



Supplement of

A geospatial inventory dataset of study sites in a Korean Quaternary paleoecology database

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Supplementary document: Description of data fields

(The data fields are listed in the same order as they appear in the tabular dataset files uploaded to Figshare.)

Table S1. Description of data fields for the Dataset I: Publication Metadata in GeoEcoKorea.

Field name	Description
PublicationID	Unique identifier assigned to each publication, formatted as Pub-###.
Authors	The full list of authors as stated in the original publication.
Year	The year of publication, recorded in the Common Era (CE).
Title	The complete title of the published article.
Journal	The name of the journal in which the article was published.
Vol.Issue.Num.Pages	The volume number, issue number, and page range of the publication (e.g., 42(3): 123–135).
DOI	The Digital Object Identifier (DOI) for the publication.
Language	The language in which the article was written (English or Korean).

Table S2. Description of data fields for the Dataset II: Site Inventory in GeoEcoKorea.

Entry term	Meaning
(C-14 calibrated)	Calibrated C-14 dates using the IntCal20 curve.
(core top age)	Assigned using the year of coring if known.
(the sampling year)	Assigned using the year of sampling if known.
(pMC date)	Radiocarbon age after 1950 CE, expressed as “0” in the age fields.
(estimated)	Approximated from the age-depth model in the original publication.
(C-14 calibrated using the Marine20)	Calibrated C-14 dates using the Marine20 curve.
(OSL converted) or (U/Th converted)	Converted to Calendar years before present (1950 CE) if given in the original publication as “from calendar years before the measurement year.” If not specified, the measurement year was assumed to be the same as the sampling or coring year, or the earliest publication year, for this conversion (to be consistent with the C-14 calibrated cases).

NOTE: Table 1 in the main text includes descriptions of all fields by section. Here, additional explanations are provided for the data entries in the “Age scale” field within the Geochronology section of the dataset. This field typically contains entries such as “Oldest: yrs_BP(C-14 calibrated); Youngest: yrs_BP (C-14 calibrated)” as supplementary information for the “Oldest age” and “Youngest age” fields. Please also note that these two age fields were derived from the chronological data available in the original publication, and the values have been converted to consistent units as specified ‘yrs_BP’ (Calendar years before present, present = 1950 CE).

Table S3. Full descriptions of the abbreviations used in the “Other proxies” field for Dataset II.

Acronym	Definition
TC	Total carbon content
TOC	Total content of organic carbon
TN	Total nitrogen content
TON	Total organic nitrogen content
TS	Total sulfur content
C/N	The relative proportion of total carbon to total nitrogen content
C/S	The relative proportion of total carbon to total sulfur content
TOC/TS	The relative proportion of total organic carbon to total sulfur content
TOC/TN	The relative proportion of total organic carbon to total nitrogen content
d13C OC	The isotopic ratio of ¹³ C to ¹² C in organic carbon in sample
d34S TS	The isotopic ratio of ³⁴ S to ³² S in total sulfur in sample
d34S OS	The isotopic ratio of ³⁴ S to ³² S in organic sulfur in sample

d15N	The isotopic ratio of ^{15}N to ^{14}N in bulk sample
d13C	The isotopic ratio of ^{13}C to ^{12}C in bulk sample
DBD	Dry bulk density
MS	Magnetic susceptibility
LOI	Loss-on-ignition index
XRF-CS	X-ray Fluorescence Core Scanning-based measurements for elemental intensity
PIXE	Particle induced X-ray Emission analysis
Sr/Si	The relative proportion of strontium to silicon
Zr/Ti	The relative proportion of zirconium to titanium
Si/Ti	The relative proportion of silicon to titanium
C/T	The relative proportion of microscopic charcoal to terrestrial pollen concentrations
AMR susceptibility	Anhyseretic remanent magnetization susceptibility
P/T	The ratio of planktonic foraminifera to the sum of benthic and planktonic foraminifera
CIA	Chemical Index of Alteration ($\text{CIA} = \text{Al}_2\text{O}_3 \times 100 / (\text{Al}_2\text{O}_3 + \text{Na}_2\text{O} + \text{CaO} + \text{K}_2\text{O})$)

Table S4. Description of data fields for the Dataset III: Chronological Data in GeoEcoKorea.

Field name	Description
SiteID	Unique identifier corresponding to SiteID in the Site Inventory dataset; formatted as Site-####.
DatingMethod	Dating method used for dating materials. <ul style="list-style-type: none"> - Core top: Assigned a reference year based on the sediment collection date. If the core top is not used in age-depth modeling, it is not included. - C-14 AMS: Radiocarbon dating using Accelerator Mass Spectrometry (AMS). - OSL: Optically Stimulated Luminescence dating. - U-Th dating: Uranium–Thorium dating, typically applied to carbonates such as corals or speleothems. - Estimated: Not directly dated; the age is inferred from extrapolation, interpolation, or modeling based on nearby dated levels or sediment accumulation assumptions.
SampleID	A unique identifier assigned by age dating analytical lab. If not available, ID from the original publication is documented.
Material	The type of material used for dating
Age_yrBP	The arithmetic mean of dated age (unit: years before present). <ul style="list-style-type: none"> - pMC: post-bomb C-14 dates (after 1950 CE). - value < 0: Indicates the core top age assigned using the sample collection year, calculated relative to 1950 CE (defined as "present"). - unspecified: If the coring year for the core top is unavailable in the original publication, this field is recorded as "unspecified".
Age.Err_yrBP	1 σ error of dated age. Unit: years before present
Depth_cm	The depth point where the dating material is obtained. Unit: cm below the surface of sediment
d13C_per_mil	The arithmetic mean of stable carbon isotope ratio used to correct for isotopic fractionation in radiocarbon dating. Documented when available. Unit: ‰ (per mil)
d13C_error_per_mil	The associated error ($\pm 1\sigma$) of the $\delta^{13}\text{C}$ value used in fractionation correction. Reported when available. Unit: ‰ (per mil)
Chrono_age_type	The timescale in which the date is reported. <ul style="list-style-type: none"> - Radiocarbon BP: Uncalibrated radiocarbon years before present, where "present" is defined as 1950 CE. - Calendar BP: Calendar years before present, where "present" is defined as 1950 CE. - OSL yrs BP: Calendar years before the measurement year, based on Optically Stimulated Luminescence dating. - U-Th yrs BP: Calendar years before the measurement year, based on Uranium–Thorium dating.