

PhD position: Using the spatial organisation of a keystone plant species to predict coastal dune resilience against climate change

Background

ENDURE (ENsuring DUne REsilience against climate change) is a project funded by the EU INTERREG 2 Seas program (<https://www.interreg2seas.eu/nl/ensuring-dune-resilience-against-climate-change>). The project draws on cross-border expertise from across the 2 Seas area to inform & supply novel solutions to real-world problems faced by managers of coastal dunes as a result of climate change. The sand dunes along the coasts of the 2 Seas area form the first line of defence against flooding events, of which the frequency and intensity are increasing because of climate change. They thus protect large areas of densely populated and economically important hinterland. Marram grass is a keystone species in the sand dune ecosystem: it enables dunes to develop and grow, provides protection against erosion and as such enhances the resilience of dunes against rising sea levels and more extreme storm surges. The TERC research group (<http://www.ecology.ugent.be/terec/>) at Ghent University has as principal task the development of new tools to assess the health and resilience of the remaining coastal dunes within the 2 Seas study region. In order to accomplish this goal, the group is performing research to link the spatial configuration of marram grass with multiple dune functions, aeolian dynamics and above- and belowground food webs.

Objectives

To conduct fundamental research on the self-organisation of coastal dunes through marram grass vegetation structure and how this affects resilience to climate change by integrating theoretical and empirical approaches, as well as to link processes of self-organisation with properties of the associated food webs. The project will include fieldwork in the coastal dunes of the study area, the study of above- and belowground food webs, as well as advanced mechanistic and statistical modelling. Data are collected by all partners of the project network. The results will be translated into user-friendly digital tools to inform management decisions.

Funding is ensured by ENDURE until September 2020, but we anticipate additional funding by complementary fellowship for a total period of up to four years. The PhD student will be based in the TERC research group of Ghent University, but will closely collaborate with all project partners.

We are seeking:

A talented, enthusiastic PhD candidate with a pro-active attitude and broad ecological and quantitative interests to cover fieldwork, data analysis and modelling. Candidates should hold, or soon obtain, a MSc degree in Biology, Geography or Environmental Science. The candidate ideally has experience in ecological (statistical) modelling, GIS and species identification. As he or she will be working in a collaborative setting this person needs to be a team player and have excellent communication skills and have a good command of the English language.

Interested?

Apply for the position by sending your CV, study results (grades and/or ranking in masters) and a motivation letter to prof. Dries Bonte (<mailto:dries.bonte@ugent.be>). The position is open until filled.