

Contents

<i>List of figures and tables</i>	<i>page</i>	x
<i>Preface</i>		xiii
<i>Acknowledgements</i>		xv
1	Climate changes in the Levant during the Late Quaternary Period	1
1.1	Contemporary climate	1
1.2	The climate during the Late Pleistocene	3
1.3	Climate changes during the Holocene in the Levant	6
1.4	Correlation between climate changes and historical events in the Levant	12
1.4.1	The Neolithic period, <i>c.</i> 10 ka to <i>c.</i> 7 ka BP	12
1.4.1.a	The Lower Neolithic period, <i>c.</i> 10 ka to 8 ka BP (Pre-pottery Neolithic)	13
1.4.1.b	The Middle and Upper Neolithic period, <i>c.</i> 8 ka to <i>c.</i> 7 ka BP (Pottery Neolithic)	14
1.4.2	The Chalcolithic period, <i>c.</i> 7 ka to <i>c.</i> 5 ka BP	16
1.4.3	The Early Bronze Age <i>c.</i> 5 ka to <i>c.</i> 4 ka BP	17
1.4.4	The Middle Bronze Age <i>c.</i> 4 ka to 3.5 ka BP	21
1.4.5	The Late Bronze Age and Iron Age, 3.5 ka to 2.6 ka BP	22
1.4.6	The Roman–Byzantine period (2.3/2.2 ka to 1.3 ka BP), including the Roman–Byzantine transition period (1.7 ka to 1.6 ka BP)	25
1.4.7	The Moslem–Arab period, <i>c.</i> 1.3 ka to 1.0 ka BP	27
1.4.8	The Crusader period and Little Ice Age, 1.0 ka to 0.4 ka BP	28
1.4.9	The Moslem–Ottoman period, 0.4 ka to 0.1 ka BP	28
1.4.10	The Industrial period, 0.1 ka BP to the present	29
2	Climate changes during the Holocene Epoch in Europe	31
2.1	Climate	31
2.1.1	Contemporary climate	31
2.1.2	The Pleistocene–Holocene transition period	31
2.2	The Mediterranean region	31
2.2.1	The Balkan peninsula	31
2.2.2	The Italian peninsula and the French Mediterranean coast	34
2.2.2.a	The island of Malta	35
2.2.3	The Iberian peninsula	35
2.2.3.a	Contemporary climate	35
2.2.3.b	Paleo-geomorphology	36
2.2.3.c	Palynological time series	37
2.2.3.d	Regional correlation	44
2.3	The Alps	45
		vii

viii	CONTENTS
2.4	Western and northwestern Europe 45
2.4.1	The Netherlands 47
2.4.1.a	Contemporary climate 47
2.4.1.b	Climate changes during the Upper Pleistocene 47
2.4.1.c	Climate changes during the Holocene 47
2.4.2	The British Isles 53
2.4.3	Scandinavia and the northern Atlantic 53
2.4.3.a	Scandinavia 53
2.4.3.b	The northern Atlantic 57
2.4.3.c	Greenland 57
2.5	Central and eastern Europe 59
2.5.1	Poland 59
2.5.2	The Caspian Sea 59
3	Climate changes during the Holocene in east Asia (China, Korea and Japan) 61
3.1	China 61
3.1.1	Contemporary climate 61
3.1.2	Climate changes during the Upper Pleistocene and Holocene transition period 61
3.1.2.a	The loess plateau 61
3.1.2.b	The Tibetan plateau and western China 63
3.1.2.c	Eastern China 63
3.1.3	Climate changes during the Holocene 64
3.1.3.a	The loess plateau 64
3.1.3.b	The Tibetan plateau and western China 64
3.1.3.c	Central and eastern China 65
3.1.4	Korea 74
3.1.5	Conclusions 74
3.2	Japan 75
3.2.1	Contemporary climate 75
3.2.2	The climate of Japan during the Last Glacial and Post Glacial Periods 75
3.2.3	Climate during the Holocene 76
3.2.3.a	Palynological time series 76
3.2.3.b	Geomorphological observations 79
3.2.3.c	General conclusions 80
4	Climate changes during the Holocene in Africa 81
4.1	Egypt 81
4.1.1	Contemporary climate and hydrological regime of the Nile 81
4.1.2	Climate during the Upper Pleistocene and Holocene 81
4.2	The Sahara and the Sahel belt 84
4.2.1	Contemporary climate 84
4.2.2	Climate during the Upper Pleistocene and Holocene 85
4.2.3	Lakes of eastern Africa 89
4.3	Tropical Africa 89
4.3.1	Climatic changes during the Upper Pleistocene and the Holocene 89
4.3.1.a	Tropical east Africa 90
4.3.1.b	Tropical west Africa 90
4.4	South Africa 91
4.4.1	Contemporary climate 91
4.4.2	Climate conditions during the Upper Pleistocene and Holocene 92

CONTENTS		ix
5	Climate changes over western USA and Mexico during the Holocene	97
5.1	Southwestern USA	97
5.1.1	Contemporary climate	97
5.1.2	Climate changes during the Upper Pleistocene and Holocene	97
5.2	Central USA and Canada	102
5.3	Mexico	102
5.3.1	Contemporary climate	102
5.3.2	Climate changes during the Holocene	102
6	General conclusions	105
6.1	Climate changes during the Holocene: global correlation	105
6.2	The cause of the climate changes during the Holocene	105
	<i>References</i>	109
	<i>Index</i>	123