Strahl, J. (2005). Zur Pollenstratigraphie des Weichselspätglazials von Berlin-Brandenburg. *Brandenburger Geowissenschaftliche Beiträge, 12*, 87-112.

Straus, L., Leesch, D., & Terberger, T. (2012). The Magdalenian settlement of Europe: An introduction. *Quaternary International, 272-273*, 1-5.

Svensson, A., Andersen, K. K., Bigler, M., Clausen, H. B., Dahl-Jensen, D., Davies, S. M., . . . Vinther, B. M. (2008). A 60 000 year Greenland stratigraphic ice core chronology. *Climate of the Past, 4*(1), 47-57.

Terberger, T., De Klerk, P., Helbig, H., Kaiser, K., & Kühn, P. (2004). Late Weichselian landscape development and human settlement in Mecklenburg-Vorpommern (NE Germany). *Eiszeitalter und Gegenwart, 54*(1), 138-175.

Tolksdorf, J. F., & Kaiser, K. (2012). Holocene aeolian dynamics in the European sand-belt as indicated by geochronological data. *Boreas, 41*(3), 408-421.

Tolksdorf, J. F., Kaiser, K., Veil, S., Klasen, N., & Brückner, H. (2009). The Early Mesolithic Haverbeck site, Northwest Germany: evidence for Preboreal settlement in the Western and Central European Plain. *Journal of Archaeological Science, 36*(7), 1466-1476.

Tolksdorf, J.F., Turner, F., Kaiser, K., Eckmeier, E., Stahlschmidt, M., Housley, R.A., Cullen, V.L., Breest, K., & Veil, S. (2013). Multiproxy analyses of stratigraphy and palaeoenvironment of the Late Palaeolithic Grabow floodplain site, northern Germany. *Geoarchaeology, 28*, 50-65.

Tolksdorf, J.F., Turner, F., Kaiser, K., Eckmeier, E., Bittmann, F., & Veil, S. (2014). Potential of palaeosols, sediments and archaeological features to reconstruct Late Glacial fire regimes in northern Central Europe – case study on Grabow site and overview. *Zeitschrift für Geomorphologie, 58,* Supplement 1, 211-232.

Turner, F., Tolksdorf, J.F., Viehberg, F., Schwalb, A., Kaiser, K., Bittmann, F., von Bramann, U., Pott, R., Staesche, U., Breest, K., & Veil, S. (2013). Lateglacial/early Holocene fluvial reactions of the Jeetzel river (Elbe valley, northern Germany) to abrupt climatic and environmental changes. *Quaternary Science Reviews, 60,* 91-109.

Vermeesch, P. (2012). On the visualisation of detrital age distributions. *Chemical Geology, 312–313*, 190-194.

Wagner, G. A. (1998). *Age determination of young rocks and artifacts: physical and chemical clocks in quaternary geology and archaeology.* Berlin: Springer Verlag.

Walker, M., Berkelhammer, M., Björck, S., Cwynar, L., Fisher, D., Long, A., Lowe, J., Newnham, R., Rasmussen, S. & Weiss, H. (2012). Formal subdivision of the Holocene Series/Epoch: a Discussion Paper by a Working Group of INTIMATE (Integration of ice‐core, marine and terrestrial records) and the Subcommission on Quaternary Stratigraphy (International Commission on Stratigraphy). *J. Quaternary Sci., 27,* 649-659. doi:10.1002/jqs.2565

Wohlfarth, B., Skog, G., Possnert, G., & Holmquist, B. (1998). Pitfalls in the AMS radiocarbon‐dating of terrestrial macrofossils. *Journal of Quaternary Science*, *13*(2), 137-145.

WRB (2015). *World Reference Base for Soil Resources 2014, update 2015, International soil classification system for naming soils and creating legends for soil maps.* Rome.

Zielhofer, C., & Faust, D. (2008). Mid- and Late Holocene fluvial chronology of Tunisia. *Quaternary Science Reviews, 27*(5–6), 580-588.

Zimmermann, A. (1996). Zur Bevölkerungsdichte in der Urgeschichte Mitteleuropas: *Tübinger Monographien zur Urgeschichte 11.* In *Spuren der Jagd: Die Jagd nach Spuren—Festschrift Müller-Beck*, Tübingen, Germany: Mo Vince Verlag, 49–61.

**Figures**

Figure 1. Map of the study area with sites contributing chronological data to the database analyzed. The size of the symbols corresponds to the number of dates per site. All sites are referenced in Supplement 1. Extent of glaciations (Saalian and Weichselian) after Ehlers, Eissmann, Lippstreu, Stephan, and Wansa, (2004). SRTM terrain model from Jarvis, Reuter, Nelson, and Guevara (2008).

Figure. 2. Distribution of the collected numerical ages according to sedimentary environment and dating method.

Figure 3. Photographs of dated characteristic pedosedimentary sequences in northeastern Germany. A: Scheibe section (profile depth: c. 200 cm; photo: J. Mol); B: Zechow section (profile depth: 180 cm; photo: P. Gärtner); C: Reinberg section (core depth: 260-290 cm; photo: H. Helbig); D: Altdarss section (profile depth: 190 cm; photo: K. Kaiser); E: Finow-Postdüne section (profile depth: 300 cm; photo: N. Schlaak); F: Grabow section – profile: W-IX (profile depth: 150 cm; photo: J. F. Tolksdorf); G: Lenzen section – profile Len4 (profile depth: 160 cm; photo: P. Kühn); H: Laasche section (profile depth: 160 cm; photo: J. F. Tolksdorf); I: Boek section (profile depth: 160 cm, photo: K. Kaiser); J: Lake Priesterbäker See section (profile depth: 150 cm; photo: M. Küster); K: Steinfurth section (profile depth: 350 cm; photo: C. Kappler); L: Kühlenhagen section (profile depth: 170 cm; photo: F. Ruchhöft); M: Falkenhagen section (profile depth: 200 cm; photo: C. Kappler); N: Elisenhain section (profile depth: 120 cm, photo: H. Helbig).

Figure 4. Relative probability functions of all radiocarbon ages and kernel density estimate of all luminescence ages.

Figure 5. Relative probability and kernel density estimate of radiocarbon and luminescence ages, respectively, from aeolian (A1, A2) and colluvial (B1, B2) facies. The horizontal dashed line represents the mean of the respective probability distribution.

Figure 6. Relative probability and kernel density estimate of radiocarbon and luminescence ages, respectively, from paleosurfaces.

Figure 7. Relative probability curves and kernel density estimates of radiocarbon and luminescence ages, respectively, from buried paleosols. A1, A2: Cambisols; B1, B2: Chernozems; C1, C2: Podzols.

Figure 8. Relative probability curves of radiocarbon ages and kernel density estimates of minimum and maximum luminescence ages from buried paleosols of Finow type (Brunic Arenosol).

Figure 9. Summarized datasets of colluvial and aeolian records, dated paleosurfaces, human population models and vegetational and climatic reconstructions. The original studies contributing the data are referenced at the bottom and indicated with an index A1…-E2, marking each dataset. Subdivision of the Holocene according to Walker et al. (2012).

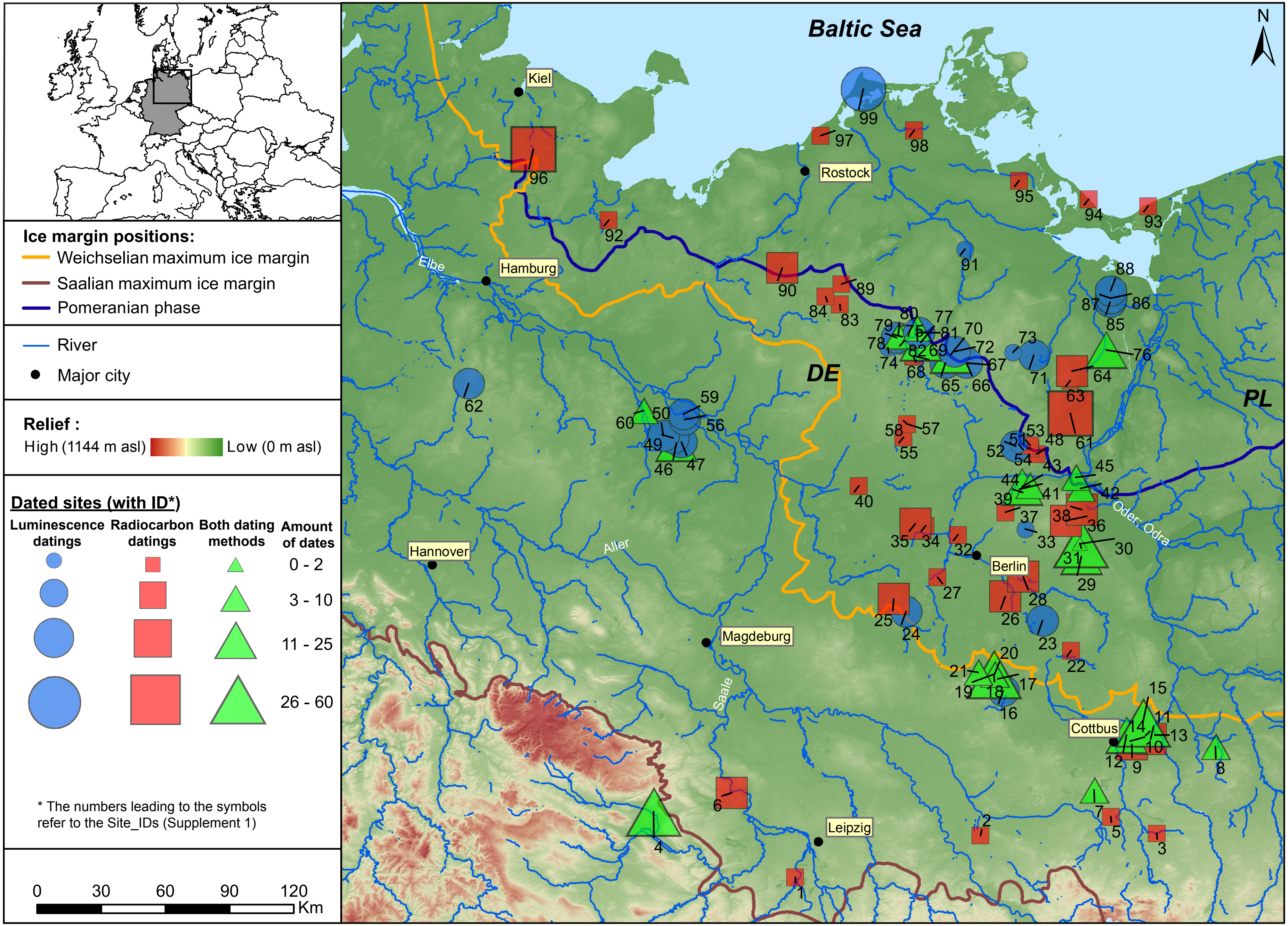
**Tables**

Table 1. Number of ages with respect on the dating methods applied and sedimentary facies.

**Supplement**

Supplement 1. List of radiocarbon and luminescence age data with corresponding metadata.

Supplement 2. List of references contributing the age data for the analysis.

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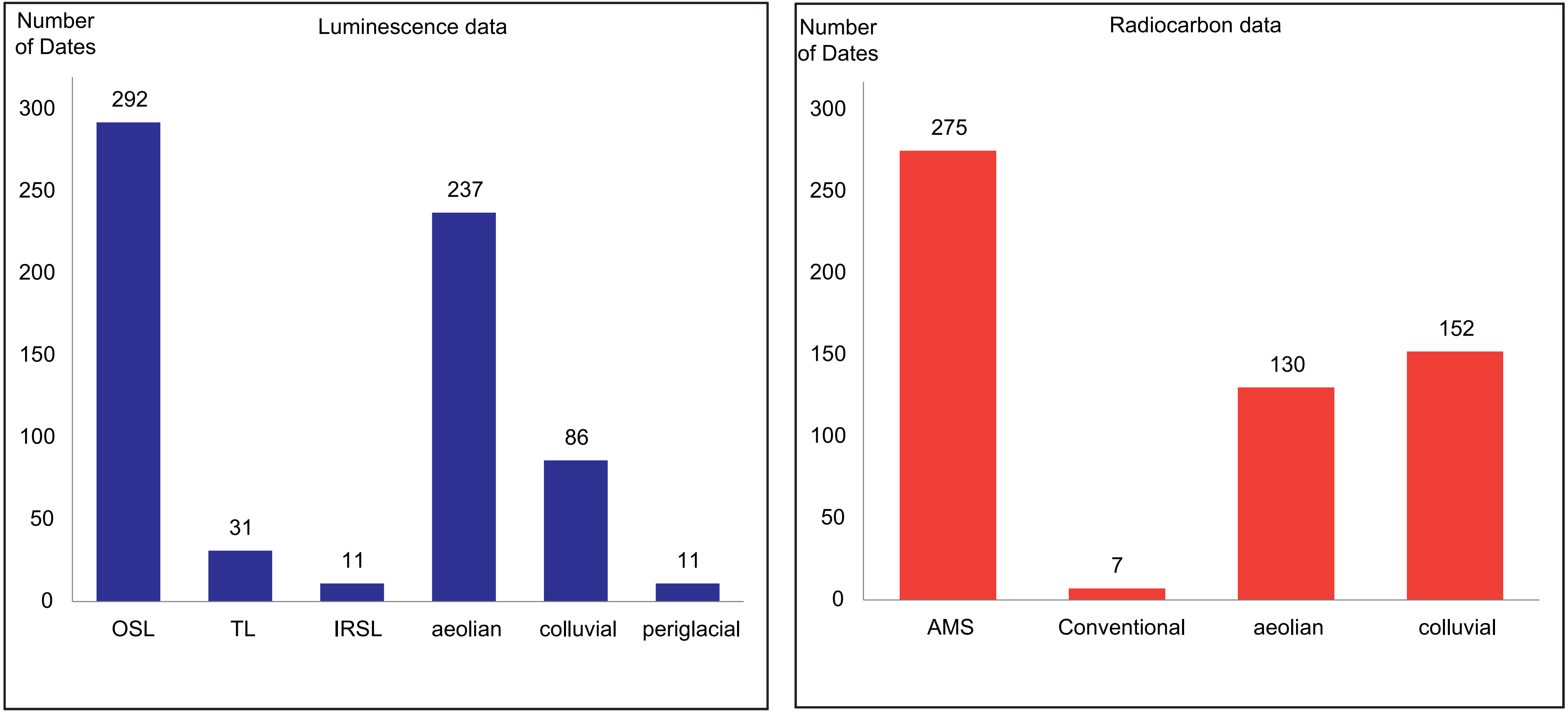
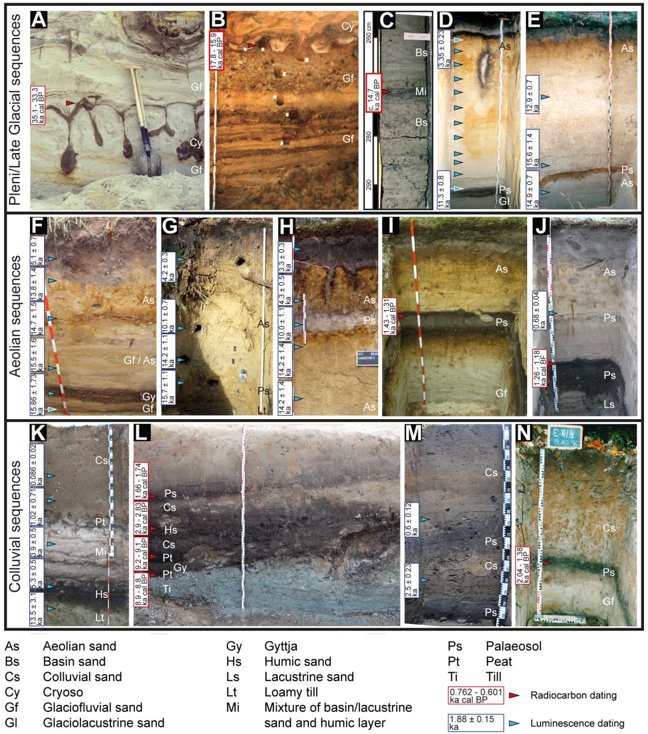



Figure. 2. Distribution of the collected numerical ages according to sedimentary environment and dating method.

