

INTRODUCTION TO THE EPI-PALEOLITHIC

Prof. Frank Hole

Yale University

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TOPICS

- Definition – What is the Epi-Paleolithic?
- What are its origins?
- Geography – What regions will we discuss?
- Chronology
- Climate and environments
- Key sites by region
- Important Issues

ISSUES TO DISCUSS

- Relation to UP and other regions
- Kinds of settlements and site locations
- Environmental variability and change
- Technology – chipped and ground stone, bone, fiber
- Economy – subsistence, trade
- Social organization
- Ritual and art
- Transition to the Neolithic

GEOLOGICAL PERIOD	ARCHAEOLOGICAL PERIOD AND APPROXIMATE AGE B.P.	LITHIC TRADITIONS AND CULTURAL ENTITIES	ADDITIONAL/ALTERNATIVE TERMS
LOWER PLEISTOCENE	1.7 Ma 1.5 Ma	non-biface occurrences	Oldowan
	730,000	LOWER PALAEOLITHIC	Tabunian / Shemsi Industry
MIDDLE PLEISTOCENE	300/250,000	Tayacian Upper/Late Acheulian Acheulo-Yabrudian Tradition	{ Acheulian facies Amudian = Pre-Aurignacian Yabrudian facies
	130,000	MIDDLE PALAEOLITHIC	Hummalian "Levalloise-Mousterian"
UPPER PLEISTOCENE	47/45,000	Tabun D type Mousterian Tabun C type Tabun B Type	
	20/18,000	UPPER PALAEOLITHIC	Ksar'Akil Phase A Ksar'Akil Phase B Levantine A Aurignacian B C = Alitian Masraqan
		EPI-PALAEOLITHIC	Kebaran Geometric Kebaran Early Mushabian Late Mushabian = Ramonian Natufian Early Late Harifian (in the Negev and Sinai) PPNA - Khiamian Sultanian PPNB - early middle } Tahunian late final - PPNC
HOLOCENE	7,500 5,500 B.C. uncalibrated		Ghazalian
	5,200?	LATE NEOLITHIC (CERAMIC)	Sha'ar Ha-Golan Jerichoan Early Chalcolithic
	4,500-3,500 uncalibrated	CHALCOLITHIC	Golan Nahal Patish Nahal Grar

Figure 2 Prehistoric chronology for the Holy Land (O. Bar-Yosef)

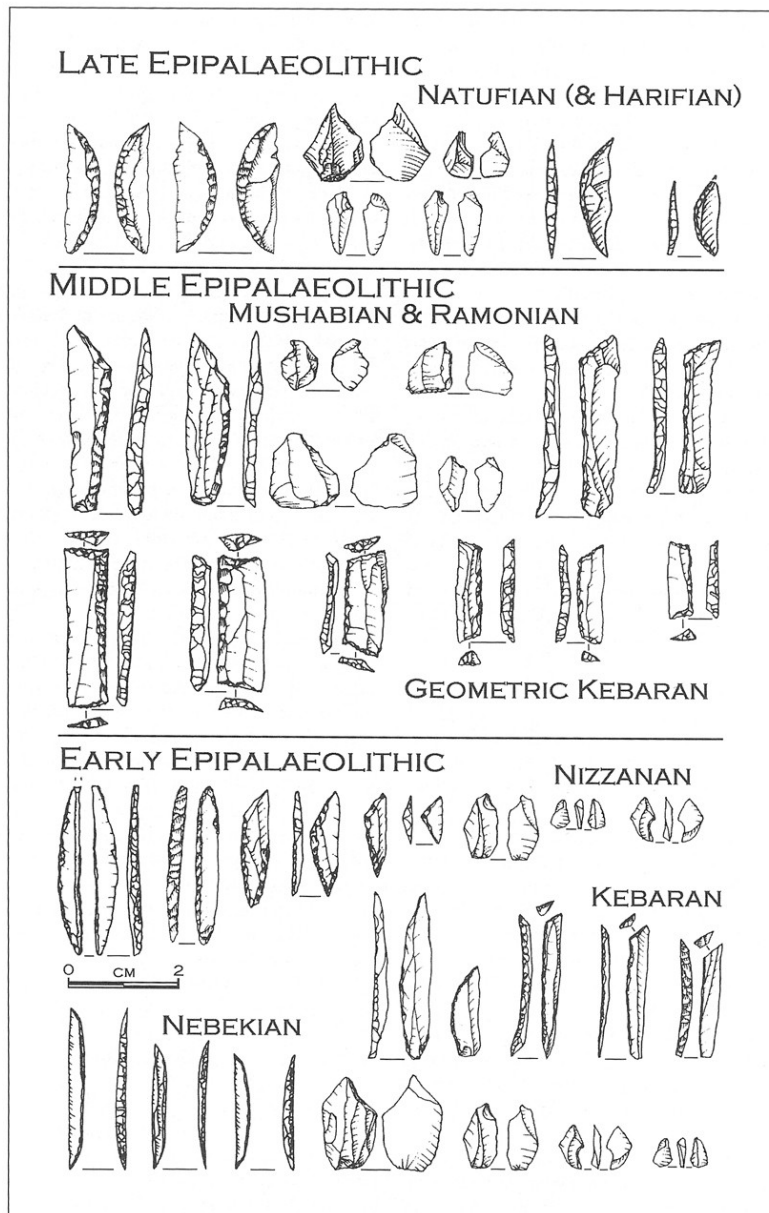


Figure 4.3. Typical microlithic morphotypes and microburins associated with the various Epipaleolithic industries in the south/central Levant (after Byrd 1988; Goring-Morris 1987).

