



Supplement of

Historical background of Paleo Mega Lake of Rey

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Table S1: Chronological and Bibliographic Sources Supporting the Integrated Timeline (Figure 2) (Detailed references for climatic events, cultural periods, archaeological sites, and dynastic successions as presented in the spatio-temporal reconstruction of Paleo Mega Lake of Rey)

Climate Event	Start (ka)	End (ka)	Reference
Early Holocene Humid Phase (Wet)	11.7	8.2	(Geyh et al., 1999; Weiss and Bradley, 2001)
8.2 Kiloyear Event (Dry)	8.5	8	(Rohling et al., 2002)
Middle Holocene Humid Optimum (Wet)	8	5.5	(Claussen et al., 1999)
4.2 Kiloyear Event (Dry)	4.5	4	(Weiss and Bradley, 2001)
Late Holocene Humid Interval (Wet)	3.5	2.8	(Marchant and Hooghiemstra, 2004)
2.8 Kiloyear Event (Dry)	2.8	2.5	(Staubwasser et al., 2003)
Roman Warm Period (Wet)	2.2	1.7	(McCormick et al., 2012)
Dark Ages Cold Period (Dry)	1.5	1.2	(Helama et al., 2017)
Medieval Warm Period (Wet)	1	0.7	(Mann et al., 2009)
Little Ice Age (Dry)	0.7	0.2	(Grove, 2001)
Modern Warming (Wet)	0.2	0	(Masson-Delmotte et al., 2021)
Era	Start (ka)	End (ka)	Reference
Neolithic	10	6	(Zeder, 2009)
Chalcolithic (Copper Age)	6	5	(Roberts and Thornton, 2014)
Bronze Age	5	3.2	(Kristiansen and Larsson, 2005)
Iron Age	3.2	2.5	(Fagan, 2005)
Classical Antiquity	2.5	1.5	(McCormick et al., 2012)
Site	Start (ka)	End (ka)	Reference
Sialk (Kashan)	8	4.5	(Ghirshman, 1938)
Shahr-e Sukhteh	5.5	4	(Rashidvash, 2012)
Tepe Hesar	4.2	2	(Dyson and Howard, 1989)
Dynasty	Start (ka)	End (ka)	Reference
Elamite	5	2.5	(Potts, 2016)
Median	2.7	2.55	(Gropp, 1998)
Achaemenid	2.55	2.3	(Briant, 2002)
Seleucid	2.3	2.05	(Grainger, 2014)
Parthian	2.05	1.7	(Bivar, 1983)
Sassanid	1.7	1.35	(Daryaei, 2023)
Islamic Dynasties	1.35	0.1	(Kennedy, 2022)
Modern Iran (Pahlavi–Now)	0.1	0	(Axworthy, 2008)

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