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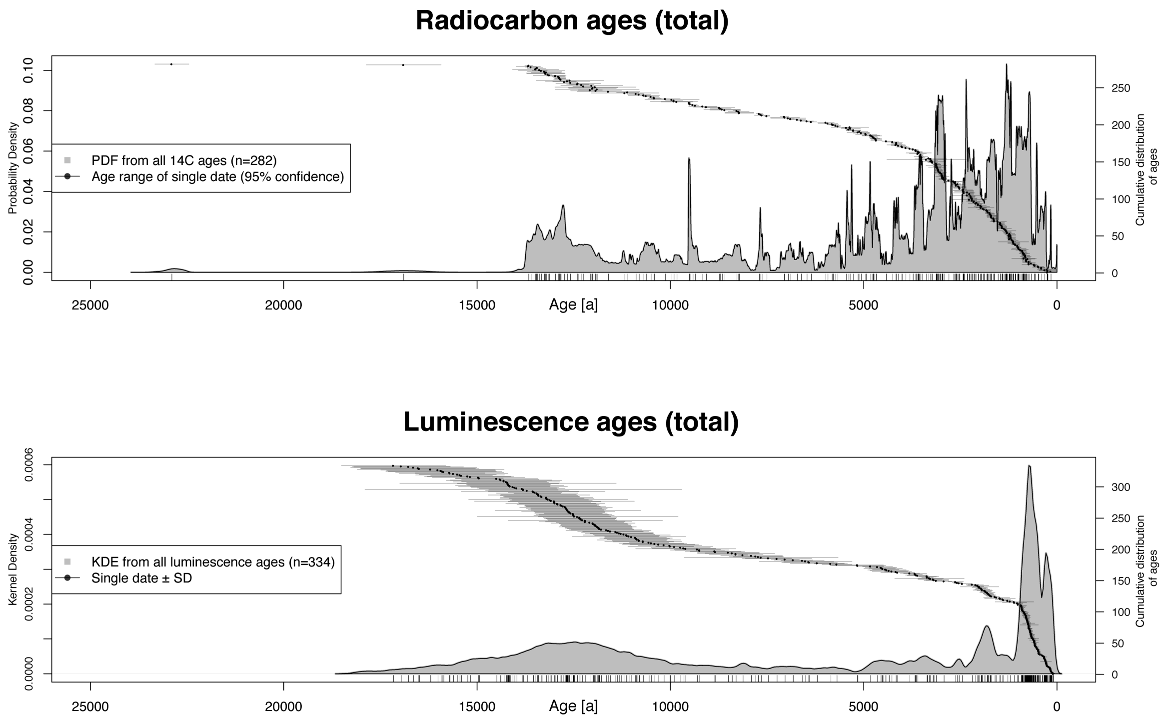



Figure 4. Relative probability functions of all radiocarbon ages and kernel density estimate of all luminescence ages.

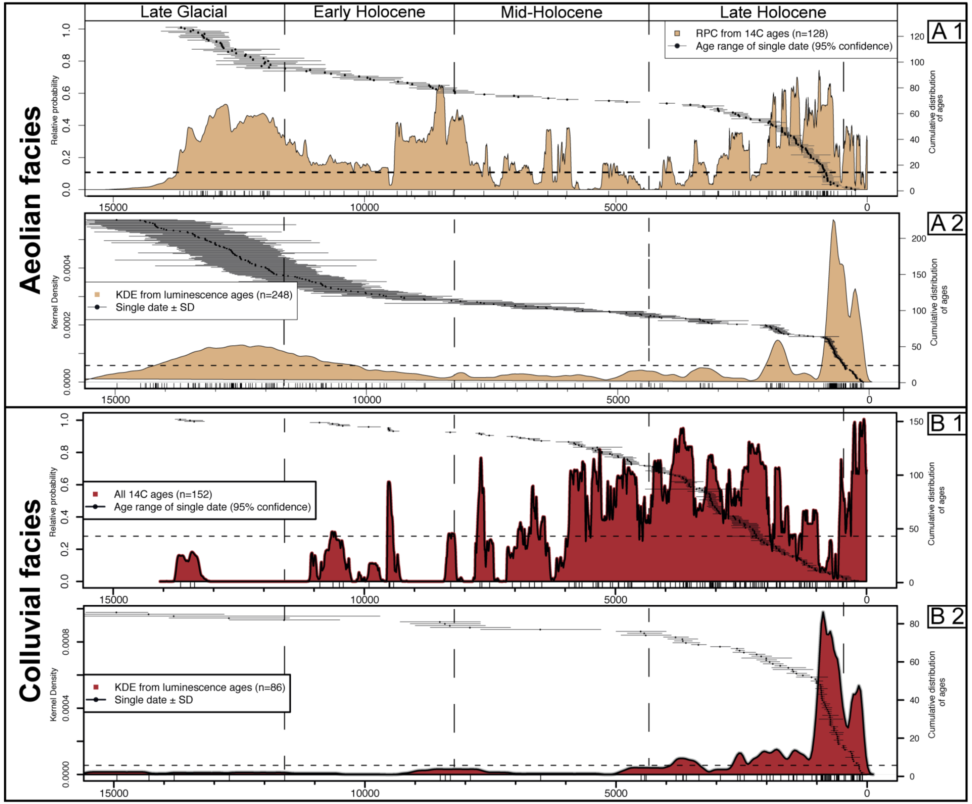



Figure 5. Relative probability and kernel density estimate of radiocarbon and luminescence ages, respectively, from aeolian (A1, A2) and colluvial (B1, B2) facies. The horizontal dashed line represents the mean of the respective probability distribution.

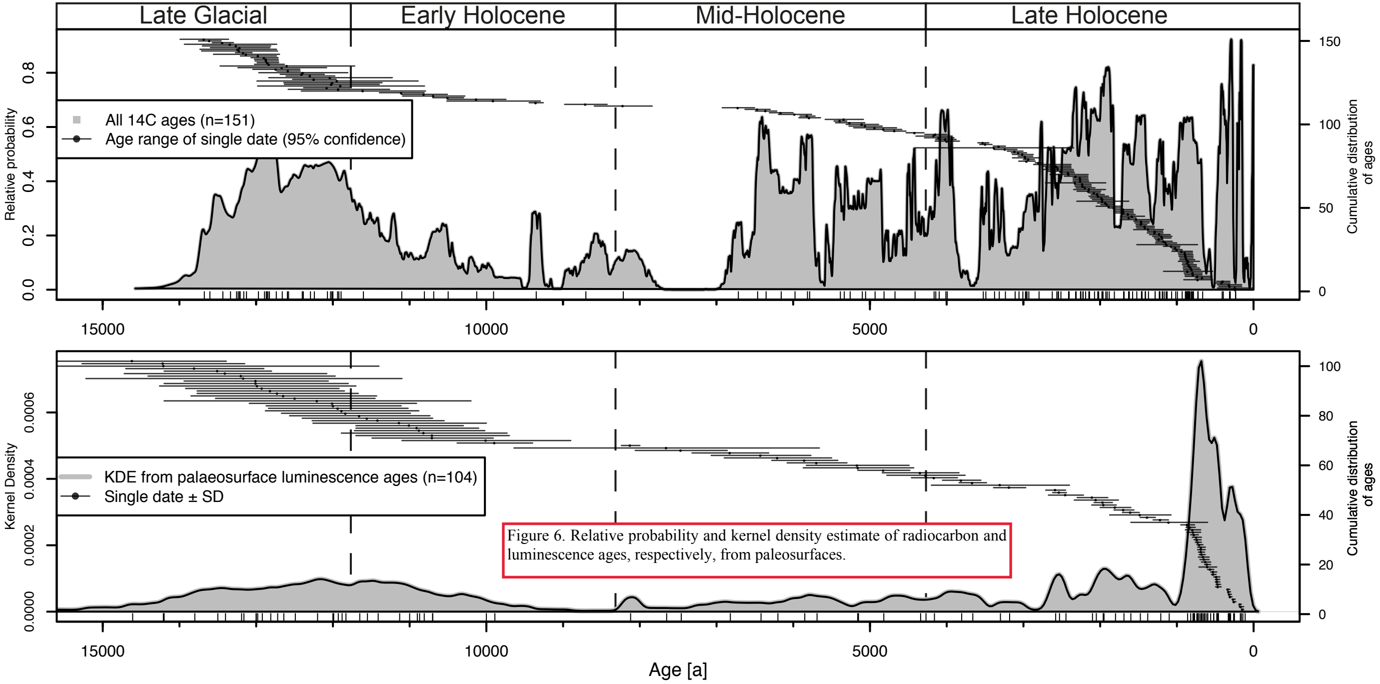



Figure 6. Relative probability and kernel density estimate of radiocarbon and luminescence ages, respectively, from paleosurfaces.

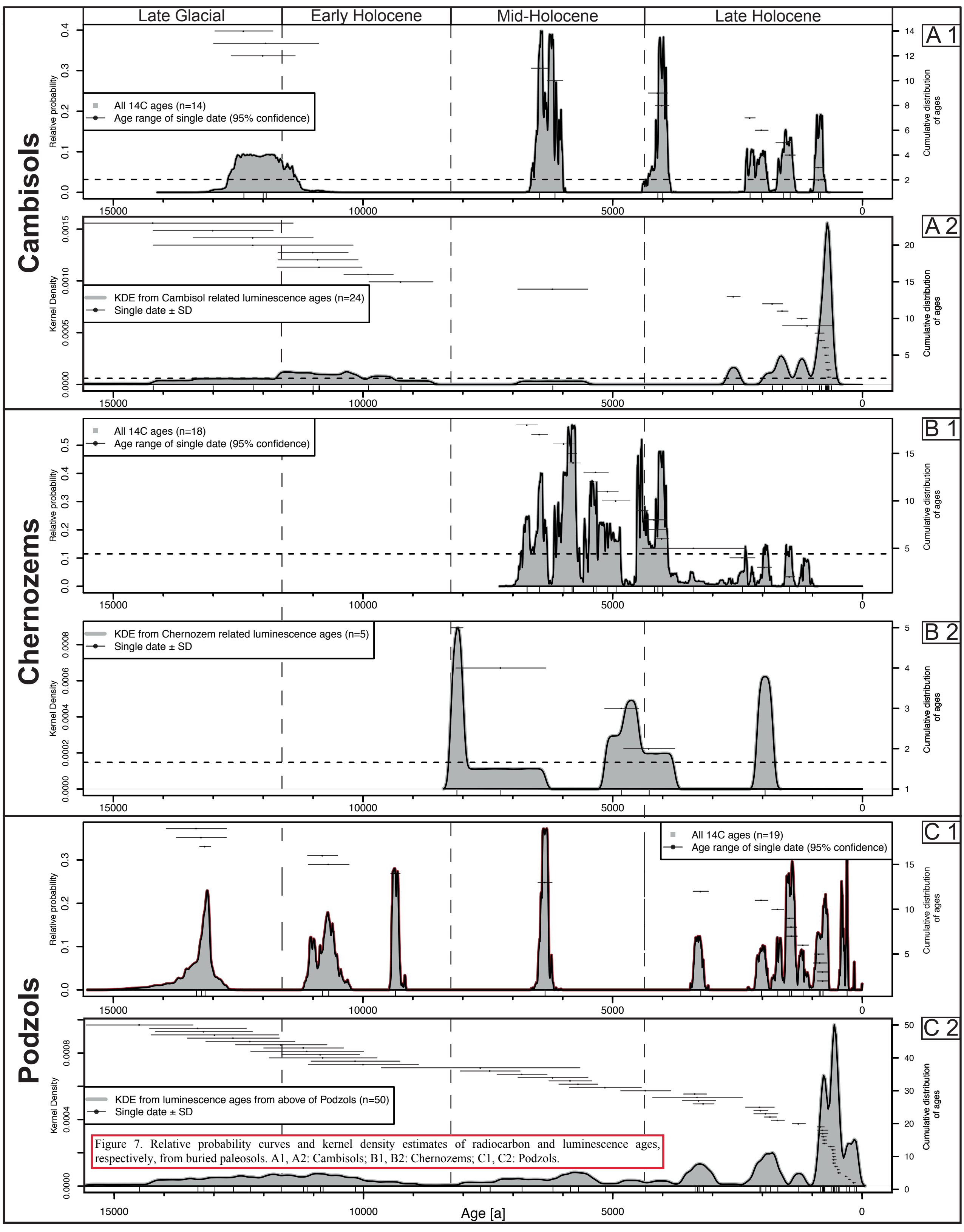
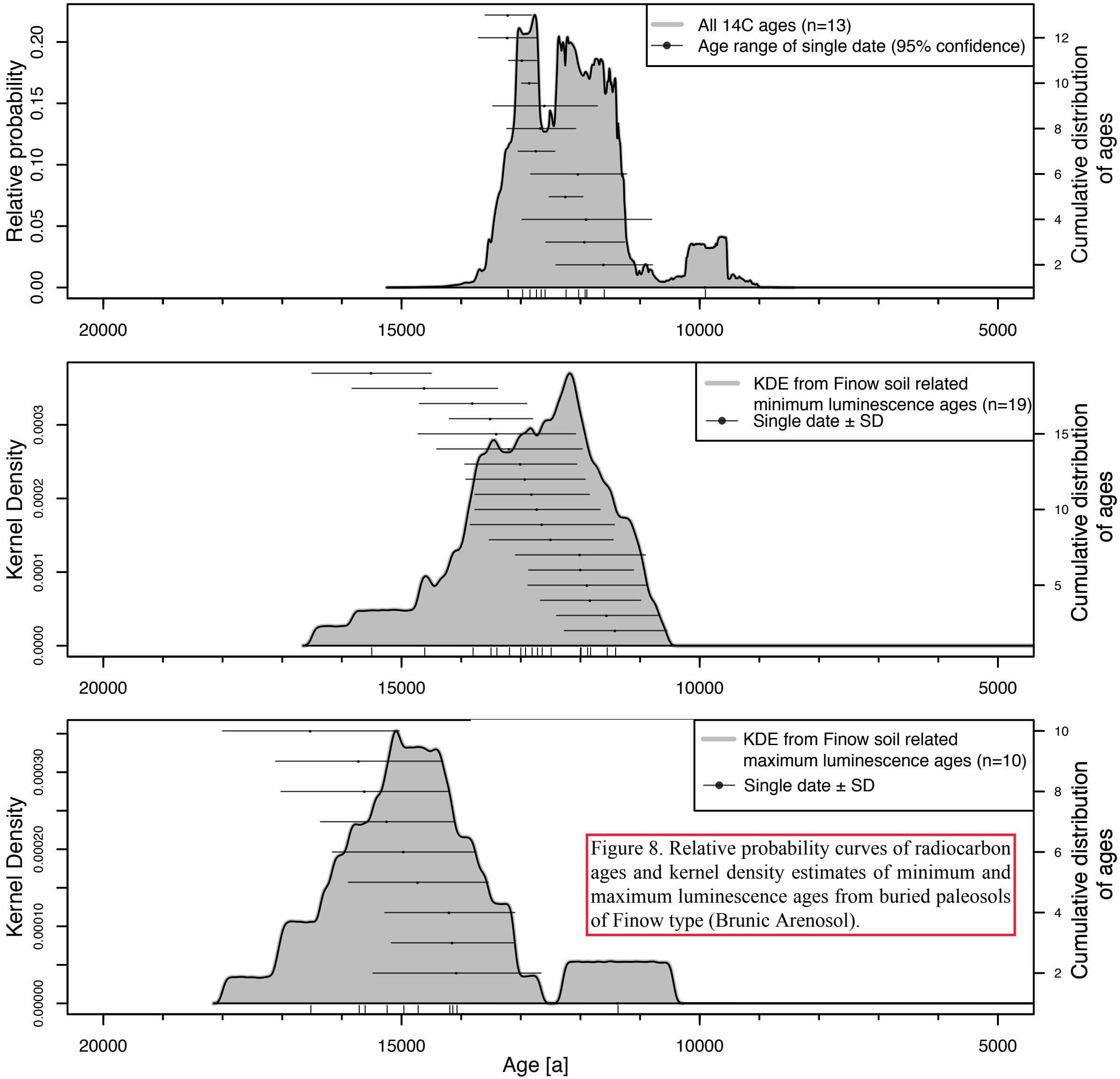



Figure 7. Relative probability curves and kernel density estimates of radiocarbon and luminescence ages, respectively, from buried paleosols. A1, A2: Cambisols; B1, B2: Chernozems; C1, C2: Podzols.