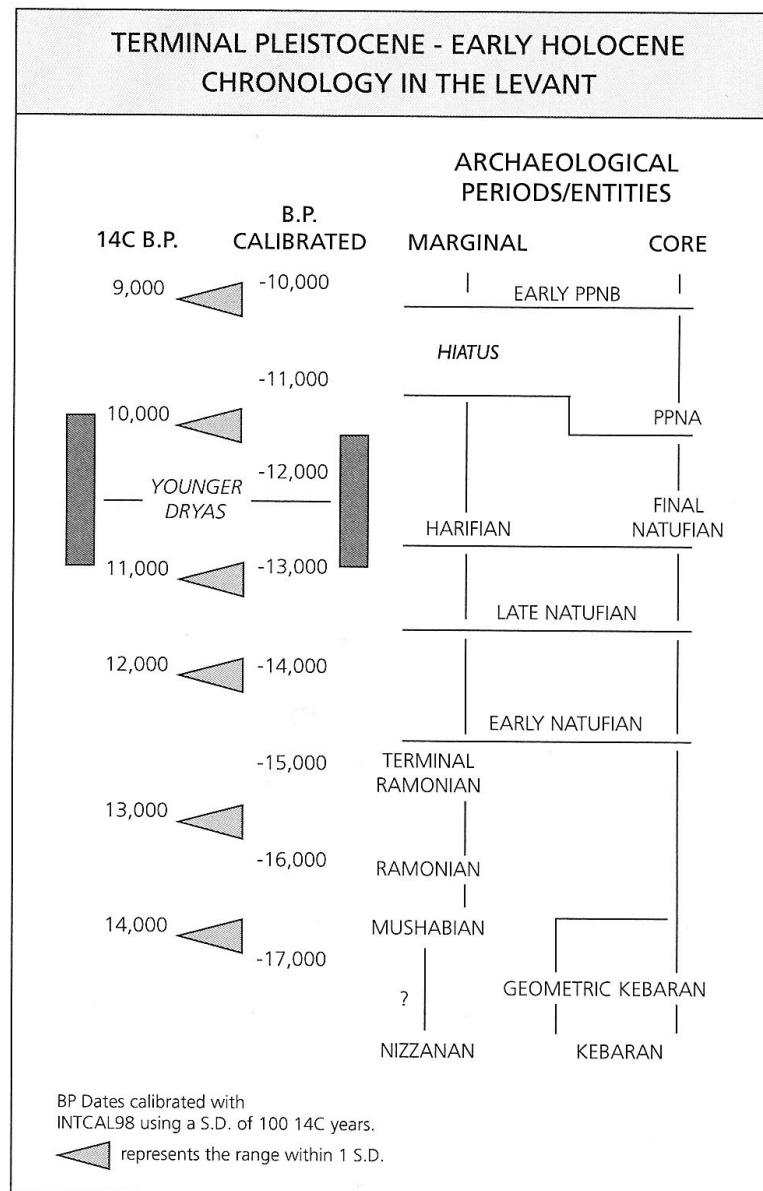
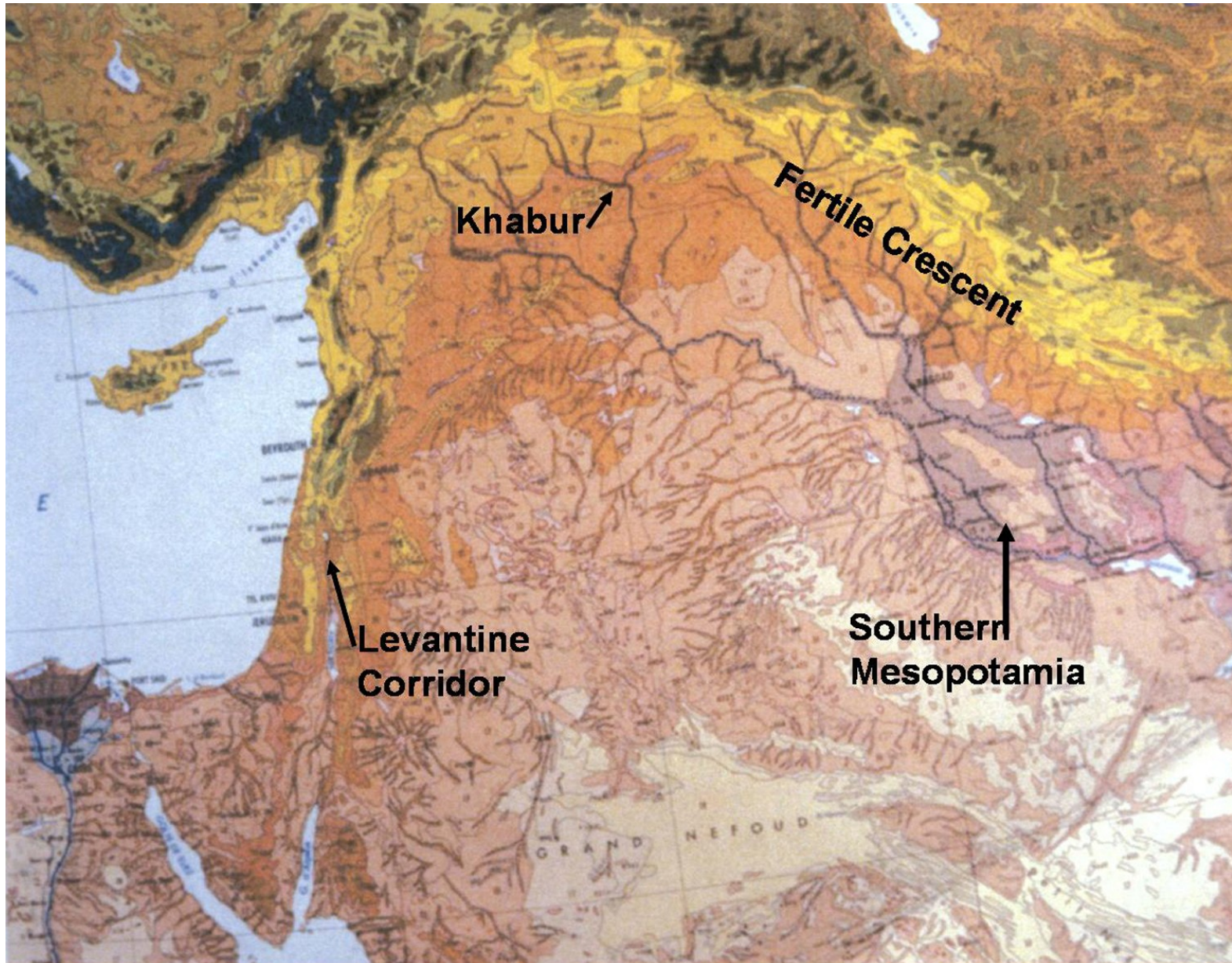


Table 1. Main time-stratigraphic units and cultural entities from the different phytogeographic provinces in the Levant.

