Letter of intent

File number 175.2021.044
Grant 2021/2022
Applicant

Title
Large Lake Ecology Observatory (LLEO)

Abstract
Relevant NWO domain: Science (ENW)
Relevant research field: 22.40.00 Ecology

A brief explanation of the requested investment:
We propose to develop a large-scale lake observatory in the largest freshwater lake system of the Netherlands, lake Markermeer and IJsselmeer. To this end, we will use a two-step approach: (1) build a facility that aims to make traditionally collected data available and (2) develop and install autonomous measurement stations that operate according to a SMART monitoring system: using Self-Monitoring, Analysis and Reporting Technology. The SMART monitoring system will be developed to operate across scales: from algae species composition and productivity to submerged plants, fish and water birds using high frequency autonomous monitoring techniques ranging from in-situ sensors to satellite observations. This will allow a thorough understanding of underwater landscapes and its use by aquatic wildlife, food web composition and complexity in relation to water quality and weather conditions. This infrastructure will allow research on effects of climate change, including extreme weather events, as well as testing of the effects of innovative lake restoration methods, including Marker Wadden. For this research infrastructure, we aim to apply for an investment of 6 mEuro.

Indication of the group of researchers involved:
Academic partners include the Netherlands Institute of Ecology (NIOO-KNAW), the University of Amsterdam and Naturalis Biodiversity Center. Upon the development of the full proposal, the group of partners will be extended to include other parties, including researchers from academic background, but also governmental institutes and societal partners with whom will be collaborated to ensure input of data of existing past and present (governmental) monitoring programs as well as availability of locations for the field laboratory.

Indication of whether there is alignment with Group(s) in the LSRI Roadmap:
The proposed project aligns with the Group Green Life Sciences in the LSRI Roadmap. Within this Group, the project aligns with:

(1) ARISE, in particular NIEBA-ARISE Netherlands Infrastructure for Ecosystem and Biodiversity Analysis: Authoritative and Rapid Identification System for Essential biodiversity information (including KNAW-WI, LifeWatch), led by Naturalis; and
(2) LTER-LIFE, in particular eLTER-NL Long-Term Ecosystem, Critical Zone & Socio-Ecological Research Infrastructure, led by the Netherlands NIOO-KNAW and LifeWatch LifeWatch e-infrastructure for biodiversity and ecosystem research, led by the University of Amsterdam.

Organisation responsible for the application

Confirm letter of intent
With submitting this form via ISAAC I declare to have filled in this form completely and truthfully.

☑

Applicant