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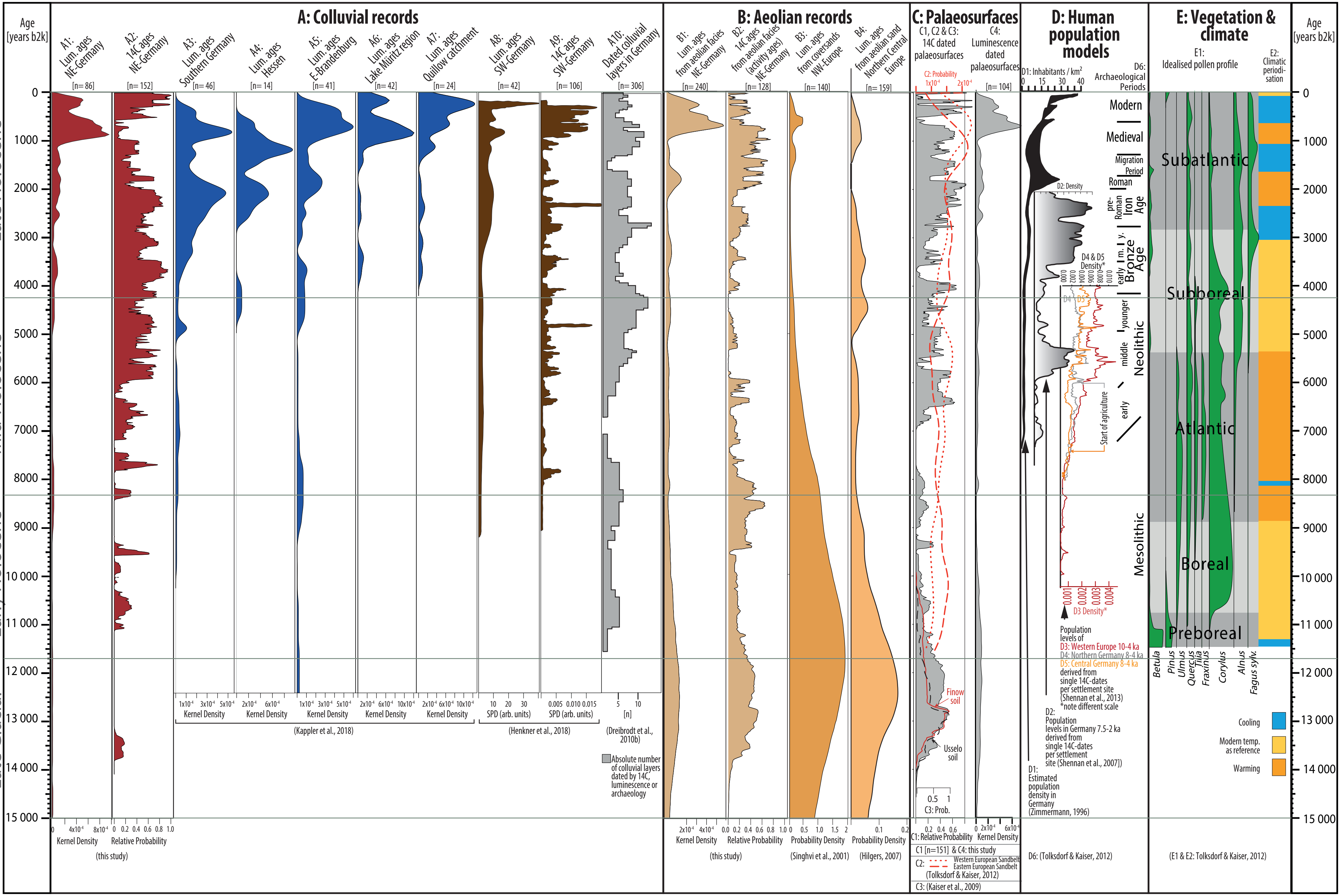


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Table 1. Number of ages with respect on the dating methods applied and sedimentary facies.

| **Age Category** | **Dating technique** | | | **Sedimentary facies** | | | **Total** |
|---|---|---|---|---|---|---|---|
| **Luminescence data** | OSL | TL | IRSL | aeolian | colluvial | periglacial | |
| [number] | 292 | 31 | 11 | 237 | 86 | 11 | 334 |
| **Radiocarbon data** | AMS | conventional | | aeolian | colluvial | other | |
| [number] | 275 | 7 | | 130 | 152 | 0 | 282 |

Supplement 1. List of radiocarbon and luminescence age data with corresponding metadata.