Dates BP (uncalib.)	Time Stratigraphic Units		Socio-cultural Entities	
			Mediterranean Zone	Steppe & Desert Zone
20.0 - 18.0	Epipalaeolithic	Early		[Nebekian]
20.0 - 16.0			Masraqan (Late Ahmarian)	Masraqan (Late Ahmarian)
17.5 - 16.0			Early Kebaran (many variants)	Early Kebaran
16.0 - 14.0			Late Kebaran (many variants)	Late Kebaran
16.5 - 15.5			Nizzanan	Nizzanan
14.5 - 12.5		Middle	Geometric Kebaran	Geometric Kebaran & Proto-Mushabian
14.0 - 13.0			Geometric Kebaran	Classic Mushabian
13.0 - 12.5			Geometric Kebaran	Early Ramonian
12.5 - 11.5		Late	Early Natufian	Terminal Ramonian
11.5 - 10.8			Late Natufian	Late Natufian
10.8 - 10.2			Final Natufian	Harifian
10.2 - 10.0	Early Neolithic	PPNA	Khiamian	Final Harifian
10.0 - 9.5			Sultanian	Abu Madi I
9.4 - 9.0		PPNB	Early PPNB	Early PPNB
9.0 - 8.1			Middle/Late PPNB	Middle/Late PPNB
8.1 - 7.6			Final PPNB (PPNC)	Final PPNB (PPNC)

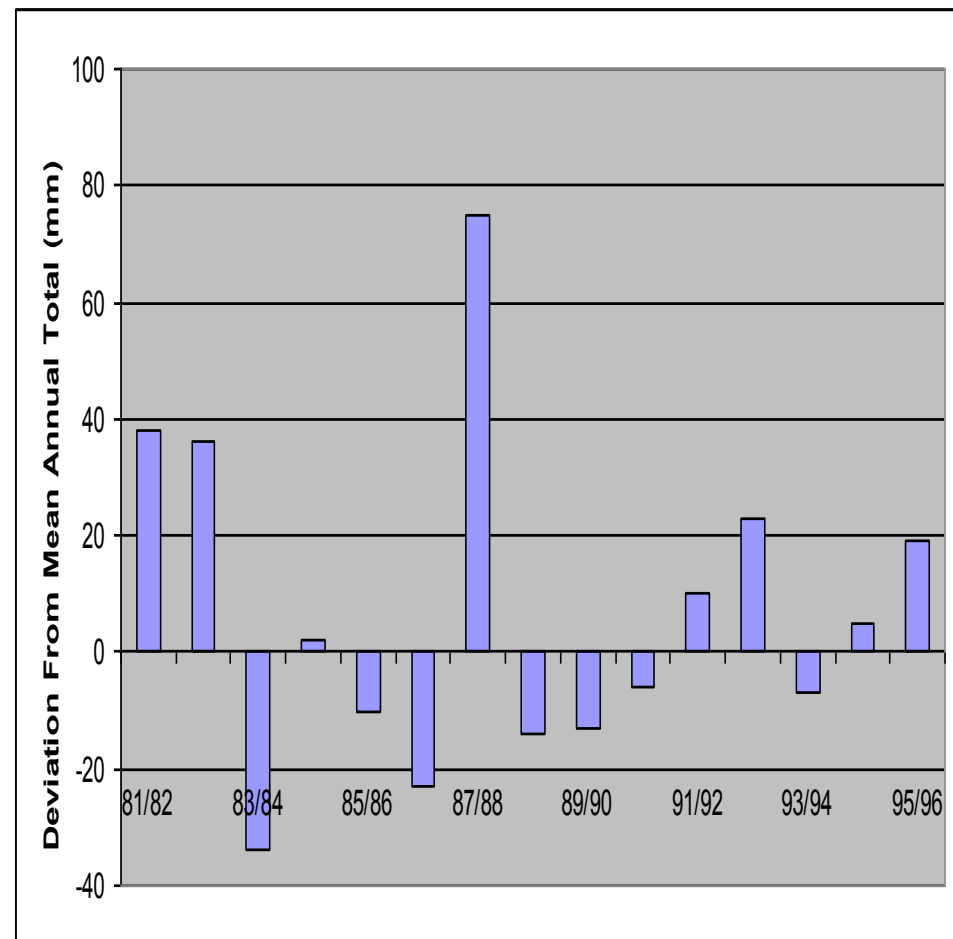
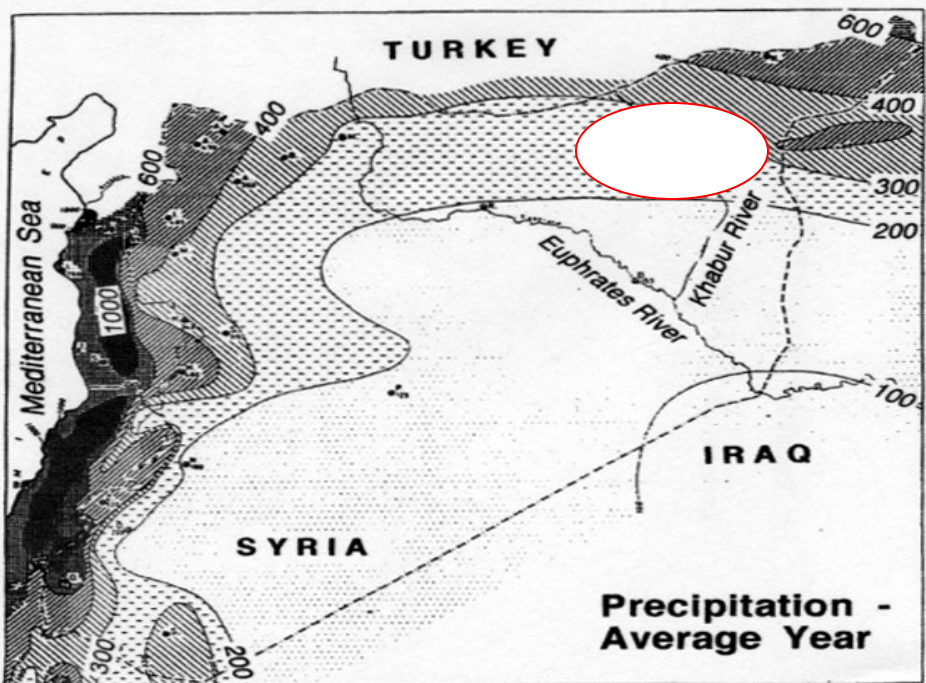
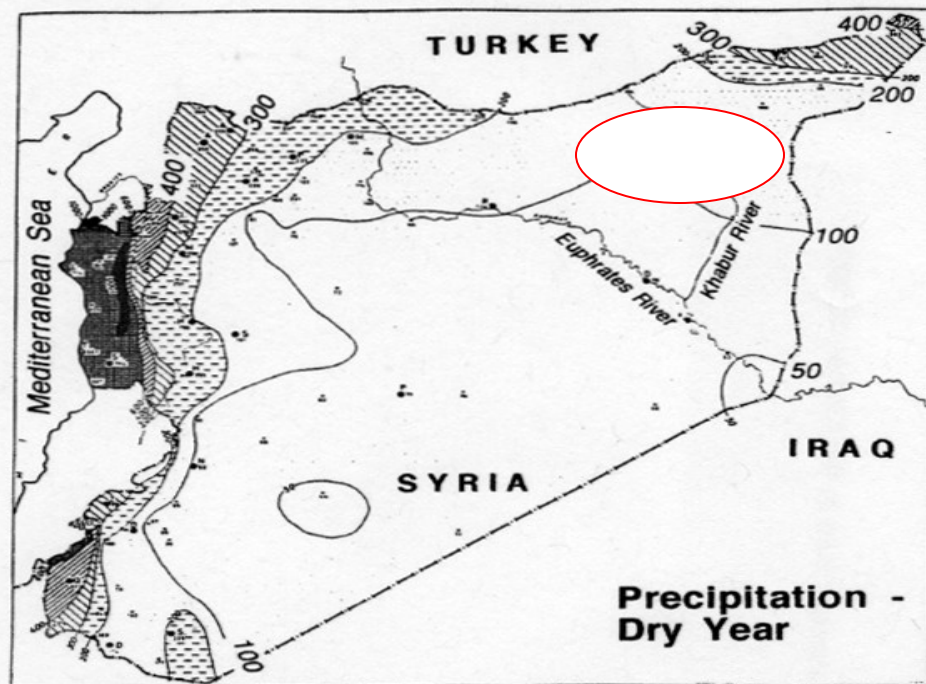


