# **Netherlands**

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# **Organization and Number of Staff:**

GLOBE Nederland, 5

# **Funding by:**

Grant embassy USA, school memberships, (local)government, water boards

# **Cooperating Organizations/Individuals:**

Research institutes: National Institute for Public Health and Environment (RIVM), Wageningen University, National Meteorological Organization (KNMI), University of Amsterdam, Utrecht

University, NIOO, STOWA

Environmental organizations: IVN, Vlinderstichting

(local) governments: ministry of environment, province of Utrecht, province of Noord-Holland, several municipalities and 7 waterboards

## **GLOBE Schools (what types, how many):**

Secondary schools, ±120

# **GLOBE Areas you and schools focus on:**

Air quality, (biological) water quality, climate, GrowApp, research skills

### **Number of Schools Reporting Data Over Past Year:**

We currently hardly work with data on globe.gov, but we work mainly with our own systems that we set up for "GLOBE research": air quality, water invertebrates and GrowApp

# <u>Program Implementation, International Cooperation in GLOBE Network, and Activities</u> <u>over Past Year (categorized by GLOBE Strategic Plan 2018-2023 Goals):</u>

#### 1. Education

We developed learning materials for our new project "Sniffer Bike" where students measure air quality with a sensor on their bike. In the province of Utrecht we finished one pilot with 4 schools, and have expanded the pilot to 12 schools in the school year 2022-2023. In the province of Noord-Holland we started a pilot with 6 schools and in the municipality of Rijswijk with 2 schools.

Organization of a **national Science Fair for students at the Wageningen University**. Teams of upper forms students presented their GLOBE research for a jury of scientists. The winning team won a trip the Seal Centre Pieterburen for their microplastics research.

Microplastics project in the Netherlands, together with Hellen Parkhurst secondary school and the Plastic Soup Foundation. We received **funding from the U.S. Embassy to develop lesson materials for the microplastics protocol developed** by GLOBE Italy.

NO2 measuring with Palmes tubes campaign with KNMI

#### 2. Science

We work together with scientists for the following projects:

- **GrowApp:** Arnold van Vliet, Wageningen University
- NO2: National Meteorological Institute (KNMI)
- Particulate Matter: National Institute for Public Health and the Environment (RIVM)
- Plastic Soup: University of Amsterdam
- Water invertebrates: Wageningen University, who published a scientific article and a consortium of partners (environmental organisations, scientists, waterboards

## 3. Community

- Organisation of a national Science Symposium for students at the Wageningen University.
- Participation in the Regional Meeting in Riga with 4 team members.
- Several online meetings with GLOBE school coordinators to help implement GLOBE at schools.

# 4. Technology

We are constantly upgrading our website

#### 5. Communications

We were in the national newspaper with our Snifferbike project and several projects were in **national and local newspapers and magazines for teachers**. Participation in multiple teacher conferences, specifically for Chemistry, Biology and Geography teachers.

# Plans and Ideas for Next Year:

- We have a big plan together with the ministry of environment to roll-out the Snifferbike project across the country with participation of many local governments and order 1.000 sensors for 100+ schools.
- The NOx project using Palmes diffusion tubes together with the RIVM and KNMI is also included
- We continue the microplastics project and have new campaigns for GrowApp and water animals.
- We are also working on a new project about  $\ensuremath{\mathsf{UHIE}}$

Many plans!!!