| Age category | Site ID Map | Site Category | n per site | Site | Latitude | Longitude | Lab-ID | Age (uncalibrated) | SD | Dated material / substrate (14C&OSL) | Facies | parent material / sediment type | Reference | Dating method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14C | 1 | 14C | 2 | Grossstorkwitz | 51.188431 | 12.267893 | SWAN-337 | 5220 | 70 | organic sediment | aeolian | Loess | Tinapp et al. 2008 | AMS |
| 14C | 1 | 14C | 2 | Grossstorkwitz | 51.188431 | 12.267893 | SWAN-336 | 2010 | 60 | organic sediment | colluvial | floodplain loam | Tinapp et al. 2008 | AMS |
| 14C | 2 | 14C | 2 | Frauenhain | 51.38209 | 13.46495 | Hv-20865 | 8785 | 250 | charcoal | aeolian | aeolian sand | Bussemer et al. 2009 | AMS |
| 14C | 2 | 14C | 2 | Frauenhain | 51.38209 | 13.46495 | Hv-20866 | 9725 | 270 | charcoal | aeolian | aeolian sand | Bussemer et al. 2009 | AMS |
| 14C | 3 | 14C | 1 | Reichwalde | 51.399901 | 14.616506 | unknown | 11400 | 190 | charcoal | aeolian | aeolian sand | Friedrich et al. (2001) | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37942 | 1695 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37943 | 1710 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32460 | 1780 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA35059 | 1800 | 40 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA38590 | 1820 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31874 | 1830 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31875 | 1865 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37010 | 2320 | 65 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37008 | 2405 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31877 | 2495 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37009 | 2540 | 35 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31882 | 2840 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31883 | 2855 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37940 | 2865 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31872 | 2875 | 60 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31880 | 2900 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32456 | 2915 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32458 | 2930 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37007 | 2935 | 65 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31876 | 2945 | 35 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31885 | 2955 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32462 | 2965 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31884 | 3030 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32461 | 3050 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31871 | 3300 | 20 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37006 | 3300 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32457 | 3320 | 80 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA32459 | 3340 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA38592 | 3355 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31881 | 3410 | 25 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA38593 | 3785 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37939 | 3785 | 35 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA38591 | 4230 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31878 | 4360 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31873 | 5160 | 100 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA31879 | 5815 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA37005 | 6045 | 30 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | KIA38594 | 6135 | 35 | charcoal | colluvial | not specified | Lubos et al. 2011 | AMS |
| 14C | 5 | 14C | 1 | Scheibe opencast mine | 51.466667 | 14.316667 | GrN-18137 | 11800 | 140 | charcoal | aeolian | aeolian sand | Mol 1997 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-30794 | 448 | 77 | charcoal | colluvial | not specified | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-30795 | 1118 | 23 | charcoal | colluvial | not specified | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-32482 | 2825 | 27 | Soil organic matter | colluvial | not specified | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-32481 | 3665 | 41 | Soil organic matter | colluvial | not specified | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-30796 | 3739 | 61 | charcoal | colluvial | not specified | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-30797 | 3758 | 62 | charcoal | colluvial | Colluvium | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-32480 | 4639 | 37 | Soil organic matter | colluvial | Colluvium | Dreibrodt et al. 2013 | AMS |
| 14C | 6 | 14C | 8 | Salzmünde | 51.522072 | 11.832708 | KIA-30813 | 5648 | 72 | Soil organic matter | colluvial | Colluvium | Dreibrodt et al. 2013 | AMS |
| 14C | 7 | Lum/14C | 5 | Welzow-Süd | 51.57417 | 14.20531 | Erl-17950 | 1086 | 40 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 7 | Lum/14C | 5 | Welzow-Süd | 51.57417 | 14.20531 | BLN 4561 | 1716 | 40 | charcoal | aeolian | aeolian sand | Bönisch 1996 | AMS |
| 14C | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | Gd-11397 | 10300 | 190 | charcoal | aeolian | aeolian sand | Kowalkowski et al. 1999 | AMS |
| 14C | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | unknown | 11130 | 120 | charcoal | aeolian | aeolian sand | Kowalkowski et al. 1999 | AMS |
| 14C | 9 | 14C | 3 | Groß Lieskow | 51.761237 | 14.450358 | Hv-18805 | 1072 | 31 | charcoal | aeolian | aeolian sand | Krauskopf & Pasda 1999; Bittmann & Pasda 1999 | AMS |
| 14C | 9 | 14C | 3 | Groß Lieskow | 51.761237 | 14.450357 | Hv-18748 | 2364 | 30 | charcoal | aeolian | aeolian sand | Krauskopf & Pasda 1999; Bittmann & Pasda 1999 | AMS |
| 14C | 9 | 14C | 3 | Groß Lieskow | 51.761237 | 14.450356 | Hv-18651 | 2822 | 38 | charcoal | aeolian | aeolian sand | Krauskopf & Pasda 1999; Bittmann & Pasda 1999 | AMS |
| 14C | 10 | 14C | 2 | Dissenchen | 51.775042 | 14.438494 | Bln-? Jahr 1970 | 1043 | 100 | charcoal | aeolian | aeolian sand | Nowel et al. 1972; Magalowski & Nowel 1982 | conv |
| 14C | 10 | 14C | 2 | Dissenchen | 51.775042 | 14.438494 | Bln-? Jahr 1970 | 1440 | 100 | charcoal | aeolian | aeolian sand | Nowel et al. 1972; Magalowski & Nowel 1982 | conv |
| 14C | 11 | 14C | 5 | Horno | 51.784747 | 14.571936 | unknown | 1274 | 24 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 11 | 14C | 5 | Horno | 51.784747 | 14.571936 | unknown | 1561 | 27 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 11 | 14C | 5 | Horno | 51.784747 | 14.571936 | unknown | 3113 | 32 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 11 | 14C | 5 | Horno | 51.784747 | 14.571936 | unknown | 3267 | 29 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 11 | 14C | 5 | Horno | 51.784747 | 14.571936 | unknown | 3593 | 28 | charcoal | colluvial | not specified | Woithe 2003 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Erl-17175 | 880 | 47 | charcoal | aeolian | aeolian sand | Raab, T. et al 2015 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Erl-17178 | 959 | 49 | soil organic matter | aeolian | aeolian sand | Raab, T. et al 2015 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Erl-17182 | 1278 | 49 | charcoal | aeolian | aeolian sand | Raab, T. et al 2015 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | HV23504 | 1335 | 60 | charcoal | aeolian | aeolian sand | Berg-Hohbohm 2000 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Erl-17176 | 1769 | 50 | charcoal | aeolian | aeolian sand | Raab, T. et al 2015 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Poz-60974 | 2860 | 30 | charcoal | aeolian | aeolian sand | Müller 2014 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1345 | 9780 | 75 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1353 | 10420 | 100 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1351 | 10520 | 100 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1348 | 10660 | 80 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1347 | 10870 | 105 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1352 | 10960 | 80 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1349 | 10970 | 80 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Lz-1350 | 11000 | 110 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999; Pasda 2002 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | LZ-1346 | 18960 | 180 | charcoal | aeolian | aeolian sand | Bittmann & Pasda 1999 | AMS |
| 14C | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Erl-17177 | 6594 | 61 | charcoal | colluvial | not specified | Raab, T. et al 2015 | AMS |
| 14C | 13 | 14C | 2 | Teufelsberg bei Briesnig | 51.801044 | 14.599806 | Hv-20746 | 990 | 45 | charcoal | aeolian | aeolian sand | Krauskopf & Pasda 1999 | AMS |
| 14C | 13 | 14C | 2 | Teufelsberg bei Briesnig | 51.801044 | 14.599806 | Hv-20745 | 1480 | 55 | charcoal | aeolian | aeolian sand | Krauskopf & Pasda 1999 | AMS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14C | 14 | 14C | 1 | Heinersbrück | 51.816311 | 14.566734 | Hv-24501 | 10810 | 140 | charcoal | aeolian | aeolian sand | Kaiser et al. 2009 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-16338 | 291 | 42 | charcoal | aeolian | aeolian sand | Nicolay et al. 2014 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-17184 | 741 | 48 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-17187 | 824 | 50 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-17188 | 865 | 49 | charcoal | aeolian | aeolian sand | Nicolay et al. 2014 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-15502 | 970 | 44 | charcoal | aeolian | aeolian sand | Nicolay et al. 2014 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-16341 | 1132 | 43 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-16573 | 1381 | 50 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-16342 | 1562 | 44 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Poz-63242 | 1730 | 35 | charcoal | aeolian | aeolian sand | Schulz 2016 unpubl., In: Nicolay unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Grabhügel JW 9 | 1760 | 35 | charcoal | aeolian | aeolian sand | Schulz 2016 unpubl., In: Nicolay unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Poz-63248 | 1765 | 35 | charcoal | aeolian | aeolian sand | Schulz 2016 unpubl., In: Nicolay unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Poz-63240 | 1770 | 35 | charcoal | aeolian | aeolian sand | Schulz 2016 unpubl., In: Nicolay unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Poz-39291 | 1890 | 30 | charcoal | aeolian | aeolian sand | Schulz 2016 unpubl., In: Nicolay unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25538 | 1975 | 115 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25539 | 2150 | 95 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25545 | 2595 | 90 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-16340 | 3065 | 48 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25543 | 9400 | 130 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25542 | 9470 | 90 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25546 | 10300 | 200 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25544 | 10315 | 370 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-17951 | 10357 | 71 | charcoal | aeolian | aeolian sand | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25549 | 10590 | 215 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25547 | 11280 | 60 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25540 | 11370 | 265 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Hv-25541 | 11450 | 290 | charcoal | aeolian | aeolian sand | Frechen, M. 2010 personal comm. ; Poppschötz et al 2010 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Erl-17183 | 322 | 47 | charcoal | colluvial | not specified | Nicolay Unpubl. | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | KIA 11703 | 2053 | 27 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | KIA 11704 | 2104 | 27 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | KIA11705 | 2669 | 29 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | KIA1170 | 3782 | 35 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | KIA11707 | 4583 | 32 | charcoal | colluvial | Colluvium | Woithe 2003 | AMS |
| 14C | 17 | Lum/14C | 3 | Klasdorf | 52.021279 | 13.557958 | Bln-4301 | 2510 | 50 | charcoal | aeolian | aeolian sand | de Boer 1995 | AMS |
| 14C | 18 | 14C | 1 | Baruth | 52.033229 | 13.533433 | Hv-24198 | 10000 | 230 | charcoal | aeolian | aeolian sand | Kaiser et al. 2009 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Erl-11790 | 882 | 45 | charcoal | aeolian | aeolian sand | Hirsch et al. 2017 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Erl-11791 | 1006 | 38 | charcoal | aeolian | aeolian sand | Hirsch et al. 2017 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Erl-11792 | 1954 | 40 | charcoal | aeolian | aeolian sand | Hirsch et al. 2017 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Erl-11618 | 10260 | 66 | charcoal | aeolian | aeolian sand | Hirsch et al. 2017 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Hv-23889 | 10830 | 250 | charcoal | aeolian | aeolian sand | Kaiser et al. 2009 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Erl-11619 | 11610 | 72 | charcoal | aeolian | aeolian sand | Hirsch et al. 2017 | AMS |
| 14C | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Erl-11617 | 11768 | 75 | charcoal | aeolian | aeolian sand | Hirsch et al. 2017 | AMS |
| 14C | 20 | Lum/14C | 4 | Klein Ziescht | 52.040953 | 13.535095 | Bln-? | 1490 | 70 | charcoal | aeolian | aeolian sand | de Boer 1995 | AMS |
| 14C | 21 | Lum/14C | 5 | Schöbendorf | 52.047809 | 13.427258 | Bln-4298 | 260 | 50 | charcoal | aeolian | aeolian sand | de Boer 1995 | AMS |
| 14C | 22 | 14C | 2 | Schwenow | 52.142159 | 14.042874 | Bln-831 | 1192 | 200 | charcoal | aeolian | aeolian sand | Müller et al. 1971 | AMS |
| 14C | 22 | 14C | 2 | Schwenow | 52.142159 | 14.042874 | Bln-832 | 1620 | 100 | charcoal | aeolian | aeolian sand | Müller et al. 1971 | conv |
| 14C | 25 | 14C | 3 | Bliesendorf | 52.338229 | 12.855084 | Hv-19880 | 735 | 110 | charcoal | aeolian | aeolian sand | Böse et al. 1998; Brande et al. 1999; Böse et al. 2002 | AMS |
| 14C | 25 | 14C | 3 | Bliesendorf | 52.338229 | 12.855084 | Hv-19881 | 850 | 170 | charcoal | aeolian | aeolian sand | Böse et al. 1998; Brande et al. 1999; Böse et al. 2002 | AMS |
| 14C | 25 | 14C | 3 | Bliesendorf | 52.338229 | 12.855084 | Hv-23698 | 2835 | 60 | charcoal | aeolian | aeolian sand | Böse et al. 1998; Brande et al. 1999; Böse et al. 2002 | AMS |
| 14C | 26 | 14C | 5 | Schulzendorf | 52.358951 | 13.596372 | Hv-14360 | 1035 | 55 | charcoal | aeolian | aeolian sand | Teschner-Steinhardt & Müller 1994 | AMS |
| 14C | 26 | 14C | 5 | Schulzendorf | 52.358951 | 13.596372 | Hv-14358 | 1935 | 70 | charcoal | aeolian | aeolian sand | Teschner-Steinhardt & Müller 1994 | AMS |
| 14C | 26 | 14C | 5 | Schulzendorf | 52.358951 | 13.596372 | Hv-14359 | 2240 | 150 | charcoal | aeolian | aeolian sand | Teschner-Steinhardt & Müller 1994 | AMS |
| 14C | 26 | 14C | 5 | Schulzendorf | 52.358951 | 13.596372 | Hv-14361 | 2450 | 85 | charcoal | aeolian | aeolian sand | Teschner-Steinhardt & Müller 1994 | AMS |
| 14C | 26 | 14C | 5 | Schulzendorf | 52.358951 | 13.596372 | Hv-14363 | 8810 | 280 | charcoal | aeolian | charcoal layer | Teschner-Steinhardt & Müller 1994 | AMS |
| 14C | 27 | 14C | 1 | Alter Hof am Wannsee | 52.431053 | 13.142064 | Hv-13628 | 570 | 65 | peat | aeolian | peat buried by aeolian sand | Böse & Brande 1986 | AMS |
| 14C | 28 | 14C | 3 | Püttberge | 52.4406725 | 13.7136794 | Hv-25424 | 950 | 70 | charcoal | aeolian | aeolian sand | Bussemer et al. 2009 | AMS |
| 14C | 28 | 14C | 3 | Püttberge | 52.4406725 | 13.7136794 | Hv-25423 | 1400 | 120 | charcoal | aeolian | aeolian sand | Bussemer et al. 2009 | AMS |
| 14C | 28 | 14C | 3 | Püttberge | 52.4406725 | 13.7136794 | Hv-25425 | 5560 | 70 | charcoal | aeolian | aeolian sand | Bussemer et al. 2009 | AMS |
| 14C | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | KIA2811 | 470 | 40 | charcoal | colluvial | not specified | Bork et al. 1998; Schatz 2000 | AMS |
| 14C | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | KIA2809 | 2080 | 50 | charcoal | colluvial | not specified | Bork et al. 1998; Schatz 2000 | AMS |
| 14C | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | KIA2810 | 2760 | 70 | charcoal | colluvial | not specified | Bork et al. 1998; Schatz 2000 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA33637 | 231 | 27 | charcoal | colluvial | Colluvium | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA38729 | 806 | 25 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA33639 | 1152 | 20 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA33638 | 1202 | 21 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA36164 | 1404 | 30 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA30478 | 2066 | 27 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA31586 | 2170 | 26 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA35066 | 2172 | 29 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA38401 | 2189 | 26 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA29920 | 3436 | 24 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA35067 | 6829 | 37 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA38400 | 6856 | 34 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA38398 | 7453 | 59 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA29916 | 8485 | 46 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA29914 | 8502 | 36 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA38399 | 8517 | 39 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA38730 | 8802 | 38 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA36163 | 9255 | 42 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA30477 | 9322 | 66 | charcoal | colluvial | Colluvium | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA29915 | 9399 | 44 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | KIA30147 | 9524 | 39 | charcoal | colluvial | not specified | Dreibrodt et al. 2010 | AMS |
| 14C | 32 | 14C | 1 | Heiligensee Forst | 52.608448 | 13.271987 | BONN-609 | 760 | 60 | organic matter | aeolian | aeolian sand | Scharpenseel & Pietig 1970 | conv |
| 14C | 34 | 14C | 1 | Pausin | 52.640961 | 13.053331 | Hv-22130 | 1320 | 70 | charcoal | aeolian | aeolian sand | Schlaak 1999 | AMS |
| 14C | 35 | 14C | 4 | Perwenitz | 52.648773 | 12.984722 | Hv-22134 | 4465 | 95 | charcoal | aeolian | aeolian sand | Schlaak 1999 | AMS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14C | 35 | 14C | 4 | Perwenitz | 52.648773 | 12.984722 | Hv-22133 | 8135 | 105 | charcoal | aeolian | aeolian sand | Schlaak 1999 | AMS |
| 14C | 35 | 14C | 4 | Perwenitz | 52.648773 | 12.984722 | Hv-22132 | 9225 | 80 | charcoal | aeolian | aeolian sand | Schlaak 1999 | AMS |
| 14C | 35 | 14C | 4 | Perwenitz | 52.648773 | 12.984722 | Hv-22131 | 11330 | 265 | charcoal | aeolian | aeolian sand | Schlaak 1997 | AMS |
| 14C | 36 | 14C | 4 | Sternebeck | 52.672653 | 13.993198 | HAM-3474 | 820 | 45 | charcoal | aeolian | aeolian sand | Bussemer 1998 | AMS |
| 14C | 36 | 14C | 4 | Sternebeck | 52.672653 | 13.993198 | HAM-3475 | 1490 | 45 | charcoal | aeolian | aeolian sand | Bussemer 1998 | AMS |
| 14C | 36 | 14C | 4 | Sternebeck | 52.672653 | 13.993198 | HAM-3476 | 1515 | 50 | charcoal | aeolian | aeolian sand | Bussemer 1998 | AMS |
| 14C | 36 | 14C | 4 | Sternebeck | 52.672653 | 13.993198 | HAM-3477 | 1555 | 50 | charcoal | aeolian | aeolian sand | Bussemer 1998 | AMS |
| 14C | 37 | 14C | 1 | Ladeburg | 52.703294 | 13.588631 | unknown | 3650 | 60 | charcoal | aeolian | aeolian sand | Bussemer et al. 1998 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA6020 | 204 | 158 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA6021 | 835 | 92 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA7121 | 871 | 90 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA6419 | 1051 | 69 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA7123 | 1285 | 61 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA6022 | 1398 | 59 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA7122 | 2171 | 168 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA6420 | 2954 | 113 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA7124 | 3042 | 142 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 38 | 14C | 10 | Biesdorfer Kehlen | 52.719547 | 14.099558 | KIA6019 | 4676 | 181 | charcoal | colluvial | not specified | Schmidtchen et al. 1999 | AMS |
| 14C | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | Bln-4283 | 1180 | 80 | charcoal | aeolian | charcoal layer | Hilgers 2007 | AMS |
| 14C | 40 | 14C | 1 | Wutzetzer Heide | 52.794488 | 12.595333 | Bln-?? | 1300 | 65 | organic matter | aeolian | aeolian sand | Behrendt et al. 2002 | AMS |
| 14C | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | CK1 | 1180 | 80 | charcoal | aeolian | aeolian sand | Bussemer et al. 1998 | AMS |
| 14C | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | Bln-4317 | 4250 | 80 | charcoal | aeolian | aeolian sand | Bussemer et al. 1998 | AMS |
| 14C | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | Bln-4318 | 7780 | 200 | charcoal | aeolian | aeolian sand | Bussemer et al. 1998 | AMS |
| 14C | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | Hv-22374 | 10840 | 355 | charcoal | aeolian | aeolian sand | Kaiser et al. 2009 | AMS |
| 14C | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | Bln-4407 | 11400 | 200 | peat | aeolian | aeolian sand | Bussemer et al. 1998 | AMS |
| 14C | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | Hv-19388 | 1995 | 75 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998 | AMS |
| 14C | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | Hv-19389 | 2610 | 70 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998 | AMS |
| 14C | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | Hv-19387 | 3075 | 165 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998 | AMS |
| 14C | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | Hv-19391 | 3270 | 80 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998 | AMS |
| 14C | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | Hv-19392 | 6060 | 180 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998 | AMS |
| 14C | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | Hv-19390 | 8250 | 130 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998 | AMS |
| 14C | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | Hv-22367 | 6125 | 150 | charcoal | aeolian | aeolian sand | Hilgers 2007, Schlaak 1999 | AMS |
| 14C | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | Hv-22373 | 9030 | 125 | charcoal | aeolian | aeolian sand | Hilgers 2007, Schlaak 1999 | AMS |
| 14C | 44 | Lum/14C | 6 | Spechthausen | 52.810843 | 13.776973 | Hv-21251 | 7415 | 140 | charcoal | aeolian | charcoal layer | Schlaak 1997; Bussemer et al. 1998; Hilgers 2007 | AMS |
| 14C | 45 | Lum/14C | 4 | Neuenhagener Oderinsel | 52.850908 | 14.057633 | Bln-4918 | 4285 | 70 | charcoal | colluvial | not specified | Brose et al. 2002; Schatz 2000 | conv |
| 14C | 45 | Lum/14C | 4 | Neuenhagener Oderinsel | 52.850908 | 14.057633 | KIA4350 | 4375 | 55 | charcoal, ø age | colluvial | not specified | Brose et al. 2002; Schatz 2000 | AMS |
| 14C | 46 | Lum/14C | 15 | Schletau | 52.920556 | 11.358541 | Hv-24136 | 7700 | 165 | plant remains | aeolian | aeolian sand | Breest & Veil 2001; Hilgers 2007 | AMS |
| 14C | 46 | Lum/14C | 15 | Schletau | 52.920556 | 11.358541 | Hv-24137 | 7825 | 170 | plant remains | aeolian | aeolian sand | Breest & Veil 2001; Hilgers 2007 | AMS |
| 14C | 46 | Lum/14C | 15 | Schletau | 52.920556 | 11.358541 | Hv-24135 | 8720 | 185 | plant remains | aeolian | aeolian sand | Breest & Veil 2001; Hilgers 2007 | AMS |
| 14C | 48 | 14C | 1 | Bugsinsee | 52.944495 | 13.790351 | Hv-21620 | 6745 | 115 | charcoal | aeolian | charcoal layer | Schlaak 1997 | AMS |
| 14C | 51 | 14C | 2 | Schorfheide | 52.96668 | 13.75 | Hv-21622 | 10290 | 385 | charcoal | aeolian | aeolian sand | Schlaak 1997 | AMS |
| 14C | 51 | 14C | 2 | Schorfheide | 52.96668 | 13.75 | Hv-21250 | 10390 | 315 | charcoal | aeolian | aeolian sand | Schlaak 1997 | AMS |
| 14C | 53 | 14C | 1 | Joachimsthal | 52.978172 | 13.745561 | Hv-21621 | 7825 | 105 | charcoal | aeolian | aeolian sand | Schlaak 1997 | AMS |
| 14C | 55 | 14C | 1 | Rhintal | 52.999546 | 12.888466 | Hv-19902 | 7390 | 195 | charcoal | aeolian | aeolian sand | Bussemer et al. 1998 | AMS |
| 14C | 57 | 14C | 1 | Rhin | 53.054474 | 12.911393 | Hv-19902 | 7390 | 195 | charcoal | aeolian | aeolian sand | Kaiser et al. 2007; Bussemer et al. 1998 | AMS |
| 14C | 58 | 14C | 1 | Rhin | 53.054474 | 12.911393 | Hv-21669 | 13919 | 360 | charcoal | aeolian | aeolian sand | Gärtner 1998 | Ams |
| 14C | 60 | Lum/14C | 5 | Soven | 53.06416 | 11.12113 | UGAMS-4609 | 8320 | 30 | charcoal | aeolian | aeolian sand | Tolksdorf et al. 2015 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3459 | 1215 | 50 | soil organic matter | colluvial | not specified | Fischer-Zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | IfB_Uni Hamburg | 1575 | 50 | organic sediment | colluvial | not specified | Fischer-Zujkov et al. 1999 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM 3461 | 1990 | 50 | soil organic matter | colluvial | not specified | Fischer-Zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | IfB_Uni Hamburg | 2320 | 50 | organic sediment | colluvial | not specified | Fischer-Zujkov et al. 1999 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | KIA4755 | 2336 | 43 | ø-age all fractions | colluvial | not specified | Fischer-Zujkov et al. 1999 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3609 | 3970 | 40 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | KIA4756 | 4227 | 39 | ø-age all fractions | colluvial | not specified | Fischer-Zujkov et al. 1999 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3460 | 4310 | 60 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3462 | 4480 | 60 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov et al. 1999; Fischer-zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | IfB_Uni Hamburg | 4650 | 60 | organic sediment | colluvial | Colluvium | Fischer-Zujkov et al. 1999 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3608 | 5050 | 70 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov et al. 1999; Fischer-Zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3611 | 5060 | 40 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov 2000 | AMS |
| 14C | 61 | 14C | 13 | Biesenbrow | 53.111875 | 14.014286 | HAM3610 | 5900 | 80 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov et al. 1999; Fischer-Zujkov 2000 | AMS |
| 14C | 63 | 14C | 1 | Neu-Kleinow | 53.246314 | 14.010512 | KIA5892 | 4125 | 29 | bone ø age of all fractions | colluvial | Colluvium | Fischer-Zujkov 2000 | AMS |
| 14C | 64 | 14C | 4 | Falkenwalde | 53.284644 | 14.020964 | KIA6105 | 2956 | 30 | ø-age of two fractions | colluvial | peatland | Fischer-Zujkov 2000 | AMS |
| 14C | 64 | 14C | 4 | Falkenwalde | 53.284644 | 14.020964 | IGAN-1836 | 3070 | 400 | soil organic matter | colluvial | Colluvium | Fischer-Zujkov 2000 | AMS |
| 14C | 64 | 14C | 4 | Falkenwalde | 53.284644 | 14.020964 | KIA6106 | 3298 | 31 | soil organic matter | colluvial | peatland | Fischer-Zujkov 2000 | AMS |
| 14C | 64 | 14C | 4 | Falkenwalde | 53.284644 | 14.020964 | IGAN-1846 | 3330 | 130 | soil organic matter | colluvial | not specified | Fischer-Zujkov 2000 | AMS |
| 14C | 68 | 14C | 1 | Krummer See bei Blankenförde | 53.331251 | 12.937521 | Erl-12081 | 815 | 44 | charcoal | aeolian | aeolian sand | Küster et al. 2012 | AMS |
| 14C | 69 | 14C | 2 | Mückengrund | 53.332 | 12.9481 | Beta - 291882 | 4140 | 40 | plant remains | colluvial | humic sand | Küster 2014 | AMS |
| 14C | 69 | 14C | 2 | Mückengrund | 53.332 | 12.9481 | Beta - 291883 | 8410 | 50 | plant remains | colluvial | humic sand | Küster 2014 | AMS |
| 14C | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | Erl-14731 | 334 | 34 | charcoal | colluvial | Colluvium (pit fill) | Küster 2014 | AMS |
| 14C | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | Erl-14736 | 2118 | 38 | charcoal | colluvial | Colluvium (pit fill) | Küster 2014 | AMS |
| 14C | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | Erl-14735 | 2190 | 37 | charcoal | colluvial | Colluvium (pit fill) | Küster 2014 | AMS |
| 14C | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | Erl-14732 | 2267 | 37 | charcoal | colluvial | Colluvium (pit fill) | Küster 2014 | AMS |
| 14C | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | Erl-14734 | 2279 | 35 | charcoal | colluvial | Colluvium (pit fill) | Küster 2014 | AMS |
| 14C | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | Erl-14733 | 2385 | 31 | charcoal | colluvial | Colluvium (pit fill) | Küster 2014 | AMS |
| 14C | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | Bln 4845 | 2174 | 33 | charcoal | colluvial | Colluvium | Bork et al. 1998; Schatz 2000 | conv |
| 14C | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | Bln 4779 | 2198 | 41 | charcoal | colluvial | Colluvium | Bork et al. 1998; Schatz 2000 | conv |
| 14C | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | Heidelberg | 2319 | 43 | charcoal | colluvial | Colluvium | Bork et al. 1998; Schatz2000 | AMS |
| 14C | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | Beta - 291888 | 4180 | 40 | charcoal | colluvial | not specified | Küster 2014 | AMS |
| 14C | 79 | Lum/14C | 4 | Boek | 53.408861 | 12.857861 | Hv-19537 | 1370 | 60 | organic matter | aeolian | aeolian sand | Kaiser et al. 2002 | AMS |
| 14C | 80 | Lum/14C | 5 | Müritz | 53.41455556 | 12.83188889 | Erl-13099 | 1224 | 40 | soil organic matter | aeolian | aeolian sand | Küster 2014 | AMS |
| 14C | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | Poz-45917 | 2290 | 70 | plant remains | colluvial | not specified | Küster 2014 | AMS |
| 14C | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | Poz-45918 | 2405 | 35 | soil organic matter | colluvial | not specified | Küster 2014 | AMS |
| 14C | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | KIA-45553 | 2935 | 20 | bone | colluvial | not specified | Küster 2014 | AMS |
| 14C | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | Poz-45920 | 3535 | 35 | plant remains | colluvial | not specified | Küster 2014 | AMS |
| 14C | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | Poz-45921 | 4115 | 35 | soil organic matter | colluvial | not specified | Küster 2014 | AMS |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14C | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | Poz-45922 | 4950 | 40 | soil organic matter | colluvial | not specified | Küster 2014 | AMS |
| 14C | 83 | 14C | 1 | Nossentiner Hütte | 53.533794 | 12.425082 | Erl-7911 | 321 | 67 | organic matter | aeolian | aeolian sand | Lorenz 2007 | AMS |
| 14C | 84 | 14C | 1 | Fischweg bei Ortkrug | 53.562438 | 12.325615 | KIA-22557 | 935 | 30 | charcoal | aeolian | aeolian sand | Lorenz 2007; Kaiser et al. 2007 | AMS |
| 14C | 89 | 14C | 1 | Krakow (FB2) | 53.616575 | 12.433299 | Erl-7385 | 10938 | 69 | charcoal | aeolian | aeolian sand | Kaiser et al. 2007 | AMS |
| 14C | 90 | 14C | 4 | Woseriner See | 53.67254 | 12.019317 | KIA 16613 | 510 | 30 | charcoal | colluvial | not specified | Schmidtchen et al. 2003 | AMS |
| 14C | 90 | 14C | 4 | Woseriner See | 53.67254 | 12.019317 | KIA 17106 | 1841 | 25 | charcoal | colluvial | not specified | Schmidtchen et al. 2003 | AMS |
| 14C | 90 | 14C | 4 | Woseriner See | 53.67254 | 12.019317 | KIA 17105 | 3400 | 26 | charcoal | colluvial | not specified | Schmidtchen et al. 2003 | AMS |
| 14C | 90 | 14C | 4 | Woseriner See | 53.67254 | 12.019317 | KIA 16612 | 3812 | 44 | charcoal | colluvial | not specified | Schmidtchen et al. 2003 | AMS |
| 14C | 92 | 14C | 1 | Lüdersdorf b. Lübeck | 53.832526 | 10.809739 | OxA-3615 | 11600 | 105 | bone | colluvial | not specified | Bratlund 1993 | AMS |
| 14C | 93 | 14C | 1 | Grodno | 53.962485 | 14.533494 | Gd-631 | 11590 | 270 | charcoal | aeolian | aeolian sand | Borowka et al. 1999 | AMS |
| 14C | 94 | 14C | 1 | Bansin | 53.9876827 | 14.1208225 | Hv-25738 | 10245 | 225 | charcoal | aeolian | aeolian sand | Kaiser et al. 2009 | AMS |
| 14C | 95 | 14C | 2 | Kühlenhagen | 54.058803 | 13.635722 | Erl-13813 | 1699 | 41 | plant remains | colluvial | Colluvium | Küster et al. 2011 | AMS |
| 14C | 95 | 14C | 2 | Kühlenhagen | 54.058803 | 13.635722 | Erl-13814 | 2869 | 42 | peat | colluvial | Colluvium | Küster et al. 2011 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA19128 | 1105 | 25 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA19360 | 1288 | 27 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA19361 | 1311 | 30 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA19359 | 1435 | 33 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA18430 | 2499 | 24 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA21368 | 2565 | 25 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA21369 | 2821 | 29 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA18427 | 2905 | 29 | charcoal | colluvial | Colluvium | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA18428 | 2911 | 26 | charcoal | colluvial | loamy sand | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA19126 | 4586 | 31 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA19127 | 4671 | 35 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 96 | 14C | 12 | Belauer See | 54.102212 | 10.259256 | KIA18429 | 4939 | 29 | charcoal | colluvial | not specified | Dreibrodt & Bork 2005 | AMS |
| 14C | 97 | 14C | 1 | Rostocker Heide | 54.219167 | 12.250001 | Bln-391 | 11220 | 250 | plant remains | aeolian | aeolian sand | Terberger et al. 2004 | AMS |
| 14C | 98 | 14C | 2 | Endingen | 54.253426 | 12.897422 | UZ-3798 | 11555 | 100 | antlers | colluvial | not specified | Kaiser et al. 1999 | AMS |
| 14C | 98 | 14C | 2 | Endingen | 54.253426 | 12.897422 | UtC-5681 | 11830 | 50 | bone | colluvial | not specified | Kaiser et al. 1999 | AMS |
| Luminescence | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | C-L0563 | 1950 | 160 | loess | aeolian | loess | Lubos et al. 2011 | OSL |
| Luminescence | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | HUB-0117 | 4270 | 510 | loess | aeolian | loess | Lubos et al. 2011 | OSL |