Near Eastern Environments

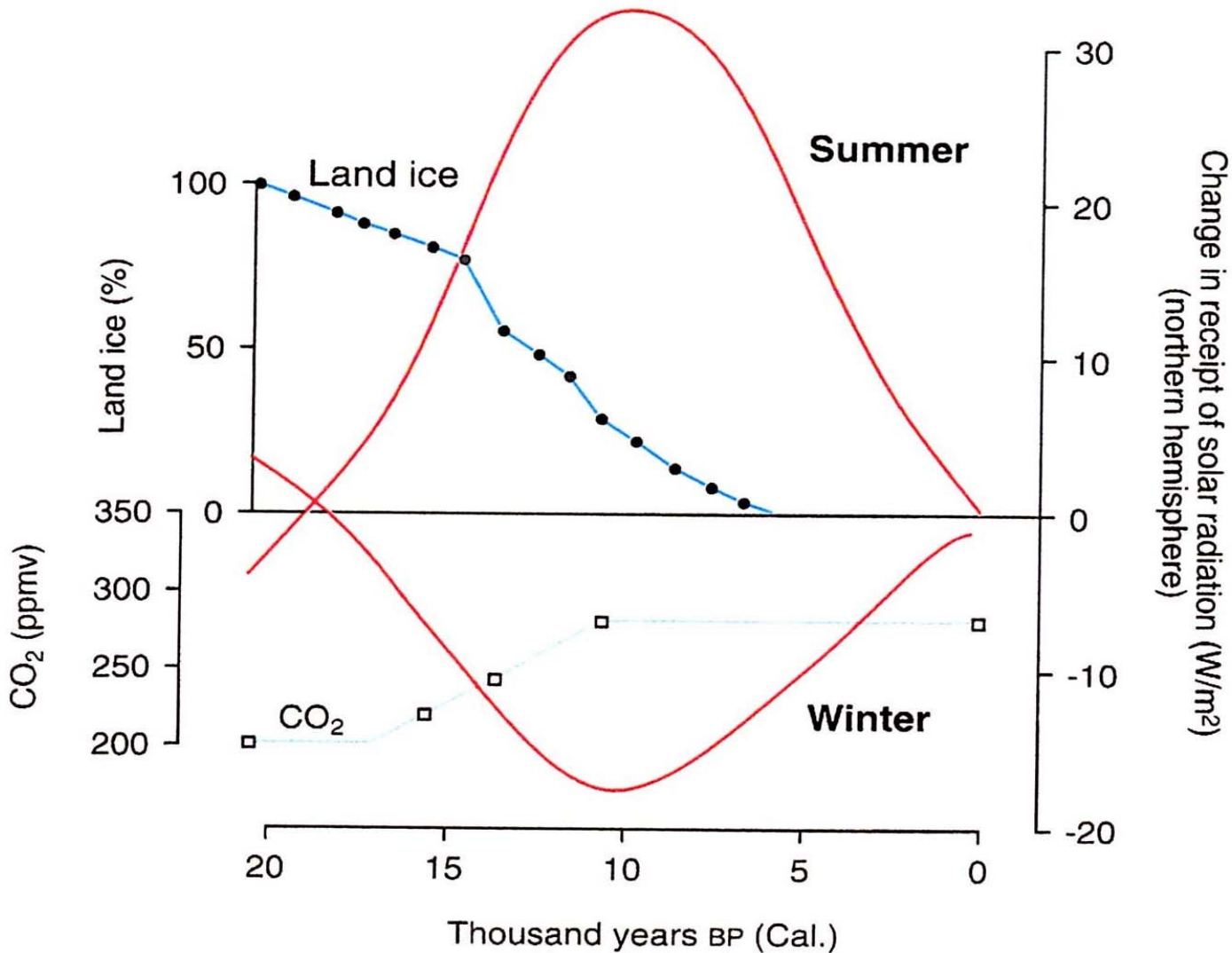


The Semi-Arid Region

- **COASTAL ZONE**
- Mediterranean-type climate
- >1000–350 mm precipitation
- Winters cool and wet
- Pine, oak, pistachio, etc
- Rain-fed agriculture
- Summers hot and dry
- Drought years uncommon
- **SEMI-ARID STEPPE**
- 150-250 mm annual precipitation
- High interannual variability >100%
- Grass and shrubs
- Rain-fed agriculture is risky <250 mm
- Drought years common
- Traditional pasture for Bedouin herds



Interannual variability of precipitation



Climate related to solar insolation from end of the late glacial maximum (modified after Kutzbach and Street-Perrot 1985).

