

VU Research Portal

Modelling climate-vegetation interactions during the last and current interglacials

Li, H.

2020

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Li, H. (2020). *Modelling climate-vegetation interactions during the last and current interglacials*. [PhD-Thesis - Research and graduation internal, Vrije Universiteit Amsterdam].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

Contents

Acknowledgements	9
Summary.....	11
Samenvatting	15
摘要	20
Chapter 1	23
General introduction.....	23
1.1 Background and framework.....	23
1.2 Fundamentals of climate-vegetation interactions	24
1.3 Previous studies on climate-vegetation interactions and remaining problems	34
1.4 Research questions.....	40
Chapter 2	43
Global vegetation distribution driving factors in two Dynamic Global Vegetation Models of contrasting complexities.....	43
2.1 Introduction.....	45
2.2 Methods: model description and experimental design	47
2.3 Results and Discussion	54
2.4. Discussion: implications and outlook	67
2.5 Conclusions.....	71
Chapter 3	79
Modeling the vegetation response to the 8.2 ka BP cooling event in Europe and Northern Africa	79
3.1 Introduction.....	80
3.2 Material and methods.....	82
3.3 Results and Discussions.....	86
3.4 Conclusions.....	97
Chapter 4	105

Modelling climate-vegetation interactions during the Last Interglacial: the impact of biogeophysical feedbacks in North Africa	105
4.1 Introduction.....	107
4.2 Methods	109
4.3 Results and Discussions.....	113
4.4 Conclusions.....	124
Chapter 5	133
Comparison of the Green-to-desert Sahara transitions between the Holocene and the Last Interglacial	133
5.1 Introduction.....	135
5.2 Methods	137
5.3 Results and discussions.....	140
5.4. Conclusions.....	151
Chapter 6	153
Synthesis.....	153
6.1 Main findings of this dissertation	153
6.2 Remaining issues and outlook	158
6.3 Future research.....	162
Bibliography	164