| Luminescence | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | RF TL 98 Neuenhagen 3 | 4820 | 340 | loess | aeolian | loess | Lubos et al. 2011 | OSL |
| Luminescence | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | MR-0718 | 7240 | 900 | loess | aeolian | loess | Lubos et al. 2011 | OSL |
| Luminescence | 4 | Lum/14C | 43 | Niederröblingen | 51.430509 | 11.327824 | MR-854 | 8120 | 121 | loess | aeolian | loess | Lubos et al. 2011 | OSL |
| Luminescence | 7 | Lum/14C | 5 | Welzow-Süd | 51.57417 | 14.20531 | Risø 125010 | 460 | 30 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 7 | Lum/14C | 5 | Welzow-Süd | 51.57417 | 14.20531 | Risø 125009 | 510 | 30 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 7 | Lum/14C | 5 | Welzow-Süd | 51.57417 | 14.20531 | Risø 125023 | 640 | 50 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | Risø 105001 | 680 | 30 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | C-L0653 | 690 | 30 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | HDS 262 | 730 | 40 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | HDS 260 | 760 | 40 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 8 | Lum/14C | 7 | Jasien, Düne | 51.755231 | 14.999614 | HUB-0005 | 790 | 40 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Risø 125003 | 175 | 14 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Risø 125004 | 270 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Risø 125005 | 310 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | C-L0606 | 700 | 60 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | Mr-802 | 5850 | 430 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | BT530 | 8830 | 660 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | UIC2095 | 10800 | 700 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | HUB-0061 | 11120 | 840 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 12 | Lum/14C | 25 | Cottbus-Nord | 51.79992 | 14.412538 | C-L0559 | 13200 | 1200 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125025 | 173 | 14 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125014 | 230 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125018 | 250 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125015 | 250 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0107 | 260 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125016 | 270 | 30 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125002 | 330 | 20 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0122 | 560 | 40 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | n.k. | 620 | 60 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | Risø 125019 | 640 | 60 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | 080924/2 | 650 | 50 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0119 | 660 | 40 | aeolian sand | aeolian | aeolian sand | Nicolay et al. 2014 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0112 | 740 | 60 | aeolian sand | aeolian | aeolian sand | Nicolay et al. 2014 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0060 | 1210 | 100 | aeolian sand | aeolian | aeolian sand | Nicolay et al. 2014 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | 071101/3 | 1380 | 100 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0123 | 1600 | 110 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | 071101/4 | 1690 | 130 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HDS 258 | 1730 | 140 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | 071101/5 | 1760 | 130 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0054 | 1770 | 140 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HUB-0565 | 1790 | 120 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | C-L0567 | 1840 | 150 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | C-L0565 | 1960 | 120 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | UIC2100 | 9300 | 600 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | C-L0539 | 10900 | 800 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | UIC2099 | 11000 | 700 | aeolian sand | aeolian | aeolian sand | Nicolay et al. 2014 | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | C-L0677 | 11900 | 900 | aeolian sand | aeolian | aeolian sand | Nicolay unpubl. | OSL |
| Luminescence | 15 | Lum/14C | 60 | Jänschwalde | 51.851111 | 14.521389 | HDS 255 | 14400 | 1000 | aeolian sand | aeolian | aeolian sand | Nicolay et al. 2014 | OSL |
| Luminescence | 16 | Lum | 3 | Golßen | 51.974176 | 13.595335 | C-L0524 | 10700 | 1000 | aeolian sand | aeolian | aeolian sand | Bussemer 1998 | TL |
| Luminescence | 16 | Lum | 3 | Golßen | 51.974176 | 13.595335 | MR-837 | 12200 | 1200 | aeolian sand | aeolian | aeolian sand | Bussemer 1998 | TL |
| Luminescence | 16 | Lum | 3 | Golßen | 51.974176 | 13.595335 | MR-0722 | 13000 | 1200 | aeolian sand | aeolian | aeolian sand | Bussemer 1998 | TL |
| Luminescence | 17 | Lum/14C | 3 | Klasdorf | 52.021279 | 13.557958 | n.k. | 1800 | 200 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 17 | Lum/14C | 3 | Klasdorf | 52.021279 | 13.557958 | C-L0659 | 12200 | 2000 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | HUB-0114 | 580 | 40 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | HUB-0325 | 710 | 65 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | HUB-0055 | 780 | 90 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | HUB-0007 | 790 | 90 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0608 | 810 | 70 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0635 | 6820 | 500 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | MR-0719 | 7460 | 600 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | n.k. | 7790 | 690 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | n.k. | 9730 | 765 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | n.k. | 10010 | 830 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0632 | 10400 | 830 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0651 | 10490 | 840 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | MR-832 | 11320 | 890 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | Risø 105004 | 11650 | 915 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0526 | 11780 | 840 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0529 | 12480 | 940 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0540 | 12500 | 900 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0547 | 12510 | 750 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0691 | 12680 | 1050 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | n.k. | 12690 | 920 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0706 | 12770 | 960 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0671 | 12905 | 1065 | aeolian sand | aeolian | aeolian sand | Hirsch et al. 2017 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | H-SM2-2 | 12920 | 1000 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0535 | 13000 | 940 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0641 | 13700 | 1080 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0551 | 13830 | 1110 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0548 | 14180 | 1070 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 19 | Lum/14C | 35 | Glashütte | 52.040006 | 13.531801 | C-L0561 | 14960 | 1200 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 20 | Lum/14C | 4 | Klein Ziescht | 52.040953 | 13.535095 | HDS 259 | 1100 | 500 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 20 | Lum/14C | 4 | Klein Ziescht | 52.040953 | 13.535095 | n.k. | 6200 | 700 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 20 | Lum/14C | 4 | Klein Ziescht | 52.040953 | 13.535095 | C-L0631 | 12400 | 2600 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 21 | Lum/14C | 5 | Schöbendorf | 52.04154 | 13.4212 | HDS 264-2 | 3200 | 400 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 21 | Lum/14C | 5 | Schöbendorf | 52.04154 | 13.4212 | HUB-0562 | 3300 | 900 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 21 | Lum/14C | 5 | Schöbendorf | 52.04154 | 13.4212 | C-L0675 | 14200 | 2800 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 21 | Lum/14C | 5 | Schöbendorf | 52.04154 | 13.4212 | n.k. | 16200 | 1900 | aeolian sand | aeolian | aeolian sand | de Boer 1995 | TL |
| Luminescence | 23 | Lum | 6 | Wolzig | 52.262542 | 13.848438 | HUB-0068 | 362 | 15 | aeolian sand | aeolian | aeolian sand | Eck 2010 | OSL |
| Luminescence | 23 | Lum | 6 | Wolzig | 52.262542 | 13.848438 | HUB-0064 | 380 | 17 | aeolian sand | aeolian | aeolian sand | Eck 2010 | OSL |
| Luminescence | 23 | Lum | 6 | Wolzig | 52.262542 | 13.848438 | HUB-0066 | 502 | 21 | aeolian sand | aeolian | aeolian sand | Eck 2010 | OSL |
| Luminescence | 23 | Lum | 6 | Wolzig | 52.262542 | 13.848438 | HUB-0065 | 548 | 24 | aeolian sand | aeolian | aeolian sand | Eck 2010 | OSL |
| Luminescence | 23 | Lum | 6 | Wolzig | 52.262542 | 13.848438 | BT533 | 7031 | 367 | aeolian sand | aeolian | aeolian sand | Eck 2010 | OSL |
| Luminescence | 23 | Lum | 6 | Wolzig | 52.262542 | 13.848438 | H-SM2-1 | 9889 | 492 | aeolian sand | aeolian | aeolian sand | Eck 2010 | OSL |
| Luminescence | 24 | Lum | 3 | Beelitz | 52.288229 | 12.937016 | C-L0552 | 15400 | 800 | periglacial coversand | periglacial | periglacial coversand | Lüthgens et al. 2010 | OSL |
| Luminescence | 24 | Lum | 3 | Beelitz | 52.288229 | 12.937016 | C-L0537 | 15700 | 900 | periglacial coversand | periglacial | periglacial coversand | Lüthgens et al. 2010 | OSL |
| Luminescence | 24 | Lum | 3 | Beelitz | 52.288229 | 12.937016 | C-L0656 | 15900 | 1400 | periglacial coversand | periglacial | periglacial coversand | Lüthgens et al. 2010 | OSL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | RF TL97 Dahmsdorf.AA2 | 275 | 15 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | RF TL97 Dahmsdorf.B5 | 430 | 35 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | n.k. | 460 | 37 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | HUB-0326 | 610 | 140 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | Risø 125011 | 650 | 70 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | HUB-0112 | 730 | 47 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | Risø 105003 | 1560 | 340 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | Risø 125012 | 1720 | 120 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | C-L0686 | 2920 | 200 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | MR-801 | 3805 | 250 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 29 | Lum/14C | 14 | Dahmsdorf | 52.528361 | 14.102981 | C-L0528 | 4430 | 345 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Schatz 2000 | TL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | HDS 261 | 800 | 100 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | HUB-0185 | 4400 | 500 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | RF TL 98 Neuenhagen 2 | 4500 | 500 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | MR-857 | 7900 | 800 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | HDS 256 | 8300 | 700 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | C-L0700 | 8400 | 700 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | HUB-0069 | 8500 | 800 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | Risø 125021 | 11600 | 1100 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | C-L0704 | 12700 | 1200 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 30 | Lum/14C | 31 | Kleiner Tornowsee | 52.580472 | 14.094539 | C-L0569 | 14300 | 1500 | alluvial sediment | colluvial | alluvial sediment | Dreibrodt et al. 2010 | OSL |
| Luminescence | 31 | Lum/14C | 1 | Wolfsschlucht | 52.582031 | 14.089856 | RF TL97 Wolfsschlucht K1 | 288 | 28 | Colluvium | colluvial | Colluvium | Schatz 2000 | TL |
| Luminescence | 33 | Lum | 1 | Werneuchen | 52.636408 | 13.723718 | n.k. | 9600 | 1300 | aeolian sand | aeolian | aeolian sand | Bussemer 1998 | TL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | C-L0633 | 10300 | 940 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | n.k. | 12000 | 1090 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | MR-800 | 15710 | 1400 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | H-BU3 | 16010 | 1480 | fluvial-aeolian sediment | aeolian | fluvial-aeolian sediment | Hilgers 2007 | OSL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | C-L0645 | 16770 | 1420 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | MAC-1 | 16960 | 1270 | fluvial-aeolian sediment | aeolian | fluvial-aeolian sediment | Hilgers 2007 | OSL |
| Luminescence | 39 | Lum/14C | 8 | Rosenberg | 52.78555556 | 13.70166667 | C-L0646 | 17160 | 1350 | fluvial-aeolian sediment | aeolian | fluvial-aeolian sediment | Hilgers 2007 | OSL |
| Luminescence | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | HUB-0191 | 860 | 90 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | C-L0702 | 12200 | 1030 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | Risø 105005 | 16520 | 1480 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 41 | Lum/14C | 9 | Melchow | 52.800354 | 13.691983 | C-L0534 | 13400 | 1320 | periglacial coversand | periglacial | periglacial coversand | Hilgers 2007 | OSL |
| Luminescence | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | C-L0634 | 8300 | 1000 | periglacial coversand | periglacial | periglacial coversand | Bussemer et al. 1998 | TL |
| Luminescence | 42 | Lum/14C | 8 | Schiffmühle | 52.805438 | 14.090629 | n.k. | 12600 | 900 | periglacial coversand | periglacial | periglacial coversand | Bussemer et al. 1998 | TL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0519 | 140 | 10 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0520 | 290 | 20 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | MR-836 | 3120 | 320 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0521 | 3640 | 280 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | HUB-0120 | 4550 | 410 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0556 | 7720 | 650 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | BT532 | 9650 | 830 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | MR-798 | 10890 | 940 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | UIC2098 | 11070 | 1470 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | UIC2096 | 11930 | 910 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0643 | 11960 | 870 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | UIC2097 | 12080 | 880 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0639 | 12640 | 1210 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0673 | 12660 | 940 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0701 | 12830 | 930 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | UIC2189 | 13410 | 980 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | Risø 125006 | 13970 | 1030 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0531 | 14190 | 1090 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0628 | 15240 | 1120 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 43 | Lum/14C | 22 | Finow | 52.80972222 | 13.69527778 | C-L0713 | 15610 | 1410 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 44 | Lum/14C | 6 | Spechthausen | 52.815 | 13.74833333 | C-L0637 | 3360 | 300 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 44 | Lum/14C | 6 | Spechthausen | 52.815 | 13.74833333 | C-L0629 | 12670 | 1010 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 44 | Lum/14C | 6 | Spechthausen | 52.815 | 13.74833333 | n.k. | 13190 | 1220 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 44 | Lum/14C | 6 | Spechthausen | 52.815 | 13.74833333 | C-L0668 | 14070 | 1410 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 44 | Lum/14C | 6 | Spechthausen | 52.815 | 13.74833333 | Mr-805 | 15930 | 1410 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 45 | Lum/14C | 4 | Neuenhagener Oderinsel | 52.850908 | 14.057633 | Risø 105008 | 2530 | 90 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Brose et al. 2002; Schatz 2000 | TL |
| Luminescence | 45 | Lum/14C | 4 | Neuenhagener Oderinsel | 52.850908 | 14.057633 | C-L0687 | 3660 | 179 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Brose et al. 2002; Schatz 2000 | TL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | HUB-0113 | 900 | 70 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | HDS 264-1 | 2620 | 200 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | HUB-0186 | 4520 | 340 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | RF TL97 rf.B10 | 4640 | 390 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | C-L0522 | 6580 | 560 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | UIC2184 | 8850 | 770 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | C-L0523 | 9240 | 760 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | C-L0693 | 11930 | 920 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | C-L0527 | 12340 | 950 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | MR-0721 | 13540 | 1170 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | TL-GO2 | 13550 | 1860 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 46 | Lum/14C | 15 | Schletau | 52.93972222 | 11.35388889 | C-L0670 | 14020 | 1130 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 47 | Lum | 4 | Lomitz | 52.9434 | 11.3887 | C-L0566 | 1930 | 240 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 47 | Lum | 4 | Lomitz | 52.9434 | 11.3887 | n.k. | 4120 | 440 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 47 | Lum | 4 | Lomitz | 52.9434 | 11.3887 | RF TL97 Dahmsdorf.A7 | 6400 | 720 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 47 | Lum | 4 | Lomitz | 52.9434 | 11.3887 | Heidelberg | 15860 | 1500 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 49 | Lum | 4 | Lanze | 52.95913 | 11.33145 | n.k. | 6420 | 650 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 49 | Lum | 4 | Lanze | 52.95913 | 11.33145 | HUB-0067 | 10810 | 1080 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 49 | Lum | 4 | Lanze | 52.95913 | 11.33145 | MR-799 | 16490 | 1540 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 49 | Lum | 4 | Lanze | 52.95913 | 11.33145 | C-L0669 | 16640 | 1630 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 50 | Lum | 3 | Klein Breese | 52.9666 | 11.263 | C-L0557 | 10160 | 890 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 50 | Lum | 3 | Klein Breese | 52.9666 | 11.263 | HUB-0045 | 14200 | 1310 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 50 | Lum | 3 | Klein Breese | 52.9666 | 11.263 | C-L0714 | 14380 | 1310 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 52 | Lum | 6 | Schorfheide-A | 52.97361111 | 13.64805556 | C-L0667 | 11370 | 930 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 52 | Lum | 6 | Schorfheide-A | 52.97361111 | 13.64805556 | C-L0525 | 11550 | 850 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 52 | Lum | 6 | Schorfheide-A | 52.97361111 | 13.64805556 | MR-795 | 11840 | 880 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 52 | Lum | 6 | Schorfheide-A | 52.97361111 | 13.64805556 | C-L0683 | 11860 | 870 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 52 | Lum | 6 | Schorfheide-A | 52.97361111 | 13.64805556 | Risø 125022 | 12340 | 930 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 52 | Lum | 6 | Schorfheide-A | 52.97361111 | 13.64805556 | C-L0703 | 13340 | 990 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 54 | Lum | 2 | Schorfheide-B | 52.98277778 | 13.66833333 | C-L0692 | 11990 | 880 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 54 | Lum | 2 | Schorfheide-B | 52.98277778 | 13.66833333 | C-L0694 | 14140 | 1030 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 56 | Lum | 6 | Laasche | 53.0359 | 11.4037 | UIC2188 | 790 | 100 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013b | OSL |
| Luminescence | 56 | Lum | 6 | Laasche | 53.0359 | 11.4037 | HUB-0052 | 3270 | 330 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013a | OSL |
| Luminescence | 56 | Lum | 6 | Laasche | 53.0359 | 11.4037 | C-L0554 | 4340 | 500 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013b | OSL |
| Luminescence | 56 | Lum | 6 | Laasche | 53.0359 | 11.4037 | n.k. | 10000 | 1100 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013b | OSL |
| Luminescence | 56 | Lum | 6 | Laasche | 53.0359 | 11.4037 | H-BU2 | 14160 | 1400 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013b | OSL |
| Luminescence | 56 | Lum | 6 | Laasche | 53.0359 | 11.4037 | C-L0630 | 14240 | 1380 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2013b | OSL |
| Luminescence | 59 | Lum | 6 | Höhbeck | 53.058159 | 11.39285 | 081103/1 | 458 | 53 | Colluvium | colluvial | Colluvium | Schatz 2011 | OSL |
| Luminescence | 59 | Lum | 6 | Höhbeck | 53.058159 | 11.39285 | RF TL97 rf.TS | 651 | 69 | Colluvium | colluvial | Colluvium | Schatz 2011 | OSL |
| Luminescence | 59 | Lum | 6 | Höhbeck | 53.058159 | 11.39285 | HUB-0113 | 900 | 100 | Colluvium | colluvial | Colluvium | Schatz 2011 | OSL |
| Luminescence | 59 | Lum | 6 | Höhbeck | 53.058159 | 11.39285 | HUB-0057 | 1098 | 315 | Colluvium | colluvial | Colluvium | Schatz 2011 | OSL |
| Luminescence | 59 | Lum | 6 | Höhbeck | 53.058159 | 11.39285 | RF TL97 rf.AA1 | 1869 | 202 | Colluvium | colluvial | Colluvium | Schatz 2011 | OSL |
| Luminescence | 59 | Lum | 6 | Höhbeck | 53.058159 | 11.39285 | C-L0562 | 1933 | 195 | Colluvium | colluvial | Colluvium | Schatz 2011 | OSL |
| Luminescence | 60 | Lum/14C | 5 | Soven | 53.06416 | 11.12113 | 080924/1 | 2050 | 288 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2015 | OSL |
| Luminescence | 60 | Lum/14C | 5 | Soven | 53.06416 | 11.12113 | C-L0681 | 11130 | 1130 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2015 | OSL |
| Luminescence | 60 | Lum/14C | 5 | Soven | 53.06416 | 11.12113 | C-L0640 | 12980 | 1280 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2015 | OSL |
| Luminescence | 60 | Lum/14C | 5 | Soven | 53.06416 | 11.12113 | C-L0707 | 13160 | 2060 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2015 | OSL |
| Luminescence | 62 | Lum | 5 | Haverbeck | 53.12916667 | 9.9275 | MR-856 | 5150 | 720 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2009 | OSL |
| Luminescence | 62 | Lum | 5 | Haverbeck | 53.12916667 | 9.9275 | C-L0654 | 5160 | 670 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2009 | OSL |
| Luminescence | 62 | Lum | 5 | Haverbeck | 53.12916667 | 9.9275 | C-L0688 | 7650 | 1990 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2009 | OSL |
| Luminescence | 62 | Lum | 5 | Haverbeck | 53.12916667 | 9.9275 | C-L0672 | 12650 | 1890 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2009 | OSL |
| Luminescence | 62 | Lum | 5 | Haverbeck | 53.12916667 | 9.9275 | C-L0532 | 13000 | 2070 | aeolian sand | aeolian | aeolian sand | Tolksdorf et al. 2009 | OSL |
| Luminescence | 65 | Lum | 5 | Großer Fürstenseer See | 53.30744444 | 13.15844444 | HUB-0187 | 320 | 20 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2014 | OSL |
| Luminescence | 65 | Lum | 5 | Großer Fürstenseer See | 53.30744444 | 13.15844444 | HUB-0188 | 470 | 30 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2014 | OSL |
| Luminescence | 65 | Lum | 5 | Großer Fürstenseer See | 53.30744444 | 13.15844444 | HUB-0125 | 480 | 40 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2014 | OSL |
| Luminescence | 65 | Lum | 5 | Großer Fürstenseer See | 53.30744444 | 13.15844444 | HUB-0190 | 300 | 20 | Colluvium | colluvial | Colluvium | Kaiser et al. 2014 | OSL |
| Luminescence | 65 | Lum | 5 | Großer Fürstenseer See | 53.30744444 | 13.15844444 | UIC2186 | 820 | 60 | Colluvium | colluvial | Colluvium | Kaiser et al. 2014 | OSL |
| Luminescence | 66 | Lum | 6 | Waldsee | 53.310139 | 13.304056 | C-L0699 | 580 | 30 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 66 | Lum | 6 | Waldsee | 53.310028 | 13.304361 | C-L0555 | 720 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 66 | Lum | 6 | Waldsee | 53.310139 | 13.304056 | HUB-0034 | 720 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 66 | Lum | 6 | Waldsee | 53.310028 | 13.304361 | HUB-0048 | 890 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 66 | Lum | 6 | Waldsee | 53.310139 | 13.304056 | 080829/2 | 910 | 120 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 66 | Lum | 6 | Waldsee | 53.310139 | 13.304056 | RF TL 98 Neuenhagen 1 | 3350 | 150 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 67 | Lum | 3 | Müritz - Schulzensee | 53.310344 | 13.302656 | HUB-0114 | 580 | 30 | Colluvium | colluvial | Colluvium | Küster et al. 2014 | OSL |
| Luminescence | 67 | Lum | 3 | Müritz - Schulzensee | 53.310344 | 13.302656 | UIC2185 | 720 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Luminescence | 67 | Lum | 3 | Müritz - Schulzensee | 53.310344 | 13.302656 | HUB-0050 | 890 | 40 | Colluvium | colluvial | Colluvium | Küster et al. 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.346722 | 13.18975 | C-L0709 | 13440 | 610 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341833 | 13.192556 | HUB-0049 | 91 | 60 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341833 | 13.192556 | HUB-0051 | 96 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341833 | 13.192556 | n.k. | 830 | 90 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341833 | 13.192556 | UIC2187 | 850 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341806 | 13.191778 | HUB-0046 | 880 | 30 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.346722 | 13.18975 | C-L0638 | 910 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341806 | 13.191778 | n.k. | 1460 | 60 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.341833 | 13.192556 | 080924/3 | 2190 | 160 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 70 | Lum/14C | 16 | Serrahn | 53.344667 | 13.196333 | C-L0705 | 14940 | 620 | anthropogenic sand | colluvial | anthropogenic sand | Küster 2014 | OSL |
| Luminescence | 71 | Lum | 3 | Falkenhagen | 53.34685952 | 13.76050423 | HUB-0559 | 286 | 144 | Colluvium | colluvial | Colluvium | Kappler unpubl. | OSL |
| Luminescence | 71 | Lum | 3 | Falkenhagen | 53.34685952 | 13.76050423 | HUB-0561 | 597 | 116 | Colluvium | colluvial | Colluvium | Kappler unpubl. | OSL |
| Luminescence | 71 | Lum | 3 | Falkenhagen | 53.34685952 | 13.76050423 | BT531 | 2446 | 228 | Colluvium | colluvial | Colluvium | Kappler unpubl. | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.347306 | 13.195167 | Mr-838 | 830 | 70 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | Risø 125024 | 10550 | 510 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | Risø 105002 | 760 | 50 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | C-L0546 | 900 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | HUB-0053 | 900 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | HUB-0056 | 920 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | HUB-0058 | 1000 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 72 | Lum | 8 | Serrahn | 53.355861 | 13.216778 | HUB-0044 | 1020 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 73 | Lum | 1 | Raakow | 53.35666516 | 13.61792287 | HUB-0560 | 1476 | 400 | Colluvium | colluvial | Colluvium | Kappler unpubl. | OSL |
| Luminescence | 74 | Lum | 1 | Klopzow | 53.363889 | 12.762333 | HUB-0182 | 150 | 10 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 75 | Lum | 1 | Zartwitz | 53.37216667 | 12.84388889 | C-L0609 | 750 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | HDS 263 | 320 | 60 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | HUB-0038 | 720 | 240 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | HUB-0115 | 730 | 160 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | C-L0607 | 780 | 70 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | HUB-0116 | 1000 | 120 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | 080829/3 | 1400 | 200 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | n.k. | 2000 | 200 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | C-L0564 | 2000 | 500 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | MR-855 | 2100 | 200 | Ceramics / Colluvium | colluvial | Ceramics / Colluvium | Bork et al. 1998 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | C-L0636 | 6500 | 1200 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 76 | Lum/14C | 14 | Glasow | 53.373219 | 14.252064 | MR-797 | 13800 | 4100 | Colluvium | colluvial | Colluvium | Schatz 2000 | IRSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | HUB-0124 | 320 | 20 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | HUB-0189 | 480 | 20 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | HUB-0118 | 550 | 20 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | Risø 125020 | 560 | 30 | aeolian sand | aeolian | aeolian sand | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | HUB-0121 | 560 | 30 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | HUB-0126 | 570 | 30 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | Risø 125013 | 650 | 30 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | RF TL97 rf.DD3 | 750 | 40 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 77 | Lum/14C | 11 | Langhagen | 53.388111 | 12.987417 | HUB-0059 | 1270 | 130 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0039 | 110 | 20 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0109 | 160 | 30 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0040 | 460 | 30 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0036 | 470 | 30 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0037 | 520 | 30 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0043 | 520 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0035 | 600 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | 080829/1 | 670 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 78 | Lum | 9 | Fauler Ort | 53.40519444 | 12.81963889 | HUB-0327 | 720 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 79 | Lum/14C | 4 | Boek | 53.408861 | 12.857861 | C-L0650 | 700 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 79 | Lum/14C | 4 | Boek | 53.408861 | 12.857861 | HUB-0001 | 770 | 50 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 79 | Lum/14C | 4 | Boek | 53.408861 | 12.857861 | HUB-0127 | 770 | 50 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 80 | Lum/14C | 5 | Müritz | 53.41455556 | 12.83188889 | HUB-0041 | 680 | 40 | aeolian sand | aeolian | aeolian sand | Küster et al. 2014 | OSL |
| Luminescence | 80 | Lum/14C | 5 | Müritz | 53.41455556 | 12.83188889 | C-L0710 | 13500 | 700 | periglacial coversand | periglacial | periglacial coversand | Küster & Preusser 2009 | OSL |
| Luminescence | 80 | Lum/14C | 5 | Müritz | 53.41455556 | 12.83188889 | C-L0674 | 13800 | 900 | periglacial coversand | periglacial | periglacial coversand | Küster & Preusser 2009 | OSL |
| Luminescence | 80 | Lum/14C | 5 | Müritz | 53.41455556 | 12.83188889 | Mr-804 | 15500 | 1000 | periglacial coversand | periglacial | periglacial coversand | Küster & Preusser 2009 | OSL |
| Luminescence | 81 | Lum | 5 | Krummer See bei Kratzeburg | 53.428389 | 12.970306 | HUB-0110 | 130 | 10 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 81 | Lum | 5 | Krummer See bei Kratzeburg | 53.428389 | 12.970306 | HUB-0042 | 160 | 20 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 81 | Lum | 5 | Krummer See bei Kratzeburg | 53.428389 | 12.970306 | HUB-0108 | 200 | 30 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 81 | Lum | 5 | Krummer See bei Kratzeburg | 53.428389 | 12.970306 | Risø 125001 | 260 | 10 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 81 | Lum | 5 | Krummer See bei Kratzeburg | 53.428389 | 12.970306 | HUB-0111 | 570 | 90 | Colluvium | colluvial | Colluvium | Küster 2014 | OSL |
| Luminescence | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | HUB-0183 | 150 | 10 | Colluvium | colluvial | Colluvium | Küster 2014, Küster at al. 2015 | OSL |
| Luminescence | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | HDS 257 | 2580 | 130 | Colluvium | colluvial | Colluvium | Küster 2014, Küster at al. 2015 | OSL |
| Luminescence | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | RF TL97 Dahmsdorf.C1 | 3600 | 270 | Colluvium | colluvial | Colluvium | Küster 2014, Küster at al. 2015 | OSL |
| Luminescence | 82 | Lum/14C | 10 | Burgwall Kratzeburg | 53.446861 | 12.958528 | n.k. | 3670 | 300 | Colluvium | colluvial | Colluvium | Küster 2014, Küster at al. 2015 | OSL |
| Luminescence | 85 | Lum | 4 | Uckermünde-C | 53.56861111 | 14.27777778 | C-L0605 | 680 | 50 | aeolian sand | aeolian | aeolian sand | Hilgers 2007; Kühn 2003 | OSL |
| Luminescence | 85 | Lum | 4 | Uckermünde-C | 53.56861111 | 14.27777778 | C-L0666 | 4160 | 300 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 85 | Lum | 4 | Uckermünde-C | 53.56861111 | 14.27777778 | MN-583 | 14210 | 1060 | periglacial coversand | periglacial | periglacial coversand | Hilgers 2007 | OSL |
| Luminescence | 85 | Lum | 4 | Uckermünde-C | 53.56861111 | 14.27777778 | C-L0533 | 15170 | 1120 | periglacial coversand | periglacial | periglacial coversand | Hilgers 2007 | OSL |
| Luminescence | 86 | Lum | 6 | Uckermünde-A | 53.58361111 | 14.27805556 | C-L0680 | 11410 | 860 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 86 | Lum | 6 | Uckermünde-A | 53.58361111 | 14.27805556 | C-L0560 | 11880 | 1000 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 86 | Lum | 6 | Uckermünde-A | 53.58361111 | 14.27805556 | C-L0690 | 12270 | 890 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 86 | Lum | 6 | Uckermünde-A | 53.58361111 | 14.27805556 | HUB-0566 | 12610 | 920 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 86 | Lum | 6 | Uckermünde-A | 53.58361111 | 14.27805556 | C-L0660 | 12720 | 1050 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 86 | Lum | 6 | Uckermünde-A | 53.58361111 | 14.27805556 | C-L0550 | 13080 | 1060 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 87 | Lum | 3 | Uckermünde-B | 53.58444444 | 14.28166667 | HUB-0003 | 680 | 50 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 87 | Lum | 3 | Uckermünde-B | 53.58444444 | 14.28166667 | MR-0720 | 9240 | 640 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 87 | Lum | 3 | Uckermünde-B | 53.58444444 | 14.28166667 | C-L0697 | 15440 | 1150 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 88 | Lum | 3 | Uckermünde-D | 53.61444444 | 14.27861111 | C-L0558 | 11830 | 840 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 88 | Lum | 3 | Uckermünde-D | 53.61444444 | 14.27861111 | C-L0695 | 12490 | 1040 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |