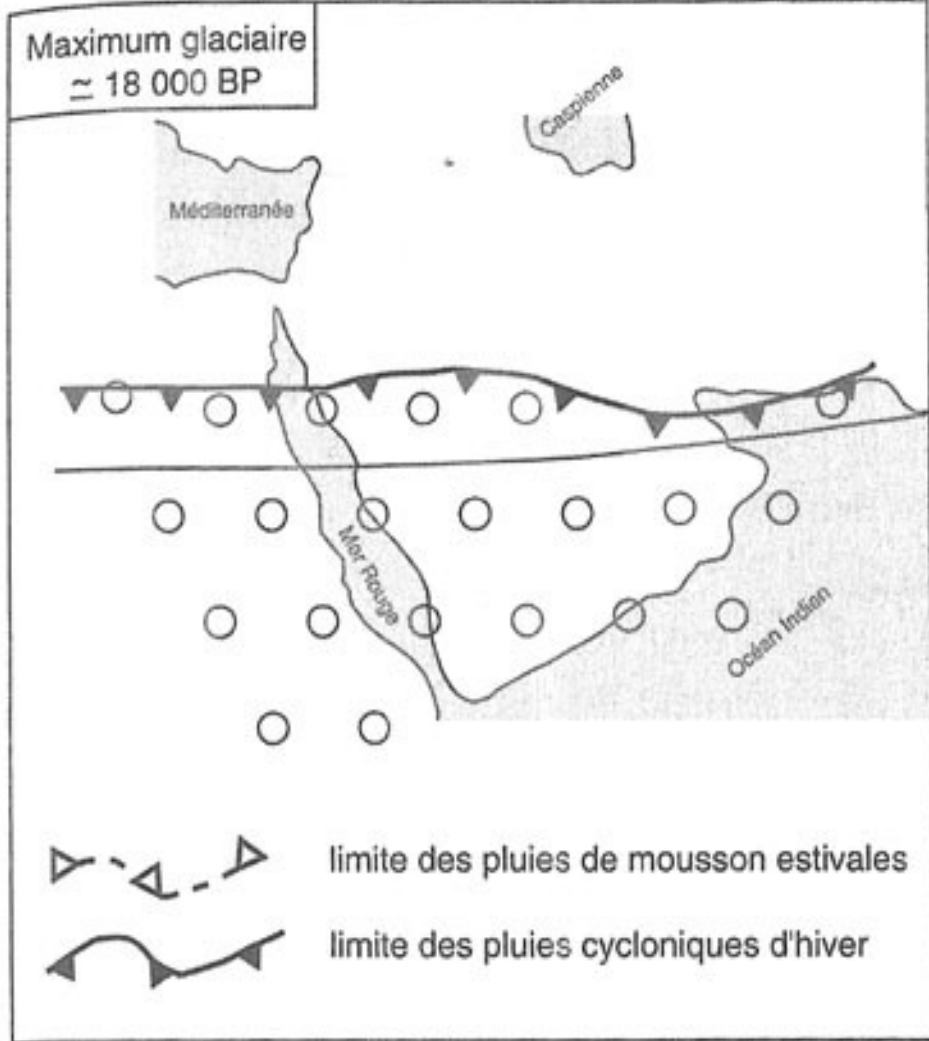


Figure 69 Limites supposées des pluies cycloniques d'hiver et des pluies estivales de mousson vers 18 000 ans BP

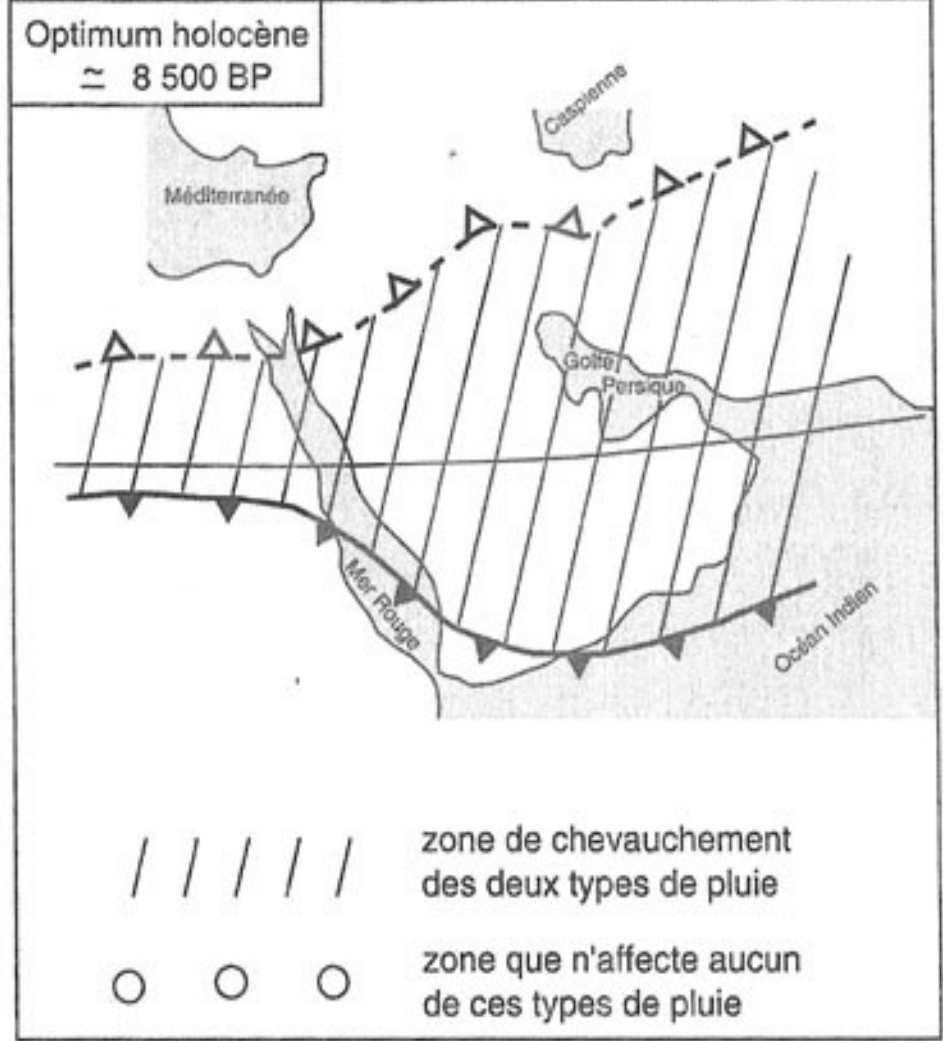


Figure 70 Limites supposées des pluies cycloniques d'hiver et des pluies estivales de mousson vers 8 500 ans BP

