

## **Phd Greenhouse gas balance of fen meadow landscapes at the Water Systems and Global Change group**

WE ARE LOOKING FOR

*Are you fascinated by data on greenhouse gases? Do you have a background in eco-hydrology, micrometeorology, vegetation or soil science? And do you want to pursue a PhD at the leading university in the field of environmental science? Then you are the candidate we are looking for!*

Drained organic soils are an important source of greenhouse gases worldwide. Also in the low lying areas of the Netherlands drainage of its organic soils, with the aim to enable more intensive usage of the land, leads to oxidation of organic material, significant carbon dioxide release and subsequent land subsidence. As part of climate mitigation policies the Dutch government seeks to reduce these emissions by about 25% in 2030. In support of these policies, the National Research programme on Greenhouse gas emissions from Fenmeadow areas (in Dutch NOBV: <https://www.nobveenweiden.nl/>) aims to investigate the effects of various mitigation measures on total greenhouse gas balance of the targeted areas.

The **Water Systems and Global Change group** (WSG) of Wageningen University & Research has built up a considerable track record in studying interactions between greenhouse gas exchange, hydrology, land use, and climate (change). WSG contributes to the NOBV programme with (mobile) tower based eddy covariance measurements of greenhouse gas exchange at field scale and with airborne measurements using the same technique at regional scale. The measurement programme, while still expanding, already includes several operational sites with the longest records already spanning two years. At least two more years of monitoring are foreseen. These complement measurements at plot scale by other consortium members using a variety of techniques, enabling quantitative description and understanding of processes responsible for the production of carbon dioxide, methane and nitrous oxide. One of the challenges for WSG is to link te various measurement scales to come up with distributed, wall-to-wall landscape budgets of these greenhouse gases.

As a PhD candidate, you will work on the following research topics (relative weight to be determined based on your interest and qualifications):

- design and implementation of (mobile) greenhouse gas monitoring strategies at field to regional scale in locations sampling the variety of organic soil types and associated land uses in the Netherlands
- processing and analysing the obtained high frequency eddy covariance data to greenhouse gas fluxes at diurnal to inter annual time scales;
- analyse and scale data from multiple locations and transects in relation to explanatory variables from vegetation and soil characteristics, land and water management and climate
- aim to ultimately provide data driven regional greenhouse gas balances for the different fen meadow areas of the Netherlands

Your work will consist of literature studies, analysis of in-situ greenhouse gas exchange data, as well as spatially distributed (satellite) data on vegetation, soil land and water qualities. You will be member of a larger team of scientists, including PhD candidates based at the partner universities, within and outside Wageningen UR working on this topic, and have interaction with various partners (water boards, land managers, policy makers, etc.) associated with land based greenhouse gas emissions. Your project results will be disseminated through papers in peer reviewed journals (as a basis of your PhD thesis) and conference proceedings, but using popular media is also encouraged.

### **You are**

- A university degree (MSc) in earth or environmental sciences with a strong background in eco-hydrology, micrometeorology, vegetation or soil science;
- Experience/affinity with monitoring of greenhouse gas emissions/uptake in the field and from small aircraft;
- Experience/affinity with remote sensing of terrestrial processes;

- Experience with programming, statistics, machine learning and big data approaches in the context of soil-vegetation-atmosphere interactions;
- Excellent writing and oral communication skills in English and strong ambition to publish future work, proficiency in Dutch is considered a pro;
- Standout colleague, who can work independently and who also communicates well with colleagues, and has the potential to (co-)supervise (under)graduate students in their research;
- Affinity with stakeholder interaction and cooperation with other scientific subject areas.
- Understanding Dutch or willingness to learn is a pre but not a necessity.

## Your terms of employment

Wageningen University & Research offers excellent [terms of employment](#). A few highlights from our Collective Labour Agreement include:

- sabbatical leave, study leave, and partially paid parental leave;
- working hours that can be discussed and arranged so that they allow for the best possible work-life balance;
- the option to accrue additional compensation / holiday hours by working more, up to 40 hours per week;
- there is a strong focus on vitality and you can make use of the sports facilities available on campus for a small fee;
- a fixed December bonus of 8.3%;
- excellent pension scheme.

In addition to these first-rate employee benefits, you will receive a fully funded PhD position and you will be offered a course program tailored to your needs and the research team.

The gross salary for the first year is € 2.434,- per month rising to € 3.111,- in the fourth year in according to the [Collective Labour Agreements for Dutch Universities \(CAO-NU\)](#) (scale P). This is based on a full-time working week of 38 hours. We offer a temporary contract for 18 months which will be extended for the duration of the project if you perform well.

There are plenty of options for personal initiative in a learning environment, and we provide excellent training opportunities. We are offering a unique position in an international environment with a pleasant and open working atmosphere.

You are going to work at the greenest and most innovative campus in Holland, and at a university that has been chosen as the "[Best University](#)" in the Netherlands for the 16th consecutive time.

## Coming from abroad

Wageningen University & Research is the university and research centre for life sciences. The themes we deal with are relevant to everyone around the world and Wageningen, therefore, has a large international community and a lot to offer to international employees. Applicants from abroad moving to the Netherlands may qualify for a special [tax relief](#), known as the 30% ruling. Our team of advisors on Dutch immigration procedures will help you with the visa application procedures for yourself and, if applicable, for your family.

Feeling welcome also has everything to do with being well informed. Wageningen University & Research's [International Community](#) page contains practical information about what we can do to support international employees and students coming to Wageningen. Furthermore, we can assist you with any additional advice and information about helping your partner to find a job, housing, schooling, and other issues.

### **Equal opportunities**

Wageningen University & Research (WUR) employs a large number of people with very different backgrounds and qualities, who inspire and motivate each other. We want every talent to feel at home in our organisation and be offered the same career opportunities. We therefore especially welcome applications from people who are underrepresented at WUR. For more information please go to our [inclusivity page](#). A good example of how WUR deals with inclusiveness can be read on the page working at WUR with a [functional impairment](#).

### **Do you want more information?**

To learn more about this position, please contact Dr Ronald W.A. Hutjes [ronald.hutjes@wur.nl](mailto:ronald.hutjes@wur.nl), +31 (0)317-48 64 62 or Dr Bart Kruijt, [bart.kruijt@wur.nl](mailto:bart.kruijt@wur.nl), +31 (0)317-48 64 40

For more information about the procedure, please contact Edgar Tijhuis, corporate recruiter, [edgar.tijhuis@wur.nl](mailto:edgar.tijhuis@wur.nl)

### **Do you want to apply?**

You can apply directly using the [apply button](#) on the vacancy page on our website which will allow us to process your personal information with your approval.

This vacancy will be listed up to and including <> December 2021. We hope to schedule the first interviews on <> 2021/2022.

### **WE ARE**

The mission of Wageningen University and Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment.

With its roughly 30 branches, 6.800 employees and 12.900 students, Wageningen University & Research is one of the leading organisations in its domain. An integrated approach to problems and the cooperation between various disciplines are at the heart of Wageningen's unique approach. WUR has been named Best Employer in the Education category for 2019-2020.

Read the [5 reasons](#) why your future colleagues enjoy working at WUR and watch [this video](#) to get an idea of our green campus!