

# Abbreviations

$\alpha$	Isotopic fractionation factor between product and source
$\delta^{18}O$	Oxygen isotopic composition of carbonate relative to VPDB standard
$\delta^{13}C$	Carbon isotopic composition of carbonate relative to VPDB standard
$\delta D$	Deuterium isotopic composition of water relative to VSMOW standard
‰	per mil (parts per thousand)
AD	Anno Domini
BLM	Belum
BP	Before Present
CE	Common Era
cpm	counts per minute
DAN	Dandak
EASM	East Asian Summer Monsoon
ENSO	El Nino Southern Oscillation
GNIP	Global Network of Isotopes in Precipitation
GPCP	Global Precipitation Climatology Project
HYSPLIT	Hybrid Single-Particle Lagrangian Integrated Trajectory
IAEA	International Atomic Energy Agency
ICP-AES	Inductively Coupled Plasma Atomic Emission Spectroscopy
IRMS	Isotope Ratio Mass Spectrometer
ISM	Indian Summer Monsoon
ITCZ	Inter Tropical Convergence Zone
JJAS	June, July, August, September
ka	kilo annum

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LIA	Little Ice Age
LGM	Last Glacial Maximum
MIS	Marine Isotope Stage
m.s.l.	mean sea level
MWP	Medieval Warm Period
NARM	Narmada water standard
NCEP	National Centers for Environmental Prediction
NEM	North East Monsoon
NOAA	National Oceanic and Atmospheric Administration
PCP	Prior Calcite Precipitation
P-E	precipitation minus evaporation
PMT	Photo Multiplier Tube
ppb	parts per billion
ppl	plane polarized light
ppt	parts per trillion
PRL	Physical Research Laboratory
Q-ICP-MS	Quadrupole - Inductively coupled plasma
Tr	Trace element
VPDB	Vienna Pee Dee Belemnite
VSMOW	Vienna Standard Mean Ocean Water (IAEA water standard)
xpl	cross polarized light