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| Luminescence | 88 | Lum | 3 | Uckermünde-D | 53.61444444 | 14.27861111 | C-L0676 | 12810 | 960 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 91 | Lum | 2 | Burow | 53.774537 | 13.273115 | C-L0658 | 13400 | 1000 | aeolian sand | aeolian | aeolian sand | Bussemer et al. 1998 | TL |
| Luminescence | 91 | Lum | 2 | Burow | 53.774537 | 13.273115 | C-L0684 | 14300 | 1100 | aeolian sand | aeolian | aeolian sand | Bussemer et al. 1998 | TL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | Risø 125017 | 1840 | 120 | aeolian sand | aeolian | aeolian sand | Kaiser 2001 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0685 | 2030 | 140 | aeolian sand | aeolian | aeolian sand | Kaiser 2001 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | HUB-0324 | 3180 | 210 | aeolian sand | aeolian | aeolian sand | Kaiser 2001 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | HUB-0184 | 3350 | 230 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | BT534 | 5690 | 390 | aeolian sand | aeolian | aeolian sand | Kaiser 2001 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | H-BU1 | 10700 | 790 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | Mr-803 | 10860 | 780 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0715 | 10870 | 850 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | TL-GO1 | 11200 | 800 | aeolian sand | aeolian | aeolian sand | Hilgers 2007 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | Risø 125007 | 11270 | 810 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0689 | 12310 | 880 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0644 | 12310 | 910 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0530 | 12500 | 980 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | TL-GO3 | 12570 | 940 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0708 | 13110 | 990 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | Risø 125008 | 13200 | 970 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | C-L0642 | 13320 | 970 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | MR-796 | 13450 | 1050 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |
| Luminescence | 99 | Lum | 19 | Altdarss | 54.41552604 | 12.53340855 | MN-582 | 14490 | 1070 | aeolian sand | aeolian | aeolian sand | Kaiser et al. 2006 | OSL |

