CONTENTS

Li.	st of figures pag	ge viii
Li.	st of maps	xiii
Pr	eface	xv
In	troduction: thinking about medieval Europeans in the	ir
	natural world	1
I	Long no wilderness	21
	Natural dynamics in Holocene Europe	22
	Cultural adaptations and impacts up to the Roman Climatic	
	Optimum	29
	Environmental precedents and legacy of classical Mediterranean	
	civilization	33
	'Barbarian' adaptations: the Iron Age in northern Europe	43
2	Intersecting instabilities: culture and nature at	
	medieval beginnings, c.400–900	51
	Environmental relations in the decline of classical civilization	52
	The discontinuities of late antiquity, c.350–750	57
	The pressure of a different climate	67
	Anomalous adaptations for anomalous times and ecosystems:	
	Frisia and the origins of Venice	71
	The Carolingian age: window on a work in progress	78
3	Humankind and God's Creation in medieval minds	85
	The White thesis, its critics and adherents	87
	The limits to basic medieval Christianization	91
	A hostile material world	94

vi Contents

	Nature as sign	97
	Partners: beneficent Natura and human collaboration	101
	Voices of experience	108
	Summation: hegemonies, diversities, and the gap	
	between medieval ideas and action	110
4	Medieval land use and the formation of traditional	
	European landscapes	113
	Bread and meat, power and numbers	114
	Medieval landscapes transformed: the great clearances	119
	Intensified cereal landscapes in Mediterranean Europe	133
	From wetlands and other deviant forms to grain lands	136
	Not by bread alone	142
	Environmental consequences of new anthropogenic ecosystems	148
5	Medieval use, management, and sustainability of	
	local ecosystems, 1: primary biological production	
	sectors	155
	Sustainability in systems based on indirect solar energy	155
	Traditional European agroecosystems: the north	158
	Traditional European agroecosystems: the Mediterranean	169
	Pastoral connections	174
	Woodmanship	181
	Using wildlife	188
6	Medieval use, management, and sustainability of local	1
	ecosystems, 2: interactions with the non-living	
	environment	196
	The energy basis for medieval society	196
	Inorganic resources: mining, metallurgy, and other	
	manufactures	215
	Urban ecologies	227
	Assessing historic sustainability	237
7	'This belongs to me'	241
	How medieval men (and women) possessed the earth	243
	Commoners, communities, and lords	247
	Higher authority: the state, public rights, and the 'common	
	good'	263
8	Suffering the uncomprehended: disease as a	
	natural agent	279
	Pathogenic disease: introductory concepts	280

	Contents	vi
	Baseline disease conditions in pre-industrial Europe	283
	The 'Justinianic plague'	285
	Leprosy	286
	The Black Death	289
	English sweats	298
	Malaria	299
9	An inconstant planet, seen and unseen,	
	under foot and overhead	304
	Subterranean violence	305
	Recapturing past planetary variability above and below ground	313
	Medieval European climates at the century scale	318
	Europe's 'warm' Medieval Climate Anomaly	320
	Transition to a 'Little Ice Age'	323
	The Little Ice Age	328
	Some case studies of climate, weather, and medieval cultures	329
10	A slow end of medieval environmental relations	342
	Ecological crisis? Anthropogenic overshoot, slow chill,	
	sudden natural shock	342
	By long-term cultural evolution?	351
	Unintended consequences from an anthropogenic shock: the	
	Columbian encounter in European perspective	364
Aft	erword	371
À	A sampler for further reading	

391

Index