Summer, monsoon-driven rainfall 18ky and 8.5ky

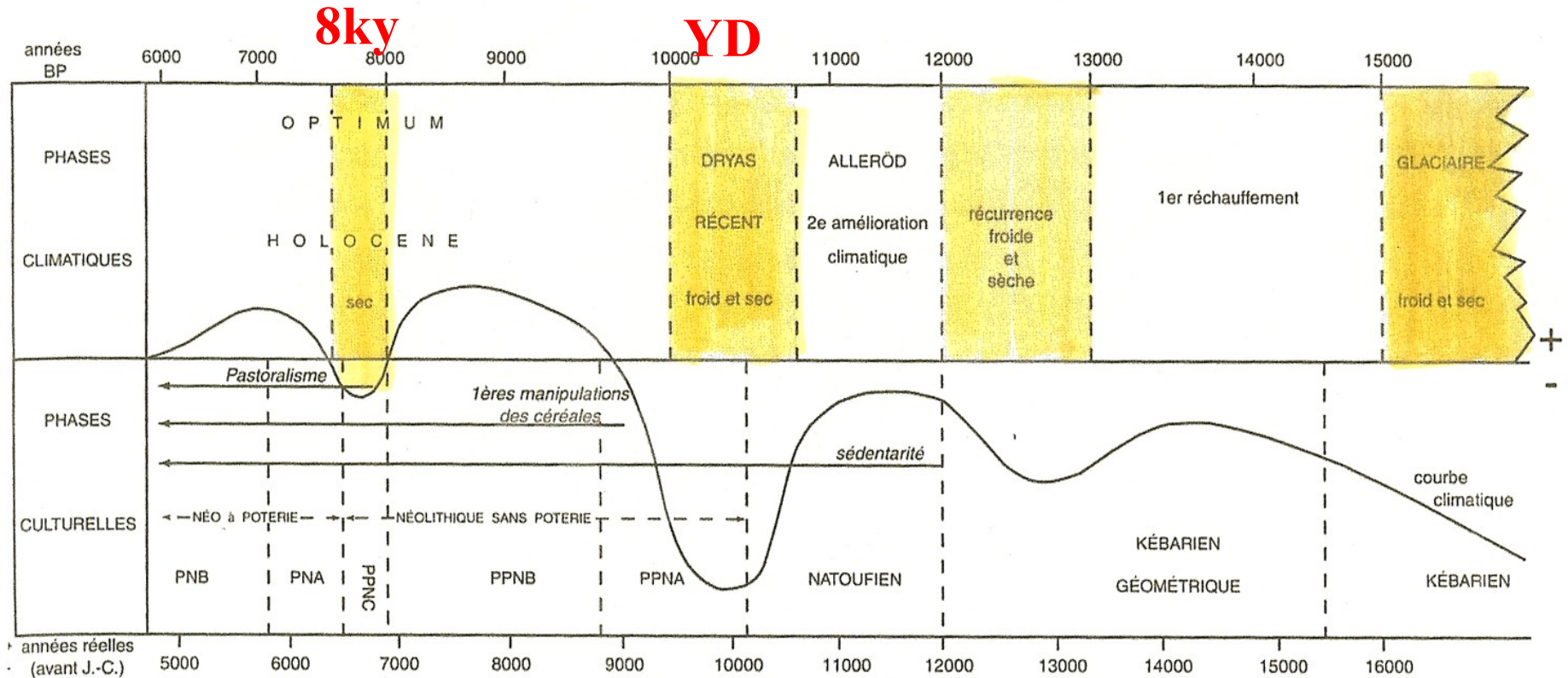
Data Sources: Climate Proxies, Archaeology and History

- **Climate proxies inform on the region:** they are derived from ocean cores, lake cores, cycles of erosion and deposition, pollen, speleothems, climate models
- **Archaeological proxies are locale-specific:** they include settlement distribution and size, agriculture and stock raising, cyclical presence and absence of settlements
- **Discordance** in spatial and temporal dimensions between the two data sets

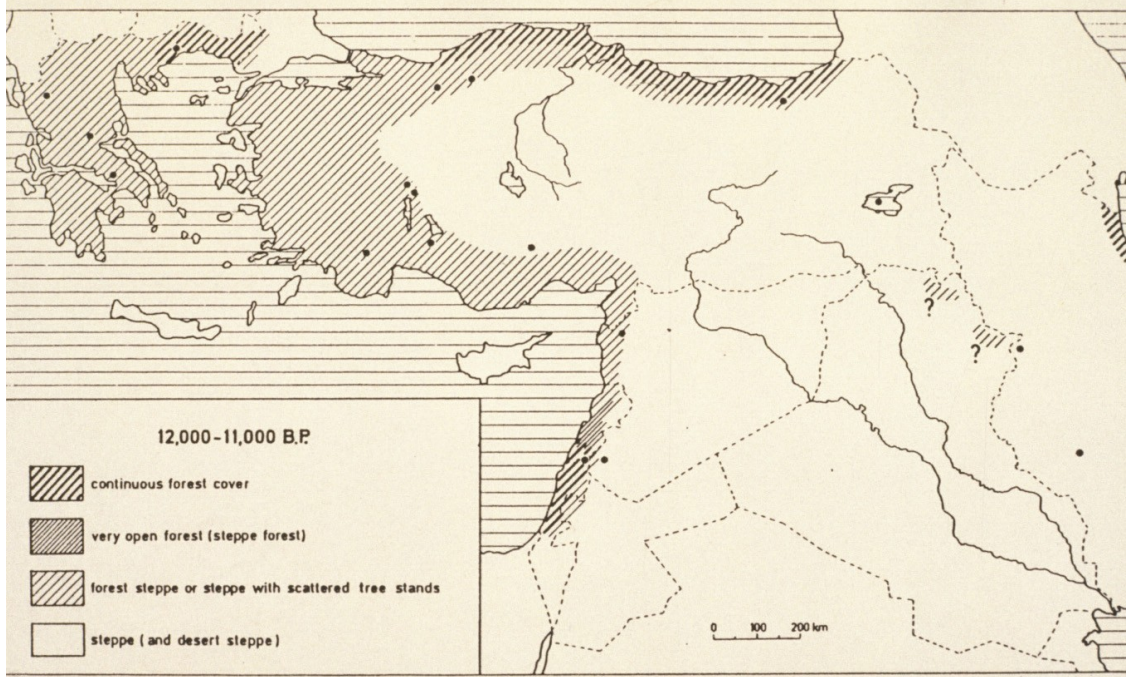
Soreq Cave, Israel

Bar-Matthews, *Earth and Planetary Science Letters* 166 (1999)