**Supplement 2: References of geochronological data**


Behrendt, A., Kaffke, A., Mundel, G. (2002). Ein fossiler Podsol in Brandenburg - Ursachen seiner Entstehung und ein Vergleich zu seinem Folgeboden. *Archiv für Acker- und Pflanzenbau und Bodenkunde*, *48*, 213-226.

Berg-Hobohm, S. (2000). Mesolithische Funde im Tagebauvorfeld Cottbus-Nord. *Arbeitsberichte Bodendenkmalpflege Brandenburg*, *6*, 29-32.

Bittmann, F., Pasda, C. (1999). Die Entwicklung einer Düne während der letzten 12.000 Jahre -Untersuchungsergebnisse von Groß Lieskow (Stadt Cottbus) in der Niederlausitz. *Quartär, 49*, 39-54.

Bönisch, E. (1996). *Die urgeschichtliche Besiedlung am Niederlausitzer Landrücken*. *Forschungen zur Archäologie im Land Brandenburg*. Potsdam: Verlag Brandenburgisches Landesmuseum für Ur-und Frühgeschichte.

Bork, H.-R., Bork, H., Dalchow, C., Faust, B., Piorr, H.-P., Schatz, T. (1998). *Landschaftsentwicklung in Mitteleuropa*. Gotha: Klett-Perthes.

Borówka, R. K., Gonera, P., Kostrzewski, A., Nowaczyk, B., Zwoliński, Z. (1986). Stratigraphy of eolian deposits in Wolin Island and the surrounding area, North-West Poland. *Boreas, 15*, 301-309.

Borówka, R. K. (1999). Multi-year trends of change in intensity of potential aeolian transport on the West Pomeranian coast of the Baltic in the context of the morphology and present-day development of coastal dunes. Late glacial, holocene and present-day evolution of the coastal geosystems of the Southern Baltic [Special Issue]. *Quaternary Studies in Poland*, *67-75*.

Böse, M., Brande, A. (1986). Zur Entwicklungsgeschichte des Moores „Alter Hof "am Havelufer (Berliner Forst Düppel). *Berlin-Forschungen I, Einzelveröffentlichungen der Historischen Kommission zu Berlin*, 11-42.

Böse, M., Brande, A., Facklam, M., Müller, M. (1998). Dune-section on the Glindow morainic plain southwest of Bliesendorf. In: Jäger, K., Kowalkowski, A., Nowaczyk, B., Schirmer, W. (eds.): *Dunes and fossil soils of Vistulian and Holocene age between Elbe and Wisla - Guide-Book of Excursion*, Poznan, 22–36.

Böse, M., Müller, M., Brande, A., Facklam, M. (2002). Jungdünenentwicklung und Siedlungsgeschichte auf der Glindower Platte (Brandenburg). *Brandenburgische Geowissenschaftliche Beiträge*, *9*, 45-57.

Brande, A., Böse, M., Müller, M., Facklam, M., Wolters, S. (1999). The Bliesendorf soil and aeolian sand transport in the Potsdam area. In: Schirmer, W. (ed.): *Dunes and Fossil Soils*. *GeoArchaeoRhein*, *3*, 147-161.

Bratlund, B. (1993). Ein Riesenhirschschädel mit Bearbeitungsspuren aus Lüdersdorf, Kreis Grevesmüh1en. *Offa, 49-50*, 7-14.

Breest, K., Veil, S. (2001). Die Ausgrabungen 2000 auf dem mesolithischen Dünenfundplatz Schletau, Lkr. Lüchow-Dannenberg. *Die Kunde N.F.*, *52*, 239-254.

Brose, F., Kliewe, H. (1975). Saale- und Weichselkataglazial vergleichend betrachtet.- *Wissenschaftliche Zeitschrift Universität Greifswald*, *241* (3-4), 119-127.

Bussemer, S. (1998). Bodengenetische Untersuchungen an Braunerde- und Lessivéprofilen auf Sandstandorten des brandenburgischen Jungmoränenlandes. *Münchener Geographische Abhandlungen, A49*, 27-93.

Bussemer, S., Gärtner, P., Schlaak, N. (1998). Stratigraphie, Stoffbestand und Reliefwirksamkeit der Flugsande im brandenburgischen Jungmoränenland. *Petermanns Geographische Mitteilungen, 142*, 115-125.

