

Acknowledgements

A PhD is a project that involves many different types of work, which makes it a very interesting and enlightening period. In my case doing a PhD consisted of a lot of fieldwork and technical work in workshops, analysing samples in laboratories, computer programming and modelling, writing scientific papers and, finally, compiling this thesis. Also, a lot of reading and learning about greenhouse gases, peat areas, measurement set-ups and climate change was required, as well as attending various workshops and conferences about these topics. I could not have managed to do all of this work within four years without the help of many people. Working with them also made my PhD a much more fun period, and here I would like to show them my appreciation.

First, I would like to thank my promotor Han Dolman and my co-promotor Ko van Huissteden, who gave me the opportunity to do a PhD at the Vrije Universiteit. Although they let me work relatively autonomous, they each had their own way of contributing and guiding me during the past four years. Discussing the general direction of the research project with Han, and talking with him about the contents of the various papers was very helpful in defining the specific research objectives. Also, I am grateful for the many opportunities he gave me to go to conferences and workshops both in the Netherlands and abroad. It was inspiring to talk with all the researchers that I met there, and the discussions and seminars at these meetings have helped me to get a good overview of the research field. With Ko, I made many field trips during the first period of my PhD. Ko taught me a lot about working in the field, peat areas, flux chamber measurements, methane, modelling, etcetera. All of this information has probably found its way into this thesis. Also Michiel van der Molen, who was not an official supervisor, has been very helpful during the past years. Being a meteorologist he was able to clarify a lot of my questions on this topic, and he has given me a good introduction on working with the eddy covariance technique.

When I started the fieldwork activities, the micro-meteorological tower and part of the eddy covariance set-up had already been installed by Michiel van der Molen and Matthias Zeeman. Besides, Ko van Huissteden had already started the fluxchamber measurements at several locations. These efforts gave me the possibility to start with the measurements and data analyses head-on. Also, I would very much like to thank the technicians at the construction and electronics workshops: Rob Stoevelaar, Ron Lootens, Michel Groen, Frans Backer, Hans Bakker, Niek van Harlingen. All your technical assistance at the university and in the field, the heavy lifting, and the discussions about the measurement set-ups was very helpful. I also appreciated the mental support you gave me, after the FMA needed to be cleaned for the ???th time. I could not have done this research without you!!

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still be found on the mill. Also, I much appreciated your patience when I was overloading your working spaces and oven with many bags of vegetation samples (including insects) for two years.

The research location in the Horstermeerpolder was at the property of Natuurmonumenten, the organisation that turned the agricultural peat meadow area into a more natural environment and a suitable habitat for many birds. Natuurmonumenten agreed to let us measure and sample for all those years. This research project was performed in the framework of the European research programme Carbo Europe and the Dutch National Research Programme Climate Changes Spatial Planning. Both projects provided the opportunity to meet and exchange knowledge with many other researchers and PhD's. I have especially good memories of the measurement campaign that I carried out with Arina Schrier and Petra Kroon. I found this campaign and our meetings and discussions very inspiring. Also, working with other people from the umbrella projects, like Elmar Veenendaal, Arjan Hense, Eddy Moors, Cor Jacobs, and Matthias Drösler was helpful and informative.

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