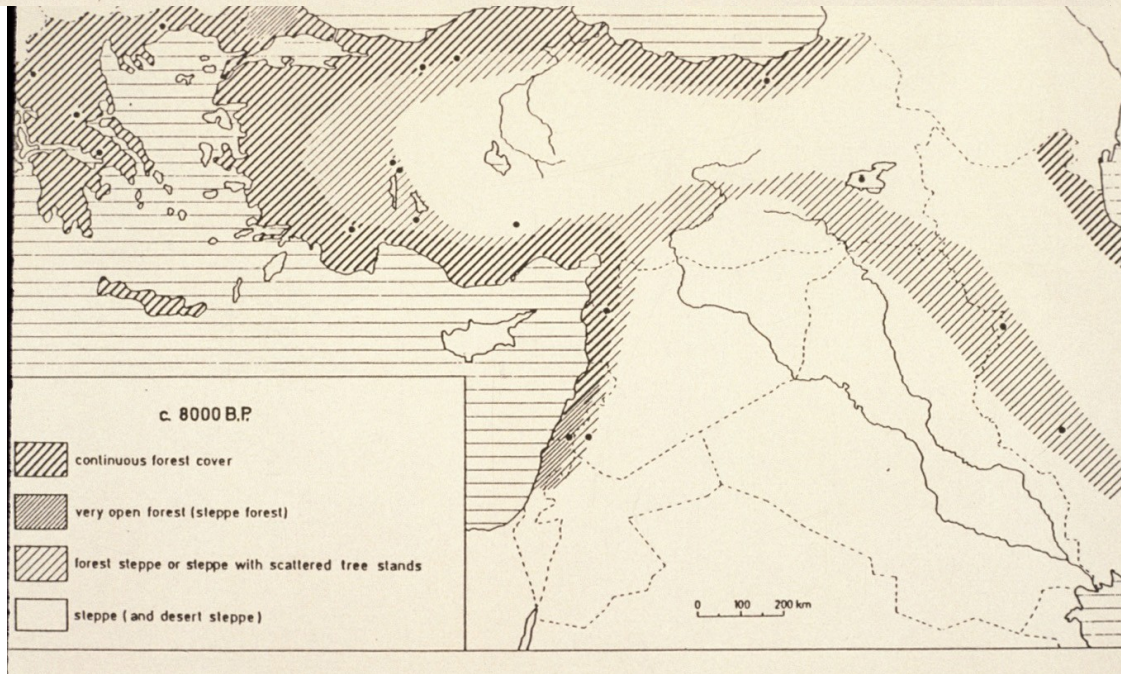
- ^{18}O and ^{13}C isotopes of speleothems relate to rain, cave temperature and precipitation
- 13.2-11.4 ky – Younger Dryas cold, dry
- 8.5-7 ky – Very high precipitation (Holocene Climatic Optimum)
- 8.2-8.0 ky – Sudden cooling and decrease in rainfall intensity
- 4.2-4.0 ky – Aridity associated with Akkadian and other collapses
- 4.0 ky till today – Relatively smaller fluctuations



Climatic phases and human societies in the Levant 16ky-5ky (Sanlaville 1997)



Younger Dryas vegetation

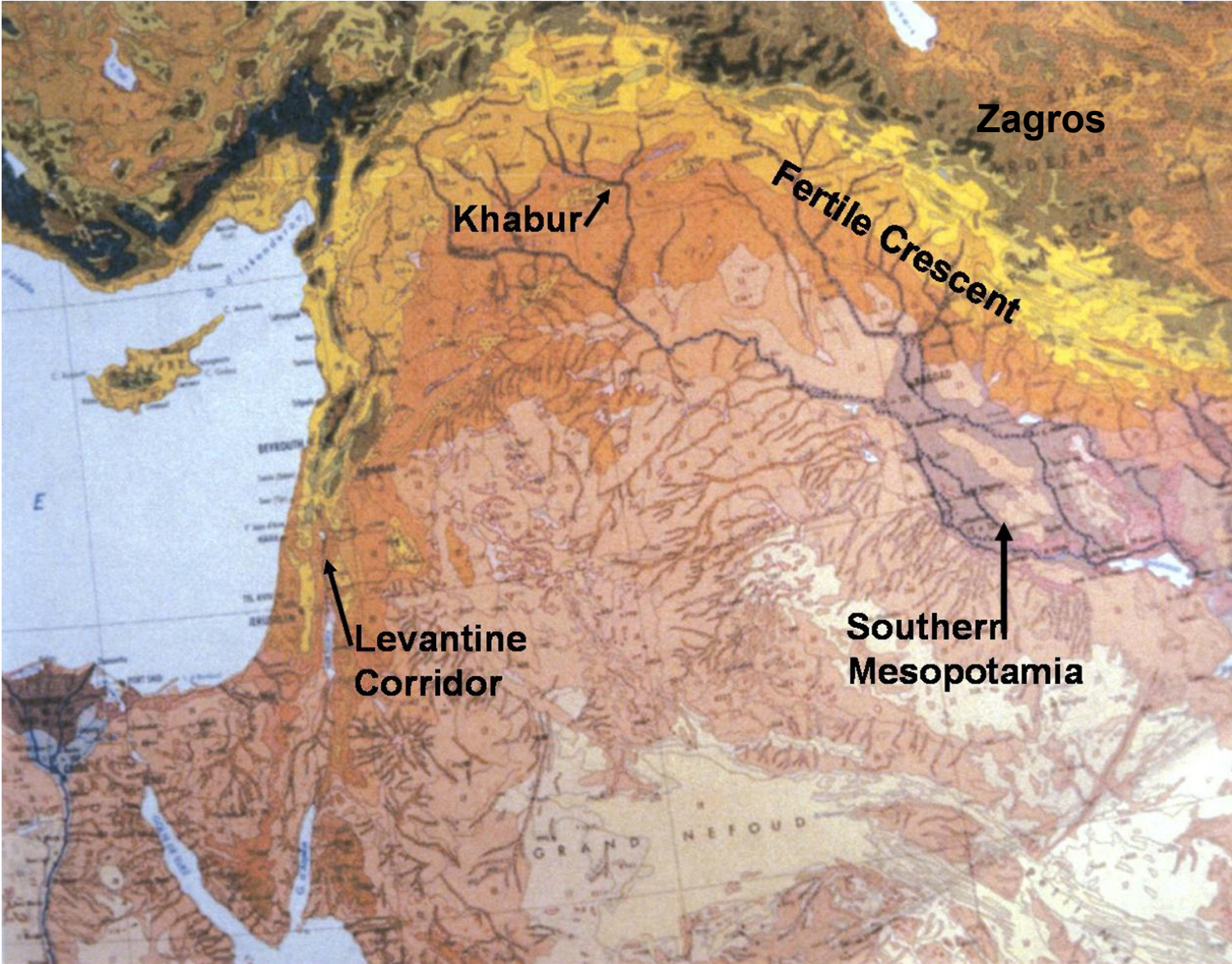


Middle Holocene vegetation

Principal Regions

- The Northern and Southern Levant
- The Euphrates Valley
- The desert interior
- The Zagros-Taurus