Bussemer, S., Schlaak, N., Gärtner, P. (2009). Neue paläopedologische Befunde zu Habitus und Verbreitung des Finowbodens. *Brandenburgische geowissenschaftliche Beiträge, 16*, 79-86.

de Boer, W.M. (1995). Äolische Prozesse und Landschaftsformen im mittleren Baruther Urstromtal seit dem Hochglazial der Weichselkaltzeit. *Berliner Geographische Arbeiten, 84*, Berlin.

Dreibrodt, S., Bork, H.-R. (2005). Historical soil erosion and landscape development at Lake Belau (North Germany) - a comparison of colluvial deposits and lake sediments. *Zeitschrift für Geomorphologie, Supplementband, 139*, 101-128.

Dreibrodt, S., Lomax, J., Nelle, O., Lubos, C., Fischer, P., Mitusov, A., Reiss, S., Radtke, U., Nadeau, M., Grootes, P.M., Bork, H.-R. (2010). Are mid-latitude slopes sensitive to climatic oscillations? Implications from an Early Holocene sequence of slope deposits and buried soils from eastern Germany. *Geomorphology, 122*, 351-369.

Dreibrodt, S., Jarecki, H., Lubos, C., Khamnueva, S.V., Klamm, M., Bork, H.-R. (2013). Holocene soil formation and soil erosion at a slope beneath the Neolithic earthwork Salzmünde (Saxony-Anhalt, Germany). *CATENA, 107*, 1-14.

Eck, T. (2010). *Genese einer Dünenlandschaft östlich des Wolziger Sees*. Msc thesis (unpubl.), Geographisches Institut, Humboldt-Universität zu Berlin.

Fischer-Zujkov, U. (2000). *Die Schwarzerden Nordostdeutschlands - ihre Stellung und Entwicklung im holozänen Landschaftswandel*. PhD thesis. Mathematisch-naturwissenschaftliche Fakultät, Humboldt-Universität zu Berlin.

Fischer-Zujkov, U., Schmidt, R., Brande, A. (1999). Die Schwarzerden Nordostdeutschlands und ihre Stellung in der holozänen Landschaftsentwicklung. *Journal of Plant Nutrition and Soil Science*, *162*(4), 443-449.

Friedrich, M., Knipping, M., van der Kroft, P., Renno, A., Schmidt, S., Ullrich, O., Vollbrecht, J. (2001). Ein Wald am Ende der letzten Eiszeit. Untersuchungen zur Besiedlungs-, Landschafts- und Vegetationsentwicklung an einem verlandeten See im Tagebau Reichwalde, Niederschlesischer Oberlausitzkreis. *Arbeits- u. Forschungsberichte der Sächsischen Bodendenkmalpflege, 43*, 21-94.

Gärtner, P. (1998). Neue Erkenntnise zur jungquartären Landschaftsentwicklung in Nordwestbrandenburg. Eine landschaftsgenetische Studie am Ausgang des Rheinsberger Beckens. *Münchener Geographische Abhandlungen, A49*, 95-116.

Helbig, H. (1999). Die spätglaziale und holozäne Überprägung der Grundmoränenplatten in Vorpommern. *Greifswalder Geographische Arbeiten, 17*. Greifswald.

Hilgers, A. (2007). *The chronology of Late Glacial and Holocene dune development in the northern Central European lowland reconstructed by optically stimulated luminescence (OSL) dating*. Phd thesis. Institut für Geographie, Universität zu Köln, Köln.

Hirsch, F., Spröte, R., Fischer, T., Forman, S.L., Raab, T., Bens, O., Schneider, A. & Hüttl, R.F. (2017). Late Quaternary aeolian dynamics, pedostratigraphy and soil formation in the North European Lowlands – new findings from the Baruther ice-marginal valley. *DIE ERDE, 148,* 58-73.

Kaiser, K. (2001). Die spätpleistozäne bis frühholozäne Beckenentwicklung in Mecklenburg-Vorpommern. *Greifswalder Geographische Arbeiten, 24*, Greifswald.

Kaiser, K., Barthelmes, A., Czako-Pap, S., Hilgers, A., Janke, W., Kühn, P., Theuerkauf, M. (2006). A Lateglacial palaeosol cover in the Altdarss area, southern Baltic Sea coast (northeast Germany): investigations on pedology, geochronology and botany. *Netherlands Journal of Geosciences, 85*, 197-220.

Kaiser, K., De Klerk, P., Terberger, T. (1999). Die „Riesenhirschfundstelle "von Endingen: geowissenschaftliche und archäologische Untersuchungen an einem spätglazialen Fundplatz in Vorpommern. *Eiszeitalter und Gegenwart, 49*, 102-132.

Kaiser, K., Hilgers, A., Schlaak, N., Jankowski, M., Kuhn, P., Bussemer, S., Przegietka, K. (2009). Palaeopedological marker horizons in northern central Europe: characteristics of Lateglacial Usselo and Finow soils. *Boreas, 38*, 591-609.

Kaiser, K., Kuester, M., Fülling, A., Theuerkauf, M., Dietze, E., Graventein, H., Koch, P.J., Bens, O., Brauer, A. (2014). Littoral landforms and pedosedimentary sequences indicating late Holocene lake-level changes in northern central Europe - A case study from northeastern Germany. *Geomorphology, 216*, 58-78.

Kaiser, K., Rother, H., Lorenz, S., Gärtner, P., Papenroth, R. (2007). Geomorphic evolution of small river–lake-systems in northeast Germany during the Late Quaternary. *Earth Surface Processes and Landforms*, *32*, 1516-1532.

Kaiser, K., Schoknecht, T., Janke, W., Kloss, K., Prehn, B. (2002). Geomorphologische, palynologische und archäologische Beiträge zur holozänen Landschaftsgeschichte im Müritzgebiet (Mecklenburg-Vorpommern). *Eiszeitalter und Gegenwart, 51*, 15-32.

Kaiser, K., Terberger, T. (1996). Archäologisch-geowissenschaftliche Untersuchungen am spätpaläolithischen Fundplatz Nienhagen, Lkr. Nordvorpommern. *Bodendenkmalpflege in Mecklenburg-Vorpommern, 43*, 7-48.

Kowalkowski, A., Nowaczyk, P., Okuniewska-Nowaczyk, I (1999). Chronosequence of biogenic deposits and fossil soils in the dune near Jasien, Western Poland, in: Schirmer, W. (Eds.): *Dunes and fossil soils*. *GeoArchaeoRhein, 3*, 107-125.

Krauskopf, C., Pasda, C. (1999). Aufwehung, Umbildung, Zerstörung. Zur Entwicklung der Dünen im Baruther Urstromtal zwischen Cottbus und Forst. *Archäologisches Korrespondenzblatt, 29*, 289-298.

Kühn, P. (2003). Spätglaziale und holozäne Lessivégenese auf jungweichselzeitlichen Sedimenten Deutschlands. *Greifswalder Geographische Arbeiten, 28*, Greifswald.

Küster, M. (2014). *Holozäne Landschaftsentwicklung der Mecklenburgischen Seenplatte: Relief- und Bodengenese, hydrologische Entwicklung sowie Siedlungs- und Landnutzungsgeschichte in Nordostdeutschland*. PhD thesis. Institut für Geographie und Geologie, Ernst-Moritz-Arndt-Universität Greifswald, Greifswald.

Küster, M., Fülling, A., Kaiser, K., Ulrich, J. (2014). Aeolian sands and buried soils in the Mecklenburg Lake District, NE Germany: Holocene land-use history and pedo-geomorphic response. *Geomorphology, 211*, 64-76.

Küster, M., Fülling, A., Ulrich, J. (2015). Bw horizon in Holocene slope deposits (Kratzeburg, NE Germany) – dating and pedological characteristics. *E & G - Quaternary Science Journal, 64*, 111-117.

Küster, M., Janke, W., Meyer, H., Lorenz, S., Lampe, R., Hübener, T., Klamt, A.-M. (2012). *Zur jungquartären Landschaftsentwicklung der Mecklenburgischen Kleinseenplatte*. Greifswald: Geozon Science Media,.

Küster, M., Preusser, F. (2009). Late Glacial and Holocene aeolian sands and soil formation from the Pomeranian outwash plain (Mecklenburg, NE-Germany). *E & G - Quaternary Science Journal, 58*, 156-163.

Küster, M., Ruchhöft, F., Lorenz, S., Janke, W. (2011). Geoarchaeological evidence of Holocene human impact and soil erosion on a till plain in Vorpommern (Kühlenhagen, NE-Germany). *E & G - Quaternary Science Journal*, 60, 455-463.

Lorenz, S. (2007). *Die spätpleistozäne und holozäne Gewässernetzentwicklung im Bereich der Pommerschen Haupteisrandlage Mecklenburgs*. Phd thesis. Institut für Geographie und Geologie, Ernst-Moritz-Arndt-Universität Greifswald, Greifswald.

Lubos, C.C.M., Dreibrodt, S., Nelle, O., Klamm, M., Friederich, S., Meller, H., Nadeau, M.J., Grootes, P.M., Fuchs, M., Bork, H.R. (2011). A multi-layered prehistoric settlement structure (tell?) at Niederröblingen, Germany and its implications. *Journal of Archaeological Science, 38*, 1101-1110.

Lüthgens, C., Krbetschek, M., Böse, M., Fuchs, M.C. (2010). Optically stimulated luminescence dating of fluvioglacial (sandur) sediments from north-eastern Germany. *Quaternary Geochronology, 5*, 237-243.

Magalowski, G., Nowel, W. (1982). Untersuchungen an Binnendünen in der Umgebung von Cottbus und Beziehungen zur Besiedlungsgeschichte dieses Raumes. *Zeitschrift für Geologische Wissenschaften, 10*, 829-843.

Mol, J. (1997). Fluvial response to Weichselian climate changes in the Niederlausitz (Germany). *Journal of Quaternary Science, 12*, 43-60.

Müller, K. (2014). Ein mesolithischer Lagerplatz am Tagebau Cottbus-Nord. In: Schopper, F. (ed.): *Ausgrabungen im Niederlausitzer Braunkohlenrevier 2011/2012*, 185–188.

Müller, H., Kopp, D., Kohl, G. (1971). Pollenanalytische Untersuchungen zur Altersbestimmung von Humusauflagen einiger Bodenprofile im subkontinentalen Tieflandgebiet der DDR. *Petermanns Geographische Mitteilungen, 115,* 25-36.

Nicolay, A., Raab, A., Raab, T., Rösler, H., Bönisch, E., Murray, A.S. (2014). Evidence of (pre-) historic to modern landscape and land use history near Jänschwalde (Brandenburg, Germany). *Zeitschrift für Geomorphologie, Supplementary Issues, 58,* 7-31.

Nowel, W., Atanasow, O., Erd, K. (1972). Neue Ergebnisse zur Dünenbewegung im Baruther Urstromtal. *Zeitschrift für angewandte Geologie, 18*, 410-418.

Pasda, C. (2002). Archäologie einer Düne im Baruther Urstromtal bei Groß Lieskow, Stadt Cottbus. *Veröffentlichungen des Brandenburgischen Landesmuseums für Ur-und Frühgeschichte, 33*, 7-49.

Poppschötz, R., Bussemer, S., Kowalkowski, A., Machalett, B. (2010). Das mehrphasige spätpleistozän/frühholozäne Bodenprofil Dühringsheide-NW im Braunkohlentagebau Jänschwalde (Niederlausitz). *Brandenburgische geowissenschaftliche Beiträge, 17*, 55-62.

Raab, T., Raab, A., Nicolay, A., Takla, M., Hirsch, F., Rösler, H., Bauriegel, A. (2015). Opencast mines in South Brandenburg (Germany)—archives of Late Quaternary landscape development and human-induced land use changes. *Archaeological and Anthropological Sciences, 8*, 453-466.

Schatz, T. (2000). *Untersuchungen zur holozänen Landschaftsentwicklung Nordostdeutschlands*. *Zalf-Bericht 41*, Müncheberg.

Schatz, T. (2011). Bodenkundlich-geoarchäologische Untersuchungen zur historischen Gewässerdynamik in der Aue der unteren Mittelelbe (Lkr. Lüchow-Dannenberg). *Göttinger Forschungen zur Ur- und Frühgeschichte, 1*, 135-146.

Schlaak, N. (1997). *Äolische Dynamik im brandenburgischen Tiefland seit dem Weichselspätglazial: Ergebnisse aus den Forschungsprojekten Ma 1425/3-1;3-2*. Berlin: Selbstverlag Geographisches Institut Humboldt-Universität zu Berlin.

Schlaak, N. (1999). Typical aeolian sand profiles and palaeosols of the Glien till plain in the northwest of Berlin, in: Schirmer, W. (Ed.), *Dunes and fossil soils. GeoArchaeoRhein 3*, 97-105.

Schmidtchen, G., Bork, H.-R., Dotterweich, M., Erber, A. (1999). *Holozäne Bodenbildung und -erosion am Naturschutzgebiet Biesdorfer Kehlen bei Wriezen in Ostbrandenburg. Zalf-Bericht, 37*, 104-111.

Schmidtchen, G., Liese, C., Bork, H.R. (2003). Boden- und Reliefentwicklung am Woseriner See in Mecklenburg-Vorpommern, in: Bork, H.R., Schmidtchen, G., Dotterweich, M., *Bodenbildung, Bodenerosion und Reliefentwicklung im Mittel- und Jungholozän Deutschlands*, 213-228.

Terberger, T., De Klerk, P., Helbig, H., Kaiser, K., Kühn, P. (2004). Late Weichselian landscape development and human settlement in Mecklenburg-Vorpommern (NE Germany). *Eiszeitalter und Gegenwart, 54*, 138-175.

Teschner-Steinhardt, R., Müller, M. (1994). Zur Genese und dem Alter der Dünen im Bereich der Havel-Niederung, Berlin-Tegeler Forst. *Die Erde, 115,* 123-138.

Tinapp, C.H., Meller, H., Baumhauer, R. (2008). Holocene Accumulation of Colluvial and Alluvial Sediments in the Weie Elster River Valley in Saxony, Germany. *Archaeometry, 50,* 696-709.

Tolksdorf, J.F., Elburg, R., Schröder, F., Knapp, H., Herbig, C., Westphal, T., Schneider, B., Fülling, A., Hemker, C. (2015). Forest exploitation for charcoal production and timber since the 12th century in an intact medieval mining site in the Niederpöbel Valley (Erzgebirge, Eastern Germany). *Journal of Archaeological Science: Reports, 4*, 487-500.

Tolksdorf, J.F., Kaiser, K., Veil, S., Klasen, N., Brückner, H. (2009). The Early Mesolithic Haverbeck site, Northwest Germany: evidence for Preboreal settlement in the Western and Central European Plain. *Journal of Archaeological Science, 36*, 1466-1476.

Tolksdorf, J.F., Klasen, N., Hilgers, A. (2013a). The existence of open areas during the Mesolithic: evidence from aeolian sediments in the Elbe–Jeetzel area, northern Germany. *Journal of Archaeological Science, 40*, 2813-2823.

Tolksdorf, J.F., Turner, F., Kaiser, K., Eckmeier, E., Stahlschmidt, M., Housley, R.A., Breest, K., Veil, S. (2013b). Multiproxy Analyses of Stratigraphy and Palaeoenvironment of the Late Palaeolithic Grabow Floodplain Site, Northern Germany. *Geoarchaeology, 28*, 50-65.

Woithe, F. (2003). *Untersuchungen zur postglazialen Landschaftsentwicklung in der Niederlausitz*. PhD thesis. Geographisches Institut, Christian-Albrechts-Universität zu Kiel, Kiel.