



Universiteit  
Leiden  
The Netherlands

## A landscape biography of the 'Land of Drumlins': Vooremaa, East Estonia

Veldi, M.

### Citation

Veldi, M. (2020, December 3). *A landscape biography of the 'Land of Drumlins': Vooremaa, East Estonia*. Retrieved from <https://hdl.handle.net/1887/138482>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/138482>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/138482> holds various files of this Leiden University dissertation.

**Author:** Veldi, M.

**Title:** A landscape biography of the ‘Land of Drumlins’: Vooremaa, East Estonia

**Issue date:** 2020-12-03

A Landscape Biography of the „Land of Drumlins“: Vooremaa, East  
Estonia

Proefschrift

ter verkrijging van  
de graad van Doctor aan de Universiteit Leiden,  
op gezag van Rector Magnificus prof.mr. C.J.J.M. Stolker,  
volgens besluit van het College voor Promoties  
te verdedigen op donderdag 3 december 2020  
klokke 10.00 uur

door

Martti Veldi

geboren te Tartu

in 1981

Promotores:

Prof. dr. J.C.A. Kolen

Prof. dr. J. Renes

Prof. dr. H. Palang

Promotiecommissie:

Prof. dr. V. Lang

Prof. dr. C.C. Bakels

Prof. dr. D.R. Fontijn

Prof. dr. C.L. Crumley

Prof. dr. I. Lilley

*To Marta*

## Contents

1	Introduction .....	8
1.1	Problem definition and aim of the research.....	8
1.2	Archaeological heritage designation in Estonia .....	9
1.3	Land and ownership relations in Estonia.....	10
1.4	Study region .....	11
1.5	Sources and data.....	14
1.6	Timeframe of the study .....	15
1.7	Research questions .....	17
1.8	Structure of the thesis .....	18
2	The study region – Vooremaa in East Estonia.....	20
2.1	Shape and size of the drumlins.....	21
2.2	The Vooremaa landscape conservation area .....	24
2.3	Bedrock and soils .....	24
2.4	Contemporary land use and vegetation .....	25
2.5	Water .....	27
3	The study of cultural landscapes in Estonia – an historic overview .....	29
3.1	Cultural geography .....	29
3.2	Landscape archaeology in Estonia .....	31
3.3	Landscape archaeology and place-related folklore studies .....	33
3.4	Research history of Vooremaa region .....	34
4	Theoretical Framework and Basic Concepts: Landscape as Transforming Heritage .....	39
4.1	Concepts of “land” and “landscape” .....	39
4.2	Natural or cultural landscapes? .....	41
4.3	The culture-historical approach.....	42
4.4	New archaeology and the processual approach to landscape .....	44
4.5	The New Cultural Geography and Post-processual Landscape Studies .....	45
4.6	Landscape Biography .....	48
4.7	The Concept of Palimpsest.....	52

4.8	The Concept of Heritage .....	54
4.9	Heritage and identity .....	55
4.10	Heritage and interest groups (stakeholders) .....	56
4.11	Conclusion: components of landscape .....	59
5	Methods and sources: A Historic GIS for Vooremaa .....	61
5.1	Introduction: GIS in archaeology .....	61
5.2	Basic concepts .....	62
5.3	What is a Historical GIS? .....	63
5.4	Why use Historical GIS for archaeological research? .....	65
5.5	Swedish cadastral maps as a source of historic land use .....	66
5.6	Cartographic sources .....	70
5.7	Digital mapping .....	71
5.8	Historic land use analysis for evaluating landscape change .....	74
6	Case study 1: The Long-term history of settlement and land use in Vooremaa .....	79
6.1	Settlement sites .....	79
6.1.1	Archaeological sources .....	80
6.1.2	Chronology .....	81
6.2	Soil and geomorpholgy of settlement sites .....	82
6.3	Settlement and Environment in the Stone Age (9000 – 1800 BC) .....	86
6.3.1	Mesolithic Period (9000 – 4900 BC) .....	87
6.3.2	Neolithic period (4900 – 1800 BC) and Early Bronze Age (1800 – 1100 BC) .....	92
6.4	Environment and Settlement in the Late Bronze Age (1100 – 500 BC) and Pre-Roman Iron Age (500 BC – 50 AD) .....	96
6.4.1	Environment and Climate .....	96
6.4.2	Settlement and Human Impact .....	96
6.5	Environment and Settlement in the Iron Age (50 – 1225 AD) .....	98
6.5.1	Environment and Climate .....	102
6.5.2	Iron Age Settlement Regions of Vooremaa .....	102
6.6	The Middle Ages (1225 – 1550 AD) and Early Modern Period (1550 – 1800) .....	106

6.6.1	The Medieval and Early Modern manor landscape.....	107
6.6.2	Occupation patterns in the 19 <sup>th</sup> and 20 <sup>th</sup> century .....	111
6.7	Historic land use around archaeological settlement sites .....	112
6.7.1	Land use in 1684 .....	113
6.7.2	Land use in 1839 .....	114
6.7.3	Land use in 1930s and 2010s.....	115
6.8	Example 1: settlement and sites on Leedi-Reastvere drumlin.....	116
6.9	Example 2: Iravere settlement site .....	118
6.10	Example 3: Raigastvere settlement/burial site.....	119
6.11	Conclusion.....	122
7	Case study 2: Burial sites and natural sacred sites as places of collective memory .....	124
7.1	Archaeology and place-related folklore .....	124
7.2	Iron Age stone graves.....	127
7.2.1	Soil and elevation of Iron Age stone graves.....	130
7.2.2	Historic land use around Iron Age stone graves.....	132
7.2.3	Folklore related to Iron Age stone graves .....	133
7.2.4	Example 1: <i>tarand</i> -graves of Nava village.....	135
7.2.5	Example 2: Kõrenduse <i>tarand</i> -grave.....	136
7.3	Medieval rural cemeteries .....	138
7.3.1	Soil and elevation of rural cemeteries .....	141
7.3.2	Historic land use around Medieval rural cemeteries .....	143
7.3.3	Folklore related to Medieval rural cemeteries .....	146
7.3.4	Example 1: Vedu rural cemetery .....	149
7.3.5	Example 2: Pupastvere Chapel Mound .....	151
7.4	Natural sacred sites.....	152
7.4.1	Soil and elevation of natural sacred sites.....	155
7.4.2	Historic land use around natural sacred sites.....	156
7.4.3	Folklore related to natural sacred sites .....	159
7.4.4	Example 1: Laiuse Blue spring.....	160

7.4.5	Example 2: Ōvanurme <i>hiis</i> -site .....	163
7.5	Conclusion.....	164
8	Case study 3: Hillforts – places of power and communication .....	166
8.1	Archaeological sources.....	167
8.2	Wealth deposits around hillforts.....	168
8.3	Chronology .....	170
8.4	Soil and elevation .....	172
8.5	Historic land use.....	174
8.6	Roads .....	175
8.7	Rivers.....	176
8.8	Example 1: Lähte <i>Palalinn</i> .....	178
8.9	Example 2: Saadjärve <i>Kalevipojasäng</i> .....	180
8.10	Discussion and conclusion .....	181
9	Example of combining historical GIS, archaeological data, and the 13 <sup>th</sup> century <i>Chronicle of Henry of Livonia</i> .....	185
10	Example of a comparative approach of Vooremaa in Estonia and Drenthe in the Netherlands .	217
11	Historical GIS: a new perspective for heritage and landscape management? .....	234
12	Conclusions .....	240
	Bibliography .....	243
	Samenvatting .....	267
	Summary .....	271
	Acknowledgements .....	274
	Curriculum Vitae.....	275