Near Eastern Environments



THE LEVANT

- Geographic characteristics
 - Rift valley - below sea level
 - Coastal mountains and plains
 - Inland plateau and steppe
 - Euphrates
 - Sinai, Negev and Egypt

Rift Valley

- Below sea level
- Generally arid, but with much local variability
- Lake Lisan, Jordan River and tributaries
- African, Irano-Tauranian-Mediterranean vegetation and fauna
- Some permanent sites

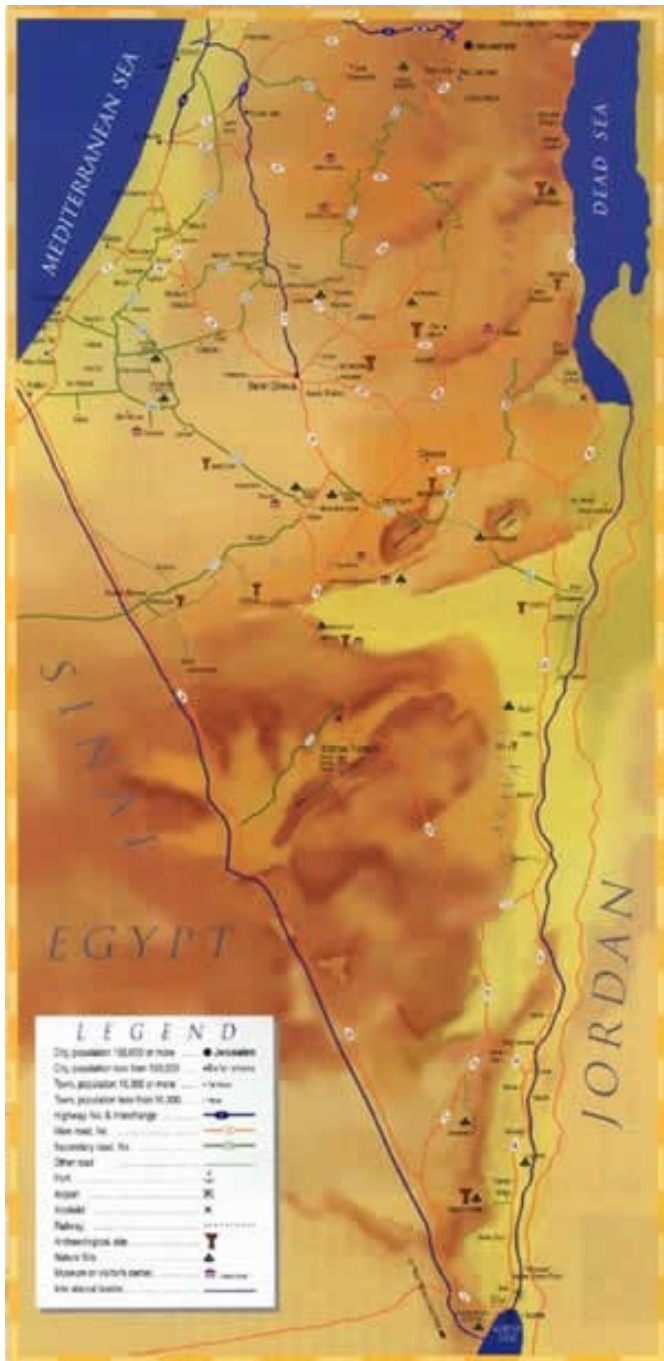
Mount Carmel Region

- Mediterranean vegetation zone
- Dependable precipitation
- Oak, pistachio, almond
- Wild cereals
- Semi-permanent sites with long periods of use.

Sinai and Negev

- Mostly very arid, with sand dunes
- Higher elevations have trees and grass
- Sites are seasonally situated near springs





The Desert Interior

- Sites confined to playa lakes and springs
- Low precipitation and sparse resources
- Sites consist of hunting and gathering camps
- Desert kite hunting traps probably begin

The Zagros

- Separate tradition from the Levant
- Few sites excavated
- Cave, shelters and open sites appear to be temporary camps for hunter-gatherers
- Transition from Upper Paleolithic Baradostian
- No clear transition to Neolithic yet

Abu Hureyra 1

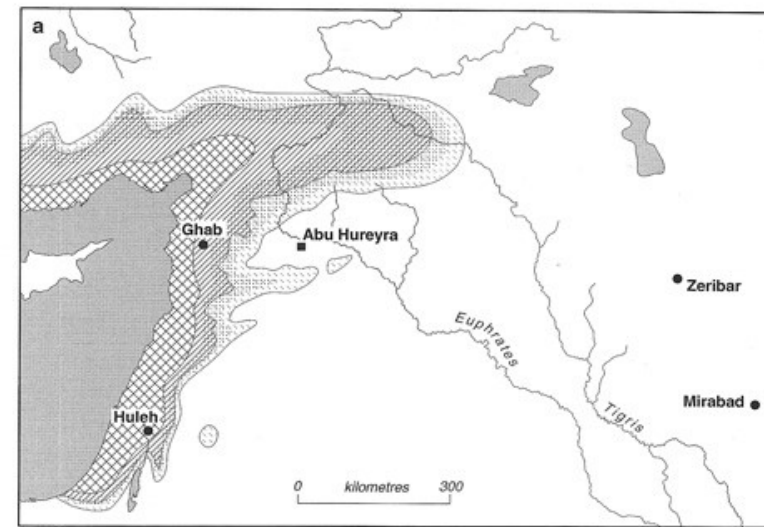
- Late Epipaleolithic “Natufian” settlement
- Excavated by Andrew Moore, with Gordon Hillman and Tony Legge in 1972-73
- 40 m² of Epipaleolithic deposit excavated
- 11,113-10,790 cal BC (Phase 1)
- Hunter-gatherers, but Hillman sees domestic rye
- Gazelle hunters

VILLAGE ON THE EUPHRATES



FROM FORAGING TO FARMING AT ABU HUREYRA

A. M. T. MOORE
G. C. HILLMAN
A. J. LEGGE



- Forest and fairly dense woodland (including montana forest, eu-mediterranean sclerophyllous woodland, & xeric, deciduous oak-Flosaceae woodland).
- Oak-terebinth-Flosaceae park-woodland (a mosaic of woodland and open areas dominated by annual grasses).
- Terebinth-almond woodland-steppe, involving a thin scatter of trees in what were otherwise grass-dominated steppe formations.
- Areas (within the previous two zones) supporting extensive stands of wild wheats and ryes.
- Steppe, dominated by wormwoods, perennial chenopods, and perennial tussock-grasses.

